WAIKATO BUILDING CONSENT GROUP
BUILDING CONSENT APPLICATION

PRINT CLEARLY WITH BLUE OR BLACK PEN

OFFICE ONLY	Consent No. 2010 / 24349
Date received	Document or Parcel No. 4296 (8) 456 1529 (10)
	Valuation No. 6664181 now 6663743 - 6663749
	~~BP~~ No. A-9

1. APPLICATION TYPE (tick one)

☑ Building Consent and PIM

☐ PIM only

2. THE BUILDING/PROJECT LOCATION

Street No. 8 & 10 Street name YORKSHIRE ROAD

Town HAMILTON Level or Unit _____ Building name _____

Lot(s) ~~61 & 62~~ DP/S ~~9556~~ Site area _____ (ha) 2565 (m²)

Lot 2 DP 428322 now lot 1 - 7 DP 435902.

Other information _____

3. OWNER

Name/Company CKC HOLDINGS Ltd

Mail address PO Box 904 Hamilton

Phone (daytime) 021 905858

Fax _____

Mobile _____

Email _____

Attention Keith Ph _____

AGENT (if application is made on behalf of the owner)

Name/Company McPherson Goodwin Surveyors Ltd

Mail address 7 Hardley St PO Box 9379

Phone (daytime) 8391335

Fax ~~8391335~~ 8391292

Mobile _____

Email marina@mgsl.co.nz

Attention MARINA Ph 8391335

Relationship to owner ARCH. DESIGNER

E-MAILED

Invoice to: ☑ Owner ☐ Agent

First point of contact for communication: ☐ Owner ☑ Agent

SEC 37 There Are Limitations On This Project

4. EVIDENCE OF OWNERSHIP ATTACHED:

☑ Certificate of Title ☐ Lease agreement ☐ Agreement for Sale and Purchase ☐ Other

THE PROJECT: Tick one - if more than one project please list on a separate page

☑ New Building ☑ Demolition ☐ Addition ☐ Alteration

☐ Relocation ☐ Change of Use ☐ Other (please specify below)

Description of Work:

7 NEW RESIDENTIAL DWELLINGS

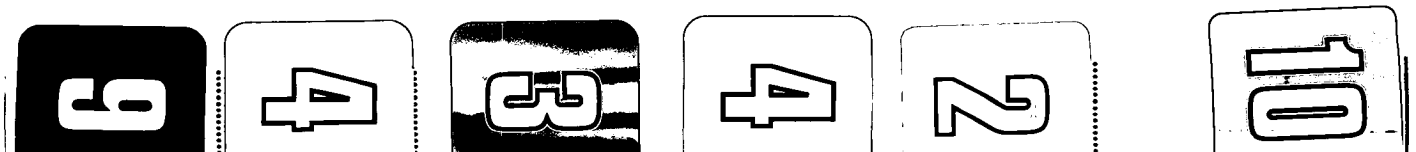
Current, lawfully established, use: (Include no. of occupants per level and per use if more than 1)

Year First constructed: (approximate date acceptable) _____

Intended life of building (If less than 50yrs) _____

Estimated value of work: inc GST $ 800 000 ∞

Existing floor area: _____ m² New Floor Area 700 m²



6. PIM Information: Please supply any relevant information/documents/diagrams and tick checkboxes if your project involves one or more of these:

- ☐ Is there a proposed subdivision for this land?
- ☐ Are you digging out the site for a building platform?
- ☐ Are there new or altered connections to Council sewer, storm water or water mains?
- ☐ Are you altering domestic sewer or storm water drains?
- ☐ Are you building near or over any road or public space?
- ☐ Are you building near or over existing domestic sewer, storm water, water mains or wells?
- ☐ Are you building or altering a vehicle crossing (entrance)?
- ☐ Is the site contaminated?
- ☐ Will the building be sited on sloping ground, or near to a bank, a stream or a coastal zone?
- ☐ Is there any other relevant information? Please state in the box or attach information

7. BUILDING PRACTITIONERS INVOLVED IN THIS PROJECT

List all your trade's people, their contact details and their trade registration numbers (eg Master Plumber registration number) where appropriate.

BUILDER:			
Name:		Registration Number:	
Address:			
Telephone:	Fax:	Mobile:	Email:

PLUMBER:			
Name:		Registration Number:	
Address:			
Telephone:	Fax:	Mobile:	Email:

DRAINLAYER:			
Name:		Registration Number:	
Address:			
Telephone:	Fax:	Mobile:	Email:

DESIGNER:			
Name:		Registration Number:	
Address:			
Telephone:	Fax:	Mobile:	Email:

GAS FITTER:			
Name:		Registration Number:	
Address:			
Telephone:	Fax:	Mobile:	Email:

Project Role:	
Name:	Registration Number:

8. THE BUILDING WORK WILL COMPLY WITH THE BUILDING CODE AS FOLLOWS:
Are you using alternatives to the Building Code in your construction? ☐ Yes ☐ No. If Yes, tell us what you are doing that does not comply with the Building Code that requires a modification or waiver. **GET YOUR DESIGNER TO FILL IN THIS SECTION.**

Building Code Clause (tick relevant clause)	Means of Compliance (refer to the relevant compliance document(s) or detail of alternative solution in the plans and specifications; if not applicable, put n/a)	Waiver/modification required (state nature of waiver or modification of building code required; if not applicable, put n/a)
◯ B1 Structure		
◯ B2 Durability		
◯ C1 Outbreak of fire		
◯ C2 Means of escape		
◯ C3 Spread of fire		
◯ C4 Structural stability during fire		
◯ D1 Access routes		
◯ D2 Mechanical installations for access		
◯ E1 Surface water		
◯ E2 External moisture		
◯ E3 Internal moisture		
◯ F1 Hazardous agents on site		
◯ F2 Hazardous building materials		
◯ F3 Hazardous substances and processes		
◯ F4 Safety from falling		
◯ F5 Construction and demolition hazards		
◯ F6 Lighting for emergency		
◯ F7 Warning systems		
◯ F8 Signs		
◯ G1 Personal hygiene		
◯ G2 Laundering		
◯ G3 Food preparation & contamination prevention		
◯ G4 Ventilation		
◯ G5 Interior environment		
◯ G6 Airborne and impact sound		
◯ G7 Natural light		
◯ G8 Artificial light		
◯ G9 Electricity		
◯ G10 Piped services		
◯ G11 Gas as an energy source		
◯ G12 Water supplies		
◯ G13 Foul water		
◯ G14 Industrial liquid waste		
◯ G15 Solid waste		
◯ H1 Energy efficiency		

(Add additional pages if necessary)



OFFICE USE ONLY

FEES PAYABLE		
Project Information Memorandum	$	
Building Consent - Application Fee	$	6875
- Approval fee	$	
- Inspection fee	$	
- Mileage	$	
Code Compliance Certificate	$	
BRANZ levy	$	800
DBH levy	$	1576
Photocopying	$	
Microfilm - A4	$	1865
- A3	$	
Street crossing administration	$	165
Structural check	$	
Amendments to consent	$	
External consultants check 1	$	
External consultants check 2	$	
NZ Fire Service check	$	
Planning bond/Resource Consent	$	
Reserves contribution	$	
Rural connection	$	
Fire main	$	
Water connection	$	
Water disconnection	$	
Wastewater/Sewerage connection	$	
Wastewater disconnection	$	
Backflow inspection	$	
Stormwater connection - Mains	$	
- Kerb and channel	$	
Stormwater disconnection	$	
CCTV Survey wastewater	$	
CCTV Survey stormwater	$	
Cellar indemnity	$	
Council bonds	$	
Compliance Schedule	$	
Development contributions		
- Water	$	
- Stormwater	$	
- Wastewater	$	
- Transport/roading	$	
- Community infrastructure	$	
BCA Accreditation Levy	$	
	$	
Total fees (inc GST)	$	11281
Deposit paid - Receipt No: 3350682 - Date:		6875
Remainder fees due	$	4406
	$	

REFERRALS
Structural consultant:
Name:
Sent: Returned:
Structural consultant:
Name:
Sent: Returned:
Other consultant:
Name:
Sent: Returned:
Other consultant:
Name:
Sent: Returned:
New Zealand Fire Service:
Sent: Returned:
Historic Places Trust (Notification) Date advised:

ADDITIONAL NOTES AND/OR FEES

AUTHORISED BY: Planning Officer Date:	
AUTHORISED BY: Building Officer Date:	JACOB PARKER 08/06/2010
AUTHORISED BY: Engineer Date:	
CHECKED BY: Date:	
ISSUED BY:	
DATE ISSUED:	11/06/10
RECEIPT No:	3367691
RECEIPT No:	

FORMFILE
ATTACH-A-TAB
CODE: AAT
PH: 9819 6503
FAX: 9818 0208

Code Compliance Certificate
No 2010/24349

Section 95, Building Act 2004

Hamilton City Council
Te kaunihera o Kirikiriroa

Private Bag 3010
Hamilton 3240
New Zealand

Phone 07 838 6699
Fax 07 838 6599

info@hcc.govt.nz
www.hamilton.co.nz

Issued by Hamilton City Council
Building Consent ref: 2010/24349
Historic ref:

Date: 5 November 2010

Applicant: CKC Holdings Ltd
Mailing Address: C/O Keith Clapson
PO Box 904
Hamilton 3240

Application Lodged: 05/05/2010

Project:
Application Description: 7 New Dwellings with attached Garages
Intended Use: Detached Dwelling - Live As A Family
Work Type: New Construction
Intended Life: >50 years
Value of Work: $800,000.00

Property:
Address: 10 Yorkshire Road HAMILTON 2001
Property Reference: LOT: 61 DP: S9556

This is:

(✓) A final code compliance certificate issued in respect of the building work under the above building consent.

( ) This Certificate is issued subject to the conditions specified in the attached page(s) headed "Conditions of Code Compliance Certificate No. 2010/**24349**"(being this certificate)

Signed for and on behalf of the Hamilton City Council:

Name: 5 November 2010

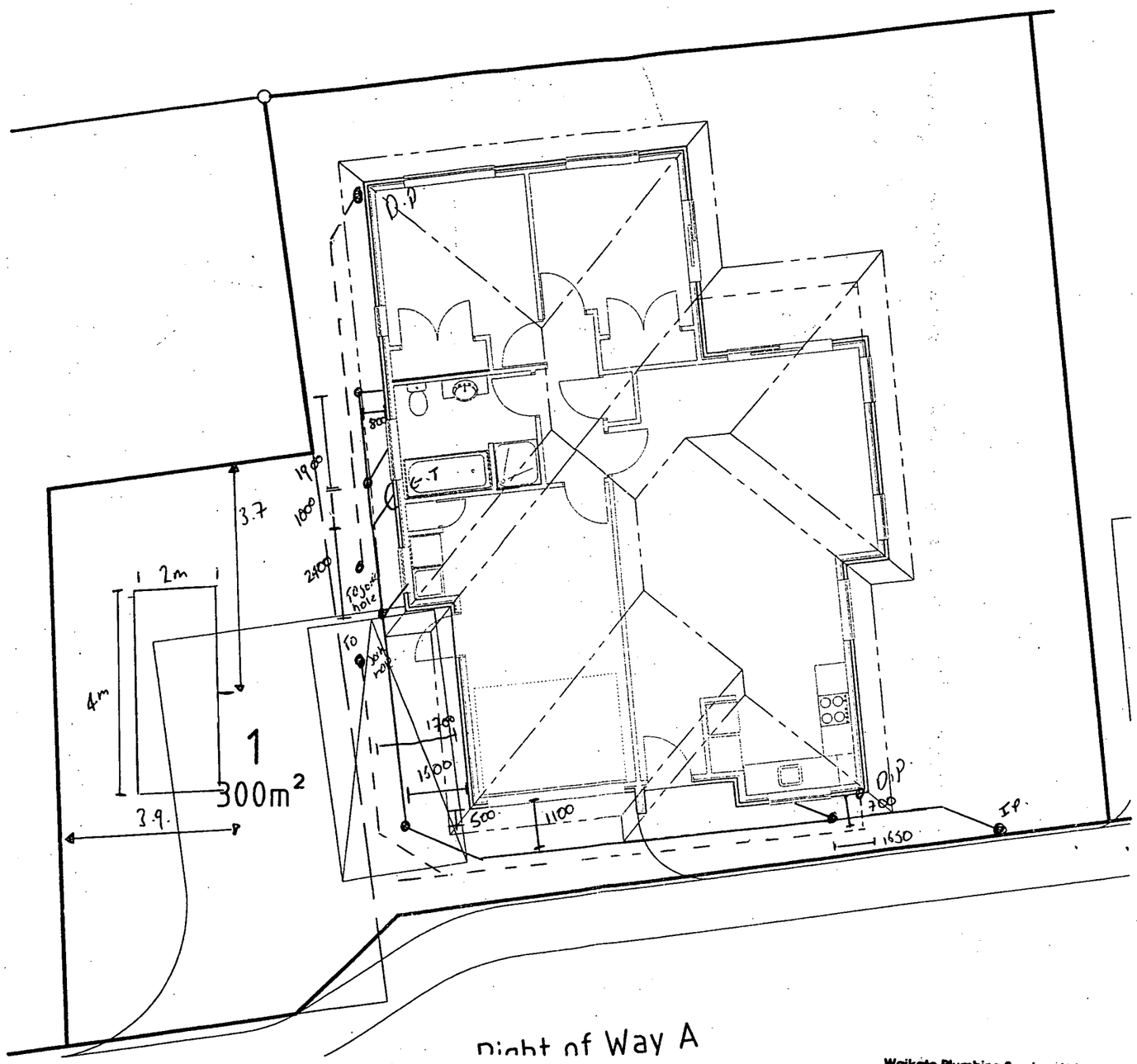
Phil Saunders

Position: Authorised Officer

Building Control Unit

Building

DRAINAGE AS LAIDS: 10 HORSHIRE ST BC: 2010/24347

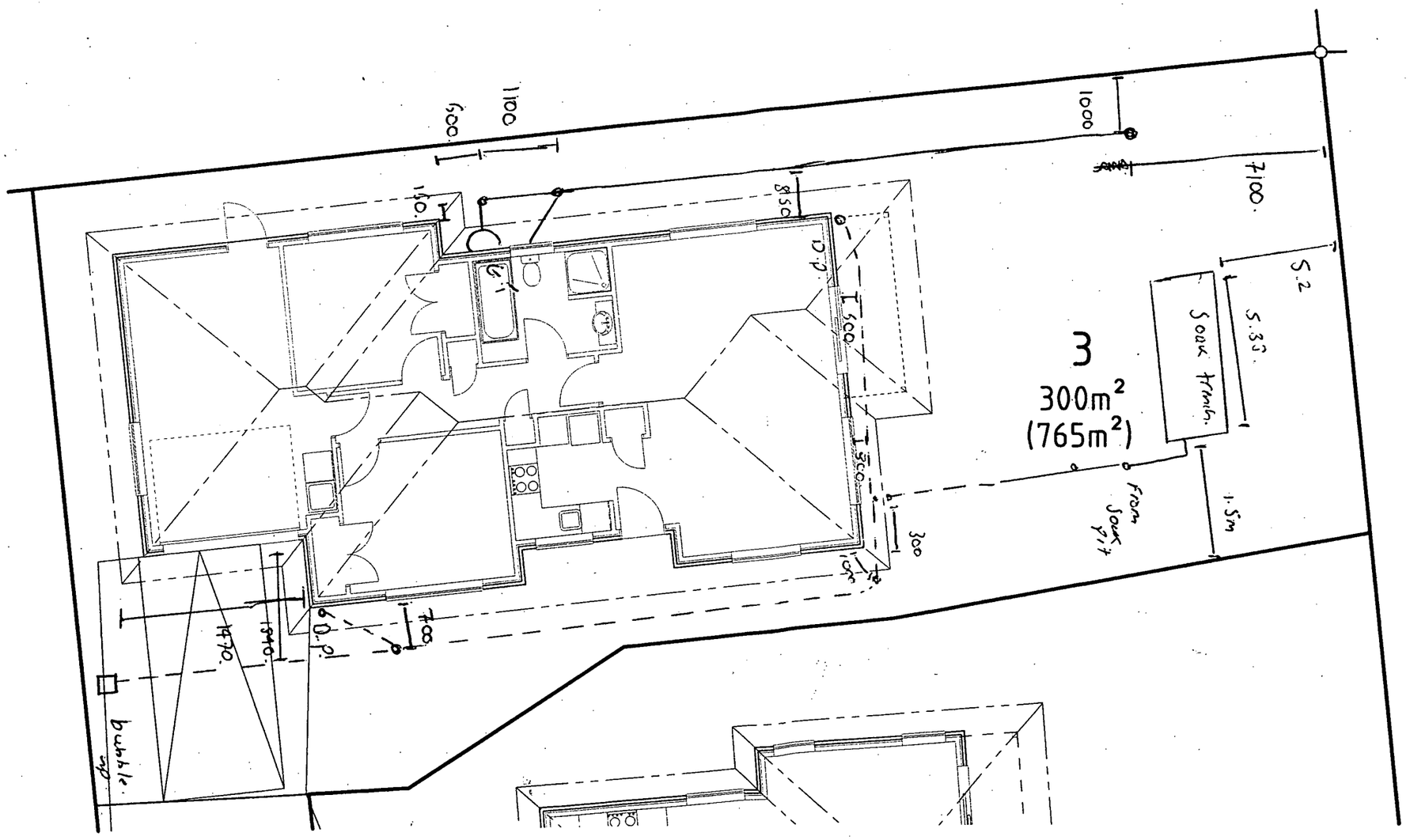


Right of Way A

Waikato Plumbing Services Ltd
255 Bankwood Road
Charlwell, Hamilton 3210
Ph: 07 855 0001 Fax: 07 855 8800
wps@wave.co.nz

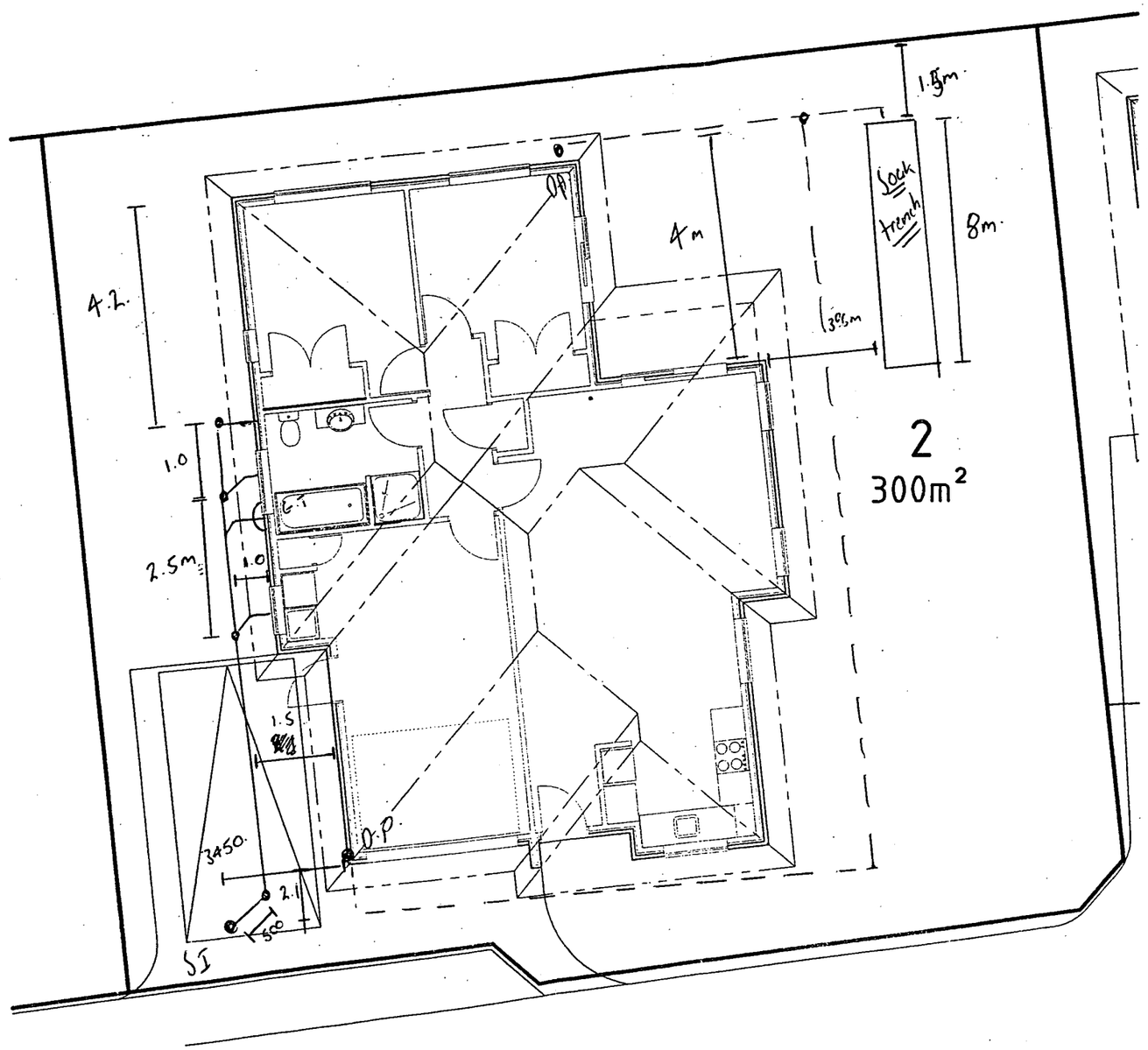
C. WOODCOCK 11676

DRAINAGE AS LAID: 10 YORKSHIRE ST BC 2010/24349



Waikato Plumbing Services Ltd
255 Bankwood Road
Chartwell, Hamilton 3210
Ph: 07 855 0001 Fax: 07 855 8800
wps@wave.co.nz
C. WOODCOCK 11676

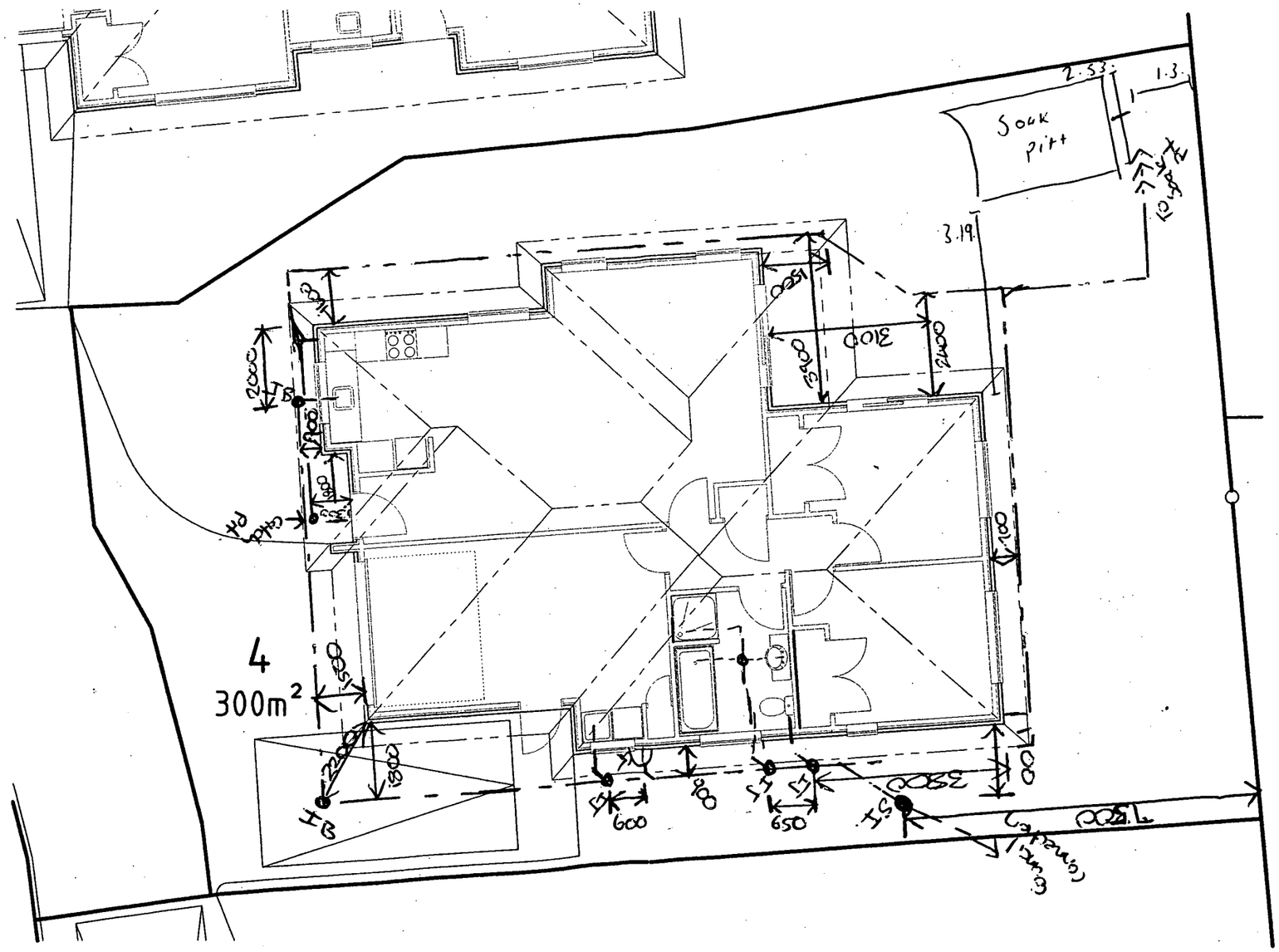
DRAINAGE AS LAID: 10 YORKSHIRE ST Bc: 2010/2349



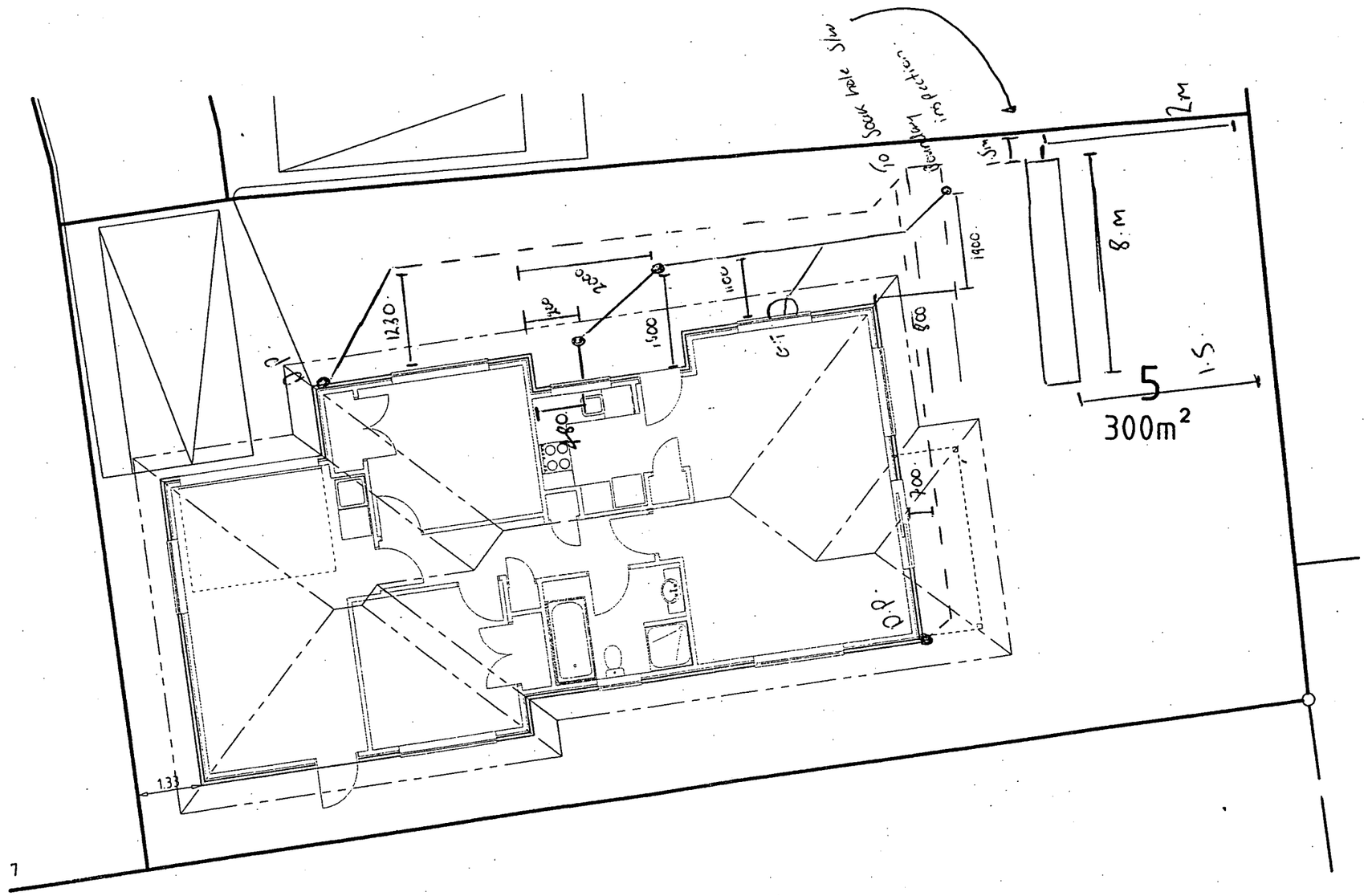
Waikato Plumbing Services Ltd
255 Bankwood Road
Chartwell, Hamilton 3210
Ph: 07 855 0001 Fax: 07 855 8800
wps@wave.co.nz

C. WOODCOCK 1167b

DRAINAGE AS LAID 10 YORKSHIRE ST BC 2010/24349


Soak pit
2.53
1.3
3.19
3100
2400
2100
2000
600
1800
1300
600
650
4
300m²
HS
HS
HS

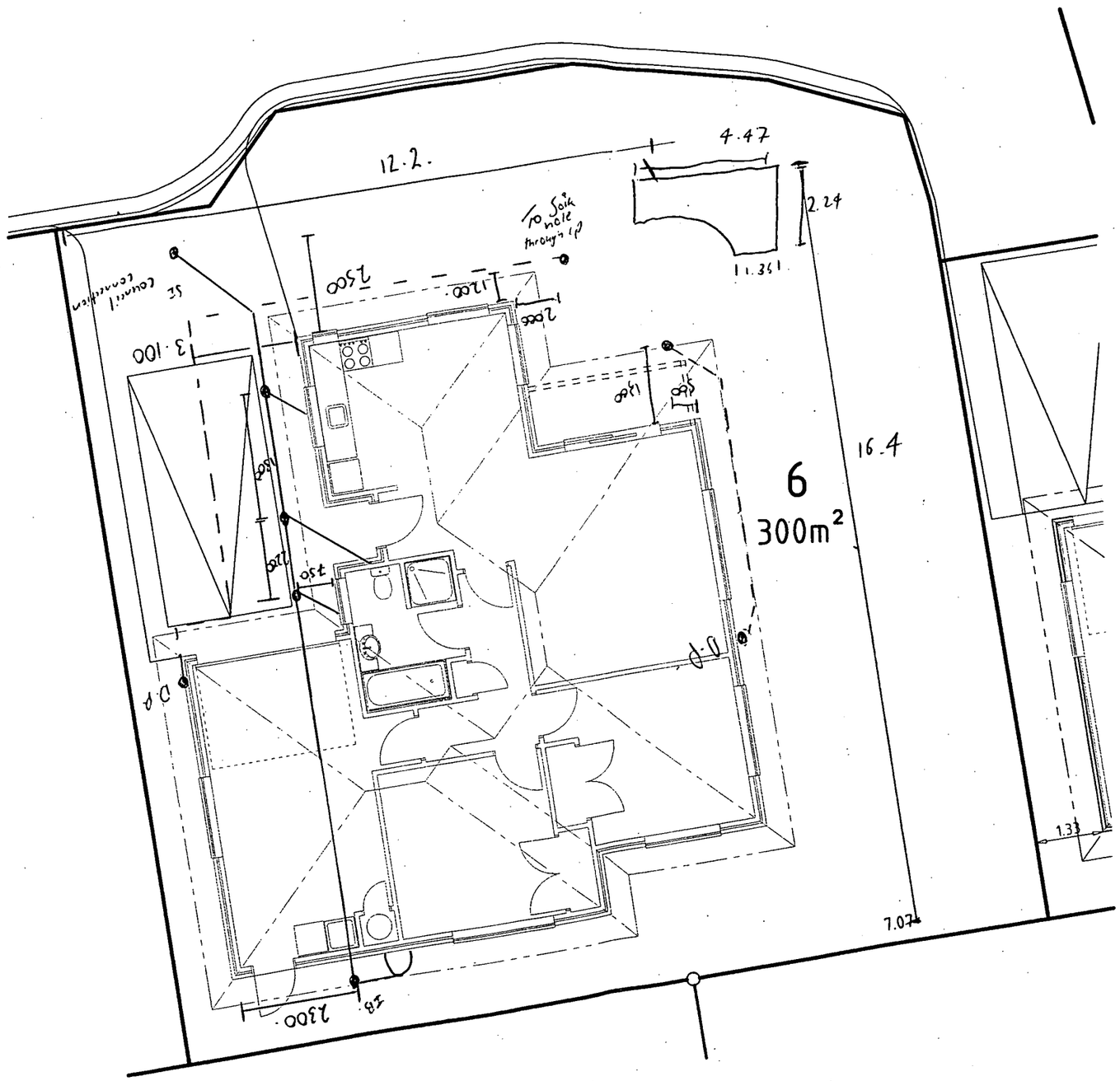
DRAINAGE AS LAID 10 YORKSHIRE ST BC 2010/24349



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255 Bankwood Road
Chartwell, Hamilton 3210
Ph: 07 855 0001 Fax: 07 855 8800
wps@wave.co.nz

C. WOODCOCK 11676

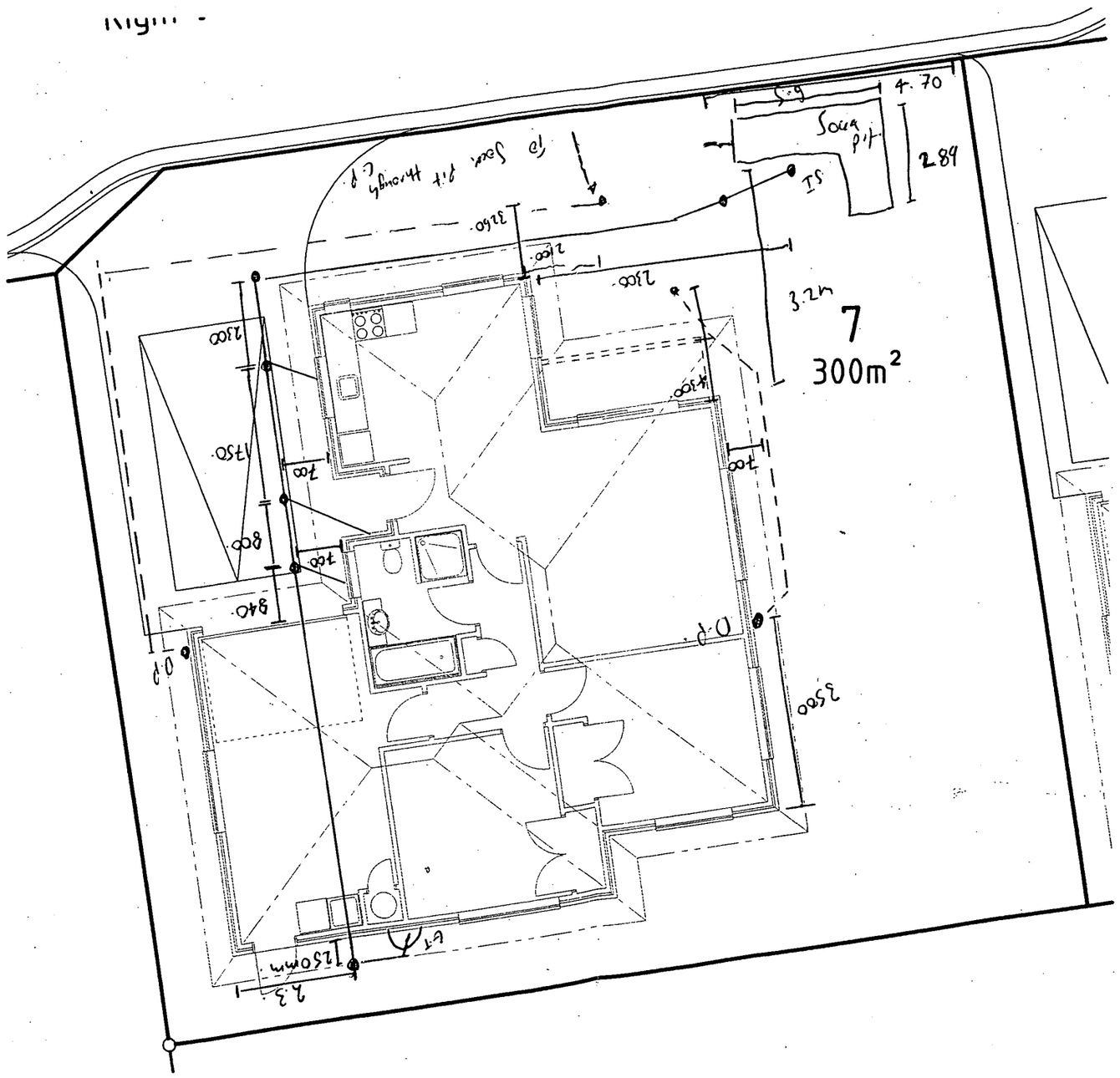
DRAINAGE AS LAID. 10 YORKSHIRE ST BC 2010/243449



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255 Bankwood Road
Chartwell, Hamilton 3210
Ph: 07 855 0001 Fax: 07 855 8800
wps@wave.co.nz

C. WOODCOCK 11676

DRAINAGE AS LAID: 10 YORKSHIRE Bc 2010/24349



Waikato Plumbing Services Ltd
255 Bankwood Road
Chartwell, Hamilton 3210
Ph: 07 855 0001 Fax: 07 855 8800
wps@wave.co.nz
C. WOODCOCK. 11676

HAMILTON CITY COUNCIL
PRIVATE BAG
HAMILTON

PRODUCER STATEMENT
PLUMBING SYSTEM PRESSURE TEST

OWNER.....CKC HOLDINGS LTD.....
PROPERTY ADDRESS...10A-G YORKSHIRE ST HAMILTON.....
LOT 61 & 62 DPS 9556 AND LOT 2 DP428322..CONSENT NO...2010/24349

TO THE HAMILTON CITY COUNCIL

Please be advised that our company **Waikato Plumbing Services Ltd**

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

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

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

Issued By **WAIKATO PLUMBING SERVICES LTD**

ADDRESS **255 BANKWOOD RD HAMILTON 3210**

CONTACT PHONE NUMBER **07-8550001**

SIGNATURE.....REGISTRATION NUMBER...**11676**

DATE:...30.9.2010.....

EWRB

Electrical Certificate of Compliance

No. 3314531

No. of attachments 0

for a low voltage installation if prescribed electrical work has been done on any part of it and the prescribed electrical work involved placing, replacing, or repositioning conductors or fittings attached to conductors.

To be completed whether or not an Inspection is required.

ELECTRICAL WORKERS REGISTRATION BOARD
Safety · Competency

CUSTOMER INFORMATION - PLEASE PRINT CLEARLY

Name of customer C.I.C Holdings Ltd. Phone: 021 905 555 (Keith)

Address of installation 10A Yorkshire Rd Silverdale. Hamilton.

Postal address of customer (if not as above) —

DECLARATION OF CONFORMITY (Please tick (✓) appropriate boxes)

In accordance with Regulation 58 of the Electricity (Safety) Regulations 2010, the design of the installation or part of the installation to which this certificate applies

(a) complies with either Part 2 of AS/NZS 3000:2007 ☑ or Part 1 of AS/NZS3000:2007 and Regulation 59 ☑ and

(b) the supply system of the installation or part of the installation to which this certificate applies is 230V/400 V MEN ☑ or attached other system ☐

WORK DETAILS

16 No. of lighting outlets

17 No. of socket outlets

1 No. of ranges

1 No. of water heaters

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

Please tick (✓) as appropriate where work includes:

✓ Mains

✓ MEN Switchboard closest to point of supply

✓ Main earthing sy

Electric lines

Description of work carried out (If necessary attach any pages with work done) New installation including 16mm 10NS to pillar, x1 extract fan, x1 2.4kw Skope wall heater. Feeding to sink & w/box. Main Earth under w/box outside of garage.

CERTIFICATION OF WORK (Please tick (✓) appropriate boxes)

I certify that the completed installation or part of the installation to which this certificate applies

☑ has been installed in accordance with the design detailed in the Declaration of Conformity section above

☑ has had tests which are required by the Electricity (Safety) Regulations 2010 satisfactorily completed

☑ has an earthing system that is correctly rated

☑ contains fittings which are safe to connect to a power supply

☑ is safe to connect to a power supply

ELECTRICAL WORKER DETAILS

Name Nathan Edwards

Company Viking Electrical

Signature N Edwards

Registration No. E24642.

Contact Ph No. 027 557 7056.

Date 26/10/10.

INSPECTION DETAILS

Electrical work requiring inspection by a registered electrical inspector

☑ Mains work (mains, MEN switchboards closest to the point of supply, or main earthing systems)

☐ Attached other

☐ Work carried out in accordance with Part 1 of AS/NZS 3000:2007

I certify that the items identified above are electrically safe and that the inspection has been carried out in accordance with the Electricity (Safety) Regulations 2010.

Name STEVE FREDERICK

Registration No. I 250637

Signature

Date

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 (Safety) Regulations 2010.

HAMILTON CITY COUNCIL
PRIVATE BAG
HAMILTON

PRODUCER STATEMENT
PLUMBING SYSTEM PRESSURE TEST

OWNER.....CKC HOLDINGS LTD.....
PROPERTY ADDRESS...10A-G YORKSHIRE ST HAMILTON.....
LOT 61 & 62 DPS 9556 AND LOT 2 DP428322..CONSENT NO...2010/24349

TO THE HAMILTON CITY COUNCIL

Please be advised that our company **Waikato Plumbing Services Ltd**

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

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

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

Issued By **WAIKATO PLUMBING SERVICES LTD**

ADDRESS **255 BANKWOOD RD HAMILTON 3210**

CONTACT PHONE NUMBER **07-8550001**

SIGNATURE.....REGISTRATION NUMBER...**11676**

DATE:...30.9.2010.....

EV

ELECTRICAL WORKERS REGISTRATION BOARD
Safety · Competency

Electrical Certificate of Compliance

No. 3314530

for a low voltage installation if prescribed electrical work has been done on any part of it and the prescribed electrical work involved placing, replacing, or repositioning conductors or fittings attached to conductors.

No. of attachments

To be completed whether or not an inspection is required.

Issued by the Electrical Workers Registration Board (PO Box 10-156, Wellington. Freephone 0800 66 1000) for the purposes of the Electricity (Safety) Regulations 2010

CUSTOMER INFORMATION - PLEASE PRINT CLEARLY

Name of customer C.K.C Holdings Ltd. Phone: 021 905855 (Keith)

Address of installation 10B Yorkshire Rd, Silverdale, Hamilton.

Postal address of customer (if not as above) —

DECLARATION OF CONFORMITY (Please tick (✓) appropriate boxes)

In accordance with Regulation 58 of the Electricity (Safety) Regulations 2010, the design of the installation or part of the installation to which this certificate applies

(a) complies with either Part 2 of AS/NZS 3000:2007 ☑ or Part 1 of AS/NZS3000:2007 and Regulation 59 ☑ and

(b) the supply system of the installation or part of the installation to which this certificate applies is 230V/400 V MEN ☑ or attached other system ☐

WORK DETAILS

16 No. of lighting outlets	1 No. of ranges	Please tick (✓) as appropriate where work includes:	
18 No. of socket outlets	1 No. of water heaters	✓ Mains	✓ Main earthir
Was any installation work carried out by the homeowner?	Yes ✓ No	✓ MEN Switchboard closest to point of supply	Electric lines

Description of work carried out (If necessary attach any pages with work done) New house includ 16mm² 1P N/S. to pillar, x1 extract fan, x1 2.4kw Skope wall heater. Bonding to sink & w/box. Main Earth under w/box on side of garage.

CERTIFICATION OF WORK (Please tick (✓) appropriate boxes)

I certify that the completed installation or part of the installation to which this certificate applies

- ☑ has been installed in accordance with the design detailed in the Declaration of Conformity section above
- ☑ has had tests which are required by the Electricity (Safety) Regulations 2010 satisfactorily completed
- ☑ has an earthing system that is correctly rated
- ☑ contains fittings which are safe to connect to a power supply
- ☑ is safe to connect to a power supply

ELECTRICAL WORKER DETAILS

Name	Nathan Edwards	Registration No.	E246442
Company	Uking Electrical	Contact Ph No.	027257706.
Signature	N Edwards	Date	19/10/10.

INSPECTION DETAILS

Electrical work requiring inspection by a registered electrical inspector

- ☑ Mains work (mains, MEN switchboards closest to the point of supply, or main earthing systems)
- ☐ Attached other
- ☐ Work carried out in accordance with Part 1 of AS/NZS 3000:2007

I certify that the items identified above are electrically safe and that the inspection has been carried out in accordance with the Electricity (Safety) Regulations 201

Name	STEVE FREDERICK	Registration No.	I250637.
Signature		Date	20.10.10.

HAMILTON CITY COUNCIL
PRIVATE BAG
HAMILTON

PRODUCER STATEMENT
PLUMBING SYSTEM PRESSURE TEST

OWNER.....CKC HOLDINGS LTD.....
PROPERTY ADDRESS...10A-G YORKSHIRE ST HAMILTON.....
LOT 61 & 62 DPS 9556 AND LOT 2 DP428322..CONSENT NO...2010/24349

TO THE HAMILTON CITY COUNCIL

Please be advised that our company **Waikato Plumbing Services Ltd**

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

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Issued By **WAIKATO PLUMBING SERVICES LTD**

ADDRESS **255 BANKWOOD RD HAMILTON 3210**

CONTACT PHONE NUMBER **07-8550001**

SIGNATURE.....REGISTRATION NUMBER...**11676**

DATE:...30.9.2010.....

BC1/6e Version 1-15 September 1999

ELECTRICAL WORKERS REGISTRATION BOARD

Safety • Competency

Electrical Certificate of Compliance

No. 3314524

for a low voltage installation if prescribed electrical work has been done on any part of it and the prescribed electrical work involved placing, replacing, or repositioning conductors or fittings attached to conductors.

No. of attachments 0

To be completed whether or not an Inspection is required.

CUSTOMER INFORMATION - PLEASE PRINT CLEARLY

Name of customer C.K.C Holdings Ltd Phone: 021 903 855 (Keith).

Address of installation 10c Yorkshire Rd, Silverdale, Hamilton.

Postal address of customer (if not as above) /

DECLARATION OF CONFORMITY (Please tick (✓) appropriate boxes)

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(b) the supply system of the installation or part of the installation to which this certificate applies is 230V/400 V MEN ☑ or attached other system ☐

WORK DETAILS

15	No. of lighting outlets	1	No. of ranges
16	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:

✓ Mains ✓ Main earthing system

✓ MEN Switchboard closest to point of supply ☐ Electric lines

Description of work carried out (If necessary attach any pages with work done) New installation, including 25mm² 1Φ A/S to pillar x1 150mm extraction fan, x1 24kW Skope wall heater. Bonding @ sink & w/bsn, Main Earth below w/bsn on side of garage.

CERTIFICATION OF WORK (Please tick (✓) appropriate boxes)

I certify that the completed installation or part of the installation to which this certificate applies

☑ has been installed in accordance with the design detailed in the Declaration of Conformity section above

☑ has had tests which are required by the Electricity (Safety) Regulations 2010 satisfactorily completed

☐ has an earthing system that is correctly rated

☑ contains fittings which are safe to connect to a power supply

☑ is safe to connect to a power supply

ELECTRICAL WORKER DETAILS

Name Nathan Edwards

Company Viking Electrical.

Signature N Edwards.

Registration No. 324642

Contact Ph No. 0272517706

Date 04/10/10

INSPECTION DETAILS

Electrical work requiring inspection by a registered electrical inspector

☑ Mains work (mains, MEN switchboards closest to the point of supply, or main earthing systems)

☐ Attached other

☐ Work carried out in accordance with Part 1 of AS/NZS 3000:2007

I certify that the items identified above are electrically safe and that the inspection has been carried out in accordance with the Electricity (Safety) Regulations 2010.

Name STEVE FREDERICK

Signature

Registration No. 1250631

Date 6.10.10

Contact Ph No. 07 [illegible]

Form is approved by the Electrical Workers Registration Board (PO Box 10-156, Wellington. Freephone 0800 66 1000) for the purposes of the Electricity (Safety) Regulations 2010

HAMILTON CITY COUNCIL
PRIVATE BAG
HAMILTON

PRODUCER STATEMENT
PLUMBING SYSTEM PRESSURE TEST

OWNER.....CKC HOLDINGS LTD.....
PROPERTY ADDRESS...10A-G YORKSHIRE ST HAMILTON.....
LOT 61 & 62 DPS 9556 AND LOT 2 DP428322..CONSENT NO...2010/24349

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Please be advised that our company **Waikato Plumbing Services Ltd**

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

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

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

Issued By **WAIKATO PLUMBING SERVICES LTD**

ADDRESS **255 BANKWOOD RD HAMILTON 3210**

CONTACT PHONE NUMBER **07-8550001**

SIGNATURE.....REGISTRATION NUMBER...**11676**

DATE:...30.9.2010.....

EWRB !

ELECTRICAL WORKERS REGISTRATION BOARD

Safety • Competency

Electrical Certificate of Compliance

for a low voltage installation if prescribed electrical work has been done on any part of it and the prescribed electrical work involved placing, replacing, or repositioning conductors or fittings attached to conductors.

To be completed whether or not an Inspection is required.

No. 3314525

No. of attachments 2

CUSTOMER INFORMATION - PLEASE PRINT CLEARLY

Name of customer CKC Holdings Ltd Phone: 021 407558 (Keith).

Address of installation 10 D Yorkshire Rd Silverdale, Hamilton.

Postal address of customer (if not as above) —

DECLARATION OF CONFORMITY (Please tick (✓) appropriate boxes)

In accordance with Regulation 58 of the Electricity (Safety) Regulations 2010, the design of the installation or part of the installation to which this certificate applies

(a) complies with either Part 2 of AS/NZS 3000:2007 ☐ or Part 1 of AS/NZS3000:2007 and Regulation 59 ☐ and

(b) the supply system of the installation or part of the installation to which this certificate applies is 230V/400 V MEN ☐ or attached other system ☐

WORK DETAILS

16 No. of lighting outlets | 1 No. of ranges

17 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:

✓ Mains ✓ Main earthing sys

✓ MEN Switchboard closest to point of supply — Electric lines

Description of work carried out (If necessary attach any pages with work done) New installation including 25mm² 1P N/S to pilar x1, extract fan x1, 2.0kw Skope wall heater. Main Earth bonding with bar on side of garage. Boarding @ Sarke & Kelbert

CERTIFICATION OF WORK (Please tick (✓) appropriate boxes)

I certify that the completed installation or part of the installation to which this certificate applies

☑ has been installed in accordance with the design detailed in the Declaration of Conformity section above

☐ has had tests which are required by the Electricity (Safety) Regulations 2010 satisfactorily completed

☐ has an earthing system that is correctly rated

☐ contains fittings which are safe to connect to a power supply

☐ is safe to connect to a power supply

ELECTRICAL WORKER DETAILS

Name Nathan Edwards — Registration No. E246442

Company Vikery Electrical — Contact Ph No. 0272817726

Signature N Edwards — Date 05/10/10

INSPECTION DETAILS

Electrical work requiring inspection by a registered electrical inspector

☑ Mains work (mains, MEN switchboards closest to the point of supply, or main earthing systems)

☑ Attached other

☑ Work carried out in accordance with Part 1 of AS/NZS 3000:2007

I certify that the items identified above are electrically safe and that the inspection has been carried out in accordance with the Electricity (Safety) Regulations 2010.

Name T Turner — Registration No. T1369

Signature — Date 13-10-10

Form 5, approved by the Electrical Workers Registration Board (PO Box 10-156, Wellington. Freephone 0800 66 1000) for the purposes of the Electricity (Safety) Regulations 2010.

HAMILTON CITY COUNCIL
PRIVATE BAG
HAMILTON

PRODUCER STATEMENT
PLUMBING SYSTEM PRESSURE TEST

OWNER.....CKC HOLDINGS LTD.....
PROPERTY ADDRESS...10A-G YORKSHIRE ST HAMILTON.....
LOT 61 & 62 DPS 9556 AND LOT 2 DP428322..CONSENT NO...2010/24349

TO THE HAMILTON CITY COUNCIL

Please be advised that our company **Waikato Plumbing Services Ltd**

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

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

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

Issued By **WAIKATO PLUMBING SERVICES LTD**

ADDRESS **255 BANKWOOD RD HAMILTON 3210**

CONTACT PHONE NUMBER **07-8550001**

SIGNATURE.....REGISTRATION NUMBER...**11676**

DATE:...30.9.2010.....

ELECTRICAL WORKERS REGISTRATION BOARD

Safety • Competency

Electrical Certificate of Compliance

for a low voltage installation if prescribed electrical work has been done on any part of it and the prescribed electrical work involved placing, replacing, or repositioning conductors or fittings attached to conductors.

To be completed whether or not an Inspection is required.

No. 3314528

No. of attachments 2

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 (Safety) Regulations 2010.

CUSTOMER INFORMATION - PLEASE PRINT CLEARLY

Name of customer C.K.C Holdings Ltd Phone: 021 905555

Address of installation 10E Yorkshire Rd, Silverdale, Hamilto-.

Postal address of customer (if not as above) /

DECLARATION OF CONFORMITY (Please tick (✓) appropriate boxes)

In accordance with Regulation 58 of the Electricity (Safety) Regulations 2010, the design of the installation or part of the installation to which this certificate applies

(a) complies with either Part 2 of AS/NZS 3000:2007 ☑ or Part 1 of AS/NZS3000:2007 and Regulation 59 ☑ and

(b) the supply system of the installation or part of the installation to which this certificate applies is 230V/400 V MEN ☑ or attached other system ☐

WORK DETAILS

18 No. of lighting outlets | No. of ranges | Please tick (✓) as appropriate where work includes:

15 No. of socket outlets | No. of water heaters ✓ | Mains ✓ | Main earthing sys

Was any installation work carried out by the homeowner? Yes ✓ No | MEN Switchboard closest to point of supply ✓ | Electric lines

Description of work carried out (If necessary attach any pages with work done) New installation includir 25mm² 1ϕ N/S to pillar, x1 extract fan, x1 2-Way Skope wall heater. Main Earth below m/box on side of garage Bonding @ sink & m/box.

CERTIFICATION OF WORK (Please tick (✓) appropriate boxes)

I certify that the completed installation or part of the installation to which this certificate applies

- ☑ has been installed in accordance with the design detailed in the Declaration of Conformity section above
- ☑ has had tests which are required by the Electricity (Safety) Regulations 2010 satisfactorily completed
- ☑ has an earthing system that is correctly rated
- ☑ contains fittings which are safe to connect to a power supply
- ☑ is safe to connect to a power supply

ELECTRICAL WORKER DETAILS

Name Nathan Edwards | Registration No. E246442

Company Viking Electrical. | Contact Ph No. 027257766.

Signature N Edwards | Date 11/10/10

INSPECTION DETAILS

Electrical work requiring inspection by a registered electrical inspector

☑ Mains work (mains, MEN switchboards closest to the point of supply, or main earthing systems) ☒ Attached other ☒ Work carried out in accordance with Part 1 of AS/NZS 3000:2007

I certify that the items identified above are electrically safe and that the inspection has been carried out in accordance with the Electricity (Safety) Regulations 2010.

Name T Turner | Registration No. I 1369

Signature | Date 13-10-10

HAMILTON CITY COUNCIL
PRIVATE BAG
HAMILTON

PRODUCER STATEMENT
PLUMBING SYSTEM PRESSURE TEST

OWNER.....CKC HOLDINGS LTD.....
PROPERTY ADDRESS...10A-G YORKSHIRE ST HAMILTON.....
LOT 61 & 62 DPS 9556 AND LOT 2 DP428322..CONSENT NO...2010/24349

TO THE HAMILTON CITY COUNCIL

Please be advised that our company **Waikato Plumbing Services Ltd**

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

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

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

Issued By **WAIKATO PLUMBING SERVICES LTD**

ADDRESS **255 BANKWOOD RD HAMILTON 3210**

CONTACT PHONE NUMBER **07-8550001**

SIGNATURE.....REGISTRATION NUMBER...**11676**

DATE:...30.9.2010.....

ELECTRICAL WORKERS REGISTRATION BOARD

Safety • Competency

Electrical Certificate of Compliance

for a low voltage installation if prescribed electrical work has been done on any part of it and the prescribed electrical work involved placing, replacing, or repositioning conductors or fittings attached to conductors.

To be completed whether or not an Inspection is required.

No. 3314529

No. of attachments 0

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 (Safety) Regulations 2010.

CUSTOMER INFORMATION - PLEASE PRINT CLEARLY

Name of customer C.K.C Holdings Ltd. Phone: 021 905555

Address of installation 10BF Yorkshire Rd, Silverdale, Hamilton (Keith).

Postal address of customer (if not as above) /

DECLARATION OF CONFORMITY (Please tick (✓) appropriate boxes)

In accordance with Regulation 58 of the Electricity (Safety) Regulations 2010, the design of the installation or part of the installation to which this certificate applies

(a) complies with either Part 2 of AS/NZS 3000:2007 ☑ or Part 1 of AS/NZS3000:2007 and Regulation 59 ☑ and

(b) the supply system of the installation or part of the installation to which this certificate applies is 230V/400 V MEN ☑ or attached other system ☐

WORK DETAILS

17 No. of lighting outlets | No. of ranges

15 No. of socket outlets | No. of water heaters

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

Please tick (✓) as appropriate where work includes:

✓ Mains ✓ Main earthing syste

✓ MEN Switchboard closest to point of supply Electric lines

Description of work carried out (If necessary attach any pages with work done) new house including 4mm² 1C/NS to pilar, x1 extract fan, x1 24cm Skope wall heater. Bonding to sink & w/box. Main Earth. under w/box on side of garage.

CERTIFICATION OF WORK (Please tick (✓) appropriate boxes)

I certify that the completed installation or part of the installation to which this certificate applies

☑ has been installed in accordance with the design detailed in the Declaration of Conformity section above

☑ has had tests which are required by the Electricity (Safety) Regulations 2010 satisfactorily completed

☑ has an earthing system that is correctly rated

☑ contains fittings which are safe to connect to a power supply

☑ is safe to connect to a power supply

ELECTRICAL WORKER DETAILS

Name Nathan Edwards

Company Viking Electrical.

Signature N Edwards.

Registration No. E31644

Contact Ph No. 027 2377706.

Date 19/10/10.

INSPECTION DETAILS

Electrical work requiring inspection by a registered electrical inspector

☑ Mains work (mains, MEN switchboards closest to the point of supply, or main earthing systems)

☐ Attached other

☐ Work carried out in accordance with Part 1 of AS/NZS 3000:2007

I certify that the items identified above are electrically safe and that the inspection has been carried out in accordance with the Electricity (Safety) Regulations 2010.

Name STEVE FREDERICK

Signature

Registration No. I 250637

Date 20/10/10

Contact Ph No. 8562031

HAMILTON CITY COUNCIL
PRIVATE BAG
HAMILTON

PRODUCER STATEMENT
PLUMBING SYSTEM PRESSURE TEST

OWNER.....CKC HOLDINGS LTD.....
PROPERTY ADDRESS...10A-G YORKSHIRE ST HAMILTON.....
LOT 61 & 62 DPS 9556 AND LOT 2 DP428322..CONSENT NO...2010/24349

TO THE HAMILTON CITY COUNCIL

Please be advised that our company **Waikato Plumbing Services Ltd**

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

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

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

Issued By **WAIKATO PLUMBING SERVICES LTD**

ADDRESS **255 BANKWOOD RD HAMILTON 3210**

CONTACT PHONE NUMBER **07-8550001**

SIGNATURE.....REGISTRATION NUMBER...**11676**

DATE:...30.9.2010.....

ELECTRICAL WORKERS REGISTRATION BOARD

Safety • Competency

Electrical Certificate of Compliance

for a low voltage installation if prescribed electrical work has been done on any part of it and the prescribed electrical work involved placing, replacing, or repositioning conductors or fittings attached to conductors.

To be completed whether or not an Inspection is required.

No. 3314532

No. of attachments 0

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 (Safety) Regulations 2010

CUSTOMER INFORMATION - PLEASE PRINT CLEARLY

Name of customer CICC Holdings Ltd. Phone: 021 905 55 (Keith)

Address of installation 10G Yorkshire Rd, Silverdale, Hamilton

Postal address of customer (if not as above) —

DECLARATION OF CONFORMITY (Please tick (✓) appropriate boxes)

In accordance with Regulation 58 of the Electricity (Safety) Regulations 2010, the design of the installation or part of the installation to which this certificate applies

(a) complies with either Part 2 of AS/NZS 3000:2007 ☐ or Part 1 of AS/NZS3000:2007 and Regulation 59 ☑ and

(b) the supply system of the installation or part of the installation to which this certificate applies is 230V/400 V MEN ☑ or attached other system ☐

WORK DETAILS

17 No. of lighting outlets

14 No. of socket outlets

1 No. of ranges

1 No. of water heaters

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

Please tick (✓) as appropriate where work includes:

✓ Mains

✓ MEN Switchboard closest to point of supply

✓ Main earthing s

Electric lines

Description of work carried out (If necessary attach any pages with work done) new installation including 16mm² 16 NS to pillar, x1 extract fan, x1 2.4kw Skope wall heater. Bonding to sink & m/box. in Main Earth meter m/box on side of garage.

CERTIFICATION OF WORK (Please tick (✓) appropriate boxes)

I certify that the completed installation or part of the installation to which this certificate applies

☑ has been installed in accordance with the design detailed in the Declaration of Conformity section above

☑ has had tests which are required by the Electricity (Safety) Regulations 2010 satisfactorily completed

☑ has an earthing system that is correctly rated

☑ contains fittings which are safe to connect to a power supply

☑ is safe to connect to a power supply

ELECTRICAL WORKER DETAILS

Name Nathan Edwards

Company Viking Electrical

Signature N Edwards

Registration No. E24642

Contact Ph No. 027 281 7066

Date 26/10/10.

INSPECTION DETAILS

Electrical work requiring inspection by a registered electrical inspector

☑ Mains work (mains, MEN switchboards closest to the point of supply, or main earthing systems)

☐ Attached other

☐ Work carried out in accordance with Part 1 of AS/NZS 3000:2007

I certify that the items identified above are electrically safe and that the inspection has been carried out in accordance with the Electricity (Safety) Regulations 2010.

Name STEVE FREDERICK

Signature

Registration No. I25669

Date 27.10.10.

Contact Ph No. 07 [illegible]

SIGN DAT

Consent No: 2010/24349

Project Address: 8 Yorkshire RD

SEC. 37

Issue Date: 6-Jun-10

Owner: CKC Holdings Ltd

ISS Contact Number:

There Are Limitations On This Consent #1

Description of Work: 7 New Dwellings with attached Garages

Property Reference: Lot: 62 DP/S: S95569 Signed:

Review Officer:

TR Number:

Extra Inspections To Be Charged (Tick Box)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total

BUILDING INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Siting	By Surveyor	✓			31/8/10
Foundation	By Engineer				31/8/10
Bond Beam					
Concrete Floor	C. Hogg	✓			31/8/10
Tilt Slab					
Framing	[illegible]	✓			26-9-10
Cavity/Batten					
Cladding					
Preline	W. Martin	✓			7/10/10
Postline	W. Martin	✓			11/10/10
Crossing					

COMPLETION

SIGN W. Martin DATE 2/11/10

COMMENTS:

PLUMBING & DRAINAGE INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Concrete Floor	C. Morrison	✓			28/8/10
Preline	C. Morrison	✓			5/10/10
Stack Test					
Waste & Soil					
Foulwater	T Shaw	✓			6/9/10
Stormwater	T Shaw	✓			
Heater Chimney					
Pool/Spa Fencing					

DRAINLAYER Waikato Plumbing

PLUMBER

COMPLETION

SIGN DATE 2/11/10

COMMENTS:

AMENDMENTS

Date Received	Building Review Officer	Description of Work	Approved	Filed	Outstanding Fees

Certificates/Producer Statements/Plans Requested and Received				
Plumbing		**Date Req**	**Company Name**	**Date Rec**
1	As laid drainage plans			✓
2	Pressure test producer statement			✓
3	Gas certificate			
4	Back flow prevention device pressure test producer statement			
5	Heating engineer's certificate			
6	Engineers certificate for septic tank and effluent line			
7	Engineers certificate for stormwater system			✓
8	CCTV certificate			
Building				
9	Surveyors Certificate			✓
10	Driven pile report for length of piles and sets achieved			
11	Engineers letter of observation for driven test piles			
12	Engineer's producer statement for sand pad compaction			✓
13	Engineer's producer statement for foundations/floor			
14	Engineer's producer statement for block work/tilt stabs			
15	Engineer's producer statement for beams/lintels/structure			
16	Truss floor loading plan			
17	Truss layout plan			
18	Acoustic engineers report			
19	Electrical certificate			✓
20	Plaster coating producers statement — paint system			
21	Weather tightness report from an accredited adviser			
22	Water proofing membrane installer's producer statement			
23	Window/glazing producer statement			
24	Roofing producer statement			
25	Insulation certificate			
26	Producer statement for smoke alarms			
27	Producer statement for Pool alarms			
28	Letter from HCC Transportation Unit			
29	Amended consent plans required			
30	Contractors producer statement 3			
31	Welding Certificate			
32	Spray booth/fume cupboard producer statement			
33	Spread of flame certificate required			
34	Producer statement for slip resistance			
35	Automatic doors producer statement			
36	Automatic sprinkler producer statement from registered installer			
37	Emergency lighting producer statement			
38	Fire alarm producer statement from a certified installer all systems			
39	FPIS for the fire alarm system types 3/4/5/6/7			
40	Fire engineers producer statement			
41	Lifts/escalator producer statement			
42	Mechanical ventilation producer statement			

Hamilton City Council
Te kaunihera o Kirikiriroa

With Compliments from

Graham Ferry (City Development)

To: Building Inspectors

☐ Returned

☑ For your information

☐ As requested

☐ Requesting your comments

☐ Kindly telephone _____

☐ For approval/signature

☐ Please reply

☐ Please return

☐ Please file

☐ Other

Vehicle crossing inspected under subdivision consent 2009/20765

Date 15/11 Signature GKF s

Private Bag 3010, Hamilton 3240, New Zealand
Phone 07 838 6699, Fax 07 838 6599
info@hcc.govt.nz, www.hamilton.co.nz

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

CROSSINGS

BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** | | **Not Applicable**

PROPERTY ADDRESS: 10 Yorkshire

LOT: 61/62 **DP/S:** 9556 **Subdivision CONSENT NO:** 011/2009/20765 ~~011/20573~~ /20573

- ☑ Builder/Sub-Contractor/Owner ☑ Inspector
- ☑☑ Check you are on correct site ☑☑ Check street number
- ☑☑ Approved Building Consent documents on site
- ☑☑ Check Conditions ☑☑ Check for previous Comments
- ☑☑ Request safety barrier around crossing
- | | In the event of a crossing being formed on a section of road which has not yet been fully constructed refer to Transportation
- ☑☑ Crossings in rural areas shall be constructed to the same standard as the road they come off. Design shall be as per Drawing No. DCS301(Volume 5) If any concerns, refer to Transportation
- | | Shared environment crossing refer to Transportation
- | | If any of the following apply refer to Transportation. Driveway steeper than 12°. Coloured concrete required. Slot crossing required. Stormwater grate, manhole, bus stop, power pole, bin, trees etc. in crossing area
- ☑☑ Crossings shall not interfere with footpath or berm profile, except for minor filling between boundary and footpath.No retaining walls or structures are to encroach onto the berm and no lowering of the berm is permitted
- ☑☑ Crossing is to be constructed of the same material as the ajacent footpath, except that for chipsealed or slurry footpaths, the crossing shall be asphaltic concrete
- | | For wide commercial crossings, in areas of moderate to high pedestrian use, thought should be given to reinforce the priority of the footpath over the crossing. A pavement marked pedestrian crossing may be appropraite.
- ☑☑ Crossing standards apply to the full width of the berm between the kerb and road boundary. Crossing must be formed to property boundary
- ☑☑ When contsructing a new crossing, cut out existing footpath if present, and reconstruct to vehicle crossing standards
- ☑☑ Cracked existing kerb and channel is to be removed and incorporated into crossing construction works
- ☑☑ Sub-grade and sub-base preparation is to extend 200m beyond the crossing edges

RESIDENTIAL CROSSINGS

- | | Crossing width 3.0m minimum
- ☑☑ Crossing width 5.5m maximum
- | | Crossing width 6.5m maximum at kerb & channel which includes 500mm splay each side of crossing
- | | 1000mm total splay each side of crossing if crossing width is less than 4.0m and street width is less than 9.0m
- | | **Asphalt Footpath 25mm asphalt + 75mm gap 20**
- | | Crossing less than 7 dwellings 25mm asphalt + 175mm gap 40
- ☑☑ Crossing 7 or more dwellings 30mm asphalt + 220mm gap 40
- | | **Concrete Footpath 100mm concrete + 25mm sand**
- | | Crossing less than 7 dwellings 125mm concrete + 75mm gap 20 or 665 mesh
- | | Crossing 7 or more dwellings 150mm concrete + 75mm gap 20 or 665 mesh
- | | Cobblestone Footpath 60mm paver + 25mm sand
- | | Crossing less than 7 dwellings 60mm paver + 25mm sand + 90mm gap 40
- | | Crossing 7 or more dwellings 80mm paver + 25mm sand + 95mm gap 40

COMMERCIAL/INDUSTRIAL OR 7 OR MORE DWELLINGS

- | | Crossing width 5.0m minimum
- | | Crossing width 7.5m maximum
- | | Crossing width 9.5m maximum at kerb & channel, kerb & channel reinforced beam to extend 1.5m past each side of crossing width
- | | 500mm splay each side of crossing
- | | 1000m total splay each side of crossing where street width is less than 9.0m
- | | If asphalt footpath, remove footpath and construct as per crossing standard
- | | If concrete footpath, remove footpath and construct as per crossing standard
- | | If no footpath, can construct crossing in asphalt, concrete or cobblestones

ASPHALT

- | | Commercial / Industrial crossing 50mm MIX 10 asphalt + 250 gap 40

CONCRETE

- | | Commercial / Industrial crossing, 150mm concrete + 75mm gap 20 + 2 Layers of 665 mesh
- | | Or 175mm concrete + 75mm gap 20

INTERLOCKING BLOCK PAVING

- | | Commercial / Industrial crossing, 80mm paving block + 25mm bedding sand + 120mm gap 40

BEAM

- | | Depressed kerb channel crossing Pedestrian footpath/residential crossing less than 7 dwellings 75mm gap 20
- ☑☑ 7 or more dwellings 75mm gap 20 + 2 D12 & 6mm links at 600mm centres
- | | Industrial / commercial crossings 75mm gap 20 + 4 D12 & 6mm links & 600mm centres
- | | Beam must extend 1.5m each side of crossing

Any changes to the above, please have Transportation Unit approve prior to approval

Name of Builder/Sub-Contractor/Owner Completing Check List: Rob Carlton

Signature: [signature] **Date:** 12.11.10

Comments Memo No: _____ **Notice to Fix No:** _____

Further Inspection Required ☐ Yes ☑ No **Inspector** C Kotzas **Date of Inspection** 12/11/10

Approved as in accordance with the plans & specifications approved for this consent ☐ ☐ **Auditor** _____ **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

FINAL BUILDING INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd

LOT: 61 & 62 DP/S: 9556 CONSENT NO: 2010 26349

✓ Approved X Failed | Not Applicable

Builder/Sub-Contractor/Owner	Inspector	
Check you are on correct site	✓	
Approved Building Consent documents on site	✓	
Check Building Consent conditions	✓	
Check job description on job card	✓	
EXTERIOR		
External envelope complete and weatherproof	✓	
Flashings/sealants complete	✓	
Wet area/kitchen vents	✓	
Safety glass	✓	
Ground/paving heights	✓	
Crossing and footpath for damage	✓	
Brick veneer weep and ventilation holes	✓	
Exterior decorated	✓	
Weathering of penetrations	✓	
Construction of decks/steps/handrails	✓	
Barrier heights and construction timber/treatment	✓	
Sub floor access/ponding/ventilation/insulation	✓	
Roof cladding/flashing fixings/roof penetrations	✓	
Landscaping complete – retaining walls	✓	
Wall cladding fixings/soakers/scribers etc	✓	
Fire rating		
INTERIOR		
Ceiling insulation in place	✓	
Fire ratings stopped		
Wet areas completed, walls, ceilings, floors sealed	✓	
Wet areas ducted to exterior	✓	
Safety glass	✓	
Heights of window sashes	✓	
Heights of barriers and handrails/details		
All inspections have been completed	✓	
All certificates have been received	✓	
Smoke Alarms Fitted	✓	

Builder/Sub-Contractor/Owner	Inspector	
COMMERCIAL		
Surface finishes, smoke development and spread of flame for ceilings, walls, floor coverings		
Stopping of fire walls and penetrations		
Penetrations/light fittings/fire collars etc		
Means of escape, door hardware, signage		
Fire and smoke doors: hardware, tags, self closers/magnetic hold open device and signage		
Signage/fire alarm		
ACCESSIBILITY		
Ramps non slip, width, length, upstands, handrails 1:12 1200 wide		
Entrance signage, threshold, width, floor surfaces		
Public reception counters or desks		
Lifts sizes, controls. Handrails, lobby width		
Stair widths, handrails, landings, risers, treads, nosings		
Doorways/corridors clear width, glazing, colour contrasted, projections into corridors		
Alerting devices audible and visual signal		
Toilet size, controls, doors, wash hand basin, taps		
Showers size, controls, door/s		
Laundering size and turning cycle		
Signage entrance doors, information board and facilities signage		
Surface finishes stable firm and non slip		
Sound system, stage podium access, listening system		
Signage for listening system		
Accessible route car parks, identifiable route from street to and through building, surface finishes stable firm and non slip		
Further Inspection fee required		

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LP

Signature: [signature] **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

- ☑ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector [signature] Auditor _____

Inspection Date 2-11-10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

FINAL PLUMBING/DRAINAGE INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd

61 & 62 9556

LOT: 2 DP/S: 428322 CONSENT NO: 2010 24349

[✓] Inspected [X] Failed [ ] Not Applicable

Builder/Sub-Contractor/Owner	Inspector
	☑ Check you are on correct site
	☑ Approved Building Consent documents on site
	☐ Check Building Consent Conditions
	☑ Check street number on letterbox
	☑ Ensure plumbers and drainlayers names are recorded on job card
	☑ Relevant inspections have been called for
	☑ Roof penetrations flashed in accordance with E2 page 81 Figures 53 &54
	☑ Gully dishes positioned to stop stormwater ingress
	☑ Ensure overflow relief gully minimum 150mm below lowest fixture outlet
	☑ Waste pipes sealed at point of entry into rear of gully dishes and bends installed tight to back of gully dish
	☑ All wastes are vented if greater than 3.5m and have min 1:40 fall.
	☑ Driveway catchpit installed for over 100m²
	☑ All permanently paved areas over 10m² run to catchpit
	Permanent ground area does not exceed grass area to boundary
	☑ Terminal vent position, flashings, cowls fitted
	☑ Downpipes evenly clipped and connected to stormwater drainage
☑	☐ No Discharge to lower masony roofs. Downpipes from top storey roofs to lower roof spreader required as per E2 Page 56 figure 20
	☐ Novaflow drainage is terminated to catch pit
	☐ Overflows fitted to Decks and run to exterior
	☑ Hot water cylinder is correct type, all required safety valves and seismic restraints fitted
	☑ HWC expansion/relief drains have been installed and conveyed to the exterior
	☑ Cylinder drain/valve pipes via the tundish/air gap
	☐ Cylinder safe tray if required
	☑ Dishwasher pipe clamped and anti siphon bend fitted
	☑ Water hammer
	☑ Toilet cisterns screwed to wall securely

Builder/Sub-Contractor/Owner	Inspector
	☑ Terminal vents continuous in ceiling space
	☑ Traps fitted and holding seals
	☑ Tub fixed in position
	☑ Check job descriptions match card
	☑ Water temperature = 54° °C
	☐ Gas certificate provided No:
	☑ As-laid drain plans provided
	☑ Plumbing pressure test certificate from HCC registered person
	☐ Pipes insulated outside building thermal envelope using UV protected where require
	☐ Copper waste pipe to commercial machine
	☐ Bainmarie drains provided to approved outlet
	☐ Back flow prevention devices where required
	☐ Test certificate for back flow devices
	☐ Approval letter from Trade Waste Department recieved ☐ yes ☐ no
	☐ Septic tank installation, has been installed as per engineers design PS4
	☐ (Certificate supplied)
	✓ Engineers PS4 for storm water soak hole design
	☐ If cross lease/subdivision ensure all drainage requirements have been met
	☐ If timber floor check wastepipe/soilpipes clipping complies
	☐ Further Inspection Fee Required ☐ yes ☐ no

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LN

Signature: _____ **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

- [✓] Pass - in accordance with the plans & specifications approved for this consent
- [ ] Fail
- [ ] Further Documentation required
- [ ] Required Documents received ___/___/___
- [ ] Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ Auditor _____

Inspection Date 2/11/10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

EXTERIOR CLADDING SYSTEMS - BUILDING

SPECIFIC LOCATION: Units 1-7

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd Units 1-7

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

[✓] **Approved** [X] **Failed** [ ] **Not Applicable**

Builder/Sub-Contractor/Owner
Inspector

- Check you are on correct site
- Approved Building Consent documents on site
- Check Conditions
- Check previous Comments

BRICK VENEER

- Correct type, condition, fixing and support of building wrap
- Cavity size 40mm minimum
- Number, spacing and location of ties
- Connection of brick ties
- Cavity cleaned/rebate sealed
- Brick support on foundation
- Weep/ventilation holes
- Flashing detail into joinery
- Flashing requirements/fixing position
- Minimum panel sizes
- Maximum height of veneer
- Lintel bars/type of fixing details
- Cavity sealed from roof space
- Slope to sills 15° min.
- Details at ground level
- Window support bars fitted

PREPLASTER - RIGID BACKING

- Fibre cement sheet
- H3 plywood
- H3 diagonal sheeting

PREPLASTER - SOLID PLASTER (MESH)

- Mesh type
- Reinforcement around openings
- 6–9mm spacers
- Galvanised
- Propriatory self-spacing mesh
- Fixings
- Propriatory control joints

Builder/Sub-Contractor/Owner
Inspector

PREPLASTER - NON RIGID BACKING (CAVITY SYSTEM)

- Support
- Allowable deflection of flexible backer (e.g. riblath)

MONOLITHIC TYPE CLADDING

- Correct type, position and condition of building wrap
- Fixing detail of backing
- Sheet joining/flashing detail
- Joinery head/sill and jamb flashing detail
- Flashing connections to each other
- Slope to parapet/sill detail
- Roof/wall and parapet flashing details
- Detail at ground level
- Requirements for expansion/contraction joint details both horizontal and vertical
- Spacer spacing, fixings etc.
- Battens (ventilated cavity)
- Reinforcement type/fixing etc
- General workmanship
- Weathering detail for barriers/downpipes/weatherboards and penetrations
- Remind installer about installation certificate
- Internal/external angles

WEATHERBOARD TYPE SYSTEMS

- Correct type of building wrap, fixing and support
- Flashing requirements/fixing/position
- Cladding fixing details
- Details at ground level
- Battens (ventilated cavity)
- Bottom of cladding provides weathering to bottom plates, floor joists and behind decking

Name of Builder/Sub-Contractor/Owner Completing Check List: C-K-C Holdings

Signature: _____ **Date:** 27-10-10

OFFICE USE ONLY - Please Tick as appropriate

- [✓] Pass - in accordance with the plans & specifications approved for this consent
- [ ] Fail
- [ ] Further Documentation required
- [ ] Required Documents received / /
- [ ] Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector W Gilmour

Inspection Date 27-10-10

Auditor _____

Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

POST LINING
Units 1 - 7
BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be given to the inspector at the time of inspection.

✓ **Approved** ✗ **Failed** | | **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd Units 1 - 7

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Building Consent Conditions
- ✓ ✓ Check for previous comments

- ✓ ✓ Floor/Ceiling nailed off as diaphragm
- ✓ ✓ Position of sheet bracing
- ✓ ✓ Fixing of sheet bracing
- ✓ ✓ Holes in sheet braces
- ✓ ✓ Safety glass
- ✓ ✓ Correct type of wall linings used
- ✓ ✓ STC rating requirements
- ✓ ✓ Stopping and penetrations, light switched, power points etc to fire walls
- ✓ ✓ Request acoustic engineers report

COMMERCIAL

- ✓ ✓ Fire philosophy
- ✓ ✓ Fire rating
- ✓ ✓ Stopping of fire ratings
- ✓ ✓ Penetrations
- ✓ ✓ Discuss compliance schedule features and request certificates for compliance
- ✓ ✓ Discuss spread of flame index for interior finish and request Certificate required

Builder/Sub-Contractor/Owner
Inspector

ACCESSIBILITY CHECKLIST/DISCUSS

- ✓ ✓ Accessible Carpark
- ✓ ✓ Ramps
- ✓ ✓ Entrance
- ✓ ✓ Public Reception Area
- ✓ ✓ Lifts
- ✓ ✓ Stairs
- ✓ ✓ Doorways, corridors
- ✓ ✓ Controls (auto doors etc)
- ✓ ✓ Alerting devices
- ✓ ✓ Toilets
- ✓ ✓ Showers
- ✓ ✓ Laundering
- ✓ ✓ Food preparation
- ✓ ✓ Signage
- ✓ ✓ Surface finishes
- ✓ ✓ Accessible Route

Name of Builder/Sub-Contractor/Owner Completing Check List: C.I.C Holdings

Signature: [signature] **Date:** 11-10-10

Comments Memo No: _____ **Notice to Fix No:** _____

Please tick as appropriate

✓ **Pass** – in accordance with the plans & Specifications approved for this consent

☐ **Fail** Further requirements: ☐ Documentation ☐ Inspection

Inspector [signature] **Auditor** _____

Date of inspection 11-10-10 **Date** _____

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PRELINE - BUILDING

SPECIFIC LOCATION: Unit 1

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 8-10 Yorkshire Rd Unit 1

LOT: 61-62 DP/S: 9556 CONSENT NO: 24349

✓ **Inspected** ✗ **Failed** | | **Not Applicable**

Builder/Sub-Contractor/Owner	Inspector
✓	✓ Check you are on correct site
✓	✓ Approved Building Consent documents on site
✓	✓ Check Conditions
✓	✓ Check previous comments

EXTERIOR

✓	✓ Construction of decks, bracing, hangers etc
	Verandah post connections
	Roof cladding type, flashings, nailing
	Fire rating requirements
✓	Exterior bracing

INTERIOR

✓	✓ Interior brace fixing
✓	✓ Bottom plate fixings
✓	✓ Moisture content (timber) = ____ %
✓	✓ Insulation/moisture content
✓	✓ Holes and notches in framing
✓	✓ Safety glass
	STC ratings (Design test for multi unit dwellings)
	Fire ratings, penetrations
✓	✓ Joinery provides correct lighting, ventilation to each room
✓	✓ Window sash heights above floor
✓	✓ Discuss smoke alarm requirements
✓	Air seals fitted

ROOF

✓	✓ Roof underlay grade, netting
✓	✓ Roof correct pitch for material used
✓	✓ Correct trusses for roof material used and spacing
✓	✓ Ceiling batten sizes, correct spans and nailing
✓	✓ Ceiling diaphragms
✓	✓ Vapour barrier for skillion roofs
✓	✓ Insulation to ceiling, correct position

Builder/Sub-Contractor/Owner	Inspector
✓	Stair rail openings
	Configuration of stair/type
	Width between rails
	Height of barriers and ballustrading to landings, decks and stairs
✓	Glazing requirements

COMMERCIAL

	Fire philosophy
	Discuss fire ratings
	Discuss compliance schedule features and request certificate for completion
✓	Fire collars/penetrations through fire ratings

ACCESSIBILITY CHECKLIST

	Accessible car parks
	Access ramps
	Entrance
	Public reception
	Lifts
	Stairs
	Doorways, corridors
	Controls (Auto Doors etc)
	Alerting devices
	Toilets
	Showers
	Laundering
	Food preparation
	Signage
	Surface finishes
✓	Accessible route

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: _____ **Date:** 7-10-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ Auditor _____

Inspection Date 7-10-10 Audit Date _____

Hamilton City Council
Te kaunihera o Kirikiriroa.
PH: (07) 838 6677

PRELINE PLUMBING

SPECIFIC LOCATION:

NOTE TO Plumber: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: LOT 1 8-10 YORKSHIRE ST Unit 1

LOT: LOT 1 DP/S: _____ CONSENT NO: 2010/24349

✓ **Inspected** ✗ **Failed** | **Not Applicable**

- ✓ Plumber
- ✓ Inspector
- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ☐ Check Conditions
- ✓ ✓ Check for previous comments
- ✓ ✓ Approved type of pipes/identification/standard
  K2 WATER
  (complete details of pipe system used)
- ✓ ☐ Support of pipework
- ✓ ✓ Pipes secured to prevent water hammer
- ✓ ✓ Pipe pressure at time of inspection ✓ 1500 kpa ☐ mains only
- ✓ ☐ Producer statement required ✓ yes ☐ no
- ✓ ✓ Pipes sealed through building wrap.
- ✓ ✓ Sludge and relief drains run via tundish/air gap
- ✓ ✓ Soil and waste pipe work correctly installed.
- ✓ ✓ Pipes are protected from frost damage
- ✓ ✓ Pipes within 100mm of roof to be insulated
- ✓ ✓ Notches and holes in framing as per NZS
  3604 Walls Section 8 Figure 8.4
  Floors Section 7Figure 7.8
- ✓ ✓ Terminal vent installed
- ✓ ✓ Pipes protected from electrolysis and sharp objects
- ✓ ✓ Pipes correctly sized
- ☐ ☐ Test on Stack System ☐ yes ☐ no
- ✓ ✓ Position of hot water cylinder/infinity system is closest to most frequently used tap (kitchen sink) as per AS3500.4 see 5.3.1 Page 36
- ☐ ☐ Check hot water cylinder if in ceiling and completed ☐ yes ☐ no
- ✓ ✓ Above ground relief pipes from HWC in copper or 99°c approved pipe system
- ☐ ☐ Fire hose reel pipe work run in metallic only

- ✓ Plumber
- ✓ Inspector
- ✓ ✓ Plumber
- ✓ ☐ Inspector
- ☐ ☐ Air conditioning condensate drains run to outside(not to outside gully dish)
- ☐ ☐ Back flow philosophy followed
- ✓ ☐ Solar panel installation correct ☐ yes ☐ no
- ☐ ☐ Wetback Installation correct ☐ yes ☐ no
- ☐ ☐ Fire Collars installed where required
- ☐ ☐ Overflows fitted to decks and run to exterior
  To be same size as outlet
- ☐ ☐ Further Inspection Fee Required ☐ yes ☐ no

Notes: _____

Plumber: WAIKATO PLUMBING SERVICES **Rego:** 16-329

Signature: _____ **Date:** 30-9-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector C. Morris Auditor _____

Inspection Date 5-10-10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

STRUCTURAL FRAMING
BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be given to the inspector at the time of inspection.

✓ **Approved** ✗ **Failed** ‖ **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire St Unit 1

LOT: 61-62 DP/S: _____ CONSENT NO: 24349

- ✓ Builder/Sub-Contractor/Owner
- ✓ Inspector
- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check for previous comments
- ✓ ✓ Check conditions

FLOOR FRAMING

- ✓ ✓ KPa floor loads/point loads
- ✓ ✓ Bearer/joist sizes/spans
- ✓ ✓ Joist hangers
- ✓ ✓ Bracing/braced piles/anchor piles
- ✓ ✓ Bracing/pile connections
- ✓ ✓ Solid blocking to joists
- ✓ ✓ Insulation
- ✓ ✓ Subfloor ventilation
- ✓ ✓ Crawl space
- ✓ ✓ Polythene on ground
- ✓ ✓ Confirm types of pile/bearer/floor joist fixings to be used and level of protection required, i.e. galvanised, stainless steel (including nails)
- ✓ ✓ Timber treatment
- ✓ ✓ Floor fixed as diaphragm

WALL FRAMING

- ✓ ✓ Timber treatment
- ✓ ✓ Framing sizes
- ✓ ✓ Framing height
- ✓ ✓ Bottom plate fixings - External
- ✓ ✓ Lintel sizes - connections
- ✓ ✓ Top plate for roof support, truss, beams. Bracing lines
- ✓ ✓ Nogging for vertical cladding

- ✓ Builder/Sub-Contractor/Owner
- ✓ Inspector
- ✓ ✓ Nailing general
- ✓ ✓ Exterior ply bracing
- ✓ ✓ Interior bracing
- ✓ ✓ Window sash heights above floor
- ✓ ✓ Stud-top plate connections
- ✓ ✓ Insulation

ROOF FRAMING

- ✓ ✓ Bracing, dragon ties etc
- ✓ ✓ Timber treatment
- ✓ ✓ Roof correct pitch for material used
- ✓ ✓ Correct trusses/rafters for roof material used and spacing
- ✓ ✓ Joist hangers and fixings to intersecting trusses and girder trusses/beams and girder trusses
- ✓ ✓ Support of girder trusses
- ✓ ✓ Nails connecting trusses/rafters to top plates
- ✓ ✓ Truss/rafter fixing to design requirements
- ✓ ✓ Strutting beam and ceiling runner sizes to close coupled roofs
- ✓ ✓ Rafter spans, collar ties, cleats and under purlin sizes to close coupled roofs
- ✓ ✓ Ceiling batten sizes, correct spans and nailing (if in place)
- ✓ ✓ Purlin fixings

OTHER

- ✓ ✓ Construction of decks, bracing, hangers etc
- ✓ ✓ Verandah post connections
- ✓ ✓ Timber treatment
- ✓ ✓ Nailing general
- ✓ ✓ Barrier framing
- ✓ ✓ Fire rating requirements/bottom plate fixing

Name of Builder/Sub-Contractor/Owner Completing Check List: C-K-C Holdings

Signature: _____ **Date:** 28-9-10

Comments Memo No: _____ **Notice to Fix No:** _____

Please tick as appropriate

✓ **Pass** – in accordance with the plans & Specifications approved for this consent

☐ **Fail** Further requirements: ☐ Documentation ☐ Inspection

Inspector _____ **Auditor** _____

Date of inspection 26-9-10 **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

SANITARY SEWER AND STORMWATER
unit 6 / 1
BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd.

LOT: 61-62. DP/S: CONSENT NO: 2010 / 24369.

Builder/Sub-Contractor/Owner
Inspector

- Check you are on correct site
- Approved Building Consent documents on site
- Check Conditions
- Check for previous Comments

SEWER

- Confirm drainlayers name
- Ensure sanitary sewer is connected to an appropriate connection
- Check pipe size is correct
- Check pipe material is approved
- Check material, pipe is bedded in
- Ensure sanitary sewer drains have correct falls and are laid straight
- Check leakage during water test
- Drainlayer to release testing equipment to ensure sanitary sewer connection is clear
- Correct fittings used
- Check for terminal vents and positions
- Discuss protection over drains for inadequate depth
- Remind drainlayer to provide as laid drainage plan
- Discuss heights of gully traps
- Discuss bends on wastes and seal wastes into gullies (plumber)

Builder/Sub-Contractor/Owner
Inspector

STORMWATER

- Confirm drainlayers name
- Ensure stormwater is connected to an appropriate connection
- Check pipe size is correct for given roof area
- Check pipe material is approved
- Check material, pipe is bedded in
- Check adequate number of downpipes for roof area
- Check stormwater drains have correct falls and are straight
- Correct fittings used
- Discuss protection over drains for inadequate depth
- Remind drainlayer to provide as laid drainage plan

As laid to Cons

Name of Builder/Sub-Contractor/Owner Completing Check List: Paul Cunningham

Signature: Paul Cunningham **Date:** 5/9/10

Comments Memo No: **Notice to Fix No:**

☐ **Further Inspection Required** ☑ **Approved** **Inspector** T Rhead

Date of Inspection **Auditor** **Date** 6/9/2010

Brebner Print

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

SITING, FOUNDATION AND REPILE INSPECTION

Unit 1 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** ‖ **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd Unit 1

LOT: Ble 62 DP/S: 9556 428322 CONSENT NO: 24349

☑ Builder/Sub-Contractor/Owner
☐ Inspector

☑ ☐ Check you are on correct site
☑ ☐ Approved Building Consent documents on site
☑ ☐ Check Conditions

SITING

☐ ☐ Locate boundary pegs – where required
☐ ☐ Lot number on pegs
☐ ☐ Dimensions between pegs
☐ ☐ Measure distance from project to boundary conforms to site plan
☐ ☐ Dimensions of building
☐ ☐ Profile height in relation to floor heights
☐ ☐ Building height in relation to boundary
☐ ☐ Excavations, safe slopes, hoarding, shoring, underpinning and barriers for site safety. (Plans for retaining walls)
☐ ☐ Council or private drains under building
☑ ☐ Siting by surveyor – to provide letter McPherson Reeder
☐ ☐ Discuss site stormwater drainage

DESIGN

☑ ☐ Engineers designed foundation
☑ ☐ Request engineers letter of supervision
☑ ☐ Name of Engineer Accom
☐ ☐ Foundation to NZS 3604

DRIVEN PILES

☐ ☐ ☐ Request engineers confirmation of supervision and report on length of piles and sets achieved

PILES/DRILLED FOUNDATIONS

☐ ☐ Height of profile in relation to top of piles
☐ ☐ Correct size and treatment of piles

☑ Builder/Sub-Contractor/Owner
☑ Inspector

☐ ☐ Pile spacing for bearers/joists
☐ ☐ Floor heights conform to bracing elements provided
☐ ☐ Height for 450mm crawl space
☐ ☐ Layout of subfloor bracing
☐ ☐ Pile heights correct for type of bracing element i.e. anchor or braced pile
☐ ☐ Pile depths into cleared ground
☐ ☐ 100kpa or greater bearing capacity (including pre-floor excavation)
☐ ☐ Holes clean and sides vertical
☐ ☐ Confirm types of pile bearer/floor joist fixing to be used and level of protection required, i.e. galvanized/stainless steel (including nails)

CONCRETE FOUNDATIONS

☑ ☐ Foundation dimensions and minimum 200 mm depth into cleared ground
☑ ☐ Foundation clean, square, level and no water in excavations
☑ ☐ 100kpa soil bearing capacity
☑ ☐ Discuss floor height to proposed finished ground levels as per NZS 3604
☑ ☐ Manufacture of steel
☑ ☐ Steel sizes
☑ ☐ Correct type, i.e. high tensile or deformed etc
☑ ☐ Steel laps
☑ ☐ All steel has been tied up
☑ ☐ Steel is clean
☑ ☐ Cover and height pegs
☐ ☐ Fire wall. Foundation and reinforcement

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: [signature] **Date:** 31-8-10

Comments Memo No: **Notice to Fix No:**

Further Inspection Required ☐ Yes ☑ No **Inspector** [signature] **Date of Inspection** 31-8-10

Approved as in accordance with the plans & specifications approved for this consent ☑ Yes ☐ No **Auditor** **Date**

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR BUILDING

Unit 1

BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** ‖ **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd Unit 1

LOT: 61-62 DP/S: 9556 428322 CONSENT NO: 24349

Builder/Sub-Contractor/Owner	Inspector	
✓	✓	Check you are on correct site
✓	✓	Approved Building Consent documents on site
✓	✓	Check Conditions
✓	✓	Check for previous Comments
✓	✓	Floor thickenings
✓	✓	Confirm concrete grade 20 MPA
✓	✓	Thickness of slab
‖	‖	Location of piles if driven piles
✓	✓	Sand fill compaction and excavation ie. No topsoil underneath
✓	✓	Compaction Certificate
✓	✓	Manufacture of steel/mesh
✓	✓	Mesh is correct type and gauge and tied
‖	‖	Mesh is cut if expansion cuts are required
✓	✓	Mesh supported on chairs

Builder/Sub-Contractor/Owner	Inspector	
✓	✓	Check that polythene is correct thickness, is lapped and taped
✓	✓	Holes and penetrations in polythene are taped
✓	✓	Reinforcing bars to internal corners
‖	‖	Clean bond will be made between floor slab and bond beams or header blocks
✓	✓	Remind builder to seal brick rebate
‖	‖	Emulsion sealer to be used inside header blocks on wet sites
✓	✓	Types and spacing of bottom plate connectors to be used
✓	✓	Floor levels will be sufficient for ground clearance
✓	✓	Engineers design – request letter of supervision
✓	✓	Request truss design

Name of Builder/Sub-Contractor/Owner Completing Check List: C-K-C Holdings

Signature: [signature] **Date:** 31-8-10

Comments Memo No: _____ **Notice to Fix No:** _____

☐ **Further Inspection Required** ✓ **Approved as in accordance with the plans & specifications approved for this consent** **Inspector** [signature]

Date of Inspection 31-8-10 **Auditor** _____ **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR PLUMBING AND DRAINAGE

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 8-10 Yorkshire St units 1, 6, 7

LOT: _____ DP/S: _____ CONSENT NO: 2010/24349

✓ **Inspected** ✗ **Failed** | | **Not Applicable**

- ✓ Plumber
- ✓ Inspector
- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions
- ✓ ✓ Check for previous comments
- ✓ ✓ The work exactly reflects the approved plans
- ✓ ✓ System used AS3500 ✓ G13 ☐
- ✓ ✓ Fixture discharge pipe sizes followed
- ✓ ✓ Fall on all discharge pipes 1:40 for pipe diameter 65mm or less
- ☐ ☐ Length of all discharge pipes. An unvented waste pipe cannot exceed 3.5m for G13
- ✓ ✓ Waste pipes protected where penetrating through floor slab.
- ✓ ✓ Waste pipes are separated at foundation exit point to allow for bends
- ✓ ☐ Water heater drain pipe is graded/correctly terminated
- ✓ ✓ Check location of terminal vent
- ✓ ✓ Main or branch drain longer than 10m to be vented for AS3500
- ☐ ☐ Main or branch drain longer than 6m to be vented for G13
- ✓ ✓ Vent pipe down stream from last fixture connection
- ✓ ☐ Minimum vent diameter 50mm for AS3500
- ☐ ☐ Minimum vent diameter 80mm for G13
- ☐ ☐ 80mm W/C pipe maximum length 2.5m unvented
- ✓ ☐ 1 ORG min 150mm below lowest fixture outlet
- ✓ ✓ Test on AS3500 drains for 2 or more fixtures inline
- ✓ ☐ Waste pipes evenly spaced and in a straight line at rear point of entry to gully dish (Max 4)

- ✓ Plumber
- ✓ Inspector
- ✓ ☐ Venting continuous on AS3500 pipework
- ✓ ✓ Level inverts installed 2 o'clock or higher for AS3500
- ☐ ☐ Clean outs (COS) installed where required or 2x 45° bends 2x diameter apart directly under fixture.
- ☐ ☐ Amended floor plan for all changes
- ☐ ☐ Drainage behind masonry walls greater than 300mm
- ✓ ☐ One fixture only above terminal vent
- ☐ ☐ Flood relief floor waste for all urinals and multi unit buildings
- ☐ ☐ Stainless steel Straps installed at 1.0m intervals to support soil and waste pipes for pile driven foundations
- ☐ ☐ Copper waste to commercial machines operating over 65°C
- ☐ ☐ Soakage Drainage for Over 300mm step in Footing
- ☐ ☐ Further Inspection Fee Required ☐ yes ☐ no

Notes: _____

Name of Builder/Sub-Contractor/Owner Completing Check List: Waikato Plumbing Services

Signature: _____ **Date:** 27-08-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector C. Morris Auditor _____

Inspection Date 27-8-10 Audit Date _____

GEON

SIGN DAT

Consent No: 2010/24349

Project Address: 8 Yorkshire RD

SEC 37

Issue Date: 6-Jun-10

Issue Acc

Contact Number:

There Are Limitations On This Project # 2

Owner: CKC Holdings Ltd

Description of Work: 7 New Dwellings with attached Garages

Property Reference: Lot: 62 DP/S: S9556

Signed:

Review Officer:

TR Number:

Extra Inspections To Be Charged (Tick Box)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total

BUILDING INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Siting					
Foundation •	W.Martin	✓			23/8/10
Bond Beam					
Concrete Floor •	W.Martin	✓			23/8/10
Tilt Slab					
Framing •	W.Martin	✓			17/9/10
Cavity/Batten					
Cladding	W.M	✓			19/10/10
Preline •	W.Martin	✓			24/9/10
Postline •	W.Martin	✓			30/9/10
Crossing					

COMPLETION

SIGN W.Martin DATE 2-11-10

COMMENTS:

PLUMBING & DRAINAGE INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Concrete Floor •	L.Cuff	✓			19-8-10
Preline •	T.Sharp	✓			21/9/10
Stack Test					
Waste & Soil					
Foulwater	C Morrison	✓			2/9/10
Stormwater	C Morrison	✓			
Heater Chimney					
Pool/Spa Fencing					

DRAINLAYER Waikato Plumbing

PLUMBER " "

COMPLETION

SIGN L.Cuff DATE 2/11/10

COMMENTS:

AMENDMENTS

Date Received	Building Review Officer	Description of Work	Approved	Filed	Outstanding Fees

Certificates/Producer Statements/Plans Requested and Received				
Plumbing		**Date Req**	**Company Name**	**Date Rec**
1	As laid drainage plans			✓
2	Pressure test producer statement			✓
3	Gas certificate			
4	Back flow prevention device pressure test producer statement			
5	Heating engineer's certificate			
6	Engineers certificate for septic tank and effluent line			
7	Engineers certificate for stormwater system			✓
8	CCTV certificate			
Building				
9	Surveyors Certificate			✓
10	Driven pile report for length of piles and sets achieved			
11	Engineers letter of observation for driven test piles			
12	Engineer's producer statement for sand pad compaction			✓
13	Engineer's producer statement for foundations/floor			
14	Engineer's producer statement for block work/tilt stabs			
15	Engineer's producer statement for beams/lintels/structure			
16	Truss floor loading plan			
17	Truss layout plan			
18	Acoustic engineers report			
19	Electrical certificate			✓
20	Plaster coating producers statement — paint system			
21	Weather tightness report from an accredited adviser			
22	Water proofing membrane installer's producer statement			
23	Window/glazing producer statement			
24	Roofing producer statement			
25	Insulation certificate			
26	Producer statement for smoke alarms			
27	Producer statement for Pool alarms			
28	Letter from HCC Transportation Unit			
29	Amended consent plans required			
30	Contractors producer statement 3			
31	Welding Certificate			
32	Spray booth/fume cupboard producer statement			
33	Spread of flame certificate required			
34	Producer statement for slip resistance			
35	Automatic doors producer statement			
36	Automatic sprinkler producer statement from registered installer			
37	Emergency lighting producer statement			
38	Fire alarm producer statement from a certified installer all systems			
39	FPIS for the fire alarm system types 3/4/5/6/7			
40	Fire engineers producer statement			
41	Lifts/escalator producer statement			
42	Mechanical ventilation producer statement			

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FINAL BUILDING INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd

61 & 62 9556

LOT: 2 DP/S: 428322 CONSENT NO: 2010 26349

☑ Approved ☒ Failed ☐ Not Applicable

Builder/Sub-Contractor/Owner	Inspector	
	☑	Check you are on correct site
	☑	Approved Building Consent documents on site
	☑	Check Building Consent conditions
	☑	Check job description on job card

EXTERIOR

	☑	External envelope complete and weatherproof
	☑	Flashings/sealants complete
	☑	Wet area/kitchen vents
	☑	Safety glass
	☑	Ground/paving heights
	☑	Crossing and footpath for damage
	☑	Brick veneer weep and ventilation holes
	☑	Exterior decorated
	☑	Weathering of penetrations
	☑	Construction of decks/steps/handrails
	☑	Barrier heights and construction timber/treatment
	☑	Sub floor access/ponding/ventilation/insulation
	☑	Roof cladding/flashing fixings/roof penetrations
	☑	Landscaping complete – retaining walls
	☑	Wall cladding fixings/soakers/scribers etc
	☑	Fire rating

INTERIOR

	☑	Ceiling insulation in place
	☑	Fire ratings stopped
	☑	Wet areas completed, walls, ceilings, floors sealed
	☑	Wet areas ducted to exterior
	☑	Safety glass
	☑	Heights of window sashes
	☑	Heights of barriers and handrails/details
	☑	All inspections have been completed
	☑	All certificates have been received
	☑	Smoke Alarms Fitted

Builder/Sub-Contractor/Owner	Inspector	

COMMERCIAL

		Surface finishes, smoke development and spread of flame for ceilings, walls, floor coverings
		Stopping of fire walls and penetrations
		Penetrations/light fittings/fire collars etc
		Means of escape, door hardware, signage
		Fire and smoke doors: hardware, tags, self closers/magnetic hold open device and signage
		Signage/fire alarm

ACCESSIBILITY

		Ramps non slip, width, length, upstands, handrails 1:12 1200 wide
		Entrance signage, threshold, width, floor surfaces
		Public reception counters or desks
		Lifts sizes, controls. Handrails, lobby width
		Stair widths, handrails, landings, risers, treads, nosings
		Doorways/corridors clear width, glazing, colour contrasted, projections into corridors
		Alerting devices audible and visual signal
		Toilet size, controls, doors, wash hand basin, taps
		Showers size, controls, door/s
		Laundering size and turning cycle
		Signage entrance doors, information board and facilities signage
		Surface finishes stable firm and non slip
		Sound system, stage podium access, listening system
		Signage for listening system
		Accessible route car parks, identifiable route from street to and through building, surface finishes stable firm and non slip
		Further Inspection fee required

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LP

Signature: _____ **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent

☐ Fail

☐ Further Documentation required

☐ Required Documents received ___/___/___

☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector W Gilmour

Inspection Date 2-11-10

Auditor _____

Audit Date _____

GEON

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FINAL PLUMBING/DRAINAGE INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd

61 & 62 9556

LOT: 2 DP/S: 428322 CONSENT NO: 2010 24349

✓ Inspected ✗ Failed | Not Applicable

☐ Builder/Sub-Contractor/Owner ☑ Inspector	☐ Builder/Sub-Contractor/Owner ☑ Inspector
☐ ☑ Check you are on correct site	☐ ☑ Terminal vents continuous in ceiling space
☐ ☑ Approved Building Consent documents on site	☐ ☑ Traps fitted and holding seals
☐ ☑ Check Building Consent Conditions	☐ ☑ Tub fixed in position
☐ ☑ Check street number on letterbox	☐ ☑ Check job descriptions match card
☐ ☑ Ensure plumbers and drainlayers names are recorded on job card	☐ ☑ Water temperature = 54° °C
☐ ☑ Relevant inspections have been called for	☐ ☐ Gas certificate provided No:
☐ ☑ Roof penetrations flashed in accordance with E2 page 81 Figures 53 &54	☐ ☑ As-laid drain plans provided
☐ ☑ Gully dishes positioned to stop stormwater ingress	☐ ☑ Plumbing pressure test certificate from HCC registered person
☐ ☑ Ensure overflow relief gully minimum 150mm below lowest fixture outlet	☐ ☐ Pipes insulated outside building thermal envelope using UV protected where require
☐ ☑ Waste pipes sealed at point of entry into rear of gully dishes and bends installed tight to back of gully dish	☐ ☐ Copper waste pipe to commercial machine
☐ ☑ All wastes are vented if greater than 3.5m and have min 1:40 fall.	☐ ☐ Bainmarie drains provided to approved outlet
☐ ☑ Driveway catchpit installed for over 100m²	☐ ☐ Back flow prevention devices where required
☐ ☑ All permanently paved areas over 10m² run to catchpit Permanent ground area does not exceed grass area to boundary	☐ ☐ Test certificate for back flow devices
☐ ☑ Terminal vent position, flashings, cowls fitted	☐ ☐ Approval letter from Trade Waste Department recieved ☐ yes ☐ no
☐ ☑ Downpipes evenly clipped and connected to stormwater drainage	☐ ☐ Septic tank installation, has been installed as per engineers design PS4
☐ ☐ No Discharge to lower masony roofs. Downpipes from top storey roofs to lower roof spreader required as per E2 Page 56 figure 20	☐ ☐ (Certificate supplied) ✓ Engineers PS4 for storm water soak hole design
☐ ☐ Novaflow drainage is terminated to catch pit	☐ ☐ If cross lease/subdivision ensure all drainage requirements have been met
☐ ☐ Overflows fitted to Decks and run to exterior	☐ ☐ If timber floor check wastepipe/soilpipes clipping complies
☐ ☑ Hot water cylinder is correct type, all required safety valves and seismic restraints fitted	☐ ☐ Further Inspection Fee Required ☐ yes ☐ no
☐ ☑ HWC expansion/relief drains have been installed and conveyed to the exterior	
☐ ☑ Cylinder drain/valve pipes via the tundish/air gap	
☐ ☐ Cylinder safe tray if required	
☐ ☑ Dishwasher pipe clamped and anti siphon bend fitted	
☐ ☑ Water hammer	
☐ ☑ Toilet cisterns screwed to wall securely	

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LN

Signature: _____ **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent

☐ Fail

☐ Further Documentation required

☐ Required Documents received ___/___/___

☐ Further Inspection needed

Comments Memo No: _____

Notice to Fix No: _____

Inspector _____

Auditor _____

Inspection Date 2/11/10

Audit Date _____

GEON

Hamilton City Council
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EXTERIOR CLADDING SYSTEMS - BUILDING

SPECIFIC LOCATION: Units 1-7

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd Units 1-7

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

☑ Approved ☒ Failed ☐ Not Applicable

☑ Builder/Sub-Contractor/Owner
☑ Inspector
☑ ☑ Check you are on correct site
☑ ☑ Approved Building Consent documents on site
☑ ☑ Check Conditions
☑ ☑ Check previous Comments

BRICK VENEER
☑ ☑ Correct type, condition, fixing and support of building wrap
☑ ☑ Cavity size 40mm minimum
☑ ☑ Number, spacing and location of ties
☑ ☑ Connection of brick ties
☑ ☑ Cavity cleaned/rebate sealed
☑ ☑ Brick support on foundation
☑ ☑ Weep/ventilation holes
☑ ☑ Flashing detail into joinery
☑ ☑ Flashing requirements/fixing position
☑ ☑ Minimum panel sizes
☑ ☑ Maximum height of veneer
☑ ☑ Lintel bars/type of fixing details
☑ ☑ Cavity sealed from roof space
☑ ☑ Slope to sills 15° min.
☑ ☑ Details at ground level
☑ ☑ Window support bars fitted

PREPLASTER - RIGID BACKING
☐ ☐ Fibre cement sheet
☐ ☐ H3 plywood
☐ ☐ H3 diagonal sheeting

PREPLASTER - SOLID PLASTER (MESH)
☐ ☐ Mesh type
☐ ☐ Reinforcement around openings
☐ ☐ 6–9mm spacers
☐ ☐ Galvanised
☐ ☐ Propriatory self-spacing mesh
☐ ☐ Fixings
☐ ☐ Propriatory control joints

☐ Builder/Sub-Contractor/Owner
☐ Inspector

PREPLASTER - NON RIGID BACKING (CAVITY SYSTEM)
☐ ☐ Support
☐ ☐ Allowable deflection of flexible backer (e.g. riblath)

MONOLITHIC TYPE CLADDING
☐ ☐ Correct type, position and condition of building wrap
☐ ☐ Fixing detail of backing
☐ ☐ Sheet joining/flashing detail
☐ ☐ Joinery head/sill and jamb flashing detail
☐ ☐ Flashing connections to each other
☐ ☐ Slope to parapet/sill detail
☐ ☐ Roof/wall and parapet flashing details
☐ ☐ Detail at ground level
☐ ☐ Requirements for expansion/contraction joint details both horizontal and vertical
☐ ☐ Spacer spacing, fixings etc.
☐ ☐ Battens (ventilated cavity)
☐ ☐ Reinforcement type/fixing etc
☐ ☐ General workmanship
☐ ☐ Weathering detail for barriers/downpipes/weatherboards and penetrations
☐ ☐ Remind installer about installation certificate
☐ ☐ Internal/external angles

WEATHERBOARD TYPE SYSTEMS
☐ ☐ Correct type of building wrap, fixing and support
☐ ☐ Flashing requirements/fixing/position
☐ ☐ Cladding fixing details
☐ ☐ Details at ground level
☐ ☐ Battens (ventilated cavity)
☐ ☐ Bottom of cladding provides weathering to bottom plates, floor joists and behind decking

Name of Builder/Sub-Contractor/Owner Completing Check List: C-K-C Holdings

Date: 27-10-10

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent
☐ Fail

☐ Further Documentation required
☐ Required Documents received / /
☐ Further Inspection needed

Comments Memo No:

Notice to Fix No:

Inspector W Gilmour

Auditor

Inspection Date 27-10-10

Audit Date

GEON

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EXTERIOR CLADDING SYSTEMS - BUILDING

Unit 2 — BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd Unit 2

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

Builder/Sub-Contractor/Owner | Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions
- ✓ ✓ Check for previous Comments

BRICK VENEER

- ✓ ✓ Correct type, position and condition of building wrap
- ✓ ✓ Cavity size 40mm minimum
- ✓ ✓ Number, spacing and location of ties
- ✓ ✓ Connection of brick ties
- ✓ ✓ Cavity cleaned
- ✓ ☐ Brick support on foundation max. 20mm overhang and max. 20mm joint under brick
- ✓ ✓ Weep/ventilation holes
- ✓ ✓ Flashing detail into joinery
- ✓ ✓ Flashing requirements/fixing position
- ✓ ✓ Minimum panel sizes
- ✓ ✓ Maximum height of veneer
- ✓ ✓ Lintel bars, size/type of fixing details
- ✓ ✓ Cavity sealed from roof space
- ✓ ✓ Slope to sills 15° min.

WEATHERBOARD TYPE SYSTEMS

- ☐ ☐ Correct type, position and condition of building wrap
- ☐ ☐ Flashing requirements/fixing/position
- ☐ ☐ Cladding fixing details
- ☐ ☐ Details at ground level
- ✓ ☐ Battens (ventilated cavity)
- ☐ ☐ Bottom of cladding provides weathering to bottom plates, floor joists and behind decking

MONOLITHIC TYPE CLADDING

- ☐ ✓ Correct type, position and condition of building wrap
- ☐ ☐ Fixing detail of backing
- ☐ ☐ Sheet joining/flashing detail
- ☐ ☐ Joinery head/side and sill flashing detail
- ☐ ☐ Flashing connections to each other
- ☐ ☐ Slope to parapet/sill detail
- ☐ ☐ Roof/wall and parapet flashing details
- ☐ ☐ Detail at ground level
- ☐ ☐ Requirements for expansion/contraction joint details both horizontal and vertical
- ☐ ☐ Spacer spacing, fixings etc.
- ☐ ☐ Battens ventilated cavity

Builder/Sub-Contractor/Owner | Inspector

- ☐ ☐ Reinforcement type/fixing etc.
- ☐ ☐ General workmanship
- ☐ ☐ Weathering detail for barriers/downpipes/weatherboards and penetrations
- ☐ ☐ Remind installer about installation certificate
- ☐ ☐ Internal/external angles

PREPLASTER - RIGID BACKING

- ☐ ☐ Fibre cement sheet
- ☐ ☐ H3 plywood
- ☐ ☐ H3 diagonal sheeting

PREPLASTER - NON RIGID BACKING (CAVITY SYSTEM)

- ☐ ☐ Support
- ☐ ☐ Allowable deflection of flexible backer (e.g. riblath)

PREPLASTER - SOLID PLASTER (MESH)

- ☐ ☐ Mesh type
- ☐ ☐ Reinforcement around openings
- ☐ ☐ 6–9mm spacers
- ☐ ☐ Galvanised
- ☐ ☐ Propriatory self-spacing mesh
- ☐ ☐ Fixings
- ☐ ☐ Propriatory control joints

PREPLASTER - FIBRE CEMENT SHEET

- ☐ ☐ Timber moisture content (battens)
- ☐ ☐ Building wrap/sill approved

BATTENS

- ☐ ☐ H3 timber or plywood
- ☐ ☐ H grade polystyrene
- ☐ ☐ Correct size and placement
- ☐ ☐ Fixings
- ☐ ☐ Sheet layout
- ☐ ☐ Spacing

ALL MONOLITHIC SYSTEMS

- ☐ ☐ Certificate on paint system from applicator

DECKS

- ☐ ☐ Substrate
- ☐ ☐ Upstand and step between main floor level
- ☐ ☐ Drainage for sealed decking
- ☐ ☐ Membrane
- ☐ ☐ Barrier Cladding

Name of Builder/Sub-Contractor/Owner Completing Check List: GICC Holdings

Signature: [signature] **Date:** 19-10-2010

Comments Memo No: **Notice to Fix No:**

☐ **Further Inspection Required** ✓ **Approved as in accordance with the plans & specifications approved for this consent** **Inspector** [signature]

Date of Inspection 19-10-10 **Auditor** **Date**

GEON

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POST LINING

Units 2-6 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be given to the inspector at the time of inspection.

✓ **Approved** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd Units 2-6

LOT: _____ DP/S: _____ CONSENT NO: _____

☑ Builder/Sub-Contractor/Owner
☑ Inspector

- ☑ ☑ Check you are on correct site
- ☑ ☑ Approved Building Consent documents on site
- ☑ ☑ Check Building Consent Conditions
- ☑ ☑ Check for previous comments

- ☑ ☑ Floor/Ceiling nailed off as diaphragm
- ☑ ☑ Position of sheet bracing
- ☑ ☑ Fixing of sheet bracing
- ☑ ☑ Holes in sheet braces
- ☑ ☑ Safety glass
- ☑ ☑ Correct type of wall linings used
- ☐ ☐ STC rating requirements
- ☑ ☑ Stopping and penetrations, light switched, power points etc to fire walls
- ☐ ☐ Request acoustic engineers report

COMMERCIAL

- ☐ ☐ Fire philosophy
- ☐ ☐ Fire rating
- ☐ ☐ Stopping of fire ratings
- ☐ ☐ Penetrations
- ☐ ☐ Discuss compliance schedule features and request certificates for compliance
- ☐ ☐ Discuss spread of flame index for interior finish and request Certificate required

☑ Builder/Sub-Contractor/Owner
☐ Inspector

ACCESSIBILITY CHECKLIST/DISCUSS

- ☐ ☑ Accessible Carpark
- ☐ ☐ Ramps
- ☐ ☐ Entrance
- ☐ ☐ Public Reception Area
- ☐ ☐ Lifts
- ☐ ☐ Stairs
- ☐ ☐ Doorways, corridors
- ☐ ☐ Controls (auto doors etc)
- ☐ ☐ Alerting devices
- ☐ ☐ Toilets
- ☐ ☐ Showers
- ☐ ☐ Laundering
- ☐ ☑ Food preparation
- ☐ ☐ Signage
- ☐ ☐ Surface finishes
- ☐ ☐ Accessible Route

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: _____ **Date:** 30-9-10

Comments Memo No: _____ **Notice to Fix No:** _____

Please tick as appropriate

☑ **Pass** – in accordance with the plans & Specifications approved for this consent

☐ **Fail** Further requirements: ☐ Documentation ☐ Inspection

Inspector _____ **Auditor** _____

Date of inspection 30.9.'10 **Date** _____

GEON

Hamilton City Council
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SITING, FOUNDATION AND REPILE INSPECTION

Units 2 – 5 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd

LOT: 61 – 62 DP/S: 9556 CONSENT NO: 24349

Builder/Sub-Contractor/Owner
Inspector

- Check you are on correct site
- Approved Building Consent documents on site
- Check Conditions

SITING

- Locate boundary pegs – where required
- Lot number on pegs
- Dimensions between pegs
- Measure distance from project to boundary conforms to site plan
- Dimensions of building
- Profile height in relation to floor heights
- Building height in relation to boundary
- Excavations, safe slopes, hoarding, shoring, underpinning and barriers for site safety. (Plans for retaining walls)
- Council or private drains under building
- Siting by surveyor – to provide letter
- Discuss site stormwater drainage

DESIGN

- Engineers designed foundation
- Request engineers letter of supervision
- Name of Engineer Accom
- Foundation to NZS 3604

DRIVEN PILES

- Request engineers confirmation of supervision and report on length of piles and sets achieved

PILES/DRILLED FOUNDATIONS

- Height of profile in relation to top of piles
- Correct size and treatment of piles

Builder/Sub-Contractor/Owner
Inspector

- Pile spacing for bearers/joists
- Floor heights conform to bracing elements provided
- Height for 450mm crawl space
- Layout of subfloor bracing
- Pile heights correct for type of bracing element i.e. anchor or braced pile
- Pile depths into cleared ground
- 100kpa or greater bearing capacity (including pre-floor excavation)
- Holes clean and sides vertical
- Confirm types of pile bearer/floor joist fixing to be used and level of protection required, i.e. galvanized/stainless steel (including nails)

CONCRETE FOUNDATIONS

- Foundation dimensions and minimum 200 mm depth into cleared ground
- Foundation clean, square, level and no water in excavations
- 100kpa soil bearing capacity
- Discuss floor height to proposed finished ground levels as per NZS 3604
- Manufacture of steel
- Steel sizes
- Correct type, i.e. high tensile or deformed etc
- Steel laps
- All steel has been tied up
- Steel is clean
- Cover and height pegs
- Fire wall. Foundation and reinforcement

Name of Builder/Sub-Contractor/Owner Completing Check List: _____

Signature: _____ **Date:** _____

Comments Memo No: _____ **Notice to Fix No:** _____

Further Inspection Required Yes ☐ No ☑ **Inspector** [signature] **Date of Inspection** 25-9-08

Approved as in accordance with the plans & specifications approved for this consent Yes ☑ No ☐ **Auditor** _____ **Date** _____

GEON

Hamilton City Council
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PRELINE - BUILDING

SPECIFIC LOCATION: 2 – 6

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd Units 2-6

LOT: 61-62 DP/S: 9856 CONSENT NO: 24349

✓ **Inspected** ✗ **Failed** ‖ **Not Applicable**

Builder/Sub-Contractor/Owner | Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions
- ✓ ✓ Check previous comments

EXTERIOR

- ✓ ✓ Construction of decks, bracing, hangers etc
- ✓ ✓ Verandah post connections
- ✓ ✓ Roof cladding type, flashings, nailing
- ✓ ✓ Fire rating requirements
- ✓ ✓ Exterior bracing

INTERIOR

- ✓ ✓ Interior brace fixing
- ✓ ✓ Bottom plate fixings
- ✓ ✓ Moisture content (timber) = _____ %
- ✓ ✓ Insulation/moisture content
- ✓ ✓ Holes and notches in framing
- ✓ ✓ Safety glass
- ✓ ✓ STC ratings (Design test for multi unit dwellings)
- ✓ ✓ Fire ratings, penetrations
- ✓ ✓ Joinery provides correct lighting, ventilation to each room
- ✓ ✓ Window sash heights above floor
- ✓ ✓ Discuss smoke alarm requirements
- ✓ ✓ Air seals fitted

ROOF

- ✓ ✓ Roof underlay grade, netting
- ✓ ✓ Roof correct pitch for material used
- ✓ ✓ Correct trusses for roof material used and spacing
- ✓ ✓ Ceiling batten sizes, correct spans and nailing
- ✓ ✓ Ceiling diaphragms
- ✓ ✓ Vapour barrier for skillion roofs
- ✓ ✓ Insulation to ceiling, correct position

Builder/Sub-Contractor/Owner | Inspector

GENERAL

- ✓ ✓ Stair rail openings
- ✓ ✓ Configuration of stair/type
- ✓ ✓ Width between rails
- ✓ ✓ Height of barriers and ballustrading to landings, decks and stairs
- ✓ ✓ Glazing requirements

COMMERCIAL

- ✓ ✓ Fire philosophy
- ✓ ✓ Discuss fire ratings
- ✓ ✓ Discuss compliance schedule features and request certificate for completion
- ✓ ✓ Fire collars/penetrations through fire ratings

ACCESSIBILITY CHECKLIST

- ✓ ✓ Accessible car parks
- ✓ ✓ Access ramps
- ✓ ✓ Entrance
- ✓ ✓ Public reception
- ✓ ✓ Lifts
- ✓ ✓ Stairs
- ✓ ✓ Doorways, corridors
- ✓ ✓ Controls (Auto Doors etc)
- ✓ ✓ Alerting devices
- ✓ ✓ Toilets
- ✓ ✓ Showers
- ✓ ✓ Laundering
- ✓ ✓ Food preparation
- ✓ ✓ Signage
- ✓ ✓ Surface finishes
- ✓ ✓ Accessible route

Name of Builder/Sub-Contractor/Owner Completing Check List: C-ICC Holdings

Signature: _____ **Date:** 24-9-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ Auditor _____

Inspection Date 24-9-10 Audit Date _____

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PRELINE PLUMBING

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire st unit 2 / unit 6.

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 2010/24349

✓ Inspected ✗ Failed | | Not Applicable

- ✓ Plumber
- ✓ Inspector
- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions.
- ✓ ✓ Check for previous comments
- ✓ ✓ Approved type of pipes/identification/standard K2.
  (complete details of pipe system used)
- ✓ ✓ Support of pipework
- ✓ ✓ Pipes secured to prevent water hammer
- ☐ ☐ Pipe pressure at time of inspection ☐ 1500 kpa ☐ mains only
- ✓ ✓ Producer statement required ✓ yes ☐ no
- ✓ ✓ Pipes sealed through building wrap.
- ✓ ✓ Sludge and relief drains run via tundish/air gap
- ✓ ✓ Soil and waste pipe work correctly installed.
- ✓ ✓ Pipes are protected from frost damage
- ✓ ✓ Pipes within 100mm of roof to be insulated
- ✓ ✓ Notches and holes in framing as per NZS 3604 Walls Section 8 Figure 8.4 Floors Section 7Figure 7.8
- ✓ ✓ Terminal vent installed
- ✓ ✓ Pipes protected from electrolysis and sharp objects
- ✓ ✓ Pipes correctly sized
- ☐ ☐ Test on Stack System ☐ yes ☐ no
- ✓ ✓ Position of hot water cylinder/infinity system is closest to most frequently used tap (kitchen sink) as per AS3500.4 see 5.3.1 Page 36
- ☐ ☐ Check hot water cylinder if in ceiling and completed ☐ yes ☐ no
- ✓ ✓ Above ground relief pipes from HWC in copper or 99°c approved pipe system
- ☐ ☐ Fire hose reel pipe work run in metallic only

- ✓ Plumber
- ✓ Inspector
- ✓ ☐ Plumber
- ✓ ✓ Inspector
- ✓ ☐ Air conditioning condensate drains run to outside(not to outside gully dish)
- ☐ ☐ Back flow philosophy followed
- ☐ ☐ Solar panel installation correct ☐ yes ☐ no
- ☐ ☐ Wetback Installation correct ☐ yes ☐ no
- ☐ ☐ Fire Collars installed where required
- ☐ ☐ Overflows fitted to decks and run to exterior To be same size as outlet
- ☐ ☐ Further Inspection Fee Required ☐ yes ✓ no

Notes: H.W.C relief in copper outside with Air Gap over gully.

Plumber: North Sterritt **Rego:** 25469

Signature: Sterritt **Date:** 21-9-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector T Rhoades Auditor _____

Inspection Date 21/9/2010 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

STRUCTURAL FRAMING

Units 2-7 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** ‖ **Not Applicable**

PROPERTY ADDRESS: 10 Yorkshire Rd Units 2-7

LOT: 61 DP/S: 9556 CONSENT NO: 2010/24349

☑ Builder/Sub-Contractor/Owner
☐ Inspector

- ☑ ☑ Check you are on correct site
- ☑ ☑ Approved Building Consent documents on site
- ☑ ☐ Check for previous comments
- ☑ ☐ Check conditions

SUBFLOOR

- ☐ ☐ Bearer/joist sizes
- ☐ ☐ Bearer/joist spans
- ☐ ☐ Bracing/braced piles/anchor piles
- ☐ ☐ Bracing/pile connections
- ☐ ☐ Solid blocking to joists
- ☐ ☐ Insulation
- ☐ ☐ Subfloor ventilation
- ☐ ☐ Crawl space
- ☐ ☐ Water ponding under floor
- ☐ ☐ Polythene on ground
- ☐ ☐ Confirm types of pile bearer/floor joist fixing to be used and level of protection required, i.e. galvanised, stainless steel (including nails)
- ☐ ☐ Timber treatment
- ☐ ☐ Check flooring joint layout

WALL FRAMING

- ☑ ☐ Timber treatment
- ☑ ☐ Framing sizes
- ☑ ☑ Framing height
- ☑ ☑ Bottom plate fixings
- ☑ ☑ Lintel sizes
- ☑ ☑ Top plate for roof support, truss, beams, bracing lines
- ☑ ☐ Nogging for vertical cladding

☑ Builder/Sub-Contractor/Owner
☐ Inspector

- ☑ ☑ Nailing general
- ☐ ☐ Exterior ply bracing
- ☑ ☑ Window sash heights above floor

ROOF

- ☐ ☐ Bracing, dragon ties etc
- ☑ ☑ Roof correct pitch for material used
- ☑ ☑ Correct trusses for roof material used and spacing
- ☑ ☑ Joist hangers and fixings to intersecting trusses and girder trusses
- ☑ ☑ Support of girder trusses
- ☑ ☑ Nails connecting trusses to top plates
- ☑ ☑ Truss fixing to design requirements
- ☑ ☑ Strutting beam and ceiling runner sizes to close coupled roofs
- ☐ ☐ Rafter spans, collar ties, cleats and under purlin sizes to close coupled roofs
- ☑ ☑ Ceiling batten sizes, correct spans and nailing (if in place)
- ☑ ☑ Purlin fixings

OTHER

- ☐ ☑ Construction of decks, bracing, hangers etc
- ☐ ☐ Verandah post connections
- ☐ ☐ Timber treatment
- ☐ ☐ Nailing general
- ☑ ☐ Barrier framing

Name of Builder/Sub-Contractor/Owner Completing Check List: C-1C-C Holdings

Signature: [signature] **Date:** 16-9-10

Comments Memo No: _____ **Notice to Fix No:** _____

☐ **Further Inspection Required** ☑ **Approved as in accordance with the plans & specifications approved for this consent** **Inspector** [signature]

Date of Inspection 17.9.10 **Auditor** _____ **Date** _____

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

SANITARY SEWER AND STORMWATER

SPECIFIC LOCATION: Unit 2

NOTE TO DRAINLAYER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

PROPERTY ADDRESS: 8 Yorkshire st

LOT: _____ DP/S: _____ CONSENT NO: 24349 / 10

✓ **Inspected** ✗ **Failed** | | **Not Applicable**

- ✓ Drainlayer
- ✓ Inspector
- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions

SEWER

- ✓ ✓ Ensure sanitary sewer is connected to correct connection
- ✓ ✓ Gradients/System as per G13 or AS3500.2
- ✓ ✓ Check pipe is approved and fittings are labeled
- ✓ ✓ Check material/pipe is bedded in
- ✓ ✓ Check for leakage during water test
- ✓ ✓ Drainlayer to release testing equipment to ensure full flow flush is obtained and connection clear
- ✓ ✓ Correct fittings used
- ✓ ✓ Check for terminal vents and positions
- ✓ ✓ Discuss protection over drains for inadequate depth
- ✓ ✓ Discuss heights of gully traps
- ✓ ✓ Ensure drains are laid within legal boundaries
- ✓ ✓ As laid plan received ☐ yes ☐ no
- ✓ ✓ One fixture above terminal vent only
- ✓ ✓ Stability of ground/trench base covered by engineer, PS4 supplied ☐ yes ☐ no
- ✓ ✓ Confirm engineers site inspection
- ✓ ✓ Further Inspection Fee Required ☐ yes ☐ no

- ✓ Drainlayer
- ✓ Inspector

STORMWATER

- ✓ ✓ Confirm Drainlayers name
- ✓ ✓ Ensure stormwater is connected to the correct connection
- ✓ ✓ Gradients/System Used G13 ☐ or AS/NZS3500.3 ☐
- ✓ ✓ Check pipe size is correct for given roof/surface area refer E1 Page 35 Figure 3
- ✓ ✓ Check pipe/fittings are approved and labelled
- ✓ ✓ Check material pipe is bedded in
- ✓ ✓ Check adequate number of downpipes for roof area
- ✓ ✓ Correct fittings used
- ✓ ✓ Connections installed for future concreted/permanent paved areas
- ✓ ✓ Driveway catchpit installed for over 100m²
- ✓ ✓ All permanently paved areas over 10m² run to catchpit
- ✓ ✓ Discuss protection over drains for inadequate depth
- ✓ ✓ Ensure that drains are laid within legal boundaries
- ✓ ✓ All subsoil drains run via catch pit
- ✓ ✓ As laid plan received ☐ yes ☐ no
- ✓ ✓ HCC soak hole correctly sized (40m² max area)
- ✓ ✓ Confirm engineers site inspection
- ✓ ✓ Stability of ground/trench base covered by engineer, PS4 supplied ☐ yes ☐ no
- ☐ ☐ Further Inspection Fee Required yes ☐ no ☐

Name of Drainlayer and Registration Number Completing Check List: Mark Stewart

Signature: _____ **Rego:** 23469 **Date:** 2-9-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation Required
- ☐ Further Inspection Required

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector C. Morris Auditor _____

Inspection Date 2-9-10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR BUILDING

Units 2-5 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd

LOT: 61-62 DP/S: 9556 CONSENT NO: 24349

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions
- ✓ ✓ Check for previous Comments

- ✓ ✓ Floor thickenings
- ✓ ✓ Confirm concrete grade 20 MPA
- ✓ ✓ Thickness of slab
- ✓ ✓ Location of piles if driven piles
- ✓ ✓ Sand fill compaction and excavation ie. No topsoil underneath
- ✓ ✓ Compaction Certificate
- ✓ ✓ Manufacture of steel/mesh
- ✓ ✓ Mesh is correct type and gauge and tied
- ✓ ✓ Mesh is cut if expansion cuts are required
- ✓ ✓ Mesh supported on chairs

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check that polythene is correct thickness, is lapped and taped
- ✓ ✓ Holes and penetrations in polythene are taped
- ✓ ✓ Reinforcing bars to internal corners
- ✓ ✓ Clean bond will be made between floor slab and bond beams or header blocks
- ✓ ✓ Remind builder to seal brick rebate
- ✓ ✓ Emulsion sealer to be used inside header blocks on wet sites
- ✓ ✓ Types and spacing of bottom plate connectors to be used
- ✓ ✓ Floor levels will be sufficient for ground clearance
- ✓ ✓ Engineers design – request letter of supervision
- ✓ ✓ Request truss design

Name of Builder/Sub-Contractor/Owner Completing Check List: _____

Signature: _____ **Date:** _____

Comments Memo No: _____ **Notice to Fix No:** _____

☐ **Further Inspection Required** ☑ **Approved as in accordance with the plans & specifications approved for this consent** **Inspector** [signature]

Date of Inspection 23/8/07 **Auditor** _____ **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR PLUMBING AND DRAINAGE

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire UNITS 2, 4, 5

LOT: _____ DP/S: _____ CONSENT NO: 2010/24549

[✓] **Inspected** [X] **Failed** [ ] **Not Applicable**

Plumber	Inspector	
✓	✓	Check you are on correct site
✓	✓	Approved Building Consent documents on site
✓	✓	Check Conditions
✓	✓	Check for previous comments
	✓	The work exactly reflects the approved plans
✓	✓	System used AS3500 ☐ G13 ☐
✓	✓	Fixture discharge pipe sizes followed
✓	✓	Fall on all discharge pipes 1:40 for pipe diameter 65mm or less
		Length of all discharge pipes. An unvented waste pipe cannot exceed 3.5m for G13
✓	✓	Waste pipes protected where penetrating through floor slab.
✓	✓	Waste pipes are separated at foundation exit point to allow for bends
✓	✓	Water heater drain pipe is graded/correctly terminated
✓	✓	Check location of terminal vent
		Main or branch drain longer than 10m to be vented for AS3500
		Main or branch drain longer than 6m to be vented for G13
✓	✓	Vent pipe down stream from last fixture connection
✓	✓	Minimum vent diameter 50mm for AS3500
		Minimum vent diameter 80mm for G13
		80mm W/C pipe maximum length 2.5m unvented
✓	✓	1 ORG min 150mm below lowest fixture outlet
✓	✓	Test on AS3500 drains for 2 or more fixtures inline
✓	✓	Waste pipes evenly spaced and in a straight line at rear point of entry to gully dish (Max 4)

Plumber	Inspector	
	✓	Venting continuous on AS3500 pipework
✓	✓	Level inverts installed 2 o'clock or higher for AS3500
		Clean outs (COS) installed where required or 2x 45° bends 2x diameter apart directly under fixture.
		Amended floor plan for all changes
		Drainage behind masonry walls greater than 300mm
✓	✓	One fixture only above terminal vent
		Flood relief floor waste for all urinals and multi unit buildings
		Stainless steel Straps installed at 1.0m intervals to support soil and waste pipes for pile driven foundations
		Copper waste to commercial machines operating over 65°C
		Soakage Drainage for Over 300mm step in Footing
		Further Inspection Fee Required ☐ yes ☐ no

Notes: _____

Name of Builder/Sub-Contractor/Owner Completing Check List: WAIKATO PLUMBING SERVICES

Signature: _____ **Date:** 19-8-10

OFFICE USE ONLY - Please Tick as appropriate

- [✓] Pass - in accordance with the plans & specifications approved for this consent
- [ ] Fail
- [ ] Further Documentation required
- [ ] Required Documents received ___/___/___
- [ ] Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ Auditor _____

Inspection Date 19/8/10 Audit Date _____

GEON

SIGN DAT

Consent No: 2010/24349

Project Address: 8 Yorkshire RD

Issue Date: 6 Jun 10

SEC 37

Issued Subject To

There Are Limitations

Signed: ....

Owner: CKC Holdings Ltd

Contact Number:

Description of Work: 7 New Dwellings with attached Garages

Property Reference: Lot: 62 DP/S: S9556

Review Officer:

TR Number:

Extra Inspections To Be Charged (Tick Box)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total

BUILDING INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Siting •	C.Hogg	✓			19/8/10
Foundation •	C.Hogg	✓			19/8/10
Bond Beam					
Concrete Floor •	C.Hogg	✓			19/8/10
Tilt Slab					
Framing •	WJM	✓			6.9.10
Cavity/Batten					
Cladding	WJM	✓			10.9.10
Preline •		✓			15.9.10
Postline	WJM	✓			10.9.10
Crossing					

COMPLETION

SIGN WJMorrison DATE 2.11.10

COMMENTS:

PLUMBING & DRAINAGE INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Concrete Floor •	L.Cuff	✓			18.8.10
Preline •	L.Cuff	✓			15/9/10
Stack Test					
Waste & Soil					
Foulwater •	C.Morrison	✓			25/8/10
	C Morrison	✓			25/8/10
Stormwater	"	✓			"
Heater Chimney					
Pool/Spa Fencing					

DRAINLAYER Waikato Plumbing

PLUMBER " "

COMPLETION

SIGN L.Cuff DATE 2/11/10

COMMENTS:

AMENDMENTS

Date Received	Building Review Officer	Description of Work	Approved	Filed	Outstanding Fees

Certificates/Producer Statements/Plans Requested and Received				
Plumbing		Date Req	Company Name	Date Rec
1	As laid drainage plans			✓
2	Pressure test producer statement			✓
3	Gas certificate			
4	Back flow prevention device pressure test producer statement			
5	Heating engineer's certificate			
6	Engineers certificate for septic tank and effluent line			
7	Engineers certificate for stormwater system			✓
8	CCTV certificate			
Building				
9	Surveyors Certificate			✓
10	Driven pile report for length of piles and sets achieved			
11	Engineers letter of observation for driven test piles			
12	Engineer's producer statement for sand pad compaction			✓
13	Engineer's producer statement for foundations/floor			
14	Engineer's producer statement for block work/tilt stabs			
15	Engineer's producer statement for beams/lintels/structure			
16	Truss floor loading plan			
17	Truss layout plan			
18	Acoustic engineers report			
19	Electrical certificate			✓
20	Plaster coating producers statement — paint system			
21	Weather tightness report from an accredited adviser			
22	Water proofing membrane installer's producer statement			
23	Window/glazing producer statement			
24	Roofing producer statement			
25	Insulation certificate			
26	Producer statement for smoke alarms			
27	Producer statement for Pool alarms			
28	Letter from HCC Transportation Unit			
29	Amended consent plans required			
30	Contractors producer statement 3			
31	Welding Certificate			
32	Spray booth/fume cupboard producer statement			
33	Spread of flame certificate required			
34	Producer statement for slip resistance			
35	Automatic doors producer statement			
36	Automatic sprinkler producer statement from registered installer			
37	Emergency lighting producer statement			
38	Fire alarm producer statement from a certified installer all systems			
39	FPIS for the fire alarm system types 3/4/5/6/7			
40	Fire engineers producer statement			
41	Lifts/escalator producer statement			
42	Mechanical ventilation producer statement			

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

FINAL BUILDING INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd

LOT: 61 & 62 2 **DP/S:** 9556 428322 **CONSENT NO:** 2010 26349

☑ **Approved** ☒ **Failed** ☐ **Not Applicable**

☐ Builder/Sub-Contractor/Owner
☑ Inspector

☐ ☑ Check you are on correct site
☐ ☑ Approved Building Consent documents on site
☐ ☑ Check Building Consent conditions
☐ ☑ Check job description on job card

EXTERIOR

☐ ☑ External envelope complete and weatherproof
☐ ☑ Flashings/sealants complete
☐ ☑ Wet area/kitchen vents
☐ ☑ Safety glass
☐ ☑ Ground/paving heights
☐ ☑ Crossing and footpath for damage
☐ ☑ Brick veneer weep and ventilation holes
☐ ☑ Exterior decorated
☐ ☑ Weathering of penetrations
☐ ☑ Construction of decks/steps/handrails
☐ ☑ Barrier heights and construction timber/treatment
☐ ☑ Sub floor access/ponding/ventilation/insulation
☐ ☑ Roof cladding/flashing fixings/roof penetrations
☐ ☑ Landscaping complete – retaining walls
☐ ☑ Wall cladding fixings/soakers/scribers etc
☐ ☑ Fire rating

INTERIOR

☐ ☑ Ceiling insulation in place
☐ ☑ Fire ratings stopped
☐ ☑ Wet areas completed, walls, ceilings, floors sealed
☐ ☑ Wet areas ducted to exterior
☐ ☑ Safety glass
☐ ☑ Heights of window sashes
☐ ☑ Heights of barriers and handrails/details
☐ ☑ All inspections have been completed
☐ ☑ All certificates have been received
☐ ☑ Smoke Alarms Fitted

☐ Builder/Sub-Contractor/Owner
☐ Inspector

COMMERCIAL

☐ ☐ Surface finishes, smoke development and spread of flame for ceilings, walls, floor coverings
☐ ☐ Stopping of fire walls and penetrations
☐ ☐ Penetrations/light fittings/fire collars etc
☐ ☐ Means of escape, door hardware, signage
☐ ☐ Fire and smoke doors: hardware, tags, self closers/magnetic hold open device and signage
☐ ☐ Signage/fire alarm

ACCESSIBILITY

☐ ☐ Ramps non slip, width, length, upstands, handrails 1:12 1200 wide
☐ ☐ Entrance signage, threshold, width, floor surfaces
☐ ☐ Public reception counters or desks
☐ ☐ Lifts sizes, controls. Handrails, lobby width
☐ ☐ Stair widths, handrails, landings, risers, treads, nosings
☐ ☐ Doorways/corridors clear width, glazing, colour contrasted, projections into corridors
☐ ☐ Alerting devices audible and visual signal
☐ ☐ Toilet size, controls, doors, wash hand basin, taps
☐ ☐ Showers size, controls, door/s
☐ ☐ Laundering size and turning cycle
☐ ☐ Signage entrance doors, information board and facilities signage
☐ ☐ Surface finishes stable firm and non slip
☐ ☐ Sound system, stage podium access, listening system
☐ ☐ Signage for listening system
☐ ☐ Accessible route car parks, identifiable route from street to and through building, surface finishes stable firm and non slip
☐ ☐ Further Inspection fee required

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LP

Signature: _____ **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent
☐ Fail

☐ Further Documentation required
☐ Required Documents received ___/___/___
☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ **Auditor** _____

Inspection Date 2-11-10 **Audit Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

FINAL PLUMBING/DRAINAGE INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd

61 & 62 9556

LOT: 2 DP/S: 428322 CONSENT NO: 2010 24349

✓ **Inspected** ✗ **Failed** | **Not Applicable**

Builder/Sub-Contractor/Owner	Inspector
Check you are on correct site	
Approved Building Consent documents on site	
Check Building Consent Conditions	
Check street number on letterbox	
Ensure plumbers and drainlayers names are recorded on job card	
Relevant inspections have been called for	
Roof penetrations flashed in accordance with E2 page 81 Figures 53 &54	
Gully dishes positioned to stop stormwater ingress	
Ensure overflow relief gully minimum 150mm below lowest fixture outlet	
Waste pipes sealed at point of entry into rear of gully dishes and bends installed tight to back of gully dish	
All wastes are vented if greater than 3.5m and have min 1:40 fall.	
Driveway catchpit installed for over 100m²	
All permanently paved areas over 10m² run to catchpit Permanent ground area does not exceed grass area to boundary	
Terminal vent position, flashings, cowls fitted	
Downpipes evenly clipped and connected to stormwater drainage	
No Discharge to lower masony roofs. Downpipes from top storey roofs to lower roof spreader required as per E2 Page 56 figure 20	
Novaflow drainage is terminated to catch pit	
Overflows fitted to Decks and run to exterior	
Hot water cylinder is correct type, all required safety valves and seismic restraints fitted	
HWC expansion/relief drains have been installed and conveyed to the exterior	
Cylinder drain/valve pipes via the tundish/air gap	
Cylinder safe tray if required	
Dishwasher pipe clamped and anti siphon bend fitted	
Water hammer	
Toilet cisterns screwed to wall securely	

Builder/Sub-Contractor/Owner	Inspector
Terminal vents continuous in ceiling space	
Traps fitted and holding seals	
Tub fixed in position	
Check job descriptions match card	
Water temperature = 54° °C	
Gas certificate provided No:	
As-laid drain plans provided	
Plumbing pressure test certificate from HCC registered person	
Pipes insulated outside building thermal envelope using UV protected where require	
Copper waste pipe to commercial machine	
Bainmarie drains provided to approved outlet	
Back flow prevention devices where required	
Test certificate for back flow devices	
Approval letter from Trade Waste Department recieved ☐ yes ☐ no	
Septic tank installation, has been installed as per engineers design PS4	
(Certificate supplied)	
Engineers PS4 for storm water soak hole design	
If cross lease/subdivision ensure all drainage requirements have been met	
If timber floor check wastepipe/soilpipes clipping complies	
Further Inspection Fee Required ☐ yes ☐ no	

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LN

Signature: _____ **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ Auditor _____

Inspection Date 2/11/10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

EXTERIOR CLADDING SYSTEMS - BUILDING

SPECIFIC LOCATION: Units 1-7

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd Units 1-7

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

✓ **Approved** ✗ **Failed** | **Not Applicable**

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions
- ✓ ✓ Check previous Comments

BRICK VENEER

- ✓ ✓ Correct type, condition, fixing and support of building wrap
- ✓ ✓ Cavity size 40mm minimum
- ✓ ✓ Number, spacing and location of ties
- ✓ ✓ Connection of brick ties
- ✓ ✓ Cavity cleaned/rebate sealed
- ✓ ✓ Brick support on foundation
- ✓ ✓ Weep/ventilation holes
- ✓ ✓ Flashing detail into joinery
- ✓ ✓ Flashing requirements/fixing position
- ✓ ✓ Minimum panel sizes
- ✓ ✓ Maximum height of veneer
- ✓ ✓ Lintel bars/type of fixing details
- ✓ ✓ Cavity sealed from roof space
- ✓ ✓ Slope to sills 15° min.
- ✓ ✓ Details at ground level
- ✓ ✓ Window support bars fitted

PREPLASTER - RIGID BACKING

- ✓ Fibre cement sheet
- H3 plywood
- H3 diagonal sheeting

PREPLASTER - SOLID PLASTER (MESH)

- ✓ Mesh type
- Reinforcement around openings
- 6–9mm spacers
- Galvanised
- Propriatory self-spacing mesh
- Fixings
- Propriatory control joints

Builder/Sub-Contractor/Owner
Inspector

PREPLASTER - NON RIGID BACKING (CAVITY SYSTEM)

- ✓ Support
- ✓ Allowable deflection of flexible backer (e.g. riblath)

MONOLITHIC TYPE CLADDING

- ✓ Correct type, position and condition of building wrap
- ✓ Fixing detail of backing
- ✓ Sheet joining/flashing detail
- ✓ Joinery head/sill and jamb flashing detail
- ✓ Flashing connections to each other
- ✓ Slope to parapet/sill detail
- ✓ Roof/wall and parapet flashing details
- ✓ Detail at ground level
- ✓ Requirements for expansion/contraction joint details both horizontal and vertical
- ✓ Spacer spacing, fixings etc.
- ✓ Battens (ventilated cavity)
- ✓ Reinforcement type/fixing etc
- ✓ General workmanship
- ✓ Weathering detail for barriers/downpipes/weatherboards and penetrations
- ✓ Remind installer about installation certificate
- ✓ Internal/external angles

WEATHERBOARD TYPE SYSTEMS

- ✓ Correct type of building wrap, fixing and support
- ✓ Flashing requirements/fixing/position
- ✓ Cladding fixing details
- ✓ Details at ground level
- ✓ Battens (ventilated cavity)
- ✓ Bottom of cladding provides weathering to bottom plates, floor joists and behind decking

Name of Builder/Sub-Contractor/Owner Completing Check List: C-I-C Holdings

Date: 27-10-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- Fail
- Further Documentation required
- Required Documents received / /
- Further Inspection needed

Comments Memo No:

Notice to Fix No:

Inspector W Gilmour

Auditor

Inspection Date 27-10-10

Audit Date

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

EXTERIOR CLADDING SYSTEMS - BUILDING

Unit 3 — BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 10 Yorkshire Rd Unit 3

LOT: 61 – 62 DP/S: 9556 CONSENT NO: 24349

Builder/Sub-Contractor/Owner ☑ Inspector ☐

- ☑ ☐ Check you are on correct site
- ☑ ☐ Approved Building Consent documents on site
- ☑ ☐ Check Conditions
- ☑ ☐ Check for previous Comments

BRICK VENEER

- ☑ ☐ Correct type, position and condition of building wrap
- ☑ ☐ Cavity size 40mm minimum
- ☑ ☐ Number, spacing and location of ties
- ☑ ☐ Connection of brick ties
- ☑ ☐ Cavity cleaned
- ☑ ☐ Brick support on foundation max. 20mm overhang and max. 20mm joint under brick
- ☑ ☐ Weep/ventilation holes
- ☑ ☐ Flashing detail into joinery
- ☑ ☐ Flashing requirements/fixing position
- ☑ ☐ Minimum panel sizes
- ☑ ☐ Maximum height of veneer
- ☑ ☐ Lintel bars, size/type of fixing details
- ☐ ☑ Cavity sealed from roof space
- ☑ ☐ Slope to sills 15° min.

WEATHERBOARD TYPE SYSTEMS

- ☐ ☐ Correct type, position and condition of building wrap
- ☐ ☐ Flashing requirements/fixing/position
- ☐ ☐ Cladding fixing details
- ☐ ☐ Details at ground level
- ☐ ☐ Battens (ventilated cavity)
- ☐ ☐ Bottom of cladding provides weathering to bottom plates, floor joists and behind decking

MONOLITHIC TYPE CLADDING

- ☐ ☐ Correct type, position and condition of building wrap
- ☐ ☐ Fixing detail of backing
- ☐ ☐ Sheet joining/flashing detail
- ☐ ☐ Joinery head/side and sill flashing detail
- ☐ ☐ Flashing connections to each other
- ☐ ☐ Slope to parapet/sill detail
- ☐ ☐ Roof/wall and parapet flashing details
- ☐ ☐ Detail at ground level
- ☐ ☐ Requirements for expansion/contraction joint details both horizontal and vertical
- ☐ ☐ Spacer spacing, fixings etc.
- ☐ ☐ Battens ventilated cavity

Builder/Sub-Contractor/Owner ☑ Inspector ☐

- ☐ ☐ Reinforcement type/fixing etc.
- ☐ ☐ General workmanship
- ☐ ☐ Weathering detail for barriers/downpipes/weatherboards and penetrations
- ☐ ☐ Remind installer about installation certificate
- ☐ ☐ Internal/external angles

PREPLASTER - RIGID BACKING

- ☐ ☐ Fibre cement sheet
- ☐ ☐ H3 plywood
- ☐ ☐ H3 diagonal sheeting

PREPLASTER - NON RIGID BACKING (CAVITY SYSTEM)

- ☐ ☐ Support
- ☐ ☐ Allowable deflection of flexible backer (e.g. riblath)

PREPLASTER - SOLID PLASTER (MESH)

- ☐ ☐ Mesh type
- ☐ ☐ Reinforcement around openings
- ☐ ☐ 6–9mm spacers
- ☐ ☐ Galvanised
- ☐ ☐ Propriatory self-spacing mesh
- ☐ ☐ Fixings
- ☐ ☐ Propriatory control joints

PREPLASTER - FIBRE CEMENT SHEET

- ☐ ☐ Timber moisture content (battens)
- ☐ ☐ Building wrap/sill approved

BATTENS

- ☐ ☐ H3 timber or plywood
- ☐ ☐ H grade polystyrene
- ☐ ☐ Correct size and placement
- ☐ ☐ Fixings
- ☐ ☐ Sheet layout
- ☐ ☐ Spacing

ALL MONOLITHIC SYSTEMS

- ☐ ☐ Certificate on paint system from applicator

DECKS

- ☐ ☐ Substrate
- ☐ ☐ Upstand and step between main floor level
- ☐ ☐ Drainage for sealed decking
- ☐ ☐ Membrane
- ☐ ☐ Barrier Cladding

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: [signature] **Date:** 20-9-10

Comments Memo No: **Notice to Fix No:**

☐ **Further Inspection Required** ☑ **Approved as in accordance with the plans & specifications approved for this consent** **Inspector** [signature]

Date of Inspection 20-9-10 **Auditor** **Date**

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

POST LINING
Unit 3
BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be given to the inspector at the time of inspection.

✓ **Approved** ✗ **Failed** ‖ **Not Applicable**

PROPERTY ADDRESS: 10 Yorkshire Rd unit 3

LOT: 61-62 DP/S: 9556 CONSENT NO: 24349

☑ Builder/Sub-Contractor/Owner
☐ Inspector

- ☑ ☑ Check you are on correct site
- ☑ ☑ Approved Building Consent documents on site
- ☑ ☑ Check Building Consent Conditions
- ☑ ☑ Check for previous comments

- ☑ ☑ Floor/Ceiling nailed off as diaphragm
- ☑ ☑ Position of sheet bracing
- ☑ ☑ Fixing of sheet bracing
- ☑ ☑ Holes in sheet braces
- ☑ ☑ Safety glass
- ☑ ☑ Correct type of wall linings used
- ☐ ☐ STC rating requirements
- ☐ ☐ Stopping and penetrations, light switched, power points etc to fire walls
- ☐ ☐ Request acoustic engineers report

COMMERCIAL

- ☐ ☐ Fire philosophy
- ☐ ☐ Fire rating
- ☐ ☐ Stopping of fire ratings
- ☐ ☐ Penetrations
- ☐ ☐ Discuss compliance schedule features and request certificates for compliance
- ☐ ☐ Discuss spread of flame index for interior finish and request Certificate required

☑ Builder/Sub-Contractor/Owner
☐ Inspector

ACCESSIBILITY CHECKLIST/DISCUSS

- ☐ ☐ Accessible Carpark
- ☐ ☐ Ramps
- ☐ ☐ Entrance
- ☐ ☐ Public Reception Area
- ☐ ☐ Lifts
- ☐ ☐ Stairs
- ☐ ☐ Doorways, corridors
- ☐ ☐ Controls (auto doors etc)
- ☐ ☐ Alerting devices
- ☐ ☐ Toilets
- ☐ ☐ Showers
- ☐ ☐ Laundering
- ☐ ☐ Food preparation
- ☐ ☐ Signage
- ☐ ☐ Surface finishes
- ☑ ☐ Accessible Route

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: [signature] **Date:** 20-9-10

Comments Memo No: _____ **Notice to Fix No:** _____

Please tick as appropriate

☑ **Pass** – in accordance with the plans & Specifications approved for this consent ☐ **Fail** Further requirements: ☐ Documentation ☐ Inspection

Inspector [signature] **Auditor** _____

Date of inspection 20-9-10 **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PRELINE PLUMBING

SPECIFIC LOCATION:

NOTE TO Plumber: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 YORKSHIRE UNITS 3 & 4

LOT: _____ DP/S: _____ CONSENT NO: 2010/24349

✓ **Inspected** ✗ **Failed** ‖ **Not Applicable**

✓ Plumber	✓ Plumber
☐ Inspector	✓ Inspector
✓ ✓ Check you are on correct site	✓ ✓ Plumber
✓ ☐ Approved Building Consent documents on site	✓ ✓ Inspector
✓ ✓ Check Conditions	☐ ☐ Air conditioning condensate drains run to outside (not to outside gully dish)
✓ ✓ Check for previous comments	☐ ☐ Back flow philosophy followed
✓ ☐ Approved type of pipes/identification/standard	☐ ☐ Solar panel installation correct ☐ yes ☐ no
K2 WATER.	☐ ☐ Wetback Installation correct ☐ yes ☐ no
(complete details of pipe system used)	☐ ☐ Fire Collars installed where required
✓ ✓ Support of pipework	☐ ☐ Overflows fitted to decks and run to exterior
✓ ☐ Pipes secured to prevent water hammer	To be same size as outlet
✓ ☐ Pipe pressure at time of inspection ☐ 1500 kpa ✓ mains only	☐ ☐ Further Inspection Fee Required ☐ yes ☐ no
✓ ☐ Producer statement required ✓ yes ☐ no	
✓ ☐ Pipes sealed through building wrap.	Notes: _____
☐ ☐ Sludge and relief drains run via tundish/air gap	
✓ ☐ Soil and waste pipe work correctly installed.	
✓ ✓ Pipes are protected from frost damage	
✓ ✓ Pipes within 100mm of roof to be insulated	
✓ ✓ Notches and holes in framing as per NZS	
3604 Walls Section 8 Figure 8.4	
Floors Section 7 Figure 7.8	
✓ ✓ Terminal vent installed	
✓ ✓ Pipes protected from electrolysis and sharp objects	
✓ ✓ Pipes correctly sized	
☐ ☐ Test on Stack System ☐ yes ☐ no	
✓ ✓ Position of hot water cylinder/infinity system is closest to most frequently used	
tap (kitchen sink) as per AS3500.4 see 5.3.1 Page 36	
☐ ☐ Check hot water cylinder if in ceiling and completed ☐ yes ☐ no	
☐ ☐ Above ground relief pipes from HWC in copper or 99°c approved pipe system	
☐ ☐ Fire hose reel pipe work run in metallic only	

Plumber: WAIKATO PLUMBING SERVICES **Rego:** 16342.

Signature: _____ **Date:** 14-9-10

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent

☐ Fail

☐ Further Documentation required

☐ Required Documents received ___/___/___

☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ Auditor _____

Inspection Date 15/9/10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PRELINE - BUILDING

SPECIFIC LOCATION: Unit 3

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd Unit 3

LOT: 61-62 DP/S: 9556 CONSENT NO: 24349

✓ **Inspected** ✗ **Failed** | | **Not Applicable**

Builder/Sub-Contractor/Owner
Inspector
- ✓ Check you are on correct site
- ✓ Approved Building Consent documents on site
- ✓ Check Conditions
- ✓ Check previous comments

EXTERIOR
- Construction of decks, bracing, hangers etc
- Verandah post connections
- ✓ Roof cladding type, flashings, nailing
- Fire rating requirements
- Exterior bracing

INTERIOR
- ✓ Interior brace fixing
- ✓ Bottom plate fixings
- ✓ Moisture content (timber) = 18-20 %
- ✓ Insulation/moisture content
- ✓ Holes and notches in framing
- ✓ Safety glass
- ✓ STC ratings (Design test for multi unit dwellings)
- ✓ Fire ratings, penetrations
- ✓ Joinery provides correct lighting, ventilation to each room
- ✓ Window sash heights above floor
- ✓ Discuss smoke alarm requirements
- ✓ Air seals fitted

ROOF
- ✓ Roof underlay grade, netting
- ✓ Roof correct pitch for material used
- ✓ Correct trusses for roof material used and spacing
- ✓ Ceiling batten sizes, correct spans and nailing
- ✓ Ceiling diaphragms
- ✓ Vapour barrier for skillion roofs
- ✓ Insulation to ceiling, correct position

Builder/Sub-Contractor/Owner
Inspector

GENERAL
- Stair rail openings
- Configuration of stair/type
- Width between rails
- Height of barriers and ballustrading to landings, decks and stairs
- ✓ Glazing requirements

COMMERCIAL
- Fire philosophy
- Discuss fire ratings
- Discuss compliance schedule features and request certificate for completion
- Fire collars/penetrations through fire ratings

ACCESSIBILITY CHECKLIST
- Accessible car parks
- Access ramps
- Entrance
- Public reception
- Lifts
- Stairs
- Doorways, corridors
- Controls (Auto Doors etc)
- Alerting devices
- Toilets
- Showers
- Laundering
- Food preparation
- Signage
- ✓ Surface finishes
- Accessible route

Name of Builder/Sub-Contractor/Owner Completing Check List: C-K-C Holdings

Signature: [signature] **Date:** 15-9-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- Fail
- Further Documentation required
- Required Documents received ___/___/___
- Further Inspection needed

Comments Memo No: [signature]

Notice to Fix No:

Inspector

Auditor

Inspection Date 15-9-10

Audit Date

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

STRUCTURAL FRAMING

Units 3-4 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** || **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd

LOT: 61-62 DP/S: 9556 428322 CONSENT NO: 24349

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check for previous comments
- ✓ ✓ Check conditions

SUBFLOOR

- Bearer/joist sizes
- Bearer/joist spans
- Bracing/braced piles/anchor piles
- Bracing/pile connections
- Solid blocking to joists
- Insulation
- Subfloor ventilation
- Crawl space
- Water ponding under floor
- Polythene on ground
- Confirm types of pile bearer/floor joist fixing to be used and level of protection required, i.e. galvanised, stainless steel (including nails)
- Timber treatment
- ✓ Check flooring joint layout

WALL FRAMING

- ✓ ✓ Timber treatment
- ✓ ✓ Framing sizes
- ✓ ✓ Framing height
- Bottom plate fixings
- ✓ ✓ Lintel sizes
- ✓ ✓ Top plate for roof support, truss, beams, bracing lines
- ✓ Nogging for vertical cladding

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Nailing general
- ✓ ✓ Exterior ply bracing
- ✓ ✓ Window sash heights above floor

ROOF

- ✓ ✓ Bracing, dragon ties etc
- ✓ ✓ Roof correct pitch for material used
- ✓ ✓ Correct trusses for roof material used and spacing
- ✓ ✓ Joist hangers and fixings to intersecting trusses and girder trusses
- ✓ ✓ Support of girder trusses
- ✓ ✓ Z nails connecting trusses to top plates
- ✓ ✓ Truss fixing to design requirements
- ✓ ✓ Strutting beam and ceiling runner sizes to close coupled roofs
- ✓ ✓ Rafter spans, collar ties, cleats and under purlin sizes to close coupled roofs
- ✓ ✓ Ceiling batten sizes, correct spans and nailing (if in place)
- ✓ ✓ Purlin fixings

OTHER

- ✓ Construction of decks, bracing, hangers etc
- ✓ Verandah post connections
- ✓ Timber treatment
- ✓ Nailing general
- ✓ Barrier framing

Name of Builder/Sub-Contractor/Owner Completing Check List: Etc. C Holdings

Signature: [signature] **Date:** 6-9-10

Comments Memo No: _____ **Notice to Fix No:** _____

Further Inspection Required Yes ☐ No ✓

Approved as in accordance with the plans & specifications approved for this consent ✓

Inspector [signature] **Date of Inspection** 6.9.10

Auditor _____ **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

SANITARY SEWER AND STORMWATER

SPECIFIC LOCATION:

NOTE TO DRAINLAYER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

PROPERTY ADDRESS: 8-10 Yorkshire St Units 3 & 5

LOT: _____ DP/S: _____ CONSENT NO: _____

✓ **Inspected** ✗ **Failed** | | **Not Applicable**

Drainlayer
Inspector
Check you are on correct site
Approved Building Consent documents on site
Check Conditions

SEWER

Ensure sanitary sewer is connected to correct connection
Gradients/System as per G13 or AS3500.2
Check pipe is approved and fittings are labeled
Check material/pipe is bedded in
Check for leakage during water test
Drainlayer to release testing equipment to ensure full flow flush is obtained and connection clear
Correct fittings used
Check for terminal vents and positions
Discuss protection over drains for inadequate depth
Discuss heights of gully traps
Ensure drains are laid within legal boundaries
As laid plan received ☐ yes ☑ no
One fixture above terminal vent only
Stability of ground/trench base covered by engineer, PS4 supplied
☐ yes ☐ no
Confirm engineers site inspection
Further Inspection Fee Required ☐ yes ☑ no

Drainlayer
Inspector

STORMWATER

Confirm Drainlayers name
Ensure stormwater is connected to the correct connection
Gradients/System Used G13 ☐ or AS/NZS3500.3 ☑
Check pipe size is correct for given roof/surface area refer E1 Page 35 Figure 3
Check pipe/fittings are approved and labelled
Check material pipe is bedded in
Check adequate number of downpipes for roof area
Correct fittings used
Connections installed for future concreted/permanent paved areas
Driveway catchpit installed for over 100m²
All permanently paved areas over 10m² run to catchpit
Discuss protection over drains for inadequate depth
Ensure that drains are laid within legal boundaries
All subsoil drains run via catch pit
As laid plan received ☐ yes ☑ no
HCC soak hole correctly sized (40m² max area)
Confirm engineers site inspection
Stability of ground/trench base covered by engineer, PS4 supplied
☐ yes ☐ no
Further Inspection Fee Required yes ☐ no ☑

Name of Drainlayer and Registration Number Completing Check List: _____

Signature: Lis Woodcock **Rego:** 11676 **Date:** 27-08-2010.

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent
☐ Fail
☐ Further Documentation Required
☐ Further Inspection Required

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector C. Morris Auditor _____

Inspection Date 26-8-10 Audit Date _____

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR BUILDING

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 8-10 Yorkshire Road (Unit 3)

LOT: 61+62 DP/S: 9556 CONSENT NO: 2010-24349.

[✓] Approved [X] Failed [ ] Not Applicable

- [✓] Builder/Sub-Contractor/Owner
- [✓] Inspector
- [✓] [ ] Check you are on correct site
- [✓] [ ] Approved Building Consent documents on site
- [✓] [ ] Check Conditions
- [✓] [ ] Check previous Comments
- [✓] [ ] Amended plans required

CONCRETE FLOOR

- [✓] [ ] Floor thickenings
- [✓] [✓] Confirm concrete grade 20 MPA
- [✓] [✓] Thickness of slab
- [ ] [ ] Location of piles if driven piles
- [ ] [ ] Sand fill compaction and excavation ie. No topsoil underneath
- [✓] [✓] Compaction Certificate
- [✓] [✓] Manufacture of steel/mesh
- [✓] [✓] Mesh is correct type/gauge/lapped
- [✓] [✓] Mesh is cut if expansion cuts are required
- [✓] [✓] Mesh supported on chairs
- [ ] [ ] Check for any drainage or tanking requirements behind block / concrete walls
- [ ] [ ] Insulation requirements
- [✓] [✓] Check that polythene is correct thickness, is lapped and taped
- [✓] [✓] Holes and penetrations in polythene are taped
- [✓] [✓] Reinforcing bars to internal corners
- [ ] [ ] Clean bond will be made between floor slab and bond beams or header blocks
- [✓] [✓] Remind builder to seal brick rebate
- [ ] [ ] Emulsion sealer to be used inside header blocks on wet sites
- [✓] [✓] Types and spacing of bottom plate connectors to be used
- [✓] [✓] Floor levels will be sufficient for ground clearance
- [✓] [✓] Engineers design – request letter of supervision
- [✓] [ ] Request truss design

- [ ] Builder/Sub-Contractor/Owner
- [✓] Inspector

FLOOR FRAMING

- [ ] [ ] KPa floor loads/point loads
- [ ] [ ] Bearer/joist sizes/spans
- [ ] [ ] Joist hangers
- [ ] [ ] Bracing/braced piles/anchor piles
- [ ] [ ] Bracing/pile connections
- [ ] [ ] Solid blocking to joists
- [ ] [ ] Insulation requirements
- [ ] [ ] Subfloor ventilation
- [ ] [ ] Crawl space
- [ ] [ ] Polythene on ground
- [ ] [ ] Confirm types of pile/bearer/floor joist fixings to be used and level of protection required, ie galvanised, stainless steel (including nails)
- [ ] [ ] Timber treatment
- [ ] [ ] Floor fixed as diaphragm
- [✓] [ ] Check floor joint layout

Fit bottom plate anchors

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: [signature] **Date:** 19-8-10

OFFICE USE ONLY - Please Tick as appropriate

- [✓] Pass - in accordance with the plans & specifications approved for this consent
- [ ] Fail
- [ ] Further Documentation Required
- [ ] Further Inspection Required

Comments Memo No:

Notice to Fix No:

Inspector [signature]

Auditor

Inspection Date 19-8-10

Audit Date

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

SITING, FOUNDATION AND REPILE INSPECTION

SPECIFIC LOCATION: Unit No. 3

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Road

LOT: 61+62 DP/S: 9556 CONSENT NO: 2010 - 24549

✓ Inspected ✗ Failed ‖ Not Applicable

Builder/Sub-Contractor/Owner / Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions

SITING

- ✓ ✓ Locate boundary pegs – where required
- ✓ ✓ Lot number on pegs
- ✓ ✓ Dimensions between pegs
- ✓ ✓ Measure distance from project to boundary conforms to site plan
- ✓ ✓ Dimensions of building
- ✓ ✓ Profile height in relation to floor heights
- ✓ ✓ Building height in relation to boundary
- ✓ ✓ Excavations, safe slopes, hoarding, shoring, underpinning and barriers for site safety. (Plans for retaining walls)
- ✓ ✓ Council or private drains under building
- ✓ ✓ Siting by surveyor – to provide letter yes

By Surveyor

DESIGN

- ✓ ✓ Engineers designed foundation
- ✓ ✓ Request engineers letter of supervision
- ✓ ✓ Name of Engineer Colin Jacobson
- ✓ ✓ Foundation to NZS 3604
- ✓ ✓ Amended plans required

DRIVEN PILES

- ✓ ✓ Request engineers confirmation of supervision and report on length of piles and sets achieved

PILES/DRILLED FOUNDATIONS

- ✓ ✓ Height of profile in relation to top of piles
- ✓ ✓ Correct size and treatment of piles

Builder/Sub-Contractor/Owner / ✓ Inspector

- ✓ ✓ Pile spacing for bearers/joists
- ✓ ✓ Floor heights conform to bracing elements provided
- ✓ ✓ Height for 450mm crawl space
- ✓ ✓ Layout of subfloor bracing
- ✓ ✓ Pile heights correct for type of bracing element i.e. anchor or braced pile
- ✓ ✓ Pile depths into cleared ground
- ✓ ✓ 100kpa or greater bearing capacity (including pre-floor excavation)
- ✓ ✓ Holes clean and sides vertical
- ✓ ✓ Confirm types of pile bearer/floor joist fixing to be used and level of protection required, i.e. galvanized/stainless steel (including nails)

CONCRETE FOUNDATIONS

- ✓ ✓ Foundation dimensions and minimum 200 mm depth into cleared ground
- ✓ ✓ Foundation clean, square, level and no water in excavation
- ✓ ✓ 100kpa soil bearing capacity as per soil report
- ✓ ✓ Discuss floor height to proposed finished ground levels as per NZS 3604
- ✓ ✓ Manufacture of steel
- ✓ ✓ Steel sizes
- ✓ ✓ Correct type, i.e. high tensile or deformed etc
- ✓ ✓ Steel laps
- ✓ ✓ All steel has been tied up
- ✓ ✓ Steel is clean
- ✓ ✓ Cover and height pegs
- ✓ ✓ Fire wall, foundation and reinforcement
- ✓ ✓ Further Inspection Fee Required yes☐ no☐

By Engineer

Name of Builder/Sub-Contractor/Owner Completing Check List: C+C Holdings

Signature: [signature] **Date:** 19-8-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation Required
- ☐ Further Inspection Required

Comments Memo No: [signature]

Notice to Fix No:

Inspector [signature]

Auditor

Inspection Date 19-8-10

Audit Date

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR PLUMBING AND DRAINAGE

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd Unit 3

LOT: _____ DP/S: _____ CONSENT NO: 2010/24349

✓ Inspected ✗ Failed | Not Applicable

Plumber	Inspector	
☑	☐	Check you are on correct site
☑	☐	Approved Building Consent documents on site
☑	☐	Check Conditions
☑	☐	Check for previous comments
☑	☐	The work exactly reflects the approved plans
☑	☐	System used AS3500 ☑ G13 ☐
☑	☐	Fixture discharge pipe sizes followed
☑	☐	Fall on all discharge pipes 1:40 for pipe diameter 65mm or less
☐	☐	Length of all discharge pipes. An unvented waste pipe cannot exceed 3.5m for G13
☑	☐	Waste pipes protected where penetrating through floor slab.
☐	☐	Waste pipes are separated at foundation exit point to allow for bends
☐	☐	Water heater drain pipe is graded/correctly terminated
☑	☐	Check location of terminal vent
☐	☐	Main or branch drain longer than 10m to be vented for AS3500
☐	☐	Main or branch drain longer than 6m to be vented for G13
☑	☐	Vent pipe down stream from last fixture connection
☑	☐	Minimum vent diameter 50mm for AS3500
☐	☐	Minimum vent diameter 80mm for G13
☐	☐	80mm W/C pipe maximum length 2.5m unvented
☑	☐	1 ORG min 150mm below lowest fixture outlet
☑	☐	Test on AS3500 drains for 2 or more fixtures inline
☐	☐	Waste pipes evenly spaced and in a straight line at rear point of entry to gully dish (Max 4)

Plumber	Inspector	
☐	☐	Venting continuous on AS3500 pipework
☑	☐	Level inverts installed 2 o'clock or higher for AS3500
☐	☐	Clean outs (COS) installed where required or 2x 45° bends 2x diameter apart directly under fixture.
☐	☐	Amended floor plan for all changes
☐	☐	Drainage behind masonry walls greater than 300mm
☑	☐	One fixture only above terminal vent
☐	☐	Flood relief floor waste for all urinals and multi unit buildings
☐	☐	Stainless steel Straps installed at 1.0m intervals to support soil and waste pipes for pile driven foundations
☐	☐	Copper waste to commercial machines operating over 65°C
☐	☐	Soakage Drainage for Over 300mm step in Footing
☐	☐	Further Inspection Fee Required ☐ yes ☐ no

Notes: _____

Name of Builder/Sub-Contractor/Owner Completing Check List: Waikato Plumbing Services

Signature: _____ **Date:** _____

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent
☐ Fail

☐ Further Documentation required
☐ Required Documents received ___/___/___
☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ Auditor _____

Inspection Date 15/8/10 Audit Date _____

GEON

SIGN DAT

Consent No: 2010/24349

Project Address: 8 Yorkshire RD

SEC 37

Issue Date: 6-Jun-10

Issued

Owner: CKC Holdings Ltd

Contact Number:

There Are Limitations On This Property

Description of Work: 7 New Dwellings with attached Garages

Property Reference: Lot: 62 DP/S: S9556

Signed: .....

Review Officer:

TR Number:

Extra Inspections To Be Charged (Tick Box)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total

BUILDING INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Siting					
Foundation •	W.Martin				20/8/10
Bond Beam					
Concrete Floor •	W.Martin	✓			20/8/10
Tilt Slab					
Framing •	WGM	✓			6.9.10
Cavity/Batten					
Cladding	WGM	✓			16.9.10
Preline •	W.Martin	✓			20/9/10
Postline •	W.Martin	✓			22/9/10
Crossing					

COMPLETION

SIGN W G Martin DATE 2.11.10

COMMENTS:

PLUMBING & DRAINAGE INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Concrete Floor •	L.Cuff	✓			19.8.10
Preline •	L.Cuff	✓			15/9/10
Stack Test					
Waste & Soil					
Foulwater •	C.Morrison	✓			30/8/10
Stormwater •	C.Morrison	✓			30/8/10
Heater Chimney					
Pool/Spa Fencing					

DRAINLAYER Waikato Plumbing

PLUMBER " " " "

COMPLETION

SIGN L Cuff DATE 2/11/10

COMMENTS:

AMENDMENTS

Date Received	Building Review Officer	Description of Work	Approved	Filed	Outstanding Fees

Certificates/Producer Statements/Plans Requested and Received				
Plumbing		Date Req	**Company Name**	Date Rec
1	As laid drainage plans			✓
2	Pressure test producer statement			✓
3	Gas certificate			
4	Back flow prevention device pressure test producer statement			
5	Heating engineer's certificate			
6	Engineers certificate for septic tank and effluent line			✓
7	Engineers certificate for stormwater system			✓
8	CCTV certificate			
Building				
9	Surveyors Certificate			✓
10	Driven pile report for length of piles and sets achieved			
11	Engineers letter of observation for driven test piles			
12	Engineer's producer statement for sand pad compaction			✓
13	Engineer's producer statement for foundations/floor			
14	Engineer's producer statement for block work/tilt stabs			
15	Engineer's producer statement for beams/lintels/structure			
16	Truss floor loading plan			
17	Truss layout plan			
18	Acoustic engineers report			
19	Electrical certificate			✓
20	Plaster coating producers statement — paint system			
21	Weather tightness report from an accredited adviser			
22	Water proofing membrane installer's producer statement			
23	Window/glazing producer statement			
24	Roofing producer statement			
25	Insulation certificate			
26	Producer statement for smoke alarms			
27	Producer statement for Pool alarms			
28	Letter from HCC Transportation Unit			
29	Amended consent plans required			
30	Contractors producer statement 3			
31	Welding Certificate			
32	Spray booth/fume cupboard producer statement			
33	Spread of flame certificate required			
34	Producer statement for slip resistance			
35	Automatic doors producer statement			
36	Automatic sprinkler producer statement from registered installer			
37	Emergency lighting producer statement			
38	Fire alarm producer statement from a certified installer all systems			
39	FPIS for the fire alarm system types 3/4/5/6/7			
40	Fire engineers producer statement			
41	Lifts/escalator producer statement			
42	Mechanical ventilation producer statement			

Hamilton City Council
Te kaunihera o Kirikiriroa
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FINAL BUILDING INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd

LOT: 61 & 62 2 DP/S: 9556 428322 CONSENT NO: 2010 26349

✓ Approved X Failed I Not Applicable

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Building Consent conditions
- ✓ ✓ Check job description on job card

EXTERIOR

- ✓ ✓ External envelope complete and weatherproof
- ✓ ✓ Flashings/sealants complete
- ✓ ✓ Wet area/kitchen vents
- ✓ ✓ Safety glass
- ✓ ✓ Ground/paving heights
- ✓ ✓ Crossing and footpath for damage
- ✓ ✓ Brick veneer weep and ventilation holes
- ✓ ✓ Exterior decorated
- ✓ ✓ Weathering of penetrations
- ✓ ✓ Construction of decks/steps/handrails
- ✓ ✓ Barrier heights and construction timber/treatment
- ✓ ✓ Sub floor access/ponding/ventilation/insulation
- ✓ ✓ Roof cladding/flashing fixings/roof penetrations
- ✓ ✓ Landscaping complete – retaining walls
- ✓ ✓ Wall cladding fixings/soakers/scribers etc
- ✓ I Fire rating

INTERIOR

- ✓ ✓ Ceiling insulation in place
- ✓ I Fire ratings stopped
- ✓ ✓ Wet areas completed, walls, ceilings, floors sealed
- ✓ ✓ Wet areas ducted to exterior
- ✓ ✓ Safety glass
- ✓ ✓ Heights of window sashes
- ✓ I Heights of barriers and handrails/details
- ✓ ✓ All inspections have been completed
- ✓ ✓ All certificates have been received
- ✓ ✓ Smoke Alarms Fitted

Builder/Sub-Contractor/Owner
Inspector

COMMERCIAL

- Surface finishes, smoke development and spread of flame for ceilings, walls, floor coverings
- Stopping of fire walls and penetrations
- Penetrations/light fittings/fire collars etc
- Means of escape, door hardware, signage
- Fire and smoke doors: hardware, tags, self closers/magnetic hold open device and signage
- Signage/fire alarm

ACCESSIBILITY

- Ramps non slip, width, length, upstands, handrails 1:12 1200 wide
- Entrance signage, threshold, width, floor surfaces
- Public reception counters or desks
- Lifts sizes, controls. Handrails, lobby width
- Stair widths, handrails, landings, risers, treads, nosings
- Doorways/corridors clear width, glazing, colour contrasted, projections into corridors
- Alerting devices audible and visual signal
- Toilet size, controls, doors, wash hand basin, taps
- Showers size, controls, door/s
- Laundering size and turning cycle
- Signage entrance doors, information board and facilities signage
- Surface finishes stable firm and non slip
- Sound system, stage podium access, listening system
- Signage for listening system
- Accessible route car parks, identifiable route from street to and through building, surface finishes stable firm and non slip
- Further Inspection fee required

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LP

Signature: [signature] **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

- ☑ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector [signature] Auditor _____

Inspection Date 2-11-10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

FINAL PLUMBING/DRAINAGE INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd
61 & 62 9556
LOT: 2 DP/S: 428322 CONSENT NO: 2010 24349

✓ **Inspected** ✗ **Failed** | **Not Applicable**

Builder/Sub-Contractor/Owner	Inspector
Check you are on correct site	✓
Approved Building Consent documents on site	✓
Check Building Consent Conditions	✓
Check street number on letterbox	✓
Ensure plumbers and drainlayers names are recorded on job card	✓
Relevant inspections have been called for	✓
Roof penetrations flashed in accordance with E2 page 81 Figures 53 &54	✓
Gully dishes positioned to stop stormwater ingress	✓
Ensure overflow relief gully minimum 150mm below lowest fixture outlet	✓
Waste pipes sealed at point of entry into rear of gully dishes and bends installed tight to back of gully dish	✓
All wastes are vented if greater than 3.5m and have min 1:40 fall.	✓
Driveway catchpit installed for over 100m²	✓
All permanently paved areas over 10m² run to catchpit Permanent ground area does not exceed grass area to boundary	✓
Terminal vent position, flashings, cowls fitted	✓
Downpipes evenly clipped and connected to stormwater drainage	✓
No Discharge to lower masony roofs. Downpipes from top storey roofs to lower roof spreader required as per E2 Page 56 figure 20	
Novaflow drainage is terminated to catch pit	
Overflows fitted to Decks and run to exterior	
Hot water cylinder is correct type, all required safety valves and seismic restraints fitted	✓
HWC expansion/relief drains have been installed and conveyed to the exterior	✓
Cylinder drain/valve pipes via the tundish/air gap	✓
Cylinder safe tray if required	
Dishwasher pipe clamped and anti siphon bend fitted	✓
Water hammer	✓
Toilet cisterns screwed to wall securely	✓

Builder/Sub-Contractor/Owner	Inspector
Terminal vents continuous in ceiling space	✓
Traps fitted and holding seals	✓
Tub fixed in position	✓
Check job descriptions match card	✓
Water temperature = 54° °C	✓
Gas certificate provided No:	
As-laid drain plans provided	✓
Plumbing pressure test certificate from HCC registered person	✓
Pipes insulated outside building thermal envelope using UV protected where require	
Copper waste pipe to commercial machine	
Bainmarie drains provided to approved outlet	
Back flow prevention devices where required	
Test certificate for back flow devices	
Approval letter from Trade Waste Department recieved ☐ yes ☐ no	
Septic tank installation, has been installed as per engineers design PS4	
(Certificate supplied)	✓
Engineers PS4 for storm water soak hole design	
If cross lease/subdivision ensure all drainage requirements have been met	
If timber floor check wastepipe/soilpipes clipping complies	
Further Inspection Fee Required ☐ yes ☐ no	

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LN

Signature: _____ **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ Auditor _____

Inspection Date 2/11/10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

EXTERIOR CLADDING SYSTEMS - BUILDING

SPECIFIC LOCATION: Units 1-7

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd Units 1-7

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

✓ **Approved** ✗ **Failed** | **Not Applicable**

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions
- ✓ ✓ Check previous Comments

BRICK VENEER

- ✓ ✓ Correct type, condition, fixing and support of building wrap
- ✓ ✓ Cavity size 40mm minimum
- ✓ ✓ Number, spacing and location of ties
- ✓ ✓ Connection of brick ties
- ✓ ✓ Cavity cleaned/rebate sealed
- ✓ ✓ Brick support on foundation
- ✓ ✓ Weep/ventilation holes
- ✓ ✓ Flashing detail into joinery
- ✓ ✓ Flashing requirements/fixing position
- ✓ ✓ Minimum panel sizes
- ✓ ✓ Maximum height of veneer
- ✓ ✓ Lintel bars/type of fixing details
- ✓ ✓ Cavity sealed from roof space
- ✓ ✓ Slope to sills 15° min.
- ✓ ✓ Details at ground level
- ✓ ✓ Window support bars fitted

PREPLASTER - RIGID BACKING

- ✓ Fibre cement sheet
- ✓ H3 plywood
- ✓ H3 diagonal sheeting

PREPLASTER - SOLID PLASTER (MESH)

- ✓ Mesh type
- ✓ Reinforcement around openings
- ✓ 6–9mm spacers
- ✓ Galvanised
- ✓ Propriatory self-spacing mesh
- ✓ Fixings
- ✓ Propriatory control joints

Builder/Sub-Contractor/Owner
Inspector

PREPLASTER - NON RIGID BACKING (CAVITY SYSTEM)

- ✓ Support
- ✓ Allowable deflection of flexible backer (e.g. riblath)

MONOLITHIC TYPE CLADDING

- ✓ Correct type, position and condition of building wrap
- ✓ Fixing detail of backing
- ✓ Sheet joining/flashing detail
- ✓ Joinery head/sill and jamb flashing detail
- ✓ Flashing connections to each other
- ✓ Slope to parapet/sill detail
- ✓ Roof/wall and parapet flashing details
- ✓ Detail at ground level
- ✓ Requirements for expansion/contraction joint details both horizontal and vertical
- ✓ Spacer spacing, fixings etc.
- ✓ Battens (ventilated cavity)
- ✓ Reinforcement type/fixing etc
- ✓ General workmanship
- ✓ Weathering detail for barriers/downpipes/weatherboards and penetrations
- ✓ Remind installer about installation certificate
- ✓ Internal/external angles

WEATHERBOARD TYPE SYSTEMS

- ✓ Correct type of building wrap, fixing and support
- ✓ Flashing requirements/fixing/position
- ✓ Cladding fixing details
- ✓ Details at ground level
- ✓ Battens (ventilated cavity)
- ✓ Bottom of cladding provides weathering to bottom plates, floor joists and behind decking

Name of Builder/Sub-Contractor/Owner Completing Check List: C-I-C Holdings

Date: 27-10-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received / /
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector W Gilmour

Inspection Date 27-10-10

Auditor _____

Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

EXTERIOR CLADDING SYSTEMS - BUILDING

Unit 4 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** ‖ **Not Applicable**

PROPERTY ADDRESS: 10 Yorkshire Rd Unit 4

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

Builder/Sub-Contractor/Owner
Inspector
Check you are on correct site
Approved Building Consent documents on site
Check Conditions
Check for previous Comments

BRICK VENEER
Correct type, position and condition of building wrap
Cavity size 40mm minimum
Number, spacing and location of ties
Connection of brick ties
Cavity cleaned
Brick support on foundation max. 20mm overhang and max. 20mm joint under brick
Weep/ventilation holes
Flashing detail into joinery
Flashing requirements/fixing position
Minimum panel sizes
Maximum height of veneer
Lintel bars, size/type of fixing details
Cavity sealed from roof space
Slope to sills 15° min.

WEATHERBOARD TYPE SYSTEMS
Correct type, position and condition of building wrap
Flashing requirements/fixing/position
Cladding fixing details
Details at ground level
Battens (ventilated cavity)
Bottom of cladding provides weathering to bottom plates, floor joists and behind decking

MONOLITHIC TYPE CLADDING
Correct type, position and condition of building wrap
Fixing detail of backing
Sheet joining/flashing detail
Joinery head/side and sill flashing detail
Flashing connections to each other
Slope to parapet/sill detail
Roof/wall and parapet flashing details
Detail at ground level
Requirements for expansion/contraction joint details both horizontal and vertical
Spacer spacing, fixings etc.
Battens ventilated cavity

Builder/Sub-Contractor/Owner
Inspector
Reinforcement type/fixing etc.
General workmanship
Weathering detail for barriers/downpipes/weatherboards and penetrations
Remind installer about installation certificate
Internal/external angles

PREPLASTER - RIGID BACKING
Fibre cement sheet
H3 plywood
H3 diagonal sheeting

PREPLASTER - NON RIGID BACKING (CAVITY SYSTEM)
Support
Allowable deflection of flexible backer (e.g. riblath)

PREPLASTER - SOLID PLASTER (MESH)
Mesh type
Reinforcement around openings
6–9mm spacers
Galvanised
Propriatory self-spacing mesh
Fixings
Propriatory control joints

PREPLASTER - FIBRE CEMENT SHEET
Timber moisture content (battens)
Building wrap/sill approved

BATTENS
H3 timber or plywood
H grade polystyrene
Correct size and placement
Fixings
Sheet layout
Spacing

ALL MONOLITHIC SYSTEMS
Certificate on paint system from applicator

DECKS
Substrate
Upstand and step between main floor level
Drainage for sealed decking
Membrane
Barrier Cladding

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.E. Holdings

Signature: [signature] **Date:** 24-9-10

Comments Memo No: **Notice to Fix No:**

☐ **Further Inspection Required** ✓ **Approved** **Inspector** [signature]

Date of Inspection 24-9-10 **Auditor** **Date**

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PH: (07) 838 6677

POST LINING
Units 4 – 5
BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be given to the inspector at the time of inspection.

☑ **Approved** ☒ **Failed** ☐ **Not Applicable**

PROPERTY ADDRESS: 10 Yorkshire Rd Units 4–5

LOT: 61 – 62 DP/S: 9556 CONSENT NO: 24349

☑ Builder/Sub-Contractor/Owner
☑ Inspector

- ☑ ☐ Check you are on correct site
- ☑ ☐ Approved Building Consent documents on site
- ☑ ☐ Check Building Consent Conditions
- ☑ ☐ Check for previous comments

- ☑ ☐ Floor/Ceiling nailed off as diaphragm
- ☑ ☐ Position of sheet bracing
- ☑ ☐ Fixing of sheet bracing
- ☑ ☐ Holes in sheet braces
- ☑ ☐ Safety glass
- ☑ ☐ Correct type of wall linings used
- ☐ ☐ STC rating requirements
- ☐ ☐ Stopping and penetrations, light switched, power points etc to fire walls
- ☐ ☐ Request acoustic engineers report

COMMERCIAL

- ☐ ☐ Fire philosophy
- ☐ ☐ Fire rating
- ☐ ☐ Stopping of fire ratings
- ☐ ☐ Penetrations
- ☐ ☐ Discuss compliance schedule features and request certificates for compliance
- ☐ ☐ Discuss spread of flame index for interior finish and request Certificate required

☑ Builder/Sub-Contractor/Owner
☑ Inspector

ACCESSIBILITY CHECKLIST/DISCUSS

- ☐ ☐ Accessible Carpark
- ☐ ☐ Ramps
- ☐ ☐ Entrance
- ☐ ☐ Public Reception Area
- ☐ ☐ Lifts
- ☐ ☐ Stairs
- ☐ ☐ Doorways, corridors
- ☐ ☐ Controls (auto doors etc)
- ☐ ☐ Alerting devices
- ☐ ☐ Toilets
- ☐ ☐ Showers
- ☐ ☐ Laundering
- ☐ ☐ Food preparation
- ☐ ☐ Signage
- ☐ ☐ Surface finishes
- ☐ ☐ Accessible Route

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: [signature] **Date:** 22-9-10

Comments Memo No: _____ **Notice to Fix No:** _____

Please tick as appropriate

☑ **Pass** – in accordance with the plans & Specifications approved for this consent ☐ **Fail** Further requirements: ☐ Documentation ☐ Inspection

Inspector [signature] **Auditor** _____

Date of inspection 22.9.10 **Date** _____

Hamilton City Council
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PH: (07) 838 6677

PRELINE - BUILDING

SPECIFIC LOCATION: Units 4-5

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 - Yorkshire Rd Units 4 - 5

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

[✓] Inspected [X] Failed [ ] Not Applicable

- [✓] Builder/Sub-Contractor/Owner
- [ ] Inspector
- [✓] Check you are on correct site
- [✓] Approved Building Consent documents on site
- [✓] Check Conditions
- [✓] Check previous comments

EXTERIOR

- [ ] Construction of decks, bracing, hangers etc
- [ ] Verandah post connections
- [✓] Roof cladding type, flashings, nailing
- [ ] Fire rating requirements
- [ ] Exterior bracing

INTERIOR

- [✓] Interior brace fixing
- [✓] Bottom plate fixings
- [✓] Moisture content (timber) = [ ] %
- [✓] Insulation/moisture content
- [✓] Holes and notches in framing
- [✓] Safety glass
- [ ] STC ratings (Design test for multi unit dwellings)
- [ ] Fire ratings, penetrations
- [✓] Joinery provides correct lighting, ventilation to each room
- [✓] Window sash heights above floor
- [✓] Discuss smoke alarm requirements
- [✓] Air seals fitted

ROOF

- [✓] Roof underlay grade, netting
- [✓] Roof correct pitch for material used
- [✓] Correct trusses for roof material used and spacing
- [✓] Ceiling batten sizes, correct spans and nailing
- [ ] Ceiling diaphragms
- [ ] Vapour barrier for skillion roofs
- [✓] Insulation to ceiling, correct position

- [✓] Builder/Sub-Contractor/Owner
- [ ] Inspector

GENERAL

- [ ] Stair rail openings
- [ ] Configuration of stair/type
- [ ] Width between rails
- [ ] Height of barriers and ballustrading to landings, decks and stairs
- [✓] Glazing requirements

COMMERCIAL

- [ ] Fire philosophy
- [ ] Discuss fire ratings
- [ ] Discuss compliance schedule features and request certificate for completion
- [ ] Fire collars/penetrations through fire ratings

ACCESSIBILITY CHECKLIST

- [ ] Accessible car parks
- [ ] Access ramps
- [ ] Entrance
- [ ] Public reception
- [ ] Lifts
- [ ] Stairs
- [ ] Doorways, corridors
- [ ] Controls (Auto Doors etc)
- [ ] Alerting devices
- [ ] Toilets
- [ ] Showers
- [ ] Laundering
- [ ] Food preparation
- [ ] Signage
- [ ] Surface finishes
- [ ] Accessible route

Name of Builder/Sub-Contractor/Owner Completing Check List: C+C Holdings

Signature: [signature] **Date:** 20-9-10

OFFICE USE ONLY - Please Tick as appropriate

- [✓] Pass - in accordance with the plans & specifications approved for this consent
- [ ] Fail
- [ ] Further Documentation required
- [ ] Required Documents received / /
- [ ] Further Inspection needed

Comments Memo No:

Notice to Fix No:

Inspector [signature]

Auditor

Inspection Date 20.9.10

Audit Date

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

SANITARY SEWER AND STORMWATER

SPECIFIC LOCATION: unit 4.

NOTE TO DRAINLAYER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

PROPERTY ADDRESS: 8-10 Yorkshire St.

LOT: _____ DP/S: _____ CONSENT NO: 10/24344

✓ **Inspected** ✗ **Failed** | | **Not Applicable**

- ✓ Drainlayer
- ☐ Inspector
- ✓ ✓ Check you are on correct site
- ✓ ☐ Approved Building Consent documents on site
- ✓ ☐ Check Conditions

SEWER

- ✓ ✓ Ensure sanitary sewer is connected to correct connection
- ✓ ✓ Gradients/System as per G13 or AS3500.2
- ✓ ✓ Check pipe is approved and fittings are labeled
- ✓ ✓ Check material/pipe is bedded in
- ✓ ✓ Check for leakage during water test
- ✓ ✓ Drainlayer to release testing equipment to ensure full flow flush is obtained and connection clear
- ✓ ✓ Correct fittings used
- ✓ ✓ Check for terminal vents and positions
- ✓ ✓ Discuss protection over drains for inadequate depth
- ✓ ✓ Discuss heights of gully traps
- ✓ ✓ Ensure drains are laid within legal boundaries
- ✓ ✓ As laid plan received ☐ yes ☑ no
- ✓ ✓ One fixture above terminal vent only
- ✓ ✓ Stability of ground/trench base covered by engineer, PS4 supplied ☐ yes ☐ no
- ✓ ✓ Confirm engineers site inspection
- ✓ ✓ Further Inspection Fee Required ☐ yes ☑ no

- ✓ Drainlayer
- ☐ Inspector

STORMWATER

- ✓ ✓ Confirm Drainlayers name
- ✓ ✓ Ensure stormwater is connected to the correct connection
- ✓ ✓ Gradients/System Used G13 ☐ or AS/NZS3500.3 ✓
- ✓ ✓ Check pipe size is correct for given roof/surface area refer E1 Page 35 Figure 3
- ✓ ✓ Check pipe/fittings are approved and labelled
- ✓ ✓ Check material pipe is bedded in
- ✓ ✓ Check adequate number of downpipes for roof area
- ✓ ✓ Correct fittings used
- ✓ ✓ Connections installed for future concreted/permanent paved areas
- ✓ ✓ Driveway catchpit installed for over 100m²
- ✓ ✓ All permanently paved areas over 10m² run to catchpit
- ✓ ✓ Discuss protection over drains for inadequate depth
- ✓ ✓ Ensure that drains are laid within legal boundaries
- ✓ ✓ All subsoil drains run via catch pit
- ✓ ✓ As laid plan received ☐ yes ☑ no
- ✓ ✓ HCC soak hole correctly sized (40m² max area)
- ✓ ✓ Confirm engineers site inspection
- ✓ ✓ Stability of ground/trench base covered by engineer, PS4 supplied ☑ yes ☐ no
- ✓ ✓ Further Inspection Fee Required yes ☐ no ✓

Name of Drainlayer and Registration Number Completing Check List: _____

Signature: _____ **Rego:** 11676 **Date:** 30-8-2010.

OFFICE USE ONLY - Please Tick as appropriate

- ✓ ☐ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation Required
- ☐ Further Inspection Required

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector C. Morris Auditor _____

Inspection Date 30-8-10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

SITING, FOUNDATION AND REPILE INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 8-10 Yorkshire St Unit 4

LOT: 61-62 DP/S: CONSENT NO: 2010/243497

✓ Inspected ✗ Failed ‖ Not Applicable

Builder/Sub-Contractor/Owner	Inspector
✓	✓ Check you are on correct site
✓	✓ Approved Building Consent documents on site
	Check Conditions

SITING

Builder/Sub-Contractor/Owner	Inspector
	Locate boundary pegs – where required
	Lot number on pegs
	Dimensions between pegs
	Measure distance from project to boundary conforms to site plan
	Dimensions of building
	Profile height in relation to floor heights
	Building height in relation to boundary
	Excavations, safe slopes, hoarding, shoring, underpinning and barriers for site safety. (Plans for retaining walls)
	Council or private drains under building
✓	Siting by surveyor – to provide letter

DESIGN

Builder/Sub-Contractor/Owner	Inspector
	Engineers designed foundation
	Request engineers letter of supervision
✓	✓ Name of Engineer Acorn
	Foundation to NZS 3604
	Amended plans required

DRIVEN PILES

Builder/Sub-Contractor/Owner	Inspector
	Request engineers confirmation of supervision and report on length of piles and sets achieved

PILES/DRILLED FOUNDATIONS

Builder/Sub-Contractor/Owner	Inspector
	Height of profile in relation to top of piles
	Correct size and treatment of piles
	Pile spacing for bearers/joists
	Floor heights conform to bracing elements provided
	Height for 450mm crawl space
	Layout of subfloor bracing
	Pile heights correct for type of bracing element i.e. anchor or braced pile
	Pile depths into cleared ground
	100kpa or greater bearing capacity (including pre-floor excavation)
	Holes clean and sides vertical
	Confirm types of pile bearer/floor joist fixing to be used and level of protection required, i.e. galvanized/stainless steel (including nails)

CONCRETE FOUNDATIONS

Builder/Sub-Contractor/Owner	Inspector
	✓ Foundation dimensions and minimum 200 mm depth into cleared ground
	✓ Foundation clean, square, level and no water in excavation
	✓ 100kpa soil bearing capacity as per soil report
	✓ Discuss floor height to proposed finished ground levels as per NZS 3604
	✓ Manufacture of steel
	✓ Steel sizes
	✓ Correct type, i.e. high tensile or deformed etc
	✓ Steel laps
	✓ All steel has been tied up
	✓ Steel is clean
	✓ Cover and height pegs
	Fire wall, foundation and reinforcement

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: [signature] **Date:** 20-8-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation Required
- ☐ Further Inspection Required

Comments Memo No:

Notice to Fix No:

Inspector WG Mountfort

Inspection Date 20-8-10

Auditor

Audit Date

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR BUILDING
BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire st Unit 4

LOT: 61 - 62 DP/S: 9556 - CONSENT NO: 24349

Builder/Sub-Contractor/Owner
Inspector

- Check you are on correct site
- Approved Building Consent documents on site
- Check Conditions
- Check for previous Comments

- Floor thickenings
- Confirm concrete grade 20 MPA
- Thickness of slab
- Location of piles if driven piles
- Sand fill compaction and excavation ie. No topsoil underneath
- Compaction Certificate
- Manufacture of steel/mesh
- Mesh is correct type and gauge and tied
- Mesh is cut if expansion cuts are required
- Mesh supported on chairs

Builder/Sub-Contractor/Owner
Inspector

- Check that polythene is correct thickness, is lapped and taped
- Holes and penetrations in polythene are taped
- Reinforcing bars to internal corners
- Clean bond will be made between floor slab and bond beams or header blocks
- Remind builder to seal brick rebate
- Emulsion sealer to be used inside header blocks on wet sites
- Types and spacing of bottom plate connectors to be used
- Floor levels will be sufficient for ground clearance
- Engineers design – request letter of supervision
- Request truss design

Name of Builder/Sub-Contractor/Owner Completing Check List: C-K-C Holdings

Signature: _____ **Date:** 20-8-10

Comments Memo No: _____ **Notice to Fix No:** _____

☐ **Further Inspection Required** ✓ **Approved as in accordance with the plans & specifications approved for this consent** **Inspector** _____

Date of Inspection 30-8-10 **Auditor** _____ **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR PLUMBING AND DRAINAGE

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire. UNITS 2, 4, 5

LOT: _____ DP/S: _____ CONSENT NO: 2010/24549

✓ Inspected ✗ Failed | Not Applicable

Plumber	Inspector	
☑	☑	Check you are on correct site
☑	☑	Approved Building Consent documents on site
☑	☑	Check Conditions
☑	☑	Check for previous comments
☐	☑	The work exactly reflects the approved plans
☑	☑	System used AS3500☐ G13☐
☑	☑	Fixture discharge pipe sizes followed
☑	☑	Fall on all discharge pipes 1:40 for pipe diameter 65mm or less
☐	☐	Length of all discharge pipes. An unvented waste pipe cannot exceed 3.5m for G13
☑	☑	Waste pipes protected where penetrating through floor slab.
☑	☑	Waste pipes are separated at foundation exit point to allow for bends
☑	☑	Water heater drain pipe is graded/correctly terminated
☑	☑	Check location of terminal vent
☐	☐	Main or branch drain longer than 10m to be vented for AS3500
☐	☐	Main or branch drain longer than 6m to be vented for G13
☑	☑	Vent pipe down stream from last fixture connection
☑	☑	Minimum vent diameter 50mm for AS3500
☐	☐	Minimum vent diameter 80mm for G13
☐	☐	80mm W/C pipe maximum length 2.5m unvented
☑	☑	1 ORG min 150mm below lowest fixture outlet
☑	☑	Test on AS3500 drains for 2 or more fixtures inline
☑	☑	Waste pipes evenly spaced and in a straight line at rear point of entry to gully dish (Max 4)

Plumber	Inspector	
☐	☐	Venting continuous on AS3500 pipework
☑	☑	Level inverts installed 2 o'clock or higher for AS3500
☐	☐	Clean outs (COS) installed where required or 2x 45° bends 2x diameter apart directly under fixture.
☐	☐	Amended floor plan for all changes
☐	☐	Drainage behind masonry walls greater than 300mm
☑	☑	One fixture only above terminal vent
☐	☐	Flood relief floor waste for all urinals and multi unit buildings
☐	☐	Stainless steel Straps installed at 1.0m intervals to support soil and waste pipes for pile driven foundations
☐	☐	Copper waste to commercial machines operating over 65°C
☐	☐	Soakage Drainage for Over 300mm step in Footing
☐	☐	Further Inspection Fee Required ☐ yes ☐ no

Notes: _____

Name of Builder/Sub-Contractor/Owner Completing Check List: WAIKATO PLUMBING SERVICES

Signature: _____ **Date:** 19-8-10

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent

☐ Fail

☐ Further Documentation required

☐ Required Documents received ___/___/___

☐ Further Inspection needed

Comments Memo No: _____

Notice to Fix No: _____

Inspector _____

Auditor _____

Inspection Date 19/8/10

Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PRELINE PLUMBING

SPECIFIC LOCATION:

NOTE TO Plumber: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 YORKSHIRE UNITS 3 & 4

LOT: _____ DP/S: _____ CONSENT NO: 2010/24349

✓ **Inspected** ✗ **Failed** | **Not Applicable**

✓		Plumber	
		Inspector	
✓		Check you are on correct site	
✓		Approved Building Consent documents on site	
✓	✓	Check Conditions	
✓	✓	Check for previous comments	
✓		Approved type of pipes/identification/standard	
		K2 WATER	
		(complete details of pipe system used)	
✓	✓	Support of pipework	
✓		Pipes secured to prevent water hammer	
✓		Pipe pressure at time of inspection ☐ 1500 kpa ✓ mains only	
✓		Producer statement required ✓ yes ☐ no	
✓		Pipes sealed through building wrap.	
		Sludge and relief drains run via tundish/air gap	
✓		Soil and waste pipe work correctly installed.	
✓	✓	Pipes are protected from frost damage	
✓	✓	Pipes within 100mm of roof to be insulated	
✓	✓	Notches and holes in framing as per NZS	
		3604 Walls Section 8 Figure 8.4	
		Floors Section 7Figure 7.8	
✓		Terminal vent installed	
✓	✓	Pipes protected from electrolysis and sharp objects	
✓		Pipes correctly sized	
		Test on Stack System ☐ yes ☐ no	
✓	✓	Position of hot water cylinder/infinity system is closest to most frequently used	
		tap (kitchen sink) as per AS3500.4 see 5.3.1 Page 36	
		Check hot water cylinder if in ceiling and completed ☐ yes ☐ no	
		Above ground relief pipes from HWC in copper or 99°c approved pipe system	
		Fire hose reel pipe work run in metallic only	

✓		Plumber	
✓		Inspector	
✓	✓	Plumber	
✓	✓	Inspector	
		Air conditioning condensate drains run to outside(not to outside gully dish)	
		Back flow philosophy followed	
		Solar panel installation correct ☐ yes ☐ no	
		Wetback Installation correct ☐ yes ☐ no	
		Fire Collars installed where required	
		Overflows fitted to decks and run to exterior	
		To be same size as outlet	
		Further Inspection Fee Required ☐ yes ☐ no	

Notes: _____

Plumber: WAIKATO PLUMBING SERVICES Rego: 16342.

Signature: _____ Date: 14-9-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ Auditor _____

Inspection Date 15/9/10 Audit Date _____

GEON

Hamilton City Council
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PH: (07) 838 6677

STRUCTURAL FRAMING
Units 3-4
BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd

LOT: 61-62 DP/S: 9556 428322 CONSENT NO: 24349

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check for previous comments
- ✓ ✓ Check conditions

SUBFLOOR

- ✓ ✓ Bearer/joist sizes
- ✓ ✓ Bearer/joist spans
- ✓ ✓ Bracing/braced piles/anchor piles
- ✓ ✓ Bracing/pile connections
- ✓ ✓ Solid blocking to joists
- ✓ ✓ Insulation
- ✓ ✓ Subfloor ventilation
- ✓ ✓ Crawl space
- ✓ ✓ Water ponding under floor
- ✓ ✓ Polythene on ground
- ✓ ✓ Confirm types of pile bearer/floor joist fixing to be used and level of protection required, i.e. galvanised, stainless steel (including nails)
- ✓ ✓ Timber treatment
- ✓ ✓ Check flooring joint layout

WALL FRAMING

- ✓ ✓ Timber treatment
- ✓ ✓ Framing sizes
- ✓ ✓ Framing height
- ✓ ✓ Bottom plate fixings
- ✓ ✓ Lintel sizes
- ✓ ✓ Top plate for roof support, truss, beams, bracing lines
- ✓ ✓ Nogging for vertical cladding

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Nailing general
- ✓ ✓ Exterior ply bracing
- ✓ ✓ Window sash heights above floor

ROOF

- ✓ ✓ Bracing, dragon ties etc
- ✓ ✓ Roof correct pitch for material used
- ✓ ✓ Correct trusses for roof material used and spacing
- ✓ ✓ Joist hangers and fixings to intersecting trusses and girder trusses
- ✓ ✓ Support of girder trusses
- ✓ ✓ Z nails connecting trusses to top plates
- ✓ ✓ Truss fixing to design requirements
- ✓ ✓ Strutting beam and ceiling runner sizes to close coupled roofs
- ✓ ✓ Rafter spans, collar ties, cleats and under purlin sizes to close coupled roofs
- ✓ ✓ Ceiling batten sizes, correct spans and nailing (if in place)
- ✓ ✓ Purlin fixings

OTHER

- ✓ ✓ Construction of decks, bracing, hangers etc
- ✓ ✓ Verandah post connections
- ✓ ✓ Timber treatment
- ✓ ✓ Nailing general
- ✓ ✓ Barrier framing

Name of Builder/Sub-Contractor/Owner Completing Check List: Etc-C Holdings

Signature: [signature] **Date:** 6-9-10

Comments Memo No: **Notice to Fix No:**

Further Inspection Required ☐ Yes ☑ No **Inspector** [signature] **Date of Inspection** 6.9.10

Approved as in accordance with the plans & specifications approved for this consent ☑ **Auditor** **Date**

GEON

SIGN
DAT

Consent No: 2010/24349

Project Address: 8 Yorkshire RD

Issue Date: 6-Jun-10

SEC 37

Owner: CKC Holdings Ltd

Issue Contact Number:

There Are Limitations On This Project

Description of Work: 7 New Dwellings with attached Garages

Property Reference: Lot: 62 DP/S: S955[illegible]

Signed: .....

Review Officer:

TR Number:

Extra Inspections To Be Charged (Tick Box)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total

BUILDING INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Siting					
Foundation	W.Martin	✓			23/8/10
Bond Beam					
Concrete Floor	W.Martin	✓			23/8/10
Tilt Slab					
Framing	W.Martin	✓			10/9/10
Cavity/Batten					
Cladding	W.Martin	✓			5/10/10
Preline	W.Martin	✓			20/9/10
Postline	D.Holcroft	✓			22/9/10
Crossing					

COMPLETION

SIGN W.Martin DATE 2-11-10

COMMENTS:

PLUMBING & DRAINAGE INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Concrete Floor	✓ L.Cuff	✓			19.8.10
Preline	L.Cuff	✓			20/9/10
Stack Test					
Waste & Soil					
Foulwater	C.Morrison	✓			28/8/10
Stormwater	C.Morrison	✓			28/8/10
Heater Chimney					
Pool/Spa Fencing					

DRAINLAYER Waikato Plumbing

PLUMBER "

COMPLETION

SIGN L.Cuff DATE 2/11/10

COMMENTS:

AMENDMENTS

Date Received	Building Review Officer	Description of Work	Approved	Filed	Outstanding Fees

Certificates/Producer Statements/Plans Requested and Received				
Plumbing		Date Req	Company Name	Date Rec
1	As laid drainage plans			✓
2	Pressure test producer statement			✓
3	Gas certificate			
4	Back flow prevention device pressure test producer statement			
5	Heating engineer's certificate			
6	Engineers certificate for septic tank and effluent line			
7	Engineers certificate for stormwater system			✓
8	CCTV certificate			
Building				
9	Surveyors Certificate			✓
10	Driven pile report for length of piles and sets achieved			
11	Engineers letter of observation for driven test piles			
12	Engineer's producer statement for sand pad compaction			✓
13	Engineer's producer statement for foundations/floor			
14	Engineer's producer statement for block work/tilt stabs.			
15	Engineer's producer statement for beams/lintels/structure			
16	Truss floor loading plan			
17	Truss layout plan			
18	Acoustic engineers report			
19	Electrical certificate			✓
20	Plaster coating producers statement — paint system			
21	Weather tightness report from an accredited adviser			
22	Water proofing membrane installer's producer statement			
23	Window/glazing producer statement			
24	Roofing producer statement			
25	Insulation certificate			
26	Producer statement for smoke alarms			
27	Producer statement for Pool alarms			
28	Letter from HCC Transportation Unit			
29	Amended consent plans required			
30	Contractors producer statement 3			
31	Welding Certificate			
32	Spray booth/fume cupboard producer statement			
33	Spread of flame certificate required			
34	Producer statement for slip resistance			
35	Automatic doors producer statement			
36	Automatic sprinkler producer statement from registered installer			
37	Emergency lighting producer statement			
38	Fire alarm producer statement from a certified installer all systems			
39	FPIS for the fire alarm system types 3/4/5/6/7			
40	Fire engineers producer statement			
41	Lifts/escalator producer statement			
42	Mechanical ventilation producer statement			

Hamilton City Council
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PH: (07) 838 6677

FINAL BUILDING INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd

61262 9556

LOT: 2 **DP/S:** 428322 **CONSENT NO:** 2010 26349

[✓] **Approved** [X] **Failed** [ ] **Not Applicable**

- [ ] Builder/Sub-Contractor/Owner
- [✓] Inspector
- [ ] [✓] Check you are on correct site
- [ ] [✓] Approved Building Consent documents on site
- [ ] [✓] Check Building Consent conditions
- [ ] [✓] Check job description on job card

EXTERIOR

- [ ] [✓] External envelope complete and weatherproof
- [ ] [✓] Flashings/sealants complete
- [ ] [✓] Wet area/kitchen vents
- [ ] [✓] Safety glass
- [ ] [✓] Ground/paving heights
- [ ] [✓] Crossing and footpath for damage
- [ ] [✓] Brick veneer weep and ventilation holes
- [ ] [✓] Exterior decorated
- [ ] [✓] Weathering of penetrations
- [ ] [✓] Construction of decks/steps/handrails
- [ ] [✓] Barrier heights and construction timber/treatment
- [ ] [✓] Sub floor access/ponding/ventilation/insulation
- [ ] [✓] Roof cladding/flashing fixings/roof penetrations
- [ ] [✓] Landscaping complete – retaining walls
- [ ] [✓] Wall cladding fixings/soakers/scribers etc
- [ ] [ ] Fire rating

INTERIOR

- [ ] [✓] Ceiling insulation in place
- [ ] [ ] Fire ratings stopped
- [ ] [✓] Wet areas completed, walls, ceilings, floors sealed
- [ ] [✓] Wet areas ducted to exterior
- [ ] [✓] Safety glass
- [ ] [✓] Heights of window sashes
- [ ] [ ] Heights of barriers and handrails/details
- [ ] [✓] All inspections have been completed
- [ ] [✓] All certificates have been received
- [ ] [✓] Smoke Alarms Fitted

- [ ] Builder/Sub-Contractor/Owner
- [ ] Inspector

COMMERCIAL

- [ ] [ ] Surface finishes, smoke development and spread of flame for ceilings, walls, floor coverings
- [ ] [ ] Stopping of fire walls and penetrations
- [ ] [ ] Penetrations/light fittings/fire collars etc
- [ ] [ ] Means of escape, door hardware, signage
- [ ] [ ] Fire and smoke doors: hardware, tags, self closers/magnetic hold open device and signage
- [ ] [ ] Signage/fire alarm

ACCESSIBILITY

- [ ] [ ] Ramps non slip, width, length, upstands, handrails 1:12 1200 wide
- [ ] [ ] Entrance signage, threshold, width, floor surfaces
- [ ] [ ] Public reception counters or desks
- [ ] [ ] Lifts sizes, controls. Handrails, lobby width
- [ ] [ ] Stair widths, handrails, landings, risers, treads, nosings
- [ ] [ ] Doorways/corridors clear width, glazing, colour contrasted, projections into corridors
- [ ] [ ] Alerting devices audible and visual signal
- [ ] [ ] Toilet size, controls, doors, wash hand basin, taps
- [ ] [ ] Showers size, controls, door/s
- [ ] [ ] Laundering size and turning cycle
- [ ] [ ] Signage entrance doors, information board and facilities signage
- [ ] [ ] Surface finishes stable firm and non slip
- [ ] [ ] Sound system, stage podium access, listening system
- [ ] [ ] Signage for listening system
- [ ] [ ] Accessible route car parks, identifiable route from street to and through building, surface finishes stable firm and non slip
- [ ] [ ] Further Inspection fee required

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LW

Signature: _____ **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

- [✓] Pass - in accordance with the plans & specifications approved for this consent
- [ ] Fail
- [ ] Further Documentation required
- [ ] Required Documents received ___/___/___
- [ ] Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ **Auditor** _____

Inspection Date 2-11-10 **Audit Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

FINAL PLUMBING/DRAINAGE INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd
61 & 62 9556

LOT: 2 DP/S: 428322 CONSENT NO: 2010 24369

[✓] Inspected [X] Failed [ ] Not Applicable

☐ Builder/Sub-Contractor/Owner		
☑ Inspector		
☐ ☑ Check you are on correct site	☐ ☑	Terminal vents continuous in ceiling space
☐ ☑ Approved Building Consent documents on site	☐ ☑	Traps fitted and holding seals
☐ ☑ Check Building Consent Conditions	☐ ☑	Tub fixed in position
☐ ☑ Check street number on letterbox	☐ ☑	Check job descriptions match card
☐ ☑ Ensure plumbers and drainlayers names are recorded on job card	☐ ☑	Water temperature = 54° °C
☐ ☑ Relevant inspections have been called for	☐ ☐	Gas certificate provided No:
☐ ☑ Roof penetrations flashed in accordance with E2 page 81 Figures 53 &54	☐ ☑	As-laid drain plans provided
☐ ☑ Gully dishes positioned to stop stormwater ingress	☐ ☑	Plumbing pressure test certificate from HCC registered person
☐ ☑ Ensure overflow relief gully minimum 150mm below lowest fixture outlet	☐ ☐	Pipes insulated outside building thermal envelope using UV protected where require
☐ ☑ Waste pipes sealed at point of entry into rear of gully dishes and bends installed tight to back of gully dish	☐ ☐	Copper waste pipe to commercial machine
	☐ ☐	Bainmarie drains provided to approved outlet
☐ ☑ All wastes are vented if greater than 3.5m and have min 1:40 fall.	☐ ☐	Back flow prevention devices where required
☐ ☑ Driveway catchpit installed for over 100m²	☐ ☐	Test certificate for back flow devices
☐ ☑ All permanently paved areas over 10m² run to catchpit	☐ ☐	Approval letter from Trade Waste Department recieved ☐ yes ☐ no
Permanent ground area does not exceed grass area to boundary	☐ ☐	Septic tank installation, has been installed as per engineers design PS4
☐ ☑ Terminal vent position, flashings, cowls fitted	☐ ☐	(Certificate supplied)
☐ ☑ Downpipes evenly clipped and connected to stormwater drainage		✓ Engineers PS4 for storm water soak hole design
☐ ☐ No Discharge to lower masony roofs. Downpipes from top storey roofs to lower roof spreader required as per E2 Page 56 figure 20	☐ ☐	If cross lease/subdivision ensure all drainage requirements have been met
	☐ ☐	If timber floor check wastepipe/soilpipes clipping complies
☐ ☐ Novaflow drainage is terminated to catch pit	☐ ☐	Further Inspection Fee Required ☐ yes ☐ no
☐ ☐ Overflows fitted to Decks and run to exterior		
☐ ☑ Hot water cylinder is correct type, all required safety valves and seismic restraints fitted		
☐ ☑ HWC expansion/relief drains have been installed and conveyed to the exterior		
☐ ☑ Cylinder drain/valve pipes via the tundish/air gap		
☐ ☐ Cylinder safe tray if required		
☐ ☑ Dishwasher pipe clamped and anti siphon bend fitted		
☐ ☑ Water hammer		
☐ ☑ Toilet cisterns screwed to wall securely		

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LN

Signature: _____ **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

- ☑ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ Auditor _____

Inspection Date 2/11/10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

EXTERIOR CLADDING SYSTEMS - BUILDING

SPECIFIC LOCATION: Units 1-7

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd Units 1-7

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

[✓] **Approved** [X] **Failed** [ ] **Not Applicable**

- [✓] Builder/Sub-Contractor/Owner
- [✓] Inspector
- [✓] [✓] Check you are on correct site
- [✓] [✓] Approved Building Consent documents on site
- [✓] [✓] Check Conditions
- [✓] [✓] Check previous Comments

BRICK VENEER

- [✓] [✓] Correct type, condition, fixing and support of building wrap
- [✓] [✓] Cavity size 40mm minimum
- [✓] [✓] Number, spacing and location of ties
- [✓] [✓] Connection of brick ties
- [✓] [✓] Cavity cleaned/rebate sealed
- [✓] [✓] Brick support on foundation
- [✓] [✓] Weep/ventilation holes
- [✓] [✓] Flashing detail into joinery
- [✓] [✓] Flashing requirements/fixing position
- [✓] [✓] Minimum panel sizes
- [✓] [✓] Maximum height of veneer
- [✓] [✓] Lintel bars/type of fixing details
- [✓] [✓] Cavity sealed from roof space
- [✓] [✓] Slope to sills 15° min.
- [✓] [✓] Details at ground level
- [✓] [✓] Window support bars fitted

PREPLASTER - RIGID BACKING

- [ ] [ ] Fibre cement sheet
- [ ] [ ] H3 plywood
- [✓] [ ] H3 diagonal sheeting

PREPLASTER - SOLID PLASTER (MESH)

- [ ] [ ] Mesh type
- [ ] [ ] Reinforcement around openings
- [ ] [ ] 6–9mm spacers
- [ ] [ ] Galvanised
- [ ] [ ] Propriatory self-spacing mesh
- [ ] [ ] Fixings
- [ ] [ ] Propriatory control joints

- [✓] Builder/Sub-Contractor/Owner
- [ ] Inspector

PREPLASTER - NON RIGID BACKING (CAVITY SYSTEM)

- [✓] [ ] Support
- [✓] [ ] Allowable deflection of flexible backer (e.g. riblath)

MONOLITHIC TYPE CLADDING

- [✓] [ ] Correct type, position and condition of building wrap
- [✓] [ ] Fixing detail of backing
- [✓] [ ] Sheet joining/flashing detail
- [ ] [ ] Joinery head/sill and jamb flashing detail
- [✓] [ ] Flashing connections to each other
- [ ] [ ] Slope to parapet/sill detail
- [ ] [ ] Roof/wall and parapet flashing details
- [ ] [ ] Detail at ground level
- [ ] [ ] Requirements for expansion/contraction joint details both horizontal and vertical
- [ ] [ ] Spacer spacing, fixings etc.
- [ ] [ ] Battens (ventilated cavity)
- [ ] [ ] Reinforcement type/fixing etc
- [ ] [ ] General workmanship
- [ ] [ ] Weathering detail for barriers/downpipes/weatherboards and penetrations
- [ ] [ ] Remind installer about installation certificate
- [ ] [ ] Internal/external angles

WEATHERBOARD TYPE SYSTEMS

- [✓] [ ] Correct type of building wrap, fixing and support
- [✓] [ ] Flashing requirements/fixing/position
- [✓] [ ] Cladding fixing details
- [✓] [ ] Details at ground level
- [✓] [ ] Battens (ventilated cavity)
- [✓] [ ] Bottom of cladding provides weathering to bottom plates, floor joists and behind decking

Name of Builder/Sub-Contractor/Owner Completing Check List: C-ICC Holdings

Date: 27-10-10

OFFICE USE ONLY - Please Tick as appropriate

- [✓] Pass - in accordance with the plans & specifications approved for this consent
- [ ] Fail
- [ ] Further Documentation required
- [ ] Required Documents received / /
- [ ] Further Inspection needed

Comments Memo No:

Notice to Fix No:

Inspector

Auditor

Inspection Date 27-10-10

Audit Date

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

SITING, FOUNDATION AND REPILE INSPECTION

Units 2 – 5 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd.

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

☑ Builder/Sub-Contractor/Owner
☑ Inspector

☑ ☐ Check you are on correct site
☑ ☐ Approved Building Consent documents on site
☑ ☐ Check Conditions

SITING

☐ ☐ Locate boundary pegs – where required
☐ ☐ Lot number on pegs
☐ ☐ Dimensions between pegs
☐ ☐ Measure distance from project to boundary conforms to site plan
☐ ☐ Dimensions of building
☐ ☐ Profile height in relation to floor heights
☐ ☐ Building height in relation to boundary
☐ ☐ Excavations, safe slopes, hoarding, shoring, underpinning and barriers for site safety. (Plans for retaining walls)
☐ ☐ Council or private drains under building
☑ ☑ Siting by surveyor – to provide letter
☐ ☐ Discuss site stormwater drainage

DESIGN

☐ ☐ Engineers designed foundation
☐ ☐ Request engineers letter of supervision
☐ ☑ Name of Engineer Accom
☐ ☐ Foundation to NZS 3604

DRIVEN PILES

☑ ☑ Request engineers confirmation of supervision and report on length of piles and sets achieved

PILES/DRILLED FOUNDATIONS

☐ ☐ Height of profile in relation to top of piles
☐ ☐ Correct size and treatment of piles

☑ Builder/Sub-Contractor/Owner
☑ Inspector

☐ ☐ Pile spacing for bearers/joists
☐ ☐ Floor heights conform to bracing elements provided
☐ ☐ Height for 450mm crawl space
☐ ☐ Layout of subfloor bracing
☐ ☐ Pile heights correct for type of bracing element i.e. anchor or braced pile
☐ ☐ Pile depths into cleared ground
☐ ☐ 100kpa or greater bearing capacity (including pre-floor excavation)
☐ ☐ Holes clean and sides vertical
☐ ☐ Confirm types of pile bearer/floor joist fixing to be used and level of protection required, i.e. galvanized/stainless steel (including nails)

CONCRETE FOUNDATIONS

☑ ☑ Foundation dimensions and minimum 200 mm depth into cleared ground
☑ ☑ Foundation clean, square, level and no water in excavations
☑ ☑ 100kpa soil bearing capacity
☑ ☑ Discuss floor height to proposed finished ground levels as per NZS 3604
☑ ☑ Manufacture of steel
☑ ☑ Steel sizes
☑ ☑ Correct type, i.e. high tensile or deformed etc
☑ ☑ Steel laps
☑ ☑ All steel has been tied up
☑ ☑ Steel is clean
☑ ☑ Cover and height pegs
☐ ☐ Fire wall. Foundation and reinforcement

Name of Builder/Sub-Contractor/Owner Completing Check List: _____

Signature: _____ **Date:** _____

Comments Memo No: _____ **Notice to Fix No:** _____

Further Inspection Required ☐ Yes ☑ No **Inspector** [signature] **Date of Inspection** 25-9-08

Approved as in accordance with the plans & specifications approved for this consent ☑ Yes ☐ No **Auditor** _____ **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

POST LINING
Units 4 – 5 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be given to the inspector at the time of inspection.

✓ **Approved** ✗ **Failed** ‖ **Not Applicable**

PROPERTY ADDRESS: 10 Yorkshire Rd Units 4–5

LOT: 61 – 62 DP/S: 9556 CONSENT NO: 24349

☑ Builder/Sub-Contractor/Owner
☑ Inspector

- ☑ ☑ Check you are on correct site
- ☑ ☑ Approved Building Consent documents on site
- ☑ ☑ Check Building Consent Conditions
- ☑ ☐ Check for previous comments

- ☑ ☐ Floor/Ceiling nailed off as diaphragm
- ☑ ☑ Position of sheet bracing
- ☑ ☑ Fixing of sheet bracing
- ☑ ☑ Holes in sheet braces
- ☑ ☑ Safety glass
- ☑ ☑ Correct type of wall linings used
- ☐ ☐ STC rating requirements
- ☐ ☐ Stopping and penetrations, light switched, power points etc to fire walls
- ☐ ☐ Request acoustic engineers report

COMMERCIAL

- ☐ ☐ Fire philosophy
- ☐ ☐ Fire rating
- ☐ ☐ Stopping of fire ratings
- ☐ ☐ Penetrations
- ☐ ☐ Discuss compliance schedule features and request certificates for compliance
- ☐ ☐ Discuss spread of flame index for interior finish and request Certificate required

☑ Builder/Sub-Contractor/Owner
☑ Inspector

ACCESSIBILITY CHECKLIST/DISCUSS

- ☐ ☐ Accessible Carpark
- ☐ ☐ Ramps
- ☐ ☐ Entrance
- ☐ ☐ Public Reception Area
- ☐ ☐ Lifts
- ☐ ☐ Stairs
- ☐ ☐ Doorways, corridors
- ☐ ☐ Controls (auto doors etc)
- ☐ ☐ Alerting devices
- ☐ ☐ Toilets
- ☐ ☐ Showers
- ☐ ☐ Laundering
- ☐ ☐ Food preparation
- ☐ ☐ Signage
- ☐ ☐ Surface finishes
- ☐ ☐ Accessible Route

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: [signature] **Date:** 22-9-10

Comments Memo No: _____ **Notice to Fix No:** _____

Please tick as appropriate

☑ **Pass** – in accordance with the plans & Specifications approved for this consent ☐ **Fail** Further requirements: ☐ Documentation ☐ Inspection

Inspector [signature] **Auditor** _____

Date of inspection 22.9.10 **Date** _____

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PRELINE - BUILDING

SPECIFIC LOCATION: Units 4-5

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 - Yorkshire Rd Units 4 - 5

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

✓ **Inspected** ✗ **Failed** ‖ **Not Applicable**

Builder/Sub-Contractor/Owner	Inspector
Check you are on correct site	✓
Approved Building Consent documents on site	✓
Check Conditions	✓
Check previous comments	✓

EXTERIOR

Construction of decks, bracing, hangers etc	
Verandah post connections	
Roof cladding type, flashings, nailing	✓
Fire rating requirements	
Exterior bracing	

INTERIOR

Interior brace fixing	✓
Bottom plate fixings	✓
Moisture content (timber) = %	✓
Insulation/moisture content	✓
Holes and notches in framing	✓
Safety glass	✓
STC ratings (Design test for multi unit dwellings)	
Fire ratings, penetrations	
Joinery provides correct lighting, ventilation to each room	✓
Window sash heights above floor	✓
Discuss smoke alarm requirements	✓
Air seals fitted	✓

ROOF

Roof underlay grade, netting	✓
Roof correct pitch for material used	✓
Correct trusses for roof material used and spacing	✓
Ceiling batten sizes, correct spans and nailing	✓
Ceiling diaphragms	
Vapour barrier for skillion roofs	
Insulation to ceiling, correct position	✓

Builder/Sub-Contractor/Owner	Inspector

GENERAL

Stair rail openings	
Configuration of stair/type	
Width between rails	
Height of barriers and ballustrading to landings, decks and stairs	
Glazing requirements	✓

COMMERCIAL

Fire philosophy	
Discuss fire ratings	
Discuss compliance schedule features and request certificate for completion	
Fire collars/penetrations through fire ratings	

ACCESSIBILITY CHECKLIST

Accessible car parks	
Access ramps	
Entrance	
Public reception	
Lifts	
Stairs	
Doorways, corridors	
Controls (Auto Doors etc)	
Alerting devices	
Toilets	
Showers	
Laundering	
Food preparation	
Signage	
Surface finishes	
Accessible route	✓

Name of Builder/Sub-Contractor/Owner Completing Check List: C+C Holdings

Signature: [signature] **Date:** 20-9-10

OFFICE USE ONLY - Please Tick as appropriate

- ☑ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector W Mountain

Inspection Date 20.9.10

Auditor _____

Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PRELINE PLUMBING

SPECIFIC LOCATION: Unit 5

NOTE TO Plumber: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire st

LOT: 61 - 62 **DP/S:** 9556 **CONSENT NO:** 206/24549

✓ **Inspected** ✗ **Failed** | **Not Applicable**

✓		Plumber	
✓		Inspector	
✓	✓	Check you are on correct site	
✓	✓	Approved Building Consent documents on site	
✓	✓	Check Conditions	
✓	✓	Check for previous comments	
✓	✓	Approved type of pipes/identification/standard	
		R2	
		(complete details of pipe system used)	
✓	✓	Support of pipework	
✓	✓	Pipes secured to prevent water hammer	
	✓	Pipe pressure at time of inspection ☐ 1500 kpa ☑ mains only	
✓	✓	Producer statement required ☑ yes ☐ no	
✓	✓	Pipes sealed through building wrap.	
✓	✓	Sludge and relief drains run via tundish/air gap	
	✓	Soil and waste pipe work correctly installed.	
✓	✓	Pipes are protected from frost damage	
✓	✓	Pipes within 100mm of roof to be insulated	
✓	✓	Notches and holes in framing as per NZS 3604 Walls Section 8 Figure 8.4 Floors Section 7Figure 7.8	
✓	✓	Terminal vent installed	
✓	✓	Pipes protected from electrolysis and sharp objects	
✓	✓	Pipes correctly sized	
	✓	Test on Stack System ☐ yes ☐ no	
✓	✓	Position of hot water cylinder/infinity system is closest to most frequently used tap (kitchen sink) as per AS3500.4 see 5.3.1 Page 36	
	✓	Check hot water cylinder if in ceiling and completed ☐ yes ☐ no	
✓	✓	Above ground relief pipes from HWC in copper or 99°c approved pipe system	
	✓	Fire hose reel pipe work run in metallic only	

✓		Plumber	
✓		Inspector	
✓	✓	Plumber	
✓	✓	Inspector	
	✓	Air conditioning condensate drains run to outside(not to outside gully dish)	
	✓	Back flow philosophy followed	
	✓	Solar panel installation correct ☐ yes ☐ no	
	✓	Wetback Installation correct ☐ yes ☐ no	
	✓	Fire Collars installed where required	
✓	✓	Overflows fitted to decks and run to exterior To be same size as outlet	
	✓	Further Inspection Fee Required ☐ yes ☐ no	

Notes:

Plumber: Mark Hewitt **Rego:** 23469

Signature: Hewitt **Date:** 20-9-10

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent

☐ Fail

☐ Further Documentation required

☐ Required Documents received ___/___/___

☐ Further Inspection needed

Comments Memo No:

Notice to Fix No:

Inspector

Auditor

Inspection Date 20/9/10

Audit Date

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

STRUCTURAL FRAMING
BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** || **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd Units 5-6

LOT: 61-62 DP/S: 9556 428322 CONSENT NO: 24349

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check for previous comments
- ✓ ✓ Check conditions

SUBFLOOR

- ✓ ✓ Bearer/joist sizes
- ✓ ✓ Bearer/joist spans
- ✓ ✓ Bracing/braced piles/anchor piles
- ✓ ✓ Bracing/pile connections
- ✓ ✓ Solid blocking to joists
- ✓ ✓ Insulation
- ✓ ✓ Subfloor ventilation
- ✓ ✓ Crawl space
- ✓ ✓ Water ponding under floor
- ✓ ✓ Polythene on ground
- ✓ ✓ Confirm types of pile bearer/floor joist fixing to be used and level of protection required, i.e. galvanised, stainless steel (including nails)
- ✓ ✓ Timber treatment
- ✓ ✓ Check flooring joint layout

WALL FRAMING

- ✓ ✓ Timber treatment
- ✓ ✓ Framing sizes
- ✓ ✓ Framing height
- ✓ ✓ Bottom plate fixings
- ✓ ✓ Lintel sizes
- ✓ ✓ Top plate for roof support, truss, beams, bracing lines
- ✓ ✓ Nogging for vertical cladding

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Nailing general
- ✓ ✓ Exterior ply bracing
- ✓ ✓ Window sash heights above floor

ROOF

- ✓ ✓ Bracing, dragon ties etc
- ✓ ✓ Roof correct pitch for material used
- ✓ ✓ Correct trusses for roof material used and spacing
- ✓ ✓ Joist hangers and fixings to intersecting trusses and girder trusses
- ✓ ✓ Support of girder trusses
- ✓ ✓ Z nails connecting trusses to top plates
- ✓ ✓ Truss fixing to design requirements
- ✓ ✓ Strutting beam and ceiling runner sizes to close coupled roofs
- ✓ ✓ Rafter spans, collar ties, cleats and under purlin sizes to close coupled roofs
- ✓ ✓ Ceiling batten sizes, correct spans and nailing (if in place)
- ✓ ✓ Purlin fixings

OTHER

- ✓ ✓ Construction of decks, bracing, hangers etc
- ✓ ✓ Verandah post connections
- ✓ ✓ Timber treatment
- ✓ ✓ Nailing general
- ✓ ✓ Barrier framing

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings

Signature: [signature] **Date:** 10-9-10

Comments Memo No: _____ **Notice to Fix No:** _____

Further Inspection Required ☐ Yes ✓ No

Approved as in accordance with the plans & specifications approved for this consent ✓

Inspector [signature] **Date of Inspection** 10.9.10

Auditor _____ **Date** _____

GEON

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Te kaunihera o Kirikiriroa
PH: (07) 838 6677

EXTERIOR CLADDING SYSTEMS - BUILDING

Units 5-6 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** ‖ **Not Applicable**

PROPERTY ADDRESS: 10 Yorkshire Rd.

LOT: 61-62 DP/S: 9556 CONSENT NO: 24349

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions
- ✓ ✓ Check for previous Comments

BRICK VENEER

- ✓ ✓ Correct type, position and condition of building wrap
- ✓ ✓ Cavity size 40mm minimum
- ✓ ✓ Number, spacing and location of ties
- ✓ ✓ Connection of brick ties
- ✓ ✓ Cavity cleaned
- ✓ ✓ Brick support on foundation max. 20mm overhang and max. 20mm joint under brick
- ✓ ✓ Weep/ventilation holes
- ✓ ✓ Flashing detail into joinery
- ✓ ✓ Flashing requirements/fixing position
- ✓ ✓ Minimum panel sizes
- ✓ ✓ Maximum height of veneer
- ✓ ✓ Lintel bars, size/type of fixing details
- ✓ ✓ Cavity sealed from roof space
- ✓ ✓ Slope to sills 15° min.

WEATHERBOARD TYPE SYSTEMS

- ☐ ☐ Correct type, position and condition of building wrap
- ☐ ☐ Flashing requirements/fixing/position
- ☐ ☐ Cladding fixing details
- ☐ ☐ Details at ground level
- ☐ ☐ Battens (ventilated cavity)
- ☐ ☐ Bottom of cladding provides weathering to bottom plates, floor joists and behind decking

MONOLITHIC TYPE CLADDING

- ☐ ☐ Correct type, position and condition of building wrap
- ☐ ☐ Fixing detail of backing
- ☐ ☐ Sheet joining/flashing detail
- ☐ ☐ Joinery head/side and sill flashing detail
- ☐ ☐ Flashing connections to each other
- ☐ ☐ Slope to parapet/sill detail
- ☐ ☐ Roof/wall and parapet flashing details
- ☐ ☐ Detail at ground level
- ☐ ☐ Requirements for expansion/contraction joint details both horizontal and vertical
- ☐ ☐ Spacer spacing, fixings etc.
- ☐ ☐ Battens ventilated cavity

Builder/Sub-Contractor/Owner
Inspector

- ☐ ☐ Reinforcement type/fixing etc.
- ☐ ☐ General workmanship
- ☐ ☐ Weathering detail for barriers/downpipes/weatherboards and penetrations
- ☐ ☐ Remind installer about installation certificate
- ☐ ☐ Internal/external angles

PREPLASTER - RIGID BACKING

- ☐ ☐ Fibre cement sheet
- ☐ ☐ H3 plywood
- ☐ ☐ H3 diagonal sheeting

PREPLASTER - NON RIGID BACKING (CAVITY SYSTEM)

- ☐ ☐ Support
- ☐ ☐ Allowable deflection of flexible backer (e.g. riblath)

PREPLASTER - SOLID PLASTER (MESH)

- ☐ ☐ Mesh type
- ☐ ☐ Reinforcement around openings
- ☐ ☐ 6–9mm spacers
- ☐ ☐ Galvanised
- ☐ ☐ Propriatory self-spacing mesh
- ☐ ☐ Fixings
- ☐ ☐ Propriatory control joints

PREPLASTER - FIBRE CEMENT SHEET

- ☐ ☐ Timber moisture content (battens)
- ☐ ☐ Building wrap/sill approved

BATTENS

- ☐ ☐ H3 timber or plywood
- ☐ ☐ H grade polystyrene
- ☐ ☐ Correct size and placement
- ☐ ☐ Fixings
- ☐ ☐ Sheet layout
- ✓ ✓ Spacing

ALL MONOLITHIC SYSTEMS

- ✓ ☐ Certificate on paint system from applicator

DECKS

- ☐ ☐ Substrate
- ☐ ☐ Upstand and step between main floor level
- ☐ ☐ Drainage for sealed decking
- ☐ ☐ Membrane
- ☐ ☐ Barrier Cladding

Name of Builder/Sub-Contractor/Owner Completing Check List: C-K-C Holdings

Signature: [signature] **Date:** 5-10-10

Comments Memo No: _____ **Notice to Fix No:** _____

☐ **Further Inspection Required** ✓ **Approved as in accordance with the plans & specifications approved for this consent** **Inspector** [signature]

Date of Inspection 5-10-10 **Auditor** _____ **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

SANITARY SEWER AND STORMWATER

SPECIFIC LOCATION:

NOTE TO DRAINLAYER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

PROPERTY ADDRESS: 8-10 Yorkshire St Units 3 & 5

LOT : _____ DP/S: _____ CONSENT NO: _____

[✓] **Inspected** [X] **Failed** [ ] **Not Applicable**

[✓] Drainlayer
[✓] Inspector
[✓][✓] Check you are on correct site
[✓][✓] Approved Building Consent documents on site
[✓][✓] Check Conditions

SEWER

[✓][✓] Ensure sanitary sewer is connected to correct connection
[✓][✓] Gradients/System as per G13 or AS3500.2
[✓][✓] Check pipe is approved and fittings are labeled
[✓][✓] Check material/pipe is bedded in
[✓][✓] Check for leakage during water test
[✓][✓] Drainlayer to release testing equipment to ensure full flow flush is obtained and connection clear
[✓][✓] Correct fittings used
[✓][✓] Check for terminal vents and positions
[N/A][ ] Discuss protection over drains for inadequate depth
[✓][✓] Discuss heights of gully traps
[✓][ ] Ensure drains are laid within legal boundaries
[ ][✓] As laid plan received [ ] yes [✓] no
[✓][✓] One fixture above terminal vent only
[ ][ ] Stability of ground/trench base covered by engineer, PS4 supplied
[ ] yes [ ] no
[ ][ ] Confirm engineers site inspection
[ ][ ] Further Inspection Fee Required [ ] yes [✓] no

[✓] Drainlayer
[✓] Inspector

STORMWATER

[✓][✓] Confirm Drainlayers name
[✓][✓] Ensure stormwater is connected to the correct connection
[✓][✓] Gradients/System Used G13 [ ] or AS/NZS3500.3 [✓]
[✓][✓] Check pipe size is correct for given roof/surface area refer E1 Page 35 Figure 3
[✓][✓] Check pipe/fittings are approved and labelled
[✓][✓] Check material pipe is bedded in
[✓][✓] Check adequate number of downpipes for roof area
[✓][ ] Correct fittings used
[✓][✓] Connections installed for future concreted/permanent paved areas
[ ][✓] Driveway catchpit installed for over 100m²
[✓][✓] All permanently paved areas over 10m² run to catchpit
[✓][✓] Discuss protection over drains for inadequate depth
[✓][✓] Ensure that drains are laid within legal boundaries
[ ][✓] All subsoil drains run via catch pit
[✓][✓] As laid plan received [ ] yes [✓] no
[ ][ ] HCC soak hole correctly sized (40m² max area)
[✓][✓] Confirm engineers site inspection
[ ][ ] Stability of ground/trench base covered by engineer, PS4 supplied
[ ] yes [ ] no
[ ][ ] Further Inspection Fee Required yes [ ] no [✓]

Name of Drainlayer and Registration Number Completing Check List: _____

Signature: [signature] **Rego:** 11676 **Date:** 27-08-2010.

OFFICE USE ONLY - Please Tick as appropriate

[✓] Pass - in accordance with the plans & specifications approved for this consent
[ ] Fail
[ ] Further Documentation Required
[ ] Further Inspection Required

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector C. Morris Auditor _____

Inspection Date 28-8-10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR BUILDING

Units 2-5 — BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd

LOT: 61-62 DP/S: 9556 CONSENT NO: 24349

Builder/Sub-Contractor/Owner	Inspector	
✓	✓	Check you are on correct site
✓		Approved Building Consent documents on site
✓	✓	Check Conditions
✓	✓	Check for previous Comments
		Floor thickenings
✓	✓	Confirm concrete grade 20 MPA
✓	✓	Thickness of slab
✓		Location of piles if driven piles
✓	✓	Sand fill compaction and excavation ie. No topsoil underneath
✓		Compaction Certificate
✓		Manufacture of steel/mesh
✓	✓	Mesh is correct type and gauge and tied
✓		Mesh is cut if expansion cuts are required
✓	✓	Mesh supported on chairs

Builder/Sub-Contractor/Owner	Inspector	
✓	✓	Check that polythene is correct thickness, is lapped and taped
✓		Holes and penetrations in polythene are taped
✓	✓	Reinforcing bars to internal corners
		Clean bond will be made between floor slab and bond beams or header blocks
✓	✓	Remind builder to seal brick rebate
✓	✓	Emulsion sealer to be used inside header blocks on wet sites
✓	✓	Types and spacing of bottom plate connectors to be used
✓	✓	Floor levels will be sufficient for ground clearance
✓	✓	Engineers design – request letter of supervision
✓		Request truss design

Name of Builder/Sub-Contractor/Owner Completing Check List: _____

Signature: _____ **Date:** _____

Comments Memo No: _____ **Notice to Fix No:** _____

☐ **Further Inspection Required** ☑ **Approved as in accordance with the plans & specifications approved for this consent** **Inspector** [signature]

Date of Inspection 23/9/08 **Auditor** _____ **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR PLUMBING AND DRAINAGE

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire. Units 2, 4, 5

LOT: _____ DP/S: _____ CONSENT NO: 2010/24549

[✓] **Inspected** [X] **Failed** [|] **Not Applicable**

Plumber	Inspector	
✓	✓	Check you are on correct site
✓	✓	Approved Building Consent documents on site
✓	✓	Check Conditions
✓	✓	Check for previous comments
	✓	The work exactly reflects the approved plans
✓	✓	System used AS3500 ☐ G13 ☐
✓	✓	Fixture discharge pipe sizes followed
✓	✓	Fall on all discharge pipes 1:40 for pipe diameter 65mm or less
		Length of all discharge pipes. An unvented waste pipe cannot exceed 3.5m for G13
✓	✓	Waste pipes protected where penetrating through floor slab.
✓	✓	Waste pipes are separated at foundation exit point to allow for bends
✓	✓	Water heater drain pipe is graded/correctly terminated
✓	✓	Check location of terminal vent
		Main or branch drain longer than 10m to be vented for AS3500
		Main or branch drain longer than 6m to be vented for G13
✓	✓	Vent pipe down stream from last fixture connection
✓	✓	Minimum vent diameter 50mm for AS3500
		Minimum vent diameter 80mm for G13
		80mm W/C pipe maximum length 2.5m unvented
✓	✓	1 ORG min 150mm below lowest fixture outlet
✓	✓	Test on AS3500 drains for 2 or more fixtures inline
✓	✓	Waste pipes evenly spaced and in a straight line at rear point of entry to gully dish (Max 4)

Plumber	Inspector	
	✓	Inspector
✓	✓	Venting continuous on AS3500 pipework
✓	✓	Level inverts installed 2 o'clock or higher for AS3500
		Clean outs (COS) installed where required or 2x 45° bends 2x diameter apart directly under fixture.
		Amended floor plan for all changes
		Drainage behind masonry walls greater than 300mm
✓	✓	One fixture only above terminal vent
		Flood relief floor waste for all urinals and multi unit buildings
		Stainless steel Straps installed at 1.0m intervals to support soil and waste pipes for pile driven foundations
		Copper waste to commercial machines operating over 65°C
		Soakage Drainage for Over 300mm step in Footing
		Further Inspection Fee Required ☐ yes ☐ no

Notes: _____

Name of Builder/Sub-Contractor/Owner Completing Check List: Waikato Plumbing Services

Signature: _____ **Date:** 19-8-10

OFFICE USE ONLY - Please Tick as appropriate

- [✓] Pass - in accordance with the plans & specifications approved for this consent
- [ ] Fail
- [ ] Further Documentation required
- [ ] Required Documents received ___/___/___
- [ ] Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ Auditor _____

Inspection Date 19/8/10 Audit Date _____

GEON

SIGN DAT

Consent No: 2010/24349

Project Address: 8 Yorkshire RD

SEC 37

Issue Date: 6 Jun 10

Issue ccc

Owner: CKC Holdings Ltd

Contact Number:

There Are Limitations On This Property

Description of Work: 7 New Dwellings with attached Garages

Property Reference: Lot: 62 DP/S: S9556

Signed: .....

Review Officer:

TR Number:

Extra Inspections To Be Charged (Tick Box)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total

BUILDING INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Siting	By Council				
Foundation	By Engineer				
Bond Beam					
Concrete Floor	GH	✓			31.8.10
Tilt Slab					
Framing		✓			15.9.10
Cavity/Batten					
Cladding	W.Martin	✓			5/10/10
Preline	W.Martin	✓			24/9/10
Postline	W. Martin	✓			30/9/10
Crossing					

COMPLETION

SIGN W.Martin DATE 2.11.10

COMMENTS:

PLUMBING & DRAINAGE INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Concrete Floor	C.Morrison	✓			28/8/10
Preline	T.Sharp	✓			21/9/10
Stack Test					
Waste & Soil					
Foulwater	T.Sharp	✓			6/9/10
Stormwater	T Sharp	✓			
Heater Chimney					
Pool/Spa Fencing					

DRAINLAYER Waikato Plumbing

PLUMBER " "

COMPLETION

SIGN [signature] DATE 2/11/10

COMMENTS:

AMENDMENTS

Date Received	Building Review Officer	Description of Work	Approved	Filed	Outstanding Fees

Certificates/Producer Statements/Plans Requested and Received				
Plumbing		Date Req	Company Name	Date Rec
1	As laid drainage plans			✓
2	Pressure test producer statement			✓
3	Gas certificate			
4	Back flow prevention device pressure test producer statement			
5	Heating engineer's certificate			
6	Engineers certificate for septic tank and effluent line			
7	Engineers certificate for stormwater system			✓
8	CCTV certificate			
Building				
9	Surveyors Certificate			✓
10	Driven pile report for length of piles and sets achieved			
11	Engineers letter of observation for driven test piles			
12	Engineer's producer statement for sand pad compaction			✓
13	Engineer's producer statement for foundations/floor			
14	Engineer's producer statement for block work/tilt stabs			
15	Engineer's producer statement for beams/lintels/structure			
16	Truss floor loading plan			
17	Truss layout plan			
18	Acoustic engineers report			
19	Electrical certificate			✓
20	Plaster coating producers statement — paint system			
21	Weather tightness report from an accredited adviser			
22	Water proofing membrane installer's producer statement			
23	Window/glazing producer statement			
24	Roofing producer statement			
25	Insulation certificate			
26	Producer statement for smoke alarms			
27	Producer statement for Pool alarms			
28	Letter from HCC Transportation Unit			
29	Amended consent plans required			
30	Contractors producer statement 3			
31	Welding Certificate			
32	Spray booth/fume cupboard producer statement			
33	Spread of flame certificate required			
34	Producer statement for slip resistance			
35	Automatic doors producer statement			
36	Automatic sprinkler producer statement from registered installer			
37	Emergency lighting producer statement			
38	Fire alarm producer statement from a certified installer all systems			
39	FPIS for the fire alarm system types 3/4/5/6/7			
40	Fire engineers producer statement			
41	Lifts/escalator producer statement			
42	Mechanical ventilation producer statement			

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

FINAL BUILDING INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd

LOT: 61 & 62 DP/S: 9556 428322 CONSENT NO: 2010 26349

[✓] Approved [X] Failed [|] Not Applicable

- [ ] Builder/Sub-Contractor/Owner
- [✓] Inspector
- [ ] [✓] Check you are on correct site
- [ ] [✓] Approved Building Consent documents on site
- [ ] [✓] Check Building Consent conditions
- [ ] [✓] Check job description on job card

EXTERIOR

- [ ] [✓] External envelope complete and weatherproof
- [ ] [✓] Flashings/sealants complete
- [ ] [✓] Wet area/kitchen vents
- [ ] [✓] Safety glass
- [ ] [✓] Ground/paving heights
- [ ] [✓] Crossing and footpath for damage
- [ ] [✓] Brick veneer weep and ventilation holes
- [ ] [✓] Exterior decorated
- [ ] [✓] Weathering of penetrations
- [ ] [✓] Construction of decks/steps/handrails
- [ ] [✓] Barrier heights and construction timber/treatment
- [ ] [✓] Sub floor access/ponding/ventilation/insulation
- [ ] [✓] Roof cladding/flashing fixings/roof penetrations
- [ ] [✓] Landscaping complete – retaining walls
- [ ] [✓] Wall cladding fixings/soakers/scribers etc
- [ ] [ ] Fire rating

INTERIOR

- [ ] [✓] Ceiling insulation in place
- [ ] [ ] Fire ratings stopped
- [ ] [✓] Wet areas completed, walls, ceilings, floors sealed
- [ ] [✓] Wet areas ducted to exterior
- [ ] [✓] Safety glass
- [ ] [✓] Heights of window sashes
- [ ] [ ] Heights of barriers and handrails/details
- [ ] [✓] All inspections have been completed
- [ ] [✓] All certificates have been received
- [ ] [✓] Smoke Alarms Fitted

- [ ] Builder/Sub-Contractor/Owner
- [ ] Inspector

COMMERCIAL

- [ ] [ ] Surface finishes, smoke development and spread of flame for ceilings, walls, floor coverings
- [ ] [ ] Stopping of fire walls and penetrations
- [ ] [ ] Penetrations/light fittings/fire collars etc
- [ ] [ ] Means of escape, door hardware, signage
- [ ] [ ] Fire and smoke doors: hardware, tags, self closers/magnetic hold open device and signage
- [ ] [ ] Signage/fire alarm

ACCESSIBILITY

- [ ] [ ] Ramps non slip, width, length, upstands, handrails 1:12 1200 wide
- [ ] [ ] Entrance signage, threshold, width, floor surfaces
- [ ] [ ] Public reception counters or desks
- [ ] [ ] Lifts sizes, controls. Handrails, lobby width
- [ ] [ ] Stair widths, handrails, landings, risers, treads, nosings
- [ ] [ ] Doorways/corridors clear width, glazing, colour contrasted, projections into corridors
- [ ] [ ] Alerting devices audible and visual signal
- [ ] [ ] Toilet size, controls, doors, wash hand basin, taps
- [ ] [ ] Showers size, controls, door/s
- [ ] [ ] Laundering size and turning cycle
- [ ] [ ] Signage entrance doors, information board and facilities signage
- [ ] [ ] Surface finishes stable firm and non slip
- [ ] [ ] Sound system, stage podium access, listening system
- [ ] [ ] Signage for listening system
- [ ] [ ] Accessible route car parks, identifiable route from street to and through building, surface finishes stable firm and non slip
- [ ] [ ] Further Inspection fee required

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LW

Signature: _____ **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

- [✓] Pass - in accordance with the plans & specifications approved for this consent
- [ ] Fail
- [ ] Further Documentation required
- [ ] Required Documents received ___/___/___
- [ ] Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector WGrant

Inspection Date 2-11-10

Auditor _____

Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

FINAL PLUMBING/DRAINAGE INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd
61 & 62 9556
LOT: 2 DP/S: 428322 CONSENT NO: 2010 24349

☑ Inspected ☒ Failed ☐ Not Applicable

☐	Builder/Sub-Contractor/Owner	☐	Builder/Sub-Contractor/Owner
☑	Inspector	☑	Inspector
☐ ☑	Check you are on correct site	☐ ☑	Terminal vents continuous in ceiling space
☐ ☑	Approved Building Consent documents on site	☐ ☑	Traps fitted and holding seals
☐ ☑	Check Building Consent Conditions	☐ ☑	Tub fixed in position
☐ ☑	Check street number on letterbox	☐ ☑	Check job descriptions match card
☐ ☑	Ensure plumbers and drainlayers names are recorded on job card	☐ ☑	Water temperature = 54° °C
☐ ☑	Relevant inspections have been called for	☐ ☐	Gas certificate provided No:
☐ ☑	Roof penetrations flashed in accordance with E2 page 81 Figures 53 &54	☐ ☑	As-laid drain plans provided
☐ ☑	Gully dishes positioned to stop stormwater ingress	☐ ☑	Plumbing pressure test certificate from HCC registered person
☐ ☑	Ensure overflow relief gully minimum 150mm below lowest fixture outlet	☐ ☐	Pipes insulated outside building thermal envelope using UV protected where require
☐ ☑	Waste pipes sealed at point of entry into rear of gully dishes and bends installed tight to back of gully dish	☐ ☐	Copper waste pipe to commercial machine
☐ ☑	All wastes are vented if greater than 3.5m and have min 1:40 fall.	☐ ☐	Bainmarie drains provided to approved outlet
☐ ☑	Driveway catchpit installed for over 100m²	☐ ☐	Back flow prevention devices where required
☐ ☑	All permanently paved areas over 10m² run to catchpit	☐ ☐	Test certificate for back flow devices
	Permanent ground area does not exceed grass area to boundary	☐ ☐	Approval letter from Trade Waste Department recieved ☐ yes ☐ no
☐ ☑	Terminal vent position, flashings, cowls fitted	☐ ☐	Septic tank installation, has been installed as per engineers design PS4
☐ ☑	Downpipes evenly clipped and connected to stormwater drainage	☐ ☐	(Certificate supplied)
☐ ☐	No Discharge to lower masony roofs. Downpipes from top storey roofs to lower roof spreader required as per E2 Page 56 figure 20	☑	Engineers PS4 for storm water soak hole design
☐ ☐	Novaflow drainage is terminated to catch pit	☐ ☐	If cross lease/subdivision ensure all drainage requirements have been met
☐ ☐	Overflows fitted to Decks and run to exterior	☐ ☐	If timber floor check wastepipe/soilpipes clipping complies
☐ ☑	Hot water cylinder is correct type, all required safety valves and seismic restraints fitted	☐ ☐	Further Inspection Fee Required ☐ yes ☐ no
☐ ☑	HWC expansion/relief drains have been installed and conveyed to the exterior		
☐ ☑	Cylinder drain/valve pipes via the tundish/air gap		
☐ ☐	Cylinder safe tray if required		
☐ ☑	Dishwasher pipe clamped and anti siphon bend fitted		
☐ ☑	Water hammer		
☐ ☑	Toilet cisterns screwed to wall securely		

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LN

Signature: _____ **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent
☐ Fail

☐ Further Documentation required
☐ Required Documents received ___/___/___
☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ Auditor _____

Inspection Date 2/11/10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

EXTERIOR CLADDING SYSTEMS - BUILDING

SPECIFIC LOCATION: Units 1-7

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd Units 1-7

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

✓ **Approved** ✗ **Failed** | | **Not Applicable**

☑ Builder/Sub-Contractor/Owner
☑ Inspector
☑ ☑ Check you are on correct site
☑ ☑ Approved Building Consent documents on site
☑ ☑ Check Conditions
☑ ☑ Check previous Comments

BRICK VENEER
☑ ☑ Correct type, condition, fixing and support of building wrap
☑ ☑ Cavity size 40mm minimum
☑ ☑ Number, spacing and location of ties
☑ ☑ Connection of brick ties
☑ ☑ Cavity cleaned/rebate sealed
☑ ☑ Brick support on foundation
☑ ☑ Weep/ventilation holes
☑ ☑ Flashing detail into joinery
☑ ☑ Flashing requirements/fixing position
☑ ☑ Minimum panel sizes
☑ ☑ Maximum height of veneer
☑ ☑ Lintel bars/type of fixing details
☑ ☑ Cavity sealed from roof space
☑ ☑ Slope to sills 15° min.
☑ ☑ Details at ground level
☑ ☑ Window support bars fitted

PREPLASTER - RIGID BACKING
☐ ☐ Fibre cement sheet
☐ ☐ H3 plywood
☑ ☐ H3 diagonal sheeting

PREPLASTER - SOLID PLASTER (MESH)
☑ ☐ Mesh type
☐ ☐ Reinforcement around openings
☐ ☐ 6–9mm spacers
☐ ☐ Galvanised
☐ ☐ Propriatory self-spacing mesh
☐ ☐ Fixings
☐ ☐ Propriatory control joints

☐ Builder/Sub-Contractor/Owner
☐ Inspector

PREPLASTER - NON RIGID BACKING (CAVITY SYSTEM)
☑ ☐ Support
☑ ☐ Allowable deflection of flexible backer (e.g. riblath)

MONOLITHIC TYPE CLADDING
☑ ☐ Correct type, position and condition of building wrap
☑ ☐ Fixing detail of backing
☑ ☐ Sheet joining/flashing detail
☑ ☐ Joinery head/sill and jamb flashing detail
☑ ☐ Flashing connections to each other
☑ ☐ Slope to parapet/sill detail
☑ ☐ Roof/wall and parapet flashing details
☑ ☐ Detail at ground level
☑ ☐ Requirements for expansion/contraction joint details both horizontal and vertical
☑ ☐ Spacer spacing, fixings etc.
☑ ☐ Battens (ventilated cavity)
☑ ☐ Reinforcement type/fixing etc
☑ ☐ General workmanship
☑ ☐ Weathering detail for barriers/downpipes/weatherboards and penetrations
☑ ☐ Remind installer about installation certificate
☑ ☐ Internal/external angles

WEATHERBOARD TYPE SYSTEMS
☑ ☐ Correct type of building wrap, fixing and support
☑ ☐ Flashing requirements/fixing/position
☑ ☐ Cladding fixing details
☑ ☐ Details at ground level
☑ ☐ Battens (ventilated cavity)
☑ ☐ Bottom of cladding provides weathering to bottom plates, floor joists and behind decking

Name of Builder/Sub-Contractor/Owner Completing Check List: C-I-C Holdings

Signature: [signature] **Date:** 27-10-10

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent
☐ Fail
☐ Further Documentation required
☐ Required Documents received / /
☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector [signature] Auditor _____

Inspection Date 27-10-10 Audit Date _____

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

EXTERIOR CLADDING SYSTEMS - BUILDING

Units 5-6 — BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 10 Yorkshire Rd.

LOT: 61-62 DP/S: 9556 CONSENT NO: 24349

Builder/Sub-Contractor/Owner ✓ | Inspector ✓

- ✓ ✓ Check you are on correct site
- ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions
- ✓ Check for previous Comments

BRICK VENEER

- ✓ ✓ Correct type, position and condition of building wrap
- ✓ ✓ Cavity size 40mm minimum
- ✓ ✓ Number, spacing and location of ties
- ✓ ✓ Connection of brick ties
- ✓ ✓ Cavity cleaned
- ✓ ✓ Brick support on foundation max. 20mm overhang and max. 20mm joint under brick
- ✓ ✓ Weep/ventilation holes
- ✓ ✓ Flashing detail into joinery
- ✓ ✓ Flashing requirements/fixing position
- ✓ ✓ Minimum panel sizes
- ✓ ✓ Maximum height of veneer
- ✓ ✓ Lintel bars, size/type of fixing details
- ✓ ✓ Cavity sealed from roof space
- ✓ ✓ Slope to sills 15° min.

WEATHERBOARD TYPE SYSTEMS

- Correct type, position and condition of building wrap
- Flashing requirements/fixing/position
- Cladding fixing details
- Details at ground level
- Battens (ventilated cavity)
- Bottom of cladding provides weathering to bottom plates, floor joists and behind decking

MONOLITHIC TYPE CLADDING

- Correct type, position and condition of building wrap
- Fixing detail of backing
- Sheet joining/flashing detail
- Joinery head/side and sill flashing detail
- Flashing connections to each other
- Slope to parapet/sill detail
- Roof/wall and parapet flashing details
- Detail at ground level
- Requirements for expansion/contraction joint details both horizontal and vertical
- Spacer spacing, fixings etc.
- Battens ventilated cavity

Builder/Sub-Contractor/Owner ✓ | Inspector

- ✓ Reinforcement type/fixing etc.
- ✓ General workmanship
- ✓ Weathering detail for barriers/downpipes/weatherboards and penetrations
- ✓ Remind installer about installation certificate
- ✓ Internal/external angles

PREPLASTER - RIGID BACKING

- Fibre cement sheet
- H3 plywood
- H3 diagonal sheeting

PREPLASTER - NON RIGID BACKING (CAVITY SYSTEM)

- Support
- Allowable deflection of flexible backer (e.g. riblath)

PREPLASTER - SOLID PLASTER (MESH)

- Mesh type
- Reinforcement around openings
- 6–9mm spacers
- Galvanised
- Propriatory self-spacing mesh
- ✓ Fixings
- Propriatory control joints

PREPLASTER - FIBRE CEMENT SHEET

- Timber moisture content (battens)
- Building wrap/sill approved

BATTENS

- ✓ H3 timber or plywood
- H grade polystyrene
- Correct size and placement
- Fixings
- Sheet layout
- ✓ Spacing

ALL MONOLITHIC SYSTEMS

- ✓ Certificate on paint system from applicator

DECKS

- ✓ Substrate
- ✓ Upstand and step between main floor level
- ✓ Drainage for sealed decking
- ✓ Membrane
- ✓ Barrier Cladding

Name of Builder/Sub-Contractor/Owner Completing Check List: C-K-C Holdings

Signature: [signature] **Date:** 5-10-10

Comments Memo No: _____ **Notice to Fix No:** _____

☐ **Further Inspection Required** ✓ **Approved as in accordance with the plans & specifications approved for this consent** **Inspector** [signature]

Date of Inspection 5-10-10 **Auditor** _____ **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

POST LINING
Units 2-6 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be given to the inspector at the time of inspection.

✓ **Approved** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd Units 2-6

LOT : _____ DP/S: _____ CONSENT NO: _____

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Building Consent Conditions
- ✓ ✓ Check for previous comments

- ✓ ✓ Floor/Ceiling nailed off as diaphragm
- ✓ ✓ Position of sheet bracing
- ✓ ✓ Fixing of sheet bracing
- ✓ ✓ Holes in sheet braces
- ✓ ✓ Safety glass
- ✓ ✓ Correct type of wall linings used
- ✓ ✓ STC rating requirements
- ✓ ✓ Stopping and penetrations, light switched, power points etc to fire walls
- ✓ ✓ Request acoustic engineers report

COMMERCIAL

- ✓ ✓ Fire philosophy
- ✓ ✓ Fire rating
- ✓ ✓ Stopping of fire ratings
- ✓ ✓ Penetrations
- ✓ ✓ Discuss compliance schedule features and request certificates for compliance
- ✓ ✓ Discuss spread of flame index for interior finish and request Certificate required

Builder/Sub-Contractor/Owner
Inspector

ACCESSIBILITY CHECKLIST/DISCUSS

- ✓ ✓ Accessible Carpark
- ✓ ✓ Ramps
- ✓ ✓ Entrance
- ✓ ✓ Public Reception Area
- ✓ ✓ Lifts
- ✓ ✓ Stairs
- ✓ ✓ Doorways, corridors
- ✓ ✓ Controls (auto doors etc)
- ✓ ✓ Alerting devices
- ✓ ✓ Toilets
- ✓ ✓ Showers
- ✓ ✓ Laundering
- ✓ ✓ Food preparation
- ✓ ✓ Signage
- ✓ ✓ Surface finishes
- ✓ ✓ Accessible Route

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: _____ **Date:** 30-9-10

Comments Memo No: _____ **Notice to Fix No:** _____

Please tick as appropriate

✓ **Pass** – in accordance with the plans & Specifications approved for this consent

☐ **Fail** Further requirements: ☐ Documentation ☐ Inspection

Inspector _____ **Auditor** _____

Date of inspection 30.9.10 **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PRELINE - BUILDING

SPECIFIC LOCATION: 2 – 6

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd Units 2-6

LOT: 61-62 DP/S: 9556 CONSENT NO: 24349

✓ **Inspected** ✗ **Failed** | **Not Applicable**

Builder/Sub-Contractor/Owner ☑ Inspector ☑

- ☑ ☑ Check you are on correct site
- ☑ ☐ Approved Building Consent documents on site
- ☑ ☐ Check Conditions
- ☑ ☑ Check previous comments

EXTERIOR

- ☐ ☐ Construction of decks, bracing, hangers etc
- ☐ ☐ Verandah post connections
- ☑ ☑ Roof cladding type, flashings, nailing
- ☐ ☐ Fire rating requirements
- ☐ ☐ Exterior bracing

INTERIOR

- ☑ ☑ Interior brace fixing
- ☑ ☑ Bottom plate fixings
- ☑ ☑ Moisture content (timber) = ____ %
- ☑ ☑ Insulation/moisture content
- ☑ ☐ Holes and notches in framing
- ☑ ☐ Safety glass
- ☐ ☐ STC ratings (Design test for multi unit dwellings)
- ☐ ☑ Fire ratings, penetrations
- ☑ ☑ Joinery provides correct lighting, ventilation to each room
- ☑ ☑ Window sash heights above floor
- ☑ ☑ Discuss smoke alarm requirements
- ☑ ☐ Air seals fitted

ROOF

- ☑ ☐ Roof underlay grade, netting
- ☑ ☑ Roof correct pitch for material used
- ☑ ☐ Correct trusses for roof material used and spacing
- ☑ ☐ Ceiling batten sizes, correct spans and nailing
- ☑ ☑ Ceiling diaphragms
- ☑ ☐ Vapour barrier for skillion roofs
- ☑ ☑ Insulation to ceiling, correct position

Builder/Sub-Contractor/Owner ☑ Inspector ☐

GENERAL

- ☐ ☐ Stair rail openings
- ☐ ☐ Configuration of stair/type
- ☐ ☐ Width between rails
- ☐ ☐ Height of barriers and ballustrading to landings, decks and stairs
- ☑ ☐ Glazing requirements

COMMERCIAL

- ☐ ☐ Fire philosophy
- ☐ ☐ Discuss fire ratings
- ☐ ☐ Discuss compliance schedule features and request certificate for completion
- ☐ ☑ Fire collars/penetrations through fire ratings

ACCESSIBILITY CHECKLIST

- ☒ ☐ Accessible car parks
- ☐ ☐ Access ramps
- ☐ ☑ Entrance
- ☐ ☐ Public reception
- ☐ ☑ Lifts
- ☐ ☐ Stairs
- ☐ ☐ Doorways, corridors
- ☐ ☐ Controls (Auto Doors etc)
- ☐ ☐ Alerting devices
- ☐ ☐ Toilets
- ☐ ☐ Showers
- ☐ ☐ Laundering
- ☐ ☐ Food preparation
- ☐ ☐ Signage
- ☐ ☐ Surface finishes
- ☑ ☐ Accessible route

Name of Builder/Sub-Contractor/Owner Completing Check List: C-ICC Holdings

Signature: [signature] **Date:** 24-9-10

OFFICE USE ONLY - Please Tick as appropriate

- ☑ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: ____ **Notice to Fix No:** ____

Inspector [signature] Auditor ____

Inspection Date 24.9.10 Audit Date ____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PRELINE PLUMBING

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire st unit 2 / unit 6.

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 2010/24349

✓ Inspected ✗ Failed | Not Applicable

- ✓ Plumber
- ✓ Inspector
- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions
- ✓ ✓ Check for previous comments
- ✓ ✓ Approved type of pipes/identification/standard K2.
  (complete details of pipe system used)
- ✓ ✓ Support of pipework
- ✓ ✓ Pipes secured to prevent water hammer
- ✓ Pipe pressure at time of inspection ✓ 1500 kpa ☐ mains only
- ✓ ✓ Producer statement required ✓ yes ☐ no
- ✓ ✓ Pipes sealed through building wrap.
- ✓ ✓ Sludge and relief drains run via tundish/air gap
- ✓ ✓ Soil and waste pipe work correctly installed.
- ✓ ✓ Pipes are protected from frost damage
- ✓ ✓ Pipes within 100mm of roof to be insulated
- ✓ ✓ Notches and holes in framing as per NZS 3604 Walls Section 8 Figure 8.4 Floors Section 7Figure 7.8
- ✓ ✓ Terminal vent installed
- ✓ ✓ Pipes protected from electrolysis and sharp objects
- ✓ ✓ Pipes correctly sized
- ☐ ☐ Test on Stack System ☐ yes ☐ no
- ✓ ✓ Position of hot water cylinder/infinity system is closest to most frequently used tap (kitchen sink) as per AS3500.4 see 5.3.1 Page 36
- ☐ ☐ Check hot water cylinder if in ceiling and completed ☐ yes ☐ no
- ✓ ✓ Above ground relief pipes from HWC in copper or 99°c approved pipe system
- ☐ ☐ Fire hose reel pipe work run in metallic only

- ✓ Plumber
- ✓ Inspector
- ✓ ☐ Plumber
- ✓ ☐ Inspector
- ✓ ☐ Air conditioning condensate drains run to outside(not to outside gully dish)
- ☐ ☐ Back flow philosophy followed
- ☐ ☐ Solar panel installation correct ☐ yes ☐ no
- ☐ ☐ Wetback Installation correct ☐ yes ☐ no
- ☐ ☐ Fire Collars installed where required
- ☐ ☐ Overflows fitted to decks and run to exterior To be same size as outlet
- ☐ ☐ Further Inspection Fee Required ☐ yes ✓ no

Notes: H.W.C relief in Copper on 5.6th with Air Cap over gully.

Plumber: North Sterritt **Rego:** 23469

Signature: Sterritt **Date:** 21-9-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector T Rhodes Auditor _____

Inspection Date 21/9/2010 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

STRUCTURAL FRAMING

Unit 6 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be given to the inspector at the time of inspection.

✓ **Approved** ✗ **Failed** ‖ **Not Applicable**

PROPERTY ADDRESS: 10 Yorkshire Rd Unit 6

LOT: 61-62 **DP/S:** 9556 **CONSENT NO:** 24349

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check for previous comments
- ✓ ✓ Check conditions

FLOOR FRAMING

- KPa floor loads/point loads
- Bearer/joist sizes/spans
- Joist hangers
- Bracing/braced piles/anchor piles
- Bracing/pile connections
- Solid blocking to joists
- Insulation
- Subfloor ventilation
- Crawl space
- Polythene on ground
- Confirm types of pile/bearer/floor joist fixings to be used and level of protection required, i.e. galvanised, stainless steel (including nails)
- Timber treatment
- Floor fixed as diaphragm

WALL FRAMING

- ✓ ✓ Timber treatment
- ✓ ✓ Framing sizes
- ✓ ✓ Framing height
- ✓ ✓ Bottom plate fixings - External
- ✓ ✓ Lintel sizes - connections
- ✓ ✓ Top plate for roof support, truss, beams. Bracing lines
- ✓ ✓ Nogging for vertical cladding

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Nailing general
- ✓ ✓ Exterior ply bracing
- ✓ ✓ Interior bracing
- ✓ ✓ Window sash heights above floor
- ✓ ✓ Stud-top plate connections
- ✓ ✓ Insulation

ROOF FRAMING

- ✓ ✓ Bracing, dragon ties etc
- ✓ ✓ Timber treatment
- ✓ ✓ Roof correct pitch for material used
- ✓ ✓ Correct trusses/rafters for roof material used and spacing
- ✓ ✓ Joist hangers and fixings to intersecting trusses and girder trusses/beams and girder trusses
- ✓ ✓ Support of girder trusses
- ✓ ✓ Z nails connecting trusses/rafters to top plates
- ✓ ✓ Truss/rafter fixing to design requirements
- ✓ ✓ Strutting beam and ceiling runner sizes to close coupled roofs
- ✓ ✓ Rafter spans, collar ties, cleats and under purlin sizes to close coupled roofs
- ✓ ✓ Ceiling batten sizes, correct spans and nailing (if in place)
- ✓ ✓ Purlin fixings Ballens

OTHER

- Construction of decks, bracing, hangers etc
- Verandah post connections
- Timber treatment
- Nailing general
- Barrier framing
- Fire rating requirements/bottom plate fixing

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: [signature] **Date:** 15/9/10

Comments Memo No: _____ **Notice to Fix No:** _____

Please tick as appropriate

✓ **Pass** – in accordance with the plans & Specifications approved for this consent

☐ **Fail** Further requirements: ☐ Documentation ☐ Inspection

Inspector [signature] **Auditor** _____

Date of inspection 15-9-10 **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

SANITARY SEWER AND STORMWATER
unit 6 / 1
BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** ‖ **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd.

LOT: 61-62. DP/S: _____ CONSENT NO: 2010 / 24369.

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions
- ✓ ✓ Check for previous Comments

SEWER

- ✓ ✓ Confirm drainlayers name
- ✓ ✓ Ensure sanitary sewer is connected to an appropriate connection
- ✓ ✓ Check pipe size is correct
- ✓ ✓ Check pipe material is approved
- ✓ ✓ Check material, pipe is bedded in
- ✓ ✓ Ensure sanitary sewer drains have correct falls and are laid straight
- ✓ ✓ Check leakage during water test
- ✓ ✓ Drainlayer to release testing equipment to ensure sanitary sewer connection is clear
- ✓ ✓ Correct fittings used
- ✓ ✓ Check for terminal vents and positions
- ✓ ✓ Discuss protection over drains for inadequate depth
- ✓ ✓ Remind drainlayer to provide as laid drainage plan
- ✓ ✓ Discuss heights of gully traps
- ✓ ✓ Discuss bends on wastes and seal wastes into gullies (plumber)

Builder/Sub-Contractor/Owner
Inspector

STORMWATER

- ✓ ✓ Confirm drainlayers name
- ✓ ✓ Ensure stormwater is connected to an appropriate connection
- ✓ ✓ Check pipe size is correct for given roof area
- ✓ ✓ Check pipe material is approved
- ✓ ✓ Check material, pipe is bedded in
- ✓ ✓ Check adequate number of downpipes for roof area
- ✓ ✓ Check stormwater drains have correct falls and are straight
- ✓ ✓ Correct fittings used
- ✓ ✓ Discuss protection over drains for inadequate depth
- ✓ ✓ Remind drainlayer to provide as laid drainage plan

As Laid to Come

Name of Builder/Sub-Contractor/Owner Completing Check List: Paul Cunningham

Signature: _____ **Date:** 3/9/10

Comments Memo No: _____ **Notice to Fix No:** _____

☐ **Further Inspection Required** ☑ **Approved** **Inspector** _____

Date of Inspection _____ **Auditor** _____ **Date** 6/9/2010

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Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

SITING, FOUNDATION AND REPILE INSPECTION

Unit 6 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** ‖ **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd Unit 6

LOT: 61 - 62 DP/S: 9556 428322 CONSENT NO: 24349

☑ Builder/Sub-Contractor/Owner
☐ Inspector

☑ ☐ Check you are on correct site
☑ ☐ Approved Building Consent documents on site
☑ ☐ Check Conditions

SITING

☑ ☐ Locate boundary pegs – where required
☑ ☐ Lot number on pegs
☑ ☐ Dimensions between pegs
☑ ☐ Measure distance from project to boundary conforms to site plan
☑ ☐ Dimensions of building
☑ ☐ Profile height in relation to floor heights
☑ ☐ Building height in relation to boundary
☑ ☐ Excavations, safe slopes, hoarding, shoring, underpinning and barriers for site safety. (Plans for retaining walls)
☑ ☐ Council or private drains under building
☑ ☑ Siting by surveyor – to provide letter McPherson Goodwin
☑ ☐ Discuss site stormwater drainage

DESIGN

☑ ☐ Engineers designed foundation
☑ ☐ Request engineers letter of supervision
☑ ☑ Name of Engineer Aecom
☑ ☐ Foundation to NZS 3604

DRIVEN PILES

☑ ☐ Request engineers confirmation of supervision and report on length of piles and sets achieved

PILES/DRILLED FOUNDATIONS

☑ ☐ Height of profile in relation to top of piles
☑ ☐ Correct size and treatment of piles

☑ Builder/Sub-Contractor/Owner
☑ Inspector

☑ ☐ Pile spacing for bearers/joists
☑ ☐ Floor heights conform to bracing elements provided
☑ ☐ Height for 450mm crawl space
☑ ☐ Layout of subfloor bracing
☑ ☐ Pile heights correct for type of bracing element i.e. anchor or braced pile
☑ ☐ Pile depths into cleared ground
☑ ☐ 100kpa or greater bearing capacity (including pre-floor excavation)
☑ ☐ Holes clean and sides vertical
☑ ☐ Confirm types of pile bearer/floor joist fixing to be used and level of protection required, i.e. galvanized/stainless steel (including nails)

CONCRETE FOUNDATIONS

☑ ☑ Foundation dimensions and minimum 200 mm depth into cleared ground
☑ ☑ Foundation clean, square, level and no water in excavations
☑ ☑ 100kpa soil bearing capacity
☑ ☑ Discuss floor height to proposed finished ground levels as per NZS 3604
☑ ☑ Manufacture of steel
☑ ☑ Steel sizes
☑ ☑ Correct type, i.e. high tensile or deformed etc
☑ ☑ Steel laps
☑ ☑ All steel has been tied up
☑ ☑ Steel is clean
☑ ☑ Cover and height pegs
☑ ☐ Fire wall. Foundation and reinforcement

Name of Builder/Sub-Contractor/Owner Completing Check List: C-K-C Holdings

Signature: [signature] **Date:** 31-8-10

Comments Memo No: **Notice to Fix No:**

Further Inspection Required ☐ Yes ☑ No **Inspector** [signature] **Date of Inspection** 31-8-10

Approved as in accordance with the plans & specifications approved for this consent ☑ Yes ☐ No **Auditor** **Date**

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR BUILDING

Unit 6 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** || **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd Unit 6

LOT: 61-62 **DP/S:** 9556 428322 **CONSENT NO:** 24349

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check Conditions
- ✓ ✓ Check for previous Comments

- ✓ ✓ Floor thickenings
- ✓ ✓ Confirm concrete grade 20 MPA
- ✓ ✓ Thickness of slab
- ✓ ✓ Location of piles if driven piles
- ✓ ✓ Sand fill compaction and excavation ie. No topsoil underneath
- ✓ ✓ Compaction Certificate
- ✓ ✓ Manufacture of steel/mesh
- ✓ ✓ Mesh is correct type and gauge and tied
- ✓ ✓ Mesh is cut if expansion cuts are required
- ✓ ✓ Mesh supported on chairs

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check that polythene is correct thickness, is lapped and taped
- ✓ ✓ Holes and penetrations in polythene are taped
- ✓ ✓ Reinforcing bars to internal corners
- ✓ ✓ Clean bond will be made between floor slab and bond beams or header blocks
- ✓ ✓ Remind builder to seal brick rebate
- ✓ ✓ Emulsion sealer to be used inside header blocks on wet sites
- ✓ ✓ Types and spacing of bottom plate connectors to be used
- ✓ ✓ Floor levels will be sufficient for ground clearance
- ✓ ✓ Engineers design – request letter of supervision
- ✓ ✓ Request truss design

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: [signature] **Date:** 31-8-10

Comments Memo No: _____ **Notice to Fix No:** _____

☐ **Further Inspection Required** ✓ **Approved as in accordance with the plans & specifications approved for this consent** **Inspector** [signature]

Date of Inspection 31-8-10 **Auditor** _____ **Date** _____

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR PLUMBING AND DRAINAGE

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 8-10 Yorkshire St units 1, 6, 7

LOT: _____ DP/S: _____ CONSENT NO: 2010/24349

[✓] **Inspected** [X] **Failed** [ ] **Not Applicable**

Plumber	Inspector	
☑	☑	Check you are on correct site
☑	☑	Approved Building Consent documents on site
☑	☑	Check Conditions
☑	☐	Check for previous comments
☑	☑	The work exactly reflects the approved plans
☑	☑	System used AS3500 ☐ G13 ☑
☑	☑	Fixture discharge pipe sizes followed
☑	☑	Fall on all discharge pipes 1:40 for pipe diameter 65mm or less
☐	☐	Length of all discharge pipes. An unvented waste pipe cannot exceed 3.5m for G13
☑	☑	Waste pipes protected where penetrating through floor slab.
☑	☑	Waste pipes are separated at foundation exit point to allow for bends
☑	☐	Water heater drain pipe is graded/correctly terminated
☑	☐	Check location of terminal vent
☑	☑	Main or branch drain longer than 10m to be vented for AS3500
☐	☐	Main or branch drain longer than 6m to be vented for G13
☑	☑	Vent pipe down stream from last fixture connection
☑	☐	Minimum vent diameter 50mm for AS3500
☐	☐	Minimum vent diameter 80mm for G13
☐	☐	80mm W/C pipe maximum length 2.5m unvented
☑	☐	1 ORG min 150mm below lowest fixture outlet
☑	☐	Test on AS3500 drains for 2 or more fixtures inline
☑	☐	Waste pipes evenly spaced and in a straight line at rear point of entry to gully dish (Max 4)

Plumber	Inspector	
☑	☐	Venting continuous on AS3500 pipework
☑	☑	Level inverts installed 2 o'clock or higher for AS3500
☐	☐	Clean outs (COS) installed where required or 2x 45° bends 2x diameter apart directly under fixture.
☐	☐	Amended floor plan for all changes
☐	☐	Drainage behind masonry walls greater than 300mm
☑	☑	One fixture only above terminal vent
☐	☐	Flood relief floor waste for all urinals and multi unit buildings
☐	☐	Stainless steel Straps installed at 1.0m intervals to support soil and waste pipes for pile driven foundations
☐	☐	Copper waste to commercial machines operating over 65°C
☐	☐	Soakage Drainage for Over 300mm step in Footing
☐	☐	Further Inspection Fee Required ☐ yes ☐ no

Notes: _____

Name of Builder/Sub-Contractor/Owner Completing Check List: Waikato Plumbing Services

Signature: _____ **Date:** 27-08-10

OFFICE USE ONLY - Please Tick as appropriate

- ☑ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector C. Morris Auditor _____

Inspection Date 27-8-10 Audit Date _____

GEON

SIGN DAT

Consent No: 2010/24349

Project Address: 8 Yorkshire RD

Issue Date: 6-Jun-10

SECT

Issued Subject To Contact Number:

There Are Limitations On This Project

Signed

Owner: CKC Holdings Ltd

Description of Work: 7 New Dwellings with attached Garages

Property Reference: Lot: 62 DP/S: S9556

Review Officer:

TR Number:

Extra Inspections To Be Charged (Tick Box)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total

BUILDING INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Siting •	By Surveyor				31/8/10
Foundation •	By Engineer				31/8/10
Bond Beam					
Concrete Floor •	G-H	✓			31/8/10
Tilt Slab					
Framing •	W.Martin	✓			17/9/10
Cavity/Batten					
Cladding					
Preline •	W.Martin	✓			5/10/10
Postline •	W.Martin	✓			11/10/10
Crossing					

COMPLETION

SIGN W.G.Martin DATE 2-11-10

COMMENTS:

PLUMBING & DRAINAGE INSPECTIONS

	INITIALS	APPROVED YES	APPROVED NO	MEMO	DATE
Concrete Floor •	C.Morrison	✓			28/8/10
Preline	C Morrison	✓			24/9/10
Stack Test					
Waste & Soil					
Foulwater	C Morrison	✓			8/9/10
Stormwater	C Morrison	✓			
Heater Chimney					
Pool/Spa Fencing					

DRAINLAYER Waikato Plumbing

PLUMBER " "

COMPLETION

SIGN [signature] DATE 2/11/10

COMMENTS:

AMENDMENTS

Date Received	Building Review Officer	Description of Work	Approved	Filed	Outstanding Fees

Certificates/Producer Statements/Plans Requested and Received				
Plumbing		Date Req	**Company Name**	Date Rec
1	As laid drainage plans			✓
2	Pressure test producer statement			✓
3	Gas certificate			
4	Back flow prevention device pressure test producer statement			
5	Heating engineer's certificate			
6	Engineers certificate for septic tank and effluent line			✓
7	Engineers certificate for stormwater system			✓
8	CCTV certificate			
Building				
9	Surveyors Certificate			✓
10	Driven pile report for length of piles and sets achieved			
11	Engineers letter of observation for driven test piles			
12	Engineer's producer statement for sand pad compaction			✓
13	Engineer's producer statement for foundations/floor			
14	Engineer's producer statement for block work/tilt stabs			
15	Engineer's producer statement for beams/lintels/structure			
16	Truss floor loading plan			
17	Truss layout plan			
18	Acoustic engineers report			
19	Electrical certificate			✓
20	Plaster coating producers statement — paint system			
21	Weather tightness report from an accredited adviser			
22	Water proofing membrane installer's producer statement			
23	Window/glazing producer statement			
24	Roofing producer statement			
25	Insulation certificate			
26	Producer statement for smoke alarms			
27	Producer statement for Pool alarms			
28	Letter from HCC Transportation Unit			
29	Amended consent plans required			
30	Contractors producer statement 3			
31	Welding Certificate			
32	Spray booth/fume cupboard producer statement			
33	Spread of flame certificate required			
34	Producer statement for slip resistance			
35	Automatic doors producer statement			
36	Automatic sprinkler producer statement from registered installer			
37	Emergency lighting producer statement			
38	Fire alarm producer statement from a certified installer all systems			
39	FPIS for the fire alarm system types 3/4/5/6/7			
40	Fire engineers producer statement			
41	Lifts/escalator producer statement			
42	Mechanical ventilation producer statement			

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

FINAL BUILDING INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire RD

LOT: 61 & 62 **DP/S:** 9556 428322 **CONSENT NO:** 2010 26349

✓ **Approved** ✗ **Failed** ‖ **Not Applicable**

☐	Builder/Sub-Contractor/Owner		
☑	Inspector		
☐ ☑	Check you are on correct site		
☐ ☑	Approved Building Consent documents on site		
☐ ☑	Check Building Consent conditions		
☐ ☑	Check job description on job card		
EXTERIOR			
☐ ☑	External envelope complete and weatherproof		
☐ ☑	Flashings/sealants complete		
☐ ☑	Wet area/kitchen vents		
☐ ☑	Safety glass		
☐ ☑	Ground/paving heights		
☐ ☑	Crossing and footpath for damage		
☐ ☑	Brick veneer weep and ventilation holes		
☐ ☑	Exterior decorated		
☐ ☑	Weathering of penetrations		
☐ ☑	Construction of decks/steps/handrails		
☐ ☑	Barrier heights and construction timber/treatment		
☐ ☑	Sub floor access/ponding/ventilation/insulation		
☐ ☑	Roof cladding/flashing fixings/roof penetrations		
☐ ☑	Landscaping complete – retaining walls		
☐ ☑	Wall cladding fixings/soakers/scribers etc		
☐ ☑	Fire rating		
INTERIOR			
☐ ☑	Ceiling insulation in place		
☐ ☑	Fire ratings stopped		
☐ ☑	Wet areas completed, walls, ceilings, floors sealed		
☐ ☑	Wet areas ducted to exterior		
☐ ☑	Safety glass		
☐ ☑	Heights of window sashes		
☐ ☑	Heights of barriers and handrails/details		
☐ ☑	All inspections have been completed		
☐ ☑	All certificates have been received		
☐ ☑	Smoke Alarms Fitted		

☐	Builder/Sub-Contractor/Owner		
☐	Inspector		
COMMERCIAL			
☐ ☐	Surface finishes, smoke development and spread of flame for ceilings, walls, floor coverings		
☐ ☐	Stopping of fire walls and penetrations		
☐ ☐	Penetrations/light fittings/fire collars etc		
☐ ☐	Means of escape, door hardware, signage		
☐ ☐	Fire and smoke doors: hardware, tags, self closers/magnetic hold open device and signage		
☐ ☐	Signage/fire alarm		
ACCESSIBILITY			
☐ ☐	Ramps non slip, width, length, upstands, handrails 1:12 1200 wide		
☐ ☐	Entrance signage, threshold, width, floor surfaces		
☐ ☐	Public reception counters or desks		
☐ ☐	Lifts sizes, controls. Handrails, lobby width		
☐ ☐	Stair widths, handrails, landings, risers, treads, nosings		
☐ ☐	Doorways/corridors clear width, glazing, colour contrasted, projections into corridors		
☐ ☐	Alerting devices audible and visual signal		
☐ ☐	Toilet size, controls, doors, wash hand basin, taps		
☐ ☐	Showers size, controls, door/s		
☐ ☐	Laundering size and turning cycle		
☐ ☐	Signage entrance doors, information board and facilities signage		
☐ ☐	Surface finishes stable firm and non slip		
☐ ☐	Sound system, stage podium access, listening system		
☐ ☐	Signage for listening system		
☐ ☐	Accessible route car parks, identifiable route from street to and through building, surface finishes stable firm and non slip		
☐ ☐	Further Inspection fee required		

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LP

Signature: _____ **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent

☐ Fail

☐ Further Documentation required

☐ Required Documents received ___/___/___

☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ **Auditor** _____

Inspection Date 2-11-10 **Audit Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

FINAL PLUMBING/DRAINAGE INSPECTION

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd

LOT: 61 & 62 2 DP/S: 9556 428322 CONSENT NO: 2010 24369

✓ **Inspected** ✗ **Failed** | | **Not Applicable**

- ☐ Builder/Sub-Contractor/Owner
  ☑ Inspector
- ☐ ☑ Check you are on correct site
- ☐ ☑ Approved Building Consent documents on site
- ☐ ☑ Check Building Consent Conditions
- ☐ ☑ Check street number on letterbox
- ☐ ☑ Ensure plumbers and drainlayers names are recorded on job card
- ☐ ☑ Relevant inspections have been called for
- ☐ ☑ Roof penetrations flashed in accordance with E2 page 81 Figures 53 &54
- ☐ ☑ Gully dishes positioned to stop stormwater ingress
- ☐ ☑ Ensure overflow relief gully minimum 150mm below lowest fixture outlet
- ☐ ☑ Waste pipes sealed at point of entry into rear of gully dishes and bends installed tight to back of gully dish
- ☐ ☑ All wastes are vented if greater than 3.5m and have min 1:40 fall.
- ☐ ☑ Driveway catchpit installed for over 100m²
- ☐ ☑ All permanently paved areas over 10m² run to catchpit
  Permanent ground area does not exceed grass area to boundary
- ☐ ☑ Terminal vent position, flashings, cowls fitted
- ☐ ☑ Downpipes evenly clipped and connected to stormwater drainage
- ☐ ☐ No Discharge to lower masony roofs. Downpipes from top storey roofs to lower roof spreader required as per E2 Page 56 figure 20
- ☐ ☐ Novaflow drainage is terminated to catch pit
- ☐ ☐ Overflows fitted to Decks and run to exterior
- ☐ ☑ Hot water cylinder is correct type, all required safety valves and seismic restraints fitted
- ☐ ☑ HWC expansion/relief drains have been installed and conveyed to the exterior
- ☐ ☑ Cylinder drain/valve pipes via the tundish/air gap
- ☐ ☐ Cylinder safe tray if required
- ☐ ☑ Dishwasher pipe clamped and anti siphon bend fitted
- ☐ ☑ Water hammer
- ☐ ☑ Toilet cisterns screwed to wall securely

- ☐ Builder/Sub-Contractor/Owner
  ☑ Inspector
- ☐ ☑ Terminal vents continuous in ceiling space
- ☐ ☑ Traps fitted and holding seals
- ☐ ☑ Tub fixed in position
- ☐ ☑ Check job descriptions match card
- ☐ ☑ Water temperature = 54° °C
- ☐ ☐ Gas certificate provided No: _____
- ☐ ☑ As-laid drain plans provided
- ☐ ☑ Plumbing pressure test certificate from HCC registered person
- ☐ ☐ Pipes insulated outside building thermal envelope using UV protected where required
- ☐ ☐ Copper waste pipe to commercial machine
- ☐ ☐ Bainmarie drains provided to approved outlet
- ☐ ☐ Back flow prevention devices where required
- ☐ ☐ Test certificate for back flow devices
- ☐ ☐ Approval letter from Trade Waste Department recieved ☐ yes ☐ no
- ☐ ☐ Septic tank installation, has been installed as per engineers design PS4
- ☐ ☐ (Certificate supplied)
  ☑ Engineers PS4 for storm water soak hole design
- ☐ ☐ If cross lease/subdivision ensure all drainage requirements have been met
- ☐ ☐ If timber floor check wastepipe/soilpipes clipping complies
- ☐ ☐ Further Inspection Fee Required ☐ yes ☐ no

Name of Builder/Sub-Contractor/Owner Completing Check List: CKC Holdings LN

Signature: _____ **Date:** 2/11/10

OFFICE USE ONLY - Please Tick as appropriate

- ☑ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ___/___/___
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector _____ Auditor _____

Inspection Date 2/11/10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

EXTERIOR CLADDING SYSTEMS - BUILDING

SPECIFIC LOCATION: Units 1-7

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd Units 1-7

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

✓ **Approved** ✗ **Failed** | **Not Applicable**

☑ Builder/Sub-Contractor/Owner
☑ Inspector
☑☑ Check you are on correct site
☑☑ Approved Building Consent documents on site
☑☑ Check Conditions
☑☑ Check previous Comments

BRICK VENEER
☑☑ Correct type, condition, fixing and support of building wrap
☑☑ Cavity size 40mm minimum
☑☑ Number, spacing and location of ties
☑☑ Connection of brick ties
☑☑ Cavity cleaned/rebate sealed
☑☑ Brick support on foundation
☑☑ Weep/ventilation holes
☑☑ Flashing detail into joinery
☑☑ Flashing requirements/fixing position
☑☑ Minimum panel sizes
☑☑ Maximum height of veneer
☑☑ Lintel bars/type of fixing details
☑☑ Cavity sealed from roof space
☑☑ Slope to sills 15° min.
☑☑ Details at ground level
☑☑ Window support bars fitted

PREPLASTER - RIGID BACKING
☑☐ Fibre cement sheet
☑☐ H3 plywood
☑☐ H3 diagonal sheeting

PREPLASTER - SOLID PLASTER (MESH)
☑☐ Mesh type
☑☐ Reinforcement around openings
☑☐ 6–9mm spacers
☑☐ Galvanised
☑☐ Propriatory self-spacing mesh
☑☐ Fixings
☑☐ Propriatory control joints

☑ Builder/Sub-Contractor/Owner
☐ Inspector

PREPLASTER - NON RIGID BACKING (CAVITY SYSTEM)
☑☐ Support
☑☐ Allowable deflection of flexible backer (e.g. riblath)

MONOLITHIC TYPE CLADDING
☑☐ Correct type, position and condition of building wrap
☑☐ Fixing detail of backing
☑☐ Sheet joining/flashing detail
☑☐ Joinery head/sill and jamb flashing detail
☑☐ Flashing connections to each other
☑☐ Slope to parapet/sill detail
☑☐ Roof/wall and parapet flashing details
☑☐ Detail at ground level
☑☐ Requirements for expansion/contraction joint details both horizontal and vertical
☑☐ Spacer spacing, fixings etc.
☑☐ Battens (ventilated cavity)
☑☐ Reinforcement type/fixing etc
☑☐ General workmanship
☑☐ Weathering detail for barriers/downpipes/weatherboards and penetrations
☑☐ Remind installer about installation certificate
☑☐ Internal/external angles

WEATHERBOARD TYPE SYSTEMS
☑☐ Correct type of building wrap, fixing and support
☑☐ Flashing requirements/fixing/position
☑☐ Cladding fixing details
☑☐ Details at ground level
☑☐ Battens (ventilated cavity)
☑☐ Bottom of cladding provides weathering to bottom plates, floor joists and behind decking

Name of Builder/Sub-Contractor/Owner Completing Check List: C-K-C Holdings

Date: 27-10-10

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent
☐ Fail

☐ Further Documentation required
☐ Required Documents received / /
☐ Further Inspection needed

Comments Memo No:

Notice to Fix No:

Inspector W Gyland

Auditor

Inspection Date 27-10-10

Audit Date

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

POST LINING
Units 1 - 7 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be given to the inspector at the time of inspection.

✓ **Approved** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd Units 1 - 7

LOT: 61 - 62 DP/S: 9556 CONSENT NO: 24349

☑ Builder/Sub-Contractor/Owner
☑ Inspector

- ☑ ☐ Check you are on correct site
- ☑ ☐ Approved Building Consent documents on site
- ☑ ☐ Check Building Consent Conditions
- ☑ ☐ Check for previous comments

- ☐ ☐ Floor/Ceiling nailed off as diaphragm
- ☑ ☐ Position of sheet bracing
- ☑ ☐ Fixing of sheet bracing
- ☑ ☐ Holes in sheet braces
- ☑ ☐ Safety glass
- ☑ ☐ Correct type of wall linings used
- ☐ ☐ STC rating requirements
- ☑ ☐ Stopping and penetrations, light switched, power points etc to fire walls
- ☐ ☐ Request acoustic engineers report

COMMERCIAL

- ☐ ☐ Fire philosophy
- ☐ ☐ Fire rating
- ☐ ☐ Stopping of fire ratings
- ☐ ☐ Penetrations
- ☐ ☐ Discuss compliance schedule features and request certificates for compliance
- ☐ ☐ Discuss spread of flame index for interior finish and request Certificate required

☑ Builder/Sub-Contractor/Owner
☐ Inspector

ACCESSIBILITY CHECKLIST/DISCUSS

- ☐ ☐ Accessible Carpark
- ☐ ☐ Ramps
- ☐ ☐ Entrance
- ☐ ☐ Public Reception Area
- ☐ ☐ Lifts
- ☐ ☐ Stairs
- ☐ ☐ Doorways, corridors
- ☐ ☐ Controls (auto doors etc)
- ☐ ☐ Alerting devices
- ☐ ☐ Toilets
- ☐ ☐ Showers
- ☐ ☐ Laundering
- ☐ ☐ Food preparation
- ☐ ☐ Signage
- ☐ ☐ Surface finishes
- ☑ ☐ Accessible Route

Name of Builder/Sub-Contractor/Owner Completing Check List: C.I.C Holdings

Signature: [signature] **Date:** 11-10-10

Comments Memo No: _____ **Notice to Fix No:** _____

Please tick as appropriate

☑ **Pass** – in accordance with the plans & Specifications approved for this consent ☐ **Fail** Further requirements: ☐ Documentation ☐ Inspection

Inspector [signature] **Auditor** _____

Date of inspection 11-10-10 **Date** _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PRELINE - BUILDING

SPECIFIC LOCATION: Units - 7

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire Rd Unit 7

LOT: 61-62 DP/S: 9556 CONSENT NO: 24349

✓ **Inspected** ✗ **Failed** | **Not Applicable**

✓		Builder/Sub-Contractor/Owner
		Inspector
✓	✓	Check you are on correct site
✓	✓	Approved Building Consent documents on site
✓	✓	Check Conditions
✓	✓	Check previous comments

EXTERIOR

		Construction of decks, bracing, hangers etc
		Verandah post connections
✓	✓	Roof cladding type, flashings, nailing
		Fire rating requirements
		Exterior bracing

INTERIOR

✓	✓	Interior brace fixing
✓	✓	Bottom plate fixings
✓	✓	Moisture content (timber) = ____ %
✓	✓	Insulation/moisture content
✓	✓	Holes and notches in framing
✓	✓	Safety glass
		STC ratings (Design test for multi unit dwellings)
		Fire ratings, penetrations
✓	✓	Joinery provides correct lighting, ventilation to each room
	✓	Window sash heights above floor
✓	✓	Discuss smoke alarm requirements
✓	✓	Air seals fitted

ROOF

✓	✓	Roof underlay grade, netting
✓	✓	Roof correct pitch for material used
✓	✓	Correct trusses for roof material used and spacing
✓	✓	Ceiling batten sizes, correct spans and nailing
		Ceiling diaphragms
		Vapour barrier for skillion roofs
✓	✓	Insulation to ceiling, correct position

✓		Builder/Sub-Contractor/Owner
		Inspector

GENERAL

		Stair rail openings
		Configuration of stair/type
		Width between rails
		Height of barriers and ballustrading to landings, decks and stairs
✓		Glazing requirements

COMMERCIAL

		Fire philosophy
		Discuss fire ratings
		Discuss compliance schedule features and request certificate for completion
		Fire collars/penetrations through fire ratings

ACCESSIBILITY CHECKLIST

		Accessible car parks
		Access ramps
		Entrance
		Public reception
		Lifts
		Stairs
		Doorways, corridors
		Controls (Auto Doors etc)
		Alerting devices
		Toilets
		Showers
		Laundering
		Food preparation
		Signage
		Surface finishes
		Accessible route

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: _____ **Date:** 5-10-10

OFFICE USE ONLY - Please Tick as appropriate

- ✓ Pass - in accordance with the plans & specifications approved for this consent
- ☐ Fail
- ☐ Further Documentation required
- ☐ Required Documents received ____/____/____
- ☐ Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector W Gilmartin

Inspection Date 5.10.10

Auditor _____

Audit Date _____

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PRELINE PLUMBING

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 10 Yorkshire St

LOT: _____ DP/S: _____ CONSENT NO: 101 24349

[✓] Inspected [X] Failed [ ] Not Applicable

- [✓] Plumber
  - [✓] Inspector
- [✓] [✓] Check you are on correct site
- [✓] [✓] Approved Building Consent documents on site
- [✓] [✓] Check Conditions
- [✓] [✓] Check for previous comments
- [✓] [✓] Approved type of pipes/identification/standard
  - KZ
  - (complete details of pipe system used)
- [✓] [✓] Support of pipework
- [✓] [✓] Pipes secured to prevent water hammer
- [ ] [ ] Pipe pressure at time of inspection [ ] 1500 kpa [✓] mains only
- [✓] [✓] Producer statement required [✓] yes [ ] no
- [✓] [✓] Pipes sealed through building wrap.
- [✓] [✓] Sludge and relief drains run via tundish/air gap
- [✓] [✓] Soil and waste pipe work correctly installed.
- [✓] [✓] Pipes are protected from frost damage
- [✓] [✓] Pipes within 100mm of roof to be insulated
- [✓] [✓] Notches and holes in framing as per NZS
  - 3604 Walls Section 8 Figure 8.4
  - Floors Section 7Figure 7.8
- [✓] [✓] Terminal vent installed
- [✓] [✓] Pipes protected from electrolysis and sharp objects
- [✓] [✓] Pipes correctly sized
- [✓] [✓] Test on Stack System [ ] yes [✓] no
- [✓] [✓] Position of hot water cylinder/infinity system is closest to most frequently used tap (kitchen sink) as per AS3500.4 see 5.3.1 Page 36
- [✓] [✓] Check hot water cylinder if in ceiling and completed [ ] yes [ ] no
- [✓] [✓] Above ground relief pipes from HWC in copper or 99°c approved pipe system
- [✓] [✓] Fire hose reel pipe work run in metallic only

- [✓] Plumber
  - [✓] Inspector
- [✓] [✓] Plumber
- [✓] [✓] Inspector
- [ ] [ ] Air conditioning condensate drains run to outside(not to outside gully dish)
- [ ] [ ] Back flow philosophy followed
- [ ] [ ] Solar panel installation correct [ ] yes [ ] no
- [ ] [ ] Wetback Installation correct [ ] yes [ ] no
- [ ] [ ] Fire Collars installed where required
- [ ] [ ] Overflows fitted to decks and run to exterior
  - To be same size as outlet
- [ ] [ ] Further Inspection Fee Required [ ] yes [ ] no

Notes: _____

Plumber: _____ **Rego:** _____

Signature: _____ **Date:** _____

OFFICE USE ONLY - Please Tick as appropriate

- [✓] Pass - in accordance with the plans & specifications approved for this consent
- [ ] Fail
- [ ] Further Documentation required
- [ ] Required Documents received ___/___/___
- [ ] Further Inspection needed

Comments Memo No: _____ **Notice to Fix No:** _____

Inspector C. Morris Auditor _____

Inspection Date 24-9-10 Audit Date _____

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

STRUCTURAL FRAMING

Units 2 - 7 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** | **Not Applicable**

PROPERTY ADDRESS: 10 Yorkshire Rd Units 2 - 7

LOT: 61 DP/S: 9556 CONSENT NO: 2010/24349

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Check you are on correct site
- ✓ ✓ Approved Building Consent documents on site
- ✓ ✓ Check for previous comments
- ✓ ✓ Check conditions

SUBFLOOR

- Bearer/joist sizes
- Bearer/joist spans
- Bracing/braced piles/anchor piles
- Bracing/pile connections
- Solid blocking to joists
- Insulation
- Subfloor ventilation
- Crawl space
- Water ponding under floor
- Polythene on ground
- Confirm types of pile bearer/floor joist fixing to be used and level of protection required, i.e. galvanised, stainless steel (including nails)
- Timber treatment
- Check flooring joint layout

WALL FRAMING

- ✓ ✓ Timber treatment
- ✓ ✓ Framing sizes
- ✓ ✓ Framing height
- ✓ ✓ Bottom plate fixings
- ✓ ✓ Lintel sizes
- ✓ ✓ Top plate for roof support, truss, beams, bracing lines
- ✓ ✓ Nogging for vertical cladding

Builder/Sub-Contractor/Owner
Inspector

- ✓ ✓ Nailing general
- ✓ ✓ Exterior ply bracing
- ✓ ✓ Window sash heights above floor

ROOF

- ✓ ✓ Bracing, dragon ties etc
- ✓ ✓ Roof correct pitch for material used
- ✓ ✓ Correct trusses for roof material used and spacing
- ✓ ✓ Joist hangers and fixings to intersecting trusses and girder trusses
- ✓ ✓ Support of girder trusses
- ✓ ✓ Z nails connecting trusses to top plates
- ✓ ✓ Truss fixing to design requirements
- ✓ ✓ Strutting beam and ceiling runner sizes to close coupled roofs
- ✓ ✓ Rafter spans, collar ties, cleats and under purlin sizes to close coupled roofs
- ✓ ✓ Ceiling batten sizes, correct spans and nailing (if in place)
- ✓ ✓ Purlin fixings

OTHER

- ✓ ✓ Construction of decks, bracing, hangers etc
- Verandah post connections
- Timber treatment
- Nailing general
- ✓ Barrier framing

Name of Builder/Sub-Contractor/Owner Completing Check List: C-1C-C Holdings

Signature: [signature] **Date:** 16-9-10

Comments Memo No: _____ **Notice to Fix No:** _____

☐ **Further Inspection Required** ✓ **Approved as in accordance with the plans & specifications approved for this consent** **Inspector** [signature]

Date of Inspection 17.9.10 **Auditor** _____ **Date** _____

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

SANITARY SEWER AND STORMWATER

SPECIFIC LOCATION: ✓ 7

NOTE TO DRAINLAYER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

PROPERTY ADDRESS: ~~10~~ 8-10 Yorkshire Street.

LOT: 61-62. Lot 7 DP/S: CONSENT NO: 2010 24349.

☑ Inspected ☒ Failed ☐ Not Applicable

☑ Drainlayer
☑ Inspector
☑ ☑ Check you are on correct site
☑ ☑ Approved Building Consent documents on site
☑ ☑ Check Conditions

SEWER

☑ ☑ Ensure sanitary sewer is connected to correct connection
☑ ☑ Gradients/System as per G13 or AS3500.2
☑ ☑ Check pipe is approved and fittings are labeled
☑ ☑ Check material/pipe is bedded in
☑ ☑ Check for leakage during water test
☑ ☑ Drainlayer to release testing equipment to ensure full flow flush is obtained and connection clear
☑ ☑ Correct fittings used
☑ ☑ Check for terminal vents and positions
☑ ☑ Discuss protection over drains for inadequate depth
☑ ☑ Discuss heights of gully traps
☑ ☑ Ensure drains are laid within legal boundaries
☑ ☑ As laid plan received ☐ yes ☑ no
☑ ☑ One fixture above terminal vent only
☐ ☒ Stability of ground/trench base covered by engineer, PS4 supplied
☐ yes ☐ no
☐ ☒ Confirm engineers site inspection
☐ ☒ Further Inspection Fee Required ☐ yes ☐ no

☑ Drainlayer
☑ Inspector

STORMWATER

☑ ☑ Confirm Drainlayers name
☑ ☑ Ensure stormwater is connected to the correct connection
☑ ☑ Gradients/System Used G13 ☐ or AS/NZS3500.3 ☐
☑ ☑ Check pipe size is correct for given roof/surface area refer E1 Page 35 Figure 3
☑ ☑ Check pipe/fittings are approved and labelled
☑ ☑ Check material pipe is bedded in
☑ ☑ Check adequate number of downpipes for roof area
☑ ☑ Correct fittings used
☑ ☑ Connections installed for future concreted/permanent paved areas
☑ ☑ Driveway catchpit installed for over 100m²
☑ ☑ All permanently paved areas over 10m² run to catchpit
☑ ☑ Discuss protection over drains for inadequate depth
☑ ☑ Ensure that drains are laid within legal boundaries
☑ ☑ All subsoil drains run via catch pit
☑ ☑ As laid plan received ☐ yes ☑ no
☑ ☑ HCC soak hole correctly sized (40m² max area)
☑ ☒ Confirm engineers site inspection
☑ ☑ Stability of ground/trench base covered by engineer, PS4 supplied
☐ yes ☑ no
☐ ☐ Further Inspection Fee Required yes ☐ no ☑

Name of Drainlayer and Registration Number Completing Check List: Sam Bunn

Signature: Sam Rego: 23854 **Date:** 8/9/10.

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent
☐ Fail
☐ Further Documentation Required
☐ Further Inspection Required

Comments Memo No:
Notice to Fix No:

Inspector C. Morrison
Inspection Date 8-9-10
Auditor
Audit Date

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR BUILDING

Unit 7 BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** ‖ **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd Unit 7

LOT: 61-62 DP/S: 9556 628322 CONSENT NO: 24349

Builder/Sub-Contractor/Owner	Inspector	
✓	✓	Check you are on correct site
✓	✓	Approved Building Consent documents on site
✓	✓	Check Conditions
✓	✓	Check for previous Comments
✓	✓	Floor thickenings
✓	✓	Confirm concrete grade 20 MPA
✓	✓	Thickness of slab
✓	✓	Location of piles if driven piles
✓	✓	Sand fill compaction and excavation ie. No topsoil underneath
✓	✓	Compaction Certificate
✓	✓	Manufacture of steel/mesh
✓	✓	Mesh is correct type and gauge and tied
✓	✓	Mesh is cut if expansion cuts are required
✓	✓	Mesh supported on chairs

Builder/Sub-Contractor/Owner	Inspector	
✓	✓	Check that polythene is correct thickness, is lapped and taped
✓	✓	Holes and penetrations in polythene are taped
✓	✓	Reinforcing bars to internal corners
✓	✓	Clean bond will be made between floor slab and bond beams or header blocks
✓	✓	Remind builder to seal brick rebate
✓	✓	Emulsion sealer to be used inside header blocks on wet sites
✓	✓	Types and spacing of bottom plate connectors to be used
✓	✓	Floor levels will be sufficient for ground clearance
✓	✓	Engineers design – request letter of supervision
✓	✓	Request truss design

Name of Builder/Sub-Contractor/Owner Completing Check List: C.K.C Holdings

Signature: [signature] **Date:** 31-8-10

Comments Memo No: _____ **Notice to Fix No:** _____

☐ **Further Inspection Required** ☑ **Approved as in accordance with the plans & specifications approved for this consent** **Inspector** [signature]

Date of Inspection 31-8-10 **Auditor** _____ **Date** _____

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

SITING, FOUNDATION AND REPILE INSPECTION

Unit 7

BUILDING CHECKLIST

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This form needs to be shown to the inspector at the time of inspection.

✓ **Inspected** ✗ **Failed** | | **Not Applicable**

PROPERTY ADDRESS: 8-10 Yorkshire Rd Unit 7

LOT: 61-62 DP/S: 9556 428322 CONSENT NO: 24349

Builder/Sub-Contractor/Owner
Inspector

- Check you are on correct site
- Approved Building Consent documents on site
- Check Conditions

SITING

- Locate boundary pegs – where required
- Lot number on pegs
- Dimensions between pegs
- Measure distance from project to boundary conforms to site plan
- Dimensions of building
- Profile height in relation to floor heights
- Building height in relation to boundary
- Excavations, safe slopes, hoarding, shoring, underpinning and barriers for site safety. (Plans for retaining walls)
- Council or private drains under building
- Siting by surveyor – to provide letter McPherson Goodwin
- Discuss site stormwater drainage

DESIGN

- Engineers designed foundation
- Request engineers letter of supervision
- Name of Engineer Aecom
- Foundation to NZS 3604

DRIVEN PILES

- Request engineers confirmation of supervision and report on length of piles and sets achieved

PILES/DRILLED FOUNDATIONS

- Height of profile in relation to top of piles
- Correct size and treatment of piles

Builder/Sub-Contractor/Owner
Inspector

- Pile spacing for bearers/joists
- Floor heights conform to bracing elements provided
- Height for 450mm crawl space
- Layout of subfloor bracing
- Pile heights correct for type of bracing element i.e. anchor or braced pile
- Pile depths into cleared ground
- 100kpa or greater bearing capacity (including pre-floor excavation)
- Holes clean and sides vertical
- Confirm types of pile bearer/floor joist fixing to be used and level of protection required, i.e. galvanized/stainless steel (including nails)

CONCRETE FOUNDATIONS

- Foundation dimensions and minimum 200 mm depth into cleared ground
- Foundation clean, square, level and no water in excavations
- 100kpa soil bearing capacity
- Discuss floor height to proposed finished ground levels as per NZS 3604
- Manufacture of steel
- Steel sizes
- Correct type, i.e. high tensile or deformed etc
- Steel laps
- All steel has been tied up
- Steel is clean
- Cover and height pegs
- Fire wall. Foundation and reinforcement

Name of Builder/Sub-Contractor/Owner Completing Check List: C.I.C.C Holdings

Signature: [signature] **Date:** 31-8-10

Comments Memo No: **Notice to Fix No:**

Further Inspection Required Yes ☐ No ✓ **Inspector** [signature] **Date of Inspection** 31-8-10

Approved as in accordance with the plans & specifications approved for this consent Yes ☐ No ☐ **Auditor** **Date**

GEON

Hamilton City Council
Te kaunihera o Kirikiriroa
PH: (07) 838 6677

PREFLOOR PLUMBING AND DRAINAGE

SPECIFIC LOCATION:

NOTE TO BUILDERS/SUB CONTRACTOR/OWNER: Please check that you have completed all items as listed and ticked the appropriate boxes before arranging for an inspection. This completed form needs to be given to the inspector at the time of inspection.

PROPERTY ADDRESS: 8-10 Yorkshire St units 1, 6, 7

LOT: _____ DP/S: _____ CONSENT NO: 2010/24349

✓ **Inspected** ✗ **Failed** ‖ **Not Applicable**

Plumber	Inspector	
✓	✓	Check you are on correct site
✓	✓	Approved Building Consent documents on site
✓	✓	Check Conditions
✓		Check for previous comments
✓	✓	The work exactly reflects the approved plans
✓	✓	System used AS3500 ☐ G13 ☐
✓	✓	Fixture discharge pipe sizes followed
✓	✓	Fall on all discharge pipes 1:40 for pipe diameter 65mm or less
		Length of all discharge pipes. An unvented waste pipe cannot exceed 3.5m for G13
✓	✓	Waste pipes protected where penetrating through floor slab.
✓	✓	Waste pipes are separated at foundation exit point to allow for bends
✓		Water heater drain pipe is graded/correctly terminated
✓	✓	Check location of terminal vent
✓	✓	Main or branch drain longer than 10m to be vented for AS3500
		Main or branch drain longer than 6m to be vented for G13
✓	✓	Vent pipe down stream from last fixture connection
✓		Minimum vent diameter 50mm for AS3500
		Minimum vent diameter 80mm for G13
		80mm W/C pipe maximum length 2.5m unvented
✓		1 ORG min 150mm below lowest fixture outlet
✓	✓	Test on AS3500 drains for 2 or more fixtures inline
✓	✓	Waste pipes evenly spaced and in a straight line at rear point of entry to gully dish (Max 4)

Plumber	Inspector	
✓	✓	Venting continuous on AS3500 pipework
✓	✓	Level inverts installed 2 o'clock or higher for AS3500
		Clean outs (COS) installed where required or 2x 45° bends 2x diameter apart directly under fixture.
		Amended floor plan for all changes
		Drainage behind masonry walls greater than 300mm
✓	✓	One fixture only above terminal vent
		Flood relief floor waste for all urinals and multi unit buildings
		Stainless steel Straps installed at 1.0m intervals to support soil and waste pipes for pile driven foundations
		Copper waste to commercial machines operating over 65°C
		Soakage Drainage for Over 300mm step in Footing
		Further Inspection Fee Required ☐ yes ☐ no

Notes: _____

Name of Builder/Sub-Contractor/Owner Completing Check List: Waikato Plumbing Services

Signature: _____ **Date:** 27-08-10

OFFICE USE ONLY - Please Tick as appropriate

☑ Pass - in accordance with the plans & specifications approved for this consent

☐ Fail

☐ Further Documentation required

☐ Required Documents received ___/___/___

☐ Further Inspection needed

Comments Memo No: _____

Notice to Fix No: _____

Inspector C. Morris

Auditor _____

Inspection Date 27-8-10

Audit Date _____

Building Consent No: 2010/24349

Section 51, Building Act 2004

Issued by Hamilton City Council

Date: 08/06/2010

The building:
Street address of building: 8 Yorkshire Road HAMILTON 2001
Legal description of land where building is located: Lot 62 DP S9556

The owner
Name of owner: CKC Holdings Ltd
Mailing Address: C/O Keith Clapson
PO Box 904
Hamilton 3240

First point for communications with the council/building consent authority:
Hamilton City Council
Municipal offices
Garden Place
Private Bag 3010
Hamilton 2001

Phone 07 838 6677
Fax 07 838 6684

Building work
The following building work is authorised by this building consent:

Application Description:	7 New Dwellings with attached Garages
Intended Use:	Detached Dwelling - Live As A Family
Work Type:	New Construction
Intended Life:	>50 years
Value of Work:	$$800,000.00

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.

Compliance schedule
A compliance schedule is required for the building.

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

NIL

Signed for and on behalf of the Hamilton City Council:

Name: ..Jacob Parker..... 8/06/2010
Position: Authorised Officer

Building Control Unit

Hamilton City Council
Te kaunihera o Kirikiriroa

Private Bag 3010
Hamilton 3240
New Zealand

Phone 07 838 6699
Fax 07 838 6599

info@hcc.govt.nz
www.hamilton.co.nz

8 June 2010

McPherson Goodwin Surveyors Ltd
P O Box 9379
HAMILTON

Dear Sir/Madam

Consent Number: 2010/24349
Project: 7 New Dwellings with attached Garages
Project Address: 8 Yorkshire Road HAMILTON 2001
Legal Description: Lot 62 DP S9556

Thank you for the application for building consent. We are pleased to advise that this consent has been processed and is now ready for collection.

Your next steps are:

1. If this consent has not been pre-paid, please come in, pay for, and pickup your copy of the plans.

2. Please ensure that your approved documentation is kept on the building site for the building inspector to view.

3. This Building Consent is issued subject to the advisory notes outlined on page 2. In particular please note the requirements for inspections. The phone number to arrange inspections is 838 6677 available from 8:00 am to 4:45 pm. Please quote your consent number when making the booking.

4. Your final step after the completion of the project, is to apply for the issue of a Code Compliance Certificate.

Good luck with your building project and we look forward to our staff assisting you with this and any future building work.

Regards

Jacob Parker
Council Building
Garden Place, Hamilton
Phone: 07 838 6677
Fax: 07 838 6684
Email: jacob.parker@hcc.govt.nz

These are your Building Consent Advisory Notes.
Please read these carefully

Building

(1) Please quote building consent number when requesting an inspection.

(2) A foundation/siting inspection required. Please provide 48 hours notice

(3) A pre-concrete floor inspection required. Please provide 24 hours notice.

(4) A pre-lining inspection required. Please provide 24 hours notice.

(5) Completion inspection required prior to issue of final code compliance.

(6) A cladding inspection is required. Please provide 24 hours notice.

(7) A post lining inspection is required. Please provide 24 hours notice and ensure that all sheet braces are nailed off and no skirtings or cornice are fitted.

(8) Smoke alarms shall be located on the escape routes on all levels within the household unit. On levels containing the sleeping spaces, the smoke alarms shall be located either:
a) In every sleeping space, or
b) Within 3.0m of every sleeping space door. In this case the smoke alarms must be audible to sleeping occupants on the other side of the closed doors.
Smoke alarms shall comply with at least one of the following standards:
UL 217, ULC S531, AS 3786, BS 5446 Part 1, and be fitted with a hush button.

(9) A structural framing inspection is required. Please provide 24 hours notice and ensure that:
- all sub floor bracing/connections are complete,
- all wall and roof framing, including all bracing and connections, are completed
- no wall or roof claddings are filled.

(10) A cavity/batten inspection is required. Please provide 24 hours notice and ensure that:
- all battens are as per cladding manufactures specification and;
- that no claddings are fitted.

(11) Inspection of foul water drains required. Please give 24 hours notice. Please note: If new internal drainage runs to existing connection, depth of connection must be confirmed before drainage is laid. If new connection has been requested, no internal drainage shall be laid until new connection has been installed.

(12) Inspection of stormwater drains required. Please provide 24 hours notice.

(13) Preline inspection of Plumbing Installation required. Please provide 24 hours notice.

(14) Prefloor inspection of Plumbing and Soil Waste system required. Please provide 24 hours notice.

(15) Crossing to be constructed to a minimum residential crossing specification.

(16) Please call for inspection of prepared base for crossing. Please give 24 hours notice.

(17) Please note that the final inspection for a crossing will be carried out at Code Compliance Certificate time or when requested.

Planning

(1) The conditions of Resource Consent 10/2010/20972-38/1/4315 apply to this residential development. Please ensure that the conditions are complied with as the work progresses on the site and the activity is established.

Water and Drainage

nil

Roads and Traffic

nil

Health

nil

Important Notes:

1. **The Project Information Memorandum (where applicable) lapses if a building Consent for the work concerned has not been issued within 24 months after the date of the issue of the Project information Memorandum.**

2. **Please be aware that the consent has a lifespan of two years, and you need to apply for a Code of Compliance Certificate before this date. You will be notified before this time to remind you of the expiry date, and you may be able to extend this frame by agreement with HCC.**

3. **Please check with your local Network Utilities Operator as to where your services are located, i.e. Telecom, WEL Energy and Gas.**

4. **To avoid unreasonable noise affecting neighboring properties it is requested that noisy construction activities that would cause sleep disturbance not be undertaken until after 07:30am, and not at all on Sundays and public holidays.**

5. **Berm Protection**

   Kerb and channel, footpaths and grassed areas must be protected whilst work is undertaken on the site. You may be charged for any damage that is done to the berm in front of your property, or any berm that is damaged by you or your contractors accessing your site.

   Where catch pits or berm pits are located within 1m of the temporary crossing point, the consent holder is responsible for ensuring that the grate is kept clear at all times.

5. Silt Control

Where stormwater runoff from the site is flowing to the road kerb and channel, or to an adjacent waterway, the consent holder is required to provide adequate silt control measures. Where material from the site is found to be causing a hazard on a road, the consent holder is required to remove the material as soon as possible. If this is not undertaken, Council will undertake to clear the hazard, the cost of which will be sought from the Consent holder.

6. Hamilton City Council's water-take permit does not provide capacity to supply process-related water above 15 cubic metres per day for the following activities:

   - all new commercial and industrial activities;

   - all existing commercial and industrial activities that currently use more than 15 cubic metres per day, and wish to increase this amount; and

   - all existing commercial and industrial activities that currently use less than 15 cubic metres per day, and wish to increase the amount of water used to above 15 cubic metres per day

   If you are proposing to exceed any of these thresholds please contact HCC's City Waters Unit as soon as possible to discuss how this water may be obtained.

Hamilton City Council
Te kaunihera o Kirikiriroa

Private Bag 3010
Hamilton 3240
New Zealand

Phone 07 838 6699
Fax 07 838 6599

info@hcc.govt.nz
www.hamilton.co.nz

21 May 2010

McPherson Goodwin Surveyors Ltd
P O Box 9379
HAMILTON

Dear Sir/Madam

Consent Number: 2010/24349
Project: 7 New Dwellings with attached Garages
Project Address: 8 Yorkshire Road HAMILTON 2001
Legal Description: Lot 62 DP S9556

FURTHER INFORMATION

Thank you for the application for a building consent. Before we can approve this application, we need you to supply us with the following information:

(1) Please show the Ceiling Insulation on Sheet 11 to have an R-value of R 3.2 as per the H1 calculations
(2) Please quote the sanitary plumbing pipe sizes and falls.

Notes:

1. Please provide **2 copies of all the information** requested within 20 working days so that we can continue to process this consent. If this information has not been received by then, we may cancel your consent.

2. Please ensure that you bring a copy of this letter with you so that our front counter can tick off the information has been provided. Please ensure that changes to plans are clearly noted on the drawing title block with clouded on the plans. We reserve the right to refuse to take information from you, if only part of it has been supplied.

3. Please contact the relevant officer(s) if you require any additional information and to advise of likely time frames. Please note that the clock has stopped and will not be started again until the information has been lodged in our system.

Regards

Jacob Parker
Council Building
Garden Place, Hamilton
Phone: 07 838 6677
Fax: 07 838 6684
Email: jacob.parker@hcc.govt.nz

Hamilton City Council
Te kaunihera o Kirikiriroa

memo

Private Bag 3010, Hamilton, New Zealand. Phone 07 838 6699 www.hcc.govt.nz

Planning Guidance Unit

To:	Jacob Parker **Building Review Officer- Building Control** **Lorraine Dunmall** **Compliance Officer - Planning Guidance**		
From:	**Building Consents Planner**		
Subject:	**Section 37 Certificate under Building Act 2004-for dwellings at 8-10 Yorkshire Road Hamilton**		
Date:	**1 November 2010**	**Files**	**Resource consent : 10/2010/20972-38/1/4315** **Building consent : 2010/24349**

1. Completion of works under section 37

In reference to the above building consent and resource consent. We advise that the Surveyors Certificate has now been received, confirming that the maximum height of the dwelling units on sites 2, 3, 5, and 6 does not exceed 4.25 metre from the natural ground level. Conditions 11 and 12 of resource consent **10/2010/20972-38/1/4315** are now deemed to be satisfied.

2. Uplifting of restrictions under section 37

You may therefore action the full release of **Building Consent 2010/24349 for the dwellings** to allow building work to proceed.

Gulab Bilimoria
Planning Guidance Manager

Per

Rachel Maynard
Building Consent Planner
Planning Guidance Unit

McPherson Goodwin
SURVEYING & PLANNING

Telephone 0-7-839 1335
Facsimile 0-7-839 1292

E-mail
mgltd@mgsl.co.nz

Website
www.mgsl.co.nz

7 Hardley Street
P O Box 9379
Hamilton 3240
New Zealand

26 October 2010

Planning Unit
Hamilton City Council
Private Bag 3010
HAMILTON

Dear Sir / Madam,

RE: 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – LAND USE CONSENT 10.2010.20972

As per condition 12 of the above referenced Land Use Consent please be advised that McPherson Goodwin Surveyors Ltd have completed measurements and confirm that no part of the buildings on unit site areas 2, 3, 5 or 6 exceed the maximum height restriction of 4.25m from the "natural ground level"

In determining the "natural ground level" we have used the level of the sand pad directly beneath the concrete pad of each building as at the time of 224c certificate (22 October 2010), meeting the definition with-in Rule 8.0-12 of the District Plan.

If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

Ajn7

MCPHERSON GOODWIN SURVEYORS LTD

Principals
John S. Curtis MNZIS, Dip Surv, Dip Town Planning, M.NZ Prop.Inst
Grant I. Ruffell MNZIS, B.Surv
Nicol Beeby MNZIS, B Surv

MEMBERS
THE CONSULTING SURVEYORS
OF NEW ZEALAND

Section 37, Building Act 2004
Certificate issued by Hamilton City Council

RESTRICTIONS ON COMMENCING BUILDING WORK UNDER THE RESOURCE MANAGEMENT ACT 1991

To:	Building Consent No:
CKC Holdings Ltd c/-McPherson Goodwin Surveyors Ltd PO Box 9379 Hamilton	2010/24349 For Residential Development at 8-10 Yorkshire Road Hamilton

The building work referred to in the attached Building Consent is also required to have the following resource consent under the Resource Management Act 1991:

Land use resource consent to establish residential dwellings that shall not exceed 4.25 metres in height from natural ground level

It is noted that resource consent **10/2010/20972-38/1/4315** has been granted for this work. As this resource consent will, or may materially affect the building work to which the attached Building Consent relates, until **Condition 12** of the resource consent has been fulfilled building work may proceed only to the extent stated below:

- **Roof framing stage**

Condition 11.	*That the maximum height of any building on the site shall not exceed 4.25 metres from the natural ground level.*
Conditions 12.	*That a Licensed Cadastral Surveyor shall certify to Council in writing prior to work progressing beyond roof framing stage that the buildings on Unit Site Areas 2, 3, 5 and 6 shall comply with the maximum height restriction in condition 11. No work shall proceed beyond that roof framing stage until receipt of such certification, to the satisfaction of the Manager of the Planning Guidance Unit.*

Failure to comply with the requirements of this notice may result in legal action being taken against you under the Resource Management Act 1991.

Once the resource consent conditions have been fulfilled this restriction can be lifted.

On behalf of Hamilton City Council:
Dated: 8th June 2010

Planning Guidance Unit	Building Control Unit
.....	.....
Rachel Maynard Building Consents Planner	Jacob Parker Building Review Officer

Rachel Maynard

From: Rachel Maynard
Sent: Wednesday, 19 May 2010 14:33
To: 'Marina Spasovska'
Subject: Building consent for development at 8-10 Yorkshire Road

To: McPherson Goodwin Surveyors Ltd
Attention: Marina
From: Planning Guidance Unit Hamilton City Council

Further Information Requested
Building consent application No 2010/2349 for Residential Development at 8 and 10 Yorkshire Road Hamilton

Regarding the above-mentioned building consent application, please be advised of the following information that is required before the building consent complies with the Hamilton District Plan and can be released by the Planning Guidance Unit:

1. *Please note that this development covers more than one allotment, and house number 4 is sited over lot boundaries. Binding of the lots will need to be carried out before the building consent can be released.*

Advisory Notes:

- Engineering plans for this development have been received and are currently in progress
- Please note that your application cannot be released by Planning Guidance until these matters have been dealt with.
- In the meantime your building consent application has been returned to the Building Unit so that they may continue with their processing

Please contact us should you require any additional information on this matter.

Thank you.

Regards

Rachel Maynard
Building Consent Planner
Planning Guidance Unit
Hamilton City Council
Private Bag 3010 Hamilton 3240
DDI 07 838 6593
Fax 07 838 6819
Email rachel.maynard@hcc.govt.nz
Website www.hamilton.co.nz

BUILDING UNIT COPY **Hamilton** City Council
Te kaunihera o Kirikiriroa

Private Bag 3010
Hamilton 3240
New Zealand

Phone 07 838 6699
Fax 07 838 6599

info@hcc.govt.nz
www.hamilton.co.nz

25 February 2010

CKC HOLDINGS LIMITED

C/- McPherson Goodwin Surveyors Limited

PO Box 9379

Hamilton 3240

Attention Anna

RE: LAND USE CONSENT 10.2010.20972.001 (38/1/4315)
7 DWELLINGS AS PART OF A COMPREHENISVE RESIDENTIAL DEVELOPMENT

After consideration of the information and plans submitted with the application, I advise that Council's decision is as follows:

*That pursuant to the provisions of sections 19, 95, and 104(A) of the Resource Management Act 1991 and the Proposed Hamilton City District Plan (References Version), Council **grants consent** to the application by CKC Holdings Limited being Resource Consent number 010.2010.20972 — 38/1/4315 to: Under the Proposed District Plan to establish a 7 dwelling comprehensive development within the Residential Zone, (assessed as a Controlled Activity). Situated Lot 61 DPS 9556 in CT SA5A/971 (with approved boundary adjustment between Lot 60 DPS 9556, (48/2/529) Lot 62 DPS 9556 in CT SA16A/1036 at 8 & 10 Yorkshire Street, Hamilton City, subject to the following conditions:*

Planning

1. *That the development is in general accordance with the plans and the information submitted with the application on 21 December 2009 and Electrix limited peer reviewed Opus Engineering Assessment report.*

Access

2. *The right of way shall be formed, drained and sealed, and thereafter maintained, in a permanent dust-free all-weather surface such as concrete, asphalt, chip seal or cobblestones.*

3. *The proposed vehicle crossing shall be constructed to a maximum 5.5 metres in width to the residential standard for less than seven households. The vehicle crossing shall be fully formed to the site boundary in the same material as the footpath*

4. *On completion of the site works, any roadside damage shall be repaired, and the kerb, berm and footpath reinstated to match the surroundings.*

5. *All works within the road corridor shall be managed by a contractor holding an approved traffic management plan.*

6. *Any design or works relating to HCC assets shall be undertaken in accordance with the Hamilton City Development Manual (available from the internet at*

Planning Guidance

www.hcc.govt.nz) and/or to the satisfaction of the General Manager Works and Services. The version of the Manual to be applicable is the version current at the time of Engineering Plan stamping or if more that 12 months different, then works construction.

7. *That all works shall be done to the requirements of the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.*

Unit Area and Fencing

8. *That each unit site area be no less than 300m² and that any on-site fencing is to be accurately established to retain the minimum unit site area dimension.*

Amenity

9. *A minimum of 35% permeable services, as defined under section 8.0 of the Proposed District Plan is to be provided on each proposed lot.*

High voltage lines

10. *All work shall complies with **NEW ZEALAND ELECTRICAL CODE OF PRACTICE for ELECTRICAL SAFE DISTANCES** - NZECP 34:2001 (Ref # ISSN 0114-0663)";*

11. *That the maximum height of any building on the site shall not exceed 4.25 metres from the natural ground level.*

12. *That a Licensed Cadastral Surveyor shall certify to Council in writing prior to work progressing beyond roof framing stage that the buildings on Unit Site Areas 2, 3, 5 and 6 shall comply with the maximum height restriction in condition 11. No work shall proceed beyond that roof framing stage until receipt of such certification, to the satisfaction of the Manager of the Planning Guidance Unit.*

13. *That the Hamilton City Council may give pursuant notice to Section 128(1) of the Resource Management Act 1991 of its intention to review the conditions of this resource consent at any time within two months after each anniversary of commencement of the consent, for the following purposes:*

- *To review the effectiveness of this resource consent in avoiding, remedying or mitigating any adverse effects on the environment particularly with respect to detrimental impact of undertaking residential activities close to or beneath the structures associated with the transmission and conveyance of electricity at voltage exceeding 33kv on health, safety and amenity values, and if necessary to avoid, remedy or mitigate such effects by way of further amended conditions; and*
- *To review the effectiveness of this resource consent in avoiding, remedying or mitigating any adverse effects on the environment particularly with respect to the extent to which the upgrading of height voltage transmission lines (exceeding 33kv) may adversely affect existing land uses and development opportunities close to or beneath them, and impacts in existing infrastructure in the vicinity; and*
- *To address any adverse effect on the environment which has arisen as a result of the exercise of this consent; and*
- *To review the effectiveness of this resource consent in avoiding, remedying or mitigating any adverse effects on the environment particularly with respect to*

Planning Guidance

the provisions of buffers, and other mitigation measures to minimise conflicts with neighbouring activities, including the extent of separation between building platforms and existing high voltage 33kv electricity lines.

If necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on the surrounding environment due to the activity.

Reasons for the Decision

Legislation/District Plan

a. *Subject to the above conditions, the proposal is not contrary to the relevant objectives and policies of the Hamilton City Proposed District Plan. It is appropriate for Council under section 104A of the Resource Management Act 1991 to grant consent to the application as the adverse effects on the environment of the proposal are considered to be no more than minor and the proposal is not contrary to relevant objectives and policies.*

b. *Pursuant to section 95 of the Resource Management Act 1991 the application has not been publicly notified as the adverse effects of the proposal will be minor and no parties were considered affected by the granting of this consent. These factors enabled the application to be processed without public notification.*

Amenity

c. *The requirement for 35% of permeable surfaces will ensure there is sufficient areas for planting and gardens on the site enhancing natural amenity.*

d. *Fencing on property boundaries will ensure that there is clearly defined boundaries from each proposed lot and will provided sufficient privacy to the occupants.*

High Voltage Lines

e. *Compliance with condition 10 to 15 will ensure that the development is undertaken in a way which will not affect the operation or maintenance of the high voltage lines while ensuring the dwellings are built to comply with the NZECP standards.*

f. *A Engineering Assessment Report was submitted with this applicant by OPUS International Consultants dated 14 December 2009 This report was peer reviewed by Electrix Limited. The peer review concludes that there is sufficient clearance over and above the minimum required clearance specified in NZCP 34.*

INFORMATION

Advisory Notes

Planning

- *That compliance in all other respects with Council Bylaws, all relevant Acts, Regulations, and rules of law be met.*
- *If this property is on-sold, please ensure that a copy of this resource consent is forwarded to the new landowner(s).*

Planning Guidance

- *That the consent holder ensure on-going compliance with the relevant and applicable sections of **NEW ZEALAND ELECTRICAL CODE OF PRACTICE for ELECTRICAL SAFE DISTANCES** - NZECP 34:2001 (Ref # ISSN 0114-0663)";*

Construction Noise

- *All construction noise shall comply with the provisions of New Zealand standards NZS 6803:1999 "The Measurement and Assessment of Noise from Construction, Maintenance and Demolition Work" and shall be measured and assessed in accordance with NZS 6803:1999. Please also note that this New Zealand standard restricts the noisy activities to the hours of 7.30am — 6.00pm Monday to Saturday excluding public holidays. For all day on Sundays, public holidays and at night (defined as after 8pm weekdays, after 6pm Saturday) and any noisy activities are effectively prohibited.*

Street Tree

- *Please request approval from Hamilton City Council's Arborist (Pip Watson ph 959 9005 or 027 6555792) if the development will have a potential impact on any of the existing street trees in the vicinity of the site.*

Access

- *The roading specifications for the vehicle crossing are available from the Hamilton City Development Manual via Council's web site. It is the responsibility of the Consent Holder to ensure that the correct specifications are used in the construction. See Volume 3, Standard Technical Specifications, Drawing, TS 310 and under, Volume 2, Guide Design, clause 3.11.*

Water and Waste

- *City Development Unit will invoice the Consent Holder separately for work undertaken in support, inspection or auditing of this development after the engineering stage has been completed. This will include time-based staff costs and reimbursements.*
- *All GST requirements with regard to the transferring of assets to Council (e.g. reserves, roads, water, wastewater and stormwater infrastructure) being complied with by completion of the Hamilton City Council form titled, GST Requirement/Asset Register and Tax Invoice. These shall be submitted to City Development Unit at the completion of works.*
- *All operations affecting in-service Hamilton City Council water, wastewater or stormwater pipelines are to be carried out by Hamilton City Council staff (City Delivery Unit) unless specific approval is given as outlined in the Hamilton City Development Manual (Volume 1, section 2.3.12.)*
- *This property is also subject to a current Subdivision Consent 11.2010.20973.001 and all Engineering conditions of that Consent should be followed with regard to this Land Use Consent. Failure to follow those conditions may lead to newly laid pipework being relaid, at the developers expense, to meet the Subdivision conditions, also may delay the release of the 224C Certificate.*

Objections or Appeals

This consent is subject to sections 357 and 358 of the Act (which deal with rights of objection and appeal). If you decide to make an objection or lodge an appeal in respect of the whole or any part of the above decision, you should do so within 15 working days of receipt of this letter.

Planning Guidance

Building Consents
If you do not intend to object to the consent or any of the conditions of consent, you may complete a Declaration Form, return it to the Planning Guidance Unit, and have the planning aspect of your building consent approved prior to the expiration of the 15 working day objection period.

Compliance and Monitoring
This resource consent allows the land use to be carried out at the site specified in the consent provided that the conditions of the consent are met. Under section 35 of the Resource Management Act 1991, Council will monitor and enforce compliance with this resource consent.

Change or Cancellation of Conditions

The Consent Holder may apply to Council for a change or cancellation of a condition of the consent, and is required to obtain written approval from every person who may be affected by the change or cancellation.

Lapsing of Consent

This resource consent lapses on the expiry of **five years** after the date of this letter, unless the consent is given effect to before the end of that period. By giving effect to the consent, the activity must be established and there must be full compliance with all the conditions of the consent.

Other Notes

Please note that there must be continued compliance with all of the consent conditions when the land use has been established.

If you have any queries about the consent, please contact the Hamilton City Council.

Yours faithfully

GULAB BILIMORIA
PLANNING GUIDANCE MANAGER

For more information please contact:
David Radich

Planner
Municipal Offices
Garden Place, Hamilton
Phone 07 838 6724
Fax 07 838 6819
(07) 838 6724

Planning Guidance

PLANNER: David Radich

YOUR REF:15147
OUR REF: 10.2010.20972.001 (38/1/4315)

BUILDING UNIT COPY

Hamilton City Council
Te kaunihera o Kirikiriroa

Private Bag 3010
Hamilton 3240
New Zealand

Phone 07 838 6699
Fax 07 838 6599

info@hcc.govt.nz
www.hamilton.co.nz

25 February 2010

CKC HOLDINGS LIMITED
C/- McPherson Goodwin Surveyors Limited
PO Box 9379
Hamilton 3240

Attention Anna

20973

RE: SUBDIVISION RESOURCE CONSENT 11.2010.00020~~73~~.001 (48/1/Y18)
7 LOT COMPREHENSIVE RESIDENTIAL DEVELOPMENT AT 10 YORKSHIRE ROAD, HAMILTON CITY

After consideration of the information and plans submitted with the application, I advise that Council's decision is as follows:

That pursuant to section 104(A) to the application by CKC Holdings Limited to create seven lots by fee-simple subdivision, as shown on Scheme Plan 15147 submitted by McPherson Goodwin Surveyors Limited, on Lot 61 DPS 9556 in CT SA5A/971 (with approved boundary adjustment between Lot 60 DPS 9556, (48/2/529) Lot 62 DPS 9556 in CT SA16A/1036 at 8 & 10 Yorkshire Road, Hamilton city, subject to the following conditions being met at the consent holder's expense:

PLAN INFORMATION — Planning Guidance

(1) That the subdivision be in general accordance with the information and plan/s (copy attached) submitted with the application.

(2) That the net lot area of each Lot be not less than 300m².

(3) That the entry width of Lot 1,2,6 and 7 be not less than 6.0m.

(4) That the entry width of Lot 3,4 and 5 be not less than 3.5m

Easements

(5) (a) That the right-of-way and service easements, shown as A on the scheme plan, be duly granted and reserved.

All the above easements referred to above are to be registered on the certificates of title for the affected lots.

CONSENT NOTICES — Planning Guidance

(6) That pursuant to section 221 of the Resource Management Act 1991, a consent notice be registered on the Certificates of Title for all Lot advising that development be in accordance with the site plans and conditions approved as part of land use consent 010.2010.00020972.001 (38/1/4315) granted by the Hamilton City

Planning Guidance

PLANNER: David Radich YOUR REF: 15147 OUR REF 11.2010.00020~~73~~.001 (48/1/Y18)
20973

Council on 25 February 2010 (and which expires after 5 years unless given effect to within that period). Compliance with the land use consent or any subsequent approved consent will be required on a continuing basis. Any future development may require a new land use consent or change of conditions to an existing consent.

(7) That pursuant to section 221 Resource Management Act 1991, a consent notice be registered all Certificates of Title advising that prior to any activity or construction on the property it is the responsibility of the land owner to contact the line owner of the high voltage electricity powerlines to ensure compliance with NZECP 34:2001 (Ref # ISSN 0114-0663)";

(8) That pursuant to section 221 Resource Management Act 1991, a consent notice be registered on the Certificates of Title of any allotment having a Hamilton City Council owned pipeline crossing the property. The lots to have this consent notice shall be identified at time of engineering works approval. The consent notice shall advise that 'A public stormwater or wastewater (as appropriate) pipeline crosses under the property and conditions will be placed on any building consent for a structure over the pipeline. No building is allowed to be constructed over a Hamilton City Council manhole or over a connection to the Hamilton City Council drain.' Note: No building is allowed to be constructed within 2m of a HCC manhole or over a connection to the public main.

(9) That pursuant to section 221 Resource Management Act 1991, a Consent Notice be registered on the Certificates of Title for any lots utilising ground soakage for stormwater disposal advising that the property is reliant on ground soakage for stormwater disposal and that maintenance and replacement of soakage systems are the responsibility of the land owner. Note: This consent notice will not be required if alternative stormwater disposal is accepted by Council.

(10) That pursuant to section 221 Resource Management Act 1991, a consent notice be registered on the Certificates of Title of all allotments that any new owners shall be provided with a copy of the Engineering Assessment Report for CKC Holdings Limited.

BUILDING WORKS— Planning Guidance

(11)That any buildings located over the proposed lot boundaries be demolished / removed. This work shall include the removal of any telephone and electricity lines passing between the dwelling on the Lot 4 and the sheds on the Lot 2.

(12)That there not be any buildings extending between lots.

FINANCIAL CONTRIBUTIONS— Planning Guidance

*(13)Payment of an additional **Works and Services Fee** for auditing the conditions set out in this consent. The fee will be charged on a time-cost recovery basis in*

Planning Guidance

accordance with Hamilton City Council's Schedule of Fees and Charges, with adjustments coming into effect at the beginning of each financial year.

(14)All GST requirements with regard to the transferring of assets to Council (e.g. reserves, roads, sewers) being complied with by the completion of the form titled 'GST Requirement/Asset Register and Tax Invoice'.

ENGINEERING DESIGN

(15)The two existing vehicle crossing shall be fully rehabilitated to a new maximum 5.5 metres in width one to the residential standard in the same material as the footpath.

(16)The shared right of way shall be formed to a residential standard, and shall be drained and sealed, and thereafter maintained, in a permanent dust-free all-weather surface such as concrete, asphalt, chip seal or cobblestones.

(17)Plans for all of the above engineering works are to be submitted to the Planning Guidance Unit for review by City Development Unit. Revision of these plans may be required and no works are to commence on site until final plans are stamped 'accepted' by City Development Unit. Copies of current versions of stamped plans are to be held on site during the works.

(18)All the above being in accordance with the Hamilton City Development Manual (available from the internet at www.hcc.govt.nz) and/or to the satisfaction of the General Manager Works and Services. The version of the Manual to be applicable is the version current at the time of Engineering Plan stamping or if more that 12 months different, then works construction. Where no engineering plans where prepared then the version of the Manual current at 224c submission shall apply.

(19)Where water and drainage reticulation works have been undertaken, as-built plans shall be submitted for 224c clearance.

(20)All works within the road corridor shall be managed by a contractor holding an approved traffic management plan.

(21) Damage to kerb & channel, berm, footpath and carriageway shall be reinstated at the conclusion of site related works if damage has occurred as a result of those works.

(22)That the following ***engineering requirements*** *be met:*

Engineering Works — general

(a) The consent holder shall retain the services of a suitably qualified person (subject to HCC approval but generally a professional land surveyor, engineer or planner currently working on land development projects) to oversee the construction of any infrastructure required for the development. This person shall be responsible for ensuring adherence to approved construction plans,

quality systems, and project completion requirements. The name of this person is required at the time of submitting construction plans for HCC approval.

(b) The plans for all of the following engineering works are to be submitted and approved by the General Manager Works and Services prior to work commencing at the site. NB: If plans have already been submitted and approved in accordance a Condition of land use consent 010.2010.00020972.001 (38/1/4315) then this condition, where relevant, is deemed to have been satisfied / partly satisfied.

Services

(c) The Consent holder shall obtain work clearance from each network operator (electricity, telephone and gas (where required)) for the servicing of ..... in the form of Checklist 8.1 in Volume 4 of the Hamilton City Development Manual. These checklists shall be submitted to the satisfaction of the Manager, Planning Guidance Unit, at the time of application for certification under Section 224 of the RMA. Any costs and/or works associated with re-connecting to the network utility service shall be a matter that is to be negotiated and completed between the Consent Holder and the relevant service provider(s). This shall occur at any time either prior during or after the issuance of certification under Section 224 of the RMA. (NB: Hamilton City Council does not have any direct or indirect involvement in the assessment or approval of any of the works or costs associated with connecting to a network utility service, in particular, electricity, telephone or gas).

Water & Waste Servicing

Water Supply

(d) The provision of a water supply to all lots.

(e) No private water supply pipes passing between one lot and another except through ROW.

(f) Any existing connections and private pipework not required by the proposed development shall be appropriately disconnected and removed to the satisfaction of the Manager, City Development Unit. Removal of existing connections shall be done by Council at the consent holder's expense.

(g) A new 50mm water connection to be installed by Council and extended internally by others as a 63mdpe ridermain with flushing point at the end. This line to provide a separate supply to each LOT with tobies outside their respective building footprint. This line to be pressure tested and sampled by the Development Auditor from City Development Unit prior to connection to the main network.

Planning Guidance

Stormwater

(h) Provide each lot with a means for disposal of stormwater and control runoff from the whole development.

(i)No private stormwater pipes or soakage systems crossing from one lot to another.

Wastewater

(j)Provide separate wastewater connections to each lot.

(k) No private wastewater drains passing between one lot and another.

(l)Any existing connections and private pipework not required by the proposed development shall be appropriately disconnected and removed to the satisfaction of the Manager, City Development Unit. Removal of existing connections shall be done by Council at the consent holder's expense.

All Units

(m) All the above engineering works being in accordance with the Hamilton City Development Manual (available from the internet at www.hamilton.co.nz) and/or to the satisfaction of the General Manager Works and Services.

(n) At the time of application for the section 224(c) certificate, all completed works shall be certified by a suitably qualified person (subject to HCC approval but generally a professional land surveyor, engineer, or planner currently working on land development projects) as being in accordance with the approved plans and specifications and the Hamilton City Development Manual.

Reasons for the Decision

I. Subject to the above conditions, the proposed subdivision complies with the requirements of the Hamilton City Proposed District Plan.

II. The proposed subdivision is in accord with land-use consent 10.2010.20972.001 (38/1/4315) granted on 25 February 2010.

III. The right-of-way and the easements will provide for access and servicing at the site.

IV. The consent notice in relation to the site development plans will acquaint present and future owners of the plans approved as part of the land-use consent for the site and ensure that the development of the lots will be in accordance with that land-use consent.

V. The engineering requirements will ensure that the subdivision has a high standard of all-weather access and be adequately provided with services when the site is developed..

VI. The application has not been publicly notified and 'written approval of affected persons' were not required because the development complies with

Planning Guidance

all controlled standards and general standards under the Proposed District Plan.

VII. *The application has not been publicly notified and 'written approval of affected persons' were not required because the subdivision is giving effect to plans approved as part of a controlled activity land-use consent.*

VIII. *A Engineering Assessment Report was submitted with this applicant by OPUS International Consultants dated 14 December 2009 This report was peer reviewed by Electrix Limited. The peer review concludes that there is sufficient clearance over and above the minimum required clearance specified in NZECP 34:2001 (Ref # ISSN 0114-0663)";*

ADVISORY NOTES

- Compliance with the conditions of this resource consent does not remove the need to comply with all other applicable Acts, regulations, bylaws, and rules of law.

Planning Guidance - general

- Any reports or plans to be submitted, in fulfilment of conditions of this consent, for approval by the General Manager, Works and Services Group, must be addressed to the Manager, Planning Guidance Unit.
- Compliance with the conditions of land use consent ... will be required on a continuing basis. The land use consent lapses on the expiry of five years after the date of consent or on expiry of any other period specified in the conditions of the consent (unless given effect to by the end of that period).
- Please note that the following property addresses should apply — Lot as 10A, Lot 2 as 10B, Lot 3 as 10C, Lot 4 as 10D, Lot 5 as 10E, Lot 6 as 10F, Lot 7 as 10G.
- If there are high-voltage electricity transmission lines over or adjacent to the property, or transmission towers/pylons on or adjacent to the property, the consent holder must ensure that any new building or structure complies with the clearances prescribed in the New Zealand Electrical Code of Practice for Electrical Safety Distances NZECP 34:2001 (Ref # ISSN 0114-0663)";Please contact the line owner prior to any site activity or construction.

Financial — Planning Guidance

- The initial non-refundable Works and Services Fee of $433.10 (GST inclusive) has already been used in processing this resource consent application.
- **If development contributions have been paid on a previous Land Use Consent or Building Consent regarding the same activity this advisory note may be disregarded.**

Planning Guidance

The development contributions, based on ruling rates at the date this consent was granted, are assessed to be **$59,737.51** (including GST)

All invoices will be raised (when required) at the rates applicable at the time that consent was granted, but will be adjusted annually (at 1 July) using the Producers Price Index (Output) - Construction.

A s224(c) certificate will not be issued if a development contribution is unpaid, with the exceptions of development contributions associated with future stages of a multi-stage development or bonded development contributions.

Remissions or reductions in the scheduled charges may be justified in exceptional circumstances. Any requests for remissions or reductions will need to be made to Council in writing within 15 working days of a contribution requirement being imposed (i.e. date of granting consent) setting out full details of the reasons why the development contributions should be reduced or not apply.

This advisory note must be read in conjunction with Council's "**Development and Financial Contributions Policy**", which is accessible at our website (www.hamilton.co.nz).

Environmental Health

- It is recommended that Section 8.3 'Community Relations" of NZS 6803:1999 is considered in developing and maintaining relations with neighbouring residents throughout the development period.

Building

- All building works should be in compliance with the Building Act 2004.

Works and Services — general

- The onus rests with the consent holder to demonstrate that completed works meet Council requirements and accepted engineering standards. Therefore, developers should employ suitably qualified and experienced contractors and maintain records of the quality control process.

Roading and Access

Water & Waste Servicing

- Where works are proposed in an adjacent property, permission to enter and lay pipes is always required.
- Where ground soakage is proposed as a means of stormwater disposal for individual lots, it will be sufficient to submit a complying site soakage test and preliminary design report to fulfil subdivision conditions for management of

Planning Guidance

primary stormwater flows. Final design and construction of the soakage system will be managed under the building approval and construction process. Where soakage is part of a management solution for secondary flows, then construction of the system will generally be required at the time of subdivision.

- All operations affecting in-service Hamilton City Council water, wastewater or stormwater pipelines are to be carried out by Hamilton City Council staff (City Delivery Unit) unless specific approval is given as outlined in the Hamilton City Development Manual (Volume 1, section 2.3.12.)

Objections or Appeals

This consent is subject to sections 357 and 358 of the Act (which deal with rights of objection and appeal). If you decide to make an objection or lodge an appeal in respect of the whole or any part of the above decision, you should do so within 15 working days of receipt of this letter. If you do so, then:

(a) A survey plan, pursuant to section 223 Resource Management Act 1991, may not be able to be approved, and/or

(b) A completion certificate, pursuant to section 224 Resource Management Act 1991, may not be able to be issued until the objection or appeal is resolved.

Lapsing of Consent

This resource consent will lapse within a period of five years of the date of notification (or resolution of any objection or appeal) unless given effect to by the approval of a section 223 Certificate.

Other Notes

1. A survey plan, to be lodged with the District Land Registrar, can (pursuant to section 223 Resource Management Act) be approved by Council [per the Planning Guidance Manager], and later, when the conditions of the consent have been met, an application may be made for a section 224 Certificate.

Planning Guidance

If you have any queries about the consent, please contact the Hamilton City Council.

Yours faithfully,

Gulab Bilimoria
PLANNING GUIDANCE MANAGER
Municipal Offices (Ground Floor)
Garden Place, Hamilton
Phone (07) 838 6800
Fax (07) 838 6819

Planning Guidance

PLANNER: David Radich YOUR REF: 15147 OUR REF 11.2010.0002073.001 (48/1/Y18)

Hamilton City Council
Te kaunihera o Kirikiriroa

Domestic Dwelling Processing Checklist

Ref: CP 03
Ver: 07
Issued: 18 June 09
Page 1 of 9

Processor Name: JACOB PARKER		Building Consent No. 24349.			
Building Act					**Comments/ reason for decision**
1	PIM issued? (*subject to conditions*)	P	F	(N/A)	
2	Sec 36 - Has a Development Contribution Notice been attached to the PIM?	P	F	N/A	
3	Section 37 notice issued?	P	F	N/A	
4	Sec 39 - Are there any issues associated with Historic Places Trust?	P	F	N/A	
6	Sec 67 - Is the building consent subject to a waiver or modification?	P	F	N/A	
7.	Sec 72 - Land subject to natural hazards.	P	F	N/A	
8	Sec 75 -Building on 2 or more allotments.	P	F	N/A	
9	Sec 84 –LBP's listed for Restricted building Work	P	F	N/A	
10	Sec 113 - Specified intended life. *Apply a condition that the building is to be removed, altered or demolished on or before end of specified life if life is less than 51 years.*	P	F	N/A	
11	Sec 269 - Does the application involve any certified building methods or products?	P	F	N/A	
12	Sec 364 - Is the building a household unit being constructed by or on behalf of a property developer for the purpose of sale?	P	F	N/A	
13	If this is an alteration, have records been checked to reconcile proposal against existing?	P	F	N/A	
Specification					**Comments/ reason for decision**
14	Job specific specification	(P)	F	N/A	
Ground Works / Siting / Site Preparation					**Comments/ reason for decision**
15	Distances to boundaries & other buildings on the site	P	(F)	N/A	UNIT 6 1·1 SOUTH WALL.
16	Special features of land or ground conditions (*Engineer Design*)?	P	F	N/A	
17	Is wind zone correctly specified for the site?	(P)	F	N/A	LOW
18	Contours on site plan	P	F	(N/A)	
Footing/ Foundation/ Piles					**Comments/ reason for decision**
19	Footing size, depth in ground (*pile or insitu-concrete*)	P	F	(N/A)	
20	Reinforcing size and cover	P	F	N/A	
21	Foundations relevant to cladding type and no of storey's	P	F	N/A	
22	Load paths (*point load from roof structure*)	P	F	N/A	
23	Masonry block work	P	F	N/A	
24	Tanking to foundation walls, drainage (*internal/ external*)	P	F	N/A	
25	Sub floor bracing calculations	P	F	(N/A)	

26	Pile connection details	P	F	(N/A)	
Footing/ Foundation/ Piles Continued					**Comments/ reason for decision**
27	Timber pile size, grade & treatment	P	F	N/A	
28	Up lift for verandah posts (*calculations for volume of footing*)	P	F	N/A	
Bearers					**Comments/ reason for decision**
29	Bearer size, spans, grade, spacing, treatment specified?	P	F	N/A	
Floor Joists					**Comments/ reason for decision**
30	Joist grade, treatment, size, spacing	P	F	N/A	
31	Lateral support, blocking & midspan-blocking	P	F	N/A	
32	Load paths been considered?	P	F	N/A	
33	Has direction of services been considered?	P	F	N/A	
34	Are non-load bearing walls (with or without bracing elements) adequately supported?	P	F	N/A	
35	Double joists provided under load bearing walls	P	F	N/A	
36	Cantilever joist grade, sizes & spans	P	F	N/A	
37	Stringer/ trimmer size, grade & fixing	P	F	N/A	
Flooring					**Comments/ reason for decision**
38	Flooring thickness and clearance to ground	P	F	N/A	
Subfloor spaces					**Comments/ reason for decision**
39	Ventilation	P	F	N/A	
40	Access and crawl space	P	F	(N/A)	
Concrete floor					**Comments/ reason for decision**
41	Floor height above finished ground level	(P)	F	N/A	150
42	Hard fill detailed (< 600 mm in depth)	(P)	F	N/A	
43	DPM detail	(P)	F	N/A	
44	Slab thickness & thickenings	P	F	(N/A)	
45	Reinforcing and its support	(P)	F	N/A	
46	Shrinkage Control Joints	(P)	F	N/A	
Wall Framing					**Comments/ reason for decision**
47	Bottom plate fixings	(P)	F	N/A	
48	Framing treatment/ grade	P	F	N/A	H1.2.
49	Framing setout appropriate for the cladding system?	(P)	F	N/A	
50	Stud height, size & spacing in relation to wind zone correct?	(P)	F	N/A	24
51	Top plate, lintel fixings / connections for uplift	(P)	F	N/A	
52	Top plate for load bearing/ bracing *(diaphragm ceiling)*	P	F	(N/A)	
53	Lintel size & grade	(P)	F	N/A	
54	Nogs behind apron flashing, up stand to deck.	P	F	(N/A)	

	Bracing/Walls/Ceiling				Comments/ reason for decision
55	Wall bracing elements & fixings identified &detailed (*Are wall bracing elements clear of showers?*)	(P)	F	N/A	
56	Wall bracing schedule, calculations &distribution	(P)	F	N/A	
57	Dragon ties/ diaphragm ceiling	P	F	(N/A)	
	Roof Bracing				**Comments/ reason for decision**
58	Bracing (*space, plane or ceiling plane)*	P	F	(N/A)	
	Roof Framing				**Comments/ reason for decision**
59	Buildable truss layout/ design statement	(P)	F	N/A	
60	Treatment of structural members	(P)	F	N/A	
61	Do rafter spacing, spans, size & grade,	P	F	(N/A)	
62	Beam, spans & sizes (*hip, valley, ridge, verandah*)	P	F	(N/A)	
63	Have load paths been correctly addressed?	(P)	F	N/A	
64	Ceiling joist & runner spacing, size, span, grade,	P	F	(N/A)	
65	Purlin spacing's, span, size, grade,	(P)	F	N/A	
66	Roof framing fixings (*truss, purlin beams, rafters etc)*	(P)	F	N/A	
67	Ceiling batten spacing, span, size	(P)	F	N/A	
	Roof Cladding				**Comments/ reason for decision**
68	Roof type, profile and pitch	(P)	F	N/A	
69	Roofing underlay (*spreaders over concrete tiled roof, requirement for anti ponding bds <17°*)	(P)	F	N/A	
70	Have details & flashings been provided for the hips, ridges, valleys, aprons & barges?	(P)	F	N/A	
71	Stop end details	P	F	(N/A)	
72	Roof penetrations	P	F	(N/A)	
73	Internal metal gutter capacity & overflow	P	F	(N/A)	
74	Durability (*differing materials are compatible, coatings applicable for corrosion zone*)	(P)	F	N/A	
	Membrane Roofs/Gutters				**Comments/ reason for decision**
75	Membrane type and pitch	P	F	(N/A)	
76	Substrate thickness & treatment	P	F	(N/A)	
77	Gutter capacity & overflow	P	F	(N/A)	
	Exterior Cladding				**Comments/ reason for decision**
78	Risk matrix assessed	(P)	F	N/A	
79	Type of cladding/ claddings	(P)	F	N/A	BRICK
80	Building wrap specified appropriate & compatible with cladding.(*air barrier*) *Refer E2, Table 23.*	(P)	F	N/A	TEKTON
81	Construction details for the drained cavity system	(P)	F	N/A	

82	Have drainage paths been considered?	(P)	F	N/A	
83	Flashing details provided for window & door openings	(P)	F	N/A	
84	Internal and external corner details are provided	P	F	(N/A)	
85	Junctions between differing claddings are detailed	P	F	(N/A)	
86	Have parapets/enclosed deck barrier junctions/flashings been detailed?	P	F	(N/A)	
87	Construction/movement/shrinkage joints been detailed relevant to cladding	P	F	(N/A)	
88	Wall/soffit junctions	(P)	F	N/A	
89	Brick ties, lintels & shelf angle size and treatment	P	F	(N/A)	
90	Are all fixings relevant for bracing & or corrosion zone?	(P)	F	N/A	
91	Timber profiles have appropriate weather grooves	P	F	(N/A)	
92	All plaster/coating systems are a complete and approved system (*endorse BC to ensure statement provided on completion*)	P	F	(N/A)	
Enclosed decks					**Comments/ reason for decision**
93	Timber treatment, grade, size span & spacing (*2 kpa*)	P	F	(N/A)	
94	Substrate and falls	P	F	N/A	
95	Threshold/ upstand details	P	F	N/A	
96	Stormwater drainage & overflow relief	P	F	N/A	
97	Membrane/ tanking type and traffic protection				
98	Flashing details for the barrier/wall junction	P	F	(N/A)	
Kitchen/ Laundry/ Bathroom					**Comments/ reason for decision**
99	Kitchen facilities (*sink, cooker, refrigeration, benches*)	(P)	F	N/A	
100	Laundry facilities	(P)	F	N/A	
101	Impervious finishes to walls/ floors	P	F	(N/A)	
102	Wet area timber floor, (*In wet areas where maintenance of an impervious coating cannot be assured plywood or timber flooring that has been treated to a min. of H3.1 shall be used (ref. NZS 3602: 2003 sec. 10.3.1)*	P	F	(N/A)	
103	Shower type (tiled or proprietary cubicle) *If tiled shower, have construction details been provided for the tiling substrate and waterproofing membrane.*	(P)	F	N/A	
104	Has provision been made to contain accidental overflow damage to adjoining household units? *If multi-unit dwelling, Refer E3, section 2.0 'Overflow'.*	P	F	(N/A)	
Ventilation					**Comments/ reason for decision**
105	Passive ventilation	(P)	F	N/A	
106	Mechanical ventilation (*ducted to exterior*)	P	F	(N/A)	
Insulation					**Comments/ reason for decision**
107	Insulation walls (*<30% glazing, solid construction*)	P	F	N/A	R2·2
108	Insulation ceiling (*25mm air gap to skillion*) ✓	P	(F)	N/A	R2·9 → SHEET 11: R2·8 SHEET H1 : R3·2.

109	Insulation floor (*heated floors, enclosed perimeter*)	P	F	N/A	R1·3
110	Insulation glazing	P	F	N/A	R0·26.

					Comments/ reason for decision
Glazing					
111	Glazing (*NZS 4223 Part 3,shower doors, doors and windows*)	(P)	F	N/A	
Water Supplies					Comments/ reason for decision
112	Potable water	(P)	F	N/A	RAINTAN
113	Hot water heating design (*all relevant valves, venting requirements, water temperature*)	P	F	(N/A)	
Sanitary Plumbing (*NZBC G13*)					Comments/ reason for decision
114	Specific installation std noted	P	F	N/A	
115	Waste pipe size / gradients ✓	P	(F)	N/A	
116	Waste pipe length / venting (*stacks, multi fixtures to discharge pipe*)	P	F	(N/A)	
Sanitary Drainage					Comments/ reason for decision
117	Correct lateral and depth to allow gravity feed	(P)	F	N/A	
118	Drainage pipe size / gradients	(P)	F	N/A	150 ø
119	Drainage pipe length / ventilation	P	F	N/A	
120	Overflow relief gully (ORG)	(P)	F	N/A	GT.
121	Access/ inspection/ rodding points or chambers (*entering or exiting under slab*)	P	F	(N/A)	
Stormwater Drainage					Comments/ reason for decision
122	External gutters	P	F	(N/A)	
123	Downpipes (*per m2 of roof*)	(P)	F	N/A	
124	Are sump details provided (*E1 surface water control for hardstand areas*)?	(P)	F	N/A	
125	Approved lateral or soak hole size been specified for catchment? (*50m of roof a soak is required to meet RDC requirements*).	(P)	F	N/A	
Effluent Disposal Systems					Comments/ reason for decision
126	Has Regional Council approval been granted.	P	F	(N/A)	
127	Specific design (*in accordance with regional plan*)	P	F	(N/A)	
Internal Stairs / Landings / Handrails/ Barrier					Comments/ reason for decision
128	Location of handrails (*more than 2 risers*)	P	F	(N/A)	
129	Stair riser and going (*tread*)	P	F	(N/A)	
130	Landing dimensions (*400mm clearance in front of door opening onto the landing*)	P	F	(N/A)	
131	Barrier design (*B1 assessment*)	P	F	(N/A)	
ELECTRICAL					Comments/ reason for decision
132	Electrical plan (*optional*) Smoke alarms (*compulsory*)	(P)	F	N/A	
Control of fire spread					Comments/ reason for decision
133	Fire rated walls, floors	P	F	(N/A)	
134	Bottom plate/stud fixing details	P	F	(N/A)	

135	Cantilevered foundation/ slab detail	P	F	N/A	
136	Combustible claddings (*non-combustible when within 1m of boundary*). *Ordinary timber products do not meet the requirements of Table 7.5 NZBC C Docs, if using brick fire wall detail then internal side needs to have 16mm fyreline as per Monier detail.*	P	F	N/A	
137	Eaves encroachment (*Roof/eaves extends to within 650mm of a boundary, the eaves and supporting wall needs to be fire rated 30/30/30.)* *Clause 7.8.5 NZBC C Docs*	P	F	N/A	
138	Specific design (*Firth system or NZS 4229 available)*	P	F	N/A	
AIRBORNE AND IMPACT SOUND					**Comments/ reason for decision**
139	Acceptable solution or specific design	P	F	N/A	

P = Pass = Compliance with the Building Code
F = Fail = Non-compliance with the Building Code – further information required
NA = Considered but Not Applicable to this Project

Acceptance Guidelines

1. PS will be accepted from approved persons recognised as having appropriate technical competence / qualifications / experience / history within their specific discipline.
2. The author's competence will directly relate to the scope of work covered by their statement. If author's acceptability cannot be determined then the statement & all necessary documentation required to determine competence shall be peer reviewed by an approved contractor.

Circle Statement Type: PS 1 – Design PS 2 – Design Review			Comments:			
Category: (*circle*)	PSI	CALCS	SPECS	DRAWINGS	PS2	Producer Statements formatted as below & architectural plans are signed by Engineer
Structural						
Geotechnical						
Weathertightness						
Other						
Other						

Producer Statements;
A Producer Statement requires the following as a minimum requirement to be accepted by the Rotorua District Council:

- ☐ A written statement
- ☐ Header with 'Producer Statement'
- ☐ Who is issuing the Producer Statement (suitably qualified and author of Producer Statement)
- ☐ The Producer Statement must be addressed for the attention of the Rotorua District Council
- ☐ Who has completed or designed the work identified (qualifications to undertake the work required)?
- ☐ The product name and specifications for application of product used (where applicable)
- ☐ What parts/clauses of the Building Code the work relates to
- ☐ Full legal description of the site where the work will be undertaken
- ☐ Clearly identifying what part of the building consent work is covered by the Producer Statement
- ☐ Provide the sum of Provisional Indemnity Insurance held
- ☐ The author's name and signature
- ☐ Qualifications

☐ Address

☐ Registration Number

☐ Membership of Professional Organisation

☐ Date the Producer Statement was produced.

Technical Literature Criteria

1. Rotorua District Council will accept technical literature in assessing compliance with the Building Code. Technical literature includes, but is not limited to:
   - Buildable truss plans and associated documentation
   - Appraisal certificates
   - Proprietary product certificates (Solid Fuel Heater, Tanking, Plaster Systems etc.)
   - Certificates for alarm/sprinkler systems
2. Technical literature requires the following as a minimum to be accepted by the Rotorua District Council:

☐ Who has issued the technical literature Product name

☐ Address of property where work undertaken

☐ Description of application (where applicable)

☐ Date

☐ Name and signature

☐ Registration/license number (where applicable)

☐ Address of author

Notes on Acceptance of Producer Statement and/or Technical Literature (Reasons for Your Decision to Accept from a particular author):

Alternative Solutions

- Alternative solutions involving structural, geotechnical, fire, weather tight, acoustic, HVAC, energy efficiency and fire design will be peer reviewed by a contractor/specialist
- Before finalizing a decision of whether to accept or refuse an alternative solution the processor will obtain a peer review from their Team Leader/Technical Leader
- In making a decision, the Building Officer may give consideration to (but is not limited to) comparison with acceptable solutions, other documents, standards, best practice guides, publications, expert opinion, determinations, in-service history, product certification – compliance with Building Code objectives. Consideration may also be given to industry guidance provided in BRANZ Bulletin #456 (Dec 2004).

Alternative Solutions – Reasons for Decisions

Alternative Solutions – Reasons for Decisions continued and or other considerations

The following listed and attached checklists have been completed to support justification for issuing the building consent	

By signing this I am satisfied on reasonable grounds that compliance with the Building Code is established if building work is constructed according to the approved documents that accompany this application. All RFI requests have been addressed and the reasons for these have been recorded on the RFI letter in each instance. I recommend building consent be granted.

☐ Number of inspections recorded on job card

Name: _____ Signature: _____ Date: _____

TEAM LEADER CHECKLIST

☐ Section 37 Notice issued

☐ Alternative solutions peer reviewed and approved

☐ Checklists have BC Number and Processor recorded

☐ Checklists are complete

☐ Category recorded on job card

☐ Approved plans are clearly identifiable

☐ Specified Systems are identified

Tick each box where applicable – where one of the above items does not relate to this BC put a cross in the appropriate box

By signing this I am satisfied on reasonable grounds that compliance with the Building Code is established if building work is constructed according to the approved documents that accompany this application. Building Consent can now be granted on receipt of the appropriate fees and levies are paid.

Name: _____ Signature: _____ Date: _____

PG M10
Version December 2009

PLANNING GUIDANCE UNIT
PIM/BUILDING CONSENT CHECK SHEET

PIM/BUILDING CONSENT NUMBER: 24349

RESOURCE CONSENT NOT REQUIRED: ☐	
RESOURCE CONSENT IS REQUIRED: ☑	
Resource Consent in progress ☐ **Planner** **File Number :**	**APPROVED** ☑ **File Number :** 10/2010/209 [illegible] 38/1/4315
CROSSLEASES AND UNIT TITLES	
All building consent/PIM applications for crosslease titles and for unit titles to be reviewed by Subdivision Team. Withhold building consents if a subdivision application	Required subdivision Release PIM
DEVELOPMENT CONTRIBUTIONS NOT REQUIRED ☐	
• **No new added GFA** **Credits** **Other** • **Paid on subdivision file no:** **Comments:**	
DEVELOPMENT CONTRIBUTIONS REQUIRED **YES** ☑	
• Entered into DC BC Invoicing database (F drive) • DC advice letter sent to owner • Copies of letter, calculation sheet, and map saved to Attachment folder in DC BC Invoicing database (F drive) **Comments:** as per LUC estimate	☐ ☐ ☐

RESERVE CONTRIBUTION: NO ☐ YES ☐ Condition No.....of Consent .....

**To be paid at time of building consent issue, and to be included in the BUILDING CONSENT FEES LIST AND ENTERED INTO AUTHORITY IN THE BUILDING CONSENT Amount $_____Inc GST

APPLICANT CONTACT: N/A ☐ YES ☑ Phone Fax (Email) Letter

Unsuccessful Attempt Made	**NOTES**

WITHHOLD BUILDING CONSENT

Comments: 1. Engineering Plan in progress ✓
2. Building over c/I boundary - no s.46 ✓

Planner: [signature] **Date:** 7/5/10

Attention Building Review Officer --
Please do not release any building consent for this work until the above issues have been resolved

RELEASE BUILDING CONSENT

Comments: Conditions of R/C apply

Planner: [signature] **Date:** 4/6/16

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**SA16A/1036**
Land Registration District	**South Auckland**
Date Issued	12 September 1973

Prior References
SA6C/235

Estate	Fee Simple
Area	1193 square metres more or less
Legal Description	Lot 62 Deposited Plan South Auckland 9556

Original Proprietors
Isobel Gavin Gemmell

Interests

S312001 imposing Building Line Restriction
5758431.1 Transfer to Jiancai Cao and Lifei Su - 9.10.2003 at 9:00 am
5758431.2 Mortgage to The National Bank of New Zealand Limited - 9.10.2003 at 9:00 am
7375337.1 Discharge of Mortgage 5758431.2 - 21.5.2007 at 2:24 pm
7375337.2 Transfer to Qian Wang - 21.5.2007 at 2:24 pm
7375337.3 Mortgage to ANZ National Bank Limited - 21.5.2007 at 2:24 pm
8292028.1 Discharge of Mortgage 7375337.3 - 25.9.2009 at 10:29 am
8292028.2 Transfer to CKC Holdings Limited - 25.9.2009 at 10:29 am
8292028.3 Mortgage to ANZ National Bank Limited - 25.9.2009 at 10:29 am

Identifier **SA16A/1036**

References
Prior C/T 60/235

Transfer No. S.622849
N/C. Order No.

Land and Deeds 69

S REGISTER

No. 16A 1036

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 12th day of September one thousand nine hundred and seventy-three under the seal of the District Land Registrar of the Land Registration District of SOUTH AUCKLAND

WITNESSETH that HER MAJESTY THE QUEEN is seised of an estate in fee simple for State Housing purposes under the Housing Act 1955

~~is seised of an estate in fee simple~~ (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 1193 SQUARE METRES more or less being Lot 62 on Deposited Plan S.9556 and being part Allotment 247 Parish of Kirikiriroa

DISTRICT LAND REGISTRAR SOUTH AUCKLAND N.Z.

ASSISTANT LAND REGISTRAR

Subject to a Building Line Restriction 12.1920 Metres from the middle line of Yorkshire Road imposed by S.312001

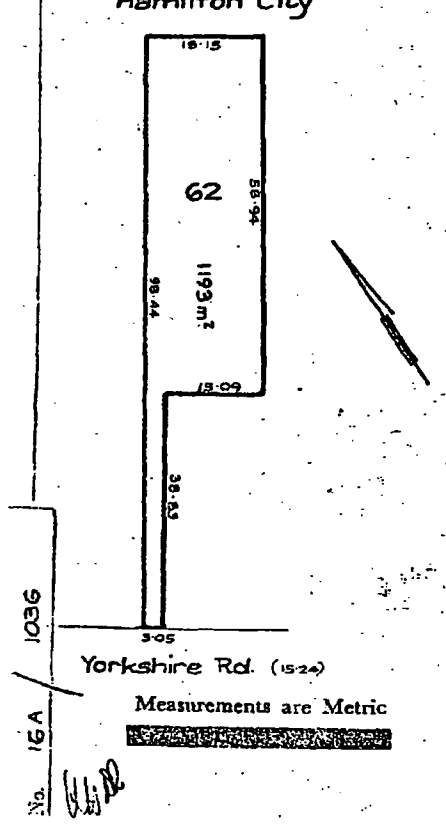
A.L.R.

Fencing covenant in Lease S.353896

A.L.R.

H.820480 Transfer to Isobel Gavin Gemmell of Hamilton widow produced 7.9.1988 at 9.10 o'c

for A.L.R.



COMPUTER FREEHOLD REGISTER UNDER LAND TRANSFER ACT 1952

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**SA5A/971**
Land Registration District	**South Auckland**
Date Issued	26 August 1965

Prior References
SA4B/365

Estate	Fee Simple
Area	1310 square metres more or less
Legal Description	Lot 61 Deposited Plan South Auckland 9556

Original Proprietors
Richard Bunyan and Marie Zelma Bunyan

Interests

S312001 Building Line Restriction
S332493 Settled under the Joint Family Homes Act 1964 - produced 29.11.1965 at 12.00 pm and entered 25.3.1980 at 11.16 am
5572253.1 Transmission to Marie Zelma Bunyan - 2.5.2003 at 9:00 am
5813549.1 Transfer to Cheng Su-Mei Lee - 26.11.2003 at 9:00 am
5813549.1 Cancellation of Joint Family Home Settlement S332493
5813549.2 Mortgage to ASB Bank Limited - 26.11.2003 at 9:00 am

References
Prior C/T. 4B/365

Transfer No. S.323461
N/C. Order No.

Land and Deeds 69

No. 5A 1971

REGISTER

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 26th day of August one thousand nine hundred and sixty five under the seal of the District Land Registrar of the Land Registration District of South Auckland.

WITNESSETH that THE NATIONAL MUTUAL LIFE ASSOCIATION OF AUSTRALASIA LIMITED at Wellington

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 1 ROOD 11.8 PERCHES more or less being Lot 61 Deposited Plan S.9556 and being part Allotment 247 Parish of Kirikiriroa.

DISTRICT LAND REGISTRAR SOUTH AUCKLAND N.Z.

Assistant Land Registrar

Subject to a building line restriction 40 feet from the middle line of Yorkshire Road imposed by S.312001.

A.L.R.

S.323460 Lease to Richard Bunyan and Marie Zelma Bunyan Term: 15 years 324 days from 12.5.1965 (fencing, renewal and purchasing covenants) produced 26.8.1965 at 11.0 o'c.

A.L.R.

S.332491 Mortgage of Lease S.323460 to The State Advances Corporation of New Zealand produced 29.11.1965 at 11.56 o'c.

A.L.R.

S.332492 Charge against Lease S.323460 to The State Advances Corporation of New Zealand produced 29.11.1965 at 12.0'c.

A.L.R.

S.332493 The Land in Lease S.323460 is settled as a joint family home entered 29.11.1965 at 12.0 o'c.

A.L.R.

H.279345 Transfer to Richard Bunyan of Hamilton motor mechanic and Marie Zelma Bunyan his wife produced 25.3.1980 at 11.16 o'c (Lease S.323460 merges herein)

EXPIRED 30 Fencing Act 1978

A.L.R.

Fencing Covenant in Lease S.323460

A.L.R.

S.332491 Mortgage to The State Advances Corporation of New Zealand produced 29.11.1965 at 11.56 o'c (Pursuant to Section 118A Land Transfer Act 1952)

283435521

A.L.R.

S.332492 Charge to The State Advances Corporation of New Zealand produced 29.11.1965 at 12.0 o'c (Pursuant to Section 118A Land Transfer Act 1952)

B343552.2

A.L.R.

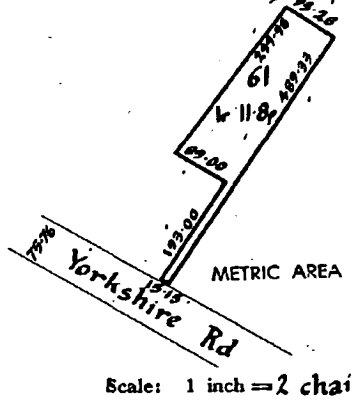
S.332493 The within land was settled as a Joint Family Home on 29.11.1965 at 12.00 o'c and entered 25.3.1980 at 11.16 o'c

A.L.R.

Register copy for L. & D. 69

OVER ...

Hamilton City



Scale: 1 inch = 2 chains

No. 5A 1971

C.T. 5A/971

REGISTER

H.387319 CAVEAT BY AUSTRALIAN GUARANTEE CORPORATION (N.Z.) LIMITED ENTERED 26.1.1982 AT 12.20 p.m.

FOR A.L.R.

H.408253 CAVEAT BY [illegible] FINANCE LIMITED ENTERED 12.5.1982 AT 10.47 a.m.

H736787

FOR A.L.R.

H.553955 CAVEAT BY AUSTRALIAN GUARANTEE CORPORATION (N.Z.) LIMITED ENTERED 26.10.1984 AT 1.50 p.m.

H764067

FOR A.L.R.

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**511729**
Land Registration District	**South Auckland**
Date Issued	07 April 2010

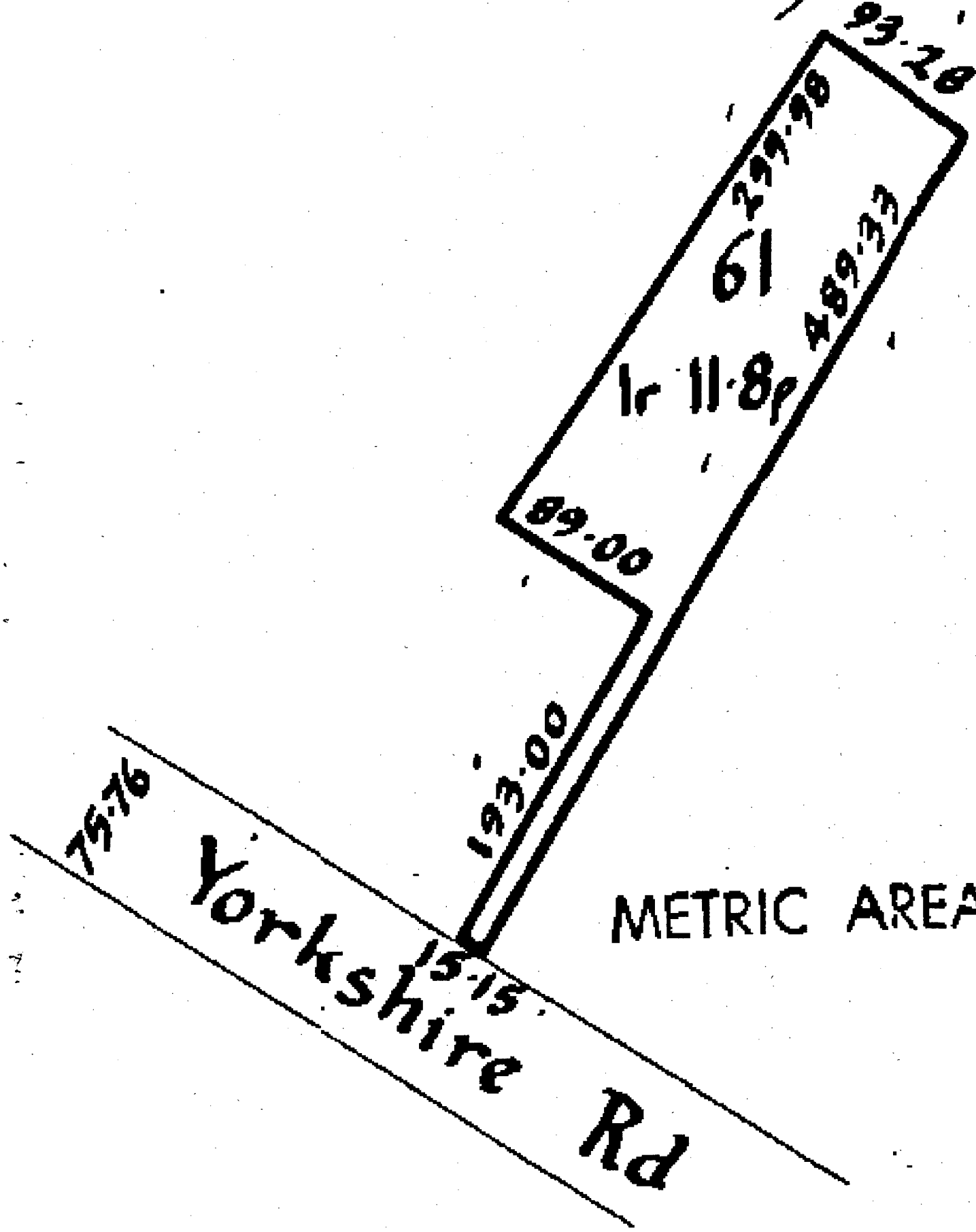
Prior References
SA5A/971 SA6B/363

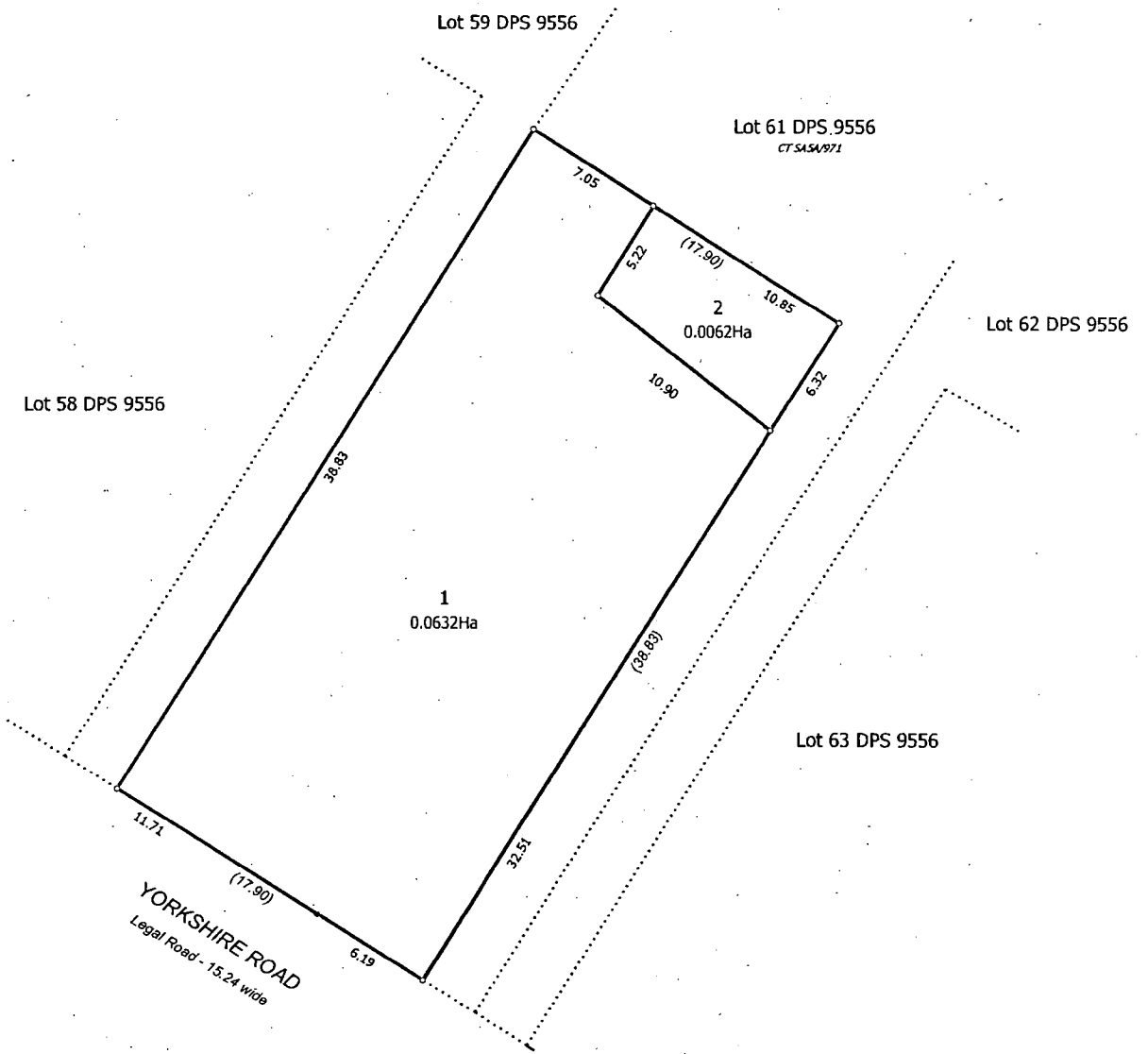
Estate	Fee Simple
Area	1372 square metres more or less
Legal Description	Lot 61 Deposited Plan South Auckland 9556 and Lot 2 Deposited Plan 428322

Proprietors
CKC Holdings Limited

Interests
S312001 Building Line Restriction (Affects Lot 61 DPS 9556)
8292044.3 Mortgage of Lot 61 DPS 9556 to ANZ National Bank Limited - 1.12.2009 at 10:29 am
Subject to Section 241(2) and Sections 242(1) Resource Management Act 1991(affects DP 428322)

Hamilton City





T1/1

Land District: South Auckland Digitally Generated Plan Generated on: 14/04/2010 08:25am Page 2 of 2	Lots 1 & 2 being Subdivision of Lot 60 DPS 9556	Surveyor: Grant Ian Ruffell Firm: McPherson Goodwin Surveyors Ltd	Digital Title Plan DP 428322 Deposited on: 7/04/2010

ELLICE TANNER
LAWYERS

1 June 2010

Email: jenny.rykes@hcc.govt.nz

Hamilton City Council
HAMILTON

4th Floor
NZI Building
Garden Place
DX GP20049
PO Box 19-144
Hamilton 3244
New Zealand

Tel 07 838 3333
Fax 07 838 2232

PARTNERS
Paul Ellice LL.B (Hons) (Notary Public)
Andrew Smith BA LLB

CONSULTANTS
Ian Davidson LL.B.
Murray Bindon LL.B. (Notary Public)

SOLICITOR
Lynette Taylor LL.B.

REGISTERED LEGAL EXECUTIVES
Cathy Langley NZILE
Robyn Miles NZILE
Jayde Kenny NZILE

Dear Jenny

CKC HOLDINGS LIMITED – YORKSHIRE ROAD, HAMILTON

We undertake to register the attached Notice Pursuant to Section 75 of the Building Act 2004.

Yours faithfully
ELLICE TANNER

Per:

Jayde Kenny
Registered Legal Executive

Partner: Paul Ellice

Direct line: 07 839 8515
E-mail: jayde@ellicetanner.co.nz
pge/jak

Hamilton City Council
Te kaunihera o Kirikiriroa

HAMILTON CITY COUNCIL

NOTICE PURSUANT TO SECTION 75 OF THE BUILDING ACT 2004

To The District Land Registrar
Land Registry

The Hamilton City Council hereby certifies pursuant to section 75(2) of the Building Act 2004, that as a condition of the grant of a building consent to construct a building over allotments held by the owner in fee simple, the Council requires that the allotments set out in the First Schedule shall not be transferred or leased except in conjunction with the allotments specified in the Second Schedule.

First Schedule:

1372m^2 being Lot 61 DPS 9556 and Lot 2 DP 428322 being all the land contained and described in Certificate of Title entered as Number 511729 South Auckland Registry.

Second Schedule:

1193m^2 being Lot 62 DPS 9556 being all the land contained and described in Certificate of Title entered as Number SA16A/1036 South Auckland Registry.

Signed on this 31st day of May 2010

by the Hamilton City Council

.....
Registered Proprietor/s

.....
R Raman
Subdivision Team Leader
(Authorised Officer)
HCC Ref. : 2010.21350
Agent Ref. : 15147
Subdivision Site: 8 and 10 Yorkshire Road, Hamilton

Hamilton City Council
Te kaunihera o Kirikiriroa

ACCOUNT DUE

TAX INVOICE
G.S.T. REG. No. 11-174-531

Private Bag 3010 Waikato Mail Centre, Hamilton 3240
Phone 07 838 6699, Fax 07 838 6599
Office Hours: Monday to Friday 8am to 4.45pm

PLEASE QUOTE ACCOUNT No. ON ALL CORRESPONDENCE

CKC Holdings Ltd
C/O McPherson Goodwin Surveyors
P O Box 9379
HAMILTON 2015

Account No. 13717.37
Page 1 of 1
Date 9/06/2010

DATE	INVOICE No.	DETAILS		BALANCE
9/06/2010	24349-03	2010/24349 - 8 Yorkshire Road HAMILTON		
		GST	*0.00*	800.00
		Branz Levy	800.00	
		GST	*0.00*	1,576.00
		DBH Levy	1,576.00	
		GST	*207.22*	1,865.00
		Document Management Fee	1,865.00	
		GST:	*18.33*	165.00
		Street Crossings	165.00	
		Invoice Total (including GST if applicable)		4,406.00

Total Value non-taxable supply(s)	2,376.00
Total Value taxable supply(s) excluding GST	1,804.45
Total GST Payable	225.55

ALL QUERIES TO ACCOUNTS RECEIVABLE SECTION

DUE DATE 9/06/2010 **TOTAL DUE (Inc GST)** 4,406.00

PAYABLE BY DUE DATE (IF SHOWN ABOVE) OTHERWISE 20th OF MONTH FOLLOWING DATE OF INVOICE.
THE CUSTOMER WILL BE LIABLE FOR UNPAID DEBTS AS WELL AS ASSOCIATED COLLECTION COSTS.

HAMILTON CITY COUNCIL
PRIVATE BAG 3010 WAIKATO MAIL CENTRE
HAMILTON 3240

DUE DATE 9/06/2010
TOTAL DUE **4,406.00**
INVOICE No. 24349-03

CKC Holdings Ltd
C/O McPherson Goodwin Surveyors
P O Box 9379
HAMILTON 2015

ACCOUNT No. 13717.37

IF ADDRESS IS INCORRECT PLEASE COMPLETE THE FOLLOWING:

NAME: _____ ❑ THIS ACCOUNT ONLY

ADDRESS: _____ ❑ ALL COUNCIL SERVICES

Hamilton City Council
Te kaunihera o Kirikiriroa

ACCOUNT DUE

TAX INVOICE
G.S.T. REG. No. 11-174-531

Private Bag 3010 Waikato Mail Centre, Hamilton 3240
Phone 07 838 6699, Fax 07 838 6599
Office Hours: Monday to Friday 8am to 4.45pm

PLEASE QUOTE ACCOUNT No. ON ALL CORRESPONDENCE

CKC Holdings Ltd
C/O McPherson Goodwin Surveyors
P O Box 9379
HAMILTON 2015

Account No. 13717.37
Page 1 of 1
Date 11/05/2010

DATE	INVOICE No.	DETAILS		BALANCE
11/05/2010	24349-02	2010/24349 - 8 Yorkshire Road HAMILTON		
		GST	*763.89*	6,875.00
		Building Consent		6,875.00
		Invoice Total (including GST if applicable)		6,875.00

Total Value non-taxable supply(s)	0.00
Total Value taxable supply(s) excluding GST	6,111.11
Total GST Payable	763.89

ALL QUERIES TO ACCOUNTS RECEIVABLE SECTION

DUE DATE 11/05/2010

TOTAL DUE (Inc GST) 6,875.00

PAYABLE BY DUE DATE (IF SHOWN ABOVE) OTHERWISE 20th OF MONTH FOLLOWING DATE OF INVOICE.
THE CUSTOMER WILL BE LIABLE FOR UNPAID DEBTS AS WELL AS ASSOCIATED COLLECTION COSTS.

HAMILTON CITY COUNCIL
PRIVATE BAG 3010 WAIKATO MAIL CENTRE
HAMILTON 3240

DUE DATE 11/05/2010

TOTAL DUE 6,875.00

INVOICE No. 24349-02

CKC Holdings Ltd
C/O McPherson Goodwin Surveyors
P O Box 9379
HAMILTON 2015

ACCOUNT No. 13717.37

IF ADDRESS IS INCORRECT PLEASE COMPLETE THE FOLLOWING:

NAME: _____ ❑ THIS ACCOUNT ONLY

ADDRESS: _____ ❑ ALL COUNCIL SERVICES

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

Building Code Clause(s) E1/VM1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: On-site stormwater soakage trenches (Lots 1 – 7 inclusive plus ROW A)
(Description of Building Work)

AT: 8 – 10 Yorkshire Road, Hamilton

LOT 1,2,3,4,5,6,7 plus ROW A **DP** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 *(engineering categories)* or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

in respect of clause(s) E1/VM1 of the Building Code for the building work described in documents relating to Building Consent No: 2010/24349 and those relating to Building Consent Amendment(s) Nos: issued during the course of the works.

We have sighted these Building Consents and the conditions attached to them.

On the basis of ○ this ⊙ these review(s) and information supplied by the contractor during the course of the works,

I believe on reasonable grounds that ⊙ All ○ Part only of the building works described above have been completed in accordance with the relevant requirements of the Subdivision Consent and Subdivision Consent Amendments identified above,

with respect to Clause(s) E1/VM1 of the Building Regulations.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: NZCE, BE Civil (Hons)

The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*. The Construction Review Firm is a member of ACENZ.

Signed by Colin Barry Jacobson ON BEHALF OF AECOM New Zealand Ltd

Date: 20 July 2010 *(signature)* C.B. Jacobson

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

This form is to accompany **Forms 6 or 8 of the Building (Forms) Regulations 2004** for the issue of a Code Compliance Certificate.

CASH BOND FOR COMPLETION OF RESOURCE CONSENT CONDITIONS

Address: 8 & 10 Yorkshire Road **Consent No.:** 2010/20973

Consent Holder: CKC Holdings **Term of Bond:** 6 months

The Bond shall be paid at the time of uplifting the 224c Certificate, and shall cover the works required for the completion of the conditions of the Resource Consent, plus further inspections, repairs, and verification of repairs as outlined below.

Resource Consent Conditions Covered in this Bond:

Conditions (15). (16) and (21)

Extent of Works Required for Completion of Conditions:

1. Construction of vehicle crossing and ROW as specified
2. CCTV inspection of public drainage facilities on completion of ROW.
3. Recover and repair any damage to drainage, kerb, footpath and grass berm required.
4. Additional site inspections.

Quote Received:

From Hamilton Asphalts Ltd for $20,100 (copy attached).

Bond Required:

To cover the required works plus any necessary extras, a bond of $38,300.00 (=1.5 x $20,100 + $ 8,150) + GST is required to cover the vehicle crossing, ROW and potential damage to public drainage, kerb, footpath and grass berm. CDU will undertake a final inspection upon request to Planning, and require rework or release the bond.

Obligation Of This Bond:

1) The Consent Holder shall carry out and complete the works to the satisfaction of the General Manager Works and Services within the agreed timeframe commencing from the date of this Bond.
2) Upon completion of the works, the Council will refund to the Owner the deposited sum, less any fees incurred by way of additional inspections or administrative work carried out as a result of the bonded works.
3) In the event of any default in carrying out the works required, the provisions of Section 109 of the Resource Management Act 1991 shall apply, and the Council may enter the site and carry out the works, applying the bond amount towards the cost of the works.

Refund of the Bond:

1) The bond will be released by the Council when the work required has been fully carried out to the satisfaction of the Council.
2) If works are partially completed to the satisfaction of the Council prior to the due date for completion of the bonded works, the Council may agree to partially refund the bond amount and/or extend the deadline for the completion of the outstanding works.

Signatures:

Consent Holder:..... Subdivision Officer:.....

Date: 23/7/10

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

Building Code Clause(s) B1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: Excavated sand pad foundation for new dwelling
(Description of Building Work)

AT: Lot 1, 8/10 Yorkshire Road, Hamilton

LOT 1 **DPS** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 *(engineering categories)* or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

in respect of clause(s) B1 of the Building Code for the building work described in documents relating to Building Consent No: 2010/24349 and those relating to Building Consent Amendment(s) Nos: issued during the course of the works.

We have sighted these Building Consents and the conditions attached to them.

On the basis of ○ this ⊙ these review(s) and information supplied by the contractor during the course of the works,

I believe on reasonable grounds that ⊙ All ○ Part only of the building works have been completed in accordance with the relevant requirements of the Building Consents and Building Consent Amendments identified above, with respect to Clause(s) B1 of the Building Regulations.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: NZCE, BE Civil (Hons)

The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*. The Construction Review Firm is a member of ACENZ.

Signed by Colin Barry Jacobson ON BEHALF OF AECOM New Zealand Ltd

Date: 14 July 2010 *(signature)* C. B. Jacobson

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

This form is to accompany **Forms 6 or 8 of the Building (Forms) Regulations 2004** for the issue of a Code Compliance Certificate.

McPherson Goodwin
SURVEYING & PLANNING

Telephone 0-7-839 1335
Facsimile 0-7-839 1292

E-mail:
mgltd@mgsl.co.nz

Website
www.mgsl.co.nz

7 Hardley Street,
P O Box 9379,
Hamilton 3240
New Zealand

26 October 2010

Planning Unit
Hamilton City Council
Private Bag 3010
HAMILTON

Dear Sir / Madam,

RE: 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – LAND USE CONSENT 10.2010.20972

As per condition 12 of the above referenced Land Use Consent please be advised that McPherson Goodwin Surveyors Ltd have completed measurements and confirm that no part of the buildings on unit site areas 2, 3, 5 or 6 exceed the maximum height restriction of 4.25m from the "natural ground level"

In determining the "natural ground level" we have used the level of the sand pad directly beneath the concrete pad of each building as at the time of 224c certificate (22 October 2010), meeting the definition with-in Rule 8.0-12 of the District Plan.

If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

Ajn7

MCPHERSON GOODWIN
SURVEYORS LTD

Please Ask for: Grant Ruffell
Your Ref:
Our Ref: 15147

Principals
John S. Curtis MNZIS, Dip Surv, Dip Town Planning, M.NZ Prop.Inst
Grant I. Ruffell MNZIS, B.Surv
Nicol Beeby MNZIS, B Surv

MEMBERS
THE CONSULTING SURVEYORS
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7 Hardley Street,
P.O.Box 9379
Hamilton 3240
New Zealand

23 September 2010

Building Unit
Hamilton City Council
Private Bag 3010
HAMILTON

Dear Sir / Madam,

RE: CERTIFICATION OF SITING OF CONCRETE FLOORPADS ON 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – BUILDING CONSENT 2010/24349

Please be advised that McPherson Goodwin Surveyors Ltd have carried out an "as constructed" survey on each of the completed floorpads for the proposed lots 1-7 as part of the above referenced consent.

We hereby certify that no parts of the floorpads were found closer than 1.5m from the existing external boundaries and that apart from the floor pad on Lot 3 each of the other floor-pads comply with the necessary internal boundary setbacks approved as part of the consents. With respect to the floor pad on Lot 3, it has been constructed 1.4m from the adjacent Lot 2 boundary. Our client gives dispensation for this minor infringement of the 1.5m internal setbacks.

If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

ajn6

Please Ask for: Grant Ruffell Your Ref: Our Ref: 15147

Principals
John S. Curtis MNZIS, Dip Surv, Dip Town Planning, M.NZ Prop.Inst
Grant I. Ruffell MNZIS, B.Surv
Nicol Beeby MNZIS, B Surv

MCPHERSON GOODWIN
SURVEYORS LTD

MEMBERS
THE CONSULTING SURVEYORS
OF NEW ZEALAND

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

Building Code Clause(s) E1/VM1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: On-site stormwater soakage trenches (Lots 1 – 7 inclusive plus ROW A)
(Description of Building Work)

AT: 8 – 10 Yorkshire Road, Hamilton

LOT 1,2,3,4,5,6,7 plus ROW A **DP** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 *(engineering categories)* or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

in respect of clause(s) E1/VM1 of the Building Code for the building work described in documents relating to Building Consent No: 2010/24349 and those relating to Building Consent Amendment(s) Nos: issued during the course of the works.

We have sighted these Building Consents and the conditions attached to them.

On the basis of ○ this ⊙ these review(s) and information supplied by the contractor during the course of the works,

I believe on reasonable grounds that ⊙ All ○ Part only of the building works described above have been completed in accordance with the relevant requirements of the Subdivision Consent and Subdivision Consent Amendments identified above,

with respect to Clause(s) E1/VM1 of the Building Regulations.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: NZCE, BE Civil (Hons)

The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*. The Construction Review Firm is a member of ACENZ.

Signed by Colin Barry Jacobson ON BEHALF OF AECOM New Zealand Ltd

Date: 20 July 2010 *(signature)* C.B. Jacobson

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

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Building Code Clause(s) B1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: Excavated sand pad foundation for new dwelling
(Description of Building Work)

AT: Lot 2, 8/10 Yorkshire Road, Hamilton

LOT 2 **DPS** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 *(engineering categories)* or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

in respect of clause(s) B1 of the Building Code for the building work described in documents relating to Building Consent No: 2010/24349 and those relating to Building Consent Amendment(s) Nos: issued during the course of the works.
We have sighted these Building Consents and the conditions attached to them.

On the basis of ○ this ⊙ these review(s) and information supplied by the contractor during the course of the works, **I believe on reasonable grounds that** ⊙ All ○ Part only of the building works have been completed in accordance with the relevant requirements of the Building Consents and Building Consent Amendments identified above, with respect to Clause(s) B1 of the Building Regulations.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: NZCE, BE Civil (Hons)

The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*. The Construction Review Firm is a member of ACENZ.

Signed by Colin Barry Jacobson ON BEHALF OF AECOM New Zealand Ltd

Date: 14 July 2010 *(signature)*

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

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Website
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7 Hardley Street,
P O Box 9379
Hamilton 3240
New Zealand

26 October 2010

Planning Unit
Hamilton City Council
Private Bag 3010
HAMILTON

Dear Sir / Madam,

RE: 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – LAND USE CONSENT 10.2010.20972

As per condition 12 of the above referenced Land Use Consent please be advised that McPherson Goodwin Surveyors Ltd have completed measurements and confirm that no part of the buildings on unit site areas 2, 3, 5 or 6 exceed the maximum height restriction of 4.25m from the "natural ground level"

In determining the "natural ground level" we have used the level of the sand pad directly beneath the concrete pad of each building as at the time of 224c certificate (22 October 2010), meeting the definition with-in Rule 8.0-12 of the District Plan.

If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

Ajn7

MCPHERSON GOODWIN
SURVEYORS LTD

Please Ask for: Grant Ruffell

Your Ref:

Our Ref: 15147

Principals
John S. Curtis MNZIS, Dip Surv, Dip Town Planning, M.NZ Prop.Inst
Grant I. Ruffell MNZIS, B.Surv
Nicol Beeby MNZIS, B Surv

MEMBERS
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7 Hardley Street,
P.O.Box 9379
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New Zealand

23 September 2010

Building Unit
Hamilton City Council
Private Bag 3010
HAMILTON

Dear Sir / Madam,

RE: CERTIFICATION OF SITING OF CONCRETE FLOORPADS ON 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – BUILDING CONSENT 2010/24349

Please be advised that McPherson Goodwin Surveyors Ltd have carried out an "as constructed" survey on each of the completed floorpads for the proposed lots 1-7 as part of the above referenced consent.

We hereby certify that no parts of the floorpads were found closer than 1.5m from the existing external boundaries and that apart from the floor pad on Lot 3 each of the other floor-pads comply with the necessary internal boundary setbacks approved as part of the consents. With respect to the floor pad on Lot 3, it has been constructed 1.4m from the adjacent Lot 2 boundary. Our client gives dispensation for this minor infringement of the 1.5m internal setbacks.

If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

ajn6

Please Ask for: Grant Ruffell Your Ref: Our Ref: 15147

Principals
John S. Curtis MNZIS, Dip Surv, Dip Town Planning, M.NZ Prop.Inst
Grant I. Ruffell MNZIS, B.Surv
Nicol Beeby MNZIS, B Surv

MCPHERSON GOODWIN
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MEMBERS
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OF NEW ZEALAND

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

Building Code Clause(s) E1/VM1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: On-site stormwater soakage trenches (Lots 1 – 7 inclusive plus ROW A)
(Description of Building Work)

AT: 8 – 10 Yorkshire Road, Hamilton

LOT 1,2,3,4,5,6,7 plus ROW A **DP** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 *(engineering categories)* or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

in respect of clause(s) E1/VM1 of the Building Code for the building work described in documents relating to Building Consent No: 2010/24349 and those relating to Building Consent Amendment(s) Nos: issued during the course of the works.

We have sighted these Building Consents and the conditions attached to them.

On the basis of ○ this ⊙ these review(s) and information supplied by the contractor during the course of the works,

I believe on reasonable grounds that ⊙ All ○ Part only of the building works described above have been completed in accordance with the relevant requirements of the Subdivision Consent and Subdivision Consent Amendments identified above,

with respect to Clause(s) E1/VM1 of the Building Regulations.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: NZCE, BE Civil (Hons)

The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*. The Construction Review Firm is a member of ACENZ.

Signed by Colin Barry Jacobson ON BEHALF OF AECOM New Zealand Ltd

Date: 20 July 2010 *(signature)*

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

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

Building Code Clause(s) B1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: Excavated sand pad foundation for new dwelling
(Description of Building Work)

AT: Lot 3, 8/10 Yorkshire Road, Hamilton

LOT 3 **DPS** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 *(engineering categories)* or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

in respect of clause(s) B1 of the Building Code for the building work described in documents relating to Building Consent No: 2010/24349 and those relating to Building Consent Amendment(s) Nos: issued during the course of the works.
We have sighted these Building Consents and the conditions attached to them.

On the basis of ○ this ⊙ these review(s) and information supplied by the contractor during the course of the works,
I believe on reasonable grounds that ⊙ All ○ Part only of the building works have been completed in accordance with the relevant requirements of the Building Consents and Building Consent Amendments identified above, with respect to Clause(s) B1 of the Building Regulations.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: NZCE, BE Civil (Hons)

The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*. The Construction Review Firm is a member of ACENZ.

Signed by Colin Barry Jacobson ON BEHALF OF AECOM New Zealand Ltd

Date: 14 July 2010 *(signature)*

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7 Hardley Street,
P.O Box 9379
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26 October 2010

Planning Unit
Hamilton City Council
Private Bag 3010
HAMILTON

Dear Sir / Madam,

RE: 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – LAND USE CONSENT 10.2010.20972

As per condition 12 of the above referenced Land Use Consent please be advised that McPherson Goodwin Surveyors Ltd have completed measurements and confirm that no part of the buildings on unit site areas 2, 3, 5 or 6 exceed the maximum height restriction of 4.25m from the "natural ground level"

In determining the "natural ground level" we have used the level of the sand pad directly beneath the concrete pad of each building as at the time of 224c certificate (22 October 2010), meeting the definition with-in Rule 8.0-12 of the District Plan.

If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

Ajn7

MCPHERSON GOODWIN
SURVEYORS LTD

Please Ask for: Grant Ruffell | Your Ref: | Our Ref: 15147

Principals
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7 Hardley Street,
P.O.Box 9379
Hamilton 3240
New Zealand

23 September 2010

Building Unit
Hamilton City Council
Private Bag 3010
HAMILTON

Dear Sir / Madam,

RE: CERTIFICATION OF SITING OF CONCRETE FLOORPADS ON 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – BUILDING CONSENT 2010/24349

Please be advised that McPherson Goodwin Surveyors Ltd have carried out an "as constructed" survey on each of the completed floorpads for the proposed lots 1-7 as part of the above referenced consent.

We hereby certify that no parts of the floorpads were found closer than 1.5m from the existing external boundaries and that apart from the floor pad on Lot 3 each of the other floor-pads comply with the necessary internal boundary setbacks approved as part of the consents. With respect to the floor pad on Lot 3, it has been constructed 1.4m from the adjacent Lot 2 boundary. Our client gives dispensation for this minor infringement of the 1.5m internal setbacks.

If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

ajn6

Please Ask for: Grant Ruffell Your Ref: Our Ref: 15147

Principals
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MCPHERSON GOODWIN
SURVEYORS LTD

MEMBERS
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OF NEW ZEALAND

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

Building Code Clause(s) E1/VM1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: On-site stormwater soakage trenches (Lots 1 – 7 inclusive plus ROW A)
(Description of Building Work)

AT: 8 – 10 Yorkshire Road, Hamilton

LOT 1,2,3,4,5,6,7 plus ROW A **DP** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 (*engineering categories*) or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

in respect of clause(s) E1/VM1 of the Building Code for the building work described in documents relating to Building Consent No: 2010/24349 and those relating to Building Consent Amendment(s) Nos: issued during the course of the works.

We have sighted these Building Consents and the conditions attached to them.

On the basis of ○ this ⊙ these review(s) and information supplied by the contractor during the course of the works,

I believe on reasonable grounds that ⊙ All ○ Part only of the building works described above have been completed in accordance with the relevant requirements of the Subdivision Consent and Subdivision Consent Amendments identified above,

with respect to Clause(s) E1/VM1 of the Building Regulations.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: NZCE, BE Civil (Hons)

The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*. The Construction Review Firm is a member of ACENZ.

Signed by Colin Barry Jacobson ON BEHALF OF AECOM New Zealand Ltd

Date: 20 July 2010 *(signature)*

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

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Building Code Clause(s) B1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: Excavated sand pad foundation for new dwelling
(Description of Building Work)

AT: Lot 4, 8/10 Yorkshire Road, Hamilton

LOT 4 **DPS** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 *(engineering categories)* or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

in respect of clause(s) B1 of the Building Code for the building work described in documents relating to Building Consent No: 2010/24349 and those relating to Building Consent Amendment(s) Nos: issued during the course of the works.
We have sighted these Building Consents and the conditions attached to them.

On the basis of ○ this ⊙ these review(s) and information supplied by the contractor during the course of the works, **I believe on reasonable grounds that** ⊙ All ○ Part only of the building works have been completed in accordance with the relevant requirements of the Building Consents and Building Consent Amendments identified above, with respect to Clause(s) B1 of the Building Regulations.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: NZCE, BE Civil (Hons)

The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*. The Construction Review Firm is a member of ACENZ.

Signed by Colin Barry Jacobson ON BEHALF OF AECOM New Zealand Ltd

Date: 14 July 2010 *(signature)*

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

This form is to accompany **Forms 6 or 8 of the Building (Forms) Regulations 2004** for the issue of a Code Compliance Certificate.

McPherson Goodwin
SURVEYING & PLANNING

Telephone 0-7-839 1335
Facsimile 0-7-839 1292

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Website
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7 Hardley Street,
P.O Box 9379
Hamilton 3240
New Zealand

26 October 2010

Planning Unit
Hamilton City Council
Private Bag 3010
HAMILTON

Dear Sir / Madam,

RE: 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – LAND USE CONSENT 10.2010.20972

As per condition 12 of the above referenced Land Use Consent please be advised that McPherson Goodwin Surveyors Ltd have completed measurements and confirm that no part of the buildings on unit site areas 2, 3, 5 or 6 exceed the maximum height restriction of 4.25m from the "natural ground level"

In determining the "natural ground level" we have used the level of the sand pad directly beneath the concrete pad of each building as at the time of 224c certificate (22 October 2010), meeting the definition with-in Rule 8.0-12 of the District Plan.

If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

Ajn7

MCPHERSON GOODWIN
SURVEYORS LTD

Please Ask for: Grant Ruffell | Your Ref: | Our Ref: 15147

Principals
John S. Curtis MNZIS, Dip Surv, Dip Town Planning, M.NZ Prop.Inst
Grant I. Ruffell MNZIS, B.Surv
Nicol Beeby MNZIS, B Surv

MEMBERS
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23 September 2010

Building Unit
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Private Bag 3010
HAMILTON

Dear Sir / Madam,

RE: CERTIFICATION OF SITING OF CONCRETE FLOORPADS ON 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – BUILDING CONSENT 2010/24349

Please be advised that McPherson Goodwin Surveyors Ltd have carried out an "as constructed" survey on each of the completed floorpads for the proposed lots 1-7 as part of the above referenced consent.

We hereby certify that no parts of the floorpads were found closer than 1.5m from the existing external boundaries and that apart from the floor pad on Lot 3 each of the other floor-pads comply with the necessary internal boundary setbacks approved as part of the consents. With respect to the floor pad on Lot 3, it has been constructed 1.4m from the adjacent Lot 2 boundary. Our client gives dispensation for this minor infringement of the 1.5m internal setbacks.

If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

ajn6

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

Building Code Clause(s) E1/VM1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: On-site stormwater soakage trenches (Lots 1 – 7 inclusive plus ROW A)
(Description of Building Work)

AT: 8 – 10 Yorkshire Road, Hamilton

LOT 1,2,3,4,5,6,7 plus ROW A **DP** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 *(engineering categories)* or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

in respect of clause(s) E1/VM1 of the Building Code for the building work described in documents relating to Building Consent No: 2010/24349 and those relating to Building Consent Amendment(s) Nos: issued during the course of the works.

We have sighted these Building Consents and the conditions attached to them.

On the basis of ○ this ⊙ these review(s) and information supplied by the contractor during the course of the works,

I believe on reasonable grounds that ⊙ All ○ Part only of the building works described above have been completed in accordance with the relevant requirements of the Subdivision Consent and Subdivision Consent Amendments identified above,

with respect to Clause(s) E1/VM1 of the Building Regulations.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: NZCE, BE Civil (Hons)

The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*. The Construction Review Firm is a member of ACENZ.

Signed by Colin Barry Jacobson ON BEHALF OF AECOM New Zealand Ltd

Date: 20 July 2010 *(signature)* C.B. Jacobson

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Building Code Clause(s) B1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: Excavated sand pad foundation for new dwelling
(Description of Building Work)

AT: Lot 5, 8/10 Yorkshire Road, Hamilton

LOT 5 **DPS** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 *(engineering categories)* or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

in respect of clause(s) B1 of the Building Code for the building work described in documents relating to Building Consent No: 2010/24349 and those relating to Building Consent Amendment(s) Nos: issued during the course of the works.
We have sighted these Building Consents and the conditions attached to them.

On the basis of ○ this ⊙ these review(s) and information supplied by the contractor during the course of the works,
I believe on reasonable grounds that ⊙ All ○ Part only of the building works have been completed in accordance with the relevant requirements of the Building Consents and Building Consent Amendments identified above, with respect to Clause(s) B1 of the Building Regulations.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: NZCE, BE Civil (Hons)

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Date: 14 July 2010 *(signature)* C.B. Jacobson

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26 October 2010

Planning Unit
Hamilton City Council
Private Bag 3010
HAMILTON

Dear Sir / Madam,

RE: 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – LAND USE CONSENT 10.2010.20972

As per condition 12 of the above referenced Land Use Consent please be advised that McPherson Goodwin Surveyors Ltd have completed measurements and confirm that no part of the buildings on unit site areas 2, 3, 5 or 6 exceed the maximum height restriction of 4.25m from the "natural ground level"

In determining the "natural ground level" we have used the level of the sand pad directly beneath the concrete pad of each building as at the time of 224c certificate (22 October 2010), meeting the definition with-in Rule 8.0-12 of the District Plan.

If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

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HAMILTON

Dear Sir / Madam,

RE: CERTIFICATION OF SITING OF CONCRETE FLOORPADS ON 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – BUILDING CONSENT 2010/24349

Please be advised that McPherson Goodwin Surveyors Ltd have carried out an "as constructed" survey on each of the completed floorpads for the proposed lots 1-7 as part of the above referenced consent.

We hereby certify that no parts of the floorpads were found closer than 1.5m from the existing external boundaries and that apart from the floor pad on Lot 3 each of the other floor-pads comply with the necessary internal boundary setbacks approved as part of the consents. With respect to the floor pad on Lot 3, it has been constructed 1.4m from the adjacent Lot 2 boundary. Our client gives dispensation for this minor infringement of the 1.5m internal setbacks.

If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

ajn6

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MEMBERS THE CONSULTING SURVEYORS OF NEW ZEALAND

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

Building Code Clause(s) E1/VM1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: On-site stormwater soakage trenches (Lots 1 – 7 inclusive plus ROW A)
(Description of Building Work)

AT: 8 – 10 Yorkshire Road, Hamilton

LOT 1,2,3,4,5,6,7 plus ROW A **DP** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 *(engineering categories)* or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

in respect of clause(s) E1/VM1 of the Building Code for the building work described in documents relating to Building Consent No: 2010/24349 and those relating to Building Consent Amendment(s) Nos: issued during the course of the works.

We have sighted these Building Consents and the conditions attached to them.

On the basis of ○ this ⊙ these review(s) and information supplied by the contractor during the course of the works,

I believe on reasonable grounds that ⊙ All ○ Part only of the building works described above have been completed in accordance with the relevant requirements of the Subdivision Consent and Subdivision Consent Amendments identified above,

with respect to Clause(s) E1/VM1 of the Building Regulations.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: NZCE, BE Civil (Hons)

The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*. The Construction Review Firm is a member of ACENZ.

Signed by Colin Barry Jacobson ON BEHALF OF AECOM New Zealand Ltd

Date: 20 July 2010 *(signature)*

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

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Building Code Clause(s) B1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: Excavated sand pad foundation for new dwelling
(Description of Building Work)

AT: Lot 6, 8/10 Yorkshire Road, Hamilton

LOT 6 **DPS** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 *(engineering categories)* or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

in respect of clause(s) B1 of the Building Code for the building work described in documents relating to Building Consent No: 2010/24349 and those relating to Building Consent Amendment(s) Nos: issued during the course of the works.
We have sighted these Building Consents and the conditions attached to them.

On the basis of ○ this ⊙ these review(s) and information supplied by the contractor during the course of the works,
I believe on reasonable grounds that ⊙ All ○ Part only of the building works have been completed in accordance with the relevant requirements of the Building Consents and Building Consent Amendments identified above, with respect to Clause(s) B1 of the Building Regulations.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: NZCE, BE Civil (Hons)

The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*. The Construction Review Firm is a member of ACENZ.

Signed by Colin Barry Jacobson ON BEHALF OF AECOM New Zealand Ltd

Date: 14 July 2010 *(signature)*

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7 Hardley Street,
P O Box 9379,
Hamilton 3240
New Zealand

26 October 2010

Planning Unit
Hamilton City Council
Private Bag 3010
HAMILTON

Dear Sir / Madam,

RE: 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – LAND USE CONSENT 10.2010.20972

As per condition 12 of the above referenced Land Use Consent please be advised that McPherson Goodwin Surveyors Ltd have completed measurements and confirm that no part of the buildings on unit site areas 2, 3, 5 or 6 exceed the maximum height restriction of 4.25m from the "natural ground level"

In determining the "natural ground level" we have used the level of the sand pad directly beneath the concrete pad of each building as at the time of 224c certificate (22 October 2010), meeting the definition with-in Rule 8.0-12 of the District Plan.

If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

Ajn7

MCPHERSON GOODWIN
SURVEYORS LTD

Principals
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Nicol Beeby MNZIS, B Surv

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HAMILTON

Dear Sir / Madam,

RE: CERTIFICATION OF SITING OF CONCRETE FLOORPADS ON 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – BUILDING CONSENT 2010/24349

Please be advised that McPherson Goodwin Surveyors Ltd have carried out an "as constructed" survey on each of the completed floorpads for the proposed lots 1-7 as part of the above referenced consent.

We hereby certify that no parts of the floorpads were found closer than 1.5m from the existing external boundaries and that apart from the floor pad on Lot 3 each of the other floor-pads comply with the necessary internal boundary setbacks approved as part of the consents. With respect to the floor pad on Lot 3, it has been constructed 1.4m from the adjacent Lot 2 boundary. Our client gives dispensation for this minor infringement of the 1.5m internal setbacks.

If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

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

Building Code Clause(s) E1/VM1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: On-site stormwater soakage trenches (Lots 1 – 7 inclusive plus ROW A)
(Description of Building Work)

AT: 8 – 10 Yorkshire Road, Hamilton

LOT 1,2,3,4,5,6,7 plus ROW A **DP** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 *(engineering categories)* or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

in respect of clause(s) E1/VM1 of the Building Code for the building work described in documents relating to Building Consent No: 2010/24349 and those relating to Building Consent Amendment(s) Nos: issued during the course of the works.

We have sighted these Building Consents and the conditions attached to them.

On the basis of ○ this ⊙ these review(s) and information supplied by the contractor during the course of the works,

I believe on reasonable grounds that ⊙ All ○ Part only of the building works described above have been completed in accordance with the relevant requirements of the Subdivision Consent and Subdivision Consent Amendments identified above,

with respect to Clause(s) E1/VM1 of the Building Regulations.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: NZCE, BE Civil (Hons)

The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*. The Construction Review Firm is a member of ACENZ.

Signed by Colin Barry Jacobson ON BEHALF OF AECOM New Zealand Ltd

Date: 20 July 2010 *(signature)* C.B. Jacobson

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Building Code Clause(s) B1

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: AECOM New Zealand Ltd
(Construction Review Firm)

TO: CKC Holdings Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT OF: Excavated sand pad foundation for new dwelling
(Description of Building Work)

AT: Lot 7, 8/10 Yorkshire Road, Hamilton

LOT 7 **DPS** **SO**

AECOM New Zealand Ltd has been engaged by CKC Holdings Ltd

to provide ⊙CM3 *(engineering categories)* or ○OL1 ○OL2 ○OL3 ○OL4 (architecture categories)

○ or other services
(Extent of Engagement)

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(Name of Design Professional)

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Signed by Colin Barry Jacobson ON BEHALF OF AECOM New Zealand Ltd

Date: 14 July 2010 *(signature)* C. B. Jacobson

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If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

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Please Ask for: Grant Ruffell | Your Ref: | Our Ref: 15147

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RE: CERTIFICATION OF SITING OF CONCRETE FLOORPADS ON 8 & 10 YORKSHIRE RD – CKC HOLDINGS LTD – BUILDING CONSENT 2010/24349

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If any further information is required please contact the writer.

Yours faithfully
McPherson Goodwin Surveyors Ltd

Grant Ruffell
Registered Professional Surveyor

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Please Ask for: Grant Ruffell Your Ref: Our Ref: 15147

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MCPHERSON GOODWIN SURVEYORS LTD
MEMBERS
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8-10 Yorkshire road.









Construction R-value Calculator

H1 compliance calculator, now with BPI calculation.

This webpage calculates the R-value of walls, roofs and suspended floors for most insulation material R-values. It uses the "iso-thermal planes" method, the same method as used in NZS4214:2002.

Some of the possible material combinations may not be suitable for actual constructions, i.e. EPS based claddings directly fixed on timber framing. Please make sure to select only appropriate material combinations.

If your construction is not listed, please send an e-mail to designnavigator@gmail.com with a description and a detail drawing (pdf) of it or use the new Design Navigator message board.

Please select the element type. Then choose the construction details and enter the R-value of the insulation either directly in the text box or by choosing a product from the right panel.

Floors ◉
Walls ○
Roofs ○

Floor: Slab Floor

internal surface 0.09

Insulation value of the slabfloor

Slab floor area [m²]: 100

Perimeter length [m]: 48.18

External wall thickness [mm]: 200

Soil conductivity [W/m °C]: 1.2

Underslab insulation: none Insulation:

Slab edge insulation: none Insulation:

R-value: 1.34

Resulting R-value: 1.43 m²K/W.

Print Page

Current NZS4218/H1 Schedule minimum R-value Targets (non-solid contruction):

	Zone 1	Zone 2	Zone 3
Roof	R-2.9	R-2.9	R-3.3
Wall	R-1.9	R-1.9	R-2.0
Floor	R-1.3	R-1.3	R-1.3
Glazing (vertical)	R-0.26	R-0.26	R-0.26
Glazing (skylights)	R-0.26	R-0.26	R-0.31

Construction R-value Calculator

H1 compliance calculator, now with BPI calculation.

This webpage calculates the R-value of walls, roofs and suspended floors for most insulation material R-values. It uses the "iso-thermal planes" method, the same method as used in NZS4214:2002.

Some of the possible material combinations may not be suitable for actual constructions, i.e. EPS based claddings directly fixed on timber framing. Please make sure to select only appropriate material combinations.

If your construction is not listed, please send an e-mail to designnavigator@gmail.com with a description and a detail drawing (pdf) of it or use the new Design Navigator message board.

Please select the element type. Then choose the construction details and enter the R-value of the insulation either directly in the text box or by choosing a product from the right panel.

Floors ○
Walls ◉
Roofs ○

Wall: Timber frame with vented cavity

external surface 0.03

Cladding: 70mm brick
R-value: 0.06

15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.17

Timber Frame & Cavity: 90mm, studs @ 600mm, dwangs @ 800mm

Frame Area: 16% | *Cavity Area: 84%*

Timber Frame
R-value: 0.75

Insulation: 2.2

still Airgap: 20-90mm airgap (reflective)
R-value: 0.45

Wall Lining: Gypsum plasterboard 10mm
R-value: 0.04

internal surface 0.09

Resulting R-value: 2.23 m²K/W.

Print Page

Current NZS4218/H1 Schedule minimum R-value Targets (non-solid contruction):

	Zone 1	Zone 2	Zone 3
Roof	R-2.9	R-2.9	R-3.3
Wall	R-1.9	R-1.9	R-2.0
Floor	R-1.3	R-1.3	R-1.3
Glazing (vertical)	R-0.26	R-0.26	R-0.26
Glazing (skylights)	R-0.26	R-0.26	R-0.31

ENGINEERING ASSESSMENT REPORT

ARAPUNI – HAMILTON (A & B)

110kV OVERHEAD LINE
(SPAN A 301 -302 & SPAN B 133-134)

Prepared by

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ENGINEERING ASSESSMENT REPORT

1 Introduction

Opus International Consultants was commissioned by CKC Holdings Ltd to carry out an engineering assessment report to determine the conductor ground clearance under maximum operating temperature of the Arapuni to Hamilton 110kV overhead line across lots 61 and 62, Yorkshire Road, Hamilton. There are two sets of 110kV overhead lines passing across the said property, Arapuni to Hamilton A (span 301 – 302) and Arapuni to Hamilton B (span 133 – 134).

The Developer, CKC Holdings Ltd, proposes to construct six units of house in lots 61 and 62. This study is to determine if the distance between the conductors during maximum operating temperature is greater than the minimum safe distance of conductors from building structures, as stipulated in NZECP 34:2001 (New Zealand Electrical Code of Practice for Electrical Safe Distances). The NZECP 34:2001 sets out the minimum safe distances to control the interface between overhead electric lines and the public, to ensure public safety and preserve the reliability of the electrical supply system.

2 Method of Study

A site study was made and the conductor heights were surveyed using a laser theodolite (total station). Height measurements were taken from ground level to various points on the conductors (A and B). Two overhead conductors on line Arapuni – Hamilton A and one overhead conductors on line Arapuni – Hamilton B are passing over the said property.
Conductor height survey results are shown in Appendix 1.

Mathematical calculations using MATHCAD was used to determine the conductor sag at operating temperatures of 18°C and 75°C. The worst condition of sag will be during the maximum operating temperature of 75°C. Calculations based on MATHCAD are in Appendix 2.
The distance from ground level to the conductor determine through calculation is being compared to the surveyed results.

According to NZECP 34:2001, section 3.2.1.3, a specific engineering study carried out by a competent person to establish the actual distances in accordance with the requirements of table 3, i.e. not exceeding 110kV, the minimum safe distance vertically above those parts of any structure not normally accessible to persons but on which a person can stand is 4.5m. The building structure is superimposed under the overhead line and circles of minimum safe distance drawn from the survey conductor distance to the building structure. The difference is calculated.
Drawings are in Appendix 3.

3 110kV Overhead Conductor Parameters

	Arapuni – Hamilton A	
1	110kV Overhead Conductor	Wolf ACSR, Al 155sqmm
2	Span	301 - 302
3	Distance between span	111.09m
4	Basic Conductor Tension	8,900 N @ 50°C
5	Maximum operating temperature	75 °C
6	Height of tower 301 on cable 1 above ground datum	15.06m
7	Height of tower 302 on cable 1 above ground datum	14.61m
8	Height of tower 301 on cable 2 above ground datum	12.25m
9	Height of tower 302 on cable 2 above ground datum	11.76m
10	Conductor mass	724 kg/m
11	Conductor breaking load	67.4kN

	Arapuni – Hamilton B	
1	110kV Overhead Conductor	Hard Drawn Bare Copper, 19/2.34mm, Cu 70sqmm
2	Span	301 - 302
3	Distance between span	311.09m
4	Basic Conductor Tension	7,780 N @ 50°C
5	Maximum operating temperature	75 °C
6	Height of tower 301 on cable 1 above ground datum	15.06m
7	Height of tower 302 on cable 1 above ground datum	14.61m
8	Conductor mass	617 kg/m
9	Conductor breaking load	26.8kN

4 Results

The overhead line conductor of line A1 passes directly over houses 2 and 6, whereas, the overhead line conductor of line A2 passes near houses 2, 3, 5 and 6. The overhead line conductor of line B1 passes near houses 3, 4 and 5, whereas, the overhead line conductor of line B2 is outside the boundary lines of lots 61 & 62. The overhead conductor line A1 (cable 1) is higher than line A2 (cable 2) by about 2.8m.

Item	Description	Height from Ground at normal temp - survey.	Height from Ground at normal temp - Mathcad	Height from Ground at 75 °C - Mathcad
1	Arapuni – Hamilton A line A1 at pt 1003	13.78m	13.78m (15.06-1.28)	13.46m (15.06-1.60)
2	Arapuni – Hamilton A line A1 at pt 1012	13.60m	13.64m (15.06-1.42)	13.32m (15.06-1.74)
3	Arapuni – Hamilton A line A2 at pt 1004	10.79m	10.79m (12.26-1.47)	10.43m (12.26-1.83)
4	Arapuni – Hamilton A line A2 at pt 1009	10.82m		
5	Arapuni – Hamilton B at pt 1018	10.74m	11.84m (18.52-6.68)	9.88m (18.52-8.60)

Based on Mathcad calculations, the maximum sag on line A1 is 1.58m at 59.49m from pole 301, i.e. 13.48m above ground level. At point 1012, the height at maximum operating temperature is 13.32m, as compared to the measured height of 13.6m. The difference between the sag levels during surveyed temp condition and maximum operating temperature is about 0.32m for the line A and about 0.86m for line B.

42m PFL

Item	Description - conductor	Building No.	Distance from building structure during max operating temp	Minimum Safe Distance from building according to NZCEP 34:2001
1	Conductor A1	2	10.32 – 0.32 = 10m	4.5m
2	Conductor A1	3	13.22 – 0.32 = 12.9m	4.5m
3	Conductor A2	2	9.11 – 0.32 = 8.79m	4.5m
4	Conductor A1	3	8.54 – 0.32 = 8.22m	4.5m
5	Conductor B	3	8.73 – 0.86 = 7.87m	4.5m
6	Conductor A1	6	9.52 – 0.32 = 9.20m	4.5m
7	Conductor A2	6	8.00 – 0.32 = 7.68m	4.5m
8	Conductor B	5	10.09 – 0.86 = 9.13m	4.5m
9	Conductor B	4	8.20 – 0.86 = 7.34m	4.5m

According to NZECP 34:2001, the minimum safe distance vertically above those parts of any structure not normally accessible to persons but on which a person can stand is 4.5m. The calculated distances from the overhead conductor to the building structures in all the situations is greater than 4.5m.

5 Conclusion

Based on the results, the clearance between the 110kV Overhead Line Conductor at maximum operating temperature and the building structure (the proposed maximum building height of 4.25m) at lots 61 & 62, Yorkshire Road, Hamilton, is greater than the minimum safe distance of 4.5m, in accordance to NZECP 34:2001, section 3.2.1.3. This satisfies the requirements of NZCEP34:2001.

This study does not evaluate or include the effects of radiation, which is beyond the scope of this study.

6 References

The following documents were used in this assessment report.

Item	Description	Reference
1	New Zealand Electrical Code of Practice for Electrical Safe Distances	NZCEP 34:2001
2	Transmission Life Loading Codes	TP.DL 12.01
3	Structural Design Actions, Part 2: Wind Actions	AS/NZS 1170.2:2002
4	Arapuni – Hamilton A & B, Route Plan, Line B: Structures 124-142, Line A: Structures 282-324	TX40179/8
5	Arapuni – Hamilton A, Route Plan & Profile, Structures 297-308A	XDOSLI 918
6	Arapuni – Hamilton B, Route Plan & Profile, Structures 132-137	TX40213/33
7	Arapuni – Hamilton B, E.S. Regulation 89 Clearance Span 133-134	FMHN 48

APPENDIX 1

11KV OVERHEAD LINE
Lots 61 & 62 Yorkshire Road, Hamilton
CKC Holdings Ltd

3rd Dec 2009

CONDUCTOR HEIGHT SURVEY RESULTS

	Northing	Easting	Elevation	Clearance to GL (m)	
1000	600008.204	299945.737	115.246	15.061	CBL 1 Top at Tower
1003	600007.422	299984.913	113.962	13.777	CBL 1 Top
1005	600012.134	300000.000	113.736	13.551	CBL 1 Top
1011	600006.962	300017.303	100.185		SH Ground Level
1012	600006.817	300016.940	113.791	13.606	CBL 1 Top
1007	600006.043	300057.173	114.797	14.612	CBL 1 Top
1001	600013.284	299945.593	112.362	12.256	CBL 2 Lower at Tower
1002	600012.477	299985.635	111.074	10.968	CBL 2 Lower
1004	600012.185	300000.000	110.900	10.794	CBL 2 Lower
1008	600011.748	300018.019	100.106		SH Ground Level
1009	600011.823	300018.134	110.929	10.823	CBL 2 Lower
1006	600011.034	300057.182	111.872	11.766	CBL 2 Lower
3	600032.109	299998.705	99.863		PEG GL
1022	600037.975	299986.220	108.943	9.080	CBL 3 Lower
1018	600037.394	300013.267	110.606	10.743	CBL 3 Lower
1015	600037.078	300028.855	111.907	12.044	CBL 3 Lower
1013	600035.847	300084.687	118.310	18.447	CBL 3 Lower
1023	600035.848	300084.759	124.389	24.526	CBL 5 Top Above CBL 3

Mathcad Worksheet

CONDUCTOR SAG CALCULATIONS on circuit 1

To determine the conductor sag under the maximum operating temperature in steady state.
References are given in TP DL 12.01 ISSUE 2, unless stated otherwise. AS/NZS 1170.2:2002 is also referred to. Calculation performed on circuit1 (conductor is higher) and on circuit 2 (conductor is lower).

(A) Line Parameters

Line name:	ARAPUNI - HAMILTON A 110KV Line
Span:	301-302
Structure Type:	Suspension Cable
Conductor Types:	Wolf
Voltage:	110kV Line Voltage

(B) Basic Parameters

$d_c := 18.1$	(mm)	Conductor outer diameter - Wolf
$r_{ice} := 0$		
$F_u := 67400$	(N)	Ultimate Conductor tension - Wolf
$n := 1$		Number of phase conductors
$n_t := 1$		Number of insulators per phase
$w_c := 7.1$	(N/m)	Weight of conductor - Wolf
$T_b := 8.9 \cdot 10^3$	(N)	Basic Design Tension - Wolf
$t_b := 18$	(deg.cel)	Basic Design tension temperature (on the day of survey)
$S_{bef} := 70.25$	(m)	Span 300-301
$S_{aft} := 111.09$	(m)	Span 301-302
$y_{str} := 15.06$	(m)	Structure height above ground
$x_{cond} := 5$	(m)	Horizontal Clearance between two conductors

NOTE: If attachment height of structure to be analysed is lower than attachment height of structures either side of it, the height differences between attachment points below should be negative. If structure attachment height is higher, height difference is positive.

$h_{bef} := 0$	(m)	Difference in height (back span)
$h_{aft} := 0.45$	(m)	Difference in height (forward span)
$Alt := 40$	(m)	Altitude of structure above sea level

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(C) Span Parameters

$S_{eq.bef} := 103.3$	(m)	Strain to strain section equivalent span (back span)
$S_{eq.aft} := 103.3$	(m)	Strain to strain section equivalent span (forward span)
$S_w := 0.5 \cdot (S_{bef} + S_{aft})$		
$S_w = 90.67$	(m)	Structure wind span
$t_{mot} := 75$	(deg.cel)	Number of insulators per phase
$\theta := 0$	(deg)	Angle of line deviation on the structure
$g := 9.807$	(m/s^2)	Gravity

Calculations

1.0 Conductor Sags and Plots

1.1 Calculate Sag (on the day of measurement)

$T_{edt.bef} := 8900$

Span 301-302

$T_{edt.aft} := T_{edt.bef}$ $S_{eq.aft} = 103.3$ (m) $t_{edt} := t_b$

$t_{edt} = 18$ (deg.cel)

$C_{edt.aft} := \dfrac{T_{edt.bef}}{w_c}$ $C_{edt.aft} = 1.254 \times 10^3$ Resultant catenary constant

$$sag_{edt.aft} := C_{edt.aft} \cdot \left(\cosh\left(\frac{S_{aft}}{2 \cdot C_{edt.aft}} \right) - 1 \right) \cdot \sqrt{1 + \left(\frac{h_{aft}}{2 \cdot C_{edt.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{edt.aft}} \right)} \right)^2}$$

$sag_{edt.aft} = 1.231$ (m) Sag in span

$$x_{2.edt.aft} := C_{edt.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{2 \cdot C_{edt.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{edt.aft}} \right)} \right) + \frac{S_{aft}}{2}$$

$x_{2.edt.aft} = 60.621$ (m) Location of lowest point in span from 301

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$$x_{1.edt.aft} := -C_{edt.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{2 \cdot C_{edt.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{edt.aft}}\right)}\right) + \frac{S_{aft}}{2}$$

$x_{1.edt.aft} = 50.469$ (m) Location of lowest point in span from 302

$$y_{edt.aft} := C_{edt.aft} \cdot \left(\cosh\left(\frac{x_{2.edt.aft}}{C_{edt.aft}}\right) - 1\right)$$

$y_{edt.aft} = 1.466$ (m) Height of catenary low point to top of lower structure span

$$x_{3.edt.aft} := C_{edt.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{S_{aft}}\right)$$

$x_{3.edt.aft} = 5.078$ (m) Horizontal length from catenary low point to maximum sag in span

$$y_{5.edt.aft} := -C_{edt.aft} \cdot \left(\cosh\left(\frac{-x_{2.edt.aft}}{C_{edt.aft}}\right) - 1\right)$$

$y_{5.edt.aft} = -1.466$ (m)

$S_{aft.1} := S_{aft} + 1$

$S_{aft.1} = 112.09$ (m)

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$b := 0, 10 .. S_{aft.1} =$

0
10
20
30
40
50
60
70
80
90
100
110

(m)

$$z_b := y_{5.edt.aft} + C_{edt.aft}\left(\cosh\left(\frac{b - x_{2.edt.aft}}{C_{edt.aft}}\right) - 1\right)$$

$z_b =$

	0
0	0
1	-0.444
2	-0.808
3	-1.092
4	-1.297
5	-1.421
6	-1.466
7	-1.431
8	-1.316
9	-1.122
10	-0.848
11	-0.493

(m)

1.2 Calculate Sag (Maximum operating temperature)

Span 301-300

$T_{mot.bef} := 6920$ (N) $S_{eq.bef} = 103.3$ (m) $t_{mot} = 75$ (deg.cel)

$$C_{mot.bef} := \frac{T_{mot.bef}}{w_c}$$ $C_{mot.bef} = 974.648$ Resultant Catenary Constant

Span 301-302

$T_{mot.aft} := T_{mot.bef}$ (N) $S_{eq.aft} = 103.3$ (m) $t_{mot} = 75$ (deg.cel)

$$C_{mot.aft} := \frac{T_{mot.aft}}{w_c}$$ $C_{mot.aft} = 974.648$ Resultant Catenary Constant

$$sag_{mot.aft} := C_{mot.aft}\left(\cosh\left(\frac{S_{aft}}{2 \cdot C_{mot.aft}}\right) - 1\right) \cdot \sqrt{1 + \left(\frac{h_{aft}}{2 \cdot C_{mot.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{mot.aft}}\right)}\right)^2}$$

$sag_{mot.aft} = 1.583$ (m) Sag in span

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$$x_{2.mot.aft} := C_{mot.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{2 \cdot C_{mot.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{mot.aft}}\right)}\right) + \frac{S_{aft}}{2}$$

$x_{2.mot.aft} = 59.491$ (m) Location of lowest point in span from 301

$$x_{1.mot.aft} := -C_{mot.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{2 \cdot C_{mot.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{mot.aft}}\right)}\right) + \frac{S_{aft}}{2}$$

$x_{1.mot.aft} = 51.599$ (m) Location of lowest point in span from 302

$$y_{mot.aft} := C_{mot.aft} \cdot \left(\cosh\left(\frac{x_{2.mot.aft}}{C_{mot.aft}}\right) - 1\right)$$

$y_{mot.aft} = 1.816$ (m) Height of catenary low point to top of lower structure span

$$x_{3.mot.aft} := C_{mot.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{S_{aft}}\right)$$

$x_{3.mot.aft} = 3.948$ (m) Horizontal length from catenary low point to maximum sag in span

$$y_{5.mot.aft} := -C_{mot.aft} \cdot \left(\cosh\left(\frac{-x_{2.mot.aft}}{C_{mot.aft}}\right) - 1\right)$$

Expression to plot sag curve MOT Span

$y_{5.mot.aft} = -1.816$ (m)

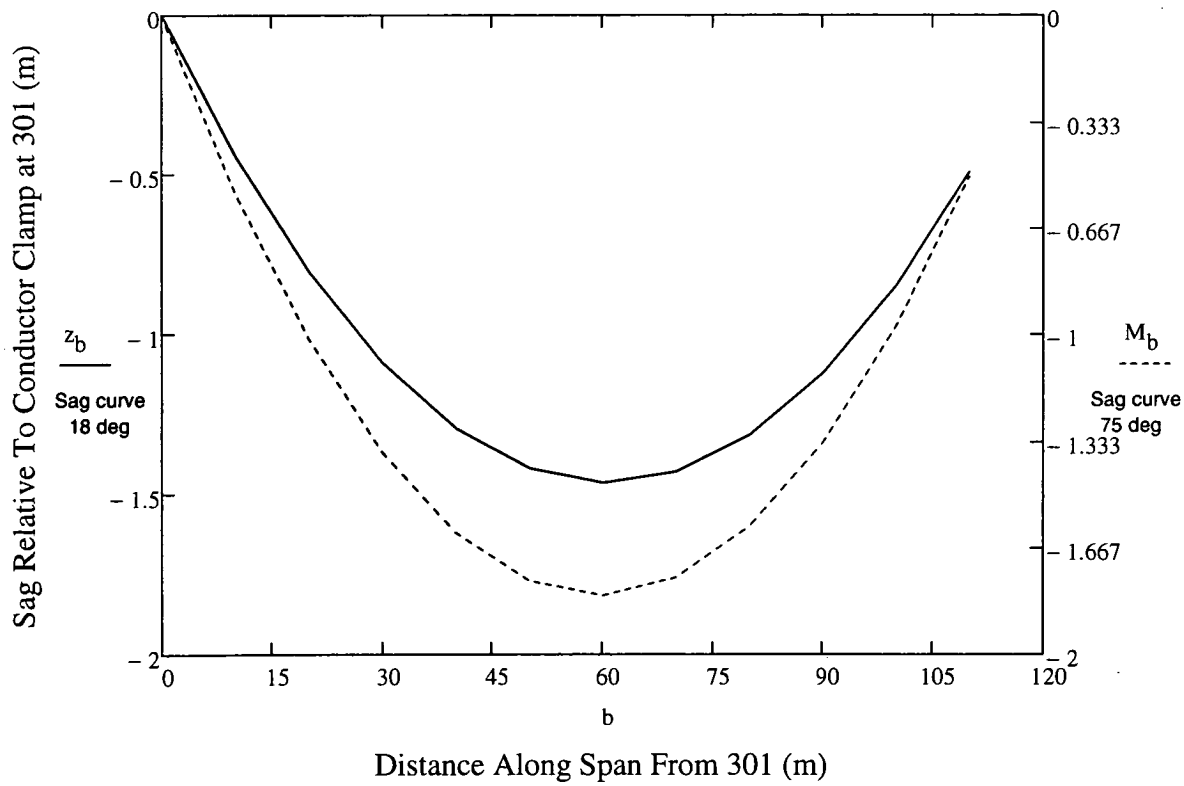
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$$M_b := y_{5.mot.aft} + C_{mot.aft}\left(\cosh\left(\frac{b - x_{2.mot.aft}}{C_{mot.aft}}\right) - 1\right)$$

$M_b =$ (m)

	0
0	0
1	-0.559
2	-1.016
3	-1.37
4	-1.621
5	-1.77
6	-1.816
7	-1.76
8	-1.6
9	-1.339
10	...

SAG CURVES span 301-302 ARAPUNI-HAMILTON A



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2.0 Calculate Change in sag for given position in span

2.1 Calculate Change in Sag at X m from Tower 301

Span 301-302 Everyday Temperature

$x := 39.2$

$y_{edt.aft} := y_{5.edt.aft} + C_{edt.aft} \cdot \left(\cosh\left(\frac{x - x_{2.edt.aft}}{C_{edt.aft}} \right) - 1 \right)$

$y_{edt.aft} = -1.283$ (m)

Span 301-302 Operating Temperature

$x = 39.2$

$y_{mot.aft} := y_{5.mot.aft} + C_{mot.aft} \cdot \left(\cosh\left(\frac{x - x_{2.mot.aft}}{C_{mot.aft}} \right) - 1 \right)$

$y_{mot.aft} = -1.605$ (m)

$Dsag_{mot.aft} := 1.02 \cdot y_{edt.aft} - 1.02 \cdot y_{mot.aft}$

$Dsag_{mot.aft} = 0.328$ (m) Change in Sag between everyday Temp and Maximum operating Temp at x metres from 301

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Span 301-302 Everyday Temperature

$x := 71.2$

$$y_{edt.aft} := y_{5.edt.aft} + C_{edt.aft}\left(\cosh\left(\frac{x - x_{2.edt.aft}}{C_{edt.aft}}\right) - 1\right)$$

$y_{edt.aft} = -1.421$ (m)

Span 301-302 Operating Temperature

$x = 71.2$

$$y_{mot.aft} := y_{5.mot.aft} + C_{mot.aft}\left(\cosh\left(\frac{x - x_{2.mot.aft}}{C_{mot.aft}}\right) - 1\right)$$

$y_{mot.aft} = -1.746$ (m)

$$Dsag_{mot.aft} := 1.02 \cdot y_{edt.aft} - 1.02 \cdot y_{mot.aft}$$

$Dsag_{mot.aft} = 0.331$ (m) Change in Sag between everyday Temp and Maximum operating Temp at x metres from 301

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Mathcad Worksheet

CONDUCTOR SAG CALCULATIONS on circuit 2

To determine the conductor sag under the maximum operating temperature in steady state.
References are given in TP DL 12.01 ISSUE 2, unless stated otherwise. AS/NZS 1170.2:2002 is also referred to. Calculation performed on circuit 2 (conductor is lower).

(A) Line Parameters

Line name:	ARAPUNI - HAMILTON A 110KV Line
Span:	301-302
Structure Type:	Suspension Cable
Conductor Types:	Wolf
Voltage:	110kV Line Voltage

(B) Basic Parameters

$d_c := 18.1$	(mm)	Conductor outer diameter - Wolf
$r_{ice} := 0$		
$F_u := 67400$	(N)	Ultimate Conductor tension - Wolf
$n := 1$		Number of phase conductors
$n_t := 1$		Number of insulators per phase
$w_c := 7.1$	(N/m)	Weight of conductor - Wolf
$T_b := 8.9 \cdot 10^3$	(N)	Basic Design Tension - Wolf
$t_b := 18$	(deg.cel)	Basic Design tension temperature (on the day of survey)
$S_{bef} := 70.25$	(m)	Span 300-301
$S_{aft} := 111.09$	(m)	Span 301-302
$y_{str} := 12.25$	(m)	Structure height above ground
$x_{cond} := 5$	(m)	Horizontal Clearance between two conductors

NOTE: If attachment height of structure to be analysed is lower than attachment height of structures either side of it, the height differences between attachment points below should be negative. If structure attachment height is higher, height difference is positive.

$h_{bef} := 0$	(m)	Difference in height (back span)
$h_{aft} := 0.49$	(m)	Difference in height (forward span)
$Alt := 40$	(m)	Altitude of structure above sea level

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(C) Span Parameters

$S_{eq.bef} := 103.3$	(m)	Strain to strain section equivalent span (back span)
$S_{eq.aft} := 103.3$	(m)	Strain to strain section equivalent span (forward span)
$S_w := 0.5 \cdot (S_{bef} + S_{aft})$		
$S_w = 90.67$	(m)	Structure wind span
$t_{mot} := 75$	(deg.cel)	Number of insulators per phase
$\theta := 0$	(deg)	Angle of line deviation on the structure
$g := 9.807$	(m/s^2)	Gravity

Calculations

1.0 Conductor Sags and Plots

1.1 Calculate Sag (on the day of measurement)

$T_{edt.bef} := 8900$

Span 301-302

$T_{edt.aft} := T_{edt.bef}$ $S_{eq.aft} = 103.3$ (m) $t_{edt} := t_b$

$t_{edt} = 18$ (deg.cel)

$C_{edt.aft} := \dfrac{T_{edt.bef}}{w_c}$ $C_{edt.aft} = 1.254 \times 10^3$ Resultant catenary constant

$$sag_{edt.aft} := C_{edt.aft} \cdot \left(\cosh\left(\frac{S_{aft}}{2 \cdot C_{edt.aft}} \right) - 1 \right) \cdot \sqrt{1 + \left(\frac{h_{aft}}{2 \cdot C_{edt.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{edt.aft}} \right)} \right)^2}$$

$sag_{edt.aft} = 1.231$ (m) Sag in span

$$x_{2.edt.aft} := C_{edt.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{2 \cdot C_{edt.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{edt.aft}} \right)} \right) + \frac{S_{aft}}{2}$$

$x_{2.edt.aft} = 61.072$ (m) Location of lowest point in span from 301

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$$x_{1.edt.aft} := -C_{edt.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{2 \cdot C_{edt.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{edt.aft}}\right)}\right) + \frac{S_{aft}}{2}$$

$x_{1.edt.aft} = 50.018$ (m) Location of lowest point in span from 302

$$y_{edt.aft} := C_{edt.aft} \cdot \left(\cosh\left(\frac{x_{2.edt.aft}}{C_{edt.aft}}\right) - 1\right)$$

$y_{edt.aft} = 1.488$ (m) Height of catenary low point to top of lower structure span

$$x_{3.edt.aft} := C_{edt.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{S_{aft}}\right)$$

$x_{3.edt.aft} = 5.529$ (m) Horizontal length from catenary low point to maximum sag in span

$$y_{5.edt.aft} := -C_{edt.aft} \cdot \left(\cosh\left(\frac{-x_{2.edt.aft}}{C_{edt.aft}}\right) - 1\right)$$

$y_{5.edt.aft} = -1.488$ (m)

$S_{aft.1} := S_{aft} + 1$

$S_{aft.1} = 112.09$ (m)

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$b := 0, 10 .. S_{aft.1} =$

0
10
20
30
40
50
60
70
80
90
100
110

(m)

$$z_b := y_{5.edt.aft} + C_{edt.aft} \cdot \left(\cosh\left(\frac{b - x_{2.edt.aft}}{C_{edt.aft}} \right) - 1 \right)$$

$z_b =$

	0
0	0
1	-0.447
2	-0.815
3	-1.103
4	-1.311
5	-1.439
6	-1.488
7	-1.456
8	-1.345
9	-1.154
10	-0.884
11	-0.533

(m)

1.2 Calculate Sag (Maximum operating temperature)

Span 301-300

$T_{mot.bef} := 6920$ (N) $S_{eq.bef} = 103.3$ (m) $t_{mot} = 75$ (deg.cel)

$$C_{mot.bef} := \frac{T_{mot.bef}}{w_c}$$ $C_{mot.bef} = 974.648$ Resultant Catenary Constant

Span 301-302

$T_{mot.aft} := T_{mot.bef}$ (N) $S_{eq.aft} = 103.3$ (m) $t_{mot} = 75$ (deg.cel)

$$C_{mot.aft} := \frac{T_{mot.aft}}{w_c}$$ $C_{mot.aft} = 974.648$ Resultant Catenary Constant

$$sag_{mot.aft} := C_{mot.aft} \cdot \left(\cosh\left(\frac{S_{aft}}{2 \cdot C_{mot.aft}} \right) - 1 \right) \cdot \sqrt{1 + \left(\frac{h_{aft}}{2 \cdot C_{mot.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{mot.aft}} \right)} \right)^2}$$

$sag_{mot.aft} = 1.583$ (m) Sag in span

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$$x_{2.mot.aft} := C_{mot.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{2 \cdot C_{mot.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{mot.aft}}\right)}\right) + \frac{S_{aft}}{2}$$

$x_{2.mot.aft} = 59.842$ (m) Location of lowest point in span from 301

$$x_{1.mot.aft} := -C_{mot.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{2 \cdot C_{mot.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{mot.aft}}\right)}\right) + \frac{S_{aft}}{2}$$

$x_{1.mot.aft} = 51.248$ (m) Location of lowest point in span from 302

$$y_{mot.aft} := C_{mot.aft} \cdot \left(\cosh\left(\frac{x_{2.mot.aft}}{C_{mot.aft}}\right) - 1\right)$$

$y_{mot.aft} = 1.838$ (m) Height of catenary low point to top of lower structure span

$$x_{3.mot.aft} := C_{mot.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{S_{aft}}\right)$$

$x_{3.mot.aft} = 4.299$ (m) Horizontal length from catenary low point to maximum sag in span

$$y_{5.mot.aft} := -C_{mot.aft} \cdot \left(\cosh\left(\frac{-x_{2.mot.aft}}{C_{mot.aft}}\right) - 1\right)$$

$y_{5.mot.aft} = -1.838$ (m) Expression to plot sag curve MOT Span

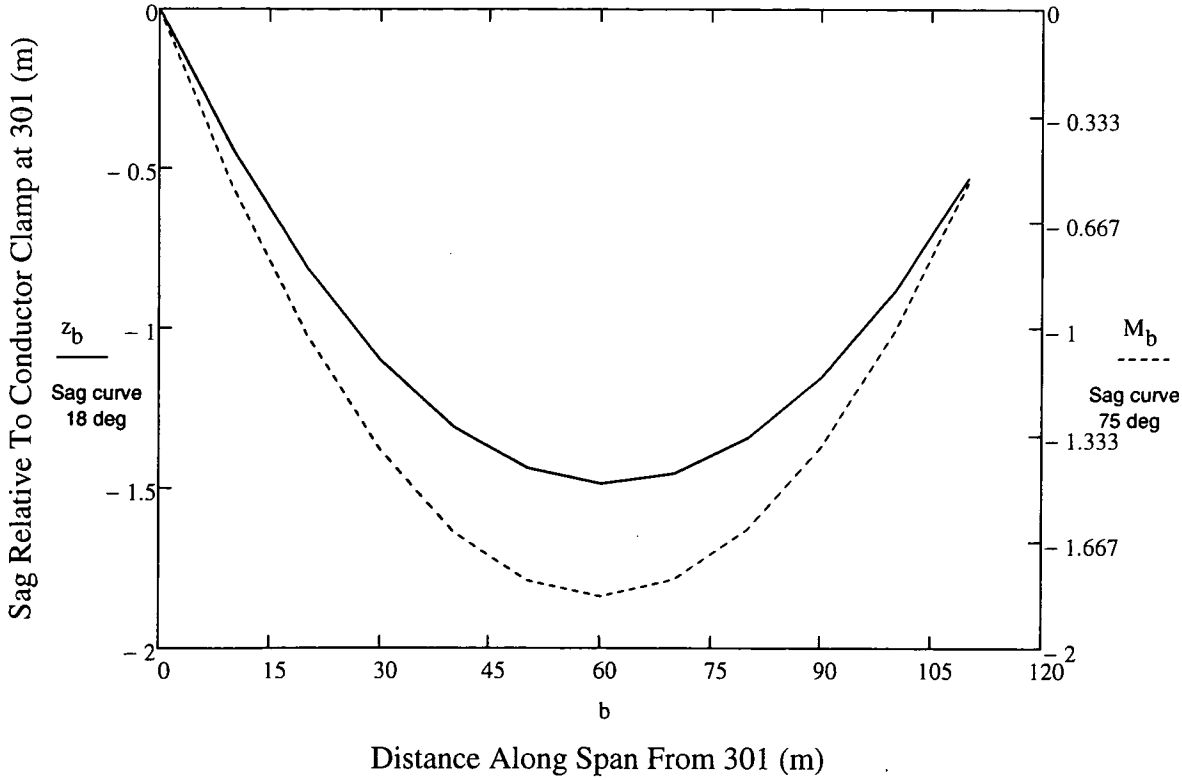
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$$M_b := y_{5.mot.aft} + C_{mot.aft}\left(\cosh\left(\frac{b - x_{2.mot.aft}}{C_{mot.aft}}\right) - 1\right)$$

$M_b =$ (m)

	0
0	0
1	-0.563
2	-1.023
3	-1.381
4	-1.636
5	-1.788
6	-1.838
7	-1.785
8	-1.629
9	-1.371
10	...

SAG CURVES span 301-302 ARAPUNI-HAMILTON A



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2.0 Calculate Change in sag for given position in span

2.1 Calculate Change in Sag at X m from Tower 301

Span 301-302 Everyday Temperature

$x := 62$

$y_{edt.aft} := y_{5.edt.aft} + C_{edt.aft} \cdot \left(\cosh\left(\frac{x - x_{2.edt.aft}}{C_{edt.aft}} \right) - 1 \right)$

$y_{edt.aft} = -1.488$ (m)

Span 301-302 Operating Temperature

$x = 62$

$y_{mot.aft} := y_{5.mot.aft} + C_{mot.aft} \cdot \left(\cosh\left(\frac{x - x_{2.mot.aft}}{C_{mot.aft}} \right) - 1 \right)$

$y_{mot.aft} = -1.835$ (m)

$Dsag_{mot.aft} := 1.02 \cdot y_{edt.aft} - 1.02 \cdot y_{mot.aft}$

$Dsag_{mot.aft} = 0.355$ (m) Change in Sag between everyday Temp and Maximum operating Temp at x metres from 301

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Mathcad Worksheet

CONDUCTOR SAG CALCULATIONS

To determine the conductor sag under the maximum operating temperature in steady state.
References are given in TP DL 12.01 ISSUE 2, unless stated otherwise. AS/NZS 1170.2:2002 is also referred to. Calculation is performed on circuit1 only as the conductor is within the boundary of the land concerned.

(A) Line Parameters

Line name:	ARAPUNI - HAMILTON B 110KV Line
Span:	133-134
Structure Type:	Suspension Cable
Conductor Types:	19/2.34mm HDBC
Voltage:	110kV Line Voltage

(B) Basic Parameters

$d_c := 10.7$	(mm)	Conductor outer diameter - 19/2.34mm HDBC
$r_{ice} := 0$		
$F_u := 26800$	(N)	Ultimate Conductor tension - HDBC
$n := 1$		Number of phase conductors
$n_t := 1$		Number of insulators per phase
$w_c := 6.05$	(N/m)	Weight of conductor - HDBC
$T_b := 7.78 \cdot 10^3$	(N)	Basic Design Tension - HDBC
$t_b := 18$	(deg.cel)	Basic Design tension temperature (on the day of survey)
$S_{bef} := 325.06$	(m)	Span 132-133
$S_{aft} := 311.31$	(m)	Span 133-134
$y_{str} := 18.44$	(m)	Structure height above ground
$x_{cond} := 5$	(m)	Horizontal Clearance between two conductors

NOTE: If attachment height of structure to be analysed is lower than attachment height of structures either side of it, the height differences between attachment points below should be negative. If structure attachment height is higher, height difference is positive.

$h_{bef} := 0$	(m)	Difference in height (back span)
$h_{aft} := 0.0$	(m)	Difference in height (forward span)
$Alt := 40$	(m)	Altitude of structure above sea level

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(C) Span Parameters

$S_{eq.bef} := 306.7$	(m)	Strain to strain section equivalent span (back span)
$S_{eq.aft} := 306.7$	(m)	Strain to strain section equivalent span (forward span)
$S_w := 0.5 \cdot (S_{bef} + S_{aft})$		
$S_w = 318.185$	(m)	Structure wind span
$t_{mot} := 75$	(deg.cel)	Number of insulators per phase
$\theta := 0$	(deg)	Angle of line deviation on the structure
$g := 9.807$	(m/s^2)	Gravity

Calculations

1.0 Conductor Sags and Plots

1.1 Calculate Sag (on the day of measurement)

$T_{edt.bef} := 7780$

Span 133-134

$T_{edt.aft} := T_{edt.bef}$ $S_{eq.aft} = 306.7$ (m) $t_{edt} := t_b$

$t_{edt} = 18$ (deg.cel)

$$C_{edt.aft} := \frac{T_{edt.bef}}{w_c}$$ $C_{edt.aft} = 1.286 \times 10^3$ Resultant catenary constant

$$sag_{edt.aft} := C_{edt.aft} \cdot \left(\cosh\left(\frac{S_{aft}}{2 \cdot C_{edt.aft}} \right) - 1 \right) \cdot \sqrt{1 + \left(\frac{h_{aft}}{2 \cdot C_{edt.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{edt.aft}} \right)} \right)^2}$$

$sag_{edt.aft} = 9.432$ (m) Sag in span

$$x_{2.edt.aft} := C_{edt.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{2 \cdot C_{edt.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{edt.aft}} \right)} \right) + \frac{S_{aft}}{2}$$

$x_{2.edt.aft} = 155.655$ (m) Location of lowest point in span from 133

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$$x_{1.edt.aft} := -C_{edt.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{2 \cdot C_{edt.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{edt.aft}}\right)}\right) + \frac{S_{aft}}{2}$$

$x_{1.edt.aft} = 155.655$ (m) Location of lowest point in span from 134

$$y_{edt.aft} := C_{edt.aft} \cdot \left(\cosh\left(\frac{x_{2.edt.aft}}{C_{edt.aft}}\right) - 1\right)$$

$y_{edt.aft} = 9.432$ (m) Height of catenary low point to top of lower structure span

$$x_{3.edt.aft} := C_{edt.aft} \cdot \operatorname{asinh}\left(\frac{h_{aft}}{S_{aft}}\right)$$

$x_{3.edt.aft} = 0$ (m) Horizontal length from catenary low point to maximum sag in span

$$y_{5.edt.aft} := -C_{edt.aft} \cdot \left(\cosh\left(\frac{-x_{2.edt.aft}}{C_{edt.aft}}\right) - 1\right)$$

$y_{5.edt.aft} = -9.432$ (m)

$S_{aft.1} := S_{aft} + 1$

$S_{aft.1} = 312.31$ (m)

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$b := 0, 10 .. S_{aft.1} =$

0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
...

(m)

$$z_b := y_{5.edt.aft} + C_{edt.aft} \cdot \left(\cosh\left(\frac{b - x_{2.edt.aft}}{C_{edt.aft}} \right) - 1 \right)$$

$z_b =$

	0
0	0
1	-1.174
2	-2.27
3	-3.288
4	-4.228
5	-5.089
6	-5.873
7	-6.578
8	-7.206
9	-7.756
10	-8.227
11	-8.621
12	-8.938
13	-9.176
14	-9.337
15	...

(m)

1.2 Calculate Sag (Maximum operating temperature)

Span 133-132

$T_{mot.bef} := 6050$ (N) $\quad S_{eq.bef} = 306.7$ (m) $\quad t_{mot} = 75$ (deg.cel)

$$C_{mot.bef} := \frac{T_{mot.bef}}{w_c} \qquad C_{mot.bef} = 1 \times 10^3$$

Resultant Catenary Constant

Span 133-134

$T_{mot.aft} := T_{mot.bef}$ (N) $\quad S_{eq.aft} = 306.7$ (m) $\quad t_{mot} = 75$ (deg.cel)

$$C_{mot.aft} := \frac{T_{mot.aft}}{w_c} \qquad C_{mot.aft} = 1 \times 10^3$$

Resultant Catenary Constant

$$sag_{mot.aft} := C_{mot.aft} \cdot \left(\cosh\left(\frac{S_{aft}}{2 \cdot C_{mot.aft}} \right) - 1 \right) \cdot \sqrt{1 + \left(\frac{h_{aft}}{2 \cdot C_{mot.aft} \cdot \sinh\left(\frac{S_{aft}}{2 \cdot C_{mot.aft}} \right)} \right)^2}$$

$sag_{mot.aft} = 12.139$ (m) Sag in span

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$$x_{2.mot.aft} := C_{mot.aft} \cdot asinh\left(\frac{h_{aft}}{2 \cdot C_{mot.aft} \cdot sinh\left(\frac{S_{aft}}{2 \cdot C_{mot.aft}}\right)}\right) + \frac{S_{aft}}{2}$$

$x_{2.mot.aft} = 155.655$ (m) Location of lowest point in span from 301

$$x_{1.mot.aft} := -C_{mot.aft} \cdot asinh\left(\frac{h_{aft}}{2 \cdot C_{mot.aft} \cdot sinh\left(\frac{S_{aft}}{2 \cdot C_{mot.aft}}\right)}\right) + \frac{S_{aft}}{2}$$

$x_{1.mot.aft} = 155.655$ (m) Location of lowest point in span from 302

$$y_{mot.aft} := C_{mot.aft} \cdot \left(\cosh\left(\frac{x_{2.mot.aft}}{C_{mot.aft}}\right) - 1\right)$$

$y_{mot.aft} = 12.139$ (m) Height of catenary low point to top of lower structure span

$$x_{3.mot.aft} := C_{mot.aft} \cdot asinh\left(\frac{h_{aft}}{S_{aft}}\right)$$

$x_{3.mot.aft} = 0$ (m) Horizontal length from catenary low point to maximum sag in span

$$y_{5.mot.aft} := -C_{mot.aft} \cdot \left(\cosh\left(\frac{-x_{2.mot.aft}}{C_{mot.aft}}\right) - 1\right)$$

Expression to plot sag curve MOT Span

$y_{5.mot.aft} = -12.139$ (m)

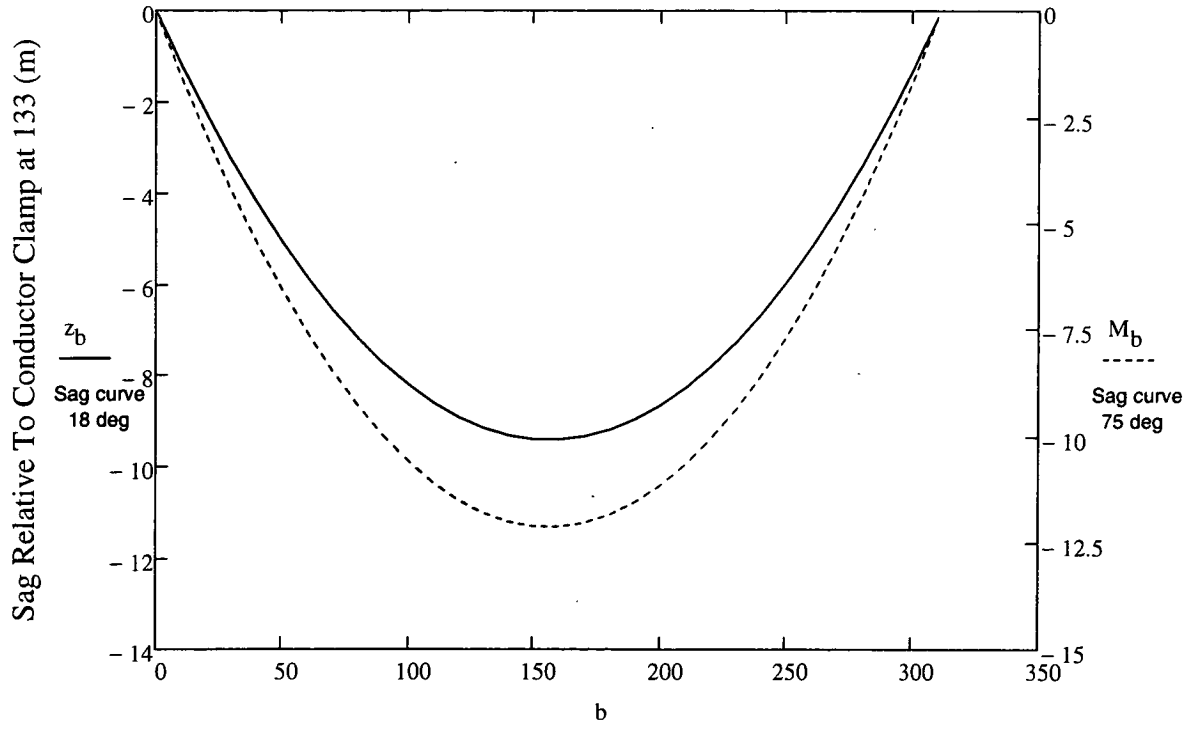
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$$M_b := y_{5.mot.aft} + C_{mot.aft}\left(\cosh\left(\frac{b - x_{2.mot.aft}}{C_{mot.aft}}\right) - 1\right)$$

$M_b =$ (m)

	0
0	0
1	-1.512
2	-2.923
3	-4.234
4	-5.443
5	-6.552
6	-7.56
7	-8.468
8	-9.276
9	-9.983
10	...

SAG CURVES span 133-134 ARAPUNI-HAMILTON B



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2.0 Calculate Change in sag for given position in span

2.1 Calculate Change in Sag at X m from Tower 133

Span 133-134 Everyday Temperature

$x := 239.81$

$y_{edt.aft} := y_{5.edt.aft} + C_{edt.aft} \cdot \left(\cosh\left(\frac{x - x_{2.edt.aft}}{C_{edt.aft}} \right) - 1 \right)$

$y_{edt.aft} = -6.677$ (m)

Span 133-134 Operating Temperature

$x = 239.81$

$y_{mot.aft} := y_{5.mot.aft} + C_{mot.aft} \cdot \left(\cosh\left(\frac{x - x_{2.mot.aft}}{C_{mot.aft}} \right) - 1 \right)$

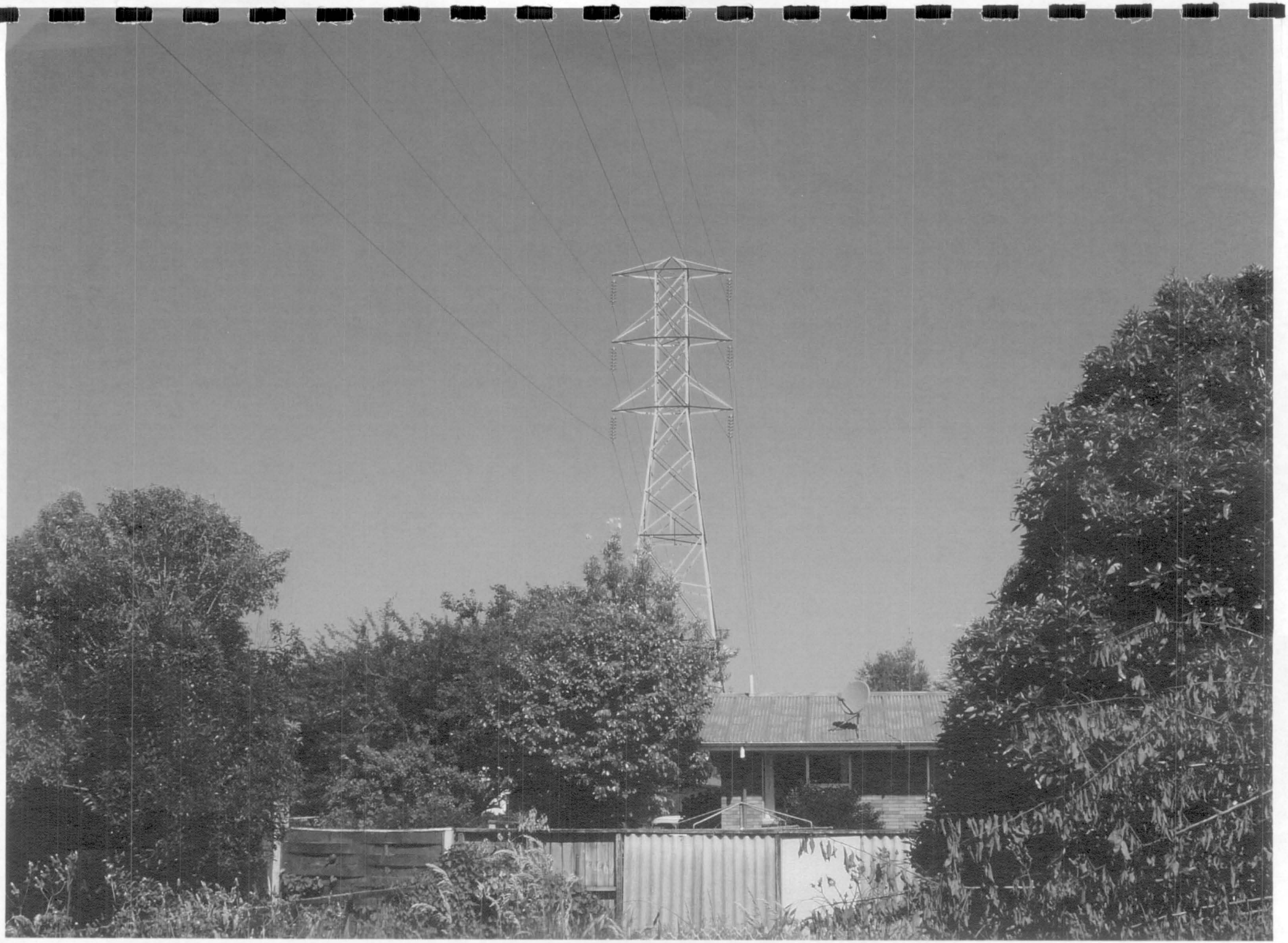
$y_{mot.aft} = -8.596$ (m)

$Dsag_{mot.aft} := 1.02 \cdot y_{edt.aft} - 1.02 \cdot y_{mot.aft}$

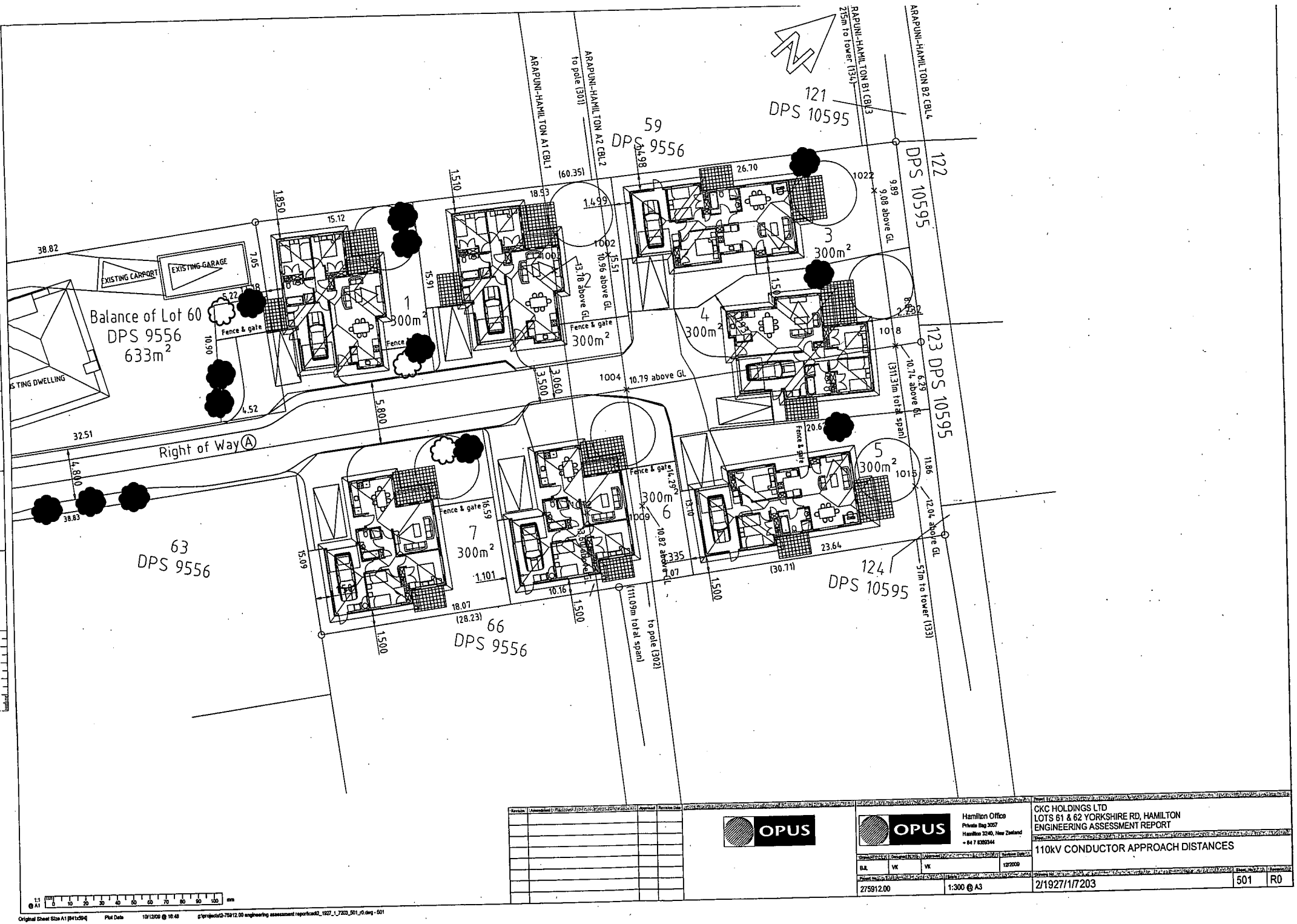
$Dsag_{mot.aft} = 1.957$ (m) Change in Sag between everyday Temp and Maximum operating Temp at x metres from 133

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B.B.	VK	VK	12/2009

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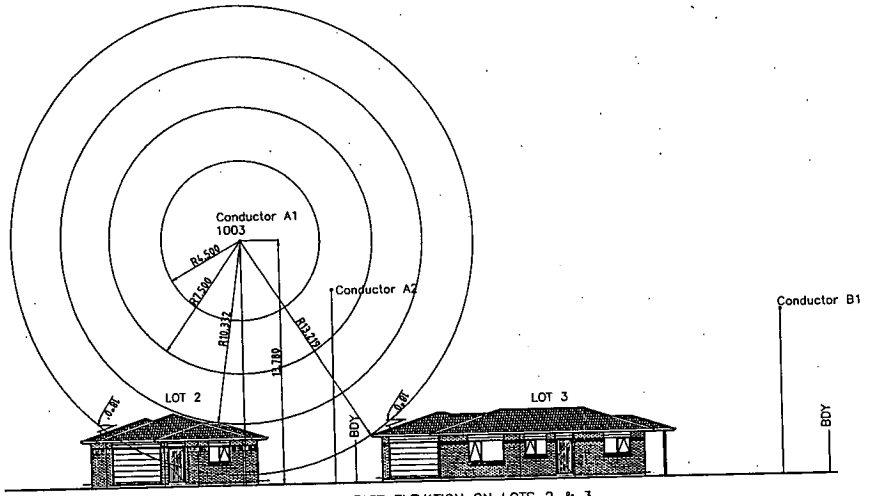
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110kV CONDUCTOR APPROACH DISTANCES

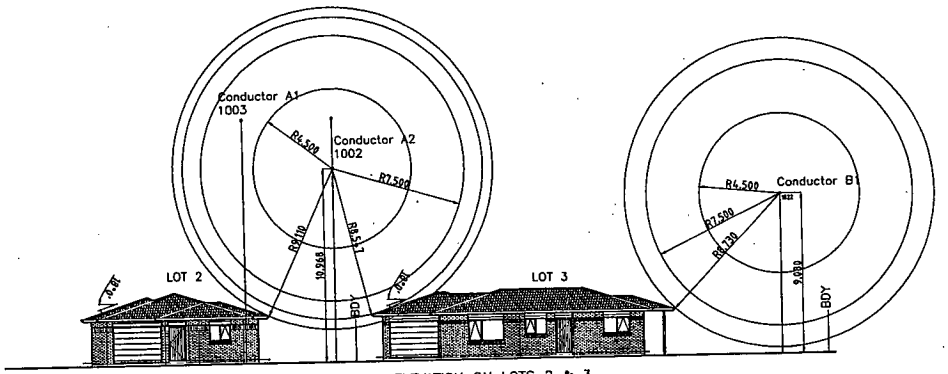
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PROPOSED EAST ELEVATION ON LOTS 2 & 3



PROPOSED EAST ELEVATION ON LOTS 2 & 3

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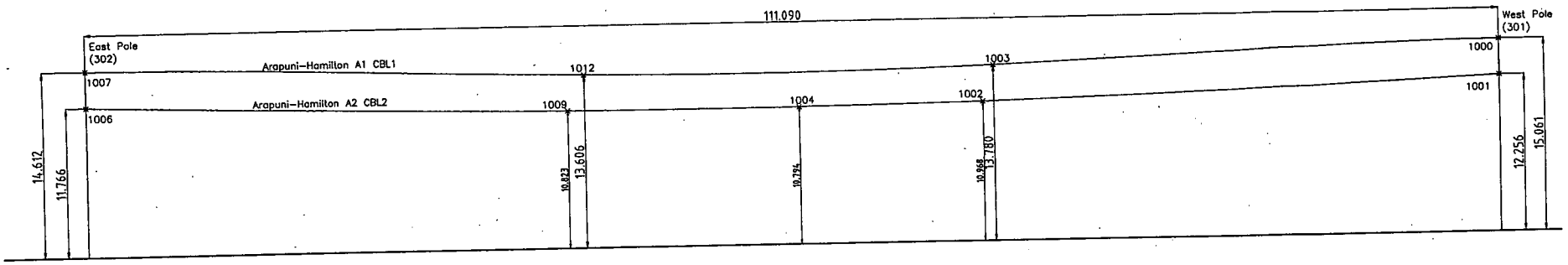
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275912.00	1:300 @ A3	2/1927/1/7203	502	R0

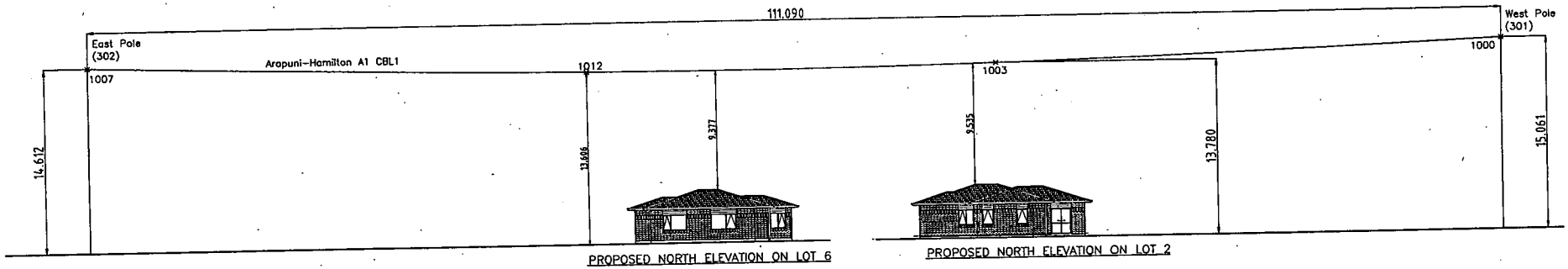
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110kV CONDUCTOR APPROACH DISTANCES

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PROPOSED NORTH ELEVATION ON LOT 6

PROPOSED NORTH ELEVATION ON LOT 2

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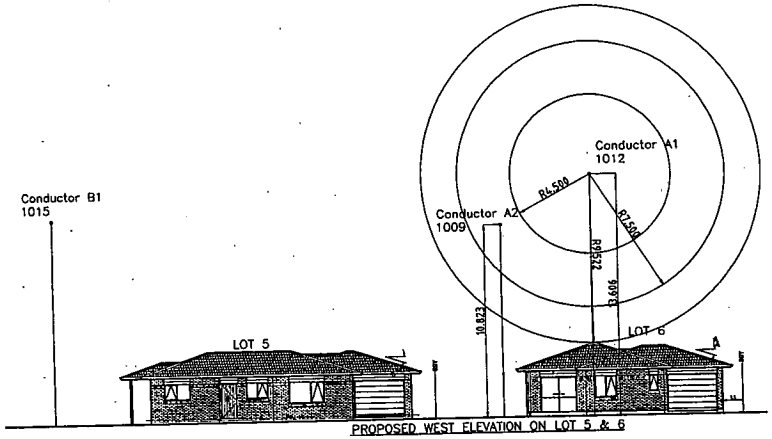
Project No: 275912.00
Scale: 1:350 @ A3
Drawing No: 2/1927/1/7203
Sheet No: 503
Revision: R0

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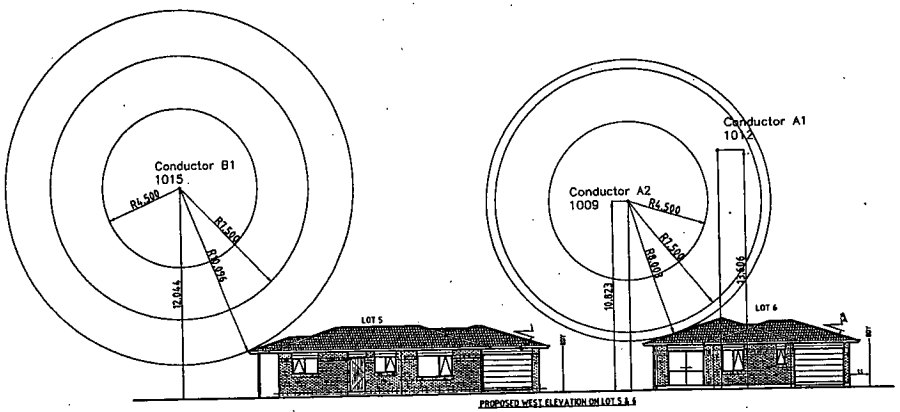
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110kV CONDUCTOR APPROACH DISTANCES

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PROPOSED WEST ELEVATION ON LOT 5 & 6



PROPOSED WEST ELEVATION ON LOT 5 & 6

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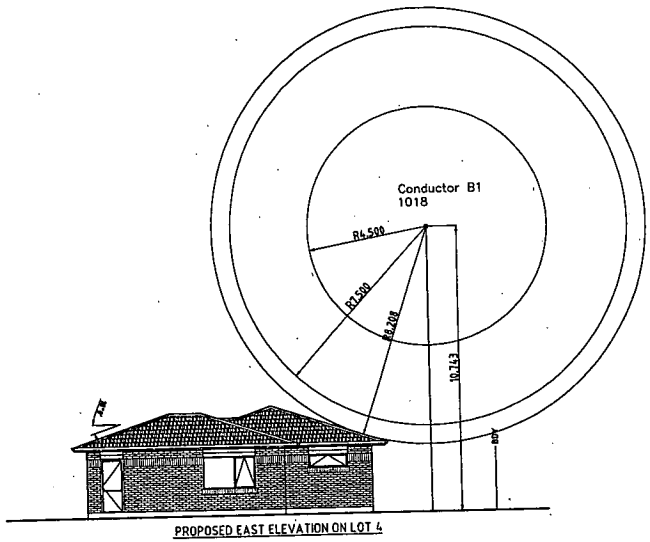
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Sheet Title: 110kV CONDUCTOR APPROACH DISTANCES

Drawing No. 2/1927/1/7203 | Sheet No. 504 | Revision No. R0

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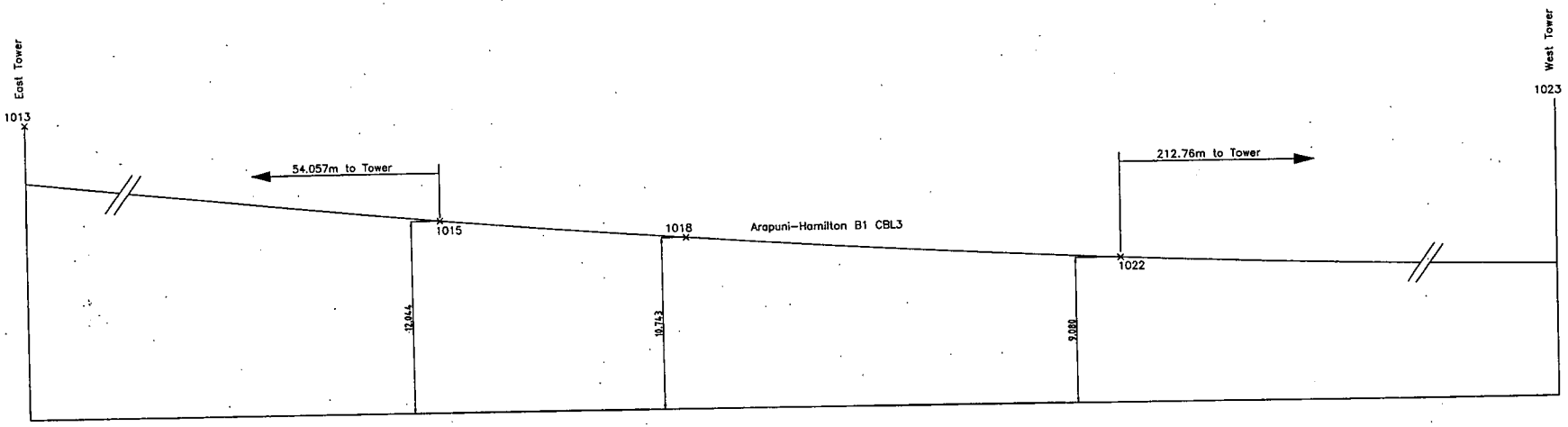
Project No.	Scale	Drawing No.	Sheet No.	Revision No.
275912.00	1:200 @ A3	2/1927/1/7203	505	R0

CKC HOLDINGS LTD
LOTS 61 & 62 YORKSHIRE RD, HAMILTON
ENGINEERING ASSESSMENT REPORT

110kV CONDUCTOR APPROACH DISTANCES

1:1 @ A1 0 10 20 30 40 50 60 70 80 90 100 mm

Original Sheet Size A1 [841x594] Plot Date 10/12/09 @ 16:48 g:\projects\2-75912.00 engineering assessment reports\cad\2_1927_1_7203_501_r0.dwg - 505



Revision	Amendment	Approved	Revision Date

OPUS

OPUS
Hamilton Office
Private Bag 3057
Hamilton 3240, New Zealand
+64 7 8389344

Drawn	Designed	Approved	Revision Date
BJL	VK	VK	12/2009

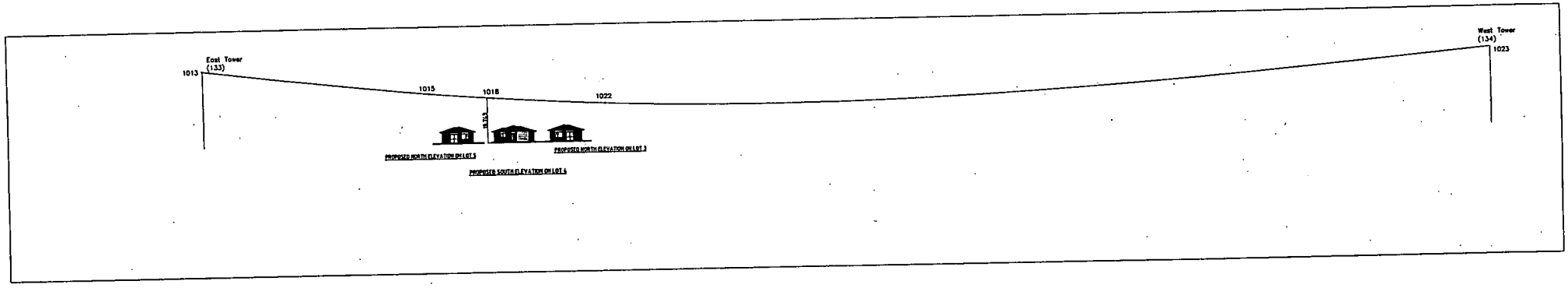
Project Number: 275912.00
Scale: 1:300 @ A3

Project:
CKC HOLDINGS LTD
LOTS 61 & 62 YORKSHIRE RD, HAMILTON
ENGINEERING ASSESSMENT REPORT

Sheet:
110kV CONDUCTOR APPROACH DISTANCES

Drawing No: 2/1927/1/7203
Sheet No: 506
Revision No: R0

1:1 @ A1 — 0 10 20 30 40 50 60 70 80 90 100 mm



Revision	Amendment	Approved	Revision Date

OPUS

OPUS

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Private Bag 3057
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Drawn	Designed	Approved	Revision Date
BJL	VK	VK	12/2009

Project No.	Scale
275912.00	1:500 @ A3

CKC HOLDINGS LTD
LOTS 61 & 62 YORKSHIRE RD, HAMILTON
ENGINEERING ASSESSMENT REPORT

110kV CONDUCTOR APPROACH DISTANCES

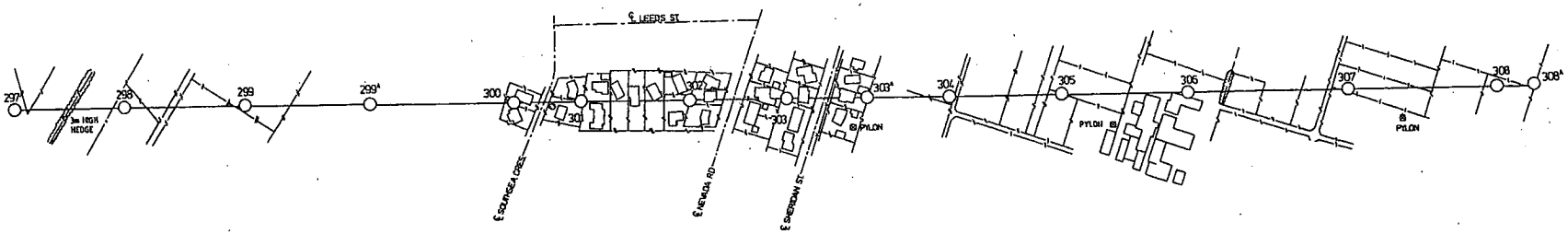
Drawing No.	Sheet No.	Revision
2/1927/1/7203	507	R0

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Original Sheet Size A1 (841x594) Plot Date 10/12/09 @ 18:48 c:\projects\2-75912.00 engineering assessment reports\ed2_1927_1_7203_501_r0.dwg - 508

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NICHOLS J, 30-Nov-09 , XDOSLI 918, Sht 29, Rev B
TA12/5A

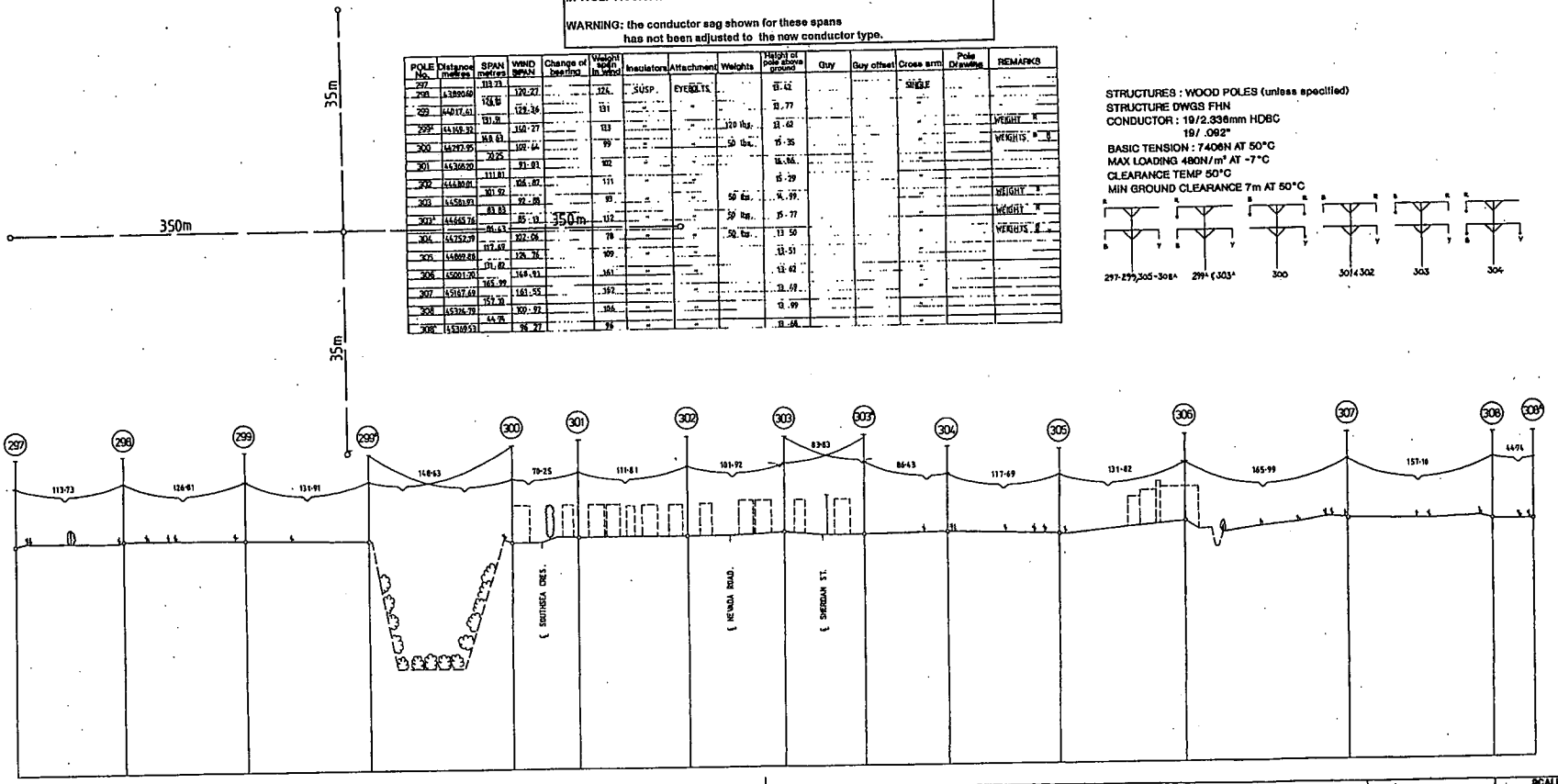


NOTE:
THIS LINE HAS BEEN RECONDUCTORED FOR SPANS 294 - 311
IN WOLF ACSR AT A BASIC TENSION OF 8900N @ 50C.

WARNING: the conductor sag shown for these spans
has not been adjusted to the new conductor type.

POLE No.	Distance metres	SPAN metres	WIND SPAN	Change of bearing	Weight span in wind	Insulators	Attachment	Weights	Height of pole above ground	Guy	Guy offset	Cross arm	Pole Drawing	REMARKS
297		113.73	120.27		124	SUSP.	EYEBOLTS		11.62			SINGLE		
298	43890.60	126.61	129.36		131	"	"		13.77			"		
299	44017.61	131.91	132.27		133	"	"	120 lbs.	13.62			"		WEIGHT A
299A	44149.32	148.63	147.64		99	"	"	50 lbs.	15.35			"		WEIGHTS B C
300	44297.95	79.25	91.83		102	"	"	"	16.66			"		
301	44377.20	111.81	106.87		111	"	"	"	15.29			"		
302	44489.01	101.92	92.88		93	"	"	50 lbs.	14.99			"		WEIGHT B
303	44590.93	83.83	85.13		112	"	"	50 lbs.	15.77			"		WEIGHT B
303A	44665.76	86.43	102.09		78	"	"	50 lbs.	13.50			"		WEIGHTS B C
304	44752.19	117.69	126.76		109	"	"	"	13.51			"		
305	44869.88	131.82	149.83		161	"	"	"	13.62			"		
306	45001.70	165.99	161.55		192	"	"	"	13.69			"		
307	45167.69	157.16	100.92		106	"	"	"	13.99			"		
308	45324.79	44.74	96.27		86	"	"	"	13.66			"		
308A	45369.53													

STRUCTURES : WOOD POLES (unless specified)
STRUCTURE DWGS FHN
CONDUCTOR : 19/2.336mm HDBC
19/ .092"
BASIC TENSION : 7406N AT 50°C
MAX LOADING 480N/m² AT -7°C
CLEARANCE TEMP 50°C
MIN GROUND CLEARANCE 7m AT 50°C



Amendment	By	Ch'd	App	Date
A Scale Marks added, Title corrected	es	PL	GL	6/02
B Pinning corrected as per info supplied by Electrix	LDS	PL	GL	11/02

Amendment	By	Ch'd	App	Date

DRAWN SHARON BARNSDALL 25/06/02
CHECKED
RECOM'D
APPROVED
REC.ISSUE
APP.ISSUE

ISSUE A B C D E F G H J K L M N P R S T U V W X Y Z
ISSUE AP.C.

A1

Vertical Scale 1:360
Horizontal Scale 1:2376

SURVEY AND LAND INFORMATION HAMILTON

ARAPUNI - HAMILTON A

ROUTE PLAN & PROFILE

STRUCTURES 297 - 308A

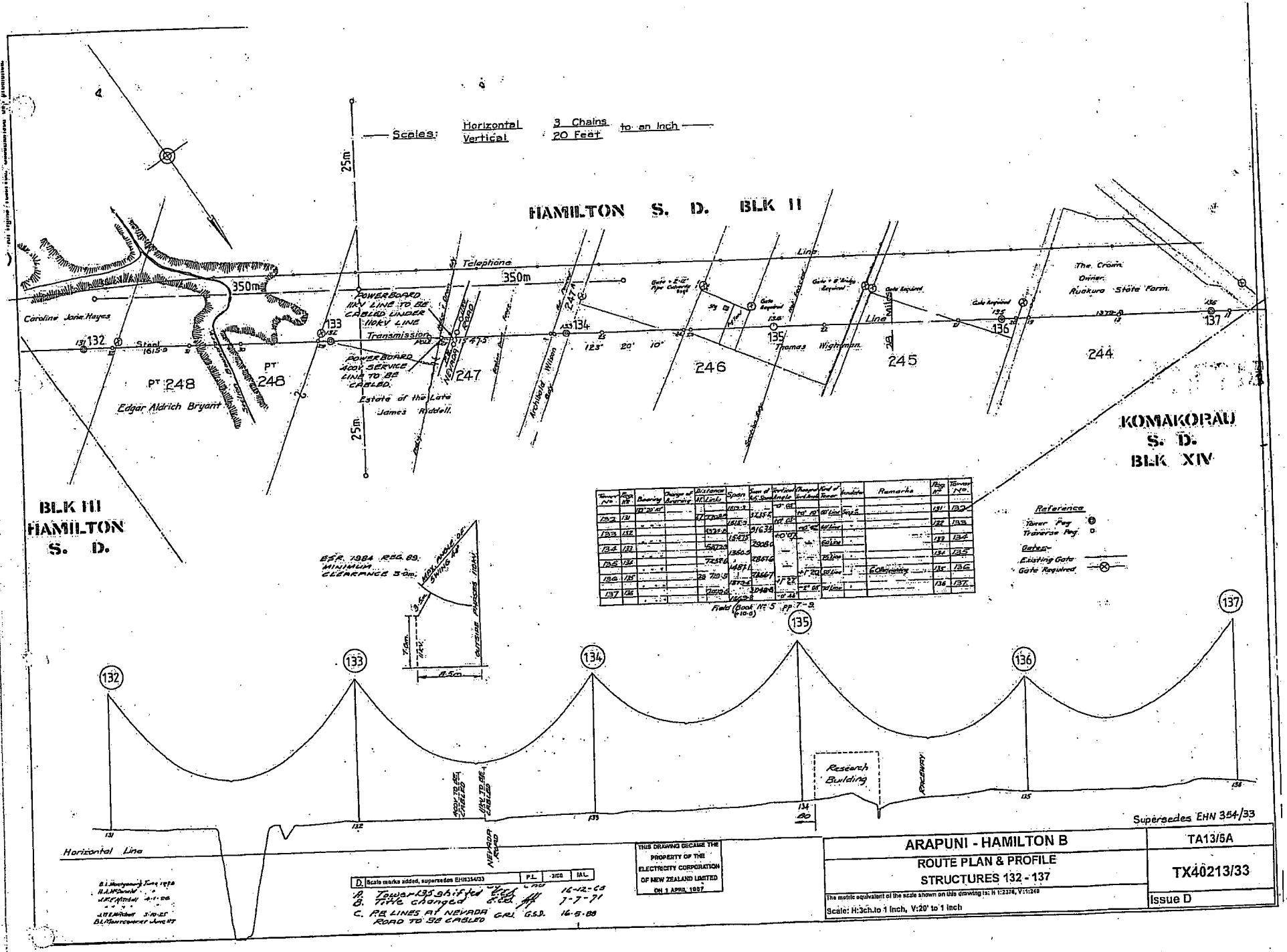
SCALE 1:2376 Horiz 1:360 Vert

FOLDER TA12/5A

X DOSLI 918

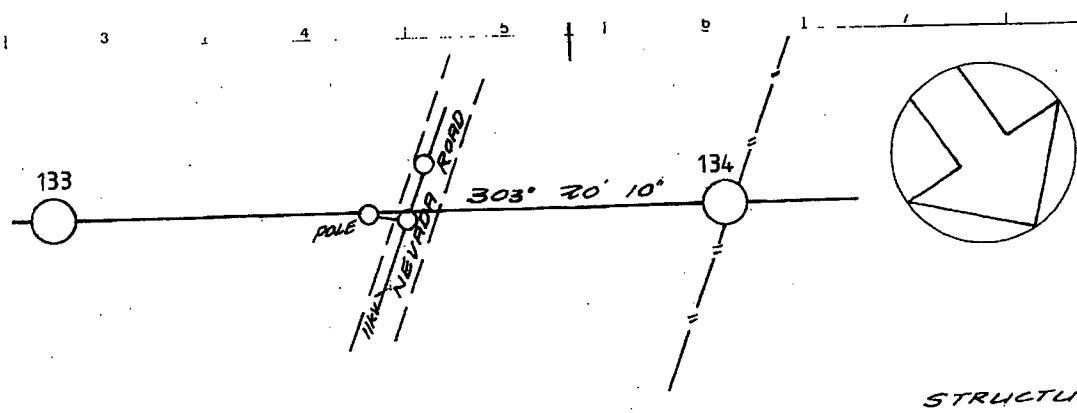
SHEET 29 OF 31

ISSUE B



11/10/00 09:55:59 Drawing: TX40213/33:D Status:I plotted by: loderj FOLDERS: TA13/5A

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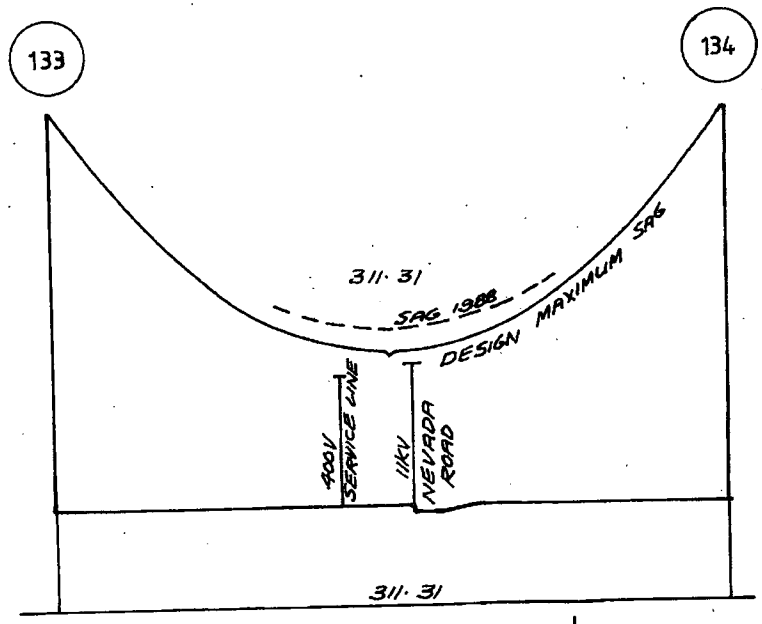
STRUCTURES: TOWERS
ARMSTRONG CONST. C797
CANADIAN BRIDGE C6611

CONDUCTOR: 19/2·34mm
19/·092" HQB.C

BASIC TENSION: 1750lb @ 120°F
7·78kN @ 50°C

PHASING:

No2.	No1
R	B
Y	Y
B	R



ISSUE	AP.C.
P	
N	
M	
L	
K	
J	
H	
G	
F	
E	
D	
C	
B	
A	
-	

Amendment	By	Ch'd	App	Date
A TITLE FOR ISSUE COMPLETED	CDS	MH.	PL.	7/11

DRAWN C.S. DEVINE 5/89
CHECKED P.G. HAMILTON 5/89
RECOM'D
APPROVED
REC. ISSUE
APP ISSUE B.F. Lemard 13/5/89

Electricorp Marketing

ARAPUNI - HAMILTON B

E. S. REGULATION 89 CLEARANCE
SPAN 133 - 134

SCALE 1:240 VERT. 1:2376 HORI.
FOLDER TA13/5A
FMHN48
ISSUE A

A3

1:240 1:2376

TA13/5A, FMHN48, Sht –, Rev A

AECOM

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28 April 2010

CKC Holdings Ltd
PO Box 904
Hamilton

Dear Keith

8 & 10 Yorkshire Road, Hamilton - Stormwater Soaktrench Alternative

1.0 Introduction

AECOM have been asked to revise the stormwater soakage trench design for the proposed Right-Of-Way (ROW) at 8 & 10 Yorkshire Road, Hamilton. In particular, the client has requested an alternative design to the Stormtech SC-310 system recommended in the initial report.

Calculations and recommendations for an alternative soakage system design are outlined in this letter.

2.0 Stormwater Requirements

The initial report (dated 20 April 2010) recommended the use of a Stormtech SC-310 system under the ROW, to capture stormwater runoff from the hardseal areas of the proposed development. This recommendation was based upon our original instructions that the ROW would be constructed with an asphalt surface.

However, the proposed ROW will now be constructed with a reinforced concrete slab and so an alternative soakage system can be adopted for the ROW.

A revised stormwater design is therefore enclosed with this letter for a rock-filled soakage trench system. As rock-filled trenches are typically not suitable for vehicle loadings, a reinforced concrete ROW has been specified overtop of this trench system. Specific engineering design of the pavement slab as been undertaken to ensure structural integrity of the pavement and soakage trench system.

The design assumptions for the revised soakage system are as per the initial report, and are detailed below:

- 10 year ARI storm events with durations between 10 mins and 72 hrs were investigated with the worst case storm duration used to size the soakage system for the ROW
- climate change adjusted rainfall data for the various storm durations were taken from the HCC Development Manual (August 2009)
- a coefficient of runoff of C=0.95 was used for the hardseal and ROW
- an impervious area of 620m^2 was used in design for the ROW and hardseal
- the Rational Formula was used to determine the design stormwater runoff
- based upon the percolation test results, a conservative design soakage rate was determined for the proposed development. A soakage rate of 313 mm/hr was used in design for the hardseal and ROW. The design soakage rates allow for a reduction in efficiency of the soakage system due to silt ingress over time, the possibility of elevated groundwater levels in winter and variations in soakage rates between winter and summer months

For a rock-filled soakage trench being installed beneath the ROW, calculations show that a 1.0m x 1.0m x 1.2m (L x W x D) soakage trench can service an impervious area of 16m^2. For an assumed impervious area of approximately 620m^2 for the ROW; a total trench length of 39.0m (1.0m wide x 1.2m deep) would be required.

The soakage trench must be wrapped entirely in geotextile material to prevent fine-grained material entering the system.

Calculations and a typical cross-section for the trench are attached with this letter.

AECOM

2.1 Silt Trap/Catchpit Recommendations

Prior to discharge to any soakage system, stormwater shall be collected into a sump so as to prevent a silt build up within the selected system which would reduce its capacity and effectiveness.

Catchpits will be required along the ROW and these will enable the sealed ROW areas to drain to the soakage system.

By providing at least one catchpit along the ROW with a lid level lower than the proposed ground level at the location of the on-site soakage system, then, in storm events with return periods exceeding 10 years (when the on-site soakage system will not be able to process the volume of the stormwater), the system will overflow from the catchpit lid. Grades along the ROW will need to enable any overflow to drain to Yorkshire Road.

3.0 ROW Pavement Requirements

The ROW pavement has been designed to span across the 1.0m wide soakage trench and carry the design traffic loading specified in AS/NZS 1170:2002, ie a uniformly distributed load of 2.5 kPa or a point load of 13 kN.

As detailed in the attached calculations, a 125mm thick slab reinforced with 2 layers of mesh (665 and 663) placed mid-depth in the slab will be adequate to carry the design traffic loads. Outside of the stormwater soakage trench area, the ROW pavement can be a 125mm thick slab reinforced with one layer of 665 mesh placed mid-depth in the slab.

4.0 PS 1 Producer Statements and Letter of Observation

To enable a building consent application to be lodged, please find attached copies of the following:

- The PS 1 for the stormwater soakage system designed by AECOM
- The PS 1 for the ROW concrete slab spanning over the soakage trench
- A letter of observation confirming that AECOM have been engaged by our client (CKC Developments Ltd) to provide observation services associated with the construction of the stormwater soakage system and the ROW pavement

Yours faithfully

Leighton Fletcher
Water Resources Engineer
leighton.fletcher@aecom.com

Direct Dial: +64 7 857 1803
Direct Fax: +64 7 834 8981

Colin Jacobson
Engineering Manager
colin.jacobson@aecom.com

Mobile: 0274 714-359
Direct Dial: +07 834-8988
Direct Fax: +07 834-8981

encl: calcs

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

Building Code Clause(s) B1

PRODUCER STATEMENT – PS1 – DESIGN

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

ISSUED BY: AECOM New Zealand Ltd
(Design Firm)

TO: CKC Developments Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT: ROW reinforced concrete slab (spanning over a buried stormwater soakage trench)
(Description of Building Work)

AT: 8 & 10 Yorkshire Road, Hamilton

LOT ..... **DPs** ..... **SO** .....

We have been engaged by the owner/developer referred to above to provide: structural design services in respect of the
(Extent of Engagement)

requirements of Clause(s) B1 of the Building Code for

☒ All ☐ Part only of the proposed building work (as specified in the documents outlined below).

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

☒ Compliance documents issued by Department of Building & Housing: VM 1
(verification method/acceptable solution)

and

☒ Alternative solution .....

The proposed building work covered by this producer statement is described on the AECOM calculations and sketch drawings titled: 8 & 10 Yorkshire Road and numbered: 60153884 Sheet SK1 together with the specification, and other documents set out in the scheduled attached to this statement.

On behalf of the Design Firm, and subject to:

(i) Site verification of the following design assumptions: Compaction of the GAP 40 subbase and fill layers beneath the ROW slab are to be confirmed on site.

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

I believe on reasonable grounds the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of: ☒ IPENZ ☐ NZIA and hold the following qualifications: NZCE, BE Civil (Hons)

The Design Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*.
This Design Firm is a member of ACENZ ☒ **Yes** ☐ **No**

Signed by: Colin Barry Jacobson ON BEHALF OF: AECOM New Zealand Ltd
(Design Firm)

Date: 28 April 2010 *(signature)* C. B. Jacobson

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

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

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

Building Code Clause(s)
E1/VM1

PRODUCER STATEMENT – PS1 – DESIGN

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

ISSUED BY: AECOM New Zealand Ltd
(Design Firm)

TO: CKC Holdings
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT: Stormwater Soakage Trench Design
(Description of Building Work)

AT: 8 & 10 Yorkshire Road, Hamilton

LOT ..... **DPs** ..... **SO** .....

We have been engaged by the owner/developer referred to above to provide: Stormwater Soakage System Design services in respect of the
(Extent of Engagement)

requirements of Clause(s) E1/VM1 – Stormwater Soakage Trench of the Building Code for

☒ All or ☐ Part only (as specified in the attachment to this statement), of the proposed building work.

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

☒ Compliance documents issued by Department of Building & Housing E1/VM1 or
(verification method/acceptable solution)

☐ Alternative solution as per the attached schedule .....

The proposed building work covered by this producer statement is described on the drawings titled: *Plans for Building Consent for Comprehensive Residential Development on Lots 61 and 62 DPS 9556 and Lot 2 DP 428322* and numbered 15147 Sheet 4 of 6 ..... together with the specification, and other documents set out in the scheduled attached to this statement.

On behalf of the Design Firm, and subject to:

(i) Site verification of the following design assumptions – soils at base of soakage trench complying with test data

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

I believe on reasonable grounds the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code.

It is our opinion that if the soakage system catchpits are maintained adequately by the owners, such that the soakage trench remains free of silt build up, then the system as designed and constructed should have a design life of at least 15 years duration.

I, Scot Dean King
(Name of Design Professional)

I am a member of IPENZ and hold the following qualifications: BEng, MSc, MIPENZ (Civil) CPEng

The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*. The Construction Review Firm is a member of ACENZ.

Signed by Scott Dean King ON BEHALF OF AECOM New Zealand Ltd

Date: 28 April 2010 *(signature)* .....

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

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

AECOM

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28 April 2010

The Chief Building Inspector
Hamilton City Council
Private Bag 3010
Hamilton 3240

Dear Sir

8 & 10 Yorkshire Road, Hamilton: Comprehensive Residential Development

AECOM has been engaged by CKC Developments Ltd to provide civil and structural design and construction observation services associated with the ROW reinforced concrete slab and on-site stormwater disposal systems for the proposed new comprehensive residential development to be built at 8 & 10 Yorkshire Road, Hamilton.

Yours faithfully

Colin Jacobson
Engineering Manager
colin.jacobson@aecom.com

Mobile: 0274 714-359
Direct Dial: +07 834-8988
Direct Fax: +07 834-8981

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T +64 (7) 834 8980 F +64 (7) 834 8981 www.aecom.com

Soakage Design - 10 year ARI - ROW

8 & 10 Yorkshire Road, Hamilton

Job No.	601 538 84		
Computed:	LGF	**Date:**	28-Apr-10
Checked:		**Date:**	
File Name	I:\Projects\Engineering\60153884 HEGT MISC1414 8 & 10 Yorkshire Road, Hamilton\4. Tech work area\4.3 Engineering\[Soakage - Xm2 per soakhole - 10yr ARI - HCC UPDATED.xlsx]Cover		

CALCULATION SUMMARY

Sizing of soakage systems required based on "NZBC Verification Method E1/VM1 - Surface Water, Section 9.0" using various storm durations

Depth of Soakage System	1.20 m minimum
Design soakage Rate	313 mm/hr
Design Storm	10 yr ARI
Runoff coefficient for roof and driveway area, C	0.95

Design Rainfall info from HCC Manual (Aug 2008) including Climate Change Assessment

Design Calculation Results

(see attached sheets)

			SOAKHOLES	SOAKTRENCH
10yr ARI Storm Duration	**Rainfall Intensity mm/hr**	**Rainfall Depth mm**	**Capacity of 1 x 900mm Ø soakhole**	**Capacity of 1.0m wide x 1.0m long soaktrench**
10 mins	107	18	39	25
20 mins	80	27	27	19
30 mins	66	33	23	17
60 mins	45	45	20	16
120 mins	27	54	20	20
6hrs	12	72	27	33
12hrs	8	91	35	48
24hr	5	112	51	74
48hr	3	135	79	120
72hr	2	142	111	170

Thus; for worst case 10yr ARI storm - 1 x 900mm diameter soakhole with a base at 1.20 m BGL could serve 20 m^2 of sealed lot

OR

1.0m long x 1.0m wide soaktrench with a base at 1.20 m BGL could serve 16 m^2 of sealed lot

Thus for estimated sealed area of 620 m^2, would require soakage trench length of 38.2 m, if 1m wide and 1.20 m deep

Soakage Design - 10 year ARI - ROW

8 & 10 Yorkshire Road, Hamilton

Job No.	601 538 84		
Computed:	LGF	**Date:**	28/04/2010
Checked:		**Date:**	
File Name	I:\Projects\Engineering\60153884 HEGT MISC1414 8 & 10 Yorkshire Road, Hamilton\4. Tech work area\4.3 Engineering\[Soakage - Xm2 per soakhole - 10yr ARI - HCC UPDATED.xlsx]60min		

Depth of Soakage System 1.20 m minimum
Design Soakage Rate 313 mm/hr
Design Storm 1 hour duration
Design Storm, 10 yr ARI, duration 60 mins, rainfall depth = 45 mm

SOAKHOLE DESIGN - Soakage for 1x 900mm dia. soakhole

Volume of runoff disposed by soakage = Vsoak

Vsoak (m^3) = (As x Sr x Sd)/1000

Where:
As = soakage area, which for one 900mm diam soakhole = 0.636 m^2
Sr = Soakage Rate = 313 mm/hr
Sd = Storm Duration (in hours) 1.00 hrs
Thus Vsoak = 0.20 m^3

Volume of runoff held in storage = Vstore

Vstore (m^3) = As x Ds x Vrf

Where:
As = soakage area, which for one 900mm diam soakhole = 0.636 m^2
Ds = Depth of storage = System Depth - 0.2m = 1.00 m
Vrf = Volume Reduction Factor = 1

SOAKTRENCH DESIGN - Soakage for 1.0m wide x 1.0m long soaktrench

Volume of runoff disposed by soakage = Vsoak

Vsoak (m^3) = (As x Sr x Sd)/1000

Where:
As = soakage area, which for 1m long by 1m wide soaktrench = 1 m^2
Sr = Soakage Rate = 313 mm/hr
Sd = Storm Duration (in hours) 1.00 hrs
Thus Vsoak = 0.31 m^3

Volume of runoff held in storage = Vstore

Vstore (m^3) = As x Ds x Vrf

Where:
As = soakage area, which for 1m long by 1m wide soaktrench = 1 m^2
Ds = Depth of storage = System Depth - 0.2m = 1 m
Vrf = Volume Reduction Factor = 0.38 (for rock filled trench)
Thus Vstore = 0.38 m^3

Thus for 1m long by 1m wide soaktrench, Vsoak + Vstore = 0.69 m^3

AREAS SERVED

SOAKHOLES

Runoff capacity of one No. 900 diam soakhole is **0.84 m^3**
Rainfall runoff volume for 10yr ARI 1hr design storm = Rc

Rc (m^3) = 10 x C x i x A

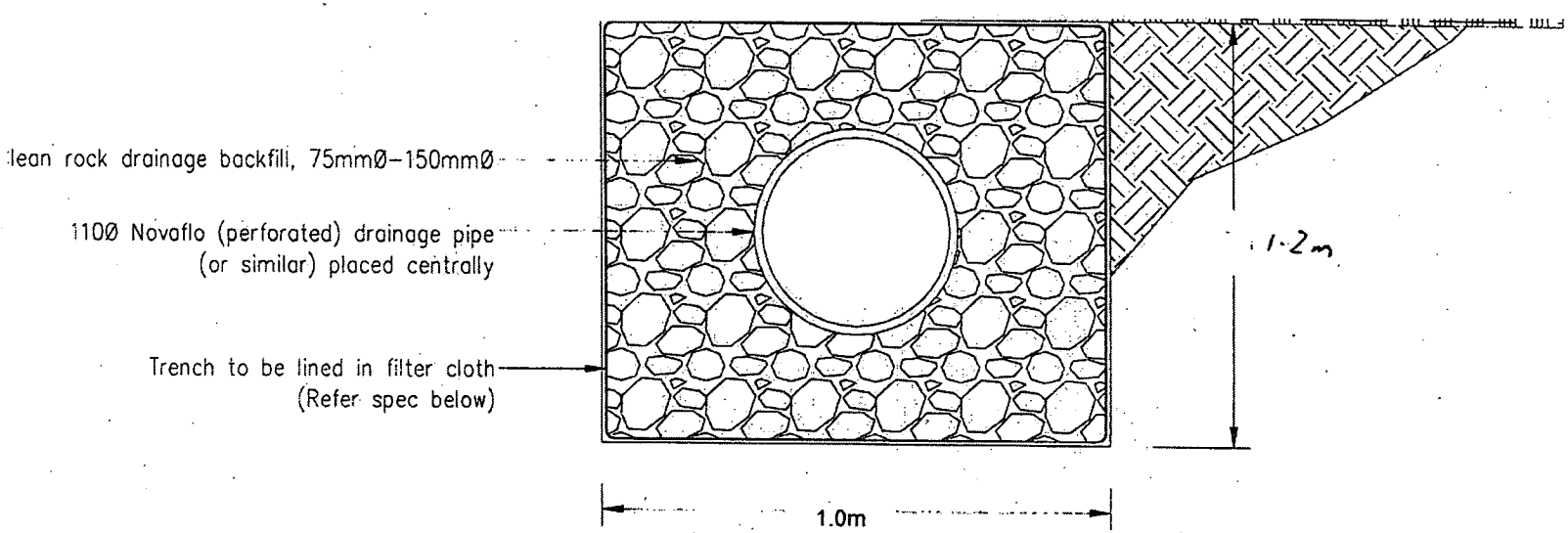
Where:
C = Runoff coefficient for sealed area = 0.95
i = depth of rainfall for design storm (mm) = 45.0 mm
Thus A = 0.00195 ha
or 20 m^2

SOAKTRENCH

Runoff capacity of 1m x 1m soaktrench is **0.69 m^3**
Rainfall runoff volume for 10yr ARI 1hr design storm = Rc

Rc (m3) = 10 x C x i x A

Where:
C = Runoff coefficient for sealed area = 0.95
i = depth of rainfall for design storm (mm) = 45.0 mm
Thus A = 0.00162 ha
or 16 m^2



STORMWATER SOAKAGE TRENCH: TYPICAL CROSS SECTION

NOT TO SCALE

Notes:

1. Dimensions in millimeters.
2. Filter cloth to comply with AS3706.1. The filter cloth shall have a minimum mass per unit area of 140 grams/m^2 and a minimum thickness of 0.45mm. Suitable products include:
   - Mirafi 140N
   - Bidim A14

AECOM

Job Title	8 & 10 Yorkshire Rd, Hamilton		
Job No.	60153880	Calculation No.	
Originator	CSH	Date	28/9/12
Reviewer		Date	
Scale		Sheet No.	SK1 of

Soak Pit

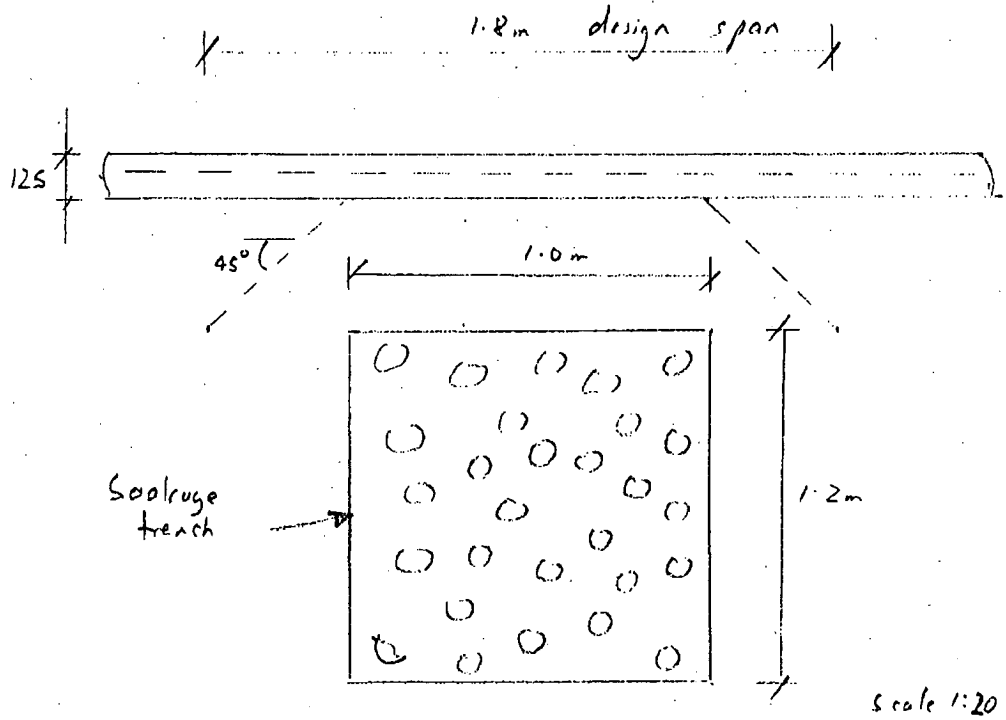
Soak Pit 200

AECOM

Job Title	8 & 10 Yorkshire Rd, Hamilton		
Job No.	60153884	Calculation No.	
Originator	CM	Date	24/9/10
Reviewer		Date	
Scale		Sheet No.	1 of

Brief

The low reinforced concrete slab is to be designed so it can span over the buried SW soakage trench



To allow for the 45° load shed at the edges, the design slab width = 1.8m

Loads

Slab D_L = 0.125 × 24 = 3.0 kPa

Slab L_L (UDL) = 2.5 kPa

Slab L_L (N) = 13.0 kN

U = 1.2G + 1.5Q

A = G + ψ_s Q ψ_s = 0.7

AECOM

Job Title	8 & 10 Yorkshire Rd, Hamilton		
Job No.	60153 084	Calculation No.	
Originator	CH	Date	28/9/10
Reviewer		Date	
Scale		Sheet No.	2 of

The Aecom floor slab programme will be used to design the slab

$U = 1.2G + 1.5Q$

For UDL case, $U = 1.2(3.0) + 1.5(2.5)$

$= 7.4$ kN/m

For pt load case:

$U = 1.2(3.0) = 3.6$ kN/m

$P_t = 1.5(13.0) = 19.5$ kN

$A = 6.4$ Q

$U = 1.0(3.0) + 0.3(2.5) = 4.35$ kN/m

For pt load case

$U = 3.0 \times 1.0 = 3$ kN/m

$pt = 13.0 \times 0.7 = 9.1$ kN

DOMESTIC PILED SLAB DESIGN

This spreadsheet calculates the reinforcement required for one-way flat slab design.

1. *Ends of spans are simply supported (not fixed)*
2. *Loads are continuous on all spans (not patch loaded)*
3. *Point loads are midspan in end span only*
4. *Check UDL and PL load cases separately*

Design Loads and Actions

Number of continuous slab spans (1, 2, 3, or 4)		=	1	
Centre to centre span	L	=	1.80	m
Slab thickness	h	=	125	mm
Check NZS3101 one-way span requirements	L/?	=	18	
Minimum thickness	h_{min}	=	100	mm
h > minimum slab thickness for one-way span slab - OK				

UDL

Factored ULS uniformly distributed load, UDL	UDL	=	7.40	kN/m
UDL load case maximum design moment	M* (Top)	=	0.00	kNm
	M* (Bot)	=	3.00	kNm
UDL load case maximum design shear	V*	=	6.66	kNm
SLS uniformly distributed load, UDL	UDL	=	4.75	kN/m
	M_s (Top)	=	0.00	kNm
	M_s (Bot)	=	1.92	kNm

PL (Additional to UDL)

Factored ULS point load	PL	=	0.00	kN
For load applied midspan, the contributing width at the support	B	=	1.17	m
Equivalent 1.0m width point load	PL	=	0.00	kN
PL load case maximum design moment	M* (Top)	=	0.00	kNm
	M* (Bot)	=	0.00	kNm
PL load case maximum design shear	V*	=	0.00	kNm
SLS point load	PL	=	0.00	kN
	M_s (Top)	=	0.00	kNm
	M_s (Bot)	=	0.00	kNm

Slab Capacity

Concrete strength	f'_c	=	20	MPa
Design width	b	=	1000	mm
Reinforcement			663M	
Area of reinforcement	A_s	=	207	mm^2
Minimum area of reinforcement, $As = \frac{\sqrt{f'c}\ b_w\ d}{4f_y}$	$A_{s(min)}$	=	143	mm^2
As > As(min) - OK				
Yield strength of reinforcement	fy	=	485	MPa
Depth from top of slab to centroid of reinforcement	d	=	62	mm

Slab flexural capacity

$\varnothing M_n = \varnothing A_s f_y (d - a/2)$ a = 5.9 mm

$\varnothing M_n$ (Top)	=	5.04	kNm				
$\varnothing M_n$ (Bot)	=	5.12	kNm				
M* (Top)	=	0.00 kNm	<	$\varnothing M_n$ (Top)	=	5.04 kNm	**OK**
M* (Bot)	=	3.00 kNm	<	$\varnothing M_n$ (Bot)	=	5.12 kNm	**OK**

Project:	8 & 10 Yorkshire Road, Hamilton	Page	4 of
Section:	ROW Pavement Slab (Over soakage trench)	File/ref no:	60153
Designed:	CBJ	Date:	28/4/10

Check $M_s < k_1 \sqrt{f'_c}\, Z_t$ for minimum slab thickness for deflection k_1 = 1.2

$k_1 \sqrt{f'_c}\, Z_t$ Top = 3.44 kNm

Bot = 3.55 kNm

M* (Top) = 0.00 kNm < $\varnothing M_n$ (Top) = 3.44 kNm **OK**

M* (Bot) = 1.92 kNm < $\varnothing M_n$ (Bot) = 3.55 kNm **OK**

Slab shear capacity

$v_c = (0.07 + 10p)\sqrt{f'_c}$ $0.08\sqrt{f'_c}$ = 0.36 MPa v_c (Top) = 0.46 MPa

$0.2\sqrt{f'_c}$ = 0.89 MPa

$\varnothing V_c = \varnothing v_c A_{vc}$ $\varnothing V_c$ (Top) = 21.50 kN

V* (Top) = 6.66 kNm < $\frac{\varnothing V_c \text{ (Top)}}{2}$ = 10.75 kNm **OK**

v_c (Bot) = 0.46 MPa

$\varnothing V_c$ (Bot) = 21.73 kN

V* (Bot) = 6.66 kNm < $\frac{\varnothing V_c \text{ (Top)}}{2}$ = 10.87 kNm **OK**

Beam Design Loads

	Beam Line						
	1	2	3	4	5	
UDL	6.7	6.7	0.0	0.0	0.0	kN/m
PL	0.0	0.0	0.0	0.0	0.0	kN/m
TOTAL	**6.7**	**6.7**	**0.0**	**0.0**	**0.0**	kN/m

Equal Span Continuous Beams UDL

	1	2	3	4	5	Sum
	0.5	0.5				
Reaction	6.66	6.66				13.32
M* Top	0					
M* Bot	3.00					
V* max	6.66					
	0.375	1.25	0.375			
Reaction	5.00	16.65	5.00			26.64
M* Top	3.00					
M* Bot	1.68					
V* max	8.325					
	0.4	1.1	1.1	0.4		
Reaction	5.33	14.65	14.65	5.33		39.96
M* Top	2.40					
M* Bot	1.92					
V* max	7.99					
	0.393	1.143	0.929	1.143	0.393	
Reaction	5.23	15.22	12.37	15.22	5.23	53.29
M* Top	2.57					
M* Bot	1.85					
V* max	8.085					

Equal Span Continuous Beams Central Point Load

	1	2	3	4	5	Sum
	0.5	0.5				
Reaction	0.00	0.00				0.00
M* Top	0					
M* Bot	0.00					
V* max	0.00					
	0.406	0.688	-0.094			
Reaction	0.00	0.00	0.00			0.00
M* Top	0.00					
M* Bot	0.00					
V* max	0.00					
	0.4	0.725	-0.15	0.025		
Reaction	0.00	0.00	0.00	0.00		0.00
M* Top	0.00					
M* Bot	0.00					
V* max	0.00					
	0.4	0.728	-0.161	0.04	-0.007	
Reaction	0.00	0.00	0.00	0.00	0.00	0.00
M* Top	0.00					
M* Bot	0.00					
V* max	0.00					

DOMESTIC PILED SLAB DESIGN

This spreadsheet calculates the reinforcement required for one-way flat slab design.

1. *Ends of spans are simply supported (not fixed)*
2. *Loads are continuous on all spans (not patch loaded)*
3. *Point loads are midspan in end span only*
4. *Check UDL and PL load cases separately*

Design Loads and Actions

Number of continuous slab spans (1, 2, 3, or 4)		=	1	
Centre to centre span	L	=	1.80	m
Slab thickness	h	=	125	mm
Check NZS3101 one-way span requirements	L/?	=	18	
Minimum thickness	h_{min}	=	100	mm

h > minimum slab thickness for one-way span slab - OK

UDL

Factored ULS uniformly distributed load, UDL	UDL	=	3.60	kN/m
UDL load case maximum design moment	M* (Top)	=	0.00	kNm
	M* (Bot)	=	1.46	kNm
UDL load case maximum design shear	V*	=	3.24	kNm
SLS uniformly distributed load, UDL	UDL	=	3.00	kN/m
	M_s (Top)	=	0.00	kNm
	M_s (Bot)	=	1.22	kNm

PL (Additional to UDL)

Factored ULS point load	PL	=	19.50	kN
For load applied midspan, the contributing width at the support	B	=	1.17	m
Equivalent 1.0m width point load	PL	=	16.72	kN
PL load case maximum design moment	M* (Top)	=	0.00	kNm
	M* (Bot)	=	7.53	kNm
PL load case maximum design shear	V*	=	8.36	kNm
SLS point load	PL	=	9.10	kN
	M_s (Top)	=	0.00	kNm
	M_s (Bot)	=	3.51	kNm

Slab Capacity

Concrete strength	f'_c	=	20	MPa
Design width	b	=	1000	mm
Reinforcement			663M + 665M	
Area of reinforcement	A_s	=	414	mm^2
Minimum area of reinforcement, $As = \frac{\sqrt{f'c}\ b_w\ d}{4f_y}$	$A_{s(min)}$	=	143	mm^2

As > As(min) - OK

Yield strength of reinforcement	fy	=	485	MPa
Depth from top of slab to centroid of reinforcement	d	=	62	mm

Slab flexural capacity

$\varnothing M_n = \varnothing A_s f_y (d - a/2)$ a = 11.8 mm

$\varnothing M_n$ (Top)	=	9.57	kNm	
$\varnothing M_n$ (Bot)	=	9.74	kNm	

M* (Top)	=	0.00 kNm	<	$\varnothing M_n$ (Top)	=	9.57 kNm **OK**
M* (Bot)	=	8.98 kNm	<	$\varnothing M_n$ (Bot)	=	9.74 kNm **OK**

Check $M_s < k_1 \sqrt{f'_c}\, Z_t$ for minimum slab thickness for deflection — k_1 = 1.2

$k_1 \sqrt{f'_c}\, Z_t$ — Top = 3.44 kNm; Bot = 3.55 kNm

M* (Top)	=	0.00 kNm	<	$\varnothing M_n$ (Top)	=	3.44 kNm	OK
M* (Bot)	=	4.73 kNm	>	$\varnothing M_n$ (Bot)	=	3.55 kNm	Check D

Slab shear capacity

$v_c = (0.07 + 10p)\sqrt{f'_c}$ — $0.08\sqrt{f'_c}$ = 0.36 MPa; $0.2\sqrt{f'_c}$ = 0.89 MPa

v_c (Top) = 0.61 MPa

$\varnothing V_c = \varnothing\, v_c A_{vc}$ — $\varnothing V_c$ (Top) = 28.44 kN

V* (Top)	=	11.60 kNm	<	$\frac{\varnothing V_c \text{ (Top)}}{2}$	=	14.22 kNm	OK

v_c (Bot) = 0.61 MPa

$\varnothing V_c$ (Bot) = 28.68 kN

V* (Bot)	=	11.60 kNm	<	$\frac{\varnothing V_c \text{ (Top)}}{2}$	=	14.34 kNm	OK

Beam Design Loads

	Beam Line					
	1	2	3	4	5	
UDL	3.2	3.2	0.0	0.0	0.0	kN/m
PL	8.4	8.4	0.0	0.0	0.0	kN/m
TOTAL	11.6	11.6	0.0	0.0	0.0	kN/m

Equal Span Continuous Beams UDL

	1	2	3	4	6	Sum
	0.5	0.5				
Reaction	3.24	3.24				6.48
M* Top	0					
M* Bot	1.46					
V* max	3.24					
	0.375	1.25	0.375			
Reaction	2.43	8.10	2.43			12.96
M* Top	1.46					
M* Bot	0.82					
V* max	4.05					
	0.4	1.1	1.1	0.4		
Reaction	2.59	7.13	7.13	2.59		19.44
M* Top	1.17					
M* Bot	0.93					
V* max	3.89					
	0.393	1.143	0.929	1.143	0.393	
Reaction	2.55	7.41	6.02	7.41	2.55	25.93
M* Top	1.25					
M* Bot	0.90					
V* max	3.933					

Equal Span Continuous Beams Central Point Load

	1	2	3	4	5	Sum
	0.5	0.5				
Reaction	8.36	8.36				16.72
M* Top	0					
M* Bot	7.53					
V* max	8.36					
	0.406	0.688	-0.094			
Reaction	6.79	11.51	-1.57			16.72
M* Top	2.83					
M* Bot	6.11					
V* max	9.93					
	0.4	0.725	-0.15	0.025		
Reaction	6.69	12.12	-2.51	0.42		16.72
M* Top	3.01					
M* Bot	6.02					
V* max	10.03					
	0.4	0.728	-0.161	0.04	-0.007	
Reaction	6.69	12.17	-2.69	0.67	-0.12	16.72
M* Top	3.01					
M* Bot	6.02					
V* max	10.03					

TABLE 3.1 *(continued)*

Type of activity/occupancy for part of the building or structure	Specific uses	Uniformly distributed actions kPa	Concentrated actions kN
E Warehousing and storage areas. Areas subject to accumulation of goods. Areas for equipment and plant	Reading rooms with book storage, e.g. libraries	4.0	4.5
	General storage other than those specified	2.4 for each metre of storage height	7.0
	Free rolling office compactus, for general filing, up to 2 m high	3.0 for each metre of storage height	to be calculated
	File rooms, office storage space, vaults and strongrooms	5.0	4.5
	Stack rooms (books)	3.3 for each metre in storage height	7.0
	Paper storage for printing plants and stationery stores, packed book storage	4.0 for each metre of storage height	9.0
	Mobile stacking, mechanically operated heavy shelving (wheels on rails, e.g. compactus)	4.0 for each metre of storage height but not less than 10.0	to be calculated
	Cold storage	4.5 for each metre of storage height but with a minimum of 15.0	9.0
	Plant rooms, fan rooms, etc., including weight of machinery	5.0	4.5
	Areas around equipment in boiler rooms (weight of equipment to be determined)	5.0	4.5
F Light vehicle traffic areas	Parking, garages, driveways and ramps restricted to cars, light vans, etc., not exceeding 2500 kg gross mass.	2.5	13[7]
G Medium vehicle traffic areas	Vehicles exceeding 2500 kg and not exceeding 10 000 kg. Driveways, ramps, repair workshops, footpaths with vehicle access, and car parking	5.0	31[4]

NOTES:

1 The concentrated load shall be applied over an area of 350 mm2 for calculation of punching or crushing.

2 Where a stair tread or landing is structurally independent of the adjoining elements, it shall be capable of withstanding a line load of 2.2 kN/m of span of tread or landing.

3 A concentrated load of 6.7 kN shall be used where a general allowance for safes is made.

4 The concentrated load shall be applied over an area of 0.025 m2 for calculation of punching or crushing.

5 Where these same areas may be subjected to loads due to physical activities or overcrowding (for example a hotel dining room used as a dance floor), imposed loads shall be based on occupancy C4 or C5, as appropriate.

6 Fixed seating is seating where the removal of the seating and the use of the space for other purposes is not likely.

7 For domestic garages with timber floors, this may be reduced to 9 kN applied over an area of 0.3 m × 0.3 m.

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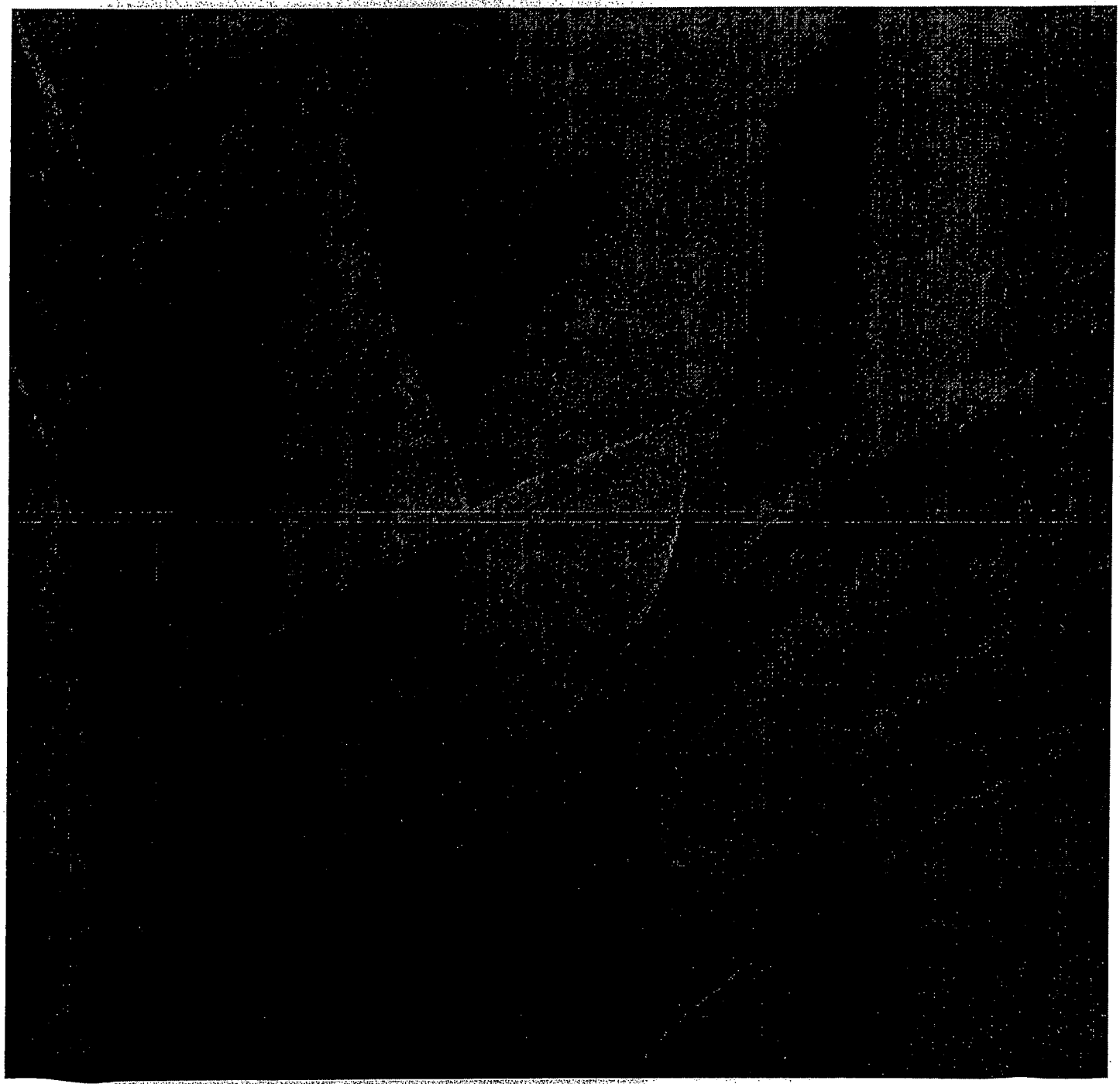
CKC Holdings Ltd

20 April 2010

Document No. 60153884

8 & 10 Yorkshire Road, Hamilton

Geotechnical and Stormwater Assessment



8 & 10 Yorkshire Road, Hamilton

Geotechnical and Stormwater Assessment

60153884

Prepared for

CKC Holdings Ltd

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20 April 2010

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Quality Information

Document 8 & 10 Yorkshire Road, Hamilton

Ref 60153884

Date 20 April 2010

Prepared by Kitrina Bennett

Reviewed by Leighton Fletcher, Andrew Holland

Revision History

Revision	Revision Date	Details	Authorised	
			Name/Position	Signature
0	20/04/2010	For Building Consent	Craig Davidson Regional Director	

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1.0 Introduction

CKC Holdings Ltd propose to subdivide and build seven new dwellings at 8 & 10 Yorkshire Road, Hamilton. The existing dwellings will be removed.

AECOM New Zealand Ltd. (AECOM) has been engaged to provide a geotechnical and stormwater site assessment to accompany an application for Building Consent to the Hamilton City Council. This report presents the results of the site investigations and provides a preliminary assessment of geotechnical and stormwater management for the proposed new dwellings.

It is understood that the proposed building site is on flat or gently sloping ground and therefore a stability assessment of the building site will not be required.

2.0 Site Description

The site is 8 & 10 Yorkshire Road, Hamilton. The legal description for 8 Yorkshire Road is Lot 62 DP S9556 and for 10 Yorkshire Road is Lot 61 DP S9556. The property is bounded by residential housing to the north, east, west and south. There is a ROW accessing the two lots from Yorkshire Road that runs south west between 6 and 12 Yorkshire Road. . There are two existing dwellings located on the south western end of the property.

3.0 Geological Setting

The New Zealand Geological map for Hamilton (DSIR, 1965, N65, 1:63360) shows the soils of Yorkshire Road and the surrounding area are from the Hinuera Formation described as consisting of 'Current bedded pumiceous sands, silts and gravels interbedded with peats'.

4.0 Scope of Assessment

The scope of this assessment comprised:

- A walkover inspection of the site to identify potential geotechnical and civil constraints that may impact development,
- A shallow site investigation,
- Assessment of the results of the investigation.

5.0 Investigations

5.1 Site Investigation

A site investigation was undertaken by AECOM staff on 7th April 2010. The site investigation included four soakage tests to 2m depth and seven hand drilled auger holes with fourteen DCP strength tests to 3m depth below existing ground level for foundation assessment and general soil classification.

Each of the investigation holes was logged in accordance with the New Zealand Geotechnical Society (NZGS) *Guidelines for Field Description of Soil and Rock* (2005). Locations of the investigations are shown on the site plan in Appendix A. Logs of the materials encountered in the augerholes along with soil strength test results are presented in Appendix A.

5.2 Results of Investigation

Ground conditions at the investigation locations generally comprised of between 0.1m and 0.3m of topsoil, overlying interbedded layers of moist, firm, silt and moist, loose to medium dense sand to a depth of at least 3m below ground level. The strength of the subsurface material ranged from very loose to dense with DCP results of

between 0 blows and 12 blows per 100mm and firm to hard with in-situ shear vane results of between 88kPa (corrected) and unable to penetrate.

These investigations confirm the geological map description for the area with the soils consisting of silt and sands.

Groundwater was not encountered during the investigation.

6.0 Geotechnical Assessment

Results of the subsurface investigations indicate that the strength of the near surface materials of the site are generally less than that required for foundations designed in accordance with NZS 3604:1999 'Timber Framed Buildings' i.e. they have an ultimate bearing capacity of less than 300kPa.

Given the presence of soft sands in the near surface materials, combined with the variability in soil strength across the site, we recommend the following options for Lots 1 to 7. See Table 1 for individual Lot recommendations.

6.1 Excavated Sandpad

Given the presence of topsoil and other unsuitable (soft) near surface materials, combined with the variability in soil strength across the site, an excavated sand pad foundation maybe used on some lots. This will allow the use of standard foundations designed in accordance with NZS 3604:1999 'Timber Framed Buildings'.

Stripping of topsoil and excavation of the soft subsurface soils to the minimum depth stated in Table 1 will be required. Testing is then to be carried out by a suitably qualified engineer to confirm the strength of the subgrade.

Any soft areas encountered beneath the line of any external or internal load bearing footings (or any areas of uncontrolled fill noted in the subgrade soils) will need to be removed and replaced with compacted sand fill. The location, extent and depth of any further excavations, should they be needed, can only be determined upon testing of the exposed subgrade.

Note: The subgrade soils are noted as being fine grained, therefore, should the moisture content of the soils be higher at the time of construction than at the time of our testing (i.e. should construction be undertaken during a period of wet weather, or excavations be left open during rain), then a strength reduction in the silts may occur, which may result in an increased depth of excavation required on the site to that noted above.

Following approval of the prepared subgrade, the fill platform or replacement of the undercut material should be constructed from imported pit sand. The pit sand should be placed and compacted up to the underside of the proposed floor slab, in 150mm thick layers, to a compaction standard of 12 blows per 300mm on the DCP.

Once the compaction of the subgrade and completed sand platform has been tested and certified, standard reinforced concrete strip foundations complying with NZS 3604:1999, Section 7.5 can then be constructed to support the proposed house.

6.2 Stiffened Edge Footings

For some lots, the excavation of unsuitable material to allow foundations to NZS 3604:1999 is considered impractical. In this case deepened and stiffened load bearing strip footings may be adopted on some lots allowing a reduced depth of excavation.

The sandpad can then be constructed to the depth stated in Table 1, as for section 6.1.

Specific design of the stiffened and deepened foundations will be required and AECOM can provide this service if required.

6.3 Timber Driven Piled Foundation

For some lots, the excavation of unsuitable material to allow foundations to NZS 3604:1999 or stiffened edge footings is considered impractical, therefore a specific designed driven timber piled foundation is needed.

These will typically be 150mm diameter timber piles founded in the denser material below 2m. It is likely that piles in the order of 3-5m will be required and this will need to be confirmed by driving a test pile on-site. This should be following the design of the piles and should be supervised by an engineer on-site.

6.4 Building Restriction Zone

Due to the presence of a Hamilton City Council wastewater pipe and manhole (located in the eastern corner of Lot 5) running along the north eastern boundary of the site, it is recommended that a building restriction zone be established running along the north eastern boundary of Lot 3, 4 and 5. Within this zone, building may still be undertaken but specific geotechnical design of the foundations will be required. It is shown on the Hamilton City Council records (Sheet: S29, Wastewater Services) that the pipe is a 150mm (diameter) reinforced concrete pipe approximately 0.91m below existing ground level.

The building restriction zone for the wastewater pipe will be defined by the building restriction line (red). This will be set as the greater of:

- 1m horizontally from the invert of the pipe or
- Outside of a line 45 degrees from the invert of the pipe.

A second building restriction zone for the manhole will be defined by the building restriction line (blue). This will be set as:

- 2m minimum clearance from the manhole.

Refer to the Hamilton City Development Manual TS 410 GUILDLINES FOR BUILDING OVER AND ADJACENT TO DRAINAGE PIPLINES (Elevation) (Plan, Building Adjacent to a sewer).

It is expected that the proposed dwellings on Lot 3, 4 and 5 will not be impacted by the building restriction zone due to the dwellings being positioned greater than 3m away from the north eastern boundary but this can only be confirmed once the exact position and depth of the pipe, manhole and proposed new dwellings have been confirmed.

The exact location and depth of manhole and pipe must be confirmed on-site prior to the commencement of any building works.

An indicative restriction zone has been shown on Figure 1.

6.5 Table 1: Individual Lot Recommendations

These recommendations are based on the testing undertaken. A high level of variability was observed across the site and so good construction control will be essential.

Lot Number	Excavated Sandpad	Stiffened Edge Footing	Timber Driven Piled Foundation
Lot 1 *	Not Applicable Sandpad > 1.5m depth	300 – 600mm	Not Recommended
Lot 2	600 – 1200mm	300 – 600mm	Not Recommended
Lot 3 *	1200 – 1400mm	300 – 600mm	Not Recommended
Lot 4	600 – 1500mm	300 – 600mm	Not Recommended
Lot 5	500 – 1200mm	300 – 600mm	Not Recommended
Lot 6	600 – 900mm	300 – 600mm	Not Recommended
Lot 7 *	Recommended	Possible – need further testing	Recommended, Founding below approximately 2m

*Large variability in strength noted across the lot. Recommended extra testing is undertaken prior to construction to confirm foundation option.

7.0 Stormwater Management

7.1 Percolation Tests and Results

As detailed above, as part of the geotechnical investigation of the site, 4 stormwater percolation tests were undertaken on the site. The tests were carried out at the locations shown on the attached site plan in Appendix A.

The percolation tests consisted of 100mm diameter drillholes bored to depths of approximately 2m below existing ground level.

The soil types, layer thickness and the moisture content of the soils in each drillhole were recorded. The drillholes were pre-soaked by filling them with water and allowing them to drain. The percolation rate was then determined in the drillholes by filling them with water and calibrating the drop in water level over time.

The results of the tests were as below:

- The soils at the percolation test sites generally comprised of between 0.1m and 0.3m of topsoil, overlying interbedded layers of moist, firm, silt and moist, loose to medium dense sand to a depth of at least 2m below existing ground level.
- The ground water table was not encountered at any of the drillholes on the site on the date of testing (8th April 2010).
- From the percolation tests, the soakage rates for the soils have been calculated to be 600mm/hr (Perc 1), 390mm/hr (Perc 3), 380mm/hr (Perc 5) and 300mm/hr (Perc 7). Graphs of percolation test results are included in Appendix B.

7.2 Stormwater Management Recommendations

With percolation testing of the site noting reasonable soakage and a relatively deep water table (greater than 2m in depth), soakage to ground is recommended as the primary method of stormwater management for the developed site.

For the outline design for on-site stormwater soakage for the site, the following parameters were either adopted or calculated:

- 10 year ARI storm events with durations between 10 mins and 72 hrs were investigated with the worst case storm duration used to size the soakage system for the residential development.
- Climate change adjusted rainfall data for the various storm durations were taken from the HCC Development Manual (August 2008).
- A coefficient of runoff of C=0.95 was used for the impervious areas.
- An impervious area of 120m^2 was used in design for each of the Lots which represents the maxim,um allowable site coverage of 40%. A conservative area of 470m^2 was used for the ROW.
- The Rational Formula was used to determine the design stormwater runoff.
- Based upon the percolation test results, a conservative design soakage rate was determined for the proposed residential lots. A soakage rate of 313mm/hr was used in design for all Lots and the ROW. The design soakage rates allow for a reduction in efficiency of the soakage system due to silt ingress over time, the possibility of elevated groundwater levels in winter and variations in soakage rates between winter and summer months.

Based on the calculations (copies of which are attached in Appendix C), the following stormwater management option (for on-site stormwater disposal to ground) would be suitable for the proposed development.

7.3 Stormtech SC-310 Units – ROW

For a Stormtech SC-310 system being installed under the ROW, calculations show that a single 2.17m long unit (installed in accordance with the manufacturer's specifications) can service stormwater runoff from a 10-year ARI

event from an impervious area of 44m^2. For an assumed impervious area of approximately 470m^2 for the ROW, a total length of 23.4m of Stormtech SC-310 units would be required.

The Stormtech units should be wrapped in geotextile to prevent any fine-grained material migrating through the system, and installed in accordance with manufacturers recommendations.

7.4 Rock-filled Soakage Trench – Lots 1, 2, 3, 4, 5, 6 and 7

For a rock-filled soakage trench being installed on Lots 1, 2, 3, 4, 5, 6, and 7, calculations show that a 1.0m x 1.0m x 1.2m (L x W x D) soakage trench can service an impervious area of 16m^2. For an assumed impervious area of approximately 120m^2 for each of Lots 1, 2, 3, 4, 5, 6 and 7; a total length of 7.4m (1.0m wide x 1.2m deep) would be required.

The base plan area of at least 7.4m^2 must be maintained in the design and construction of the soakage trenches, however the configuration of the trench can be altered to fit each Lot separately if required i.e. the soakage trenches could be constructed 3.7m x 2.0m x 1.2m (L x W x D).

It should be noted that the rock-filled soakage trenches should not be installed under trafficked areas or areas where vehicle loadings are likely. The rock-filled soakage systems should be installed under landscaped, grassed, or paved areas on the Lot.

The soakage trench should be wrapped entirely in geotextile material to prevent fine-grained material entering the system.

7.5 Soakage System Locations

The soakage systems should be located at least 1.5m from the Hamilton City council wastewater pipe, 0.5m setback from any road boundaries, 1.5m from any adjacent property boundary, and a minimum 2.5m setback from any buildings or structures (including support columns).

7.6 Silt Trap/Catchpit Recommendations

Prior to discharge to any soakage system, stormwater shall be collected into a sump so as to prevent a silt build up within the selected system which would reduce its capacity and effectiveness.

Catchpits will be required along the ROW and these will enable the sealed ROW areas to drain to the soakage system.

By providing at least one catchpit along the ROW with a lid level lower than the proposed ground level at the location of the on-site soakage system, then, in storm events with return periods exceeding 10 years (when the on-site soakage system will not be able to process the volume of the stormwater) the system will overflow from the catchpit lid. Grades along the ROW will need to enable any overflow to drain to Yorkshire Road.

As noted above, the constructed soakage trenches should be wrapped entirely in geotextile to prevent silt entering the system, and the Stormtech SC-310 units should also be wrapped in geotextile to prevent fine-grained material migrating through the system.

7.7 Overland Flow Paths

As noted above, for storm events with a return period exceeding 10 years, the on-site soakage systems will not be able to process the volume of stormwater runoff.

Each lot shall have a silt trap/catchpit next to each driveway and this will need to be the low point on the stormwater system on the lot so that excess stormwater spills from the silt trap/catchpit and onto the driveway and then ROW.

An overland flowpath(s) will also need to be established along the proposed ROW. The ROW will need to be graded to fall towards Yorkshire Road and the existing ground levels on the property may need to be raised slightly to achieve this requirement.

Once excess stormwater has discharged to the kerb and channel on Yorkshire Road the stormwater would then flow down Yorkshire Road, to the nearest stormwater sump, and from there into the reticulated HCC stormwater system.

7.8 Detailed Design and PS1

A site plan detailing the on-site stormwater management system will be prepared by McPherson Goodwin Surveyors Ltd for the building consent application, based on the detailed provided in this report. AECOM will check and approve the final construction drawings and issue a PS 1 Producer Statement for the on-site stormwater management system when the building consent is applied for.

8.0 Limitations

The recommendations and opinions contained in this report are based upon data from the augerholes and observations made during the walkover inspection. Inferences about the nature and continuity of subsoil away from drillholes are made using geological principles and engineering judgement. However it is possible that ground conditions over the site may vary and therefore it is not possible to guarantee the continuity of ground conditions away from the investigation locations.

Should development proceed, it would be in the interest of all parties that AECOM be retained to inspect excavations and to verify ground conditions. In any event, AECOM should be notified if conditions differ from those described in this report.

This report has been prepared for the particular project described in the owner's brief to us and no responsibility is accepted for the use of any part of this report in other contexts or for any other purposes.

Appendix A

Geotechnical Investigation

AECOM

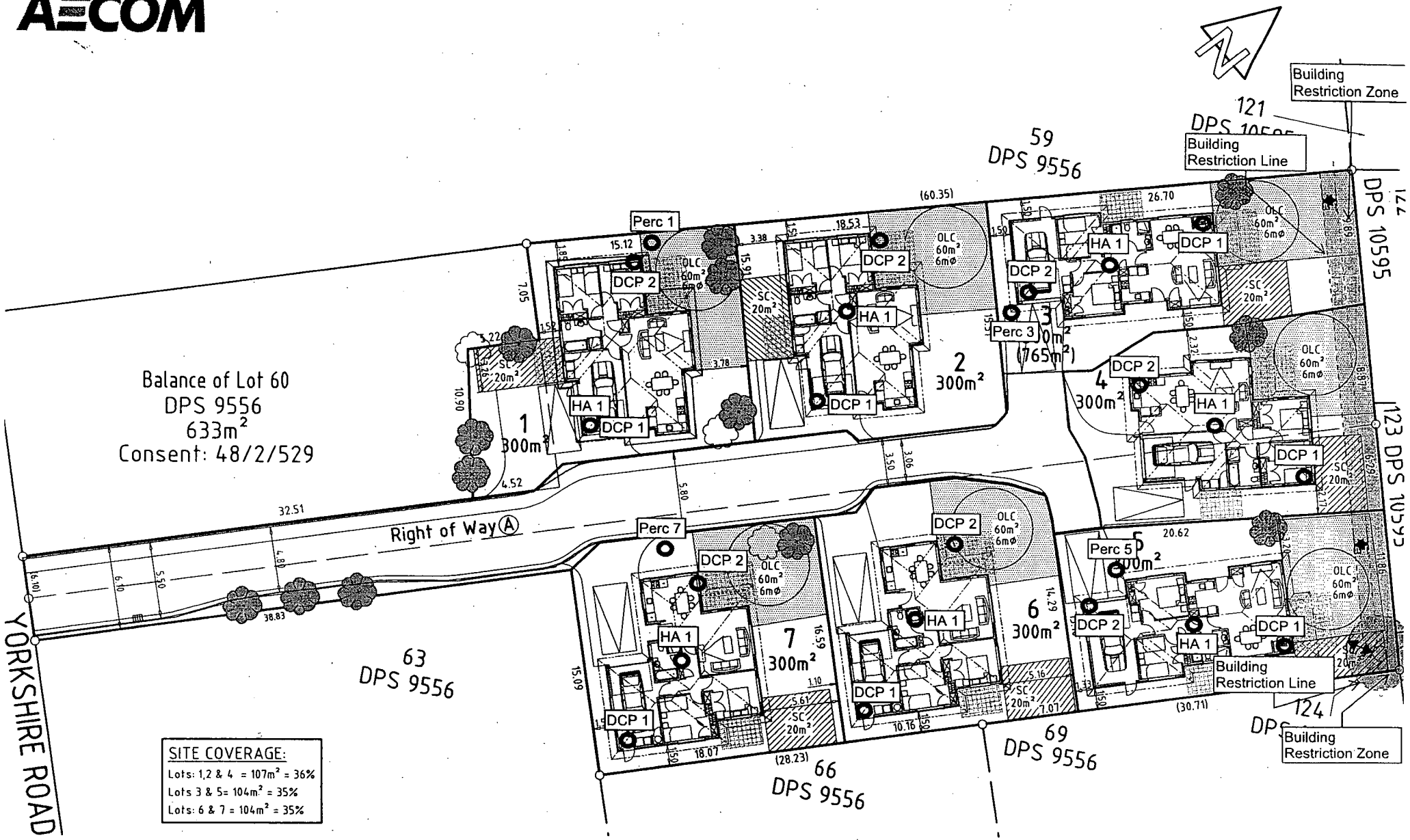


Figure 1: Location Plan
KB 20/04/2010

AECOM LOG OF AUGERHOLE

HOLE IDENTIFICATION **Lot 1 - HA1**

Client CKC Holding Ltd.
Project Soils Investigation
Project number 60153884

Co-ordinates
Elevation
Location 8 & 10 Yorkshire Road, Hamilton
Feature

Depth	GEOLOGICAL DESCRIPTION (Weathering, Relative Strength, Colour, Name, Defect Type, Lithological features, Stratigraphic Unit)	Test Records: Shear Vane (kPa) (Residual - Peak; 0 kPa, 100 kPa, 200 kPa)	Sampling	Dynamic Cone Penetrometer (Blows per mm) (4, 8, 12, 16)	MATERIAL DESCRIPTION (consistency, relative density, water content, plasticity, grading, etc) / DEFECT DESCRIPTION / Depth Related Remarks	Graphic Log	Instrumentation
	TOPSOIL				SILT; dark brown. Firm, moist.		
	TOPSOIL	158/51			SILT; brownish yellow. Firm, moist, slightly friable. 0.35m:trace fine sand		
	Cross - bedded pumice sand, silt and gravel with interbedded peat.				SAND with trace silt; brownish yellow; medium dense; moist; sand, fine to medium. 0.5m:speckled black, no silt & trace fine gravel		
1	Hinuera Formation				Silty fine SAND; light grey streaked orange; medium dense; saturated. 1.1m:no silt 1.4m:wet		
2					SAND with trace fine pumiceous gravel; brownish grey speckled black; medium dense; wet; sand, fine to medium. 2.4m:some fine gravel, brownish grey speckled black & grey, wet, dense (hard to obtain sample)		
3					Lot 1 - HA1 terminated at 3m		

For explanation of symbols and observations, see key sheet

Remarks

GROUNDWATER OBSERVATIONS
Depth (m) Date Post strike observations

No ground water encountered

Miniature shear vane Vane number Geovane
Blade 19mm Factor 1.41 (+ 2.57)
Vane shear strength per NZGS guideline

Started

Date logged
8/04/2010

Logged
CDB
Checked
KB

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AUGERHOLE LOG AUGERS YORKSHIRE FINAL.GPJ BASE.GDT 21/04/10

08/06/2005

AECOM LOG OF AUGERHOLE

HOLE IDENTIFICATION **Lot 2 - HA1**

Client CKC Holding Ltd.
Project Soils Investigation
Project number 60153884

Co-ordinates
Elevation
Location 8 & 10 Yorkshire Road, Hamilton
Feature

Depth	GEOLOGICAL DESCRIPTION (Weathering, Relative Strength, Colour, Name, Defect Type, Lithological features, Stratigraphic Unit)	Test Records: Shear Vane (kPa) (Residual - Peak; 0 kPa, 100 kPa, 200 kPa)	Sampling	Dynamic Cone Penetrometer (Blows per mm; 4, 8, 12, 16)	MATERIAL DESCRIPTION (consistency, relative density, water content, plasticity, grading, etc) / DEFECT DESCRIPTION / Depth Related Remarks	Graphic Log	Instrumentation
	TOPSOIL: TOPSOIL				SILT; dark brown. Firm, moist.		
	Hinuera Formation: Cross - bedded pumice sand, silt and gravel with interbedded peat.	141/51			SILT; light grey, mottled orange. Firm, moist, slightly sensitive.		
					Sandy SILT; light grey, mottled orange. Firm, moist, sand fine, pumiceous.		
					Silty fine SAND; light grey, mottled orange. Firm; moist; pumiceous.		
1					SAND; light grey. Medium dense; moist; sand, fine, pumiceous.		
					1.15m:Grades to light brownish grey.		
		104/31			SILT, trace fine sand; Light grey, mottled orange. Firm, moist.		
					1.5m:Slightly sensitive.		
					1.8m:Moist to wet.		
2					2m:Minor fine sand.		
					2.2m:Mottled orange.		
					SAND; dark grey. Medium dense; moist; sand, fine, pumiceous.		
					2.9m:Fine to medium, trace fine gravel.		
3					Lot 2 - HA1 terminated at 3m		

For explanation of symbols and observations, see key sheet

GROUNDWATER OBSERVATIONS
Depth (m) Date Post strike observations

No ground water encountered

Miniature shear vane Vane number Geovane
Blade 19mm Factor 1.41 (+ 2.57)
Vane shear strength per NZGS guideline

Remarks

Started

Date logged
8/04/2010

Logged
CDB
Checked
KB

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AUGERHOLE LOG AUGERS YORKSHIRE FINAL.GPJ BASE.GDT 21/04/10

08/06/2005

AECOM LOG OF AUGERHOLE

HOLE IDENTIFICATION **Lot 3 - HA1**

Client CKC Holding Ltd.
Project Soils Investigation
Project number 60153884

Co-ordinates
Elevation
Location 8 & 10 Yorkshire Road, Hamilton
Feature

Depth	GEOLOGICAL DESCRIPTION (Weathering, Relative Strength, Colour, Name, Defect Type, Lithological features, Stratigraphic Unit)	Test Records: Shear Vane (kPa) (Residual - Peak; 0 kPa, 100 kPa, 200 kPa)	Sampling	Dynamic Cone Penetrometer (Blows per mm) (4, 8, 12, 16)	MATERIAL DESCRIPTION (consistency, relative density, water content, plasticity, grading, etc) / DEFECT DESCRIPTION / Depth Related Remarks	Graphic Log	Instrumentation
	TOPSOIL: TOPSOIL				SILT; dark brown. Firm, moist.		
	Hinuera Formation: Cross - bedded pumice sand, silt and gravel with interbedded peat.				SILT; greyish brown, mottled orange. Firm, moist. 0.55m:Trace fine sand.		
1					SAND, trace fine gravel; brownish grey, speckled black. Medium dense; moist; sand, fine to medium. 1m:Iron staining, trace fine gravel.		
					SILT; light grey, mottled orange. Moist, slightly sensitive, dilatant. 1.45m:Grades to light grey. 1.7m:Moist to wet, trace fine sand.		
2					SAND; brownish grey. Medium dense; moist to wet; sand, fine. 2.1m:Speckled black and omage, trace fine pumiceous gravel. 2.65m:Minor fine gravel, wet, dense.		
3					Lot 3 - HA1 terminated at 3m		

For explanation of symbols and observations, see key sheet

GROUNDWATER OBSERVATIONS
Depth (m) Date Post strike observations

No ground water encountered

Miniature shear vane Vane number
Blade Factor (-)
Vane shear strength per NZGS guideline

Remarks

Started

Date logged
8/04/2010

Logged
CDB
Checked
KB

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AUGERHOLE LOG AUGERS YORKSHIRE FINAL.GPJ BASE.GDT 21/04/10

08/06/2005

AECOM LOG OF AUGERHOLE

HOLE IDENTIFICATION **Lot 4 - HA1**

Client CKC Holding Ltd.
Project Soils Investigation
Project number 60153884

Co-ordinates
Elevation
Location 8 & 10 Yorkshire Road, Hamilton
Feature

Depth	GEOLOGICAL DESCRIPTION (Weathering, Relative Strength, Colour, Name, Defect Type, Lithological features, Stratigraphic Unit)	Test Records: Shear Vane (kPa) (Residual - Peak; 0 kPa, 100 kPa, 200 kPa)	Sampling	Dynamic Cone Penetrometer (Blows per mm; 4, 8, 12, 16)	MATERIAL DESCRIPTION (consistency, relative density, water content, plasticity, grading, etc) / DEFECT DESCRIPTION / Depth Related Remarks	Graphic Log	Instrumentation
	TOPSOIL: TOPSOIL				SILT; dark brown. Firm, moist.		
	Hinuera Formation: Cross - bedded pumice sand, silt and gravel with interbedded peat.	87/31			SILT; brownish yellow. Soft, moist. 0.35m:Trace fine sand.		
					Silty fine SAND; brownsih yellow, speckled orange. Medium dense; moist. 0.7m:No silt.		
1					SAND, trace fine gravel; brownish grey. Medium dense; moist; sand, fine to medium. 1.2m:Grades to light grey, speckled black. 1.3m:Trace silt, mottled orange.		
		115/25			SILT; light grey. Firm, slightly sensitive, dilatent. 1.7m:Mottled orange.		
2		101/38			2m:Grades to light grey, trace fine to medium sand.		
		107/34			2.3m:No sand, mottled orange.		
		101/31			SAND; grey. Medium dense; moist; sand, fine, pumiceous.		
3					Lot 4 - HA1 terminated at 3m		

For explanation of symbols and observations, see key sheet

Remarks

GROUNDWATER OBSERVATIONS
Depth (m) Date Post strike observations

No ground water encountered

Miniature shear vane Vane number Geovane
Blade 19mm Factor 1.41 (+ 2.57)
Vane shear strength per NZGS guideline

Started
Date logged 8/04/2010
Logged CDB
Checked KB

AUGERHOLE LOG AUGERS YORKSHIRE FINAL.GPJ BASE.GDT 21/04/10

08/06/2005

AECOM LOG OF AUGERHOLE

HOLE IDENTIFICATION **Lot 5 - HA1**

Client CKC Holding Ltd.
Project Soils Investigation
Project number 60153884

Co-ordinates
Elevation
Location 8 & 10 Yorkshire Road, Hamilton
Feature

Depth	GEOLOGICAL DESCRIPTION (Weathering, Relative Strength, Colour, Name, Defect Type, Lithological features, Stratigraphic Unit)	Test Records: Shear Vane (kPa) Residual - Peak (0 kPa, 100 kPa, 200 kPa)	Sampling	Dynamic Cone Penetrometer (Blows per mm) (4, 8, 12, 16)	MATERIAL DESCRIPTION (consistency, relative density, water content, plasticity, grading, etc) / DEFECT DESCRIPTION / Depth Related Remarks	Graphic Log	Instrumentation
	TOPSOIL: TOPSOIL				SILT; dark brown. Dry, moist.		
	Hinuera Formation: Cross - bedded pumice sand, silt and gravel with interbedded peat.				Sandy SILT; brownish yellow. Firm, moist, slighlty friable.		
1					SAND; brownish yellowish, speckled black. Loose; moist; sand, fine.		
					0.55m:Grades to brownish orange, speckled black.		
					1m:Speckled dark orange, trace fine pumiceous gravel.		
					1.3m:Grades to light grey, medium dense, moist to wet.		
2					SILT, trace fine sand; light grey. Medium dense, moist to wet.		
					SAND; brownish grey, speckled black. Medium dense; moist ot wet; sand, fine to medium, pumiceous.		
					2.3m:Iron staining.		
					2.7m:Minor fine pumiceous gravel, dense.		
3					Lot 5 - HA1 terminated at 3m		

For explanation of symbols and observations, see key sheet

GROUNDWATER OBSERVATIONS
Depth (m) Date Post strike observations

No ground water encountered

Miniature shear vane Vane number
Blade Factor (-)
Vane shear strength per NZGS guideline

Remarks

Started

Date logged
8/04/2010

Logged
CDB
Checked
KB

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AUGERHOLE LOG AUGERS YORKSHIRE FINAL.GPJ BASE.GDT 21/04/10

08/06/2005

AECOM LOG OF AUGERHOLE

HOLE IDENTIFICATION **Lot 6 - HA1**

Client CKC Holding Ltd.
Project Soils Investigation
Project number 60153884

Co-ordinates
Elevation
Location 8 & 10 Yorkshire Road, Hamilton
Feature

Depth	GEOLOGICAL DESCRIPTION (Weathering, Relative Strength, Colour, Name, Defect Type, Lithological features, Stratigraphic Unit)	Test Records: Shear Vane (kPa) (Residual - Peak; 0 kPa, 100 kPa, 200 kPa)	Sampling	Dynamic Cone Penetrometer (Blows per mm; 4, 8, 12, 16)	MATERIAL DESCRIPTION (consistency, relative density, water content, plasticity, grading, etc) / DEFECT DESCRIPTION / Depth Related Remarks	Graphic Log	Instrumentation
	TOPSOIL: TOPSOIL				SILT; dark brown. Firm, moist.		
	Hinuera Formation: Cross - bedded pumice sand, silt and gravel with interbedded peat.	141/51			SILT; brownish yellow. Firm, moist, slightly friable.		
		UTP			Silty fine to medium SAND; greyish brown. Medium dense; moist.		
1		115/34			SILT, trace fine sand; light grey, mottled orange. Firm, moist. 0.9m:Some fine sand.		
		101/36			SAND, trace silt; Brownish grey. Medium dense; moist to wet; sand, fine.		
					Sandy SILT; light grey, mottled orange. Firm, wet, sand fine. 1.6m:Slightly sensitive.		
2					SAND; brownsih grey, speckled black. Medium dense; moist to wet; sand, fine to medium, pumiceous.		
					Gravelly fine to medium SAND; brownish grey, speckled orange. Dense; wet; gravel, fine to medium.		
3					Lot 6 - HA1 terminated at 3m		

For explanation of symbols and observations, see key sheet

Remarks

Started

GROUNDWATER OBSERVATIONS
Depth (m) Date Post strike observations

No ground water encountered

Date logged 8/04/2010

Logged CDB
Checked KB

Miniature shear vane Vane number Geovane
Blade 19mm Factor 1.41 (+ 2.57)
Vane shear strength per NZGS guideline

08/06/2005

AUGERHOLE LOG AUGERS YORKSHIRE FINAL.GPJ BASE.GDT 21/04/10

AECOM LOG OF AUGERHOLE

HOLE IDENTIFICATION **Lot 7 - HA1**

Client CKC Holding Ltd.
Project Soils Investigation
Project number 60153884

Co-ordinates
Elevation
Location 8 & 10 Yorkshire Road, Hamilton
Feature

Depth	GEOLOGICAL DESCRIPTION (Weathering, Relative Strength, Colour, Name, Defect Type, Lithological features, Stratigraphic Unit)	Test Records: Shear Vane (kPa) (Residual - Peak)	Sampling	Dynamic Cone Penetrometer (Blows per mm)	MATERIAL DESCRIPTION (consistency, relative density, water content, plasticity, grading, etc) / DEFECT DESCRIPTION / Depth Related Remarks	Graphic Log	Instrumentation
	TOPSOIL: TOPSOIL				SILT; dark brown. Firm, moist.		
	Hinuera Formation: Cross - bedded pumice sand, silt and gravel with interbedded peat.	158/51			SILT; brownish yellow. Firm, moist, slightly friable. 0.35m:Trace fine sand.		
					SAND, trace silt; greyish orange. Medium dense; moist; sand, fine to medium.		
1					SAND; greyish brown, speckled black. Medium dense; moist; pumiceous; sand, fine. 0.9m:Speckled orange. 1.2m:Grades to light greu, speckled orange, fine to medium, moist to wet.		
		87/38			Silty fine to medium SAND; light grey. Medium dense; wet.		
2					SAND; dark brownsih grey, speckled black. Moist to wet; sand, fine. 2.35m:Grades to brownish orange, speckled grey and black, fine to medium.		
					Gravelly fine to medium SAND; brownish grey, speckled black and orange. Medium dense; moist to wet; gravel, fine to medium.		
3					Lot 7 - HA1 terminated at 3m		

For explanation of symbols and observations, see key sheet

GROUNDWATER OBSERVATIONS
Depth (m) Date Post strike observations

No ground water encountered

Miniature shear vane Vane number Geovane
Blade 19mm Factor 1.41 (+ 2.57)
Vane shear strength per NZGS guideline

Remarks

Started

Date logged
8/04/2010

Logged
CDB
Checked
KB

AUGERHOLE LOG AUGERS YORKSHIRE FINAL.GPJ BASE.GDT 21/04/10

08/06/2005

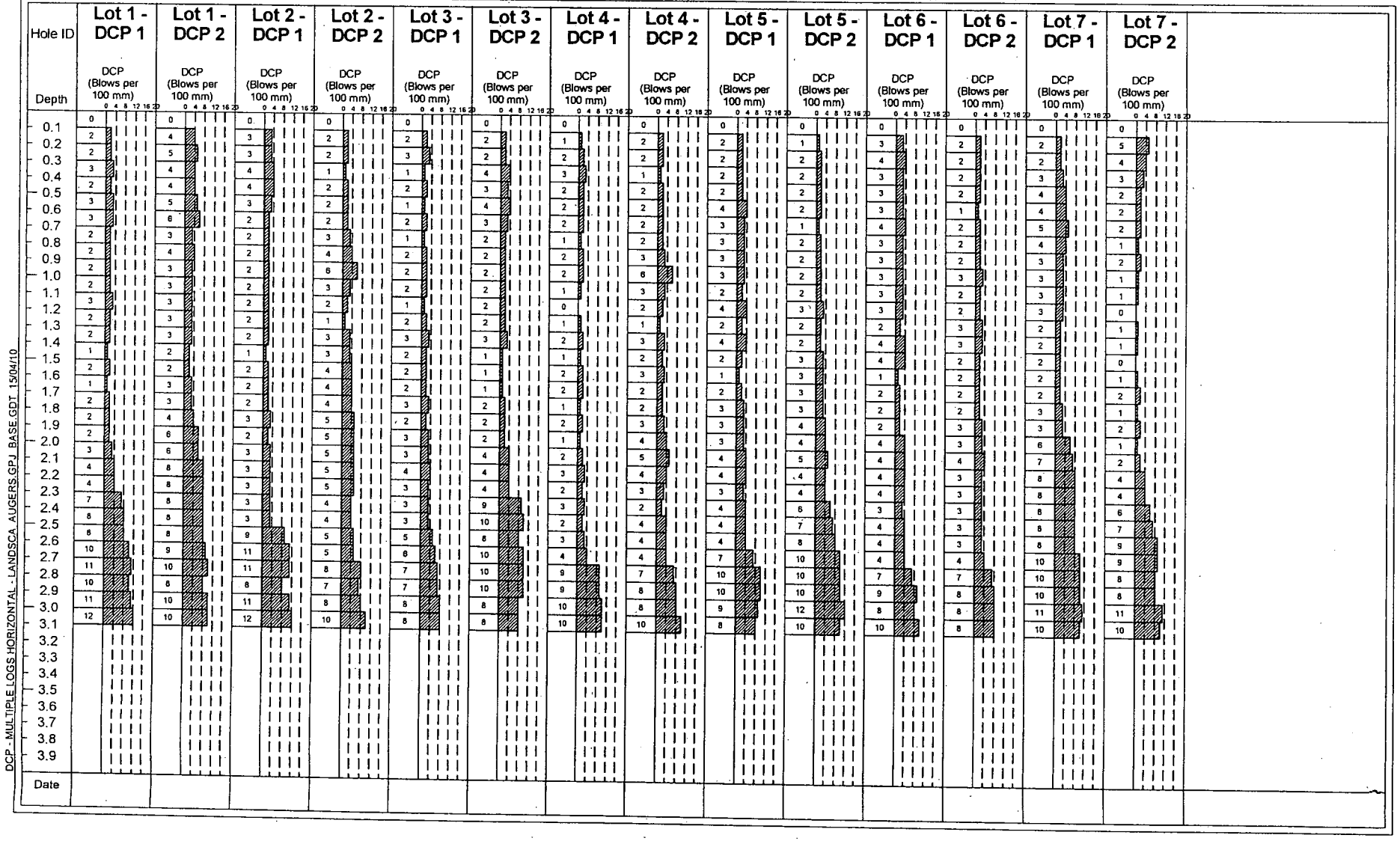
DYNAMIC CONE PENETRATION TEST RESULTS

AECOM

Client CKC Holding Ltd. Project number 60153884 Remarks

Project Soils Investigation

Location 8 & 10 Yorkshire Road, Hamilton Test Method NZMS 4402: 1986 Test 6.5.2 - Penetration Resistence of a Soil (hand method)



DCP - MULTIPLE LOGS HORIZONTAL - LANDSCA AUGERS.GPJ BASE.GDT 15/04/10

Appendix B

Stormwater Design

AECOM LOG OF AUGERHOLE

HOLE IDENTIFICATION **Lot 1 - Perc**

Client CKC Holding Ltd.
Project Soils Investigation
Project number 60153884

Co-ordinates
Elevation
Location 8 & 10 Yorkshire Road, Hamilton
Feature

Depth	GEOLOGICAL DESCRIPTION (Weathering, Relative Strength, Colour, Name, Defect Type, Lithological features, Stratigraphic Unit)	Test Records: Shear Vane (kPa) (Residual - Peak; 0 kPa, 100 kPa, 200 kPa)	Sampling	Dynamic Cone Penetrometer (Blows per mm) (4, 8, 12, 16)	MATERIAL DESCRIPTION (consistency, relative density, water content, plasticity, grading, etc) / DEFECT DESCRIPTION / Depth Related Remarks	Graphic Log	Instrumentation
	TOPSOIL				SILT; dark brown. Firm, moist.		
	Cross - bedded pumice sand, silt and gravel with interbedded peat.				SAND; greyish brown. Medium dense; moist; sand fine to medium, pumiceous.		
					SAND, minor fine pumiceous gravel; grey, speckled black and dark orange. Medium dense; moist; sand, fine to medium.		
					SILT; grey. Firm, moist.		
					SAND, trace silt; grey speckled black. Medium dense; moist; sand, fine to medium.		
1	Hinuera Formation				1m:Moist to wet, no silt.		
					1.2m:Saturated, medium sand.		
					SILT; light grey, iron stained. Soft, wet.		
					SAND; light yellowish grey. Medium dense; wet; sand, fine to medium, pumiceous.		
2					1.9m:Grades to brownish grey, speckled black, ~~moist to wet~~.		
					Lot 1 - Perc terminated at 2m		
3							

For explanation of symbols and observations, see key sheet

Remarks

GROUNDWATER OBSERVATIONS
Depth (m) Date Post strike observations

No ground water encountered

Miniature shear vane Vane number
Blade Factor (-)
Vane shear strength per NZGS guideline

Started

Date logged
8/04/2010

Logged
CDB
Checked
KB

Page 1 of 1

AUGERHOLE LOG AUGERS YORKSHIRE FINAL.GPJ BASE.GDT 21/04/10

08/06/2005

AECOM LOG OF AUGERHOLE

HOLE IDENTIFICATION **Lot 3 - Perc**

Client CKC Holding Ltd.
Project Soils Investigation
Project number 60153884

Co-ordinates
Elevation
Location 8 & 10 Yorkshire Road, Hamilton
Feature

Depth	GEOLOGICAL DESCRIPTION (Weathering, Relative Strength, Colour, Name, Defect Type, Lithological features, Stratigraphic Unit)	Test Records: Shear Vane (kPa) (Residual - Peak; 0 kPa, 100 kPa, 200 kPa)	Sampling	Dynamic Cone Penetrometer (Blows per mm) (4, 8, 12, 16)	MATERIAL DESCRIPTION (consistency, relative density, water content, plasticity, grading, etc) / DEFECT DESCRIPTION / Depth Related Remarks	Graphic Log	Instrumentation
	TOPSOIL: TOPSOIL				SILT; dark brown. Firm, moist.		
	Hinuera Formation: Cross - bedded pumice sand, silt and gravel with interbedded peat.				SILT, trace fine sand. Light grey, mottled orange. Firm, moist.		
					Silty fine SAND; light grey. Medium dense; moist.		
1					0.6m:Trace silt, fine pumiceous gravel.		
					SAND; light brownish grey. Medium dense; moist; sand , fine, pumiceous.		
					SILT, trace fine gravel; light grey, mottled orange. Moist to wet.		
					1.5m:Grades to light grey, slightly sensitive.		
					1.9m:Moist to wet, trace fine sand.		
2					Lot 3 - Perc terminated at 2m		
3							

For explanation of symbols and observations, see key sheet

GROUNDWATER OBSERVATIONS
Depth (m) Date Post strike observations

No ground water encountered

Miniature shear vane Vane number
Blade Factor (-)
Vane shear strength per NZGS guideline

Remarks

Started

Date logged
8/04/2010

Logged
CDB
Checked
KB

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AUGERHOLE LOG AUGERS YORKSHIRE FINAL.GPJ BASE.GDT 21/04/10

08/06/2005

AECOM LOG OF AUGERHOLE

HOLE IDENTIFICATION: **Lot 5 - Perc**

Client: CKC Holding Ltd.
Project: Soils Investigation
Project number: 60153884

Co-ordinates:
Elevation:
Location: 8 & 10 Yorkshire Road, Hamilton
Feature:

Depth	GEOLOGICAL DESCRIPTION (Weathering, Relative Strength, Colour, Name, Defect Type, Lithological features, Stratigraphic Unit)	Test Records: Shear Vane (kPa) (Residual - Peak; 0 kPa, 100 kPa, 200 kPa)	Sampling	Dynamic Cone Penetrometer (Blows per mm) (4, 8, 12, 16)	MATERIAL DESCRIPTION (consistency, relative density, water content, plasticity, grading, etc) / DEFECT DESCRIPTION / Depth Related Remarks	Graphic Log	Instrumentation
	TOPSOIL				SILT; dark brown. Firm, dry.		
	Cross - bedded pumice sand, silt and gravel with interbedded peat.				Sandy SILT; brownish yellow. Soft, moist, friable, sand fine.		
	Hinuera Formation				SAND, trace silt; brownish yellow, speckled black. Loose; moist; sand, fine.		
1					0.55m:Grades to brownish orange, speckled black.		
					1m:Grades to brownish grey, fine to medium, trace flen gravel.		
					SILT, minor fine to medium sand; light grey, streaked orange. Firm, wet.		
					1.6m:Sensitive.		
2					SAND; brownish grey, speckled black. Medium dense; moist to wet; sand, fine to medium, pumiceous.		
					Lot 5 - Perc terminated at 2m		
3							

For explanation of symbols and observations, see key sheet

GROUNDWATER OBSERVATIONS
Depth (m) Date Post strike observations

No ground water encountered

Miniature shear vane Vane number
Blade Factor (-)
Vane shear strength per NZGS guideline

Remarks

Started

Date logged
8/04/2010

Logged
CDB
Checked
KB

Page 1 of 1

AUGERHOLE LOG AUGERS YORKSHIRE FINAL.GPJ BASE.GDT 21/04/10

08/06/2005

AECOM LOG OF AUGERHOLE

HOLE IDENTIFICATION **Lot 7 - Perc**

Client CKC Holding Ltd.
Project Soils Investigation
Project number 60153884

Co-ordinates
Elevation
Location 8 & 10 Yorkshire Road, Hamilton
Feature

Depth	GEOLOGICAL DESCRIPTION Weathering, Relative Strength, Colour, Name, Defect Type, Lithological features, Stratigraphic Unit	Test Records Shear Vane (kPa) Residual - Peak 0 kPa 100 kPa 200 kPa	Sampling	Dynamic Cone Penetrometer (Blows per mm) 4 8 12 16	MATERIAL DESCRIPTION (consistency, relative density, water content, plasticity, grading, etc) DEFECT DESCRIPTION Depth Related Remarks	Graphic Log	Instrumentation
	TOPSOIL				SILT; dark brown. Firm, moist.		
	Cross - bedded pumice sand, silt and gravel with interbedded peat.				SILT; brownish yellow. Firm, moist, slightly friable. 0.3m:Trace fine gravel.		
	Hinuera Formation				SAND; light brownish grey, speckled black. Medium dense; moist; sand, fine. 0.6m:Speckled orange, fine to medium, trace fine gravel.		
1					Silty fine SAND; light grey. Medium dense, moist to wet. 1.1m:Speckled black and orange, no silt. 1.55m:Saturated.		
					SAND; brownish grey. Medium dense; moist; sand, fine.		
2					Lot 7 - Perc terminated at 2m		
3							

For explanation of symbols and observations, see key sheet

GROUNDWATER OBSERVATIONS
Depth (m) Date Post strike observations

No ground water encountered

Miniature shear vane Vane number
Blade Factor (-)
Vane shear strength per NZGS guideline

Remarks

Started

Date logged
8/04/2010

Logged
CDB
Checked
KB

Page 1 of 1

AUGERHOLE LOG AUGERS YORKSHIRE FINAL.GPJ BASE.GDT 21/04/10

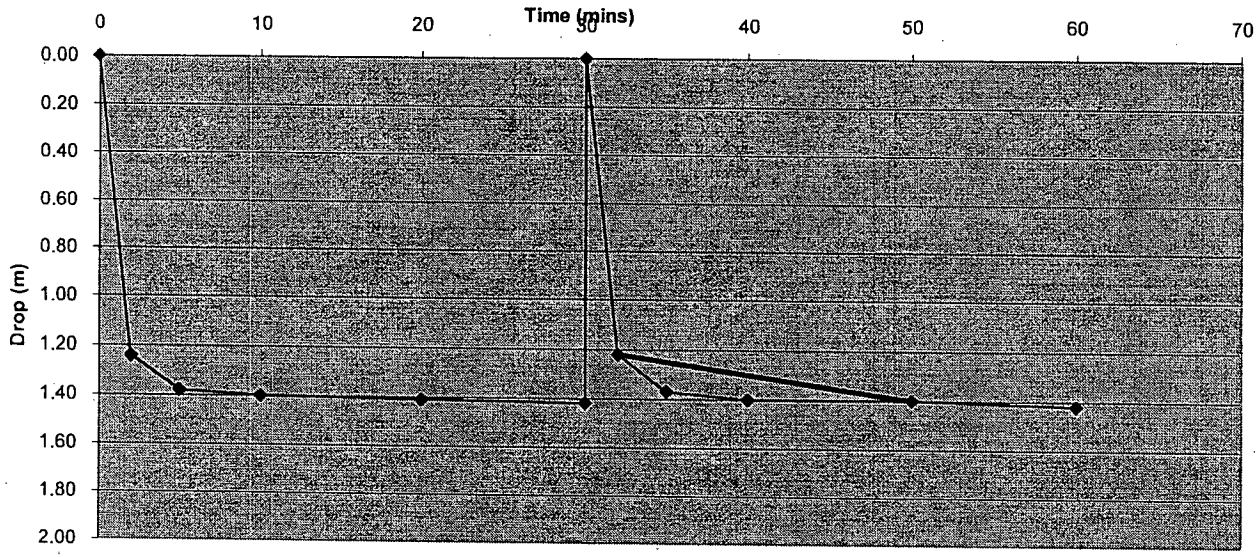
08/06/2005

Perc Test Results

AECOM

PROJECT :	Soils Investigation	**PROJEC**	60153884
CLIENT :	CKC Holdings Ltd.	**DATE :**	19/04/2010
LOCATION :	8 & 10 Yorkshire Road, Hamilton.		
AUGER No. :	Perc 1		
File Name:	I:\Projects\Engineering\60153884 HEGT MISC1414 8 & 10 Yorkshire Road, Hamilton\4. Tech work area\4.3 Engineering\[PercGraph.xlsx]Perc 1		

Source Table	
Time (mins)	Drop (m)
0	0.00
2	1.24
5	1.38
10	1.40
20	1.41
30	1.42
30	0.00
32	1.22
35	1.37
40	1.40
50	1.40
60	1.42



Percolation Rate Calculation:

Time (mins)	Drop (m)	
32	1.22	Minimum Slope - Lower
50	1.40	Minimum Slope - Upper

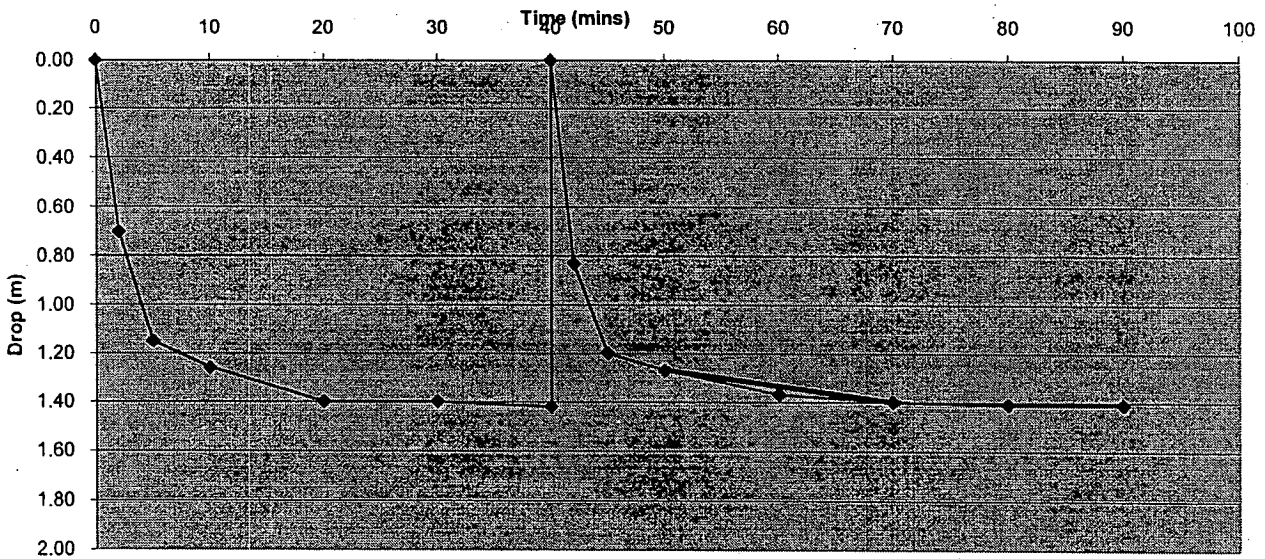
Percolation Rate = **0.01 m/min =** **600 mm/hr**

Perc Test Results

AECOM

PROJECT :	Soils Investigation	**PROJEC**	60153884
CLIENT :	CKC Holdings Ltd.	**DATE :**	19/04/2010
LOCATION :	8 & 10 Yorkshire Road, Hamilton.		
AUGER No. :	Perc 3		
File Name:	I:\Projects\Engineering\60153884 HEGT MISC1414 8 & 10 Yorkshire Road, Hamilton\4. Tech work area\4.3 Engineering\[PercGraph.xlsx]Perc 3		

Source Table	
Time (mins)	Drop (m)
0	0.00
2	0.70
5	1.15
10	1.26
20	1.40
30	1.40
40	1.42
40	0.00
42	0.83
45	1.20
50	1.27
60	1.37
70	1.40
80	1.41
90	1.41



Percolation Rate Calculation:

Time (mins)	Drop (m)	
50	1.27	Minimum Slope - Lower
70	1.40	Minimum Slope - Upper

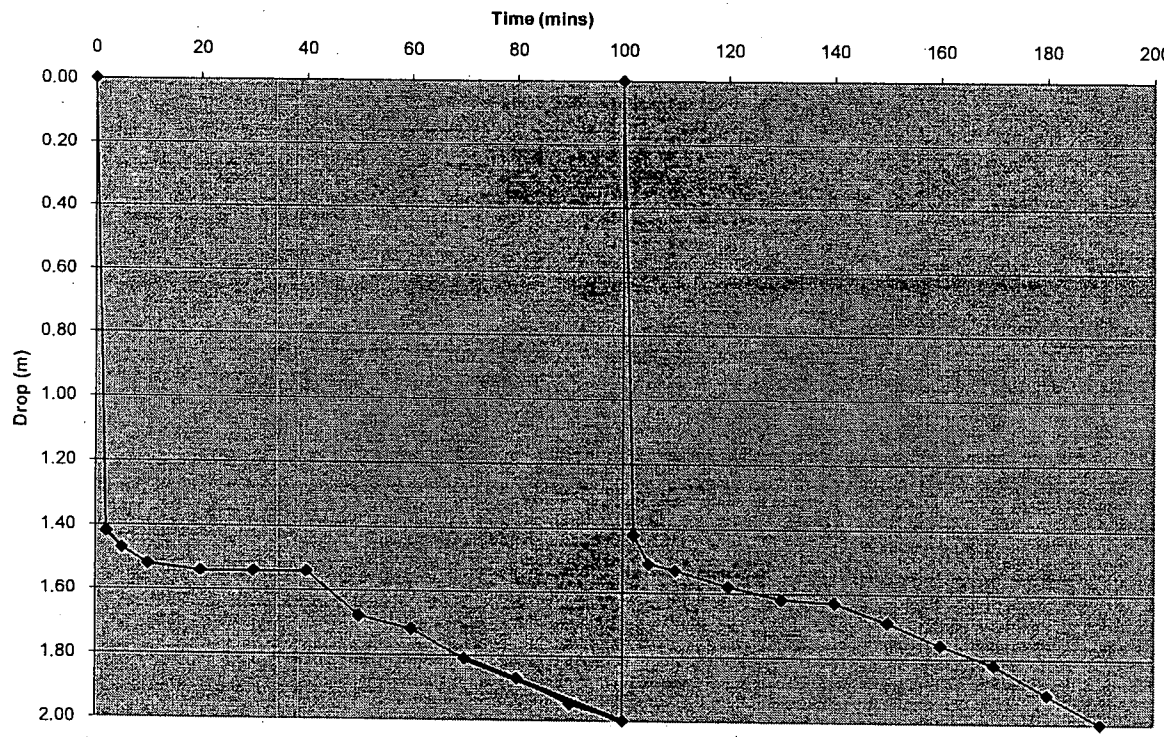
Percolation Rate = **0.0065 m/min =** **390 mm/hr**

Perc Test Results

AECOM

PROJECT :	Soils Investigation	**PROJEC**	60153884
CLIENT :	CKC Holdings Ltd.	**DATE :**	19/04/2010
LOCATION :	8 & 10 Yorkshire Road, Hamilton.		
AUGER No. :	Perc 5		
File Name:	I:\Projects\Engineering\60153884 HEGT MISC1414 8 & 10 Yorkshire Road, Hamilton\4. Tech work area\4.3 Engineering\[PercGraph.xlsx]Perc 5		

Source Table	
Time (mins)	**Drop (m)**
0	0.00
2	1.42
5	1.47
10	1.52
20	1.54
30	1.54
40	1.54
50	1.68
60	1.72
70	1.81
80	1.87
90	1.95
100	2.00
100	0.00
102	1.42
105	1.51
110	1.53
120	1.58
130	1.62
140	1.63
150	1.69
160	1.76
170	1.82
180	1.91
190	2.00



Percolation Rate Calculation:

Time (mins)	**Drop (m)**	
70	1.81	Minimum Slope - Lower
100	2.00	Minimum Slope - Upper

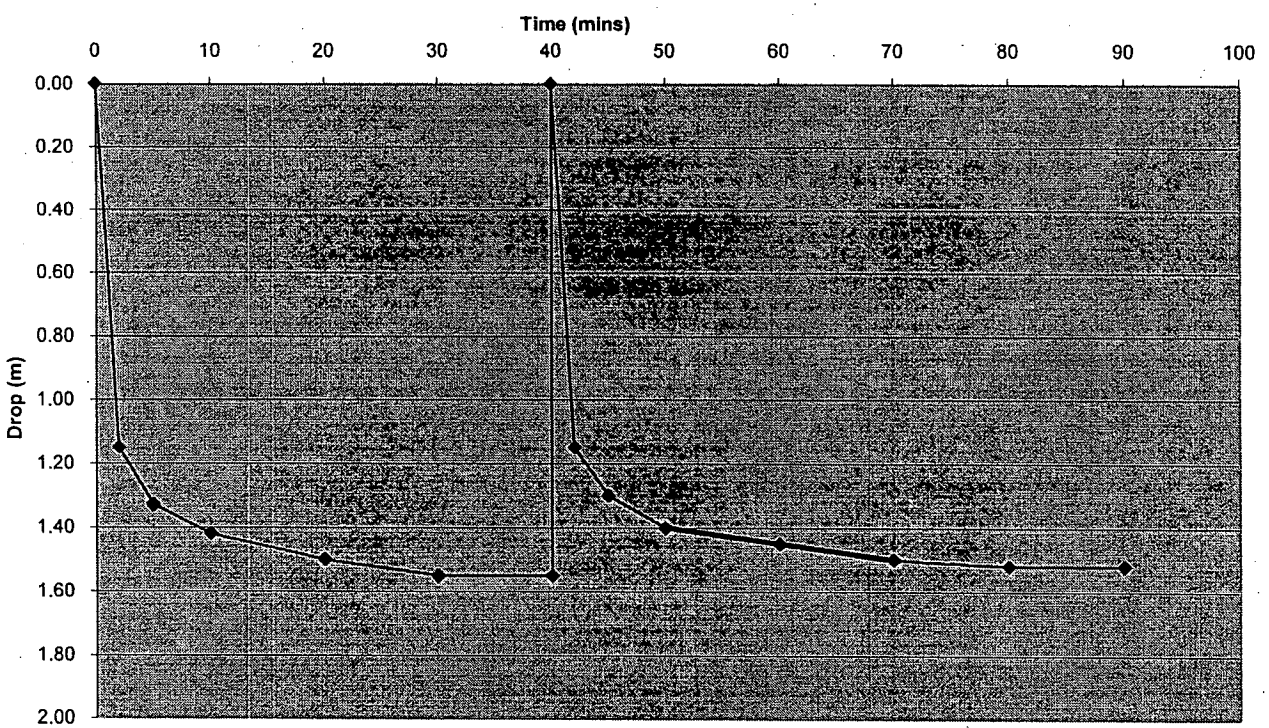
Percolation Rate = 0.0063333 m/min = 380 mm/hr

Perc Test Results

AECOM

PROJECT :	Soils Investigation	**PROJEC**	60153884
CLIENT :	CKC Holdings Ltd.	**DATE :**	19/04/2010
LOCATION :	8 & 10 Yorkshire Road, Hamilton.		
AUGER No. :	Perc 7		
File Name:	I:\Projects\Engineering\60153884 HEGT MISC1414 8 & 10 Yorkshire Road, Hamilton\4. Tech work area\4.3 Engineering\[PercGraph.xlsx]Perc 7		

Source Table	
Time (mins)	Drop (m)
0	0.00
2	1.15
5	1.33
10	1.42
20	1.50
30	1.55
40	1.55
40	0.00
42	1.15
45	1.30
50	1.40
60	1.45
70	1.50
80	1.52
90	1.52



Percolation Rate Calculation:

Time (mins)	Drop (m)	
50	1.40	Minimum Slope - Lower
70	1.50	Minimum Slope - Upper

Percolation Rate = **0.005 m/min =** **300 mm/hr**

AECOM New Zealand Limited
121 Rostrevor Street, Hamilton 3204
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Soakage Design - 10 year ARI - Lot 13

8 & 10 Yorkshire Road, Hamilton.

Job No.	60153884		
Computed:	KB	**Date:**	20-Apr-10
Checked:	LF	**Date:**	20/04/2010
File Name	I:\Projects\Engineering\60153884 HEGT MISC1414 8 & 10 Yorkshire Road, Hamilton\4. Tech work area\4.3 Engineering\[Copy of NZBC - Soakage - Xm2 per soakhole - 10yr ARI - HCC UPDATED.xls]Cover		

CALCULATION SUMMARY

Sizing of soakage systems required based on "NZBC Verification Method E1/VM1 - Surface Water, Section 9.0" using various storm durations

Depth of Soakage System	1.20 m minimum
Design soakage Rate	313 mm/hr
Design Storm	10 yr ARI
Runoff coefficient for roof and driveway area, C	0.95

Design Rainfall info from HCC Manual (Aug 2008) including Climate Change Assessment

Design Calculation Results

(see attached sheets)

10yr ARI Storm Duration	Rainfall Intensity mm/hr	Rainfall Depth mm	SOAKHOLES Capacity of 1 x 900mm Ø soakhole	SOAKTRENCH Capacity of 1.0m wide x 1.0m long soaktrench
10 mins	107	18	39	25
20 mins	80	27	27	19
30 mins	66	33	23	17
60 mins	45	45	20	16
120 mins	27	54	20	20
6hrs	12	72	27	33
12hrs	8	91	35	48
24hr	5	112	51	74
48hr	3	135	79	120
72hr	2	142	111	170

Thus, for worst case 10yr ARI storm - 1 x 900mm diameter soakhole with a base at 1.20 m BGL could serve **20** m^2 of sealed lot

OR

1.0m long x 1.0m wide soaktrench with a base at 1.20 m BGL could serve **16** m^2 of sealed lot

Thus for estimated sealed area of 120 m^2, would require soakage trench length of 7.4 m, if 1m wide and 1.20 m deep

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MAUNSELL | AECOM

Soakage Design - 10 year ARI - Hard Areas (Stormtech SC-310)

8 & 10 Yorkshire Road, Hamilton.

Job No.	6015 3884		
Computed:	KB	**Date:**	20/04/2010
Checked:	SK	**Date:**	20/04/2010
File Name	I:\Projects\Engineering\60153884 HEGT MISC1414 8 & 10 Yorkshire Road, Hamilton\4. Tech work area\4.3 Engineering\[Copy of NZBC - Stormtech 310 Soakage - 10yr ARI-NewHCC.xls]Cover		

CALCULATION SUMMARY

Type of Soakage System — SC-310 - provides 0.878 m^3 storage, for 1 chamber (2.17m length, installed in 1.47m wide and 0.71m deep trench)

Design Soakage Rate — 313 mm/hr

Design Storm — 10 yr ARI

Runoff coefficient for hard areas, C — 0.95 (Fully roofed or sealed developments, Table 1, E1/VM1)

Design Rainfall Intensities from Rainfall Intensity Curves derived from HCC Manual (Aug 2008) including Climate Change Assessment

Design Calculation Results

(see attached sheets)

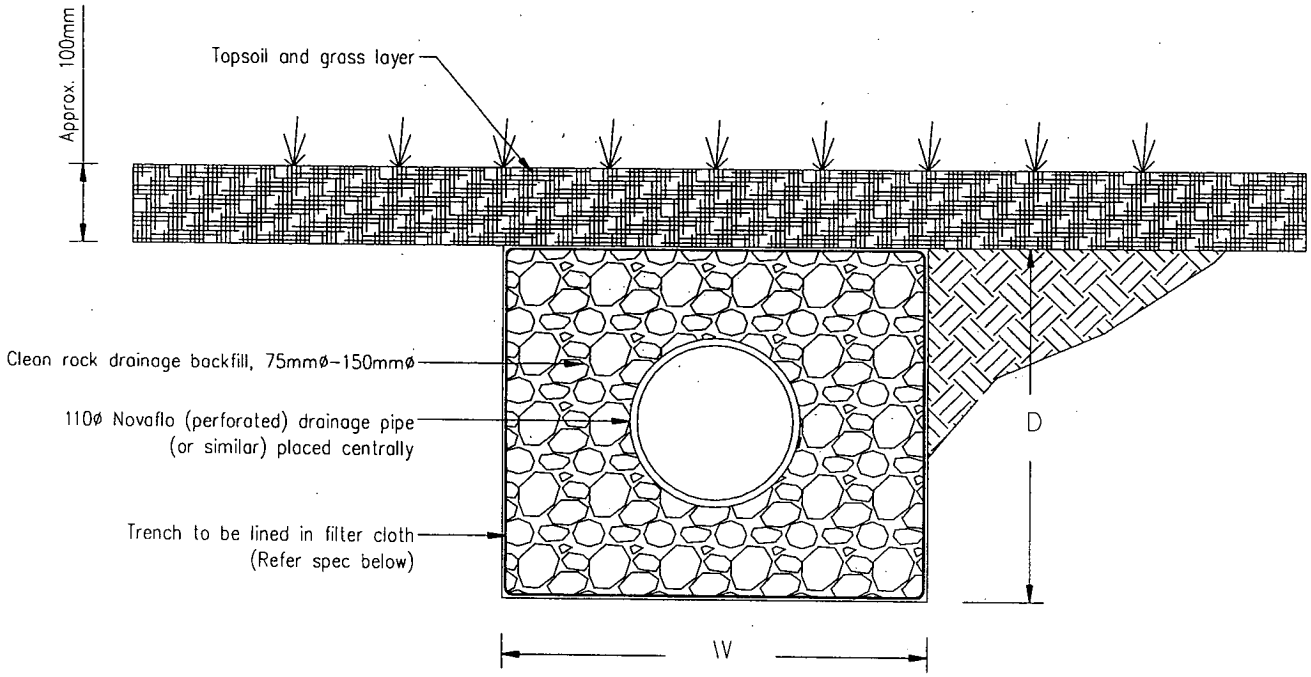
10yr ARI Storm Duration	Rainfall Intensity mm/hr	Rainfall Depth mm	SOAKTRENCH Area served by 1.5m wide x 2.17m long stormtech SC-310
10 mins	107	18	61
20 mins	80	27	47
30 mins	66	33	44
60 mins	45	45	44
120 mins	27	54	56
6hrs	12	72	99
12hrs	8	91	147
24hr	5	112	231
48hr	3	135	376
72hr	2	142	533

Thus, for worst case 10yr ARI storm - 2.17m long stormtech SC-310 chamber, in 1.5m wide and 0.71m deep trench, could serve **44** m^2 of hard area

OR

1m length could serve **20.1** m^2 of hard area

Thus for the ROW area of approximately 470m^2, would need total length **23.4** m of Stormtech SC-310



STORMWATER SOAKAGE TRENCH: TYPICAL CROSS SECTION

NOT TO SCALE

Notes:

1. Dimensions in millimeters.
2. Filter cloth to comply with AS3706.1. The filter cloth shall have a minimum mass per unit area of 140 grams/m^2 and a minimum thickness of 0.45mm. Suitable products include:
   - Mirafi 140N
   - Bidim A14

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Transmittal Advice No. 02

Attention	Marina	File Ref	60153884
Company	McPherson Goodwin Surveyors Ltd	Date	30-Apr-2010
Address	PO Box 9379 Hamilton 3240		
Issued by	Colin Jacobson	Page	1
Project Name	8 & 10 Yorkshire Road, Hamilton	Project No.	60153884
Subject	Foundations		

'Cc' Distribution Details

Attention	Organisation	Fax No.

Document Type	Purpose	Phase	Delivery Mode
☐ Drawing	☐ For Comment	☐ Concept	☐ Messenger
☐ Electronic file	☐ For Approval	☐ Preliminary	☐ Collection
☐ Specification	☐ For Information	☐ Design	☐ Hand Delivery
☐ Report	☒ For Construction	☐ Tender	☒ Postal Delivery
☐ Proposal	☐ For your Records	☒ Construction	☐ Email
☐ Tender	☐ For Tender	☐ As Built	☐ Courier No:
☒ Other	☐ Other	☐ Other	☐ Consignment No:

Document Details

Document Number	Rev	Document Title	Print Size or Digital Format	Media Type	No of Copies
		Letter of observation	A4		1
		PS 1	A4		1
		Calculations	A4		1
		Additional soil test results	A4		1

Comment:	

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30 April 2010

The Chief Building Inspector
Hamilton City Council
Private Bag 3010
Hamilton 3240

Dear Sir

8 & 10 Yorkshire Road, Hamilton: Comprehensive Residential Development

AECOM has been engaged by CKC Developments Ltd to provide foundation design and construction observation services associated with the 7 new dwellings to be constructed at the proposed comprehensive residential development at 8 & 10 Yorkshire Road, Hamilton.

Yours faithfully

Colin Jacobson
Engineering Manager
colin.jacobson@aecom.com

Mobile: 0274 714-359
Direct Dial: +07 834-8988
Direct Fax: +07 834-8981

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

Building Code Clause(s) B1

PRODUCER STATEMENT – PS1 – DESIGN

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

ISSUED BY: AECOM New Zealand Ltd
(Design Firm)

TO: CKC Developments Ltd
(Owner/Developer)

TO BE SUPPLIED TO: Hamilton City Council
(Building Consent Authority)

IN RESPECT: Specifically designed house foundations (reinforced concrete slab with stiffened edge footings)
(Description of Building Work)

AT: 8 & 10 Yorkshire Road, Hamilton

LOT ..... **DPs** ..... **SO** .....

We have been engaged by the owner/developer referred to above to provide: structural design services in respect of the
(Extent of Engagement)

requirements of Clause(s) B1 of the Building Code for

☒ All ☐ Part only of the proposed building work (as specified in the documents outlined below).

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

☒ Compliance documents issued by Department of Building & Housing: VM 1
(verification method/acceptable solution)

and

☒ Alternative solution .....

The proposed building work covered by this producer statement is described on the AECOM calculations and sketch drawings titled: 8 & 10 Yorkshire Road and numbered: 60153884 together with the specification, and other documents set out in the scheduled attached to this statement.

On behalf of the Design Firm, and subject to:

(i) Site verification of the following design assumptions: The excavation depths for the sand pad foundations on each lot are confirmed on site

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

I believe on reasonable grounds the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code.

I, Colin Barry Jacobson
(Name of Design Professional)

I am a member of: ☒ IPENZ ☐ NZIA and hold the following qualifications: NZCE, BE Civil (Hons)

The Design Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*.
This Design Firm is a member of ACENZ ☒ **Yes** ☐ **No**

Signed by: Colin Barry Jacobson ON BEHALF OF: AECOM New Zealand Ltd
(Design Firm)

Date: 30 April 2010 *(signature)* .....

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

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

AECOM

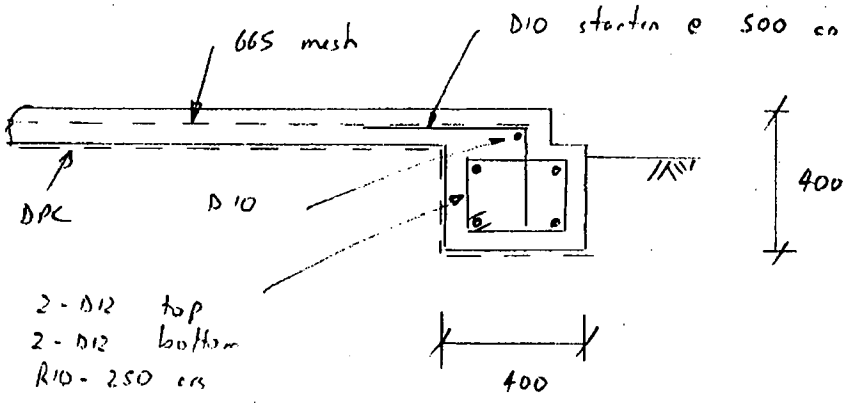
Job Title	8 & 10 Yorkshire Road		
Job No.	60153889	Calculation No.	
Originator	CAJ	Date	29/9/10
Reviewer		Date	
Scale		Sheet No.	17 of

Stiffened Edge Footing Foundations

On several of the lots the soils are loose (< 300 kPa) to depths of between 1.2m to 1.5m below ground level.

Rather than dig down to these depths to form a sand pad foundation a cheaper solution would be to adopt a stiffened edge footing foundation.

The stiffened edge footings are to be as detailed below.



50mm side, bottom & top cover to reinforcing

AECOM

Job Title	8 & 10 Yorkshire Rd		
Job No.	60153854	Calculation No.	30/4/10
Originator	CW	Date	
Reviewer		Date	
Scale		Sheet No.	18 of

Foundation Summary

Lot No.	Recommended Foundation System	Excavation Depth to Subgrade
1	Stiffened Edge Footing	600 mm
2	" " "	600 mm
3	" " "	600 mm
4	" " "	600 mm
5	" " "	600 mm
6	" " "	600 mm
7	" " "	600 mm

Dwg Notes (to be included on the foundation plans)

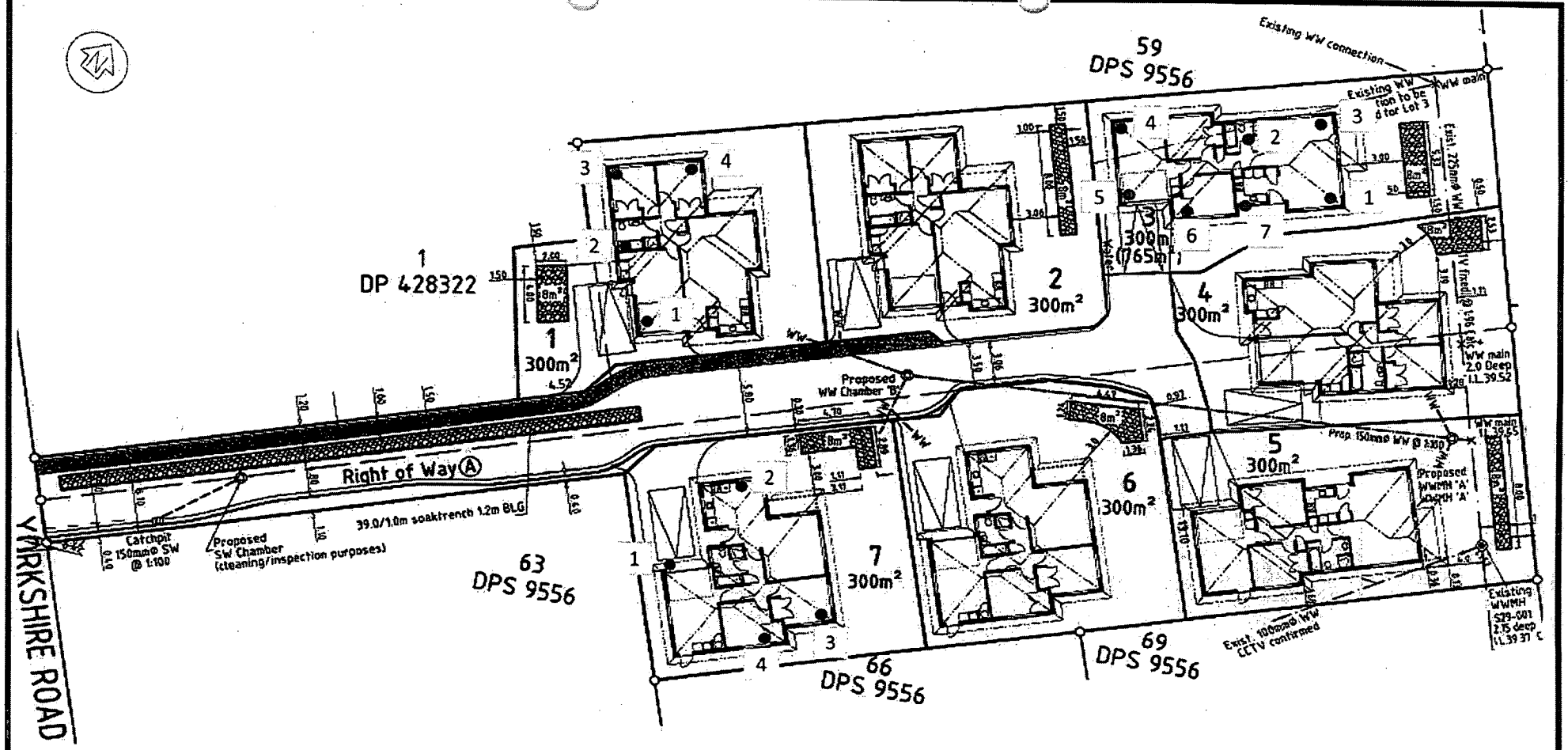
1) Each building footprint is to be excavated to a depth of 0.6m below ground level and the subgrade is to be proof-rolled with a 4 tonne static roller

2) Aecom is to test the subgrade on each lot and confirm whether any additional undercuts are required.
Based on our preliminary tests, some additional undercuts will be required

3) Excavations to extend for 1m outside the edge of the foundations

4) Concrete 28 day concrete strength to be 20 MPa

5) Excavations to be backfilled with pit sand compacted to an ultimate bearing capacity of 300 kPa (12 blows/300mm with a scala penetrometer)



LEGEND

● Dynamic Cone Penetrometer (DCP)

CKC Holdings Ltd.	8 & 10 Yorkshire Road, Hamilton	AECOM
Not to Scale		60153884

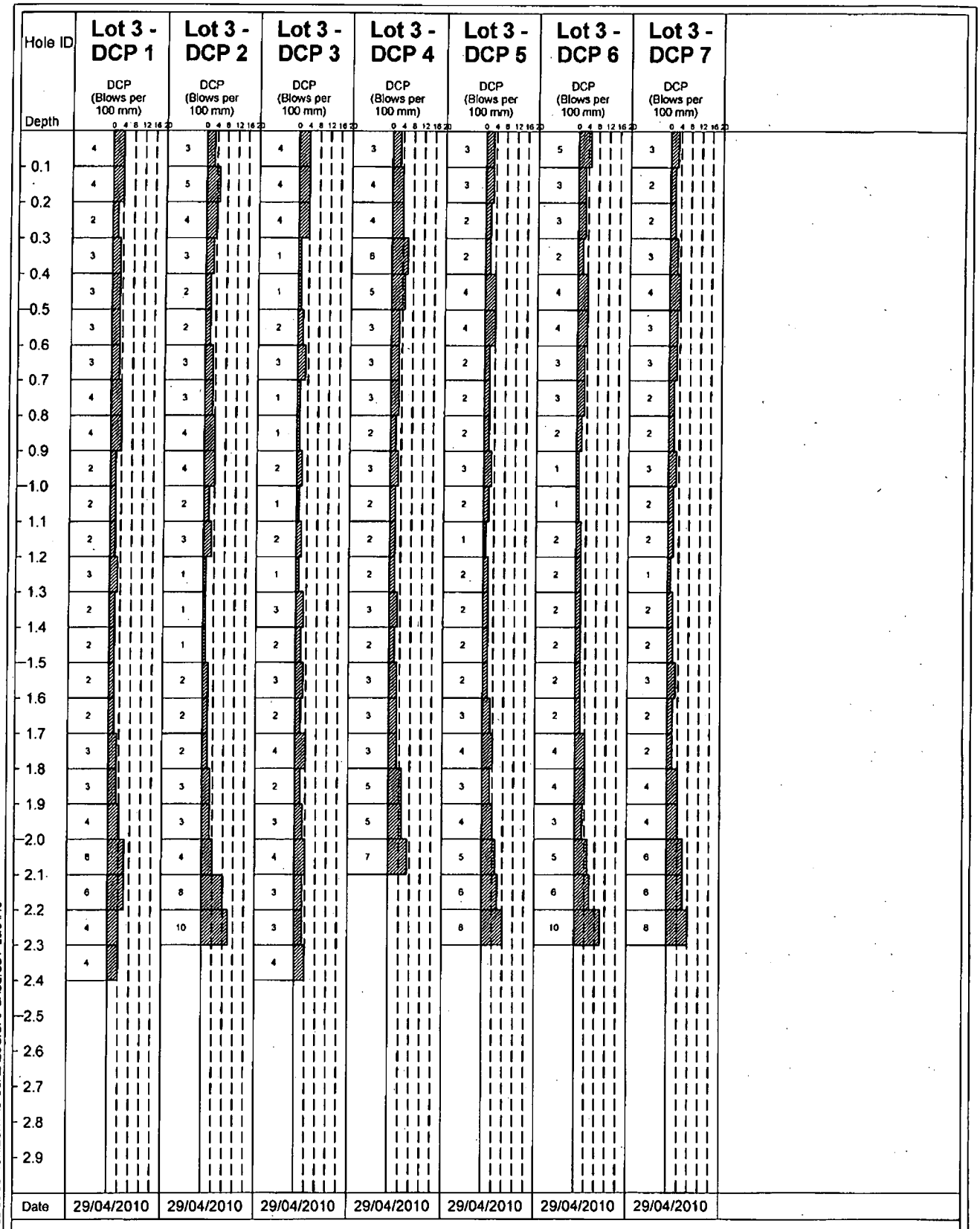
AECOM DYNAMIC CONE PENETRATION TEST RESULTS

Client CKC Holding Ltd.

Project Soils Investigation

Location 8 & 10 Yorkshire Road, Hamilton

Project number 60153884



Remarks

Test Method NZMS 4402: 1986 Test 6.5.2 - Penetration Resistence of a Soil (hand method)

DCP - MULTIPLE LOGS HORIZONTAL SCALALOG.GPJ BASE.GDT 29/04/10

08/06/2005

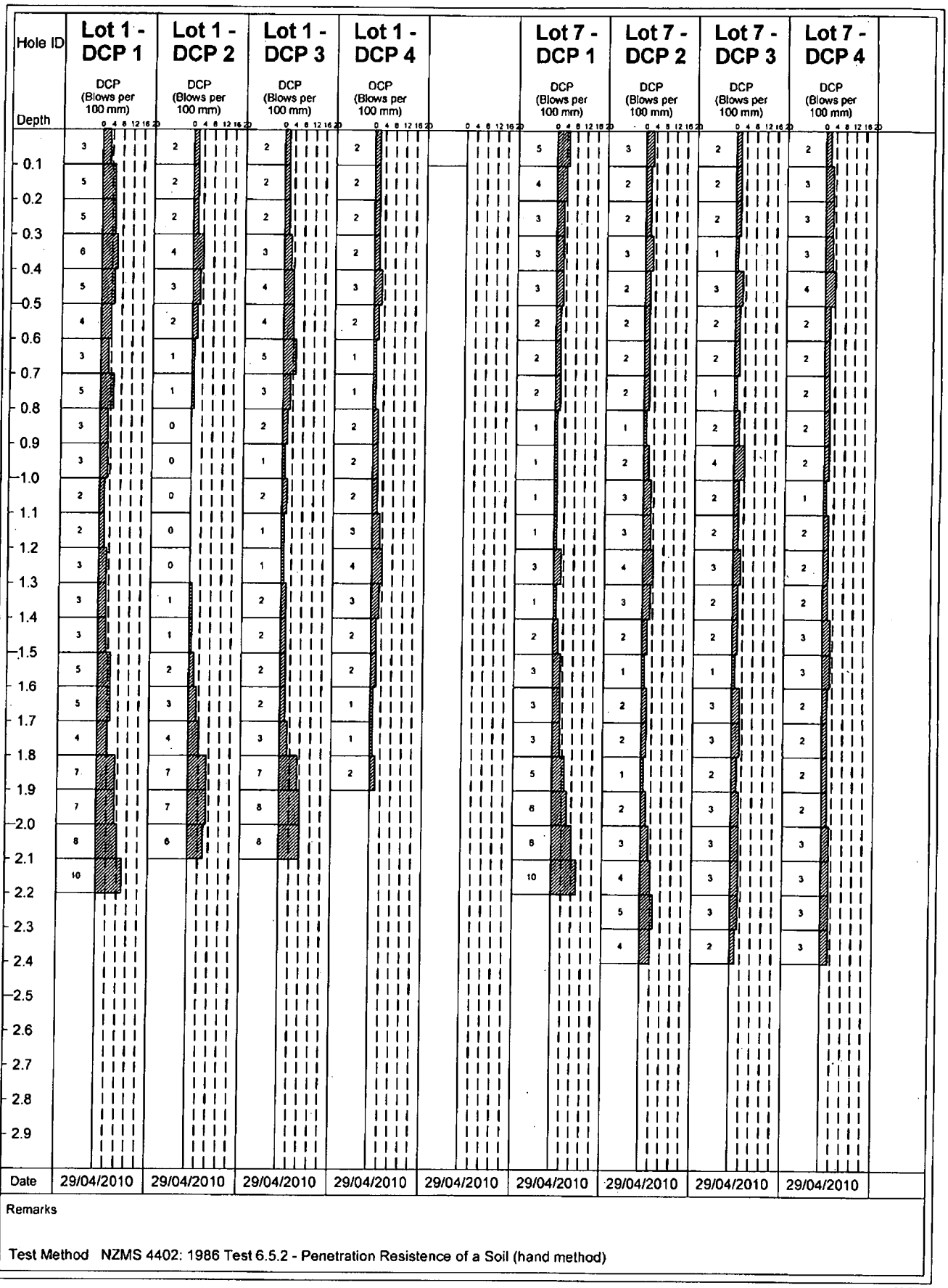
AECOM DYNAMIC CONE PENETRATION TEST RESULTS

Client CKC Holding Ltd.

Project Soils Investigation

Location 8 & 10 Yorkshire Road, Hamilton

Project number 60153884



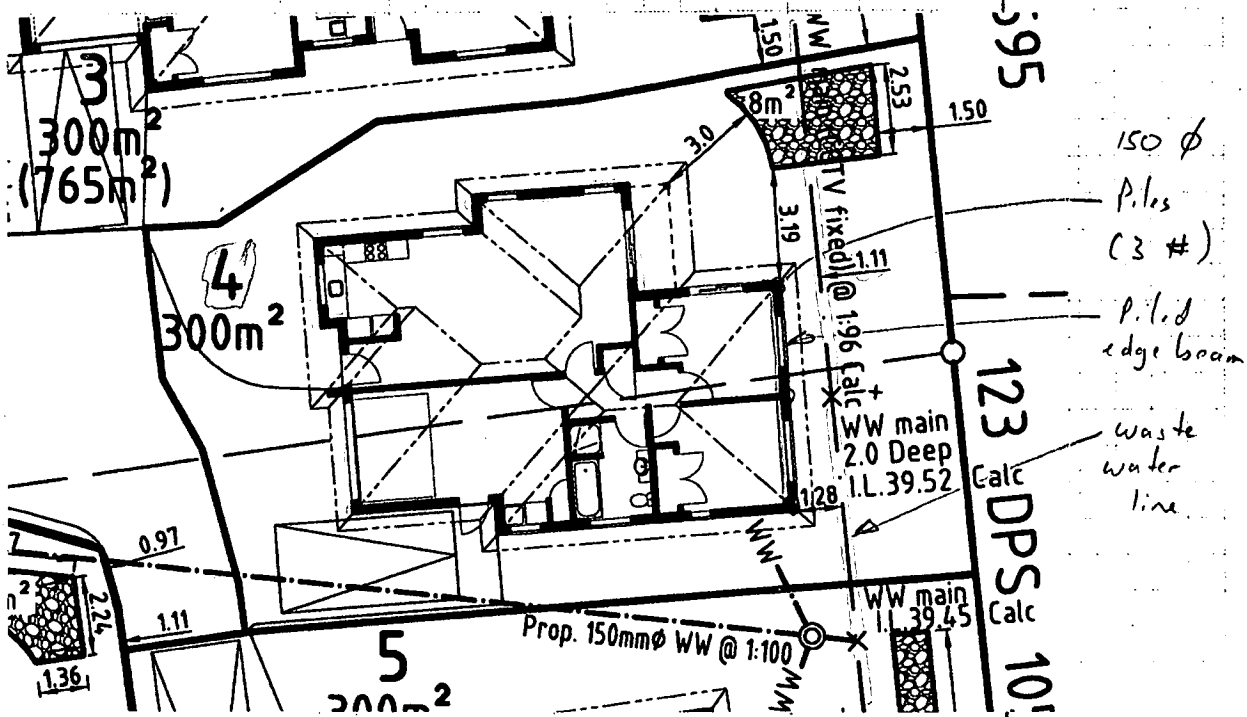
DCP - MULTIPLE LOGS HORIZONTAL SCALALOG.GPJ BASE.GDT 29/04/10

08/06/2005

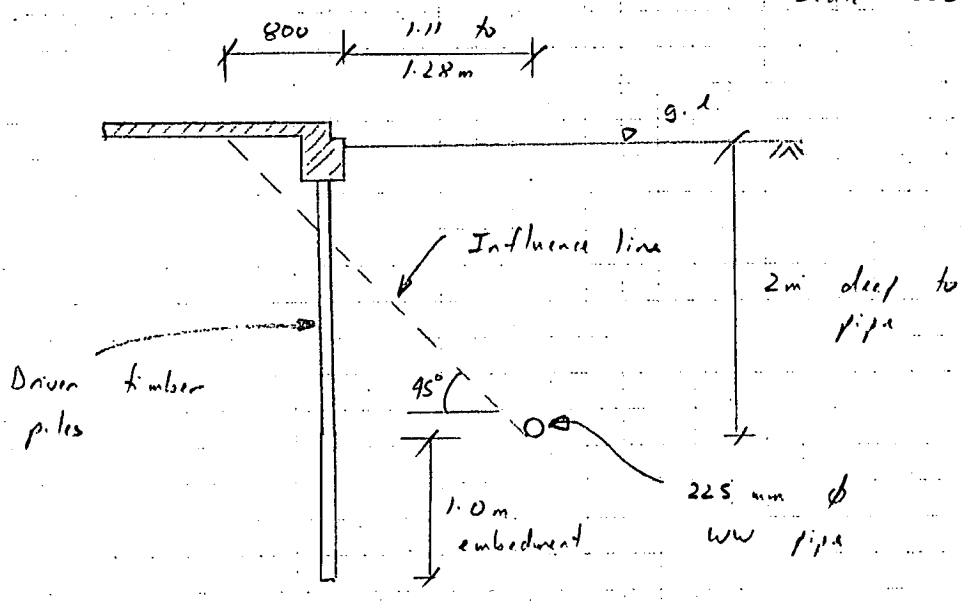
AECOM

Job Title	8 & 10 Yorkshire Road		
Job No.	60153884	Calculation No.	
Originator	CSJ	Date	29/4/10
Reviewer		Date	
Scale		Sheet No.	8 of

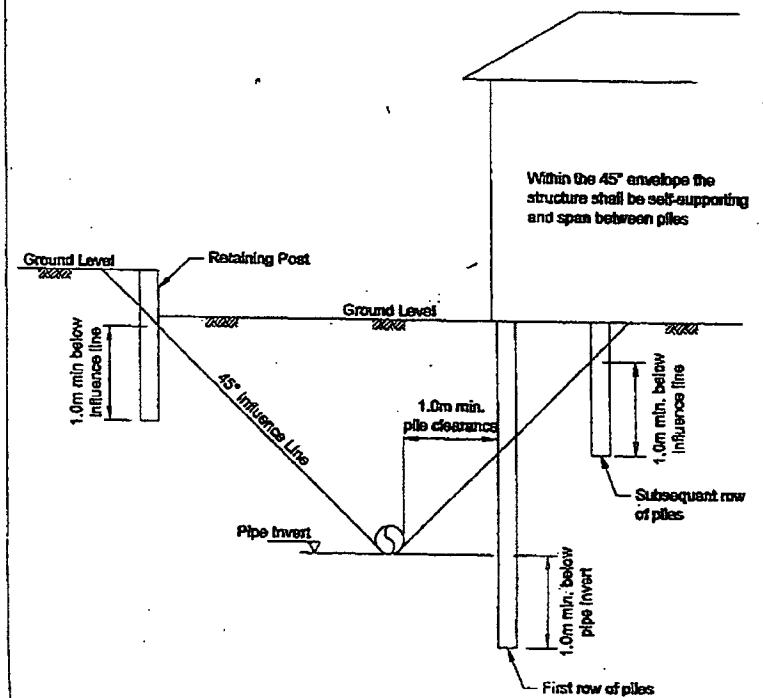
Unit (4) : Piled Foundation



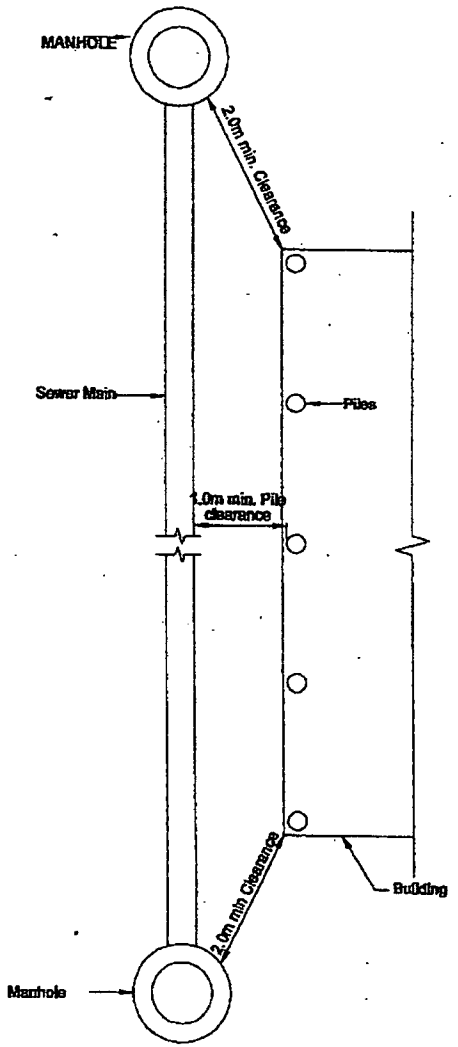
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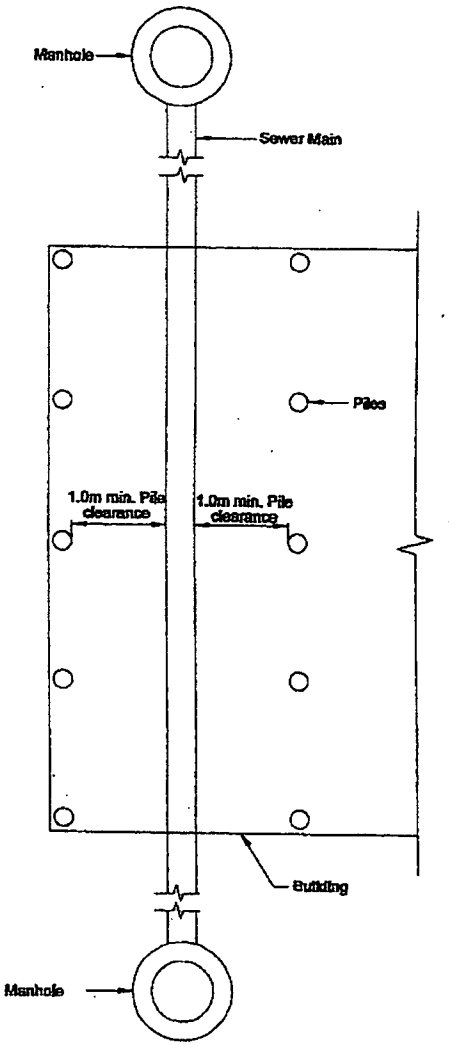
Scale 1:50



ELEVATION



PLAN
BUILDING ADJACENT TO A SEWER



PLAN
BUILDING OVER A SEWER

NOTES

1. Construction over a Drainage Pipeline must not occur unless approved by HCC Engineers.
2. Where it has been approved, the following apply:
   - Prior to construction the pipeline to be covered, shall be CCTV surveyed to assess integrity
   - There shall be no buildings located over manholes and connections
   - There shall be no structural load placed on the pipeline
   - Piles (if used) should be a minimum of 1.0m clear of pipelines
   - Council may require the drainage pipeline to be relaid. This is at the discretion of HCC Engineers

HAMILTON CITY COUNCIL
WORKS & SERVICES GROUP
WATER & WASTE SERVICES

P[redacted]ccmap\standards\tech spec\drainage\dwgs.dgn

GUIDELINES FOR BUILDING OVER AN[redacted]DJACENT TO DRAINAGE[redacted]..ELINES

DEVELOPMENT MANUAL
TS 410
Approved: WWS Ma[redacted]
Version: August 2007

AECOM

Job Title	8 & 10 Yorkshire Road		
Job No.	60 153 909	Calculation No.	
Originator	CH	Date	27/4/10
Reviewer		Date	
Scale		Sheet No.	10 of

As can be seen from the sketch details on page 8, the extended footings on the north eastern side of Unit 4 will need to be piled so that comply with the HCC requirements.

Design of the floor slab, edge beam & support piles is required

Loads

Roof	D_L =	0.46 kPa	× 3m/2 =	0.7 kN/m
"	L_L =	0.25 kPa	× 3m/2 =	0.38 kN/m
Wall	D_L =	2.2 kN/m	× 2.4m =	5.3 kN/m
Slab	D_L =	0.1 × 24 =	2.4 kPa	
Floor	L_L =	1.5 kPa		
Footing	D_L =	0.30 × 0.4 × 24 =		2.9 kN/m

Slab Design

$U = 1.2G + 1.5Q$

$= 1.2(2.4) + 1.5(1.5) = 5.1$ kPa

$A_s = G + \psi_3 Q = 2.4 + 0.7(1.5) = 3.5$ kPa

100mm slab
20 MPa
665 mesh
(centre)

$f'_c = 20$ MPa

Span = 1m

From attached print-out (sheets 11 & 12)

a 100mm slab with 665 mesh (centre) is OK

DOMESTIC PILED SLAB DESIGN

This spreadsheet calculates the reinforcement required for one-way flat slab design.

1. *Ends of spans are simply supported (not fixed)*
2. *Loads are continuous on all spans (not patch loaded)*
3. *Point loads are midspan in end span only*
4. *Check UDL and PL load cases separately*

Design Loads and Actions

Number of continuous slab spans (1, 2, 3, or 4)		=	1	
Centre to centre span	L	=	1.00	m
Slab thickness	h	=	100	mm
Check NZS3101 one-way span requirements	L/?	=	18	
Minimum thickness	h_{min}	=	56	mm

h > minimum slab thickness for one-way span slab - OK

DL

Factored ULS uniformly distributed load, UDL	UDL	=	5.10	kN/m
UDL load case maximum design moment	M* (Top)	=	0.00	kNm
	M* (Bot)	=	0.64	kNm
UDL load case maximum design shear	V*	=	2.55	kNm
SLS uniformly distributed load, UDL	UDL	=	3.50	kN/m
	M_s (Top)	=	0.00	kNm
	M_s (Bot)	=	0.44	kNm

PL (Additional to UDL)

Factored ULS point load	PL	=	0.00	kN
For load applied midspan, the contributing width at the support	B	=	0.70	m
Equivalent 1.0m width point load	PL	=	0.00	kN
PL load case maximum design moment	M* (Top)	=	0.00	kNm
	M* (Bot)	=	0.00	kNm
PL load case maximum design shear	V*	=	0.00	kNm
SLS point load	PL	=	0.00	kN
	M_s (Top)	=	0.00	kNm
	M_s (Bot)	=	0.00	kNm

Slab Capacity

Concrete strength	f'_c	=	20	MPa
Design width	b	=	1000	mm
Reinforcement			665M	
Area of reinforcement	A_s	=	145	mm^2
Minimum area of reinforcement, $As = \frac{\sqrt{f'c}\ b_w\ d}{4f_y}$	$A_{s(min)}$	=	115	mm^2

As > As(min) - OK

Yield strength of reinforcement	fy	=	485	MPa
Depth from top of slab to centroid of reinforcement	d	=	50	mm

Slab flexural capacity

$\varnothing M_n = \varnothing A_s f_y (d - {}^a/_2)$ $\quad a =$ 4.1 mm

$\varnothing M_n$ (Top)	=	2.87	kNm	
$\varnothing M_n$ (Bot)	=	2.87	kNm	

M* (Top)	=	0.00 kNm	<	$\varnothing M_n$ (Top)	=	2.87 kNm **OK**
M* (Bot)	=	0.64 kNm	<	$\varnothing M_n$ (Bot)	=	2.87 kNm **OK**

Check $M_s < k_1 \sqrt{f'_c} Z_t$ for minimum slab thickness for deflection

k_1 = 1.2

$k_1 \sqrt{f'_c} Z_t$

Top = 2.24 kNm

Bot = 2.24 kNm

M* (Top) = 0.00 kNm < $\varnothing M_n$ (Top) = 2.24 kNm **OK**

M* (Bot) = 0.44 kNm < $\varnothing M_n$ (Bot) = 2.24 kNm **OK**

Slab shear capacity

$v_c = (0.07 + 10p) \sqrt{f'_c}$ $0.08 \sqrt{f'_c} = 0.36$ MPa

$0.2 \sqrt{f'_c} = 0.89$ MPa

v_c (Top) = 0.44 MPa

$\varnothing V_c = \varnothing v_c A_{vc}$

$\varnothing V_c$ (Top) = 16.60 kN

V* (Top) = 2.55 kNm < $\frac{\varnothing V_c \text{ (Top)}}{2}$ = 8.30 kNm **OK**

v_c (Bot) = 0.44 MPa

$\varnothing V_c$ (Bot) = 16.60 kN

V* (Bot) = 2.55 kNm < $\frac{\varnothing V_c \text{ (Top)}}{2}$ = 8.30 kNm **OK**

Beam Design Loads

	Beam Line					
	1	2	3	4	5	
UDL	2.6	2.6	0.0	0.0	0.0	kN/m
PL	0.0	0.0	0.0	0.0	0.0	kN/m
TOTAL	**2.6**	**2.6**	**0.0**	**0.0**	**0.0**	kN/m

Equal Span Continuous Beams UDL

	1	2	3	4	5	Sum
	0.5	0.5				
Reaction	2.55	2.55				5.10
M* Top	0					
M* Bot	0.64					
V* max	2.55					
	0.375	1.25	0.375			
Reaction	1.91	6.38	1.91			10.20
M* Top	0.64					
M* Bot	0.36					
V* max	3.188					
	0.4	1.1	1.1	0.4		
Reaction	2.04	5.61	5.61	2.04		15.30
M* Top	0.51					
M* Bot	0.41					
V* max	3.06					
	0.393	1.143	0.929	1.143	0.393	
Reaction	2.00	5.83	4.74	5.83	2.00	20.41
M* Top	0.55					
M* Bot	0.39					
V* max	3.096					

Equal Span Continuous Beams Central Point Load

	1	2	3	4	5	Sum
	0.5	0.5				
Reaction	0.00	0.00				0.00
M* Top	0					
M* Bot	0.00					
V* max	0.00					
	0.406	0.688	-0.094			
Reaction	0.00	0.00	0.00			0.00
M* Top	0.00					
M* Bot	0.00					
V* max	0.00					
	0.4	0.725	-0.15	0.025		
Reaction	0.00	0.00	0.00	0.00		0.00
M* Top	0.00					
M* Bot	0.00					
V* max	0.00					
	0.4	0.728	-0.161	0.04	-0.007	
Reaction	0.00	0.00	0.00	0.00	0.00	0.00
M* Top	0.00					
M* Bot	0.00					
V* max	0.00					

AECOM

Job Title	8 & 10 Warlestone Road		
Job No.	60 153 884	Calculation No.	
Originator	CSJ	Date	29/4/10
Reviewer		Date	
Scale		Sheet No.	13 of

Edge Beam

Beam = 2 span continuous
Span = 3.0m

Loads

U: 1.2G + 1.5Q

: 1.2(0.3 × 5.3 + 2.4 kPa × 1.0/2 + 2.9)
+ 1.5(0.38 + 1.5 kPa × 1.0/2)

: 13.2 kN/m

A: G + ψ Q

: (0.3 × 5.3 × 1.2 + 2.0) + 0.3(0.38 + 0.75)

: 10.9 kN/m

d: 400 − 50 − 10 − 16/2 = 332 mm

From spreadsheet output, OK to use a 400 deep beam × 300 wide reinforced with 1-HD16 typ & 6 Hbm

400 deep × 300 wide

1-HD16 typ
1-HD16 bottom

R10-250 cts

DOMESTIC PILED BEAM DESIGN

This spreadsheet calculates the reinforcement required for one-way flat slab beam design.

1. *Ends of spans are simply supported (not fixed)*
2. *Loads are continuous on all spans (not patch loaded)*
3. *Point loads are midspan in end span only for flexure and over a pile for shear and pile load*
4. *Check UDL and PL load cases separately*

Design Loads and Actions

Number of continuous beam spans (1, 2, 3, or 4)		=	2	
Centre to centre span	L	=	3.00	m
Beam depth	h	=	400	mm
Check NZS3101 one-way span requirements	L/?	=	20	
Minimum thickness	h_{min}	=	150	mm
h > minimum slab thickness for one-way span slab - OK				

UDL

Factored ULS uniformly distributed load, UDL	UDL	=	13.80	kN/m
UDL load case maximum design moment	M* (Top)	=	15.53	kNm
	M* (Bot)	=	8.69	kNm
UDL load case maximum design shear	V*	=	25.88	kNm
SLS uniformly distributed load, UDL	UDL	=	10.90	kN/m
	M_s (Top)	=	12.26	kNm
	M_s (Bot)	=	6.87	kNm

PL (Additional to UDL)

Factored ULS point load	PL	=	0.00	kN
PL load case maximum design moment	M* (Top)	=	0.00	kNm
	M* (Bot)	=	0.00	kNm
PL load case maximum design shear	V*	=	0.00	kNm
SLS point load	PL	=	0.00	kN
	M_s (Top)	=	0.00	kNm
	M_s (Bot)	=	0.00	kNm

Beam Capacity

Concrete strength	f'_c	=	20	MPa
Width	b	=	300	mm
Tension reinforcement (same to be placed top and bottom)			HD16	
Area of tension reinforcement	A_s	=	201	mm²
Yield strength of reinforcement	fy	=	500	MPa
Depth from top of beam (slab) to centroid of bottom reinforcement	d	=	332	mm
Depth from bottom of beam to centroid of top reinforcement	d	=	332	mm

Beam flexural capacity

$\varnothing M_n = \varnothing A_s f_y (d - {}^{a}/_{2})$ a = 19.7 mm

$\varnothing M_n$ (Top)	=	27.52	kNm	
$\varnothing M_n$ (Bot)	=	27.52	kNm	

1.3 M* (Top)	=	20.18 kNm	<	$\varnothing M_n$ (Top) =	27.52 kNm	**OK**
1.3 M* (Bot)	=	11.30 kNm	<	$\varnothing M_n$ (Bot) =	27.52 kNm	**OK**

Check $M_s < k_1 \sqrt{f'_c} Z_t$

k_1	=	1.0		
$k_1 \sqrt{f'_c} Z_t$ Top	=	24.65	kNm	
Bot	=	24.65	kNm	

M* (Top)	=	12.26 kNm	<	$\varnothing M_n$ (Top)	=	24.65 kNm	OK
M* (Bot)	=	6.87 kNm	<	$\varnothing M_n$ (Bot)	=	24.65 kNm	OK

Beam shear capacity

$v_c = (0.07 + 10p)\sqrt{f'_c}$ $\quad 0.08\sqrt{f'_c} = 0.36$ MPa $\quad 0.2\sqrt{f'_c} = 0.89$ MPa

v_c (Top) = 0.40 MPa

$\varnothing V_c = \varnothing v_c A_{vc}$

$\varnothing V_c$ (Top) = 30.13 kN

V* (Top) = 25.88 kNm < $\varnothing V_c$ (Top) = 30.13 kNm

Minimum shear reinforcement required

v_c (Bot) = 0.40 MPa

$\varnothing V_c$ (Bot) = 30.13 kN

V* (Bot) = 25.88 kNm > $\varnothing V_c$ (Top) = 30.13 kNm

Minimum shear reinforcement required

Maximum spacing of shear reinforcement: s = 250 mm

Minimum area of shear reinforcement, $A_v = \frac{1}{16}\sqrt{f'_c}\,\frac{b_w s}{f_{yt}}$: A_v = 70 mm

Shear reinforcement = 1 leg R10

Area of shear reinforcement: A_s = 79 mm

OK with minimum shear reinforcement

Pile Design Loads

		Pile Line					
		1	2	3	4	5	
UDL		15.5	51.8	15.5	0.0	0.0	kN/m
PL		0.0	0.0	0.0	0.0	0.0	kN/m
TOTAL		15.5	51.8	15.5	0.0	0.0	kN/m

Equal Span Continuous Beams UDL

	1	2	3	4	5	Sum
	0.5	0.5				
Reaction	20.70	20.70				41.40
M* Top	0					
M* Bot	15.53					
V* max	20.70					
	0.375	1.25	0.375			
Reaction	15.53	51.75	15.53			82.80
M* Top	15.53					
M* Bot	8.69					
V* max	25.88					
	0.4	1.1	1.1	0.4		
Reaction	16.56	45.54	45.54	16.56		124.20
M* Top	12.42					
M* Bot	9.94					
V* max	24.84					
	0.393	1.143	0.929	1.143	0.393	
Reaction	16.27	47.32	38.46	47.32	16.27	165.64
M* Top	13.29					
M* Bot	9.56					
V* max	25.13					

Equal Span Continuous Beams Central Point Load

	1	2	3	4	5	Sum
	0.5	0.5				
Reaction	0.00	0.00				0.00
M* Top	0					
M* Bot	0.00					
V* max	0.00					
	0.406	0.688	-0.094			
Reaction	0.00	0.00	0.00			0.00
M* Top	0.00					
M* Bot	0.00					
V* max	0.00					
	0.4	0.725	-0.15	0.025		
Reaction	0.00	0.00	0.00	0.00		0.00
M* Top	0.00					
M* Bot	0.00					
V* max	0.00					
	0.4	0.728	-0.161	0.04	-0.007	
Reaction	0.00	0.00	0.00	0.00	0.00	0.00
M* Top	0.00					
M* Bot	0.00					
V* max	0.00					

AECOM

Job Title	Q s 10 Yorkshire Road		
Job No.	60153284	Calculation No.	
Originator	CJ	Date	24/9/10
Reviewer		Date	
Scale		Sheet No.	16 of

Driven Timber Piles

Max reaction to be carried : 51.5 kN

$R = \frac{w h \Lambda}{s + c/2}$ $\quad R = \frac{51.5 \times 1.5}{\cdot} = 93.2$ kN

w = 500 kg = 4.9 kN

h = 1000 mm × 0.5 = 500 mm

Λ = 0.5

c/2 = 5 mm

$s = \frac{w h \Lambda}{R} - c/2$

$= 4.9 \cdot 500 \times 0.5 / 93.2 - 5$

$= 28$

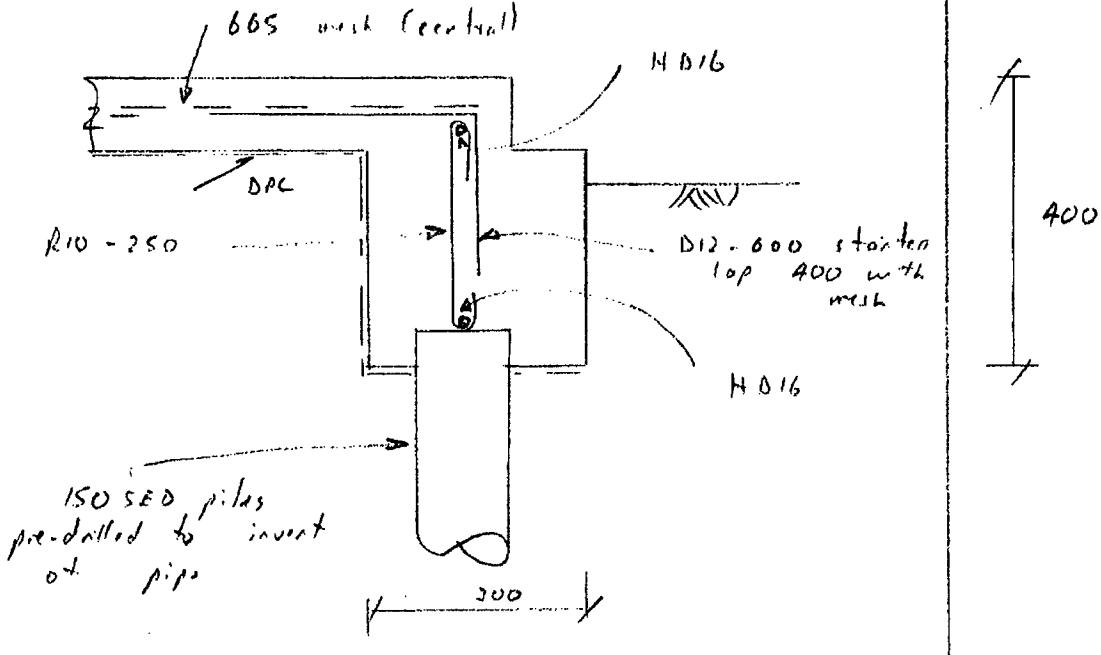
say 25 mm

150 mm SED piles

Pre-drill to pile invert

Drive to a set of 25 mm

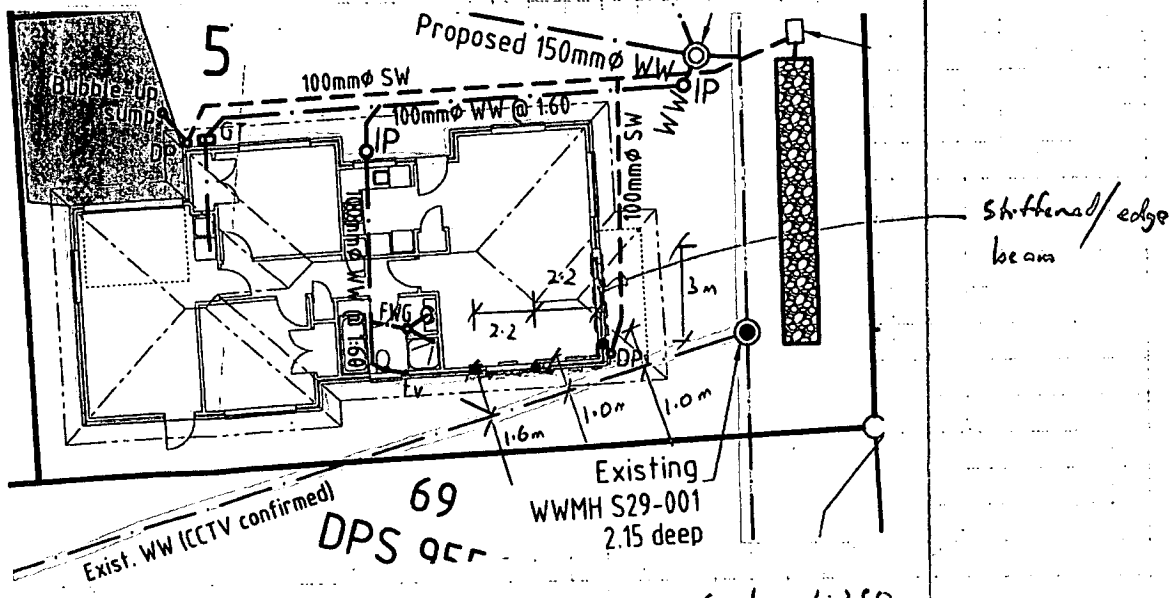
500 kg hammer 1.0 m drop



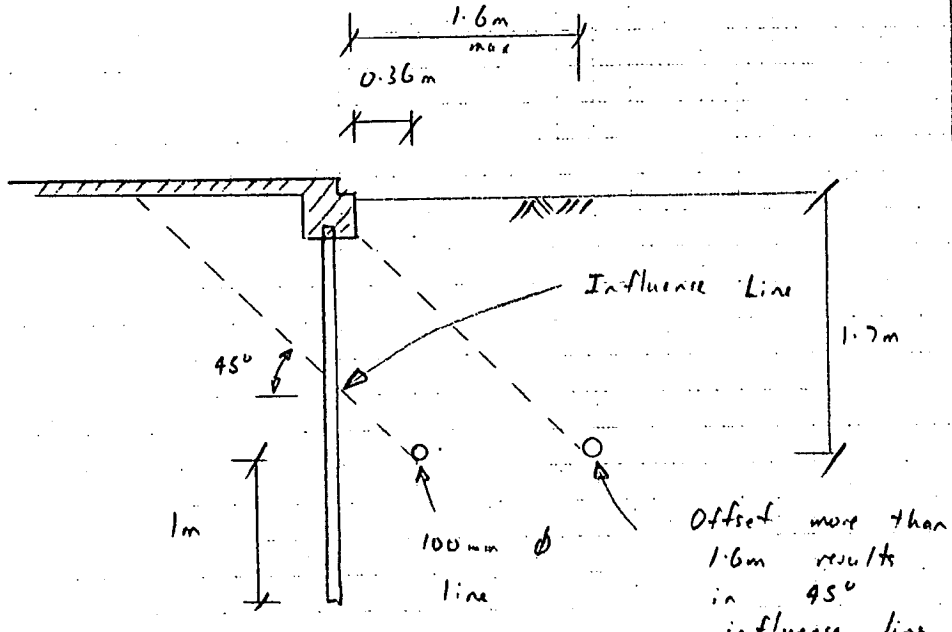
AECOM

Job Title	8 & 10 Yorkshire Road		
Job No.	60153989	Calculation No.	
Originator	CM	Date	5/5/10
Reviewer		Date	
Scale		Sheet No.	19 of

Lot 5 : Piled Foundation



Scale 1:250



Offset more than 1.6m results in 45° influence line missing the foundations

Cross Section

Scale 1:50

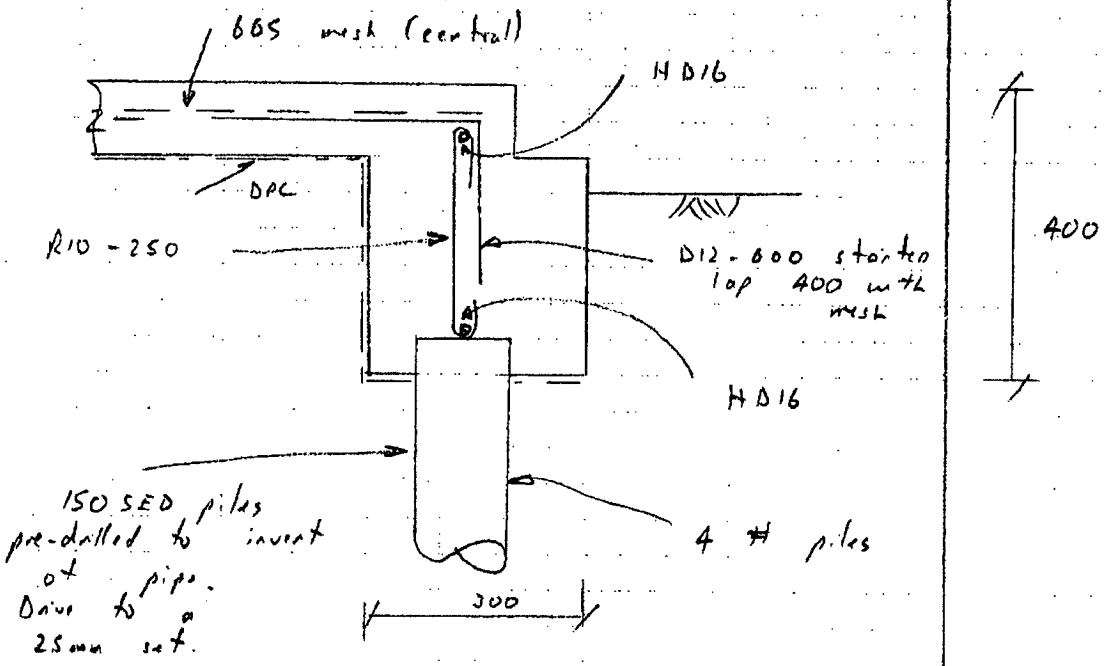
AECOM

Job Title	8 & 10 Yorkshire Road		
Job No.	60153894	Calculation No.	
Originator	CH	Date	5/5/10
Reviewer		Date	
Scale		Sheet No.	20 of

Foundation loads & pile spacings are less than or equal to the spacings used for Unit 4.

∴ O.K to use same pile & reinforcing details as for Unit 4

ie.



GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet A — single storey — V03/09

Job Details

Name	CKC Holdings Ltd House 1 & 2
Street and Number	8 & 10 Yorkshire Road
Lot and DP Number	Lots 61 & 62 DPS 9556 & Lot 2 DP 428322
City/Town/District	Hamilton
Designer	M. Spasovska
Company Name	McPherson Goodwin Surveyors Ltd.
Date	19/04/2010

BRANZ Appraised
Appraisal No.294 [2009]

Select GIB® Lining Option: 10 mm GIB® Plasterboard

Building Specification

		Single Floor	Complete Single Floor Column only
Number of storeys	single		
Floor Loading	2kPa		
Foundation Type	slab		
Cladding Weight		heavy	
Roof Weight		light	
Room in Roof Space		no	
Roof Pitch (degrees)		16	
Roof height above eaves (m)		1.4	
Building height to apex (m)		3.9	
Ground to lower floor level (m)		0.2	
Stud Height (m)		2.4	
Building Length (m)		13.0	
Building Width (m)		9.6	
Building Plan Area (m2)		101	

Building Location

Wind Zone ***Medium***

Select by Building Consent Authority Map or Preference: Medium

Region	Preference selected
Terrain	Preference selected
Exposure	Preference selected
Topography	Preference selected

Earthquake Zone: B

Consult GIB® EzyBrace™ Systems, 2009 for Wind Zone definitions

Bracing Units required for Wind

Demand W (BU)		Walls single
along	slab	349
across	slab	395

Bracing Units required for Earthquake

Demand along / across E (BU)		Walls single
slab		412

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CKC Holdings Ltd M. Spasovska

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet B — Single or Upper Walls Along — V03/09

Along

Bracing Line		*Bracing Elements provided*						*Wind*	*Earthq.*
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
A	45	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2							
line totals		3							
W	83	4							
EQ	66	5							
B	90	1	0.5		2.4	GS1(10)	GIB®	32	28
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	115	4							
EQ	94	5							
C	130	1	0.9		2.4	GS1(10)	GIB®	60	50
	OK	2	1.49		2.4	GS1(10)	GIB®	103	82
line totals		3							
W	163	4							
EQ	131	5							
D	130	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
E	130	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
F	130	1	2.4		2.4	GS1(10)	GIB®	166	132
	OK	2							
line totals		3							
W	166	4							
EQ	132	5							
G	85	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	0.5		2.4	GS1(10)	GIB®	32	28
line totals		3							
W	115	4							
EQ	94	5							
H	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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						Wind	Earthq.
Totals Achieved	Achieved/Demand	W	278%	EQ	190%	972	780
Concrete Slab						*OK*	*OK*
Totals Required (from Demand)						349	412

Wall Bracing Systems
For full construction details see technical literature

Single or Upper Walls Along

Supplier	System	Minimum Length (m)	BUs W/m	BUs EQ/m
	none			
GIB®	GS1(10)	0.4		
GIB®	GS2(10)	0.6		
GIB®	BL1(10)	0.4		
GIB®	BLP	0.4		
GIB®	BLG	0.6		
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

BRANZ Appraised
Appraisal No.294 [2009]

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Concrete Slab

A limit of 150 BU/m applies to solid concrete slabs

Ensure not to enter custom elements with ratings higher than 150 BU/m

Distribution (NZS3604:1999 minimum values)		
Internal wall bracing lines	70	BU
External wall bracing lines	10 x L(m)	BU
Lines supporting diaphragms	100	BU
Recommended distribution check (75% x D/n)		
No bracing line less than	44	BU

GIB® Wall Bracing Calculation Sheet B — Single or Upper Walls Across — V03/09

Across

Bracing Line		*Bracing Elements provided*						*Wind*	*Earthq.*
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
M	65	1	0.6		2.4	GS1(10)	GIB®	39	33
	OK	2	0.7		2.4	GS1(10)	GIB®	46	39
line totals		3							
W	84	4							
EQ	72	5							
N	96	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
O	96	1	2.4		2.4	GS1(10)	GIB®	166	132
	OK	2							
line totals		3							
W	166	4							
EQ	132	5							
P	96	1	0.9		2.4	GS1(10)	GIB®	60	50
	OK	2	0.86		2.4	GS1(10)	GIB®	57	47
line totals		3							
W	117	4							
EQ	97	5							
Q	65	1	0.69		2.4	GS1(10)	GIB®	45	38
	OK	2	0.6		2.4	GS1(10)	GIB®	39	33
line totals		3							
W	84	4							
EQ	71	5							
R	80	1	0.6		2.4	GS1(10)	GIB®	39	33
	OK	2	0.4		2.4	GS1(10)	GIB®	25	22
line totals		3	0.5		2.4	GS1(10)	GIB®	32	28
W	96	4							
EQ	83	5							
S	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
T	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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						Wind	Earthq.
Totals Achieved	Achieved/Demand	W	180%	EQ	142%	712	586
Concrete Slab						*OK*	*OK*
Totals Required (from Demand)						395	412

Wall Bracing Systems
For full construction details see technical literature

Single or Upper Walls Across

Supplier	System	Minimum Length (m)	BUs W/m	BUs EQ/m
	none			
GIB®	GS1(10)	0.4	Bracing metre v length	
GIB®	GS2(10)	0.6		
GIB®	BL1(10)	0.4		
GIB®	BLP	0.4		
GIB®	BLG	0.6		
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

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Concrete Slab

A limit of 150 BU/m applies to solid concrete slabs

Ensure not to enter custom elements with ratings higher than 150 BU/m

Distribution (NZS3604:1999 minimum values)		
Internal wall bracing lines	70	BU
External wall bracing lines	10 x L(m)	BU
Lines supporting diaphragms	100	BU
Recommended distribution check (75% x D/n)		
No bracing line less than	51	BU

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet A — single storey — V03/09

Job Details

Name	CKC Holdings Ltd House 3
Street and Number	8 & 10 Yorkshire Road
Lot and DP Number	Lots 61 & 62 DPS 9556 & Lot 2 DP 428322
City/Town/District	Hamilton
Designer	M. Spasovska
Company Name	McPherson Goodwin Surveyors Ltd.
Date	20/04/2010

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Select GIB® Lining Option: 10 mm GIB® Plasterboard

Building Specification

		Single Floor	Complete Single Floor Column only
Number of storeys	single		
Floor Loading	2kPa		
Foundation Type	slab		
Cladding Weight		heavy	
Roof Weight		light	
Room in Roof Space		no	
Roof Pitch (degrees)		16	
Roof height above eaves (m)		1.3	
Building height to apex (m)		3.8	
Ground to lower floor level (m)		0.2	
Stud Height (m)		2.4	
Building Length (m)		14.9	
Building Width (m)		7.6	
Building Plan Area (m2)		101	

Building Location

Wind Zone ***Medium***

Select by Building Consent Authority Map or Preference: Medium

Region	Preference selected
Terrain	Preference selected
Exposure	Preference selected
Topography	Preference selected

Earthquake Zone: B

Consult GIB® EzyBrace™ Systems, 2009 for Wind Zone definitions

Bracing Units required for Wind

Demand W (BU)		Walls single
along	slab	270
across	slab	435

Bracing Units required for Earthquake

Demand along / across E (BU)		Walls single
slab		413

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GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet B — Single or Upper Walls Along — V03/09

Along

Bracing Line		*Bracing Elements provided*						*Wind*	*Earthq.*
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
A	70	1	0.9		2.4	GS1(10)	GIB®	60	50
	OK	2	0.5		2.4	GS1(10)	GIB®	32	28
line totals		3							
W	92	4							
EQ	77	5							
B	90	1	0.6		2.4	GS1(10)	GIB®	39	33
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	122	4							
EQ	99	5							
C	70	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	0.5		2.4	GS1(10)	GIB®	32	28
line totals		3							
W	115	4							
EQ	94	5							
D	70	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
E	150	1	0.6		2.4	GS1(10)	GIB®	39	33
	OK	2	0.9		2.4	GS1(10)	GIB®	60	50
line totals		3	0.9		2.4	GS1(10)	GIB®	60	50
W	198	4	0.6		2.4	GS1(10)	GIB®	39	33
EQ	165	5							
F	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
G	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
H	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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						Wind	Earthq.
Totals Achieved	Achieved/Demand	W	256%	EQ	137%	691	567
Concrete Slab						*OK*	*OK*
Totals Required (from Demand)						270	413

CKC Holdings Ltd M. Spasovska

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet B — Single or Upper Walls Across — V03/09

Across

Bracing Line		*Bracing Elements provided*						*Wind*	*Earthq.*
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
M	65	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
N	80	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
O	80	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
P	75	1	0.6		2.4	GS1(10)	GIB®	39	33
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	122	4							
EQ	99	5							
Q	80	1	0.88		2.4	GS1(10)	GIB®	59	48
	OK	2	1.1		2.4	GS1(10)	GIB®	75	61
line totals		3							
W	134	4							
EQ	109	5							
R	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
S	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
T	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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						Wind	Earthq.
Totals Achieved	Achieved/Demand	W	173%	EQ	146%	752	604
Concrete Slab						*OK*	*OK*
Totals Required (from Demand)						435	413

Wall Bracing Systems
For full construction details see technical literature

Single or Upper Walls Across

Supplier	System	Minimum Length (m)	BUs W/m	BUs EQ/m
	none			
GIB®	GS1(10)	0.4	Bracing metre length	
GIB®	GS2(10)	0.6		
GIB®	BL1(10)	0.4		
GIB®	BLP	0.4		
GIB®	BLG	0.6		
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

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Concrete Slab

A limit of 150 BU/m applies to solid concrete slabs

Ensure not to enter custom elements with ratings higher than 150 BU/m

Distribution (NZS3604:1999 minimum values)		
Internal wall bracing lines	70	BU
External wall bracing lines	10 x L(m)	BU
Lines supporting diaphragms	100	BU
Recommended distribution check (75% x D/n)		
No bracing line less than	65	BU

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet A — single storey — V03/09

Job Details

Name	CKC Holdings Ltd House 4
Street and Number	8 & 10 Yorkshire Road
Lot and DP Number	Lots 61 & 62 DPS 9556 & Lot 2 DP 428322
City/Town/District	Hamilton
Designer	M. Spasovska
Company Name	McPherson Goodwin Surveyors Ltd.
Date	19/04/2010

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Select GIB® Lining Option: 10 mm GIB® Plasterboard

Building Specification

		Single Floor	Complete Single Floor Column only
Number of storeys	single		
Floor Loading	2kPa		
Foundation Type	slab		
Cladding Weight		heavy	
Roof Weight		light	
Room in Roof Space		no	
Roof Pitch (degrees)		16	
Roof height above eaves (m)		1.4	
Building height to apex (m)		3.9	
Ground to lower floor level (m)		0.2	
Stud Height (m)		2.4	
Building Length (m)		13.0	
Building Width (m)		9.6	
Building Plan Area (m2)		101	

Building Location

Wind Zone ***Medium***

Select by Building Consent Authority Map or Preference: Medium
Region: Preference selected
Terrain: Preference selected
Exposure: Preference selected
Topography: Preference selected

Earthquake Zone: B

Consult GIB® EzyBrace™ Systems, 2009 for Wind Zone definitions

Bracing Units required for Wind

Demand W (BU)		Walls single
along	slab	349
across	slab	395

Bracing Units required for Earthquake

Demand along / across E (BU)		Walls single
slab		412

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GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet B — Single or Upper Walls Along — V03/09

Along

Bracing Line		*Bracing Elements provided*						*Wind*	*Earthq.*
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
A	45	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2							
line totals		3							
W	83	4							
EQ	66	5							
B	90	1	1.2		2.4	GS1(10)	GIB®	83	66
	not enough	2	0.4		2.4	GS1(10)	GIB®	25	22
line totals		3							
W	108	4							
EQ	88	5							
C	130	1	1.49		2.4	GS1(10)	GIB®	103	82
	OK	2	0.9		2.4	GS1(10)	GIB®	60	50
line totals		3							
W	163	4							
EQ	131	5							
D	130	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
E	130	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
F	130	1	2.4		2.4	GS1(10)	GIB®	166	132
	OK	2							
line totals		3							
W	166	4							
EQ	132	5							
G	85	1	0.5		2.4	GS1(10)	GIB®	32	28
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	115	4							
EQ	94	5							
H	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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						Wind	Earthq.
Totals Achieved	Achieved/Demand	W	276%	EQ	188%	965	775
Concrete Slab						*OK*	*OK*
Totals Required (from Demand)						349	412

Wall Bracing Systems
For full construction details see technical literature

Single or Upper Walls Along

Supplier	System	Minimum Length (m)	BUs W/m	BUs EQ/m
	none			
GIB®	GS1(10)	0.4		
GIB®	GS2(10)	0.6		
GIB®	BL1(10)	0.4		
GIB®	BLP	0.4		
GIB®	BLG	0.6		
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

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Concrete Slab

A limit of 150 BU/m applies to solid concrete slabs

Ensure not to enter custom elements with ratings higher than 150 BU/m

Distribution (NZS3604:1999 minimum values)		
Internal wall bracing lines	70	BU
External wall bracing lines	10 x L(m)	BU
Lines supporting diaphragms	100	BU
Recommended distribution check (75% x D/n)		
No bracing line less than	44	BU

CKC Holdings Ltd M. Spasovska

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet B — Single or Upper Walls Across — V03/09

Across

Bracing Line		Bracing Elements provided						Wind	Earthq.
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
M	80	1	0.6		2.4	GS1(10)	GIB®	39	33
	OK	2	0.4		2.4	GS1(10)	GIB®	25	22
line totals		3	0.5		2.4	GS1(10)	GIB®	32	28
W	96	4							
EQ	83	5							
N	51	1	0.69		2.4	GS1(10)	GIB®	45	38
	OK	2	0.6		2.4	GS1(10)	GIB®	39	33
line totals		3							
W	84	4							
EQ	71	5							
O	96	1	0.9		2.4	GS1(10)	GIB®	60	50
	OK	2	0.86		2.4	GS1(10)	GIB®	57	47
line totals		3							
W	117	4							
EQ	97	5							
P	96	1	2.4		2.4	GS1(10)	GIB®	166	132
	OK	2			2.4	GS1(10)	GIB®		
line totals		3							
W	166	4							
EQ	132	5							
Q	96	1	0.9		2.4	GS1(10)	GIB®	60	50
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	143	4							
EQ	116	5							
R	65	1	0.6		2.4	GS1(10)	GIB®	39	33
	OK	2	0.75		2.4	GS1(10)	GIB®	49	41
line totals		3							
W	88	4							
EQ	74	5							
S	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
T	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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						Wind	Earthq.
Totals Achieved	Achieved/Demand	W	176%	EQ	139%	693	572
Concrete Slab						*OK*	*OK*
Totals Required (from Demand)						395	412

Wall Bracing Systems
For full construction details see technical literature

Single or Upper Walls Across

Supplier	System	Minimum Length (m)	BUs W/m	BUs EQ/m
	none			
GIB®	GS1(10)	0.4	Bracing metre length	
GIB®	GS2(10)	0.6		
GIB®	BL1(10)	0.4		
GIB®	BLP	0.4		
GIB®	BLG	0.6		
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

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Concrete Slab

A limit of 150 BU/m applies to solid concrete slabs

Ensure not to enter custom elements with ratings higher than 150 BU/m

Distribution (NZS3604:1999 minimum values)		
Internal wall bracing lines	70	BU
External wall bracing lines	10 x L(m)	BU
Lines supporting diaphragms	100	BU
Recommended distribution check (75% x D/n)		
No bracing line less than	51	BU

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet A — single storey — V03/09

Job Details

Name	CKC Holdings Ltd House 5
Street and Number	8 & 10 Yorkshire Road
Lot and DP Number	Lots 61 & 62 DPS 9556 & Lot 2 DP 428322
City/Town/District	Hamilton
Designer	M. Spasovska
Company Name	McPherson Goodwin Surveyors Ltd.
Date	20/04/2010

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Select GIB® Lining Option: 10 mm GIB® Plasterboard

Building Specification

		Single Floor	Complete Single Floor Column only
Number of storeys	single		
Floor Loading	2kPa		
Foundation Type	slab		
Cladding Weight		heavy	
Roof Weight		light	
Room in Roof Space		no	
Roof Pitch (degrees)		16	
Roof height above eaves (m)		1.3	
Building height to apex (m)		3.8	
Ground to lower floor level (m)		0.2	
Stud Height (m)		2.4	
Building Length (m)		14.9	
Building Width (m)		7.6	
Building Plan Area (m2)		101	

Building Location

Wind Zone ***Medium***

Select by Building Consent Authority Map or Preference: Medium

Region	Preference selected
Terrain	Preference selected
Exposure	Preference selected
Topography	Preference selected

Earthquake Zone: B

Consult GIB® EzyBrace™ Systems, 2009 for Wind Zone definitions

Bracing Units required for Wind

Demand W (BU)		Walls single
along	slab	270
across	slab	435

Bracing Units required for Earthquake

Demand along / across E (BU)		Walls single
slab		413

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CKC Holdings Ltd

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GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet B — Single or Upper Walls Along

V03/09

Along

Bracing Line		Bracing Elements provided						Wind	Earthq.
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
A	70	1	0.5		2.4	GS1(10)	GIB®	32	28
	OK	2	0.9		2.4	GS1(10)	GIB®	60	50
line totals		3							
W	92	4							
EQ	77	5							
B	90	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	0.6		2.4	GS1(10)	GIB®	39	33
line totals		3							
W	122	4							
EQ	99	5							
C	70	1	0.5		2.4	GS1(10)	GIB®	32	28
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	115	4							
EQ	94	5							
D	70	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
E	150	1	0.6		2.4	GS1(10)	GIB®	39	33
	OK	2	0.9		2.4	GS1(10)	GIB®	60	50
line totals		3	0.9		2.4	GS1(10)	GIB®	60	50
W	198	4	0.6		2.4	GS1(10)	GIB®	39	33
EQ	165	5							
F	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
G	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
H	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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						Wind	Earthq.
Totals Achieved	Achieved/Demand	W	256%	EQ	137%	691	567
Concrete Slab						*OK*	*OK*
Totals Required (from Demand)						270	413

Wall Bracing Systems
For full construction details see technical literature

Single or Upper Walls Along

Supplier	System	Minimum Length (m)	BUs W/m	BUs EQ/m
	none			
GIB®	GS1(10)	0.4		
GIB®	GS2(10)	0.6		
GIB®	BL1(10)	0.4		
GIB®	BLP	0.4		
GIB®	BLG	0.6		
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

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Concrete Slab

A limit of 150 BU/m applies to solid concrete slabs

Ensure not to enter custom elements with ratings higher than 150 BU/m

Distribution (NZS3604:1999 minimum values)		
Internal wall bracing lines	70	BU
External wall bracing lines	10 x L(m)	BU
Lines supporting diaphragms	100	BU
Recommended distribution check (75% x D/n)		
No bracing line less than	62	BU

CKC Holdings Ltd

M. Spasovska

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet B — Single or Upper Walls Across

V03/09

Across

Bracing Line		Bracing Elements provided						Wind	Earthq.
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
M	80	1	0.88		2.4	GS1(10)	GIB®	59	48
	OK	2	1.1		2.4	GS1(10)	GIB®	75	61
line totals		3							
W	134	4							
EQ	109	5							
N	75	1	0.6		2.4	GS1(10)	GIB®	39	33
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	122	4							
EQ	99	5							
O	80	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
P	80	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
Q	65	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
R	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
S	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
T	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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						Wind	Earthq.
Totals Achieved	Achieved/Demand	W	173%	EQ	146%	752	604
Concrete Slab						*OK*	*OK*
Totals Required (from Demand)						435	413

Wall Bracing Systems
For full construction details see technical literature

Single or Upper Walls Across

Supplier	System	Minimum Length (m)	BUs W/m	BUs EQ/m
	none			
GIB®	GS1(10)	0.4	Bracing metre v length	
GIB®	GS2(10)	0.6		
GIB®	BL1(10)	0.4		
GIB®	BLP	0.4		
GIB®	BLG	0.6		
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

BRANZ Apprais
Appraisal No.294 [20

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Concrete Slab

A limit of 150 BU/m applies to solid concrete slabs

Ensure not to enter custom elements with ratings higher than 150 BU/m

Distribution (NZS3604:1999 minimum values)		
Internal wall bracing lines	70	BU
External wall bracing lines	10 x L(m)	BU
Lines supporting diaphragms	100	BU
Recommended distribution check (75% x D/n)		
No bracing line less than	65	BU

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet A — single storey — V03/09

Job Details

Name	CKC Holdings Ltd House 6 & 7
Street and Number	8 & 10 Yorkshire Road
Lot and DP Number	Lots 61 & 62 DPS 9556 & Lot 2 DP 428322
City/Town/District	Hamilton
Designer	M. Spasovska
Company Name	McPherson Goodwin Surveyors Ltd.
Date	20/04/2010

BRANZ Appraised
Appraisal No.294 [2009]

Select GIB® Lining Option: 10 mm GIB® Plasterboard

Building Specification

		Single Floor	Complete Single Floor Column only
Number of storeys	single		
Floor Loading	2kPa		
Foundation Type	slab		
Cladding Weight		heavy	
Roof Weight		light	
Room in Roof Space		no	
Roof Pitch (degrees)		16	
Roof height above eaves (m)		1.4	
Building height to apex (m)		3.9	
Ground to lower floor level (m)		0.2	
Stud Height (m)		2.4	
Building Length (m)		12.2	
Building Width (m)		11.0	
Building Plan Area (m2)		100	

Building Location

Wind Zone ***Medium***

Select by Building Consent Authority Map or Preference

Region	Preference selected
Terrain	Preference selected
Exposure	Preference selected
Topography	Preference selected

Earthquake Zone: B

Consult GIB® EzyBrace™ Systems, 2009 for Wind Zone definitions

Bracing Units required for Wind

Demand W (BU)		Walls single
along	slab	399
across	slab	371

Bracing Units required for Earthquake

Demand along / across E (BU)		Walls single
slab		409

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CKC Holdings Ltd

M. Spasovska

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet B — Single or Upper Walls Along

V03/09

Along

Bracing Line		Bracing Elements provided						Wind	Earthq.
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
A	80	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	0.8		2.4	GS1(10)	GIB®	53	44
line totals		3							
W	136	4							
EQ	110	5							
B	120	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
C	120	1	1		2.4	GS1(10)	GIB®	68	55
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	150	4							
EQ	121	5							
D	80	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	166	4							
EQ	132	5							
E	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
F	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
G	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
H	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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						Wind	Earthq.
Totals Achieved	Achieved/Demand	W	155%	EQ	121%	617	495
Concrete Slab						*OK*	*OK*
Totals Required (from Demand)						399	409

Wall Bracing Systems
For full construction details see technical literature

Single or Upper Walls Along

Supplier	System	Minimum Length (m)	BUs W/m	BUs EQ/m
	none			
GIB®	GS1(10)	0.4		
GIB®	GS2(10)	0.6		
GIB®	BL1(10)	0.4		
GIB®	BLP	0.4		
GIB®	BLG	0.6		
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

BRANZ Appraised
Appraisal No.294 [2009]

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Concrete Slab

A limit of 150 BU/m applies to solid concrete slabs

Ensure not to enter custom elements with ratings higher than 150 BU/m

Distribution (NZS3604:1999 minimum values)		
Internal wall bracing lines	70	BU
External wall bracing lines	10 x L(m)	BU
Lines supporting diaphragms	100	BU
Recommended distribution check (75% x D/n)		
No bracing line less than	77	BU

CKC Holdings Ltd

M. Spasovska

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009

GIB® Wall Bracing Calculation Sheet B — Single or Upper Walls Across

V03/09

Across

Bracing Line		*Bracing Elements provided*						*Wind*	*Earthq.*
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
M	51	1	1.2		2.4	GS1(10)	GIB®	83	66
	OK	2							
line totals		3							
W	83	4							
EQ	66	5							
N	75	1	1.3		2.4	GS1(10)	GIB®	90	72
	OK	2	0.6		2.4	GS1(10)	GIB®	39	33
line totals		3							
W	128	4							
EQ	105	5							
O	110	1	1		2.4	GS1(10)	GIB®	68	55
	OK	2	1.2		2.4	GS1(10)	GIB®	83	66
line totals		3							
W	150	4							
EQ	121	5							
P	110	1	2.2		2.4	GS1(10)	GIB®	152	121
	OK	2							
line totals		3							
W	152	4							
EQ	121	5							
Q	51	1	1		2.4	GS1(10)	GIB®	68	55
	OK	2	0.7		2.4	GS1(10)	GIB®	46	39
line totals		3							
W	113	4							
EQ	94	5							
R	74	1	0.97		2.4	GS1(10)	GIB®	65	53
	OK	2	0.6		2.4	GS1(10)	GIB®	39	33
line totals		3							
W	104	4							
EQ	86	5							
S	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
T	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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						Wind	Earthq.
Totals Achieved	Achieved/Demand	W	197%	EQ	145%	730	592
Concrete Slab						*OK*	*OK*
Totals Required (from Demand)						371	409

Wall Bracing Systems
For full construction details see technical literature

Single or Upper Walls Across

Supplier	System	Minimum Length (m)	BUs W/m	BUs EQ/m
	none			
GIB®	GS1(10)	0.4	Bracing metre length	
GIB®	GS2(10)	0.6		
GIB®	BL1(10)	0.4		
GIB®	BLP	0.4		
GIB®	BLG	0.6		
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

BRANZ Apprais
Appraisal No.294 [20

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Concrete Slab

A limit of 150 BU/m applies to solid concrete slabs

Ensure not to enter custom elements with ratings higher than 150 BU/m

Distribution (NZS3604:1999 minimum values)		
Internal wall bracing lines	70	BU
External wall bracing lines	10 x L(m)	BU
Lines supporting diaphragms	100	BU
Recommended distribution check (75% x D/n)		
No bracing line less than	51	BU

MiTek™

MiTek New Zealand Ltd.

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CHRISTCHURCH
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PRODUCER STATEMENT for MiTek 20/20™ TRUSS DESIGN - Version 4.6

ISSUED BY: **MiTek New Zealand Ltd**

TO: **Thomsons ITM Building Centre**

IN RESPECT OF: **GANG-NAIL Truss Designs**

This producer statement covers the MiTek 20/20™ truss design and the structural performance of the GANG-NAIL plate for the job reference **1230** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

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 MiTek 20/20™ are prepared using sound and widely accepted engineering principles, and in accordance with compliance documents of the New Zealand Building Code and Verification Method B1/VM1; and internationally accepted standard ANSI/TPI 1 - 2002 as an alternative solution to satisfy the requirements of Clause B1 of the New Zealand Building Code.

On behalf of MiTek New Zealand Ltd, and subject to:

i) All proprietary products meeting their performance specification requirements
ii) The provision of adequate roof bracing and overall building stability
iii) Correct selection and placement of GANG-NAIL connector plates
iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
v) The design being undertaken by the accredited fabricator under the terms of the software licence

I believe on reasonable grounds that the trusses, if constructed in accordance with the MiTek 20/20™ truss design and shop drawings, will comply with the relevant provisions of the New Zealand Building Code.

MiTek New Zealand Ltd holds a current policy of Professional Indemnity Insurance no less than $500,000.

On behalf of MiTek New Zealand Ltd, **Date: March 2010**

In Ling Ng, BE (Hons), CPEng, IntPE, MIPENZ (ID: 146585)
TECHNICAL SERVICES MANAGER, MiTek New Zealand Ltd

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Job: 1230 Client: CKC Site: Lot 1 & 2 Yorkshire Street Hamilton

Phone:

Description:

Building Consent No.:

Phone:

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **Thomsons ITM Building Centre**, being licensed to use the MiTek 20/20™ software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

MiTek 20/20™ TRUSS DESIGN DATA

The MiTek 20/20™ computer design for this job is based on the following design parameters entered into the program. The Fabricator shall ensure that these job details are current and relevant to the project for the design of the GANG-NAIL trusses.

Job Details

Roof Truss					
Timber Group:	MSGx45H1.2 MSG8	Pitch:	16.000 deg	Nominal Overhang:	600 mm
Roof		**Ceiling**		**Wind**	
Material:	Galv Iron .5mm	Material:	Standard	Area:	Medium (37.0 m/s)
Dead Load:	0.210 kPa	Dead Load:	0.200 kPa	Pressure Coeff:	Cpe = varies; Cpi = -0.30, 0.20
Restraints:	900 mm centres	Restraints:	400 mm centres		
Live Load:	Qur = 0.250 kPa Qc = 1.100 kN	Live Load:	Qc = 1.400 kN		

Importance Level : 2

Design Working Life : 50 years

The timber for these GANG-NAIL trusses shall be treated to the requirements of NZS 3602:2003 and shall be graded to the requirements of NZS 3603:1993. Unless otherwise noted, this design assumes that the steel fixings and timber connectors proposed are located in a **"closed environment"**, as defined by NZS3604:1999 Section 4.

GANG-NAIL Truss List

Legend: * = detail only, ? = input only, ~~Txx~~ = failed design, Ø = non certified, Unmarked trusses = designed successfully, LB = lateral bracing required WB = windbeam required, CF = Chemical Free Treatment

Roof Truss

Treatment: Top Chords - H1.2 Bottom Chords - H1.2 Webs - H1.2

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
*HB01	3	5250	11.462	900	J07A	1	2882	16.000	900	*R02A	6	913	16.000	900
*HB02	1	592	11.462	900	J07B	1	2882	16.000	900	*R03	1	513	16.000	900
*HB03	2	2464	11.462	900	J07C	1	2882	16.000	900	*R04	1	855	16.000	900
*HB04	1	6198	11.462	900	J07D	1	2882	16.000	900	*R04A	1	855	16.000	900
*HB05	1	3724	11.462	900	J08	1	1982	16.000	900	*R04B	1	855	16.000	900
*HB06	2	4635	11.462	900	J08A	1	1982	16.000	900	T01A	1	6270	16.000	900
*HB07	1	2204	11.462	900	J09	1	1082	16.000	900	T02	1	3560	16.000	900
*HB08	1	1546	11.462	900	J10	1	2677	16.000	900	T03	1	2330	16.000	900
HT01	1	2330	16.000	900	J10A	1	2677	16.000	900	T04	1	7610	16.000	900
J01	1	3112	16.000	900	J10B	1	2677	16.000	900	T05	1	2330	16.000	900
J01A	1	3112	16.000	900	J11	1	1777	16.000	900	T06	1	5400	16.000	900
J01B	1	3112	16.000	900	J12	1	877	16.000	900	T06A	1	5400	16.000	900
J02	1	2212	16.000	900	J12A	1	877	16.000	900	T07	1	3560	16.000	900
J02A	1	2212	16.000	900	J13	1	1777	16.000	900	T08	2	2665	16.000	900
J02B	1	2212	16.000	900	J13A	1	1777	16.000	900	T09	1	4243	16.000	900
J02C	1	2212	16.000	900	J13B	1	1777	16.000	900	TG01	1	7610	16.000	900
J02D	2	2212	16.000	900	J14	1	1705	16.000	900	TG02	1	2665	16.000	900
J03	1	1312	16.000	900	J14A	1	1705	16.000	900	V01	1	1666	16.000	900
J03A	1	1312	16.000	900	J14B	1	1705	16.000	900	V02	1	1068	16.000	900
J04	1	3112	16.000	900	*R01	2	1025	16.000	900	V03	1	1968	16.000	900
J04A	1	3112	16.000	900	*R01A	2	1025	16.000	900	V05	1	1523	16.000	900
J05	1	1312	16.000	900	*R01B	1	1025	16.000	900					
J06	1	1142	16.000	900	*R01C	1	1025	16.000	900					
J07	1	2882	16.000	900	*R02	6	913	16.000	900					

Treatment: Top Chords - H1.2 Bottom Chords - H3.1 Webs - H1.2

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
T01	1	6270	16.000	900

Roof Truss quantity : 88

Total quantity : 88

The computer design input has been carried out by:

Signed: .....

Date: ...Thursday, 29 April 2010....

Name of Detailer: .....

Qualifications and Title:

On behalf of: Thomsons ITM Building Centre

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MiTek™

MiTek New Zealand Ltd.

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PRODUCER STATEMENT for MiTek 20/20™ TRUSS DESIGN - Version 4.6

ISSUED BY: **MiTek New Zealand Ltd**

TO: **Thomsons ITM Building Centre**

IN RESPECT OF: **GANG-NAIL Truss Designs**

This producer statement covers the MiTek 20/20™ truss design and the structural performance of the GANG-NAIL plate for the job reference **1224** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

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 MiTek 20/20™ are prepared using sound and widely accepted engineering principles, and in accordance with compliance documents of the New Zealand Building Code and Verification Method B1/VM1; and internationally accepted standard ANSI/TPI 1 - 2002 as an alternative solution to satisfy the requirements of Clause B1 of the New Zealand Building Code.

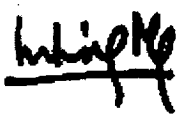
On behalf of MiTek New Zealand Ltd, and subject to:

i) All proprietary products meeting their performance specification requirements
ii) The provision of adequate roof bracing and overall building stability
iii) Correct selection and placement of GANG-NAIL connector plates
iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
v) The design being undertaken by the accredited fabricator under the terms of the software licence

I believe on reasonable grounds that the trusses, if constructed in accordance with the MiTek 20/20™ truss design and shop drawings, will comply with the relevant provisions of the New Zealand Building Code.

MiTek New Zealand Ltd holds a current policy of Professional Indemnity Insurance no less than $500,000.

On behalf of MiTek New Zealand Ltd, **Date: March 2010**



In Ling Ng, BE (Hons), CPEng, IntPE, MIPENZ (ID: 146585)
TECHNICAL SERVICES MANAGER, MiTek New Zealand Ltd

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Job: 1224 Client: CKC Site: Lot 3
Phone: Yorkshire Street

Description:
Building Consent No.: Phone:

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **Thomsons ITM Building Centre**, being licensed to use the MiTek 20/20™ software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

MiTek 20/20™ TRUSS DESIGN DATA

The MiTek 20/20™ computer design for this job is based on the following design parameters entered into the program. The Fabricator shall ensure that these job details are current and relevant to the project for the design of the GANG-NAIL trusses.

Job Details

Roof Truss					
Timber Group:	MSGx45H1.2 MSG8	Pitch:	16.000 deg	Nominal Overhang:	600 mm
Roof		**Ceiling**		**Wind**	
Material:	Galv Iron .5mm	Material:	Standard	Area:	Medium (37.0 m/s)
Dead Load:	0.210 kPa	Dead Load:	0.200 kPa	Pressure Coeff:	Cpe = varies; Cpi = -0.30, 0.20
Restraints:	900 mm centres	Restraints:	400 mm centres		
Live Load:	Qur = 0.250 kPa Qc = 1.100 kN	Live Load:	Qc = 1.400 kN		

Importance Level : 2

Design Working Life : 50 years

The timber for these GANG-NAIL trusses shall be treated to the requirements of NZS 3602:2003 and shall be graded to the requirements of NZS 3603:1993. Unless otherwise noted, this design assumes that the steel fixings and timber connectors proposed are located in a **"closed environment"**, as defined by NZS3604:1999 Section 4.

GANG-NAIL Truss List

Legend: * = detail only, ? = input only, ~~T or C~~ = failed design, Ø = non certified, Unmarked trusses = designed successfully, LB = lateral bracing required
WB = windbeam required, CF = Chemical Free Treatment

Roof Truss

Treatment: Top Chords - H1.2 Bottom Chords - H1.2 Webs - H1.2

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
*HB01	1	981	11.462	900	J05B	1	1822	16.000	900	T02	1	6670	16.000	900
*HB02	2	5533	11.462	900	J06	1	922	16.000	900	T03	1	6670	16.000	936
*HB03	1	2098	11.462	900	J06A	1	922	16.000	900	T03A	3	6670	16.000	936
*HB04	2	3426	11.462	900	J08	1	1302	16.000	900	T03B	1	6670	16.000	936
*HB05	1	1056	11.462	900	J09	1	2077	16.000	900	T04	2	3313	16.000	900
*HB06	3	5059	11.462	900	J09A	1	2077	16.000	900	T05	1	3313	16.000	900
J01	1	3312	16.000	900	J09B	1	2077	16.000	900	T06	1	4043	16.000	900
J01A	1	3312	16.000	900	J09C	1	2077	16.000	900	T07	1	4043	16.000	900
J02	1	2412	16.000	900	J09D	1	2077	16.000	900	T08	1	4043	16.000	900
J02A	1	2412	16.000	900	J10	1	1177	16.000	900	T09	1	3313	16.000	900
J02B	1	2412	16.000	900	J10A	1	1177	16.000	900	T10	1	6000	16.000	900
J02C	2	2412	16.000	900	*R01	2	1225	16.000	900	TG01	1	6670	16.000	900
J03	1	1512	16.000	900	*R02	7	913	16.000	900	TG02	1	6000	16.000	900
J04	2	1512	16.000	900	*R02A	7	913	16.000	900	V01	1	1166	16.000	900
J04A	1	1512	16.000	900	*R03	1	730	16.000	900	V02	1	1655	16.000	900
J05	1	1822	16.000	900	*R04	2	698	16.000	900					
J05A	1	1822	16.000	900	T01	1	6670	16.000	900					

Roof Truss quantity : 72

Total quantity : 72

The computer design input has been carried out by:

Signed: .....

Date: ...Wednesday, 28 April 2010....

Name of Detailer: .....

Qualifications and Title:

On behalf of: Thomsons ITM Building Centre

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MiTek™

MiTek New Zealand Ltd.

Correspondence from : **AUCKLAND**
40 Neales Road, East Tamaki 2013
PO Box 58-014, Botany 2163
Phone: 09 274 7109
Fax: 09 274 7100

CHRISTCHURCH
14 Pilkington Way, Wigram 8042
PO Box 8387, Riccarton 8440
Phone: 03 348 8691
Fax: 03 348 0314

www.miteknz.co.nz

PRODUCER STATEMENT for MiTek 20/20™ TRUSS DESIGN - Version 4.6

ISSUED BY: **MiTek New Zealand Ltd**

TO: **Thomsons ITM Building Centre**

IN RESPECT OF: **GANG-NAIL Truss Designs**

This producer statement covers the MiTek 20/20™ truss design and the structural performance of the GANG-NAIL plate for the job reference **1235** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

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 MiTek 20/20™ are prepared using sound and widely accepted engineering principles, and in accordance with compliance documents of the New Zealand Building Code and Verification Method B1/VM1; and internationally accepted standard ANSI/TPI 1 - 2002 as an alternative solution to satisfy the requirements of Clause B1 of the New Zealand Building Code.

On behalf of MiTek New Zealand Ltd, and subject to:

i) All proprietary products meeting their performance specification requirements
ii) The provision of adequate roof bracing and overall building stability
iii) Correct selection and placement of GANG-NAIL connector plates
iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
v) The design being undertaken by the accredited fabricator under the terms of the software licence

I believe on reasonable grounds that the trusses, if constructed in accordance with the MiTek 20/20™ truss design and shop drawings, will comply with the relevant provisions of the New Zealand Building Code.

MiTek New Zealand Ltd holds a current policy of Professional Indemnity Insurance no less than $500,000.

On behalf of MiTek New Zealand Ltd, **Date: March 2010**

In Ling Ng, BE (Hons), CPEng, IntPE, MIPENZ (ID: 146585)
TECHNICAL SERVICES MANAGER, MiTek New Zealand Ltd

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Job: 1235 Client: CKC Site: Lot 4
Phone: Yorkshire Street
Hamilton
Description:
Building Consent No.: Phone:
MiTek 20/20 Engineering 4.6.3.30 MiTek New Zealand Ltd. Printed: 09:19:11 29 Apr 2010

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **Thomsons ITM Building Centre**, being licensed to use the MiTek 20/20™ software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

MiTek 20/20™ TRUSS DESIGN DATA

The MiTek 20/20™ computer design for this job is based on the following design parameters entered into the program. The Fabricator shall ensure that these job details are current and relevant to the project for the design of the GANG-NAIL trusses.

Job Details

Roof Truss		Importance Level :	2	Design Working Life :	50 years
Timber Group:	MSGx45H1.2 MSG8	Pitch:	16.000 deg	Nominal Overhang:	600 mm
Roof		**Ceiling**		**Wind**	
Material:	Galv Iron .5mm	Material:	Standard	Area:	Medium (37.0 m/s)
Dead Load:	0.210 kPa	Dead Load:	0.200 kPa	Pressure Coeff:	Cpe = varies; Cpi = -0.30, 0.20
Restraints:	900 mm centres	Restraints:	400 mm centres		
Live Load:	Qur = 0.250 kPa Qc = 1.100 kN	Live Load:	Qc = 1.400 kN		

The timber for these GANG-NAIL trusses shall be treated to the requirements of NZS 3602:2003 and shall be graded to the requirements of NZS 3603:1993. Unless otherwise noted, this design assumes that the steel fixings and timber connectors proposed are located in a **"closed environment"**, as defined by NZS3604:1999 Section 4.

GANG-NAIL Truss List

Legend: * = detail only, ? = input only, ~~Txx~~ = failed design, Ø = non certified, Unmarked trusses = designed successfully, LB = lateral bracing required
WB = windbeam required, CF = Chemical Free Treatment

Roof Truss

Treatment: Top Chords - H1.2 Bottom Chords - H1.2 Webs - H1.2

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
*HB01	1	5250	11.462	900	J07A	1	2137	16.000	900	*R01D	1	1025	16.000	900
*HB01A	2	5250	11.462	900	J07B	1	2137	16.000	900	*R01E	1	1025	16.000	900
*HB02	1	2317	11.462	900	J08	1	1237	16.000	900	*R02	6	913	16.000	900
*HB03	1	6198	11.462	900	J09	1	2677	16.000	900	*R02A	6	913	16.000	900
*HB04	2	3871	11.462	900	J09A	1	2677	16.000	900	*R03	1	950	16.000	900
*HB05	2	4635	11.462	900	J09B	1	2677	16.000	900	*R03A	1	950	16.000	900
*HB06	1	1546	11.462	900	J10	1	1777	16.000	900	*R04	1	905	16.000	900
*HB07	1	2204	11.462	900	J10A	1	1777	16.000	900	*R05	1	713	16.000	900
*HB08	1	592	11.462	900	J10B	1	1777	16.000	900	*R07	1	1805	0.000	900
J01	1	3112	16.000	900	J11	1	877	16.000	900	T01	1	6270	16.000	900
J01A	1	3112	16.000	900	J11A	1	877	16.000	900	T01A	1	6270	16.000	900
J01B	1	3112	16.000	900	J12	1	1777	16.000	900	T02	1	3560	16.000	900
J02	1	2210	16.000	900	J13	1	1707	16.000	900	T03	1	7610	16.000	900
J02A	1	2210	16.000	900	J13A	1	1707	16.000	900	T04	1	3783	16.000	900
J02B	1	2210	16.000	900	J13B	1	1707	16.000	900	T05	1	3783	16.000	900
J02C	1	2210	16.000	900	J14	1	3112	16.000	900	T06	1	5400	16.000	900
J03	1	1310	16.000	900	J14A	1	3112	16.000	900	T06A	1	5400	16.000	900
J03A	1	1310	16.000	900	J15	1	2212	16.000	900	T07	2	2665	16.000	900
J04	1	2882	16.000	900	J15A	1	2212	16.000	900	T08	1	3560	16.000	900
J04A	1	2882	16.000	900	J16	1	1312	16.000	900	T09	1	4245	16.000	900
J04B	1	2882	16.000	900	PTG01	1	2665	0.000	900	TG02	1	7610	16.000	900
J05	1	1982	16.000	900	*R01	1	1023	16.000	900	V01	1	1476	16.000	900
J05A	1	1982	16.000	900	*R01A	1	1023	16.000	900	V02	1	1523	16.000	900
J06	1	1082	16.000	900	*R01B	1	1023	16.000	900	V04	1	1968	16.000	900
J07	1	2137	16.000	900	*R01C	1	1023	16.000	900	V05	1	1068	16.000	900

Roof Truss quantity : 89

Total quantity : 89

The computer design input has been carried out by:

Signed: ..... Date: ...Thursday, 29 April 2010....

Name of Detailer: ..... Qualifications and Title:

On behalf of: Thomsons ITM Building Centre

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MiTek™

MiTek New Zealand Ltd.

Correspondence from : **AUCKLAND**
40 Neales Road, East Tamaki 2013
PO Box 58-014, Botany 2163
Phone: 09 274 7109
Fax: 09 274 7100

CHRISTCHURCH
14 Pilkington Way, Wigram 8042
PO Box 8387, Riccarton 8440
Phone: 03 348 8691
Fax: 03 348 0314

www.miteknz.co.nz

PRODUCER STATEMENT for MiTek 20/20™ TRUSS DESIGN - Version 4.6

ISSUED BY: **MiTek New Zealand Ltd**

TO: **Thomsons ITM Building Centre**

IN RESPECT OF: **GANG-NAIL Truss Designs**

This producer statement covers the MiTek 20/20™ truss design and the structural performance of the GANG-NAIL plate for the job reference **1224** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

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 MiTek 20/20™ are prepared using sound and widely accepted engineering principles, and in accordance with compliance documents of the New Zealand Building Code and Verification Method B1/VM1; and internationally accepted standard ANSI/TPI 1 - 2002 as an alternative solution to satisfy the requirements of Clause B1 of the New Zealand Building Code.

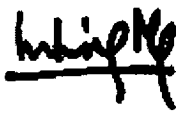
On behalf of MiTek New Zealand Ltd, and subject to:

i) All proprietary products meeting their performance specification requirements
ii) The provision of adequate roof bracing and overall building stability
iii) Correct selection and placement of GANG-NAIL connector plates
iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
v) The design being undertaken by the accredited fabricator under the terms of the software licence

I believe on reasonable grounds that the trusses, if constructed in accordance with the MiTek 20/20™ truss design and shop drawings, will comply with the relevant provisions of the New Zealand Building Code.

MiTek New Zealand Ltd holds a current policy of Professional Indemnity Insurance no less than $500,000.

On behalf of MiTek New Zealand Ltd, **Date: March 2010**



In Ling Ng, BE (Hons), CPEng, IntPE, MIPENZ (ID: 146585)
TECHNICAL SERVICES MANAGER, MiTek New Zealand Ltd

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Job: 1224 Client: CKC Site: Lot 5 Yorkshire Street
Phone:
Description:
Building Consent No.: Phone:
MiTek 20/20 Engineering 4.6.3.30 MiTek New Zealand Ltd. Printed: 13:45:22 28 Apr 2010

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **Thomsons ITM Building Centre**, being licensed to use the MiTek 20/20™ software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

MiTek 20/20™ TRUSS DESIGN DATA

The MiTek 20/20™ computer design for this job is based on the following design parameters entered into the program. The Fabricator shall ensure that these job details are current and relevant to the project for the design of the GANG-NAIL trusses.

Job Details

Roof Truss					
Timber Group:	MSGx45H1.2 MSG8	Pitch:	16.000 deg	Nominal Overhang:	600 mm
Roof		**Ceiling**		**Wind**	
Material:	Galv Iron .5mm	Material:	Standard	Area:	Medium (37.0 m/s)
Dead Load:	0.210 kPa	Dead Load:	0.200 kPa	Pressure Coeff:	Cpe = varies; Cpi = -0.30, 0.20
Restraints:	900 mm centres	Restraints:	400 mm centres		
Live Load:	Qur = 0.250 kPa Qc = 1.100 kN	Live Load:	Qc = 1.400 kN		

Importance Level : 2

Design Working Life : 50 years

The timber for these GANG-NAIL trusses shall be treated to the requirements of NZS 3602:2003 and shall be graded to the requirements of NZS 3603:1993. Unless otherwise noted, this design assumes that the steel fixings and timber connectors proposed are located in a **"closed environment"**, as defined by NZS3604:1999 Section 4.

GANG-NAIL Truss List

Legend: * = detail only, ? = input only, ~~Txx~~ = failed design, Ø = non certified, Unmarked trusses = designed successfully, LB = lateral bracing required
WB = windbeam required, CF = Chemical Free Treatment

Roof Truss

Treatment: Top Chords - H1.2 Bottom Chords - H1.2 Webs - H1.2

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
*HB01	1	981	11.462	900	J05B	1	1822	16.000	900	T02	1	6670	16.000	900
*HB02	2	5533	11.462	900	J06	1	922	16.000	900	T03	1	6670	16.000	936
*HB03	1	2098	11.462	900	J06A	1	922	16.000	900	T03A	3	6670	16.000	936
*HB04	2	3426	11.462	900	J08	1	1302	16.000	900	T03B	1	6670	16.000	936
*HB05	1	1056	11.462	900	J09	1	2077	16.000	900	T04	2	3313	16.000	900
*HB06	3	5059	11.462	900	J09A	1	2077	16.000	900	T05	1	3313	16.000	900
J01	1	3312	16.000	900	J09B	1	2077	16.000	900	T06	1	4043	16.000	900
J01A	1	3312	16.000	900	J09C	1	2077	16.000	900	T07	1	4043	16.000	900
J02	1	2412	16.000	900	J09D	1	2077	16.000	900	T08	1	4043	16.000	900
J02A	1	2412	16.000	900	J10	1	1177	16.000	900	T09	1	3313	16.000	900
J02B	1	2412	16.000	900	J10A	1	1177	16.000	900	T10	1	6000	16.000	900
J02C	2	2412	16.000	900	*R01	2	1225	16.000	900	TG01	1	6670	16.000	900
J03	1	1512	16.000	900	*R02	7	913	16.000	900	TG02	1	6000	16.000	900
J04	2	1512	16.000	900	*R02A	7	913	16.000	900	V01	1	1166	16.000	900
J04A	1	1512	16.000	900	*R03	1	730	16.000	900	V02	1	1655	16.000	900
J05	1	1822	16.000	900	*R04	2	698	16.000	900					
J05A	1	1822	16.000	900	T01	1	6670	16.000	900					

Roof Truss quantity : 72

Total quantity : 72

The computer design input has been carried out by:

Signed: .....

Date: ...Wednesday, 28 April 2010....

Name of Detailer: .....

Qualifications and Title:

On behalf of: Thomsons ITM Building Centre

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MiTek™

MiTek New Zealand Ltd.

Correspondence from : **AUCKLAND**
40 Neales Road, East Tamaki 2013
PO Box 58-014, Botany 2163
Phone: 09 274 7109
Fax: 09 274 7100

CHRISTCHURCH
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Phone: 03 348 8691
Fax: 03 348 0314

www.miteknz.co.nz

PRODUCER STATEMENT for MiTek 20/20™ TRUSS DESIGN - Version 4.6

ISSUED BY: **MiTek New Zealand Ltd**

TO: **Thomsons ITM Building Centre**

IN RESPECT OF: **GANG-NAIL Truss Designs**

This producer statement covers the MiTek 20/20™ truss design and the structural performance of the GANG-NAIL plate for the job reference **1236** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

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 MiTek 20/20™ are prepared using sound and widely accepted engineering principles, and in accordance with compliance documents of the New Zealand Building Code and Verification Method B1/VM1; and internationally accepted standard ANSI/TPI 1 - 2002 as an alternative solution to satisfy the requirements of Clause B1 of the New Zealand Building Code.

On behalf of MiTek New Zealand Ltd, and subject to:

i) All proprietary products meeting their performance specification requirements
ii) The provision of adequate roof bracing and overall building stability
iii) Correct selection and placement of GANG-NAIL connector plates
iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
v) The design being undertaken by the accredited fabricator under the terms of the software licence

I believe on reasonable grounds that the trusses, if constructed in accordance with the MiTek 20/20™ truss design and shop drawings, will comply with the relevant provisions of the New Zealand Building Code.

MiTek New Zealand Ltd holds a current policy of Professional Indemnity Insurance no less than $500,000.

On behalf of MiTek New Zealand Ltd, **Date: March 2010**

In Ling Ng, BE (Hons), CPEng, IntPE, MIPENZ (ID: 146585)
TECHNICAL SERVICES MANAGER, MiTek New Zealand Ltd

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Job: 1236 Client: CKC Site: Lot 6 & 7 Yorkshire Street Hamilton

Phone:

Description:

Building Consent No.: Phone:

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **Thomsons ITM Building Centre**, being licensed to use the MiTek 20/20™ software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

MiTek 20/20™ TRUSS DESIGN DATA

The MiTek 20/20™ computer design for this job is based on the following design parameters entered into the program. The Fabricator shall ensure that these job details are current and relevant to the project for the design of the GANG-NAIL trusses.

Job Details

Roof Truss					
Timber Group:	MSGx45H1.2 MSG8	Pitch:	16.000 deg	Nominal Overhang:	600 mm
Roof		**Ceiling**		**Wind**	
Material:	Galv Iron .5mm	Material:	Standard	Area:	Medium (37.0 m/s)
Dead Load:	0.210 kPa	Dead Load:	0.200 kPa	Pressure Coeff:	Cpe = varies; Cpi = -0.30, 0.20
Restraints:	900 mm centres	Restraints:	400 mm centres		
Live Load:	Qur = 0.250 kPa Qc = 1.100 kN	Live Load:	Qc = 1.400 kN		

Importance Level : 2

Design Working Life : 50 years

The timber for these GANG-NAIL trusses shall be treated to the requirements of NZS 3602:2003 and shall be graded to the requirements of NZS 3603:1993. Unless otherwise noted, this design assumes that the steel fixings and timber connectors proposed are located in a **"closed environment"**, as defined by NZS3604:1999 Section 4.

GANG-NAIL Truss List

Legend: * = detail only, ? = input only, ~~T~~xx = failed design, Ø = non certified, Unmarked trusses = designed successfully, LB = lateral bracing required WB = windbeam required, CF = Chemical Free Treatment

Roof Truss

Treatment: Top Chords - H1.2 Bottom Chords - H1.2 Webs - H1.2

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
*HB01	2	6085	11.462	900	J04B	1	2032	16.000	900	*R03	2	980	16.000	900
*HB02	1	2352	11.462	900	J05	1	1132	16.000	900	*R03A	2	980	16.000	900
*HB03	2	3723	11.462	900	J05A	1	1132	16.000	900	*R03B	1	980	16.000	900
*HB04	3	5187	11.462	900	J06	1	1760	16.000	900	*R03C	1	980	16.000	900
*HB05	1	1280	11.462	900	J06A	1	1760	16.000	900	T01	1	7450	16.000	900
*HB06	1	1737	11.462	900	J07	1	2167	16.000	900	T02	1	4110	16.000	900
HTG01	1	4002	16.000	900	J07A	1	2167	16.000	900	T03	1	4110	16.000	900
J01	1	2802	16.000	900	J07B	1	2167	16.000	900	T03A	1	4110	16.000	900
J01A	1	2802	16.000	900	J07C	1	2167	16.000	900	T05	2	4002	16.000	900
J01B	1	2802	16.000	900	J07D	1	2167	16.000	900	T06	2	7450	16.000	900
J01C	1	2802	16.000	900	J07E	1	2167	16.000	900	T07	1	6180	16.000	900
J02	1	1902	16.000	900	J08	1	1267	16.000	900	TG01	1	7450	16.000	900
J02A	1	1902	16.000	900	J08A	1	1267	16.000	900	TG02	1	7450	16.000	900
J02B	1	1902	16.000	900	J08B	1	1267	16.000	900	TG03	1	6180	16.000	900
J02C	1	1902	16.000	900	J09	1	2690	16.000	900	V01	1	2395	16.000	900
J03	1	1002	16.000	900	J10	1	2690	16.000	900	V02	2	1526	16.000	900
J03A	1	1002	16.000	900	*R01	1	901	16.000	900	V03	1	1856	16.000	900
J04	1	2032	16.000	900	*R02	4	913	16.000	900	V04	1	1136	16.000	900
J04A	1	2032	16.000	900	*R02A	4	913	16.000	900	V05	1	1137	16.000	900

Roof Truss quantity : 72

Total quantity : 72

The computer design input has been carried out by:

Signed: .....

Date: ...Thursday, 29 April 2010....

Name of Detailer: .....

Qualifications and Title:

On behalf of: Thomsons ITM Building Centre

THOMSONS itm BUILDING CENTRE

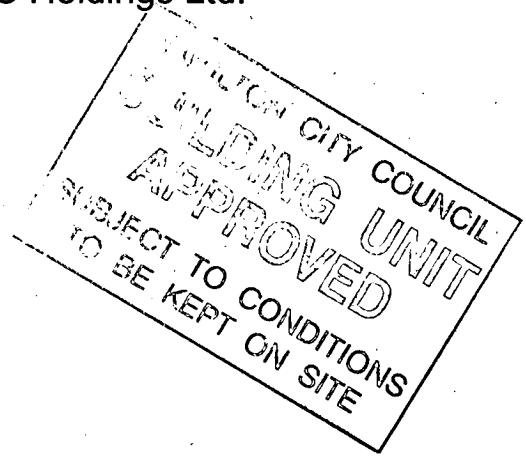
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Housing New Zealand
Housing New Zealand Corporation

Masterspec SELECTOR

of materials to be used
in carrying out the works

For 7 dwellings on Lots 61 & 62 DPS 9556 & Lot 2 DP 428322
@ 8 & 10 Yorkshire Road, Hamilton
Prepared for CKC Holdings Ltd.



Issue: HNZC SELECTOR OCT 2007

10 CONTENTS

The following list of selections is provided for incorporation in the project specification. The selections are required where applicable; they are neither optional nor indicative.

Ensure that the version of HNZC SELECTOR you are using is current. Do not use older versions of the HNZC SELECTOR or project specification prepared for other projects.

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3. EXECUTION

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 engineer. Obtain written instructions from the engineer on the proposed approach to rock excavation, or consequent alterations to sub grade construction. Confirm any changes with the territorial authority.

GRANULAR BASE FOR SLABS
Conform to NZS 3604, section 7.5.3. Consolidate with a vibrating roller. Blind the surface with coarse sand or sand/cement and roll ready to receive a damp-proof membrane. Compact for concrete floor slabs to a minimum thickness 100 mm. Compact for concrete driveways to a minimum thickness 75 mm.

4. SELECTIONS

None



31 CONCRETE

3. EXECUTION

SETTLEMENT
Where undue settlement of the foundations are observed notify the engineer before carrying out further work.

SURFACE FINISHES
To NZS 3114: 105 Specification of finishes:
- Table 1: Classes of surface finish, (for off-the-form surface finishes).
- Table 2: Classes of floor, exterior pavement, and invert finishes; and as scheduled or as denoted on the drawings.

4. SELECTIONS

EXPANDED POLYSTYRENE INSULATION
Grade: S grade or M grade for applications with greater loads and thickness more than 50 mm

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

REINFORCING
Residential floor slabs: Welded reinforcing mesh
Driveways: Welded reinforcing mesh

CONCRETE
Prescribed concrete: 10 MPa for site concrete, bedding concrete and for setting posts
17.5 MPa as required by NZS 3604
25 MPa as required by NZS 3604 and for exposed concrete in sea spray zone

Concrete for driveways: 100 mm minimum thickness
Finish: U5 broom to NZS 3114

Concrete for paths and mowing strips: 75 mm minimum thickness
Finish: U5 broom to NZS 3114

38 TIMBER - FRAMING

2. PRODUCTS

4. SELECTIONS

HNZC STANDARD DETAILS
Refer to the following standard details for items relating to this work section

Drawing No./Detail: None

EXTERIOR AND INTERIOR WALL FRAMING

Member	Timber species and grade	Treatment
Walls:	Radiata pine structural grades	H1.2
	all bottom plates	H3.2
	Douglas fir structural grades	H1.2
Parapets:	Radiata pine structural grades	H1.2
	Douglas fir structural grades	H1.2
Enclosed decks and balconies:	Radiata pine structural grades	H3.2

ROOF FRAMING

Member	Timber species and grade	Treatment
Rafters:	Radiata pine structural grades	H1.2
	Radiata pine kiln dried and gauged	H1.2
Trusses:	Radiata pine structural grades	H1.2
	Radiata pine kiln dried and gauged	H1.2
Purlins:	Radiata pine structural grades	H1.2
	Douglas fir structural grades	H1.2
	Radiata pine kiln dried and gauged	H1.2
Ceiling joists:	Radiata pine structural grades	H1.2
	Radiata pine kiln dried and gauged	H1.2
Valley boards:	Radiata pine merchantable grade	H3.2
Sarking:	Radiata pine merchantable grade	H3.2
Skillion roof framing:	Radiata pine structural grades	H3.1
Enclosed flat roof framing:	Radiata pine structural grades	H3.2
Exposed rafters:	Radiata pine structural grades	H3.2

EXTERIOR EXPOSED TIMBERS (NOT IN GROUND CONTACT)

Member	Timber species and grade	Treatment
Posts:	Radiata pine structural grades	H3.2
Joists:	Radiata pine structural grades	H3.2
Softwood decking:	Radiata pine structural grades	H3.2
Exterior stairs and steps:	Radiata pine structural grades	H3.2
Pergola:	Radiata pine structural grades	H3.2

EXTERIOR FINISHING TIMBERS

Member	Timber species and grade	Treatment
Weatherboards:	Radiata pine dressing grade	H3.2
Fascia/barge/cover boards:	Radiata pine dressing grade	H3.2
Exterior trim:	Radiata pine dressing grade	H3.2

INTERIOR FINISHING TIMBERS

Member	Timber species and grade
Architraves:	Radiata pine dressing grade
Skirtings:	Radiata pine dressing grade
Cornices:	Radiata pine dressing grade

42 BRICK VENEER CLADDING

3. EXECUTION

FLAUNCHING
Provide flaunching to base of cavities.
Apply continuous damp-proof membrane to flaunching and under lower course of brickwork
Remove excess mortar from cavity behind brick veneer

4. SELECTIONS

43 PRESSED STEEL TILE ROOFING

1. GENERAL

Warranties

WARRANTY
Warrant this work under normal environmental and use conditions against failure.
Warranty period - materials: 30 years
Warranty period - chip: 15 years pro rata
Warranty period - paint: 15 years pro rata
Warranty period - execution: 5 years

2. PRODUCTS

BATTENS
Radiata pine No.1 framing, treated H3.2, size, spacing and fixing to NZS 3604, tables 10.9 and 10.10.

PIPE FLASHINGS
Dektite pipe flashing systems including Retrofit soakers by Dominion Lead Mills Ltd or equal approved.

SEALANT
A neutral curing silicone or synthetic rubber based paintable sealant recommended by the roofing manufacturer and used as they direct. Fosroc Silaflex N or equal approved.

4. SELECTIONS

PRESSED STEEL TILES

Profile:	To manufacturer's detail
BMT:	0.40 mm
Finish:	Sprayed acrylic or natural stone chip To suit environmental categories
Colour:	To engineer's colour scheme

43 RAINWATER SYSTEMS

2. PRODUCTS

CONCEALED FASCIA/BARGE SPOUTING SYSTEM
HNZC DIRECTION
Concealed fascia/barge spouting systems are not permitted.

45 ALUMINIUM WINDOWS AND DOORS

2. PRODUCTS

RESTRICTOR STAYS
Install fixed stainless steel stays using 4 mm stainless steel pop rivets where the window has a fall height greater than 2 metres when installed, except where the window is designated for fire egress. In this later case, the stay must be able to be disconnected without a key or a tool at a threshold height of 1.2 metres.

WEATHERING SEALANT
Building sealant to manufacturer's instructions for weather sealing glass to glass joints complying with US Federal Specification TT-S-0011543A, or a one-part polyurethane medium modulus (± 25% movement) to US Federal Specification TT-S-00230C.

All joinery to have condensation channels
All external joinery thresholds to be recessed into concrete slab and project maximum 20mm above finished floor

3. EXECUTION

MANIFESTATIONS (MAKING GLASS VISIBLE)
To NZS 4223, part 3, 303.1

CONDENSATION CHANNEL
To be included in all new build projects

4. SELECTIONS

HNZC DIRECTION
Exterior Doors to have a clear opening of 810 mm minimium.

HNZC STANDARD DETAILS
Refer to the following standard details for items relating to this work section

FINISH, ANODISED
Thickness grade: 20 microns

FINISH, POWDER COATING

Film integrity:	10 years
Colour:	7 years integrity
Gloss level:	60%
Thickness:	50 to 90 microns with a minimum of 50 microns

PASSIVE VENTILATION
All aluminium joinery to include operable (able to open and close) passive ventilation integrated to the suite.

46 GLAZING

2. PRODUCTS

MIRROR DE-MISTER
HNZC DIRECTION
Do not use mirror demisters.

POLYCARBONATE, CLEAR OR OBSCURE SHEET
3 mm, 4.5 mm and 6 mm thick weight for size

3 mm thick:	750 mm x 750 mm (maximum sheet size)
4.5 mm thick:	900 mm x 900 mm (maximum sheet size)
6 mm thick:	1000 mm x 1000 mm (maximum sheet size)

GLAZING COMPOUND, TIMBER FRAME
Red Devil or Woodsash XHP glazing compound.
HNZC DIRECTION
Do not use linseed oil-based, knife grade putty.

3. EXECUTION

POLYCARBONATE TO WINDOWS, DOORS AND PORCHES

Exterior:	Clear sheet
Bathrooms and toilets:	PAG obscure

Supply and fit in aluminium frame. Bed in using silicon sealant with glazing beads or equal to manufacturer's recommendations.

VISION RAIL
Where required by NZS 4223, Part 3, provide 50 mm wide vision rail on inside of glass.

Proprietary aluminium bead to match remainder of joinery fixed with 3M Scotch VHB type 4950 double-sided tape to complete width of glazing, at a level between 800 mm and 1500 mm above floor level.

4. SELECTIONS

HNZC STANDARD DETAILS
Refer to the following standard details for items relating to this work section

Standard Detail:	Sheet 112	Safety glazing to doors and side panels.
	Sheet 113	Safety glazing – protection of occupants from falling > 1000 mm.

47 INSULATION – THERMAL, FIRE RATED COATINGS AND ACOUSTIC

2. PRODUCTS

HNZC DIRECTION
Do not use loose fill insulation material. We allow natural wool provided it is installed to a predetermined density and the density calculations are permanently affixed to the entry point to the ceiling.

R RATING FOR WALL AND CEILING INSULATION
Ref. NZS 4218 for Climate Zones. Insulation shall have a minimum construction R value

	Climate Zones 1 & 2
Walls:	R2.2
Ceilings:	R3.2

Zone 3 includes Taupo District, Ruapehu District, northern Rangiteki District and all of the South Island.
Expanded polystyrene to be used:
- Under concrete slab

Installed insulation product shall be that approved by the engineer. All insulation material to NZS 4222.

Fibreglass is required to be taken into the roof cavity in sealed plastic bags to avoid spreading fibres throughout an occupied dwelling.

4. SELECTIONS

INSULATION
Thermakraft or Tasman. Refer to building wrap and window /door joinery weather proofing requirements of E2 AS1 NZBC.

51 FIBRE CEMENT SHEET LININGS

2. PRODUCTS

Materials

PRE-FINISHED FIBRE CEMENT SHEET LININGS
Hardies fibre cement pre-finished 4.5 mm Hardiglaze sheet lining with plain finish. Treated cellulose fibre in a matrix of cement and sand autoclaved sheet, polyurethane coated on one side. Colour : white; finish : gloss/plain.

BATTENS, TIMBER
Minimum ex 45 mm wide x 40 mm gauged timber H3.2 treated to NZS 3602.
Battens for walls surrounding baths with showers over: ex 50 mm x 25 mm dressed H3.2 treated to NZS 3602.

Components

FIXINGS
HNZC DIRECTION
Fix using compatible adhesive. Do not use Fastfix fasteners.
Avoid use of bath mould wherever possible use a drained joint detail with anti-capillary gap

PVC ACCESSORIES
Extruded PVC supplied by the sheet manufacturer. Colour : white; finish : gloss. Proprietary 4.5 mm PVC internal and external jointers, capping moulds, sheet jointers and dado moulds.

BATH EDGE STRIP
Sylon or equal single piece bath PVC mould with flexible edges for a standard bath. For HNZC bath with high upstand use drain joint detail. Refer to standard drawing detail.

Accessories

WALL BOARD ADHESIVE
Refer to sheet manufacturer's technical literature.

SEALANT
Silicone sealant. Fosroc Silaflex RTV with mould inhibitor. Refer to sheet manufacturer's technical literature.

STRIP FLASHING
Bituthene 50 mm x 1.5 mm strip.

3. EXECUTION

Application

PLACING SHEETS
Sheets must not be forced or sprung into position. Follow manufacturer's placement sequence.

EDGES
Exposed edges shall be factory edges.

SEALANT
Apply sealant to jointers to manufacturer recommendations to achieve a completely watertight installation. Seal all penetrating fittings to surface.

FLASHING DETAILS TO BATH
Form and seal to HNZC standard details and sheet manufacturer's requirements.

New work: do not use gib for a substrate in lieu of battens to provide a drip edge.

UPSTANDS BEHIND LAUNDRY TUBS
To be prefinished fibre cement sheet.

SEALING SHEET EDGES
In wet area applications, including around all baths and showers, the bottom edge of all sheets must be sealed with one full coat of primer. Seal 100 mm of the bottom edge regardless of whether a factory edge drip is used. Refer to sheet manufacturer's specification.

CEILING LINING
New prefinished fibre cement sheet ceiling linings to be glue fixed to ex 40 mm x 20 mm kiln dried battens H3.2 treated. Do not use friction fit fasteners.

4. SELECTIONS

HNZC STANDARD DETAILS
Refer to the following standard details for items relating to this work section

Standard Detail:	Sheet 101	New bath/shower and wet wall linings.
	Sheet 102	Bath/shower and wet wall linings.
	Sheet 102A	Bath/shower and wet wall linings – details.
	Sheet 103	Bath/shower wall lining details.

HARDIGLAZE finish and thickness to suit installation requirements and batten spacing. Use all PVC jointing and cornice system.
HNZC DIRECTION
Select HARDIGLAZE in smooth and gloss finish Only.

51 PLASTERBOARD LININGS

2. PRODUCTS

Finishes

NEW WALL FINISH
New plaster boardwall finish to level 4

CEILINGS
New work to level 5 finish.

4. SELECTIONS

STANDARD PLASTERBOARD

Location:	wall and ceiling
Brand:	GIB Standard
Type:	standard, fire resistant and bracing
Thickness:	10 mm
Finish:	Level 4 or level 5
Thickness option:	*13 mm.*

WATER RESISTANT PLASTERBOARD

Location:	wall or ceiling
Brand:	GIB Aqualine
Type:	standard, fire resistant and bracing
Thickness:	10 mm
Finish:	Level 4 or level 5
Thickness option:	*13 mm.*

51 INTERNAL TRIM

2. PRODUCTS

Materials

TIMBER TRIM
Add to clause
Finger jointed radiata pine treated H3.2 to NZS 3602 to all exterior and interior window sills and all timber in wet areas – laundries, bathrooms and kitchens under sink units; paint finish quality.

3. EXECUTION

4. SELECTIONS

TIMBER TRIM
To NZS 3602, radiata pine, dressing grade.

Member	Profile	Size
Skirting	Paynter 20	60 mm x 10 mm
Wet Area	Paynter 20	60 mm x 10 mm
Cornice	Paynter 8	40 mm x 18 mm
Jamb	Rebated	25 mm
Bead	Paynter	25 mm x 10 mm

Trim to wet areas treated H3.2.
Bead finger jointed radiata pine when required.
Architrave: Rebated jamb for window and door liners, H3.2.treated finger jointed radiata pine.



55 JOINERY FIXTURES

2. PRODUCTS

Components

CONCEALED HINGES
All-metal with automatic spring and screw-fixed. Door stops of plastic foam with self adhesive backs, or plastic buttons. Opening 115 degrees – 170 degrees to suit application.

DRAWER RUNNERS
Heavy duty extruded aluminium with nylon rollers/ball bearings, refer to HARDWARE.

Accessories

SEALANTS
To be mould inhibiting, paintable, neutral cure silicon sealant, colour to match as appropriate.

3. EXECUTION

Application

BENCH TOPS
Bench tops, excluding sink benches, to be finished with high pressure laminate and have rolled edges. Wet area benches shall be high pressure laminate, incorporating a radiused upstand and an anti-spill edge with 30mm overhang.

SINK BENCH TOPS – STAINLESS STEEL
Supply and fit stainless steel sink bench with anti-spill edge. Scribe fit on site square, plumb, level and true to line and face. All sink benches to be stainless steel with 30mm overhang and anti spill edge.

VANITY UNIT
Construct in a joinery shop with carcase and doors of 18 mm melamine laminated board, with 2 mm PVC edges. Hang doors with Blum Snap-on Hinges or equivalent. 140 mm plinth to be of 0.55 BA304 stainless steel. Refer to standard drawings.

TUB CABINET
Construct in a joinery shop with carcase of 17 mm thick, H3 CCA treated, B-B grade plywood and with base of radiata pine H3.2 treated. Paint finish. Refer to PAINTING. Provide and fix hinges, catch and handle. Refer to HARDWARE. Refer to SANITARY PLUMBING for alternative option.

WARDROBES
Fit out with 18 mm medium density fibreboard (MDF) shelf with 40 mm x 20 mm pine stiffener under front edge where shelf exceeds 900 mm in length. Screw fix shelf to 25 mm rail along back and both ends. Fit selected coat-rail. Refer to HARDWARE.

LINEN CUPBOARD
Fit out with full depth 18 mm medium density fibreboard (MDF) shelves, screw fix shelves to 25 mm rails along back and ends at 360 mm maximum centres vertically.

GAS HOT WATER CUPBOARD
Fit out over HWC with full depth shelf of 4.75 mm pegboard on 70 mm x 20 mm frame on 25 mm rails along back and ends. Provide 70 mm x 20 mm timber slat shelves over at 360 mm maximum centres vertically.

Finishing

COATING SYSTEM, PREPARATION
Refer to PAINTING

COATING SYSTEM, APPLICATION
Refer to PAINTING

4. SELECTIONS

HNZC STANDARD DETAILS
Refer to the following standard details for items relating to this work section

Standard Detail: Sheet 106 New vanity cabinet.

55 BATHROOM AND TOILET FIXTURES

4. SELECTIONS

HARDWARE SCHEDULE
Refer to HARDWARE for bathroom and toilet fixtures.

PASSIVE VENTILATION
Passive vent to be installed over all showers (if possible) Hometech 2002 model static vent.

55 HARDWARE

3. EXECUTION

KEY RINGS AND TAGS
Hand tagged keys to the engineer.

KEYS
Where more than one external door lock exists, all shall be keyed alike.

WINDOW OPENING RESTRICTORS (SECURITY/SAFETY STAYS)
Window opening restrictors (security/safety stays) to be Interlock Securistay or Interlock stainless steel sash restrictors. Window opening restrictors are only fitted to opening sashes for reasons of:
- Ventilation
- Security
- Child safety from falling
- Fix all restrictors with 4 mm monel pop rivets where possible

The window opening restrictor must be releasable without a key or tool where the sash is a means of emergency egress. Restrictors must be placed so that the window opening does not exceed 100 mm. Where fall height is greater than 2 metres, restrictors to be 1.2 metres above the floor.

4. SELECTIONS

HARDWARE SCHEDULE
Refer to BATHROOM AND TOILET FIXTURES for fitting of fixtures

	Function	Description
Exterior Fibreglass Doors (New construction)	Single cylinder deadlatch	**Lockwood KL301SC Exterior Deadlatch**
	Door stop	**Lockwood A350SC Wallmount Stop**
	Door closer (where required for fire door)	**Lockwood 7714SRSSS Door Closer**
	Weather seal	Raven RP3 or RP60 Automatic Bottom Seal
Exterior Aluminium Doors	Lock	Lockwood KL301SC Exterior Deadlatch SPET70 Extension Tube
	Sliding door lock	**Securicraft Albany MC182010DB Aluminium Door Sliding Door Lock**
Internal doors (to rooms)	Latch	**Whitco Tasman Security Pin Cylinder Lock or similar. Keyed externally, snibbed internally. LW801117**
	Door stop (where door opens against wall)	Lockwood **KL311SC Passage Set**
	Privacy lock - New (WC/bathroom)	**Lockwood A350SC Door Stop**

	Function	Description
Wardrobe, HWC cupboard, Linen cupboard, Understair (hollow core doors)	Latch	**Lockwood** **811SC Indicator Bolt**
Hinges – exterior doors		Lockwood **KL35 Dummy Trim** Magnetic Cupboard Catch
Hinges – interior doors		Ajax No 333 100 mm x 75 mm, fixed brass pin ZP finish butts or stainless steel equivalent
Sliding door (Interior timber)	Track (including floor guide)	Ajax No 1840 standard type 90 mm x 40 mm, loose pin FB finish butts or stainless steel equivalent
Sliding door (Exterior)	Track, rollers and handle	Henderson SP3 Sprint Track Lockwood 611SC Flush Pulls
Kitchen	Drawer knob, cupboard door knob, sliding cupboard doors	Jaeco No 25 Set CP on brass
		- Sylvan Furniture CX4 convex knob pine - Drawer and cupboard handles – CP "D" handles - Miles Nelson Hardware 65 concave knob 38 mm CP - Miles Nelson Hardware 261/10 drawer handle 96 mm CP - Miles Nelson hardware 24 towel rail bracket 19 mm CP or SS screws - 19 mm dia 20g 304 SS tube
	Drawer runners	Cupboard Catch "Junior" Magnetic Catch-Handee or Nippy Catches CP on brass to match existing
	Drawer runners	Proprietary slides refer JOINERY FIXTURES section
	Cupboard door hinges	To match existing refer JOINERY FIXTURES section
	Shelf bracket	Refer joinery details Hettich type hinges for overlay doors or cranked hinge or special cranked hinge as required
Bathroom	Towel rail and brackets	Powder coated stell shelf bracket to suit shelf width and weight.
	Shower curtain rail (over bath)	- Miles Nelson hardware 24 towel rail bracket 19 mm CP or SS screws - 19 mm dia 20g 304 SS tube
	Shower curtain	- Miles Nelson flanges 19mm CP on brass fittings - 19 mm dia 20g 304 SS tube

	Function	Description
	Shelf bracket	White synthetic fabric all edges sewn seams and eyelet hung on plastic rings. Standard double 1800 mm x 1950 mm
	Vanity cabinet and medicine cabinet door/drawer	Powder coated steel shelf bracket to suit shelf width and height.
	Door catch	Sylvan Furniture CX4 convex knob pine Miles Nelson Hardware 65 concave knob 38 mm Miles Nelson Hardware 261/10 Draw HDL 96 mm
WC	Toilet paper holder	Child safety catch
Wardrobe	Hanging rail	Jaeco Hardware 93 toilet roll holder CP
	End brackets	25 mm galvanized wardrobe pipe
Coat cupboard	Hat and coat hook	M & N 107 25 mm rail end flanges CP
Windows (aluminium)	Friction stay	Miles Nelson Hardware 264 windlock stay CP or SCP
	Security stay	P1561 Friction Stay P1530 Friction Stay
	Catches	Interlock Securistay for timber sash, white P348 Securicraft lock alloy, Securistay black where required for fire access and other S.S scissor stay
Handrail	Handrail support bracket	AJC W640 or W604 Styline RH, AJC W641 or W605 Styline LH or similar
Garage doors	Roller or tilting-door	FirePro LV 40 series grille
Garden shed door	Padbolt	AHI "Roll-a-door" or "Sectional" or equal. Supply and fit door hardware including lock.
	Hinges	100 mm galvanized padbolt
Ranchslider (where requested by HNZC)	Patio bolt	225 mm galvanized T hinges (3)
		Securicraft MC 82NL series (colour to match frame) Motel function, non locking

55 INTERIOR TIMBER DOORS AND WINDOWS

2. PRODUCTS

Materials - general

INTERIOR TIMBER
Paint quality radiata pine, to NZS 3602. Moisture content 10-14%.
Refer to the design guides for sizing

DOOR FRAMES, TIMBER
HNZC DIRECTION
Do not use MDF or fibreboard door frames.

HOLLOW CORE DOORS POLYSTYRENE INFILL
Clashing strips two sides and paint finish.

HOLLOW CORE DOORS VENEERED
Clashing strips two sides and finished with OB Pine Veneer for clear finish.

ACCESS HATCHES AND DOORS TO SERVICE SHAFTS
Doors and hatches to have fire and smoke seal. Doors and hatches to comply and be installed to AS/NZS 1905.1 to rating as directed by the engineer. Refer to HARDWARE.

Components

DOOR HINGES
Size and gauge to carry door size and weight. 3 hinges per door. Refer HARDWARE.

HARDWARE

Type:	Loose pin
Size:	89 mm
Material:	Satin chrome plate/Florentine bronze/stainless steel
Pin:	Loose pin zinc-plated steel

INTERIOR SLIDING DOOR GEAR AND SLIDING-FOLDING DOOR GEAR
To suit door form (sliding or bi-fold), size and weight and as detailed. Refer to HARDWARE.

OVERLAY DOOR HINGES
Refer to HARDWARE.

WEDGE FASTENER
A minimum of one stay per fanlight window is required. In addition, where a sash is accessible from the outside, the sash must be fitted either with security stays or a single window catch.

3. EXECUTION

EASING OF DOORS
Check operation. Reseat or replace hinges where required and, if needed, plane binding edges to provide even gap all round, sufficient for finishing without binding.

CEILING ACCESS MANHOLE
Panels to size required and 600 mm x 600 mm x 18 mm MDF, with all surfaces painted and dried before placing in position.

FLOOR ACCESS MANHOLE
Refer to PARTICLEBOARD FLOORS.
Refer to PLYWOOD FLOORS DECKING AND ROOFING.

4. SELECTIONS

HNZC DIRECTION
Interior Doors to have a clear opening of 760 mm minimium.
None.

64 VINYL SURFACING

HNZC DIRECTION
Do not use particleboard as a new substrate, use timber or ply.
Vinyl Tiles are permitted to be used on concrete slabs to ground floors only.
HNZC note vinyl sheet is to be specified in all other locations.

Need to refer to HNZC Policy & COC for Asbestos

2. PRODUCTS

THRESHOLD STRIPS
PVC bevel strip as supplied by sheet manufacturer to complete the work, profile and colour to be selected or aluminium vinyl edge as supplied by C & F Distributors Limited or similar.

NOSINGS
Where required nosings to be Tredsafe UP117 square nosed vinyl or equal.

SEALER & POLISH
Add to clause
Do not strip new vinyl before polishing. PVC sheet flooring to be sealed and polished to manufacturer's instructions.

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

SKIRTING
Timber skirtings - refer to standard drawings.

3. EXECUTION

Preparing substrate

TECHNIQUE
Add to clause
Note that vinyl shall be continuous beneath WC pans, laundry tub cabinets and WHB vanities.

General

ACCESSORIES
Add to clause
Allow for supply and fixing of proprietary collar firmly glued and fixed to every pipe or other floor penetration.

LEVEL ENTRY SHOWERS
Non-slip vinyl to level entry showers.

FIT VINYL SKIRTINGS
Generally, fit skirtings to the skirting manufacturer's requirements.
In wet areas, i.e. bathrooms, WC's and laundries, apply purpose designed 75 mm minimum high, H3.2 treated timber backing strip, to wall to top edge true to line. Pencil cove floor vinyl up wall over strip, hot forming to manufacturer's recommendations and using a corner roller to press the material firmly into the junction between the floor and wall. Install skirting. Refer to standard drawing detail. Form internal and external corners by folding vinyl into or around corners respectively and forming a welded joint at 45° from corner.

In other than wet areas, i.e. kitchens, flooring shall finish tight butted to skirtings and built in fixtures. Refer to manufacturer's instructions for the particular method of hot rod welding to coved areas.

SEALING AND POLISHING
When floor is dry apply 1 coat of metallised polish, then machine off. Do not strip new vinyl before polishing.

4. SELECTIONS

HNZC STANDARD DETAILS
Refer to the following standard details for items relating to this work section

Standard Detail:	Sheet 105	Waste pipe through floor.
	Sheet 109	Resilient flooring – coving details.

HARDBOARD/MASONITE UNDERLAY

Hardboard/masonite:	Supply
Manufacturer:	Nuplex Industries Ltd
Brand/type:	Hardboard/masonite
Thickness:	4.75 mm/5.5 mm

VINYL SHEET

Vinyl sheet:	Supply
Manufacturer:	Nuplex Industries Ltd
Brand/type:	MarleyFlor Plus
Thickness:	2 mm
Colour/number:	To HNZC detail

NON-SLIP VINYL SHEET

Vinyl sheet:	Supply
Manufacturer:	Nuplex Industries Ltd
Brand/type:	Altro VM20 slip resistant
Thickness:	2 mm
Colour/number:	To HNZC detail

MATCHING VINYL WELD ROD

Matching vinyl weld rod:	Supply
Manufacturer:	Nuplex Industries Ltd

65 CARPETING

2. PRODUCTS

CARPET GRIPPERS, FIXING AND BINDER BARS AND TRIMS
To AS/NZS 2455.1. All fixing bars and threshold strips to be bullnose type, in aluminium, Naplock Bars or similar. Binder bars in anodised aluminium mill finish section with a smooth face. Trims of type recommended by manufacturer of material being fixed or similar approved.

TAPE
Waxing seaming tape to be used where appropriate.

3. EXECUTION

LAYOUT
Plan the carpet layout so that:
- pattern or texture must match over whole surface of continuous spaces
- seams run lengthways in as long lengths as possible, straight and parallel with the main access of the room.
- traffic runs along the seam
- light from windows is not across the seam
- pile faces away from the main natural light source.
  all wardrobes, excluding the hot water cupboard to be carpeted.

SEAMS - UNDERLAY
Seams of underlay are not to coincide with those of the carpet when laid in the same direction and are not to shadow through the carpet. Join seams of underlay with tapes at least 50 mm wide, with non-staining adhesive. Prevent seams sticking to surface on which carpet is laid.

SEAMS - CARPET
Seams of carpet to be reinforced with waxing seaming tape. Prevent seams sticking to surface on which carpet is laid.

Installation

SEAMING AND JOINING
Carry out to ensure:
- joints will not break down when under traffic use.
- pattern matching and a consistent pile lay.
- pile in seam lined up straight and flat and not caught down.
- seams as flat as possible.
- straight seams with diagonals and designs correctly aligned.

STRETCHING
Install carpet flat and taut so that people/furniture movement over it does not cause rucking. Use a power stretcher to ensure maximum tension between walls with knee-kickers only used to assist. Apply force by correct pin adjustment to carpet base only to avoid damage to pile and underlay. Stretch tufted carpet at least 1% in each direction.

Completion

INITIAL CLEAN
On completion of the flooring installation cut away all loose nap ends, remove scrap, thoroughly vacuum the finished carpet.

ACCEPTANCE
Arrange for a final inspection of the completed work with the contractor. On agreement that the flooring is in accordance with the contract, the contractor takes responsibility for protecting and maintaining it until completion of the contract and for the cost of making good any subsequent damage.

4. SELECTIONS

UNDERLAY

Underlay:	Supply
Manufacturer:	Nuplex Industries Ltd
Type:	Government Foamchip 1.8 metre wide
Thickness/weight:	8 mm

CARPET

Carpet:	Supply
Manufacturer:	Godfrey Hirst NZ
Location:	As detailed on drawings
Type/weight/finish:	100% wool/loop pile/28 oz/smooth edge
Product/colour:	Scotchtwill II/to HNZC detail

THRESHOLD STRIPS

Threshold strips:	Supply
Manufacturer:	Godfrey Hirst NZ
Brand/type:	Naplock bars/aluminium

67 PAINTING

1. GENERAL

Warranties

WARRANTY
Warrant this work under normal environmental and use conditions against failure.
Warranty period:

Exterior	10 years
Interior	5 years

Refer to the PRELIMINARIES AND GENERAL section for the required form of warranty agreement and details of when completed warranty must be submitted.
Check PRELIMINARIES AND GENERAL for the date of commencement of warranties; which is normally practical completion of the contract. Refer to the chosen conditions of contract as it may also contain information on guarantees. Some situations may warrant a longer warranty period.

3. EXECUTION

Application – before applying final coatings

GLAZING COMPOUND
Allow to set for 2 days. Ensure that the glazing compound is fully protected by the coating system as soon as it is sufficiently hard.

Application - generally

BROADWALL AREAS IN ALL EXITWAYS
Paints to have 0 rating spread of flame and no greater than 3 rating for smoke development index to AS/ NZS 1530.3.

Application – exterior spray painting

PREPARATION
Prepare surfaces to HNZC standard for exterior painting.

COATINGS
Use only HNZC standard paints and colours.

PROTECTION
Manage overspray ensuring no spray drift to other property. Use only airless spray equipment. Erect an HNZC tenting system around the dwelling. Mask glass with Trimex Window Mask. Do not use masking tape/paper on glass.

FILM THICKNESS
Spray paint exterior to achieve a minimum top coat wet film thickness of 120 microns and 50 microns when dry.

BROADWALL AREAS IN ALL EXITWAYS
Paints to have 0 rating spread of flame and no greater than 3 rating for smoke development index to NZS/AS 1530.3.

Completion

DISPOSAL OF WASH WATER
Septic tank system
Tip wash water on to absorbent material such as sawdust and allow to dry before removing from site or place in sealed container and remove to a chemical disposal area or remove to an area with a mains sewage system.

Mains sewer system
Dispose of wash water down the gully trap into the sanitary sewer. Remove grate from trap immediately before tipping rinse water in and replace immediately afterwards. Rinse

all paint splashes off gulley trap. Under no circumstances allow any wash water into the stormwater system or tip onto lawns or gardens. If uncertain of best method of disposal, refer to Engineer for advice.

4. SELECTIONS

HNZC STANDARD DETAILS
Refer to the following standard details for items relating to this work section.

Standard Detail: Sheet 110 Paint demarcation at window head/jamb/sill.
Sheet 110A Paint demarcation at window.

Paint systems

Schedule of interior paint systems

Dulux is to be used exclusively for interior paint coatings.

PAINT/CLEAR FINISHING

Area	Substrate	Undercoat	Finishing coats
Ceilings & scotia (White only)	Plasterboard	Acrylic sealer undercoat 1 coat	Acrylic anti-mould semi-gloss 2 coats
	Fibrous	Solvent based sealer 1 coat	Water based anti-mould semi gloss 2 coats
	Existing - plasterboard and fibrous	Oil based stain blocker 1 coat (only if required)	Water based anti-mould semi gloss 2 coats
Walls except kitchen, dining, laundry, bathroom, WC	Plasterboard	Water based sealer undercoat 1 coat	Water based low sheen 2 coats
	Fibrous	Solvent based sealer 1 coat	Water based low sheen 2 coats
Walls kitchen, dining, laundry bathroom, WC	Plasterboard	Water based sealer undercoat 1 coat	Acrylic enamel gloss 2 coats
	Fibrous	Solvent based sealer 1 coat	Acrylic enamel gloss 2 coats
Interior joinery (except windows) Also Doors & trim (except scotia) (All trim to be white or polyurethane only)	Paint	High opacity acrylic primer I coat	Acrylic enamel gloss 2 coats
	Polyurethane	Cabot's varnish stain "Rimu" 1 coat	STET clear gloss 2 coats
Windows	Paint	High opacity acrylic primer 1 coat	Acrylic enamel gloss 2 coats
Wardrobes	Paint	Nil	Water based low sheen 2 coats
Wardrobes	Plasterboard unpainted	Acrylic sealer undercoat 1 coat	Water based low sheen 2 coats
Wardrobes	Polyurethane	Nil	Water based clear gloss 1 coat
Concrete floors	Paint	Acrylic paving paint (thinned) 1 coat + grit	Acrylic paving paint 1 coat + grit for anti slip texture
Steel	Paint	Solvent based metal primer 1 coat	Acrylic enamel gloss 2 coats

Notes:
- All products to be used strictly in accordance with manufacturer's recommendations.
- All water based anti-mould to be semigloss white.
- Wet area cove backing to be primed 4 sides before fixing.
- Bare Totara and Matai shall be primed with a water based primer to prevent staining through later coats.
- Kitchen shelves and cupboard shelves shall be painted on top surface and visible edges of shelf only or where previously painted.
- Windows: All top edges of sash rails shall have one coat of water based primer immediately below water based gloss coat. This shall impinge on the glass by 2 mm.
- All glazing compound to be Red Devil or Woodsash XHP glazing compound.
- 10% Floetrol must be added to water based gloss coat and water based primer used on windows and doors including cupboards.
- Skirtings to be polyurethane or acrylic enamel

Schedule of exterior paint systems

Dulux paint coatings system with warrantee as certified by approved Dulux certifier

PAINT FINISHING

Area	Substrate	Undercoat	Finishing coats
Windows, doors	Steel	Solvent based white primer and undercoat	Solvent based gloss
	Timber	Water based primer with TU3 tint	Water based gloss, 2 coats
Fascia, barge, soffit, weatherboards, concrete block, plaster, letter boxes, cladding, out buildings	Fibre cement	Solvent based primer	Water based gloss, 2 coats
	Timber - painted	Water based primer	Water based gloss, 2 coats
	Timber - stained	Water based clear sealer	Water based semi transparent stain, 2 coats
Steel/galvanized hardware, hinges	Steel - painted	None required	Solvent based, 2 coats
Fences, gates	Timber - painted	None required	Water based low sheen, 2 coats
	Timber - stained	None required	Water based low sheen, 2 coats

Notes:
- Use only Red Devil or Woodsash XHP glazing compound.
- None required: Assumes previous paint is in sound condition, if it is not, then a primer may be required, i.e. to cover bare timber if the old primer has partially delaminated.
- Follow all manufacturers' instructions and use best trade practice.
- Do not use clear finishes on exteriors.
- All roof coating products listed above are suitable for the collection of drinking water.

71 LIQUID - HOT AND COLD WATER SYSTEM AND TAPWARE SUPPLY

1. GENERAL

DOCUMENTS
Add to clause
NZS 3602 Timber and wood-based products for use in building

PROVIDE WARRANTIES
Warranty period: 2 years
Refer to PRELIMINARIES AND GENERAL and HOT AND COLD WATER SYSTEM

2. PRODUCTS

COPPER PIPE
HNZC DIRECTION
Do not use light gauge copper tube with 0.70 mm wall thickness.
Copper pipe wall thickness 1.02 mm.

WATER PIPE
HNZC DIRECTION
Use only copper or polybutylene waterpipe.
Polybutylene waterpipe to be used only where environmental conditions are unsuitable for copper pipe.

EXPOSED PIPES
Chrome plated copper pipe with chrome plated brass nuts and fittings.
Faucet hoses covered with stainless steel braid and fitted with stainless steel nuts.
Selected pipework finish to include escutcheon plates and bends and elbows protruding from walls or fittings.

BRASSWARE
De-zincified brass.

GATE VALVES
De-zincified brass b.s.p. screwed ends.

FELT LAGGING
Do not use.

HOT WATER PIPE INSULATION
Minimum 13 mm wall thickness, synthetic rubber or foam tube only.

SEALANTS
Sealants to be mould inhibiting silicone sealants Fosroc Silaflex or equal.

3. EXECUTION

THERMOSTAT SEALS
Install HNZC supplied thermostat seals to indicate date of installation to all hot water heating appliances.

JOINTING uPVC PIPE
Delete clause.

JOINTING POLYETHYLENE PIPE
Delete clause.

POLYPROPYLENE WATER SUPPLY
Delete clause.

SHOWERS
Ensure minimum head of 1000 mm above the shower rose is achieved.

Completion

DELIVERY WATER TEMPERATURE
When any work is done that could alter the hot water temperature, test that delivery temperature is set to 55°C maximum, at any hot water outlet.

4. SELECTIONS

COPPER PIPE
Add to clause
Type: half hard
Wall thickness: 1.02 mm
HNZC DIRECTION
Do not use light gauge copper tube with 0.70 mm wall thickness.

ALKATHENE PIPE
Internal diameter: 20 mm minimum

FLEXIHOSE
No jointing. Supply approval through Plumbing World or Mico manufacture by Spartan Engineering Ltd, Wellington.

PIPE INSULATION
Brand: Armaflex
Material: Synthetic rubber or foam
Wall thickness: 13 mm minimum
Finish: Paint insulated where exposed to UV light.

GAS HOT WATER HEATER, CONTINUOUS FLOW TYPE
As per procurement schedule
Delete selection.

Modify/extend the following schedule to suit project requirements.
TAPS AND FAUCETS

Fitting location	Tap type	Brand	Catalogue number
Basins:	Basin Mixer	Methven Promix Basin Mixer	Code: PRSLBCP
Shower:	Fixed Shower Rose	Methven Bella fit 1800mm above shower base	Code: SRBLCP
	Shower Mixer	Methven Promix	Code: PRSHCP
	Sliding Shower	Methven Bella slide shower-outlet 1800mm above shower base	Code: SHBLCP
Bath:	Bath mixer	Methven Futura bath mix with single handle	Code: FU2080CP
Sink:	Swivel Sink Mixer	Methven Promix Swivel Sink Mixer	Code: PRSLSCP
Tub:	Swivel sink mixer	Methven Promix swivel	Code: PRSLSCP
	Washing machine tap	Methven Kowhai Laundry Tap	Code: 41FWM
Cistern:	Cistern Tap	Methven Kowhai Cistern Tap	Code: 22C
Exterior wall:	Exterior Hose Tap	Methven 3515 exterior hosetap	

72 GAS – SYSTEM AND APPLIANCES

2. PRODUCTS

Materials

STEEL PIPE
To BS 1387, black steel or galvanized and wrapped or coated and complete with fittings, to NZS 5261.

GAS APPLIANCES
Refer to SELECTIONS.

3. EXECUTION

Application

PIPING
Add to clause
Underground steel pipe entering the building shall be galvanized pipe and shall be wrapped with 2 layers of Denso tape, 50% overlap and with tough PVC sheath.

HEATSHIELDS
Glazed ceramic tiled heatshields to be installed to walls; refer to TILING – WALL AND FLOOR.

RANGE ANTI TIPPING BRACKETS
Anti tipping brackets must be fitted to all free standing range installations to manufacturer's requirements.

SEISMIC RESTRAINTS
Comply with the requirement of NZBC G12 for seismic restraints for gas hot water cylinders.

Application – repair work

UTILITY NETWORK OPERATOR TO EXTEND THEIR DISTRIBUTION SYSTEM
Arrange for the utility network operator to extend their distribution system through the primary meter to connect to this installation all to NZS 5258. Include the cost of this service complete with excavation and backfilling.

Instruct tenant in the use of the appliance and ensure manufacturer's operating instructions are left in the house.

Arrange for electrical supply connection to appliances where required. All such connections are to be permanently wired to a switched socket. Refer to ELECTRICAL. Carry out all associated plumbing connections as required. Refer to HOT AND COLD WATER SYSTEM.

4. SELECTIONS

HNZC STANDARD DETAILS
Refer to the following standard details for items relating to this work section.

Standard Detail: Sheet 240 Gas meter cover.

GAS APPLIANCES

Appliance	Make and code
Room heater flued type:	Rinnai Slimline
Room heater balanced flue type:	Marker gas Valour Tropic Trend or Style
Hot water cylinder:	Rheem 135 litres or Rheem170 litres
Instantaneous gas showers:	Rinnai instantaneous gas water heater - Infinity
Range:	Simpson gas free standing range, 540 mm wide GUJ512HWNG, colour: white

74 PLUMBING - SANITARY AND SANITARY FIXTURES

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

2. PRODUCTS

WC PAN CONNECTOR
Plastic or flexible rubber connector as required.
Ideal Standard 623 or Nucon Flexible Rubber Closet Bowl Connector.

LAUNDRY TUB AND CABINET
Proprietary manufactured combined unit with seamless stainless steel tub, powder coated galvanized steel cabinet, separate waste pipe for washing machine, tub overflow outlet, safety latch for door, but excluding taps. Fix tub cabinet to wall.

SEALANT, SANITARY FIXTURES
For between sanitary fixtures and accessories and adjacent floor or wall surfaces.
1-part, silicone, containing mildew resistant agents. Fosroc Silaflex or equal.
Colour: White

3. EXECUTION

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 Part 2/NZBC G13/AS1. Discharge wastes into the drainage system stack, soil pipe, or gully trap as shown. Fit waste collars at all junctions with walls, for junctions with floors refer to VINYL SURFACING. Where side connection required to WC pans use plastic pan connector to P trap.
Bird-proof mesh to all roof vents and vermin-proof mesh to all untrapped waste pipes.

INSTALLATION REQUIREMENTS
Add to clause
Allow to fit and install associated screens, elements and hardware, plumb, true to line and rigid, to the fixture manufacturer's requirements.

INSTALLING BASINS
Add to clause
Supply and install standard chrome plated brass wastes and plastic plugs on chrome plated chains with all basins. Overflows are required to all basins. Seal behind basins with mould resistant silicone sealant.

INSTALLING BATHS
Add to clause
Supply standard chrome plated brass wastes and plastic plugs on chrome plated chains with all baths. Overflows are required to all baths.

INSTALLING CLEANERS SINKS AND TUB UNITS
Add to clause.
Add any requirements for connecting up a washing machine.
Supply standard chrome plated brass wastes and plastic plugs on chrome plated chains to sinks and tubs. Overflows are required to all laundry tubs. Refer to standard drawing details. Prepipe for washing machine connection.

PENETRATIONS
At penetrations through constructions provide and fit collars or escutcheon plates to match pipework.

TEST
Test soil and waste disposal systems to ensure no leakage exists and leave in proper working order.

4. SELECTIONS

HNZC STANDARD DETAILS
Refer to the following standard details for items relating to this work section

Standard Detail: Sheet 105 Waste pipe through floor.

Sheet 106 New vanity cabinet.
Sheet 107 Tub cabinet.
Sheet 108 Laundry tub.

SANITARY FIXTURES
Refer to GLAZING for frameless shower and bath screens.
Refer to BATHROOM AND TOILET FIXTURES for bathroom and toilet accessories.

Fixture	Model	Colour
WC pans	Vitreous china pan	White
WC cisterns	Dual flush	White
WC seats	Heavy duty	White
Wash hand basins and vanity unit	Wall hung unit with integrated 300 deep water resistant vanity unit where applicable.	
Showers	Acrylic stall or pressed stainless steel with extra frame support to waste outlet – easy clean waste	
Baths	Special HNZC – Clearlite with overflow	White
Sink/bench	Burns & Ferrell fluteline stainless steel with anti-spill edge Mercer F3 bowl with over flow	polished finish
Tub Square hole to be plugged, left or right autodrain connected.	Burns & Ferrell auto drain stainless steel or preformed steel cabinet and s.s. tub with overflow and with washing machine drain	
Floor drain	Easiclean trap	

74 DRAINAGE – GENERAL, GROUNDWATER, STORMWATER AND WASTEWATER

3. EXECUTION

Conditions

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. Trowel off and fit CI grating. Lay drains from high point in PVC drains in straight runs to correct gradients to discharge into the network utility operator's stormwater system.

CESSPITS/SUMPS
To G13/AS2 standard of 150 mm thick 20 MPa concrete 455 mm/600mm and 1200 mm deep complete with 225 mm dia ceramic half-syphon pipe and cast iron frame with lift out grating.

4. SELECTIONS

GULLY TRAPS

Manufacturer:	Iplex 100mm
Material:	Galvanized steel grate most gully trap grates are cast aluminium
Type:	~

METAL FASICIA AND CONCEALED GUTTER SYSTEMS
HNZC prohibit use of metal fascia and concealed gutter systems

77 ELECTRICAL POWER AND LIGHTING

1. GENERAL

Documents

DOCUMENTS REFERRED TO
Add to clause
Documents referred to in this section:

New Zealand Electrical Codes of Practice
ECP 11 Inspecting and testing low-voltage installations for certification

Requirements

CERTIFICATE OF COMPLIANCE
Add to clause
On completion supply the certificate of compliance to the engineer.

OTHER BURIED SERVICES
Prior to commencing trenching ascertain from the supply authority, gas authority, telephone company, local authority and any other relevant body the location of all buried services in the contract area. Arrange for the relevant organisation to clearly mark the position of their service. Pay all charges in respect of this work.

2. PRODUCTS

Materials

METER BOX
Proprietary manufactured, zinc plated powder coated metal case, or ABS plastic, with glazed panel door, weatherproof if mounted outdoors, and complete with meter mounting, main switch and fuse.
Confirm acceptability of remote meter reading devices to project

DISTRIBUTION BOARD
Proprietary manufactured, zinc plated powder coated, or heavy duty plastic, fire resistant enclosed construction, complete with neutral and earth busbars, MCBs, 30 mA RCDs and 60 amp main switch, complete with 20% spare capacity to AS/NZS 3000. Include 2 spare MCBs labelled as "spare". All protective devices: 6kA MCBs of the appropriate rating.

SMOKE ALARMS
To AS 3786 as per procurement

BELL SYSTEM
Complete with transformer for mounting on distribution board.

TV AERIAL
Antenna, co-axial cable and outlets, suitable for both VHF and UHF reception of all local free-to-air broadcast channels.

3. EXECUTION

Conditions

METER BOX
Fit to meter box manufacturer's and network utility operator's requirements where detailed. Recess into external wall and flash to weatherproof. Arrange for meter installation and connection.

EARTH LEAKAGE PROTECTION
RCD protection to AS/NZS 3000.

Domestic:
Install RCD protection at the switchboard of final sub circuits controlling socket outlets except for: Fixed cooking equipment and lighting

Residential (other than single and multiple domestic):
Install RCD protection at the switchboard of final sub circuits controlling socket outlets except for fixed cooking equipment and lighting.
Do not install RCDs at socket outlets and appliances rated at less than 150 watts.

Commercial:
Install RCD protection at the switchboard or at the outlet for socket outlets up to 20 amps installed in wet areas (bathrooms, laundries, kitchens); near pools and water features and where intended for use with cleaning equipment.

SWITCH AND SOCKET UNITS
Fit all single and double switch and socket units at the following heights (to the top of the unit) unless shown otherwise on the drawings.

Switch Units:	1000 mm
Socket Units:	300 mm above work benches
	500 mm above FFL elsewhere

Label all switch units that control electrical equipment by colour filled engraving on the switch plate.

LIGHT FITTINGS
Install light fittings in locations and at heights detailed, and to the fitting manufacturer's requirements.
HNZC DIRECTION
Do not use halogen or recessed ceiling fittings.

RANGE ISOLATOR AND WALL SOCKET
Stove isolator switch and wall socket to be installed above the stove, ideally just to one side.

RANGE ANTI-TIPPING BRACKETS
Anti-tipping brackets must be fitted to all free standing range installations to the manufacturer's specification.

TELEPHONE WIRING
Refer to COMMUNICATION SYSTEMS – CABLE COMMUNICATION.

TV AERIAL
Fit antenna, run cabling concealed below the roof and fit outlet with adjacent double power point in living room where shown on the electrical drawings. Ensure the system is suitable for high quality reception of all VHF and UHF channels - Sky TV installation practices minimum.

SMOKE ALARMS
Install smoke alarms to NZBC F7/AS1 and to the alarm manufacturer's requirements, fitted neatly and without damage to the surrounding finish.
Install one fitting in each of the following areas: bedrooms, lounge, separate dining, hall and garage if attached to house.

4. SELECTIONS

MATERIALS CABLES AND CIRCUITS - MINIMUM CABLE SIZES

Lighting circuits:	1.0 mm^2 fed by 40A 30 ma 4 kA RCBO
Power socket circuits:	2.5 mm^2 fed by 40A 30 ma 4kA RCBO
Fixed outlets water heating:	2.5 mm^2 fed by 20A MCB
Range circuit:	6.0 mm^2 fed by 32A MCB circuit
Bonding wires:	4.0 mm^2
Earthleads:	6.0 mm^2
Service main:	16.0 mm^2
Smoke alarms	First Alert 86RACQAUS
Pendant fittings:	0.75 mm^2 circular flexible

FITTINGS
All fittings white polycarbonate.

Light switches:	Clipsal 31VA16T
Socket outlets:	Clipsal 25VS (double)
Fixed outlets:	Clipsal standard series
Hot water system switches:	Clipsal standard series single switched fixed wire outlet or PDL 574 series
Range switches:	Clipsal 31VH plate + 30M35 switch, or SF35
Range socket outlets:	Clipsal 31VCS
Range plugs:	800CL
Batten holders:	Clipsal 530
Ceiling roses:	Clipsal 93
Cord grip lampholders:	Clipsal 501
Light shades:	Special HNZC vented PDL 49
Shaver power outlets:	Clipsal 727V only if existing is defective
Exterior lights:	PDL 90/91 c/w 75w lamp
Earth electrodes:	Min 13 mm diameter copperclad HT steel.

SWITCH UNITS

Type:	10 amp/240v flush polycarbonate units complete.
Make/series:	PDL 600 Series
Colour/finish:	White polycarbonate with PDL 538 2 gang conversion plates if required.
Exterior:	Polycarbonate, grey

DOUBLE SWITCHED SOCKET UNITS

Type:	10 amp/240v flush polycarbonate 3 pin combined switch units complete.
Make/series:	PDL 600 Series
Colour/finish:	Polycarbonate, white with PDL 538 2 gang conversion plates if required.

FIXED OUTLETS

Type:	10 amp/240v flush polycarbonate complete with switch.
Make/series:	Single switched fixed wired outlet
Colour/finish:	Polycarbonate, white

CEILING ROSES

Type:	Standard white plastic with flex and cord grip lampholder.
Make/series:	PDL
Colour/finish:	White

BATTEN HOLDERS

Type:	Standard white plastic complete with light shade
Make/series:	PDL
Colour/finish:	White

BATTEN HOLDERS SKIRTS/RINGS

Type:	Standard plastic.
Make/series:	PDL
Colour/finish:	White

SPACE HEATERS

Type:	Wall mounted via a fixed outlet.
Make/series:	Surface mounted wall fan heater 2.2kW for 1 and 2 bedrooms or 3.0kW for 3 or more bedrooms. Ensure control thermostats are fitted to appliance or connected to a remote thermostat
Colour/finish:	White

EXTERIOR LIGHTS

Type:	Standard white with polycarbonate globe rated to a minimum IP 44 installed to manufacturers recommendations with 75W lamp
Make & Series:	PDL

RANGE
Model/type: free standing
Make/series: Simpson 62H622W
1136 mm x 596 mm x 619 mm (H x W x D)
Colour: White

RANGEHOOD
Make/series: Fisher and Paykel
Model: RH601 white

RANGE SWITCH
Type: Standard flush mounted minimum 35A rating.
Make/series: PDL 600 Series
Colour/finish: Polycarbonate, white
When specifying an electric stove always use the 600mm wide stove

RANGE WALL SOCKET
Type: Standard 32A plastic flush mounted. (Replace existing only)
Make/series: PDL 600 Series
Colour/finish: White polycarbonate

RANGE PLUG
Type: Standard 32A with 1.8m flex. (Repair existing only)
Make/series: PDL 600 Series
Colour/finish: White

LIGHT SHADE
Type: Vented plastic conical shade
Make & Series: PDL 600 Series
Colour/Finish: White

OUTDOOR LIGHT SWITCH
Type: Surface mounted weatherproof
Make/series: Polycarbonated IP56 series rated
Colour/finish: Grey polycarbonate

FLUORESCENT TUBES
Type: Standard 26 mm diameter, 1200 mm, 1500 mm
1800 mm or 2d or 2l as applicable
Colour: 3500K

FLUORESCENT STARTERS
Make: Thorn or equal approved
Series: PS 155/500

INCANDESCENT LAMPS
Type: Standard BC pearl max 100w

SINGLE FLUORESCENT LIGHT FITTING
Type: Surface mounted c/w prismatic diffuser
Make/series: 36 watt or 58 watt

TWIN FLUORESCENT LIGHT FITTING
Type: Surface mounted c/w prismatic diffuser
Make/series: 2/36 watt or 2/58 watt

CIRCUIT BREAKERS
Type: Single pole, 10A-32A
Capacity: 10A-32A

RESIDUAL CIRCUIT BREAKERS
Type: Single pole, 20 A, 30 ma, 4 kA, SE surface mounted series RCBO

Capacity: 20 A, 30 ma, 4 kA, SE surface mounted series RCBO for single circuits on existing distribution board

DISTRIBUTION SWITCHBOARD
Type: Flush mounted, with c/w isolator, SE Surface mounted RCBOs and MCB's of appropriate rating
Make: PDL

MAIN ISOLATOR
Make: Merlin Gerin

SMOKE DETECTORS (240V)
Ionisation type, interconnectable, an inbuilt sounder (mini. 85dBA), surface mounted, tamper proof, guaranteed for life of battery, and minimum of British Standards approval.
Make: First Alert 86RACQAUS

SMOKE DETECTORS (BATTERY)
Ionisation type, 10 year lithium powered, hush and test facility, inbuilt sounder (mini. 85dBA), surface mounted, tamper proof, guaranteed for life of battery, and minimum UL listed.
Make: First Alert SA88LTH

Mains supply
16 mm^2 PVC NS cable between the mains entry point and the meter box and the distribution switchboard.
2.5 mm^2 TPS controlled water heater feed between the meter box and the distribution switchboard.

Meter box
Galvanized steel enamelled meter cabinet of suitable dimensions to meet the requirements of the local supply authority, recessed outside the dwelling house, in entry porch where possible.

Fittings as required by the local supply authority in relocating meters in new cabinet.

Provide all necessary flashings, scribers, sealant etc to ensure a watertight installation. New timber shall be treated and painted.

Notes:
- Surface mounting of meter box is not permitted without the approval of the engineer.
- Refer to HNZC, AS/NZS 3000 Section 3 and AS/NZS 3008 for further information on underground cabling systems.

Distribution switchboard
2 x 15 Din Rail DBS flush type distribution board.

Switch gear
Supply and install RCBOs and MCBs mounted in a 2 x 15 Din Rail DBS Merlin flush type Distribution Board arranged for example as follows:

Circuit 1	20A MCB Hot water cylinder
Circuit 2	63A Double mains isolator
Circuit 3	32A MCB Range
Circuit 4	40A 30 ma 4 kA RCBO
Circuit 5	20A MCB Power (kitchen)
Circuit 6	20A MCB Power (bedroom)
Circuit 7	10A MCB Lighting (bedroom)
Circuit 8	40A 30 ma 4kA Merlin Gerin RCBO
Circuit 9	20A MCB Power (lounge)
Circuit 10	20A MCB Power (bedroom)
Circuit 11	10A MCB Lighting (kitchen)
Circuit 12	Spare for (RCBO)
Circuit 13	Spare
Circuit 14	Spare
Circuit 15	Spare

Neutral and earthing bus bars to be designed to facilitate wiring and testing

78 COMMUNICATION SYSTEMS - CABLE COMMUNICATION

2. PRODUCTS

Components

COMMON COMPONENTS
All system components (frames, cabling and outlets) to be of a common manufacturer. All cable to be CAT 5.

3. EXECUTION

Application

TELEPHONE WIRING
Install Cat 5 telephone cable to telephone outlet positions shown on the drawings, preferably on internal walls. Install in conduit for outlets on masonry surface. Fix and connect BT jack point outlets to NZ Telecom requirements and terminate wiring at incoming terminal block. Install one jack point per floor with adjacent double socket outlet, with a maximum of two per dwelling.

TELEPHONE DRAW WIRES
Supply draw wires from accessible positions for the telephone outlets shown on the drawings. Install in conduit for outlets on masonry surface.

4. SELECTIONS

None.

82 ROADS AND PAVING - EDGING, KERBS AND GUTTERS, SUB BASES, ASPHALTIC AND INTERLOCKING PAVING

1. GENERAL

CONCRETE DRIVES, PATHS AND FOOTPATH CROSSINGS
Refer to CONCRETE.

WEAK SUB-GRADE
Where there is excessive settlement in the existing surface or there are soft ground conditions (CBR = 5 or less) advise the engineer and continue only as directed.

EXISTING - POTHOLE
A pothole is defined as surface attrition on a pavement layer either asphaltic concrete or chip sealed over an area less than 1 square metre.

EXISTING - DIG OUT
A dig out is defined as surface attrition evidenced by surface cracking and/or where the basecourse is exposed over an area greater than 1 square metre and where repairs to the pavement structure are required.

DEFINE BOUNDARIES
Ensure that the completed work lies within the defined boundaries of the particular property.

2. PRODUCTS

CHIP SEALING
Sealing chips to be grade 6 to TNZ specification M/6.

3. EXECUTION

General

RELATIVE LEVELS
Confirm that proposed finished paving levels conform to NZS 3604, clause 7.5.2.1, in relation to any adjoining habitable floor levels, and that proposed levels and falls comply with NZBC E1/AS1. Where any discrepancy exists, obtain the engineer's approval in writing before confirming adjustments to paving levels with the territorial authority.

INSPECTION
Prior to commencing paving, inspect the area to ensure that kerbing, edge restraints, drainage, surface water sumps, channels, basecourse and all other services are in place to correct falls and are of a standard to allow paving work of the required standard.

Application

ACCEPT AND PREPARE
Add to clause
Comply with NZS 3604, Clause 3.5, Site Preparation. Remove all turf, vegetation, trees, topsoil, stumps and rubbish from the area to be built on.

LAYING PRECAST CONCRETE KERBING
Excavate for and set concrete kerb blocks in place in concrete haunching, to line and levels shown. Lay kerbs straight to grade, alignment and level. Curves to sweep evenly without kinks, flats or angles. Form right-angle bends using purpose made corner blocks. Kerb blocks to be bedded on and backed with 10 MPa concrete to minimum thickness 75 mm and to be flush pointed with mortar. Allow concrete to cure before making good the adjoining basecourse.

FORMING IN SITU KERBS AND GUTTER CHANNELS
Excavate, box for and pour cast in situ concrete channels as detailed from 17.5 MPa concrete, with construction joints every 4.0 metres maximum. Set the joint flush with the surface and to a minimum 25 mm deep. Construction joints to be consistent with the joints in precast kerb blocks. The top surface of channels to be finished smooth and

even. Channels shall not pond water at any point. Allow haunching and channel concrete to cure before making good the adjoining basecourse.
Modify this clause to suit when laying extruded kerbing.

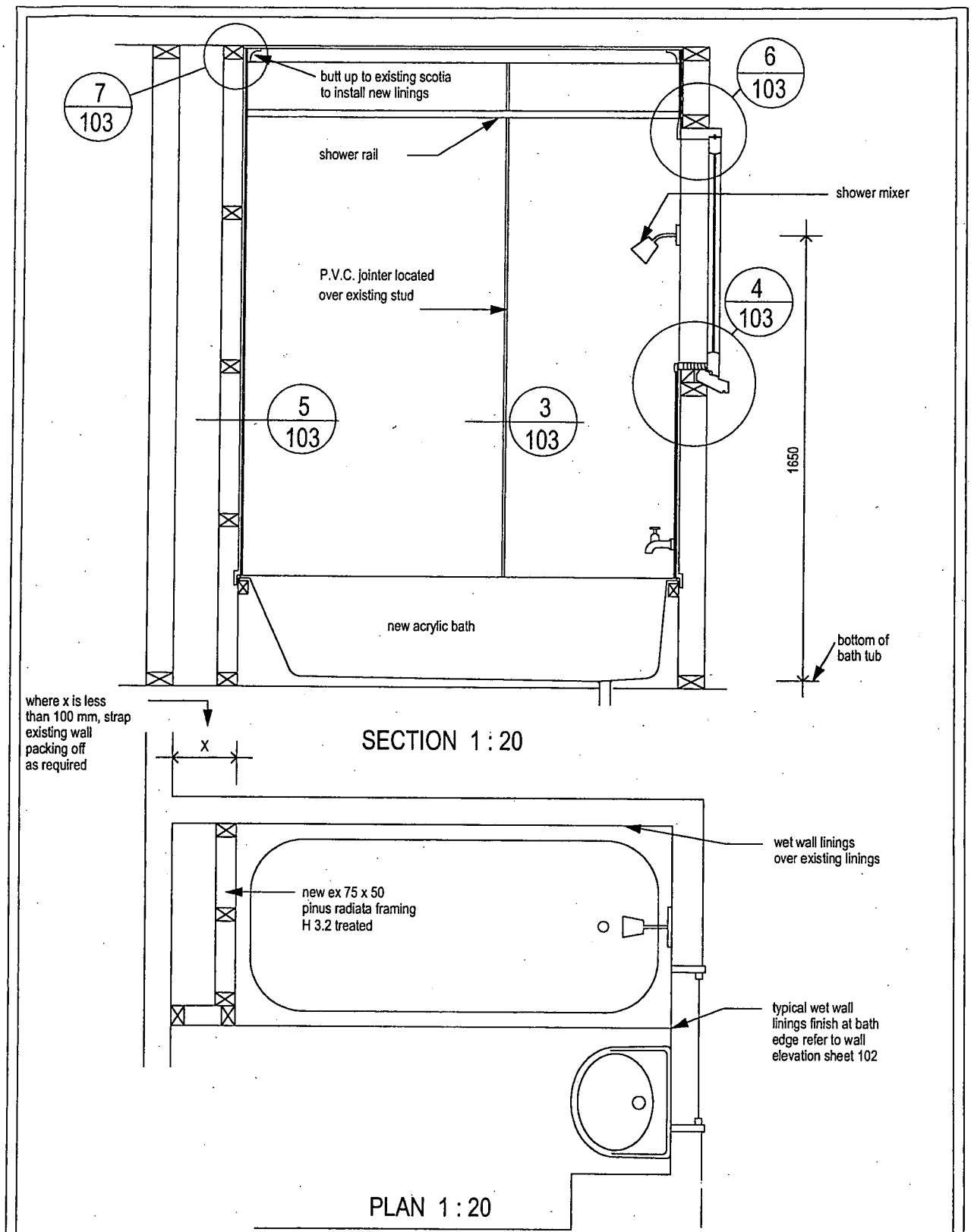
MACHINE LAID KERB & CHANNEL
Kerb and channel to be cast on site using 17.5 MPa concrete placed by an approved machine operated by skilled personnel. The profiles shall be specifically approved by the engineer before work is commenced. Contraction joints shall be formed at four metre centres, at right angles to the kerb line, by insertion of "Malthoid" DPC or equivalent strip. The joint material shall be set flush with the surface and shall be a minimum of 25 mm deep. Contraction joints shall be consistent with the joints in precast kerb blocks.

FOOTPATH CROSSINGS
Refer to CONCRETE.

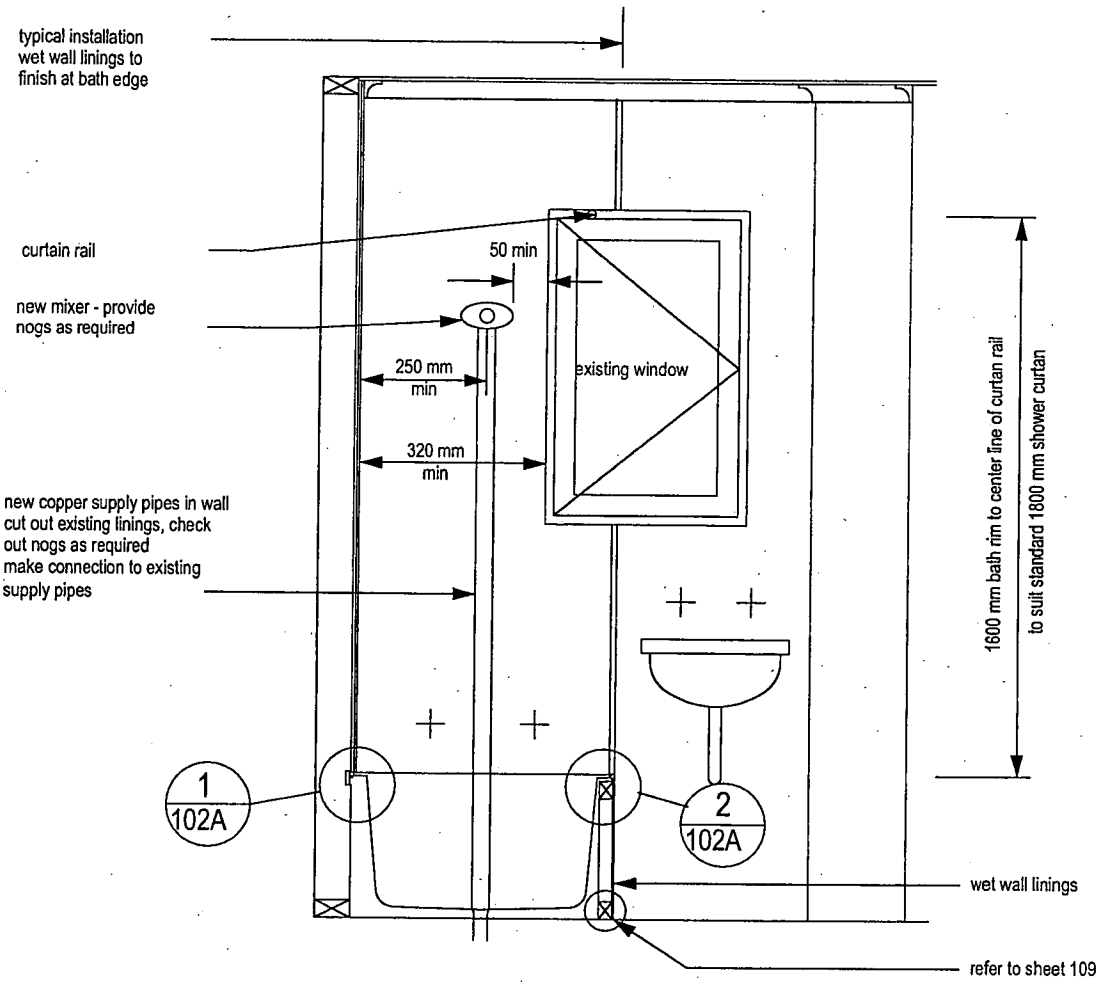
4. SELECTIONS

ASPHALT

Mix:	Mix 10
Thickness:	25 mm

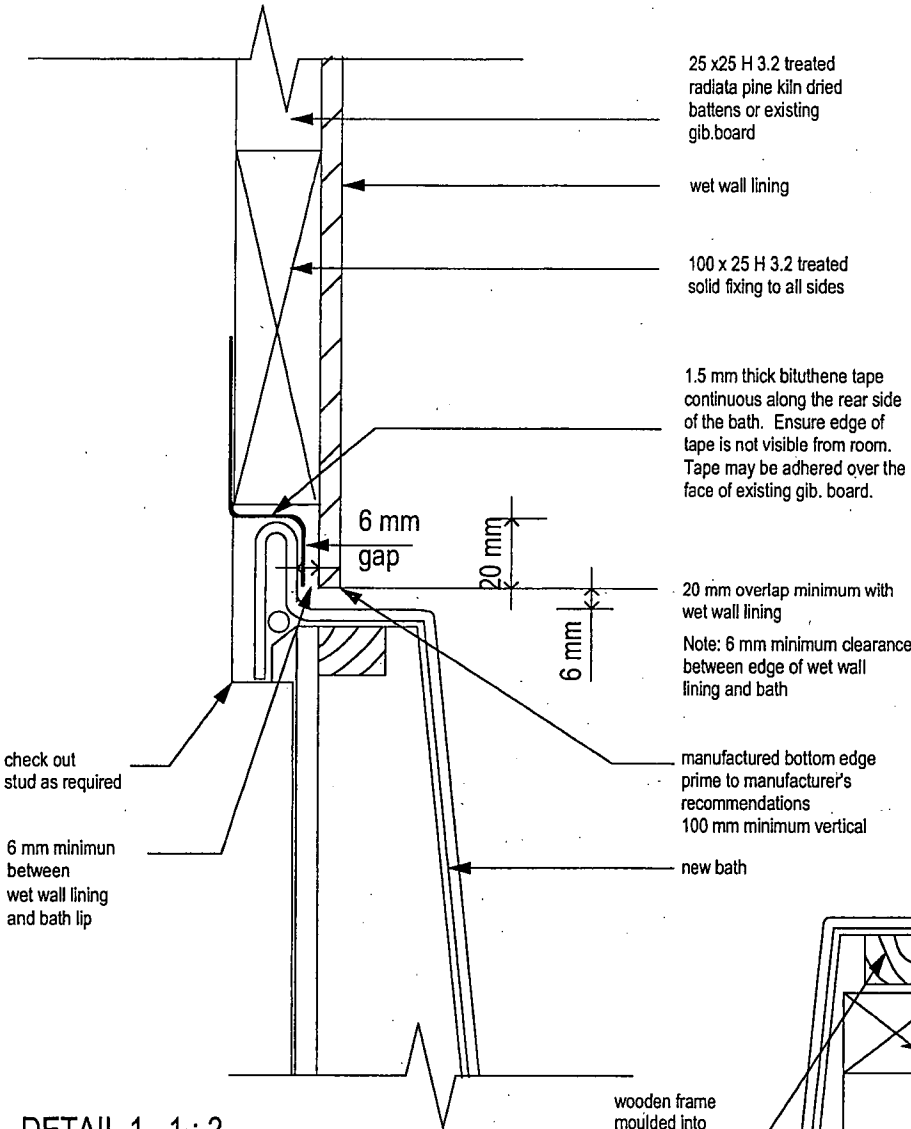


NEW BATH/SHOWER AND WET WALL LININGS

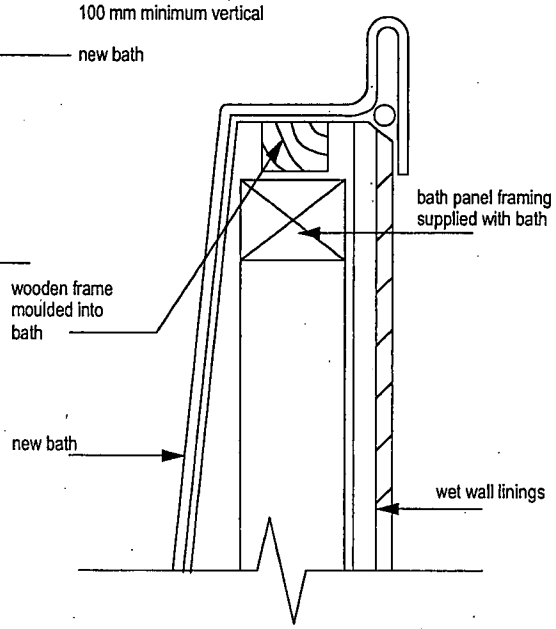


SECTION 1 : 20

BATH/SHOWER AND WET WALL LININGS

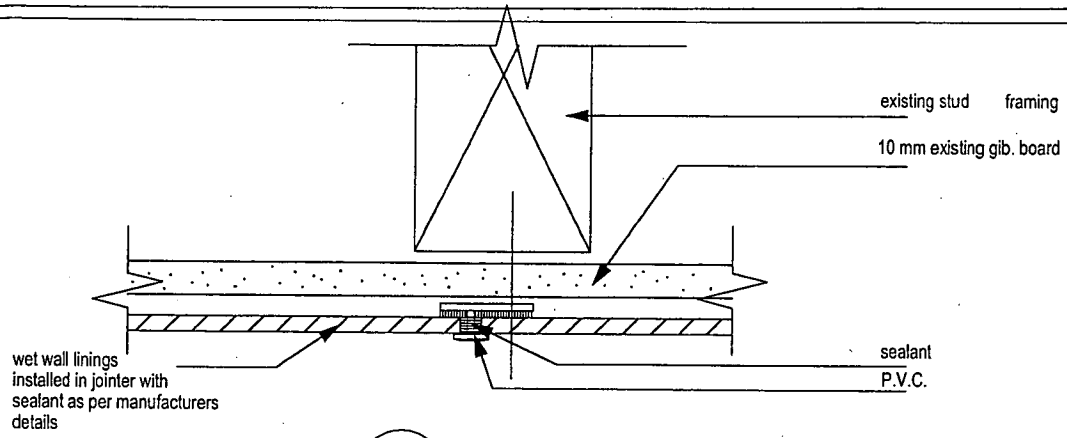


DETAIL 1 1 : 2
HIGH LIP BACK OF BATH
DRAINED JOINT BETWEEN
BATH / WET WALL

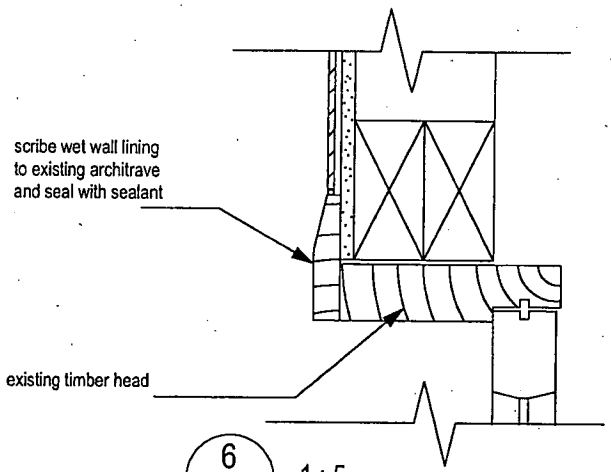


DETAIL 2 1 : 2
FRONT OF BATH

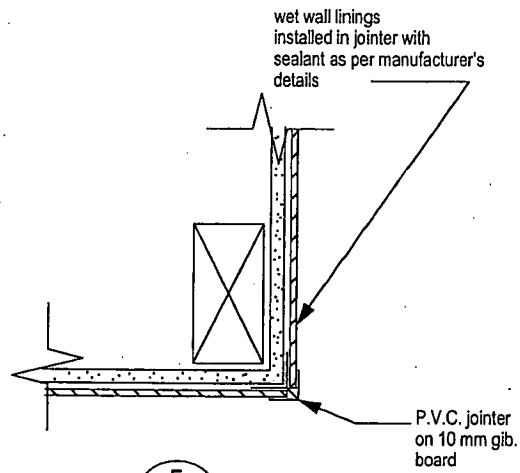
BATH/SHOWER AND WET WALL LININGS - DETAILS



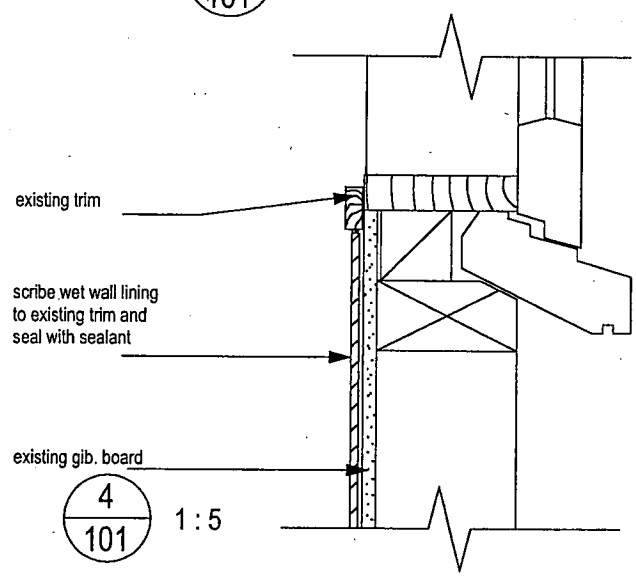
3/101 1 : 2



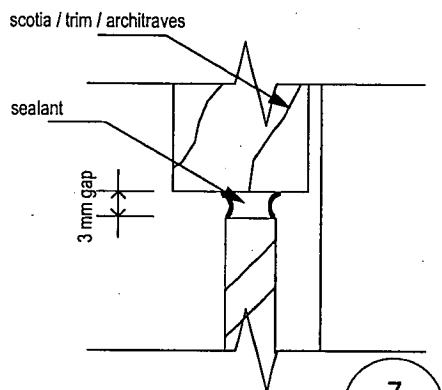
6/101 1 : 5



5/101 1 : 5



4/101 1 : 5

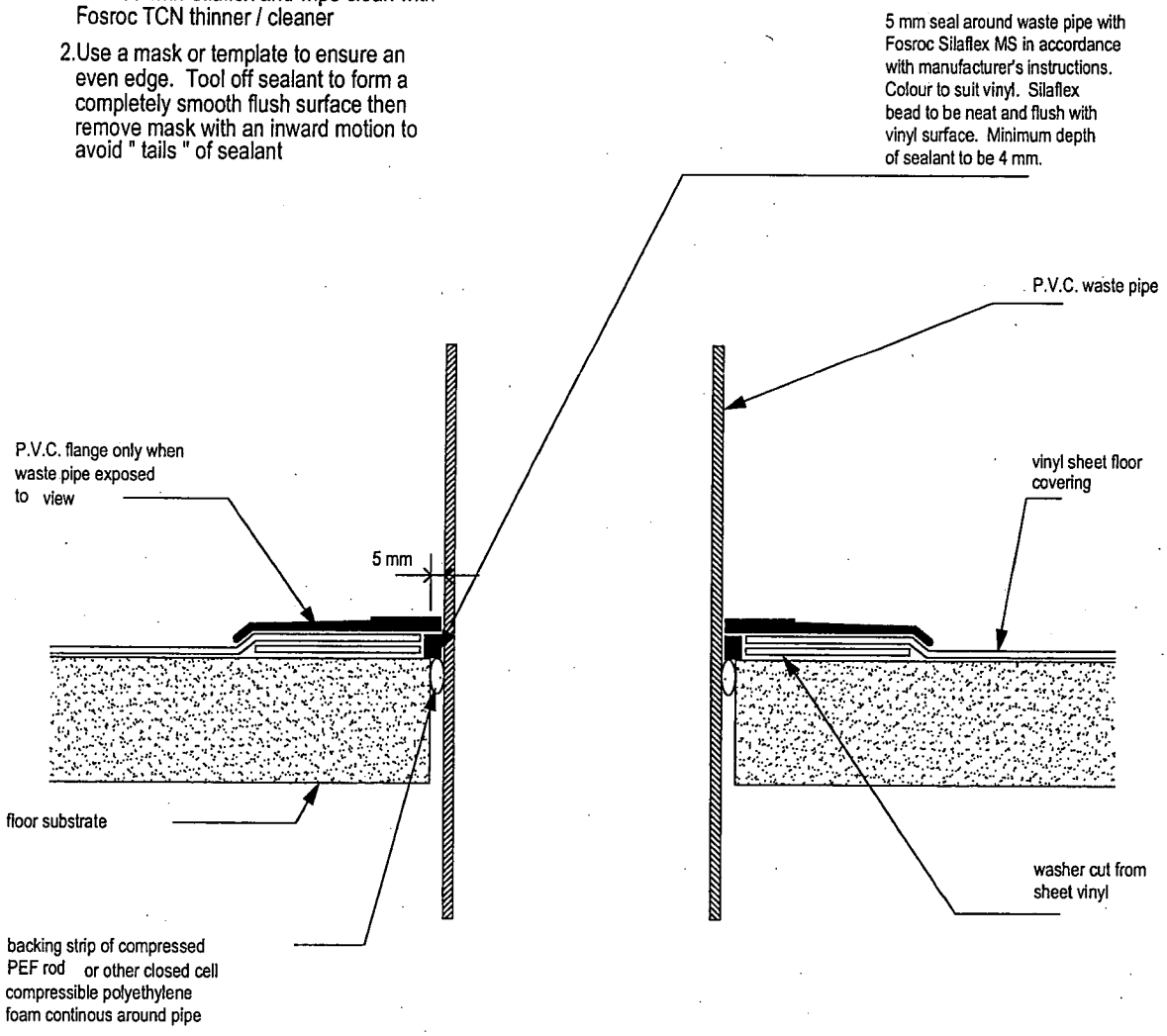


N.T.S. 7/101 & 104

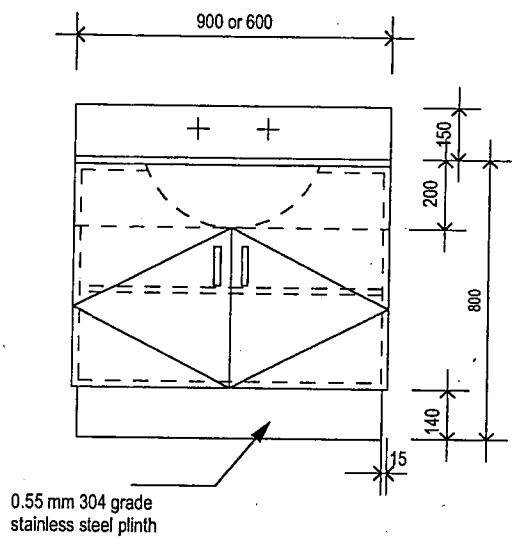
BATH / SHOWER WALL LINING DETAILS

NOTES :

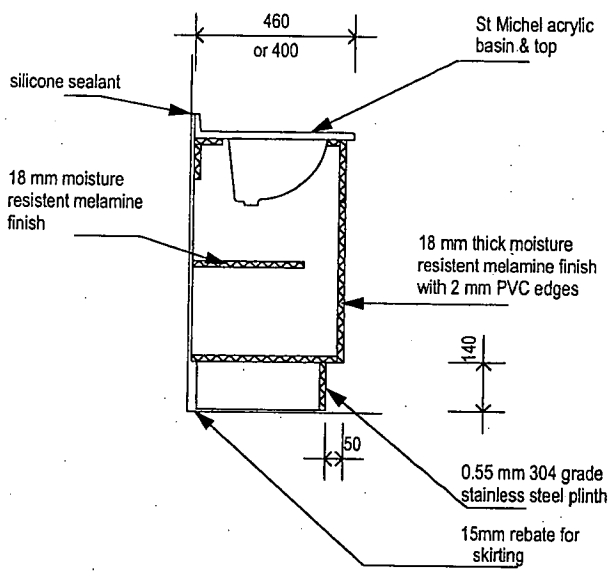
1. Roughen with sandpaper surfaces to be bonded with Silaflex and wipe clean with Fosroc TCN thinner / cleaner
2. Use a mask or template to ensure an even edge. Tool off sealant to form a completely smooth flush surface then remove mask with an inward motion to avoid " tails " of sealant



WASTE PIPE THROUGH FLOOR 1 : 1



ELEVATION 1:20

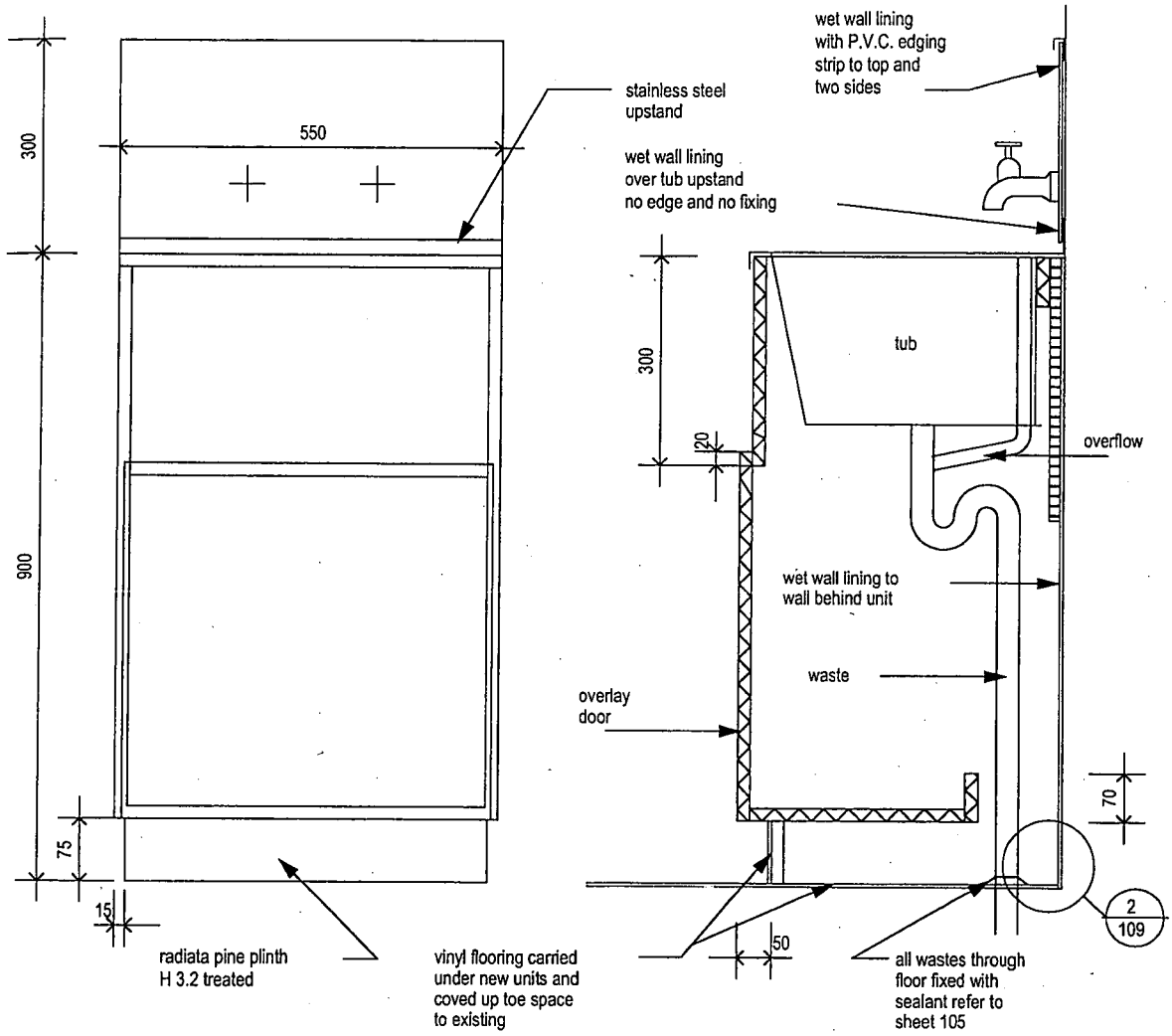


SECTION 1:20

NOTES:

1. Construct from 18 mm moisture resistent particle board with melamine finish
2. Hardware - Blum snap-on hinges
3. Flush off one end to suit corner installation
4. Fit 140 mm high 0.55 mm 304 grade stainless steel plinth
5. Base boards in H 3.2 treated radiata pine

NEW VANITY CABINET



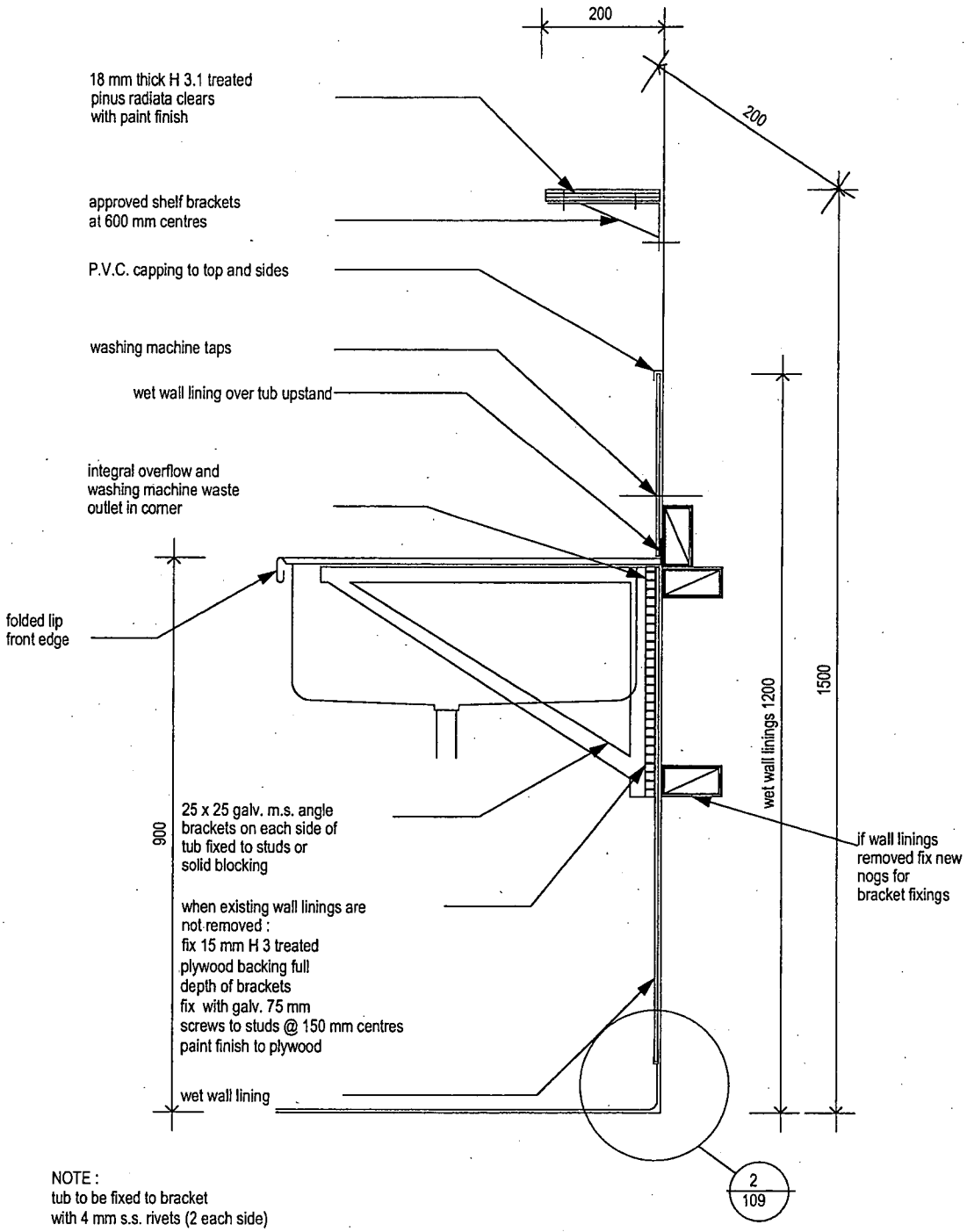
ELEVATION 1:10

SECTION 1:10

NOTE :

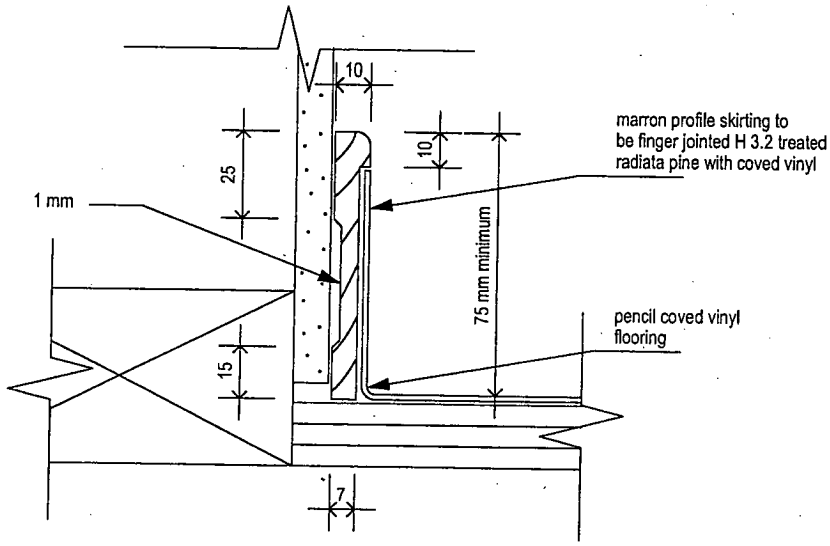
1. Construct cabinet from 17 mm thick, H 3 treated, B-B grade plywood
2. Paint finish - refer colour schedule
3. Fit hardware - refer hardware schedule
4. Tub with washing machine waste
5. Where existing cabinet replaced provide new H 3.2 radiata pine plinth

TUB CABINET

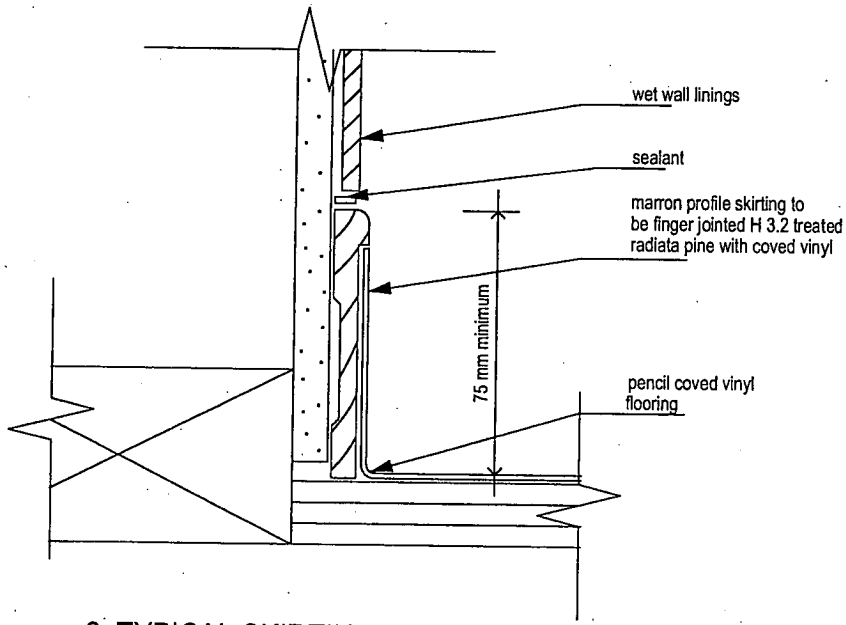


NOTE :
tub to be fixed to bracket
with 4 mm s.s. rivets (2 each side)

LAUNDRY TUB 1 :10

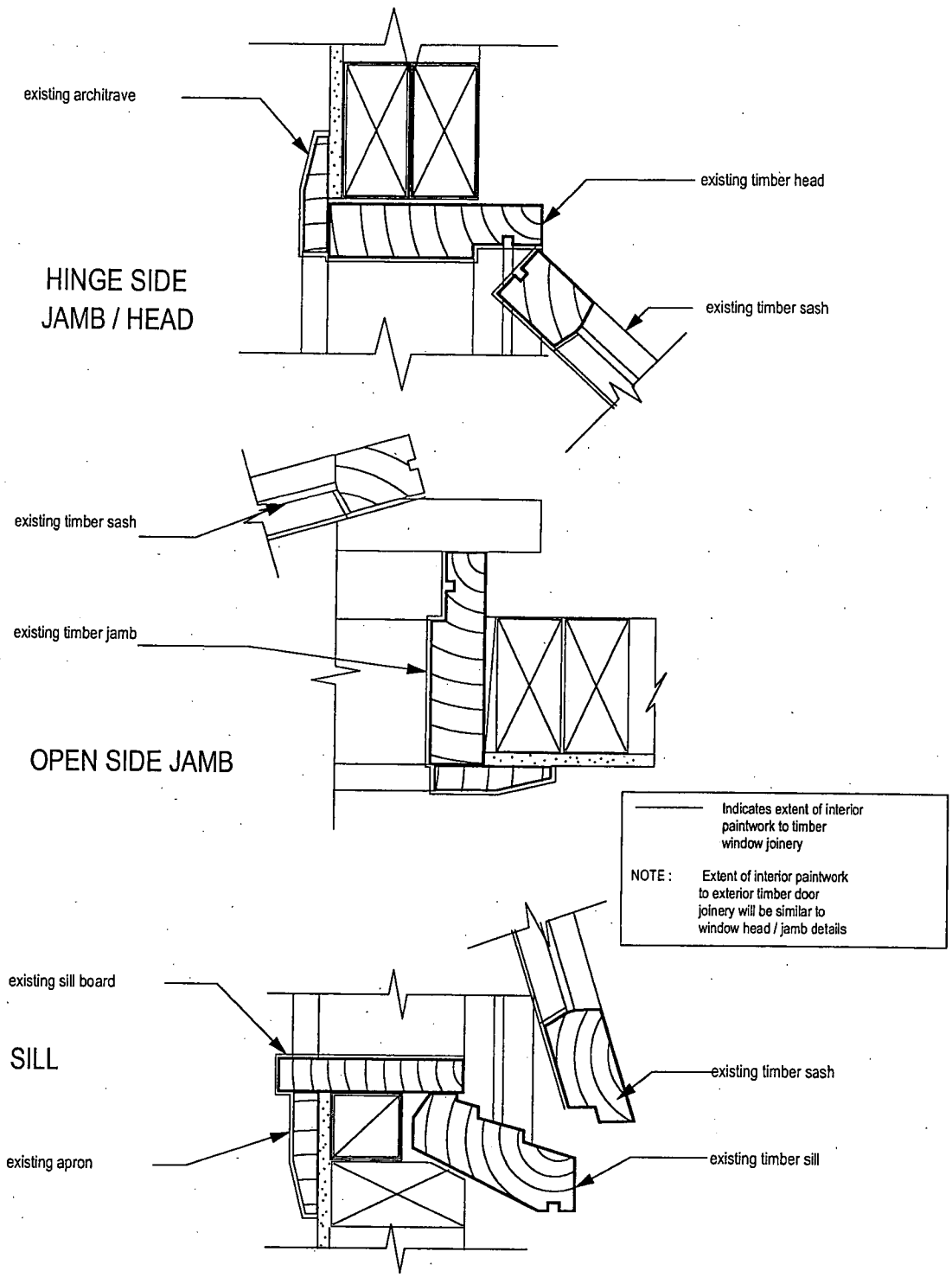


1. TYPICAL SKIRTING scale 1 : 2
(existing skirting removed)



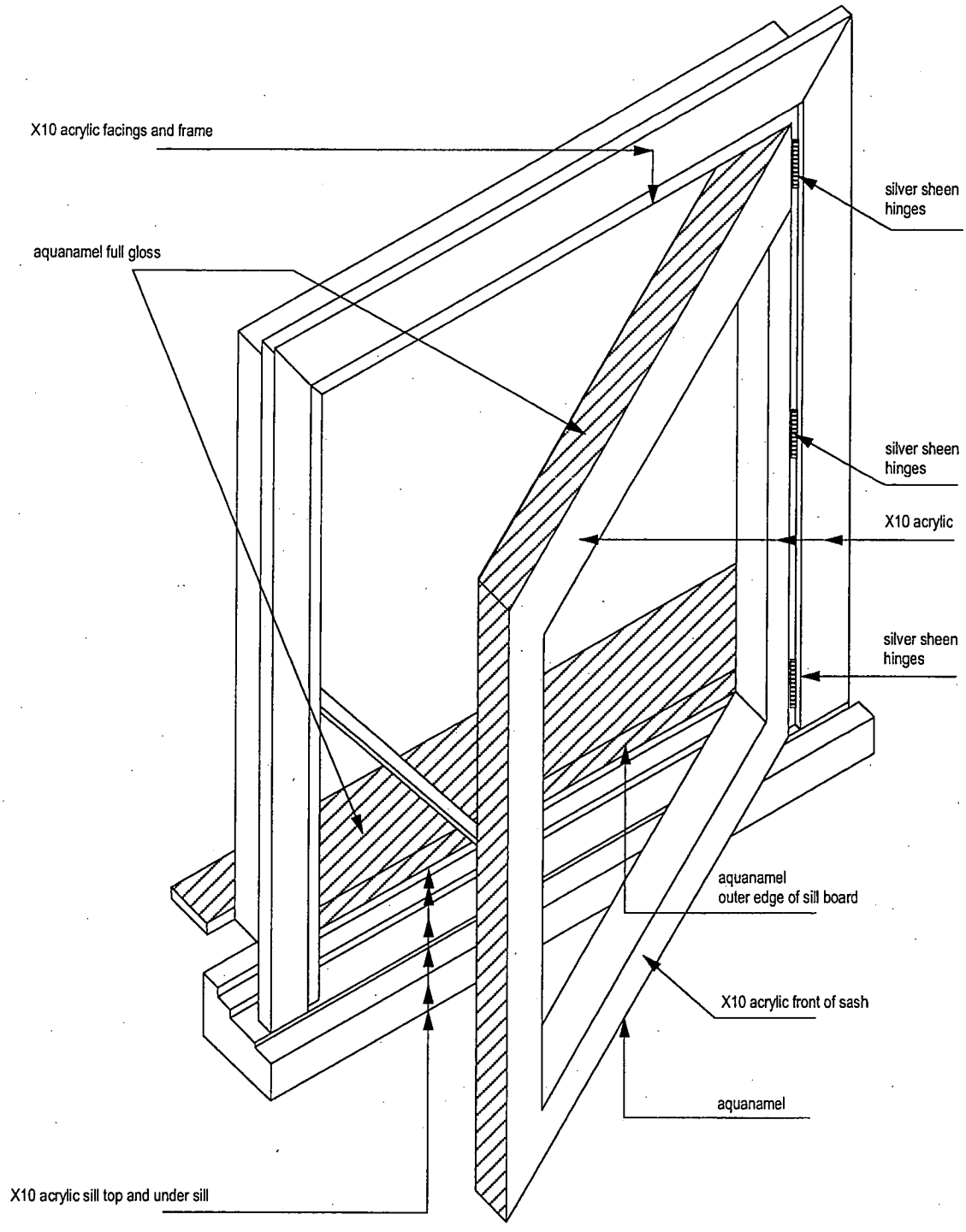
2. TYPICAL SKIRTING AT HARDIGLAZE scale 1 : 2

RESILIENT FLOORING - COVING DETAILS



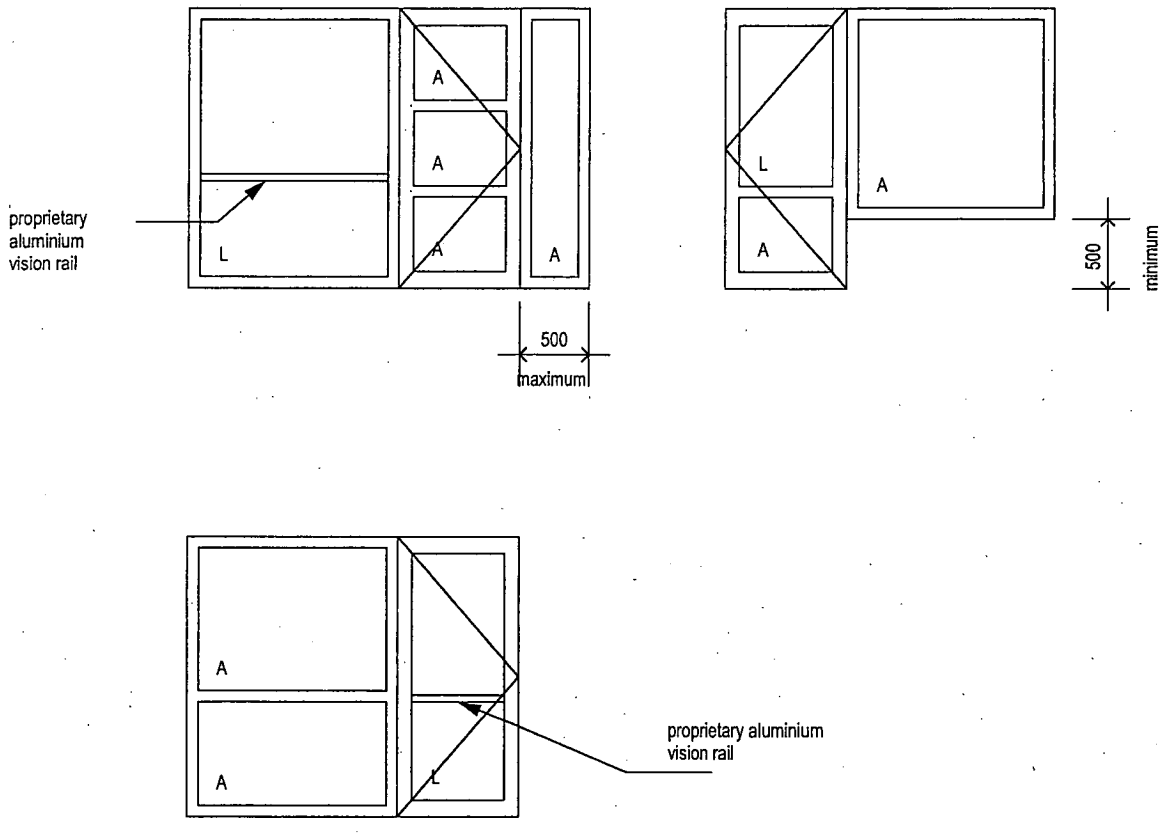
PAINT DEMARCATION AT WINDOW HEAD / JAMB / SILL

Not to scale



PAINT DEMARCATION AT WINDOW

DIAGRAMATIC SKETCH - NOT TO SCALE

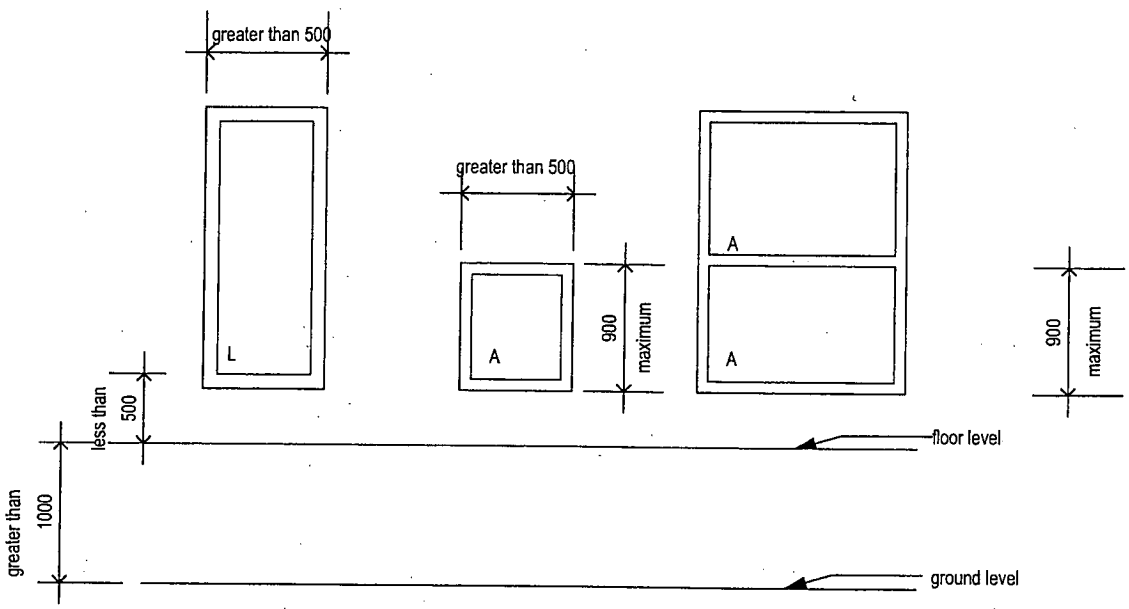


WHERE EXISTING GLASS REQUIRES REPLACEMENT GLAZE AS FOLLOWS :

L Laminated glass.
Only panes greater than 0.5 sq.m., thickness as per table 3.1 NZS 4223 Part 3. Note all laminated glass panes to be permanently marked in accordance with NZS 4223 Part 3.

A Annealed glass.
Thickness as per table 3.2 NZS 4223 Part 3, minimum 5 mm thick.

SAFETY GLAZING TO DOORS AND SIDE PANELS 1 : 50



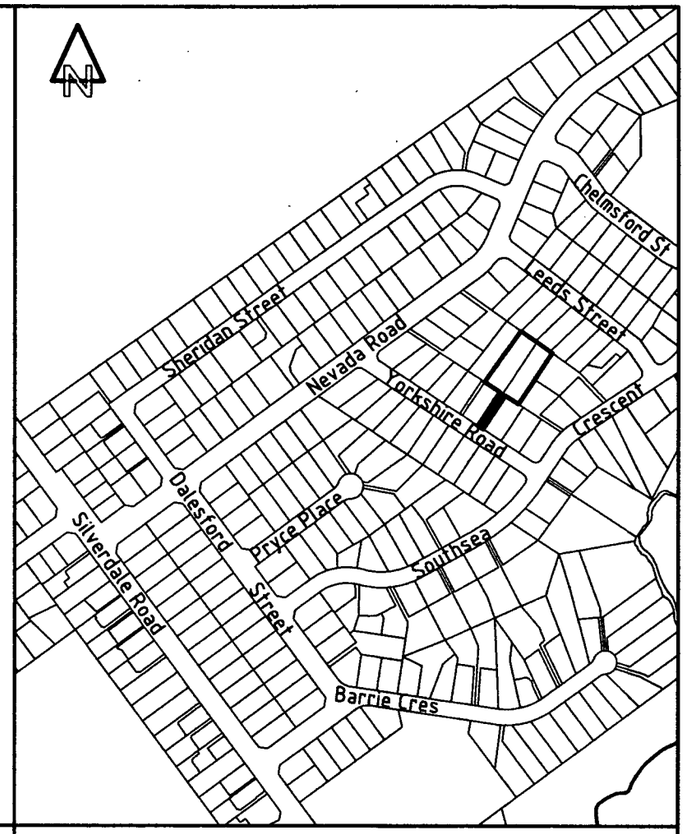
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A Annealed glass.
Thickness as per table 3.2 NZS 4223 Part 3, minimum 5 mm thick.

SAFETY GLAZING
PROTECTION OF OCCUPANTS
FROM FALLING > 1000 mm 1 : 50

PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT OF LOT 61 & 62 DPS 9556 & LOT 2 DP 428322



Address: 8 & 10 Yorkshire Road, Hamilton
Prepared for: CKC Holdings Ltd.

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

House on lot 1

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McPherson Goodwin
Surveyors–Land Engineers
–Land Development,
Resource Management and
Town Planning Consultants
7 HARDLEY STREET–HAMILTON–NEW ZEALAND P.O. BOX 9379
E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

MEMORANDUM OF EASEMENT			
Purpose	Shown	Serv.Tenem.	Dom.Tenem.
Right of way, Right to drain: sewage & water, Right to convey: water, gas, electricity, telecommunication & computer media	(A)	Lot 3 hereon	Lots 1, 2 & 4–7 hereon

MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council



SITE COVERAGE:
Lots: 1,2 & 4 = 107m² = 36%
Lots 3 & 5= 104m² = 35%
Lots: 6 & 7 = 104m² = 35%

HAMILTON CITY COUNCIL
BUILDING UNIT APPROVED
SUBJECT TO CONDITIONS TO BE KEPT ON SITE

ALL LOTS

Amendment:	Description:

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NOTES:
1. Areas and distances are subject to survey.
2. Total CT area: 2565m²

PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & SA6B/363 | Address: 8 and 10 Yorkshire Road, Hamilton

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–Land Development,
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McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: 1:250 @ A3	Sheet 1 of 2
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

MEMORANDUM OF EASEMENT			
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Right of way, Right to drain: sewage & water, Right to convey: water, gas, electricity, telecommunication & computer media	(A)	Lot 3 hereon	Lots 1, 2 & 4–7 hereon

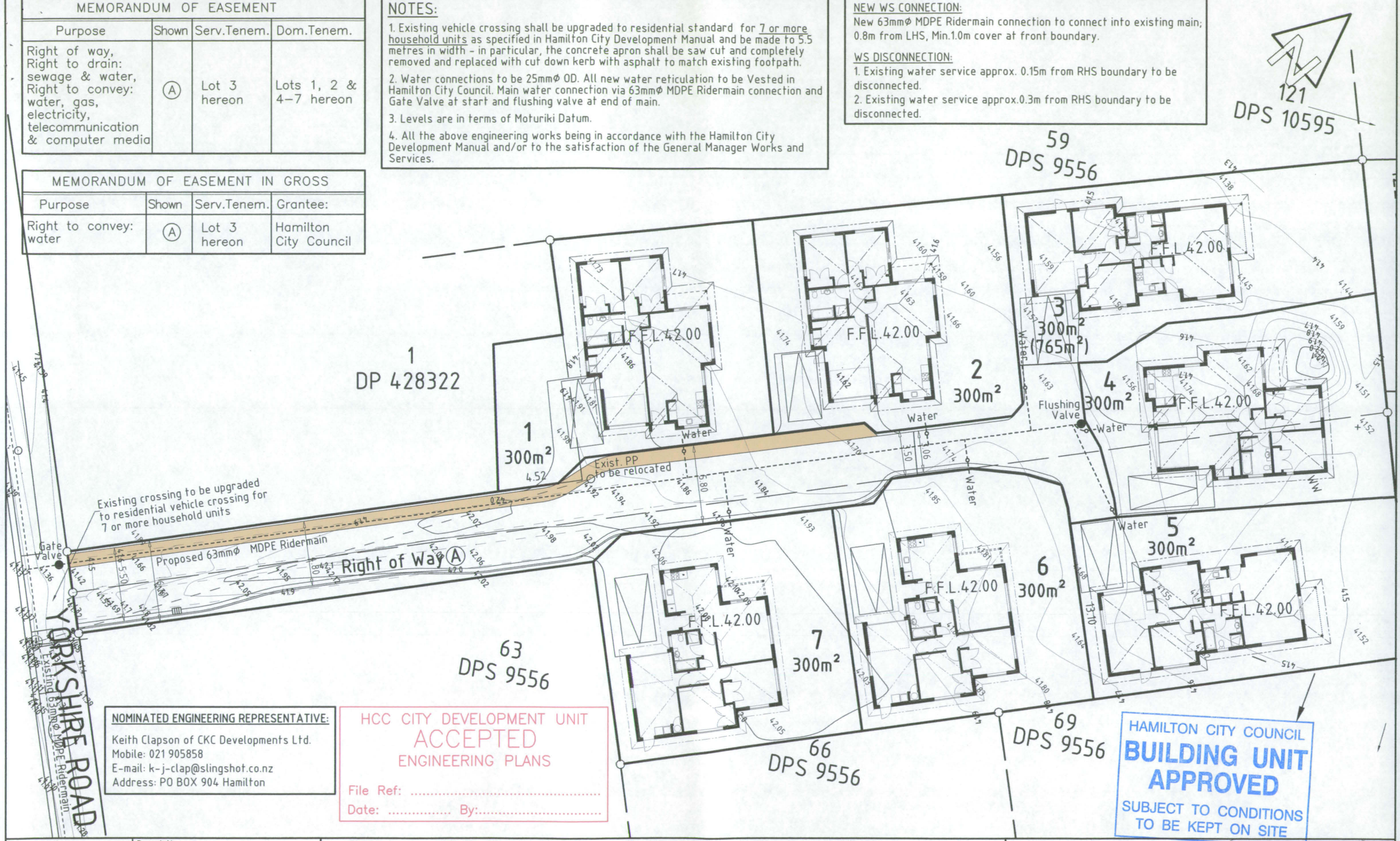
MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council

NOTES:

1. Existing vehicle crossing shall be upgraded to residential standard for 7 or more household units as specified in Hamilton City Development Manual and be made to 5.5 metres in width – in particular, the concrete apron shall be saw cut and completely removed and replaced with cut down kerb with asphalt to match existing footpath.
2. Water connections to be 25mmØ OD. All new water reticulation to be Vested in Hamilton City Council. Main water connection via 63mmØ MDPE Ridermain connection and Gate Valve at start and flushing valve at end of main.
3. Levels are in terms of Moturiki Datum.
4. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.

NEW WS CONNECTION:
New 63mmØ MDPE Ridermain connection to connect into existing main; 0.8m from LHS, Min.1.0m cover at front boundary.

WS DISCONNECTION:
1. Existing water service approx. 0.15m from RHS boundary to be disconnected.
2. Existing water service approx.0.3m from RHS boundary to be disconnected.



NOMINATED ENGINEERING REPRESENTATIVE:
Keith Clapson of CKC Developments Ltd.
Mobile: 021 905858
E-mail: k-j-clap@slingshot.co.nz
Address: PO BOX 904 Hamilton

HCC CITY DEVELOPMENT UNIT
ACCEPTED
ENGINEERING PLANS
File Ref: .....
Date: ..... By:.....

HAMILTON CITY COUNCIL
BUILDING UNIT APPROVED
SUBJECT TO CONDITIONS TO BE KEPT ON SITE

Amendment:	Description:

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2. Total CT area: 2565m²

PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

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McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: 1:250 @ A3	Sheet 2 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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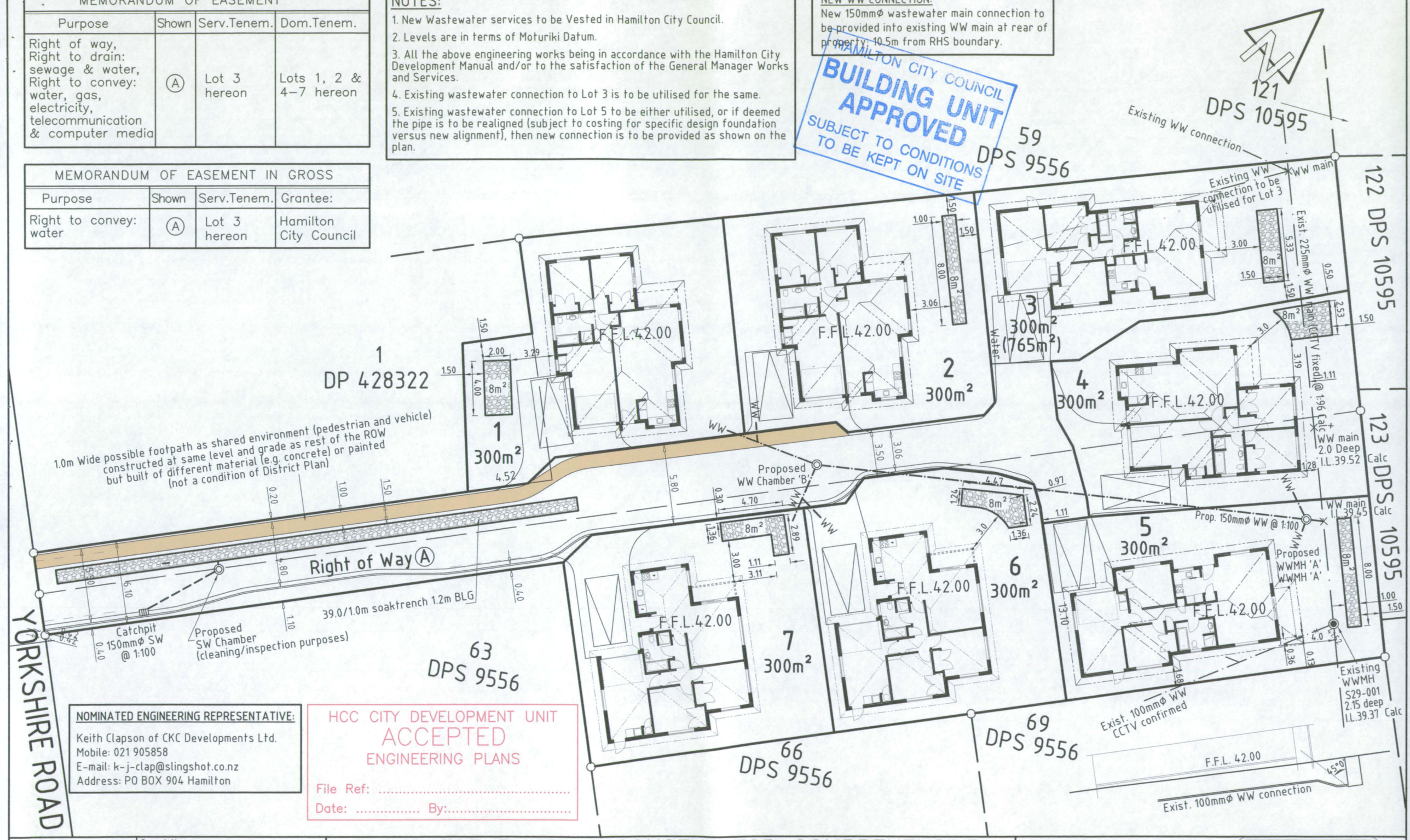
MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council

NOTES:

1. New Wastewater services to be Vested in Hamilton City Council.
2. Levels are in terms of Moturiki Datum.
3. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.
4. Existing wastewater connection to Lot 3 is to be utilised for the same.
5. Existing wastewater connection to Lot 5 to be either utilised, or if deemed the pipe is to be realigned (subject to costing for specific design foundation versus new alignment), then new connection is to be provided as shown on the plan.

NEW WW CONNECTION:
New 150mmØ wastewater main connection to be provided into existing WW main at rear of property; 10.5m from RHS boundary.

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE



NOMINATED ENGINEERING REPRESENTATIVE:
Keith Clapson of CKC Developments Ltd.
Mobile: 021 905858
E-mail: k-j-clap@slingshot.co.nz
Address: PO BOX 904 Hamilton

HCC CITY DEVELOPMENT UNIT
ACCEPTED
ENGINEERING PLANS
File Ref: .....
Date: ..... By:.....

Amendment:	Description:

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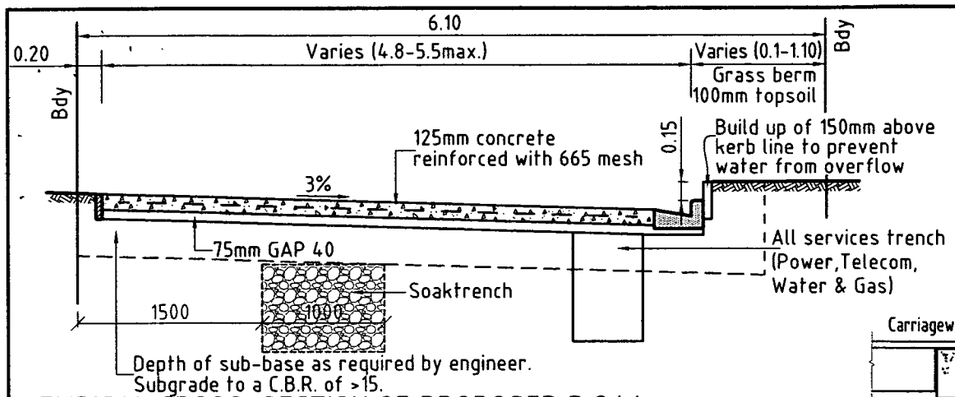
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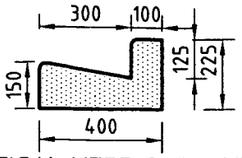
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Surveyor:	Checked: GI Ruffell	Scale: 1:250 @ A3	Sheet 1 of 1
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



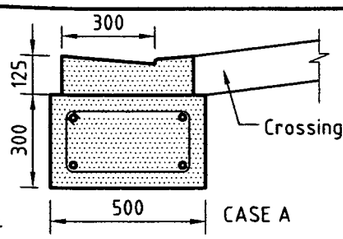
TYPICAL CROSS-SECTION OF PROPOSED R.O.W.

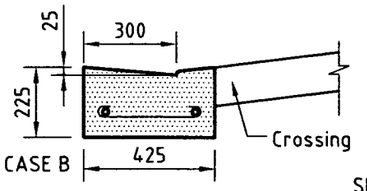
SCALE: 1 : 50



VERTICAL KERB & CHANNEL

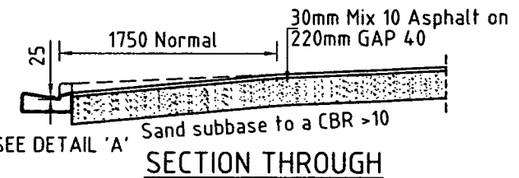
SCALE: 1:20





COMMERCIAL CHANNEL CROSSING

SCALE: 1:20



SECTION THROUGH COMMERCIAL VEHICLE CROSSING

SCALE: 1:50

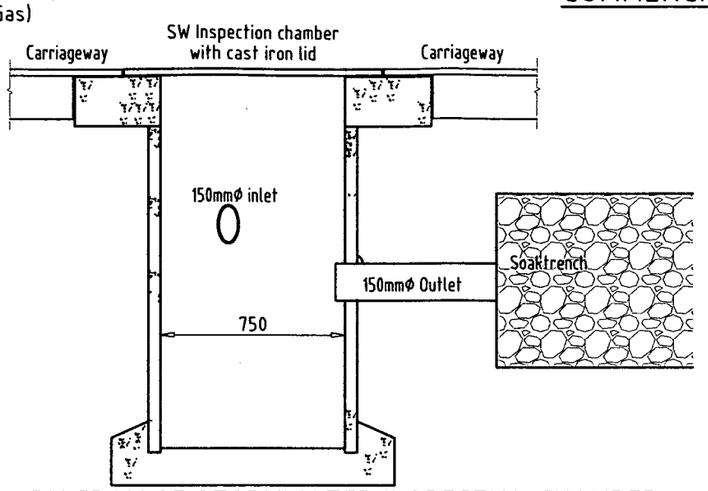
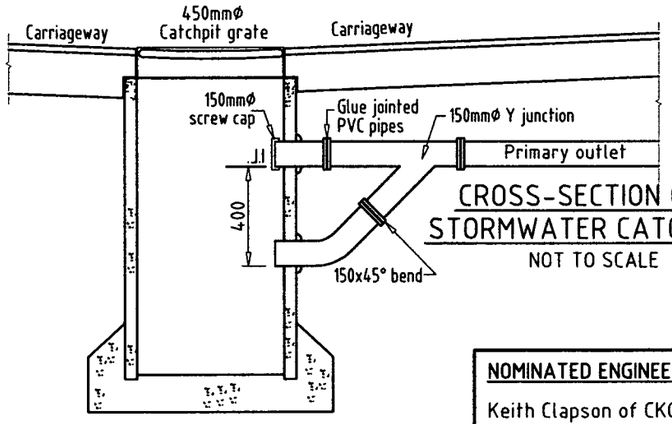


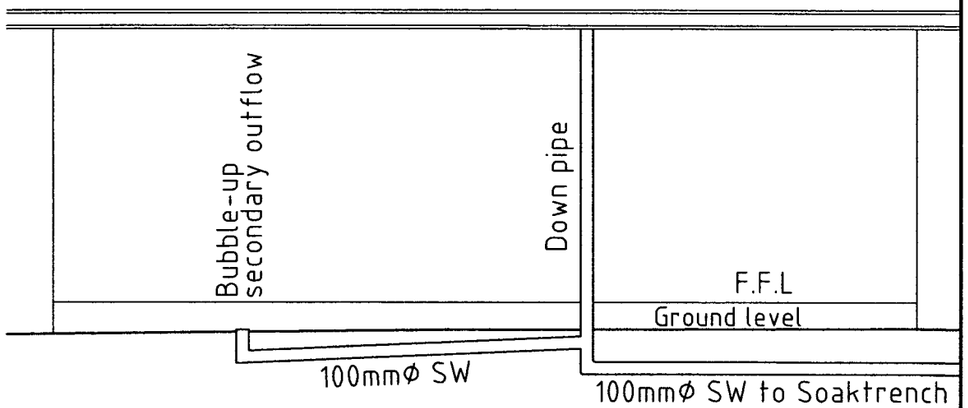
DIAGRAM OF STORMWATER INSPECTION CHAMBER

SCALE: 1:25



CROSS-SECTION OF STORMWATER CATCHPIT

NOT TO SCALE



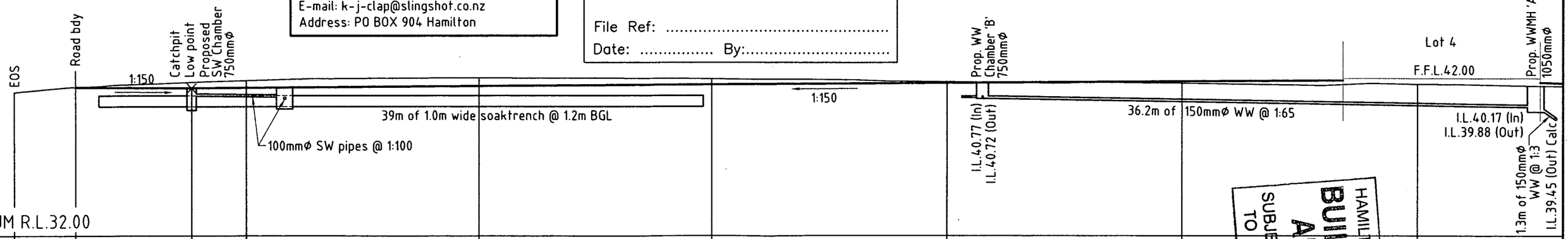
DETAIL OF SW SECONDARY OVERFLOW FOR LOTS 3-6

NOT TO SCALE

NOMINATED ENGINEERING REPRESENTATIVE:

Keith Clapson of CKC Developments Ltd.
Mobile: 021 905858
E-mail: k-j-clap@slingshot.co.nz
Address: PO BOX 904 Hamilton

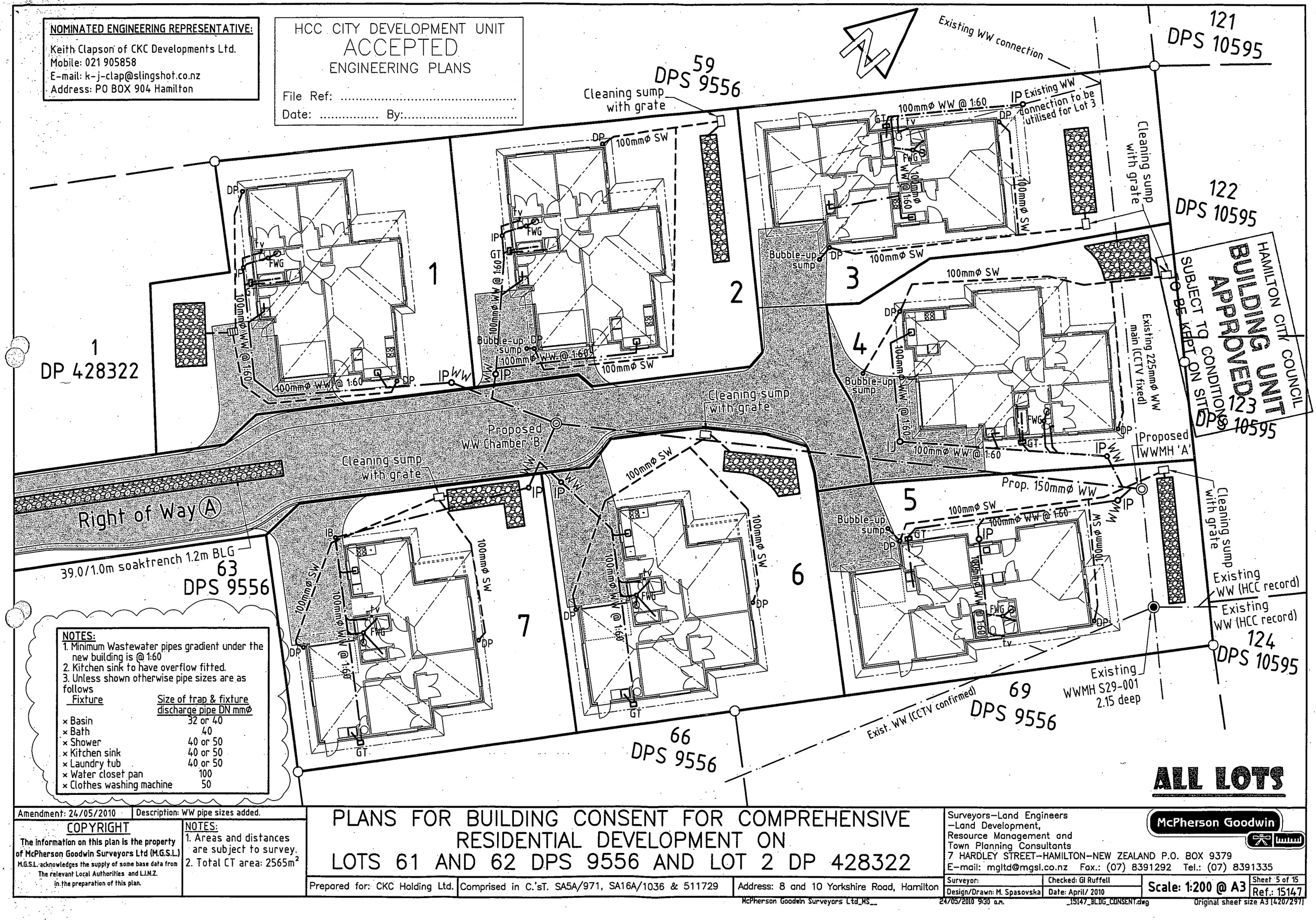
HCC CITY DEVELOPMENT UNIT
ACCEPTED
ENGINEERING PLANS
File Ref: .....
Date: ..... By:.....



| | | |

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File Ref: .....
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NOTES:
1. Minimum Wastewater pipes gradient under the new building is @ 1:60
2. Kitchen sink to have overflow fitted.
3. Unless shown otherwise pipe sizes are as follows

Fixture	Size of trap & fixture discharge pipe DN mmø
× Basin	32 or 40
× Bath	40
× Shower	40 or 50
× Kitchen sink	40 or 50
× Laundry tub	40 or 50
× Water closet pan	100
× Clothes washing machine	50

ALL LOTS

Amendment: 24/05/2010	Description: WW pipe sizes added.

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M.G.S.L. acknowledges the supply of some base data from The relevant Local Authorities and L.I.N.Z. in the preparation of this plan.

NOTES:
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2. Total CT area: 2565m²

PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd.	Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729	Address: 8 and 10 Yorkshire Road, Hamilton

Surveyors–Land Engineers
–Land Development,
Resource Management and
Town Planning Consultants
7 HARDLEY STREET–HAMILTON–NEW ZEALAND P.O. BOX 9379
E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: 1:200 @ A3	Sheet 5 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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File Ref: .....
Date: ..... By:.....

SUPERSEDED

SUPERSEDED

SUPERSEDED

1
DP 428322

Right of Way Ⓐ

39.0/1.0m soaktrench 1.2m BLG

63
DPS 9556

59
DPS 9556

121
DPS 10595

122
DPS 10595

123 DPS 10595

124
DPS 10595

69
DPS 9556

66
DPS 9556

Existing WW connection

Cleaning sump with grate

Proposed WW Chamber 'B'

Proposed WWMH 'A'

Proposed 150mmø WW

Existing WWMH S29-001
2.15 deep

Existing 225mmø WW main (CCTV fixed)

Exist. WW (CCTV confirmed)

IP Existing WW connection to be utilised for Lot 3

Bubble-up sump

100mmø SW

100mmø WW @ 1:60

1 2 3 4 5 6 7

SUPERSEDED ALL LOTS

Amendment:	Description:

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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

TYPICAL HOUSE ON LOTS 1 & 2
AREA: 101mm² (roof area 127m²)

Verandah

Lounge
Area: 19.4m²
Floor: Carpet

Dining/Kitchen
Area: (17.7m²)
Floor: Vinyl

Entry

Bedroom 2
Area: 9.3m² (10.6m²)
Floor: Carpet

Hallway
Area: 3.8m² (4.5m²)
Floor: Carpet

Bedroom 1
Area: 9.9m² (11.3m²)
Floor: Carpet

Bathroom
Area: 6.2m²
Floor: Vinyl

Garage
Area: 20.2m² (20.6m²)
Floor: Concrete

A'

A

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

LOTS 1 & 2

Amendment: | Description:

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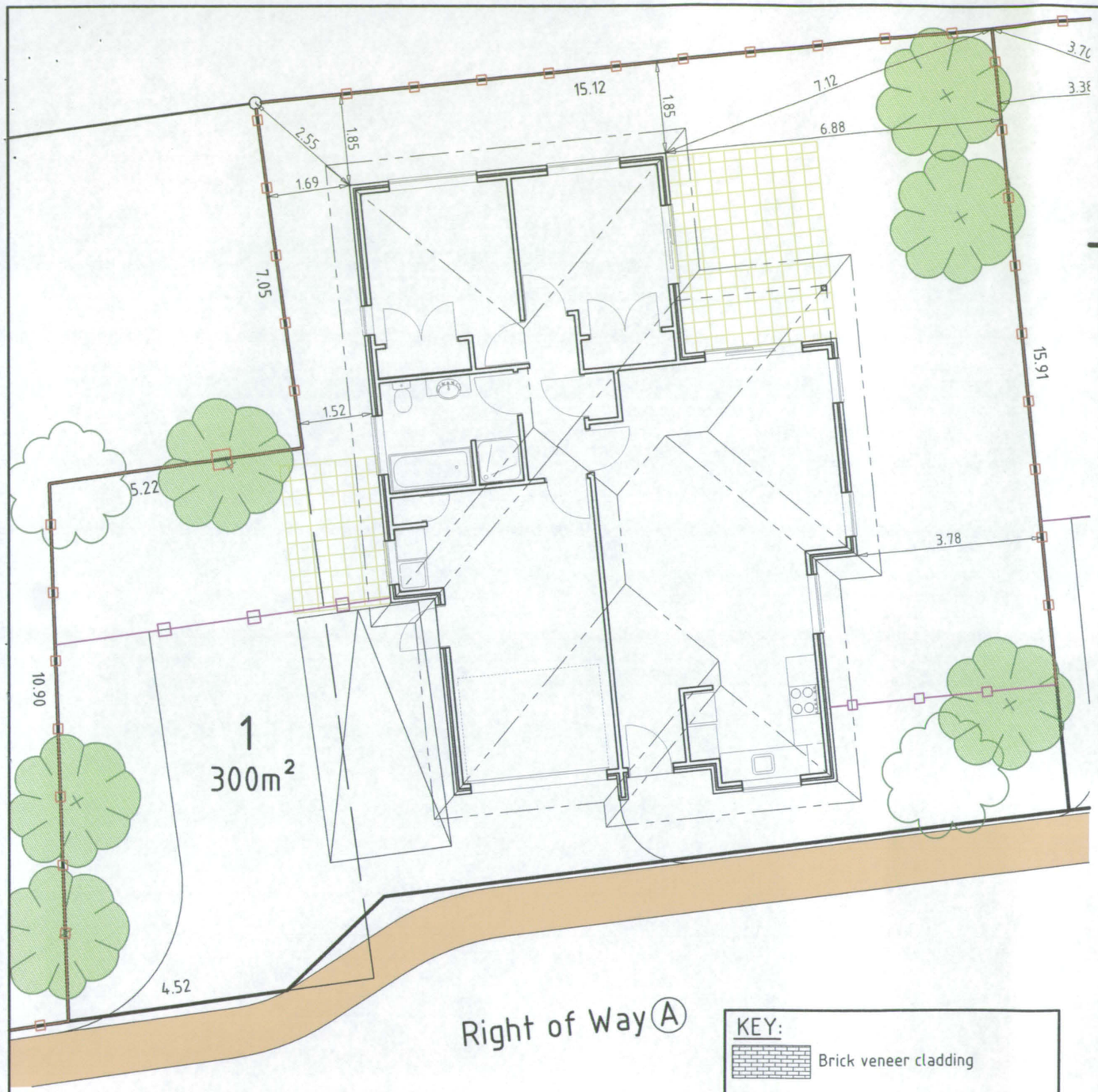
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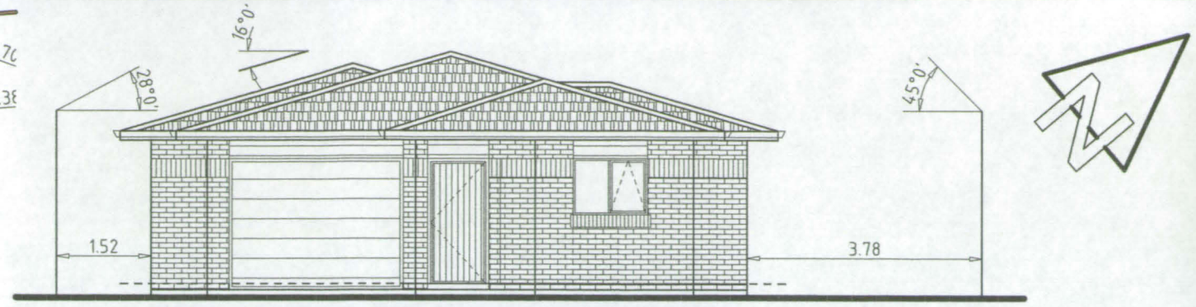
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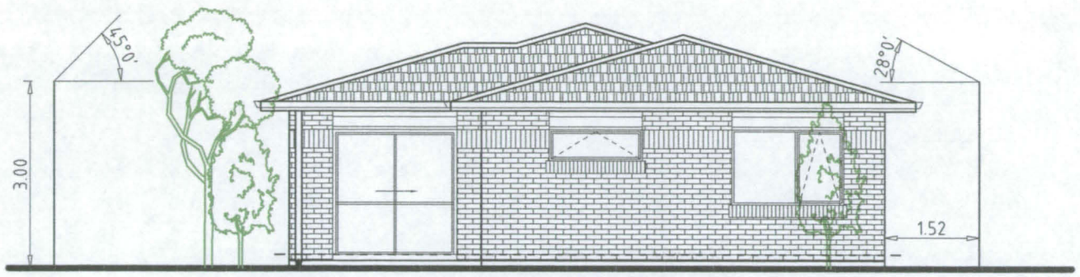
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Design/Drawn: M. Spasovska | Date: April/ 2010 | Ref.: 15147

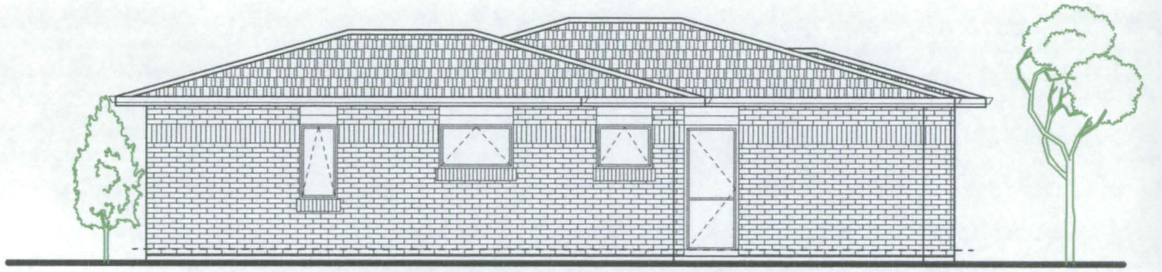




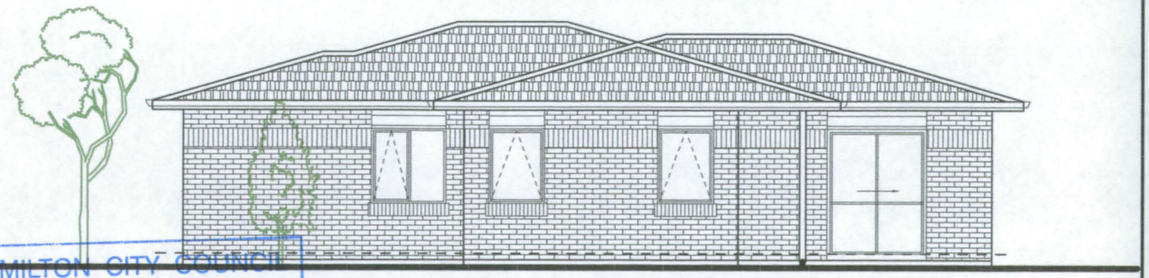
PROPOSED EAST ELEVATION ON LOT 1



PROPOSED WEST ELEVATION ON LOT 1



PROPOSED SOUTH ELEVATION ON LOT 1



PROPOSED NORTH ELEVATION ON LOT 1

KEY:

- Brick veneer cladding
- Weatherboard or harditex cladding
- Coloursteel roof tiles
- Double glazing aluminium joinery

HAMILTON CITY COUNCIL
BUILDING UNIT APPROVED
SUBJECT TO CONDITIONS TO BE KEPT ON SITE

LOT 1

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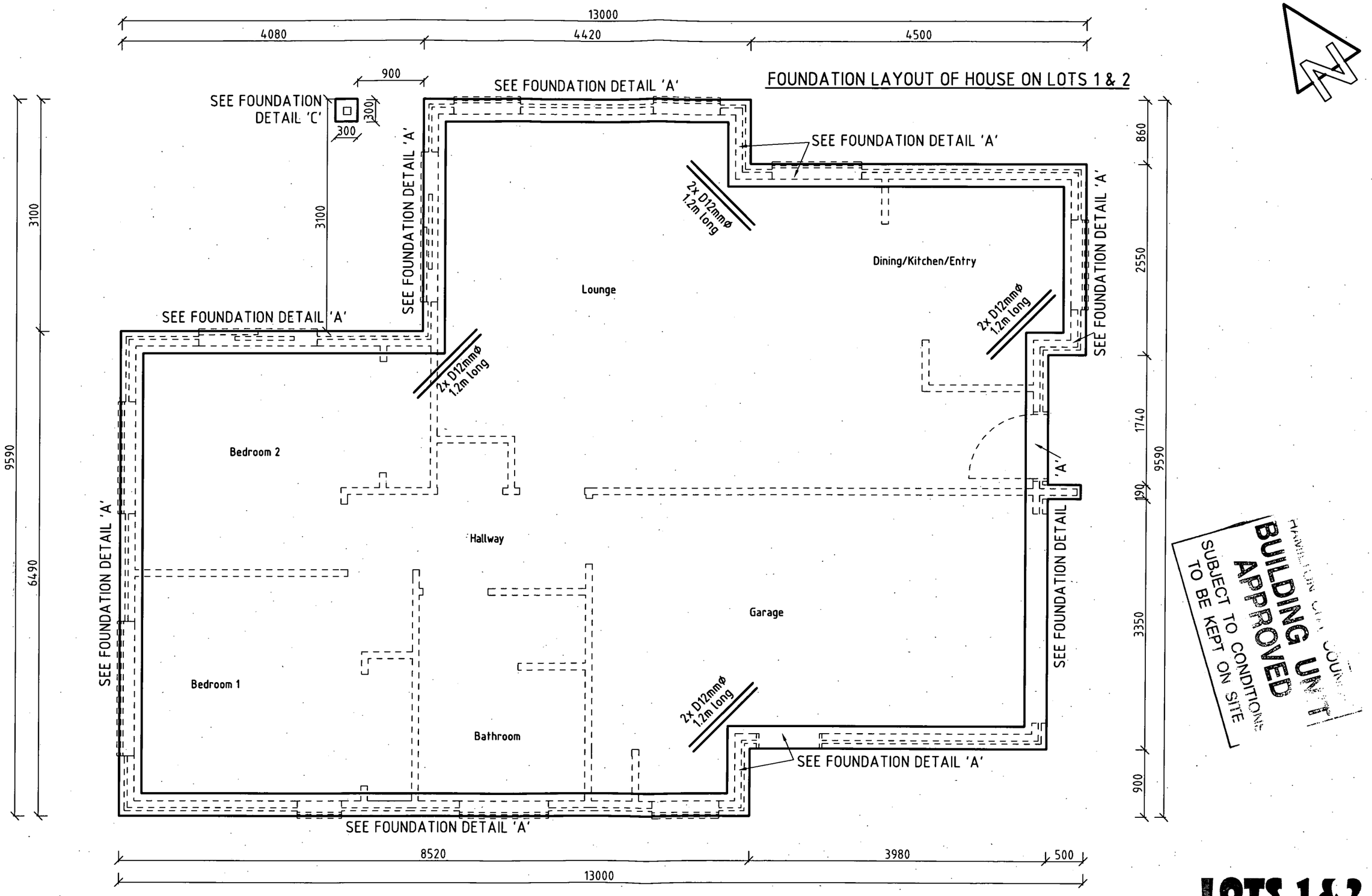
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

FOUNDATION LAYOUT OF HOUSE ON LOTS 1 & 2



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LOTS 1 & 2

Amendment:	Description:

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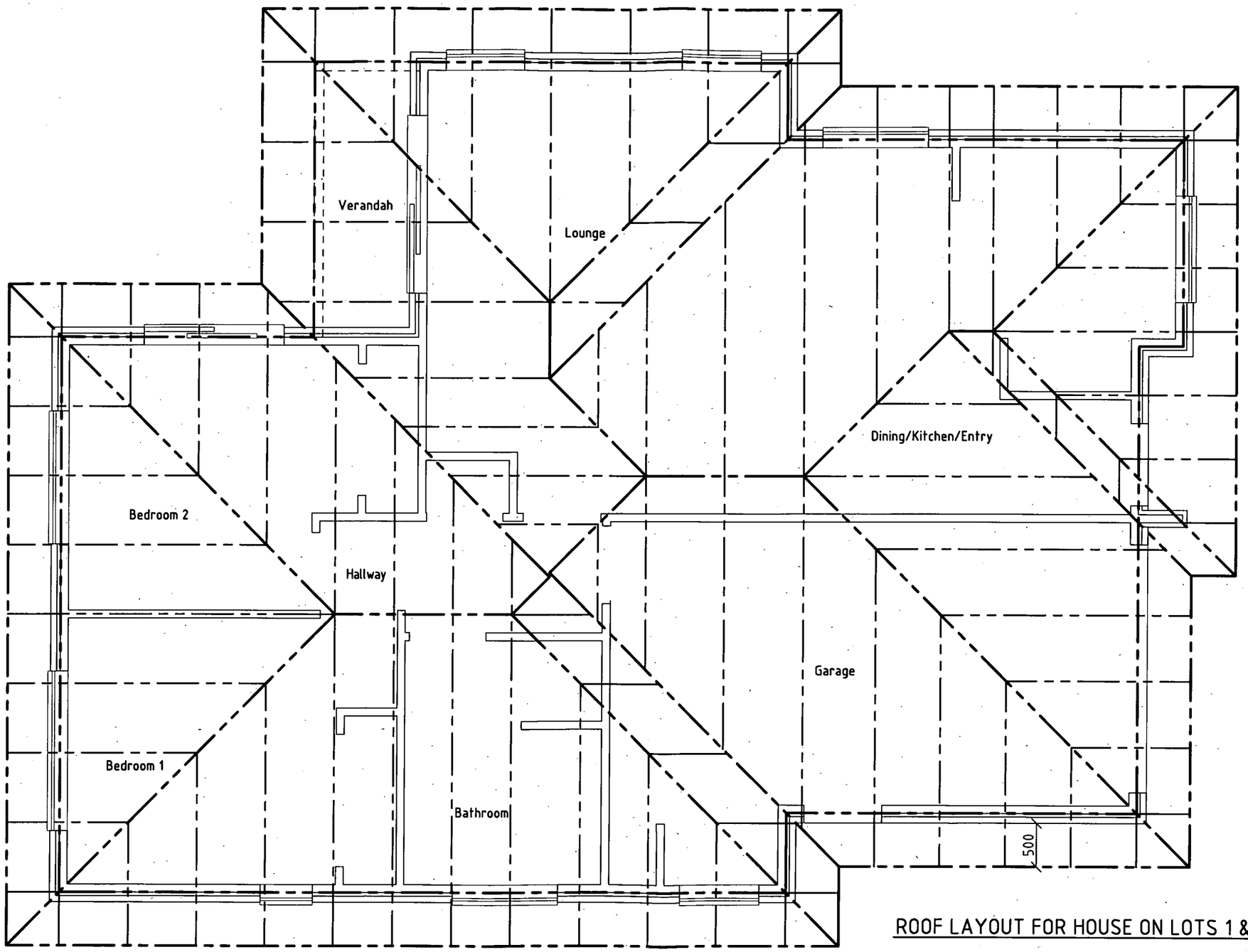
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



HAMILTON CITY COUNCIL
BUILDING UNIT
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ROOF LAYOUT FOR HOUSE ON LOTS 1 & 2

Roof trusses as per engineers design
Max. 900mmCRS

LOTS 1 & 2

Amendment:	Description:

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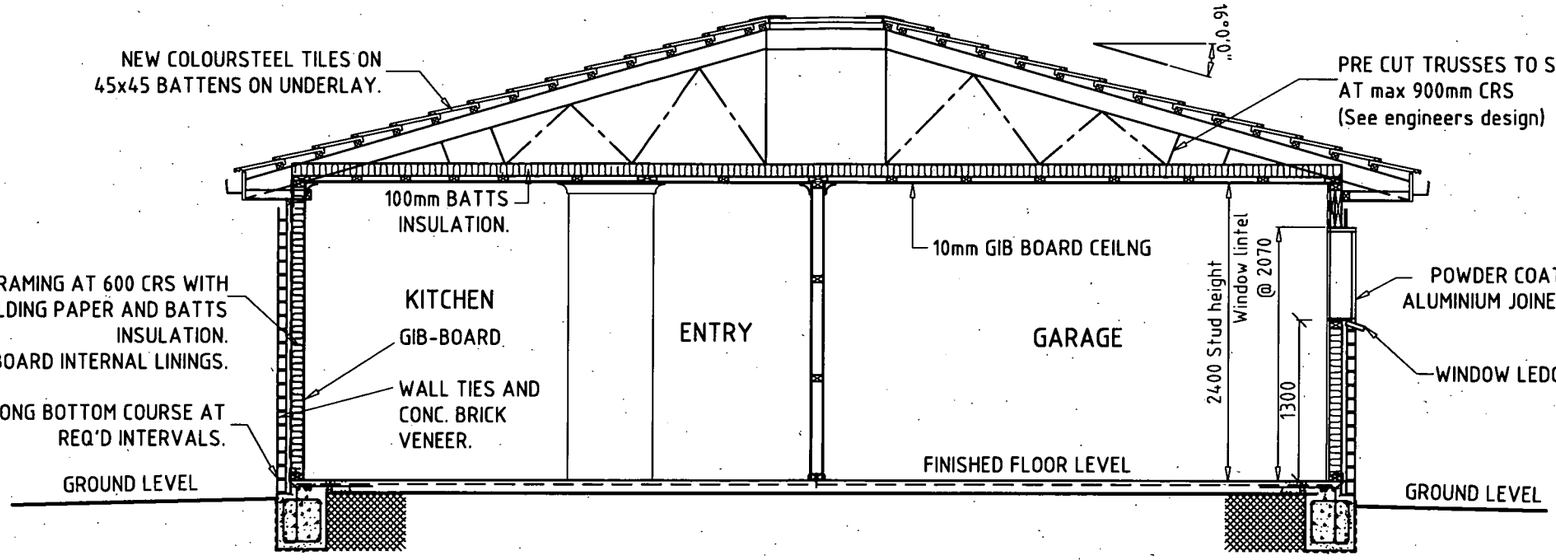
PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



TYPICAL CROSS SECTION A-A' - House 1 & 2

SCALE: 1:50

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LOTS 1 & 2

Amendment:	Description:

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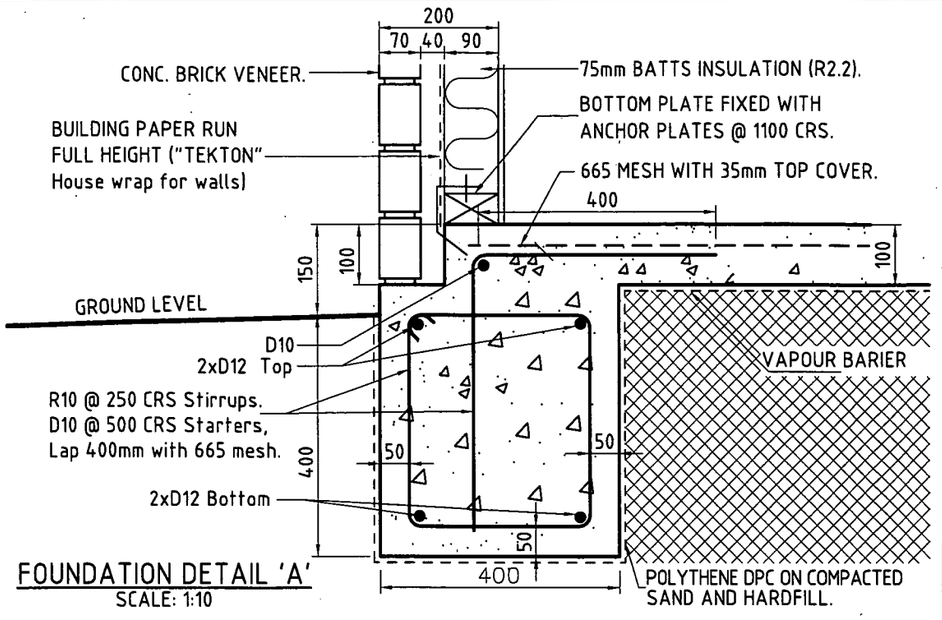
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

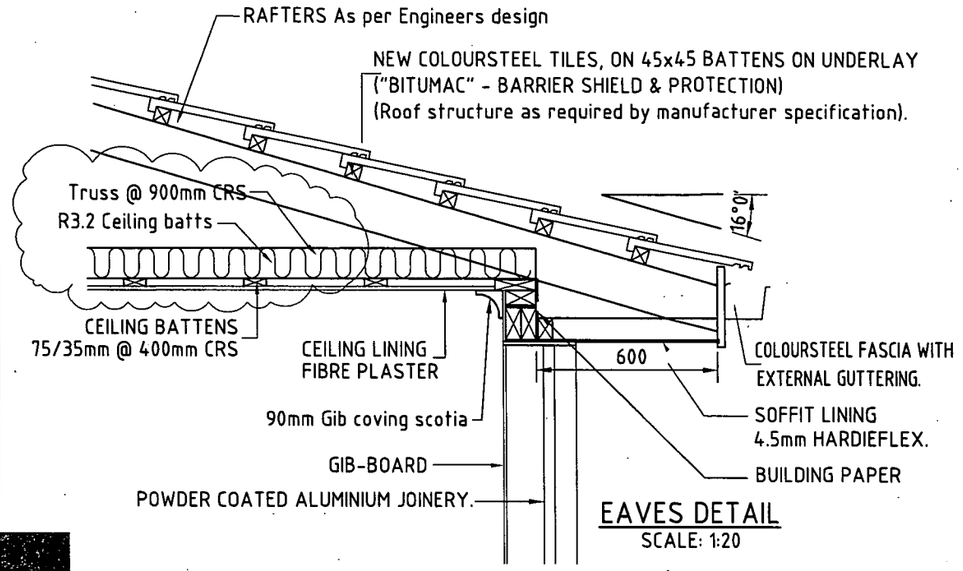
H 1.1, Douglas Fir or UTKD
- Ground floor exterior wall framing

H.1.2
- Internal loadbearing wall framing
- Ceiling framing
- Boundary joist
- Skillion roof framing
- Enclosed beams

H 3.1
- Cavity battens
- Wet area's
- Painted posts and beams

H 3.2
- Fence pailings, rails not in ground contact
- External rafters, posts and beams

H 5.0
- Foundation piling



EAVES DETAIL
SCALE: 1:20

Figure 46: Ridge and hip flashings for profiled metal
Paragraphs 4.6.1.2, 8.4.11 and 8.4.12 d)

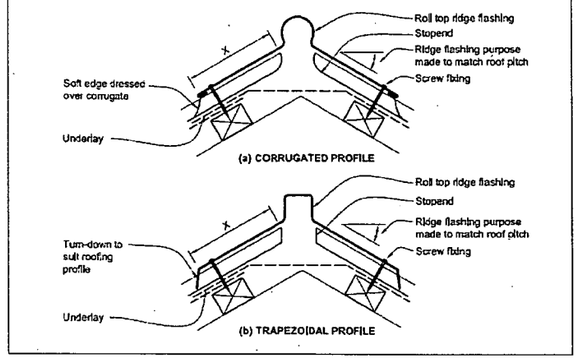
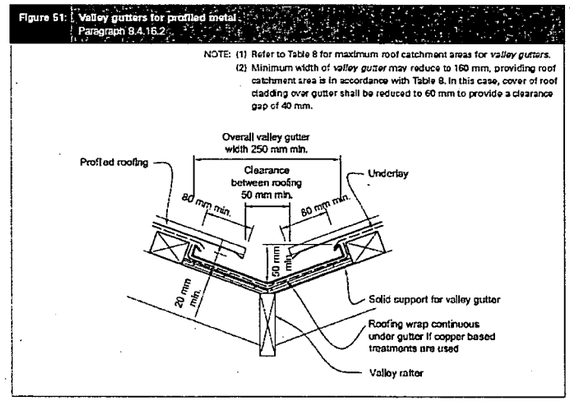
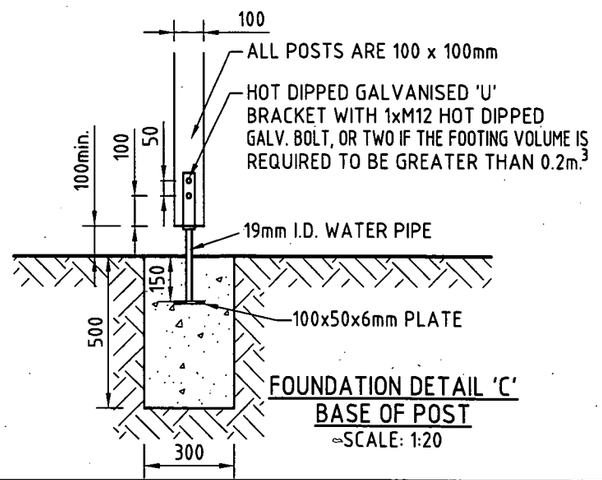
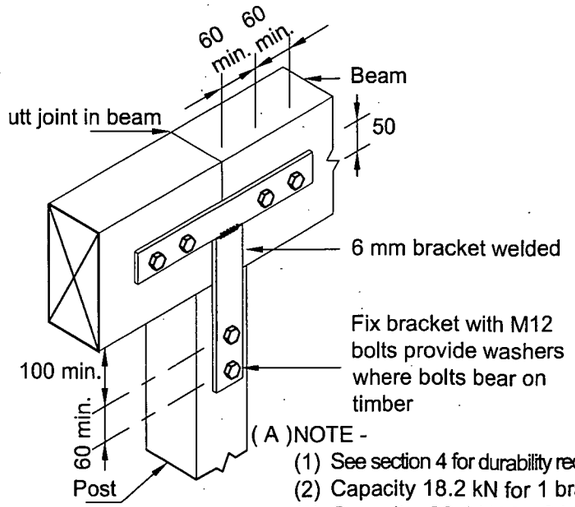


Figure 51: Valley gutters for profiled metal
Paragraph 8.4.16.2

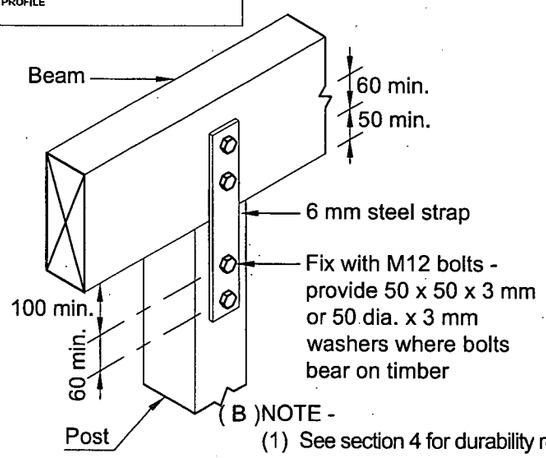




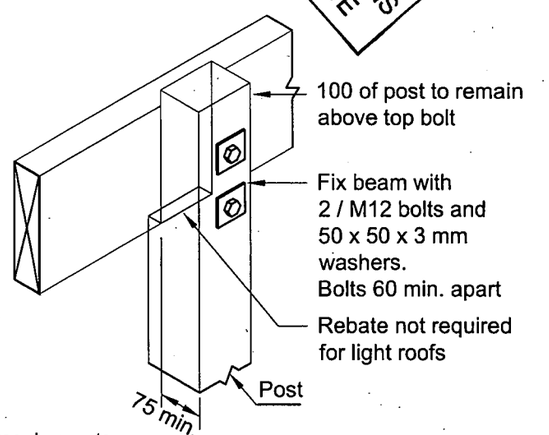
FOUNDATION DETAIL 'C'
BASE OF POST
SCALE: 1:20



(A)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 18.2 kN for 1 bracket
(3) Capacity 36.4 kN for 2 brackets.



(B)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN for 1 bracket
(3) Capacity 19.5 kN for 2 brackets.



(C)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN.

Details of Beam/ Post connection
NOT TO SCALE

ALL LOTS

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Amendment: 24/05/2010	Description: Ceiling R value changed.

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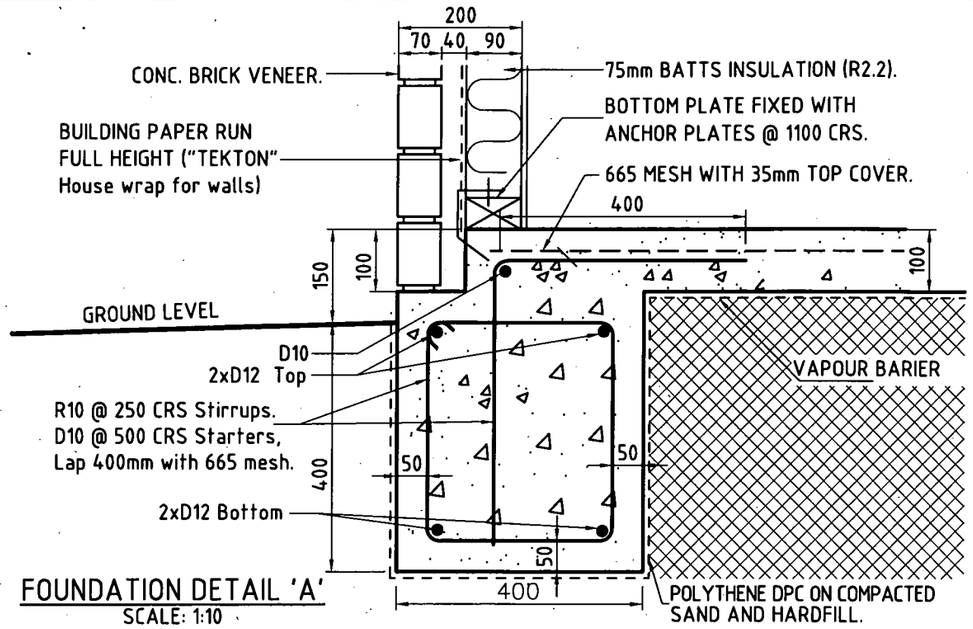
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

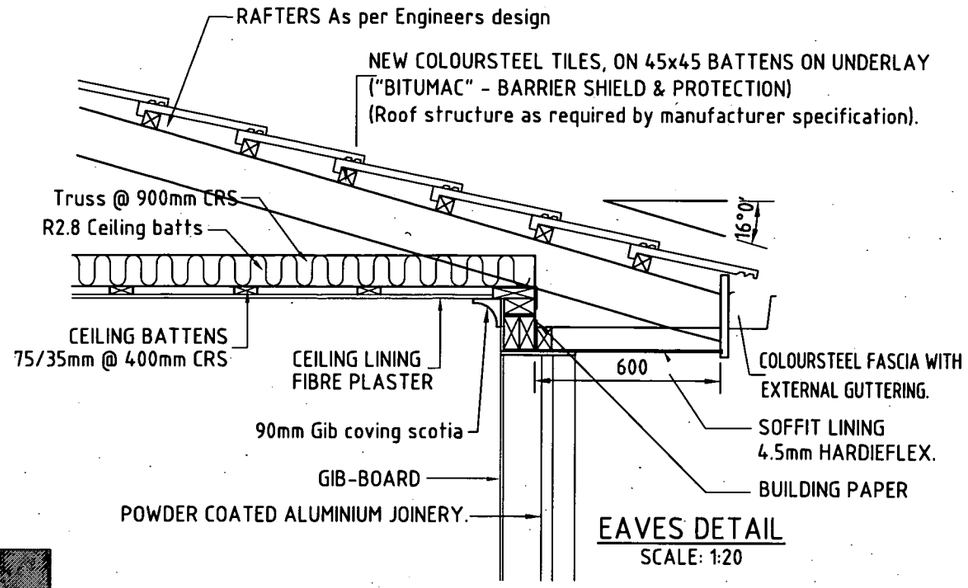
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- Skillion roof framing
- Enclosed beams

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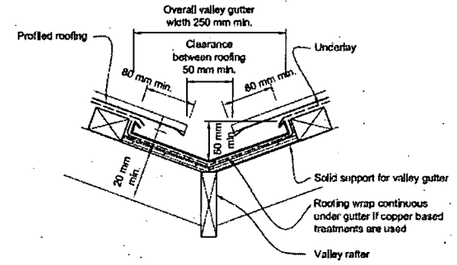
H 5.0
- Foundation piling



EAVES DETAIL
SCALE: 1:20

Figure 51: Valley gutters for profiled metal
Paragraph 8.4.16.2

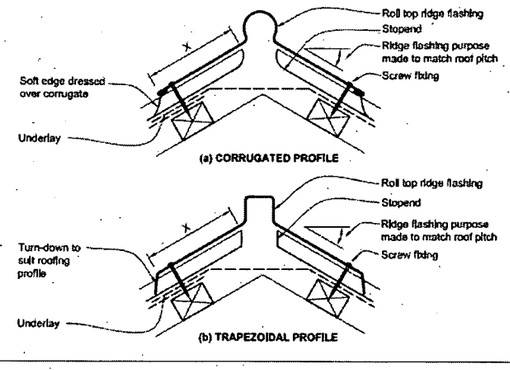
NOTE: (1) Refer to Table 8 for maximum roof catchment areas for *valley gutters*.
(2) Minimum width of *valley gutter* may reduce to 160 mm, providing roof catchment area is in accordance with Table 8. In this case, cover of roof cladding over gutter shall be reduced to 60 mm to provide a clearance gap of 40 mm.



SUPERSEDED

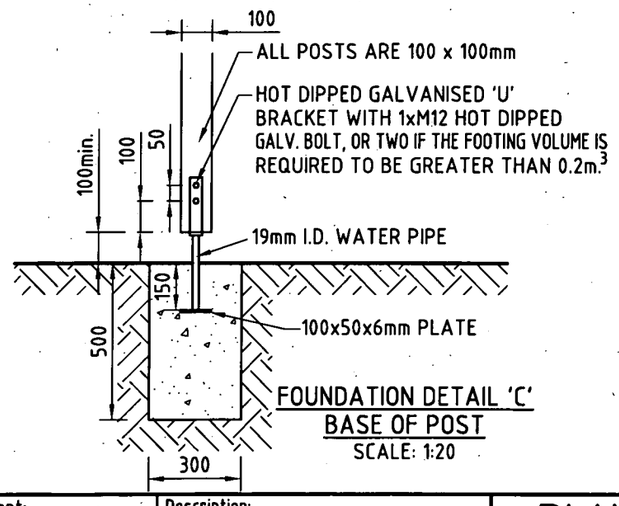
Figure 46: Ridge and hip flashings for profiled metal
Paragraphs 4.6.12, 8.4.11 and 8.4.12 d)

NOTE: X = variable according to *wind zone* – refer Table 7.

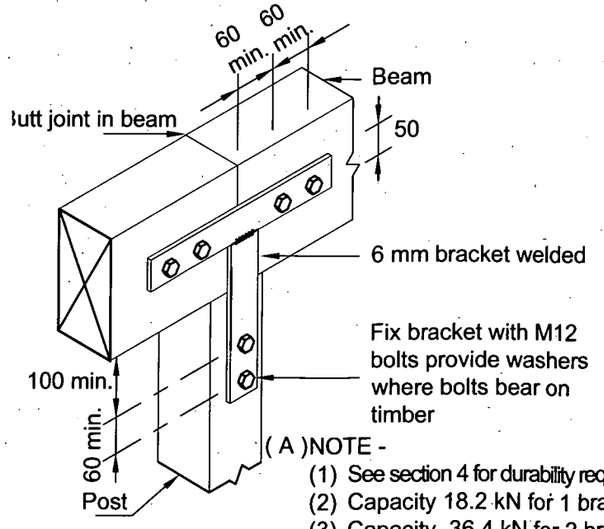


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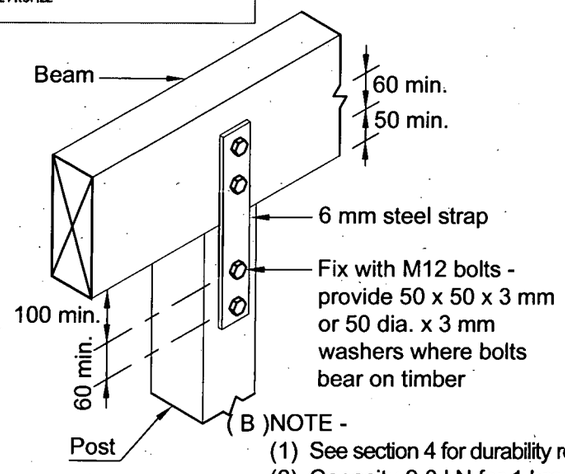
SUPERSEDED



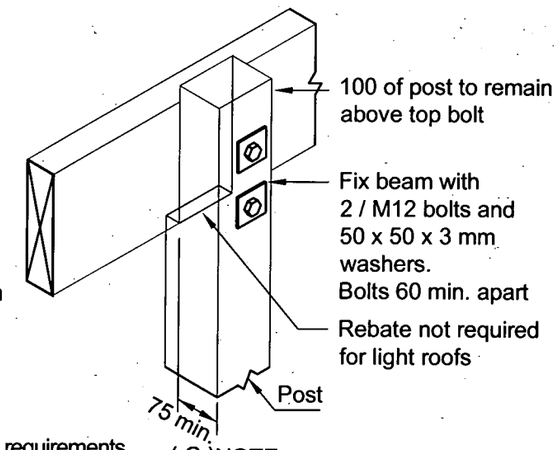
FOUNDATION DETAIL 'C'
BASE OF POST
SCALE: 1:20



(A)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 18.2 kN for 1 bracket
(3) Capacity 36.4 kN for 2 brackets.



(B)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN for 1 bracket
(3) Capacity 19.5 kN for 2 brackets.



(C)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN.

Details of Beam/ Post connection
NOT TO SCALE

ALL LOTS

Amendment: | Description:

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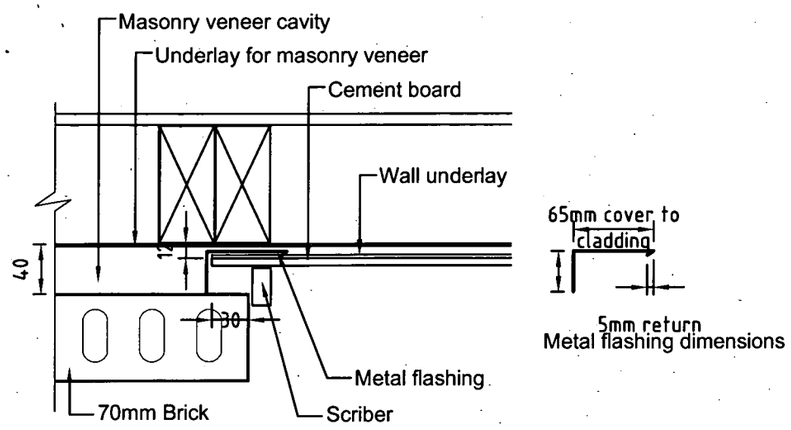
NOTES:
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2. Total CT area: 2565m²

PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

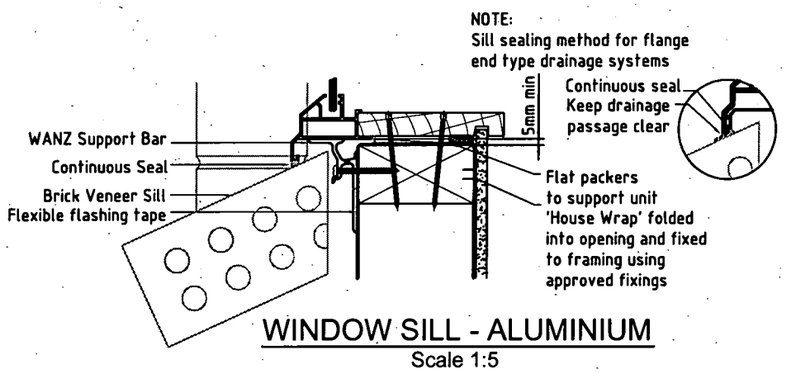
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E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335
McPherson Goodwin

Surveyor: | Checked: GI Ruffell
Design/Drawn: M. Spasovska | Date: April/ 2010
Scale: As shown @ A3
Sheet 1 of 1
Ref.: 15147



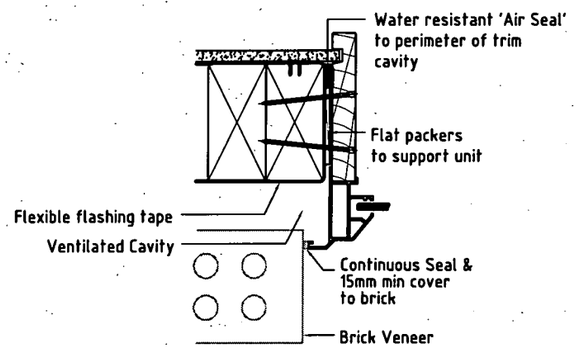
BRICK TO CEMENT BOARD DETAIL

Scale 1:5



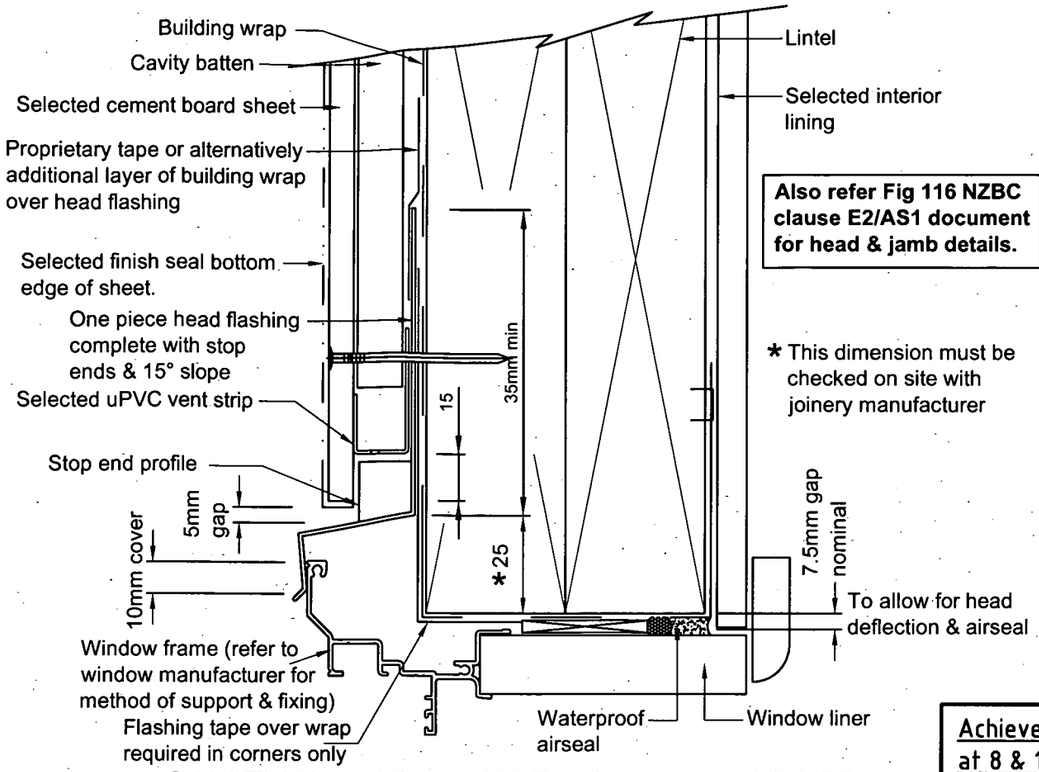
WINDOW SILL - ALUMINIUM

Scale 1:5



WINDOW JAMB - ALUMINIUM

Scale 1:5

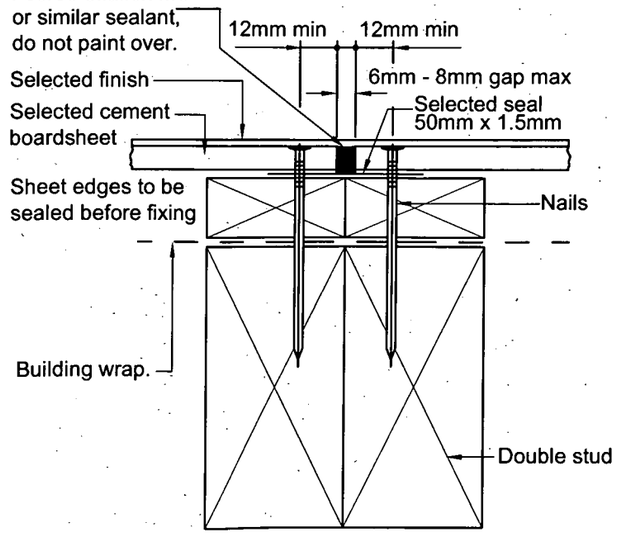


Also refer Fig 116 NZBC clause E2/AS1 document for head & jamb details.

* This dimension must be checked on site with joinery manufacturer

CAVITY WINDOW HEAD - CEMENT BOARD

NTS



CAVITY VERTICAL SEALANT JOINT - CEMENT BOARD

NTS

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Achieved R Values for proposed seven new houses at 8 & 10 Yorkshire Road:

1). Concrete slab Rt = 1.3

2). Walls:

× Rse	(Exterior surface)	0.03
× Layer 1	(cladding)	0.06
× Layer 2 Rb	(air space and insulated frame space with R2.2)	1.88
× Layer 3	(lining)	0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.1m²°K/W

3). Double glazing windows:

× Rse	(exterior surface)	0.03
× Layer of 6mm float glass		0.006
× 12mm air (unventilated) space		0.14
× Layer of 6mm float glass		0.006
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		0.27m²°K/W

4). Roof structure (pitched roofs)

× Rse	(exterior surface)	0.03
× Roof cladding (steel tiles)		0.01
× Roof space & R3.2 insulation		2.72
× 10mm Gib plasterboard		0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.9m²°K/W

ALL LOTS

Amendment:	Description:

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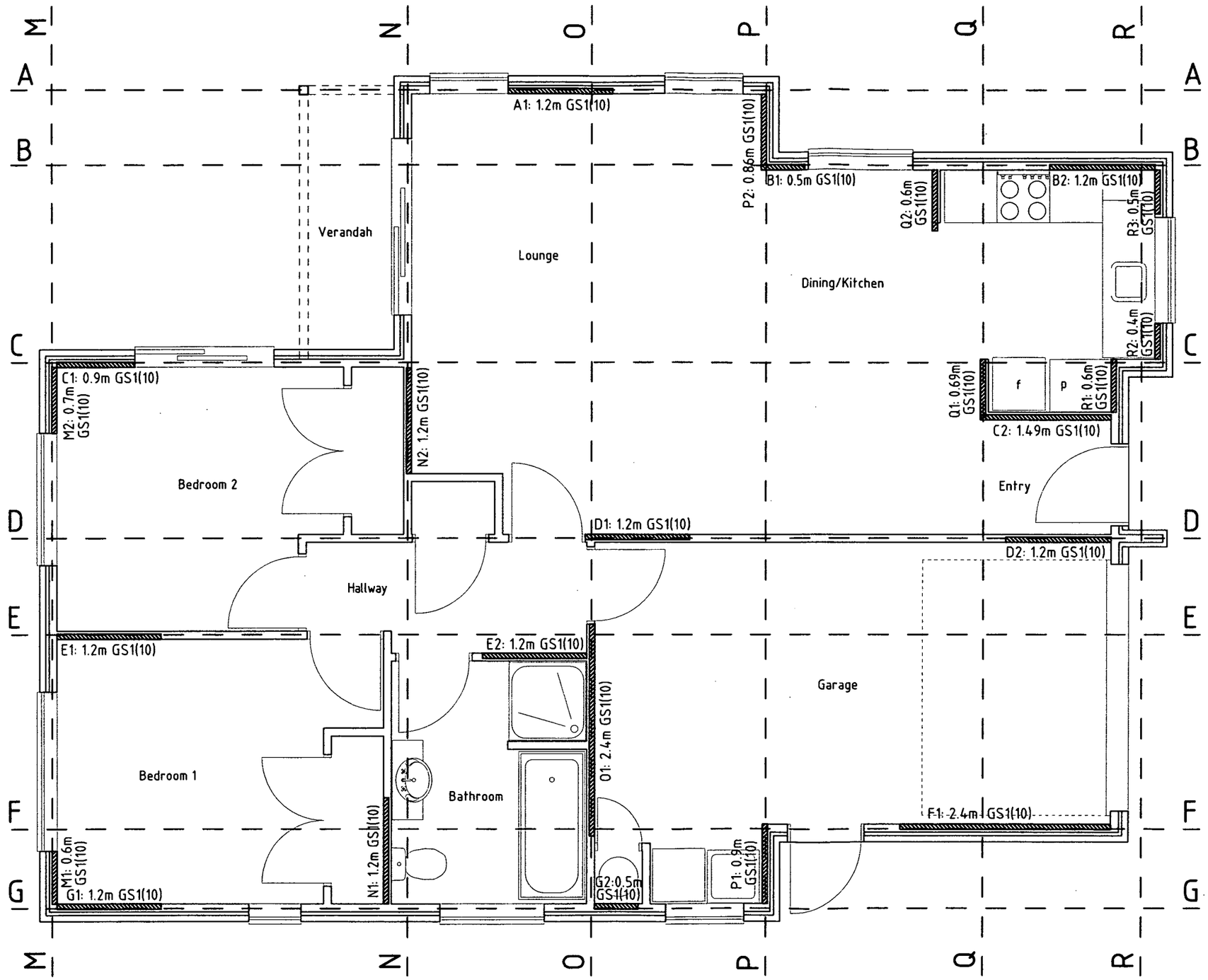
PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



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Table 1: 10 mm GIB® Plasterboard BU ratings

GIB® Bracing Systems 2009			
Type	L (m) minimum	Lining	Other Requirements
GIB® Standard			
GS1(10)	0.4	10 mm GIB® Standard Plasterboard one face	n/a
	1.2		
GS2(10)	0.6	10 mm GIB® Standard Plasterboard both faces	
	1.8		
GIB Braceline®			
BL1(10)	0.4	10mm GIB Braceline® one face	Hold-Downs
	1.2		
BLP	0.4	10mm GIB Braceline® one face plywood other	
	0.9		
BLG	0.6	10mm GIB Braceline® one face 10mm GIB® Standard other	
	1.2		

BRACING CALCULATIONS FOR HOUSE ON LOTS 1 & 2

LOTS 1 & 2

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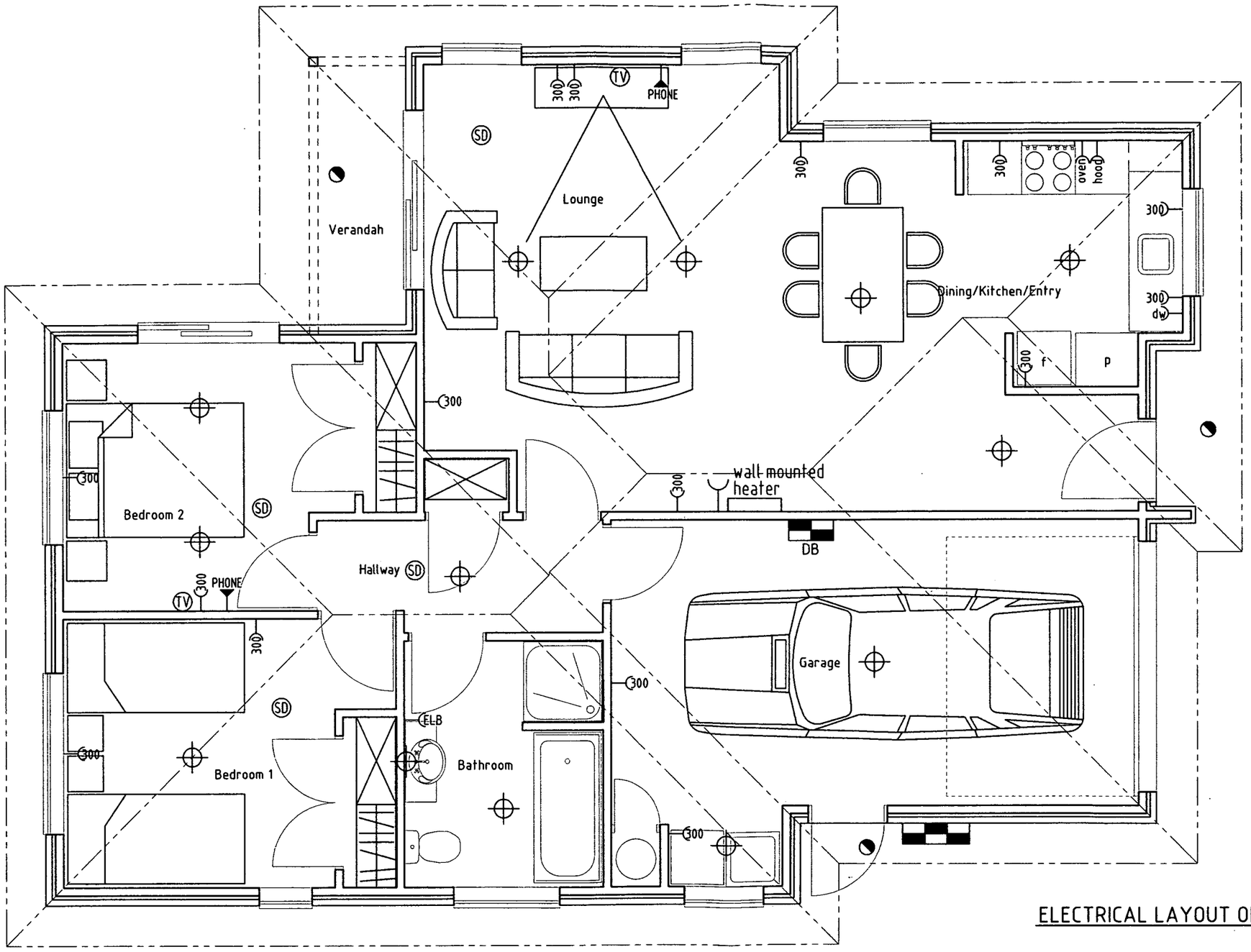
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ELECTRICAL KEY:

- SD — SMOKE ALARM
- METER BOX
- DB — RECESS DITRIBUTION BOARD
- 300 — TYPICAL DOUBLE POWER POINT (300 A.F.F.L.)
- ELB — SHAVERS PLUG
- BAYONET LIGHTS
- SELECTED CEILING LIGHT FITTINGS
- PHONE — PHONE JACK
- TV — TV AERIAL JACK

APPLIANCES/ FITTINGS:

RANGE HOOD - ELECTRIC - SIMPSON RA6WH
ELECTRIC STOVE - SIMPSON 63H906W

ELECTRICAL LAYOUT OF HOUSE ON LOTS 1 & 2

LOTS 1&2

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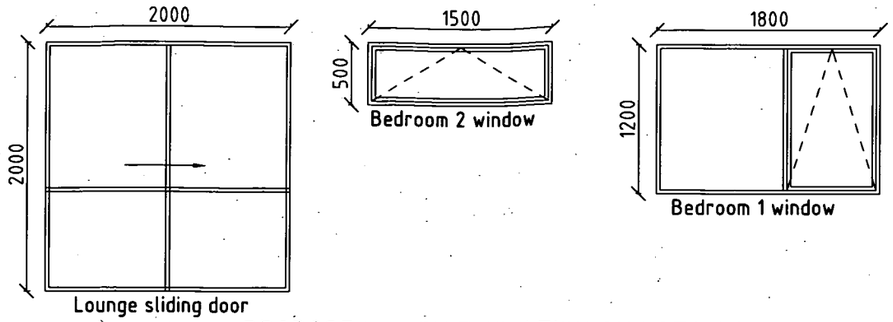
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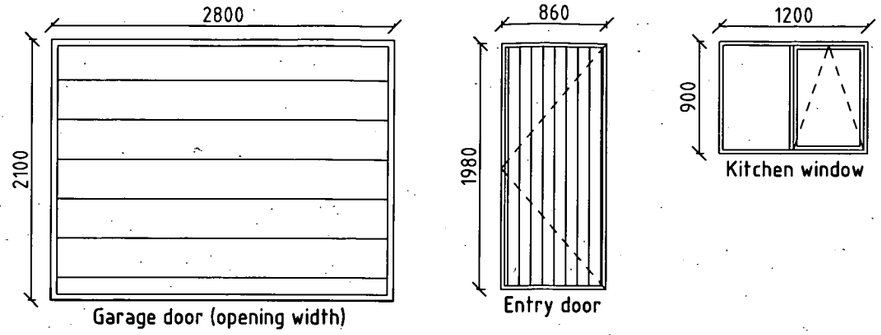
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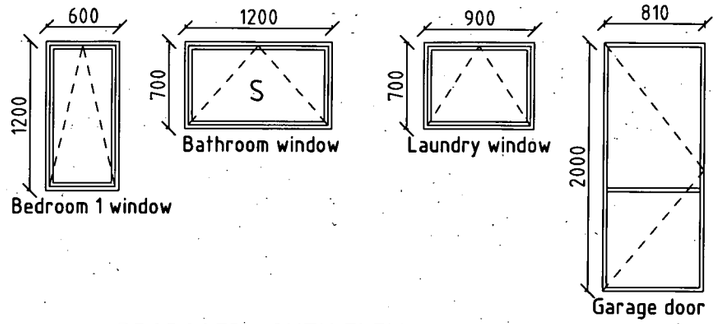
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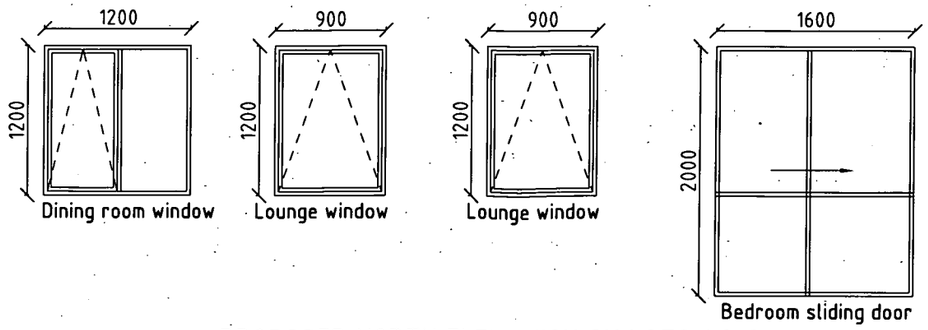
PROPOSED WEST ELEVATION ON LOTS 1 & 2



PROPOSED EAST ELEVATION ON LOTS 1 & 2



PROPOSED SOUTH ELEVATION ON LOTS 1 & 2



PROPOSED NORTH ELEVATION ON LOTS 1 & 2

HAMILTON CITY COUNCIL
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LOTS 1 & 2

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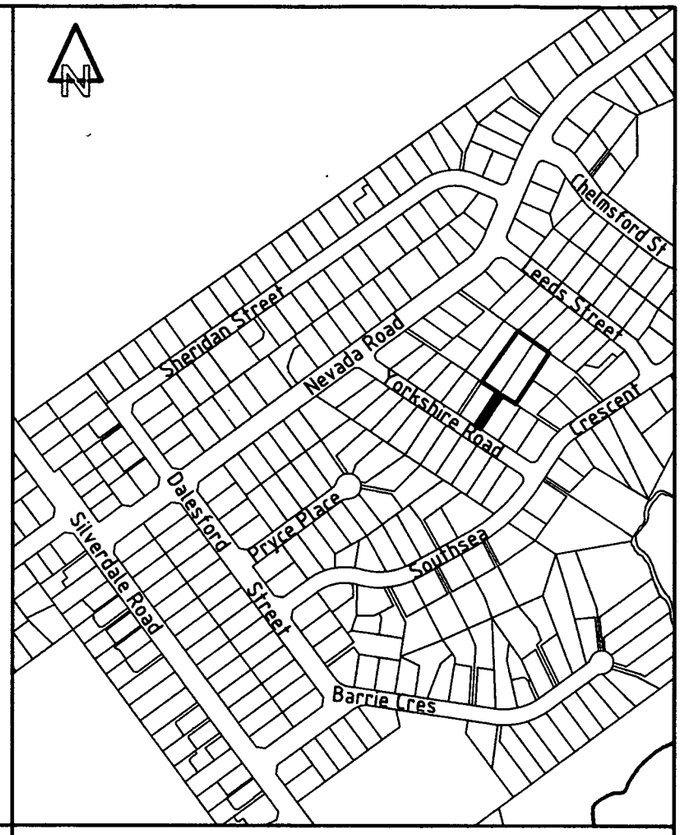
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT OF LOT 61 & 62 DPS 9556 & LOT 2 DP 428322

Address: 8 & 10 Yorkshire Road, Hamilton
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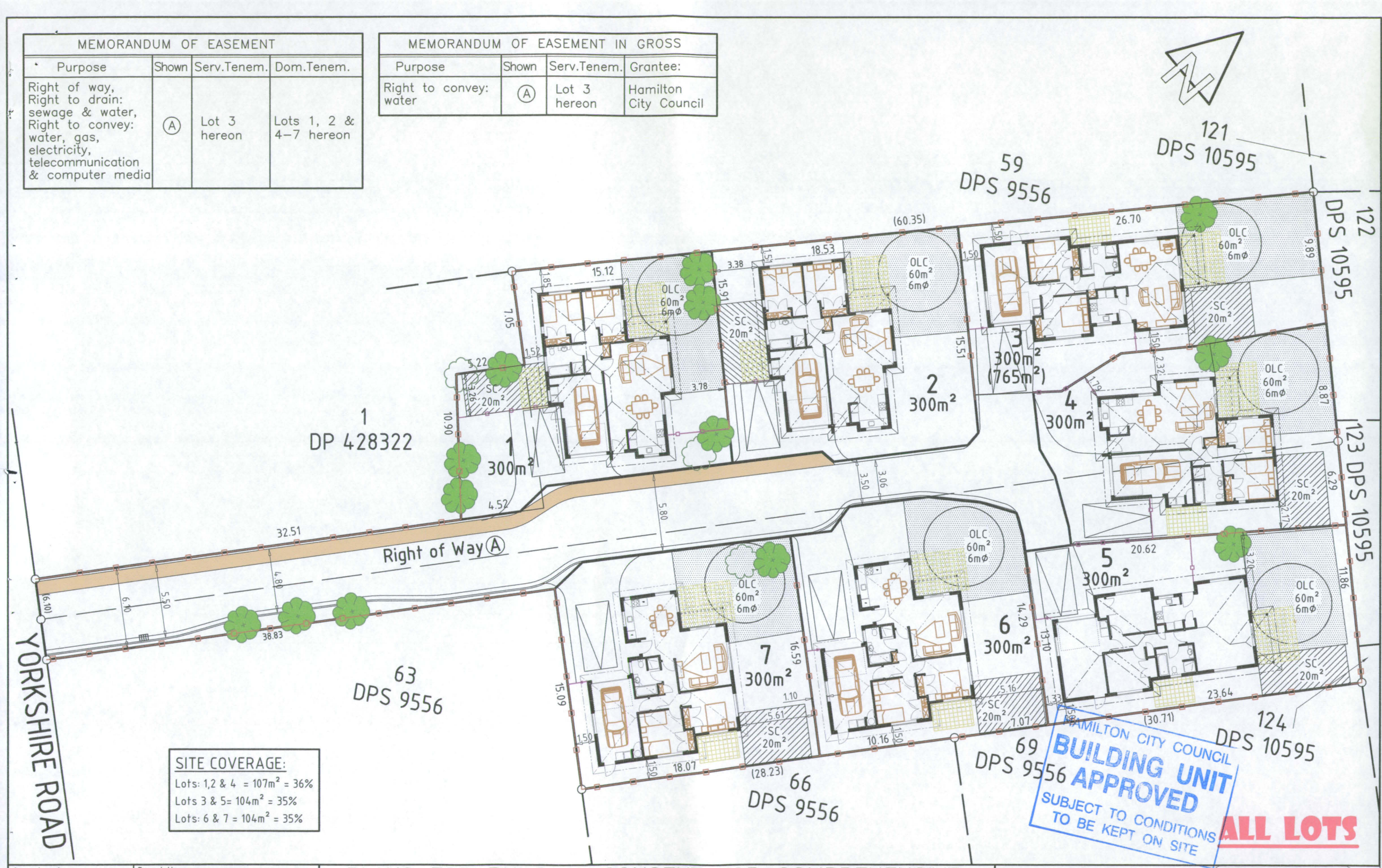
House on lot 3

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MEMORANDUM OF EASEMENT			
Purpose	Shown	Serv.Tenem.	Dom.Tenem.
Right of way, Right to drain: sewage & water, Right to convey: water, gas, electricity, telecommunication & computer media	(A)	Lot 3 hereon	Lots 1, 2 & 4–7 hereon

MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council



HAMILTON CITY COUNCIL
BUILDING UNIT
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TO BE KEPT ON SITE

ALL LOTS

SITE COVERAGE:

Lots: 1,2 & 4 = 107m² = 36%
Lots 3 & 5= 104m² = 35%
Lots: 6 & 7 = 104m² = 35%

Amendment:	Description:

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McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: 1:250 @ A3	Sheet 1 of A3
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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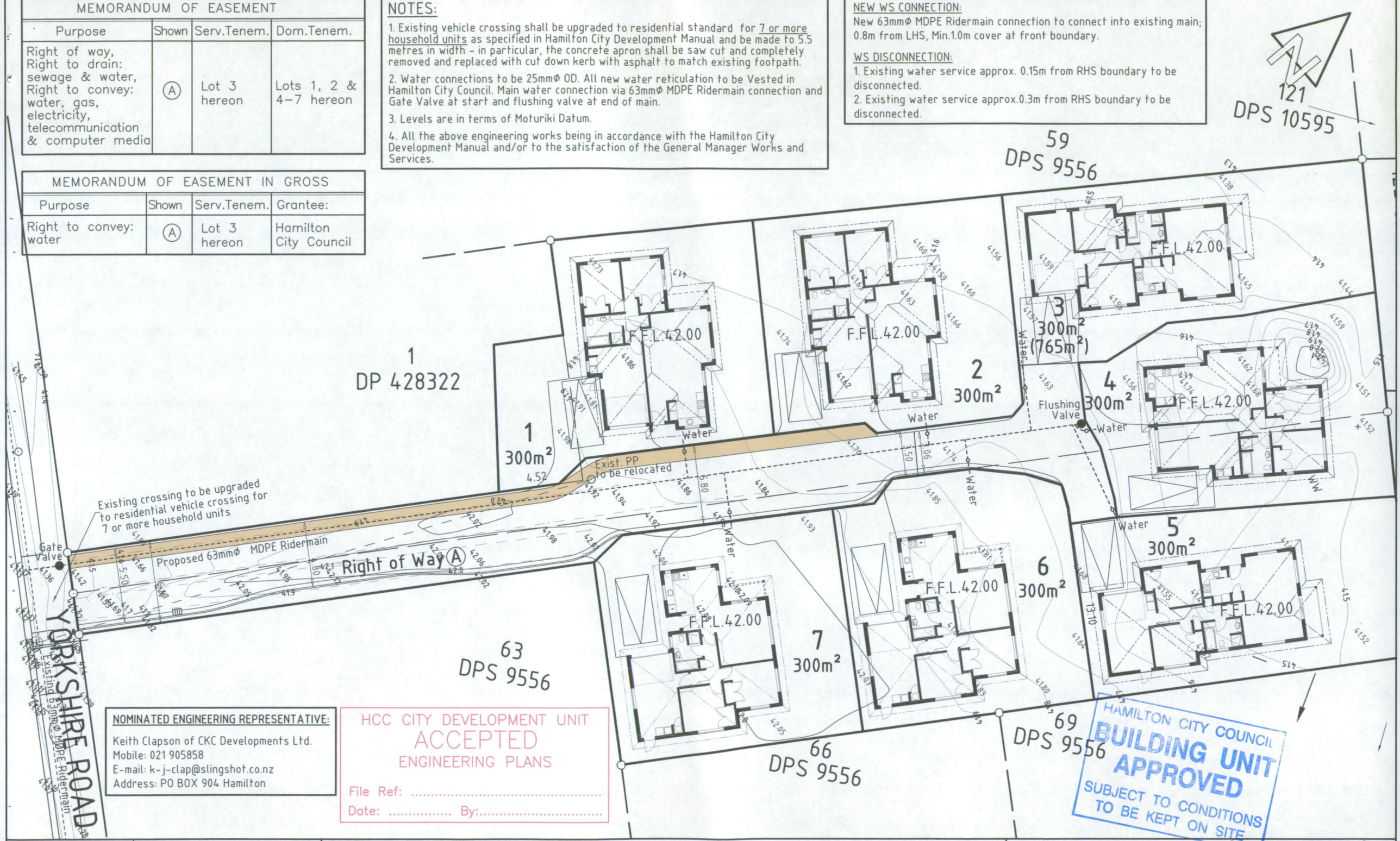
MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council

NOTES:

1. Existing vehicle crossing shall be upgraded to residential standard for 7 or more household units as specified in Hamilton City Development Manual and be made to 5.5 metres in width – in particular, the concrete apron shall be saw cut and completely removed and replaced with cut down kerb with asphalt to match existing footpath.
2. Water connections to be 25mmØ OD. All new water reticulation to be Vested in Hamilton City Council. Main water connection via 63mmØ MDPE Ridermain connection and Gate Valve at start and flushing valve at end of main.
3. Levels are in terms of Moturiki Datum.
4. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.

NEW WS CONNECTION:
New 63mmØ MDPE Ridermain connection to connect into existing main; 0.8m from LHS, Min.1.0m cover at front boundary.

WS DISCONNECTION:
1. Existing water service approx. 0.15m from RHS boundary to be disconnected.
2. Existing water service approx.0.3m from RHS boundary to be disconnected.



NOMINATED ENGINEERING REPRESENTATIVE:
Keith Clapson of CKC Developments Ltd.
Mobile: 021 905858
E-mail: k-j-clap@slingshot.co.nz
Address: PO BOX 904 Hamilton

HCC CITY DEVELOPMENT UNIT
ACCEPTED
ENGINEERING PLANS
File Ref: .....
Date: ..... By:.....

HAMILTON CITY COUNCIL
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Amendment:	Description:

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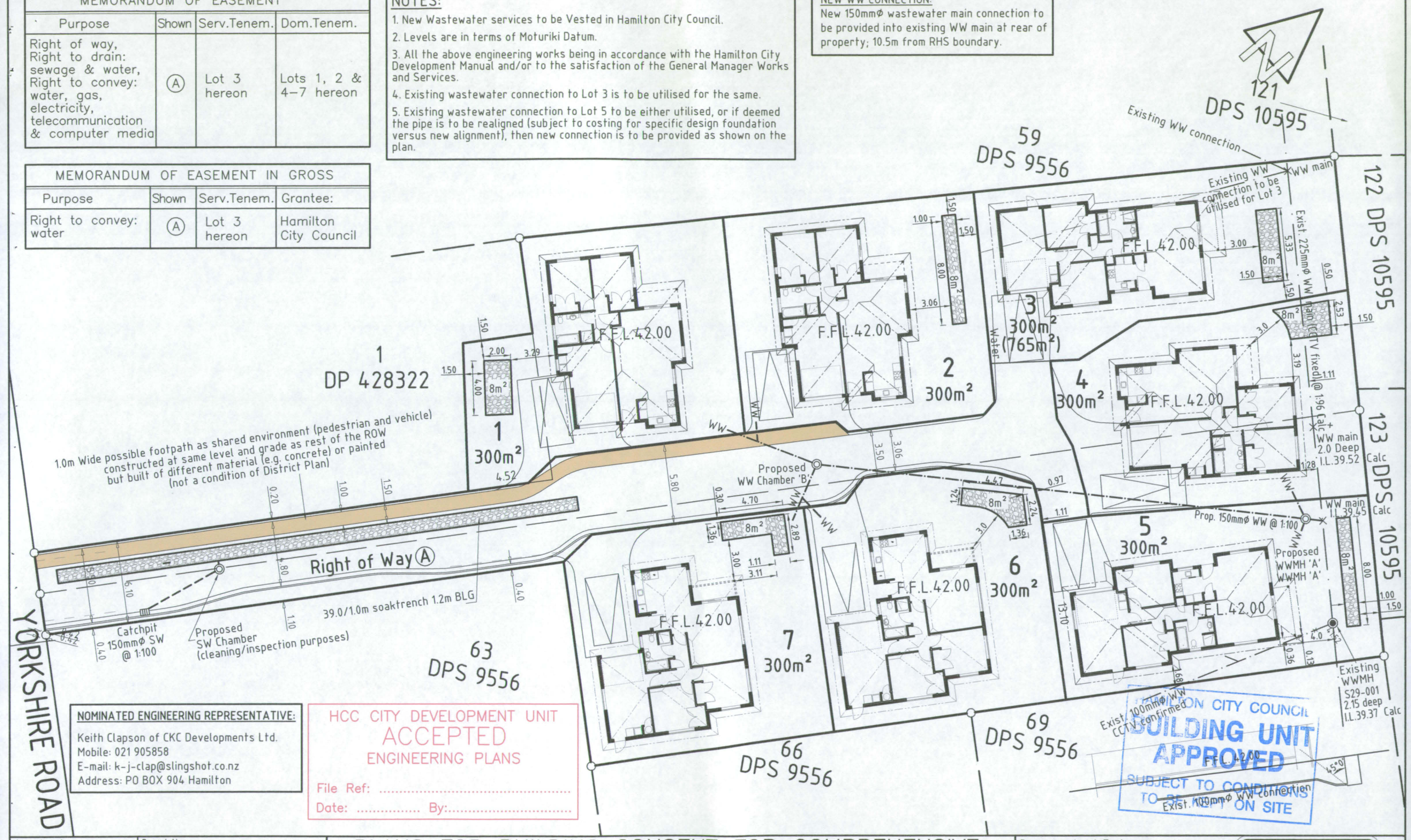
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MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council

NOTES:

1. New Wastewater services to be Vested in Hamilton City Council.
2. Levels are in terms of Moturiki Datum.
3. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.
4. Existing wastewater connection to Lot 3 is to be utilised for the same.
5. Existing wastewater connection to Lot 5 to be either utilised, or if deemed the pipe is to be realigned (subject to costing for specific design foundation versus new alignment), then new connection is to be provided as shown on the plan.

NEW WW CONNECTION:
New 150mmØ wastewater main connection to be provided into existing WW main at rear of property; 10.5m from RHS boundary.



NOMINATED ENGINEERING REPRESENTATIVE:

Keith Clapson of CKC Developments Ltd.
Mobile: 021 905858
E-mail: k-j-clap@slingshot.co.nz
Address: PO BOX 904 Hamilton

HCC CITY DEVELOPMENT UNIT
ACCEPTED
ENGINEERING PLANS
File Ref: .....
Date: ..... By:.....

HAMILTON CITY COUNCIL
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Amendment: | Description:

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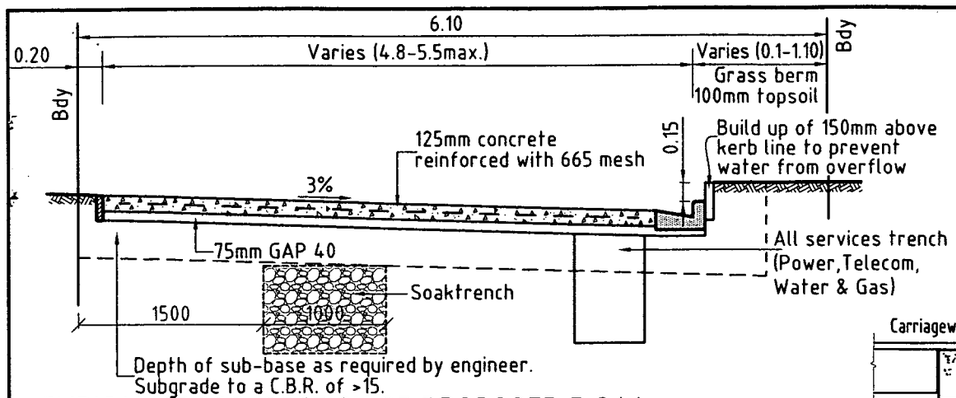
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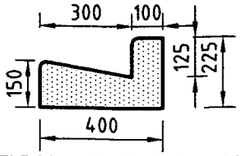
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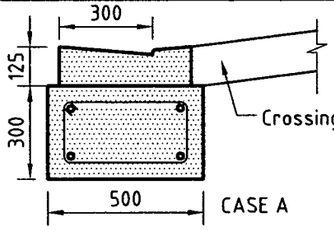
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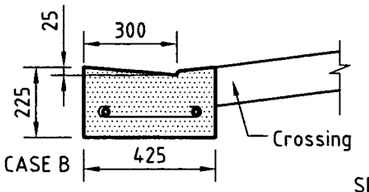
SCALE: 1 : 50



VERTICAL KERB & CHANNEL

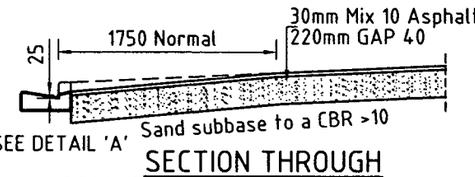
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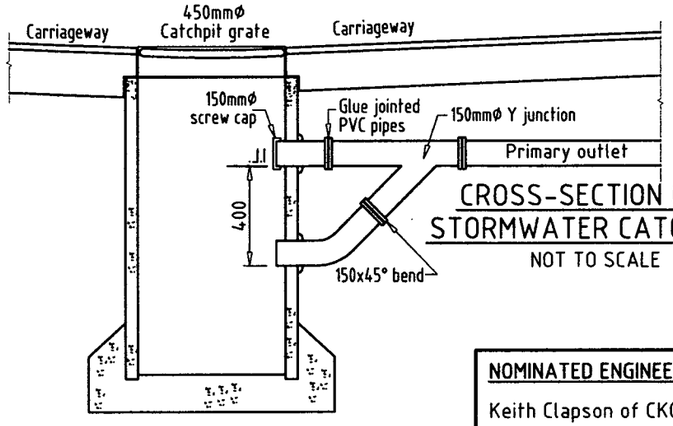
COMMERCIAL CHANNEL CROSSING

SCALE: 1:20



SECTION THROUGH COMMERCIAL VEHICLE CROSSING

SCALE: 1:50



CROSS-SECTION OF STORMWATER CATCHPIT

NOT TO SCALE

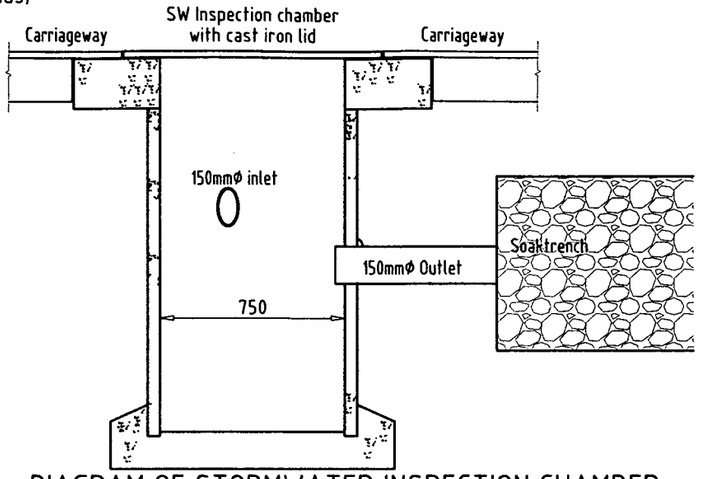
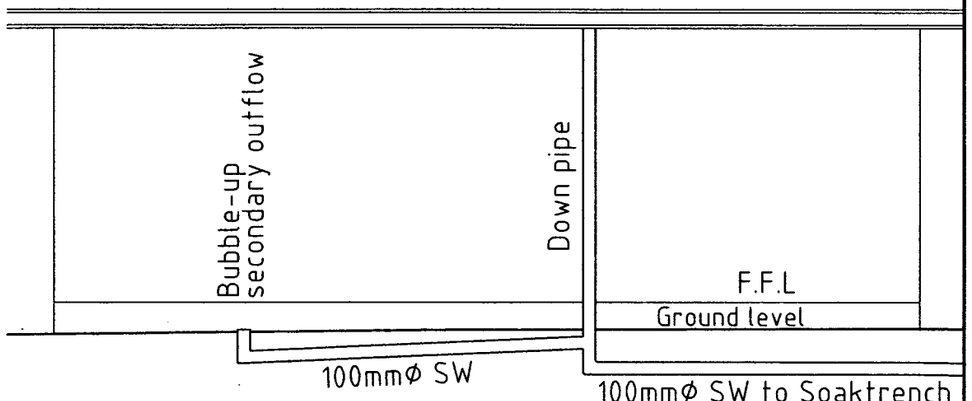


DIAGRAM OF STORMWATER INSPECTION CHAMBER

SCALE: 1:25



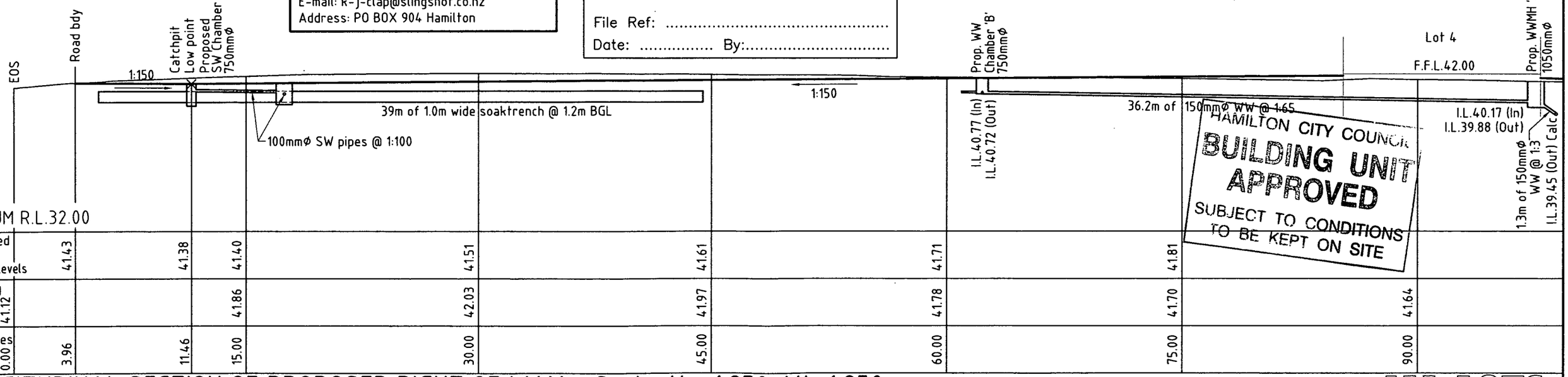
DETAIL OF SW SECONDARY OVERFLOW FOR LOTS 3-6

NOT TO SCALE

NOMINATED ENGINEERING REPRESENTATIVE:

Keith Clapson of CKC Developments Ltd.
Mobile: 021 905858
E-mail: k-j-clap@slingshot.co.nz
Address: PO BOX 904 Hamilton

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Proposed LOC finished levels	41.43		41.38		41.40		41.51	41.61	41.71	41.81			
Existing ground levels	41.12				41.86		42.03	41.97	41.78	41.70		41.64	
Chainages	0.00	3.96		11.46	15.00		30.00	45.00	60.00	75.00		90.00	

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LONGITUDINAL SECTION OF PROPOSED RIGHT OF WAY - Scale: Hz: 1:250, Vt: 1:250

ALL LOTS

Amendment:	Description:

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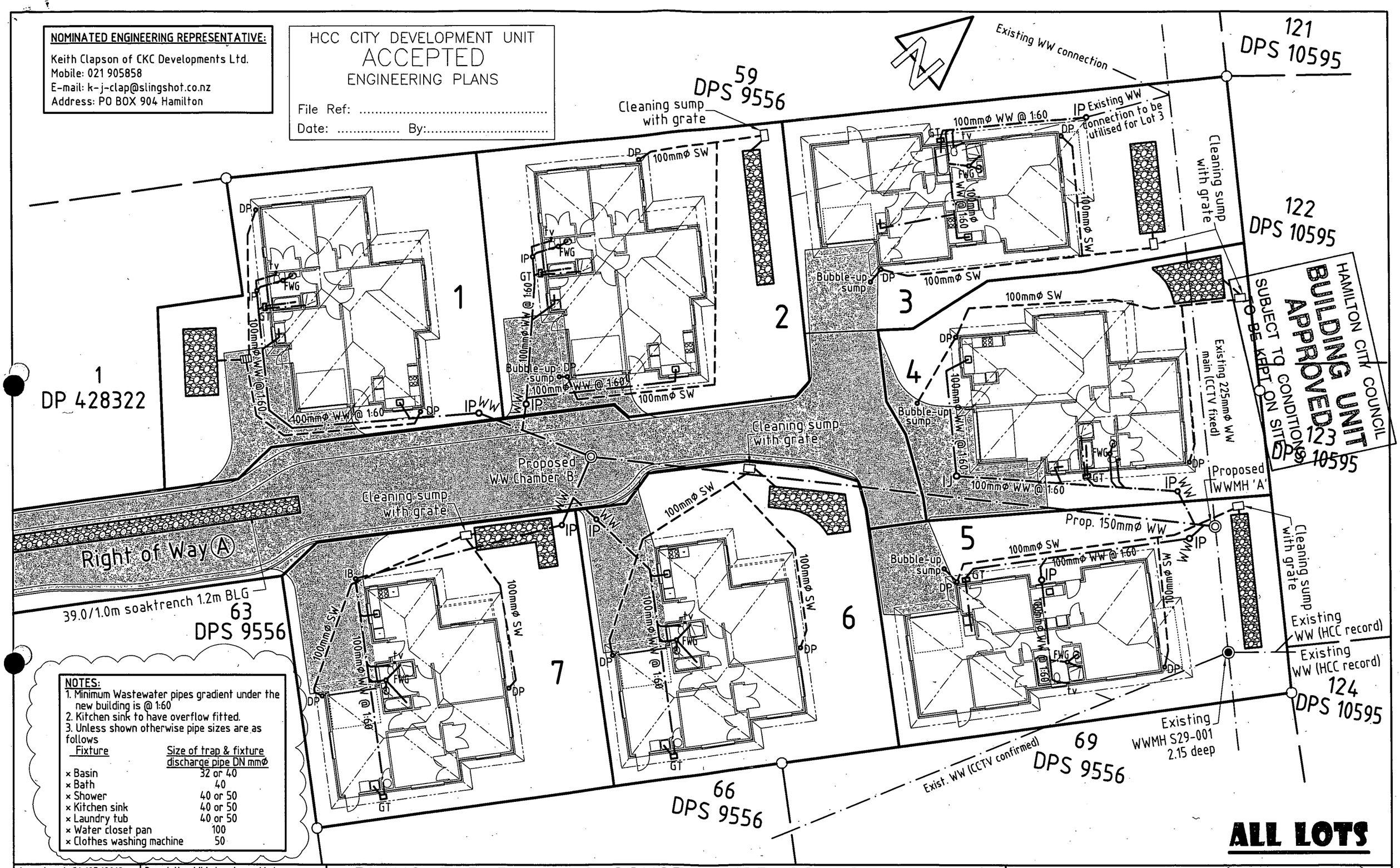
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NOTES:
1. Minimum Wastewater pipes gradient under the new building is @ 1:60
2. Kitchen sink to have overflow fitted.
3. Unless shown otherwise pipe sizes are as follows

Fixture	Size of trap & fixture discharge pipe DN mmø
× Basin	32 or 40
× Bath	40
× Shower	40 or 50
× Kitchen sink	40 or 50
× Laundry tub	40 or 50
× Water closet pan	100
× Clothes washing machine	50

ALL LOTS

Amendment: 24/05/2010	Description: WW pipe sizes added.

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SUPERSEDED

SUPERSEDED

1
DP 428322

59
DPS 9556

121
DPS 10595

122
DPS 10595

123 DPS 10595

Existing WW connection

Cleaning sump with grate

Cleaning sump with grate

Cleaning sump with grate

Cleaning sump with grate

Proposed WW Chamber 'B'

Proposed WWMH 'A'

Proposed 150mmø WW

Existing 225mmø WW main (CCTV fixed)

Existing WWMH S29-001 2.15 deep

Exist. WW (CCTV confirmed)

Right of Way Ⓐ

39.0/1.0m soaktrench 1.2m BLG

63
DPS 9556

66
DPS 9556

69
DPS 9556

124
DPS 10595

1

2

3

4

5

6

7

100mmø WW @ 1:60

100mmø SW

Bubble-up sump

DP

IP

GT

FWG

tv

IJ

IB

SUPERSEDED

ALL LOTS

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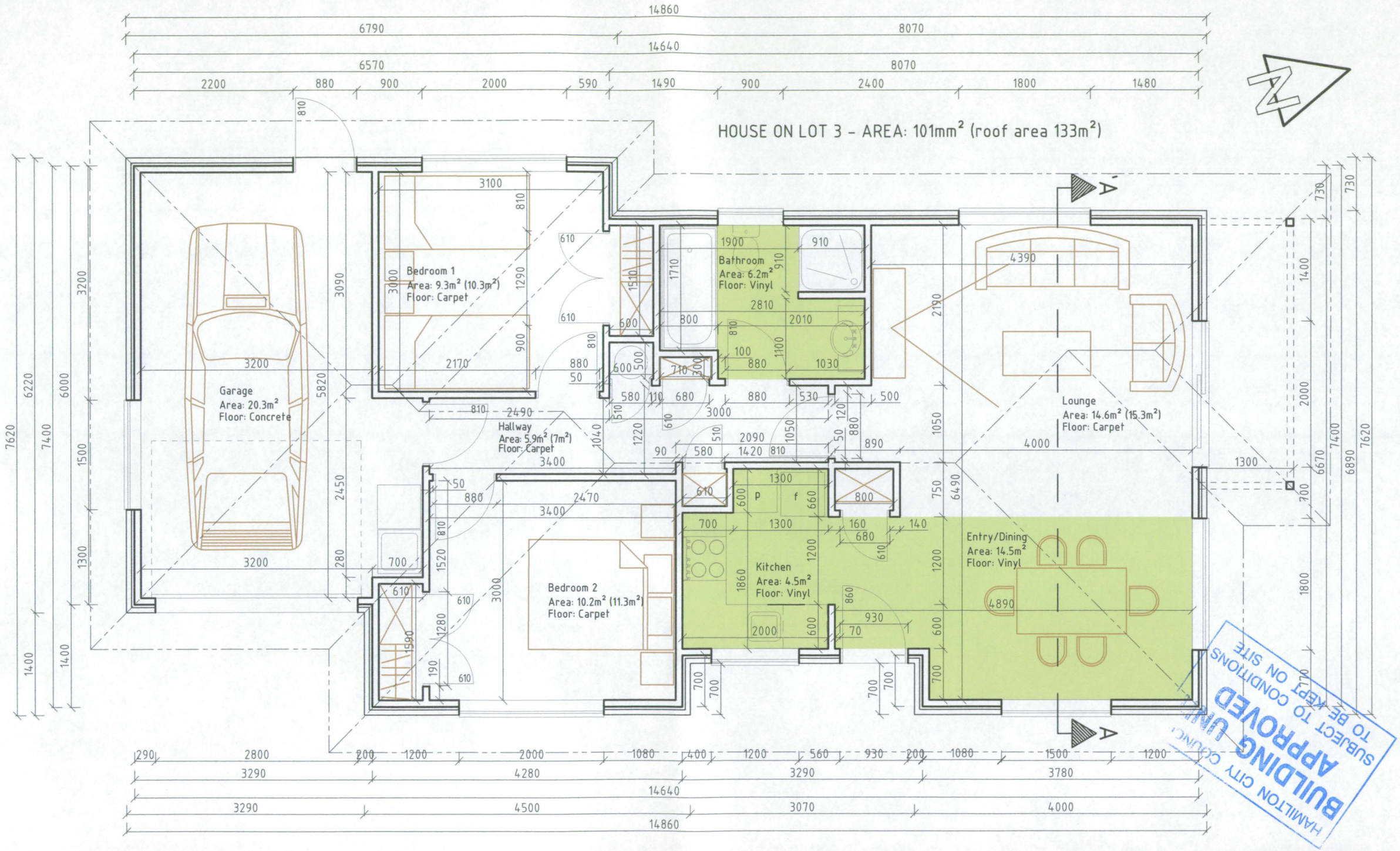
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HOUSE ON LOT 3 - AREA: 101mm² (roof area 133m²)



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LOT 3

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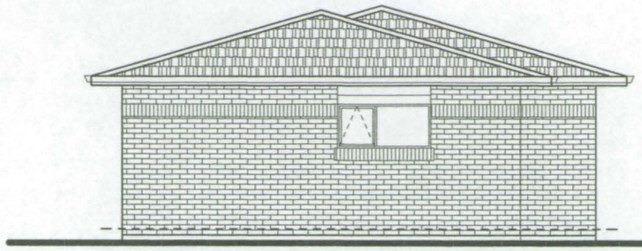
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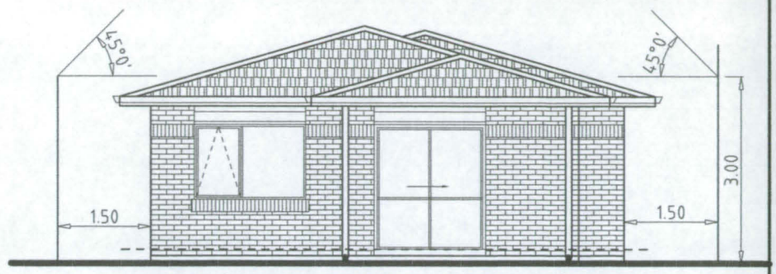
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PROPOSED SOUTH ELEVATION ON LOT 3

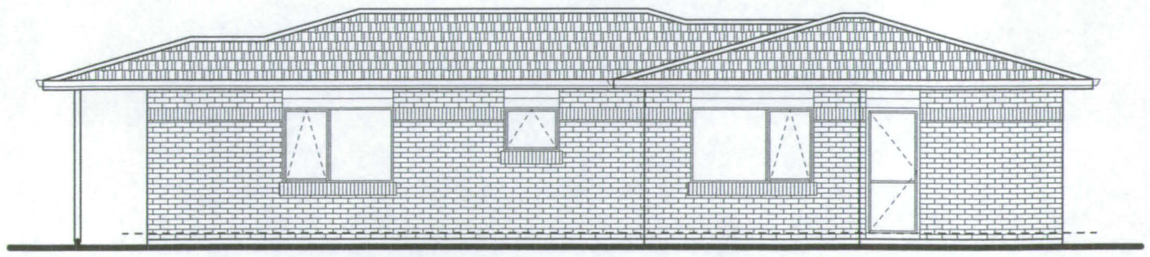


PROPOSED NORTH ELEVATION ON LOT 3

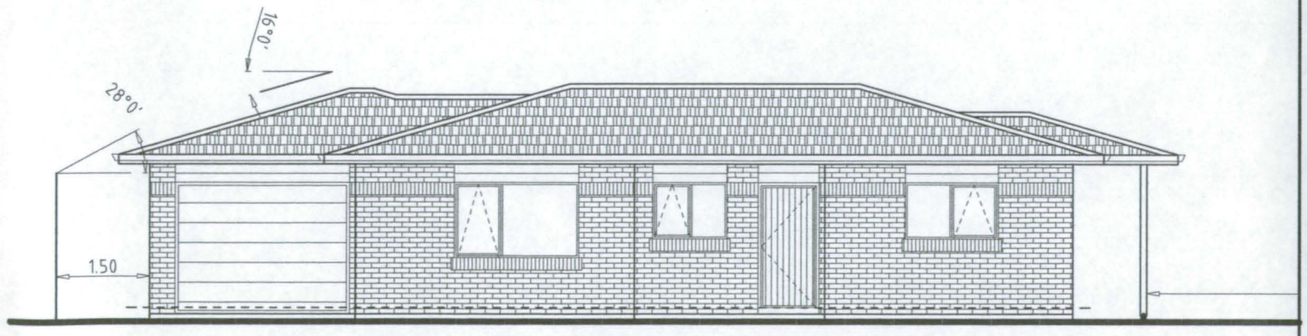
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KEY:

- Brick veneer cladding
- Weatherboard or harditex cladding
- Coloursteel roof tiles
- Double glazing aluminium joinery



PROPOSED WEST ELEVATION ON LOT 3



PROPOSED EAST ELEVATION ON LOT 3

LOT 3

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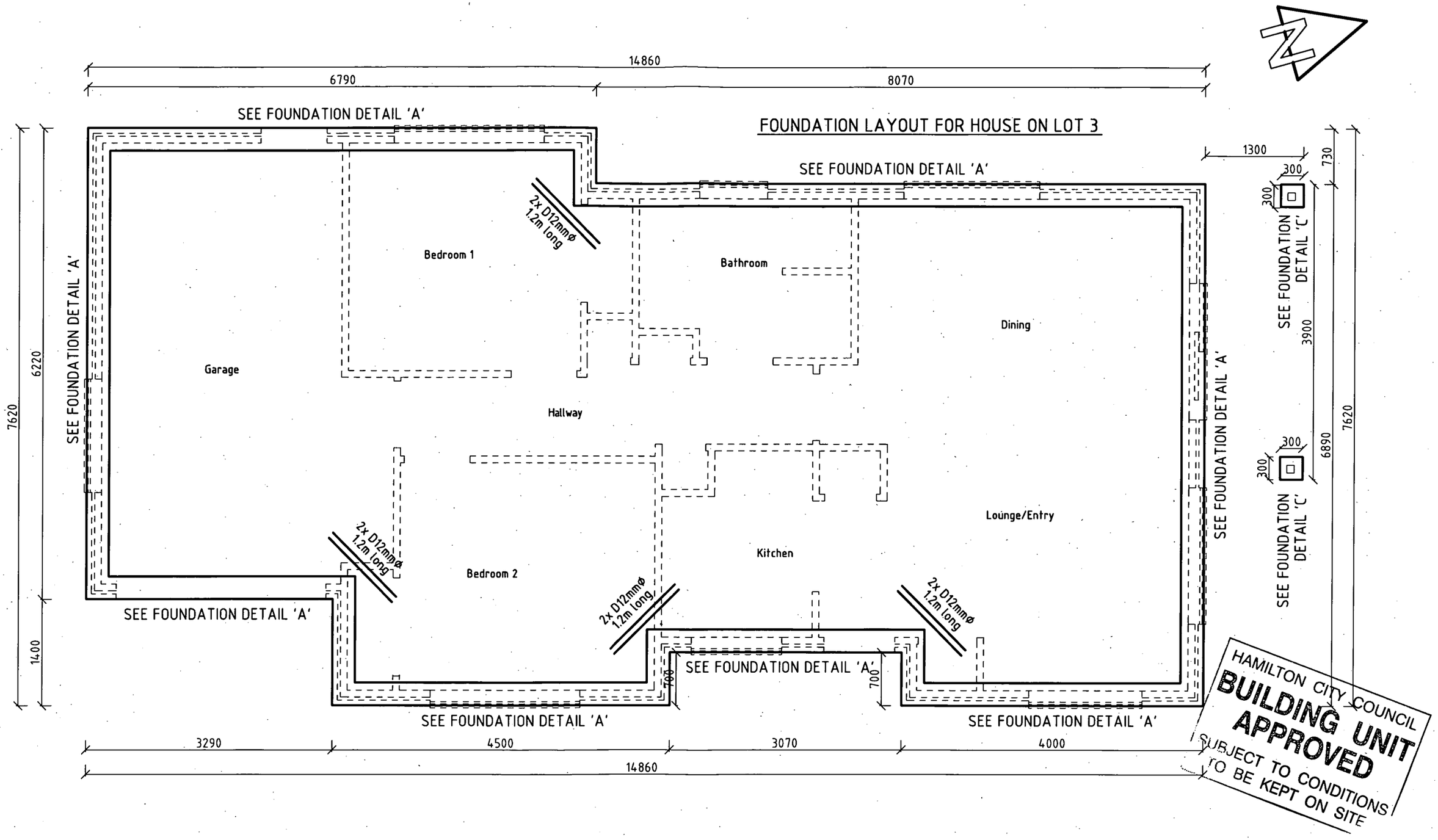
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FOUNDATION LAYOUT FOR HOUSE ON LOT 3



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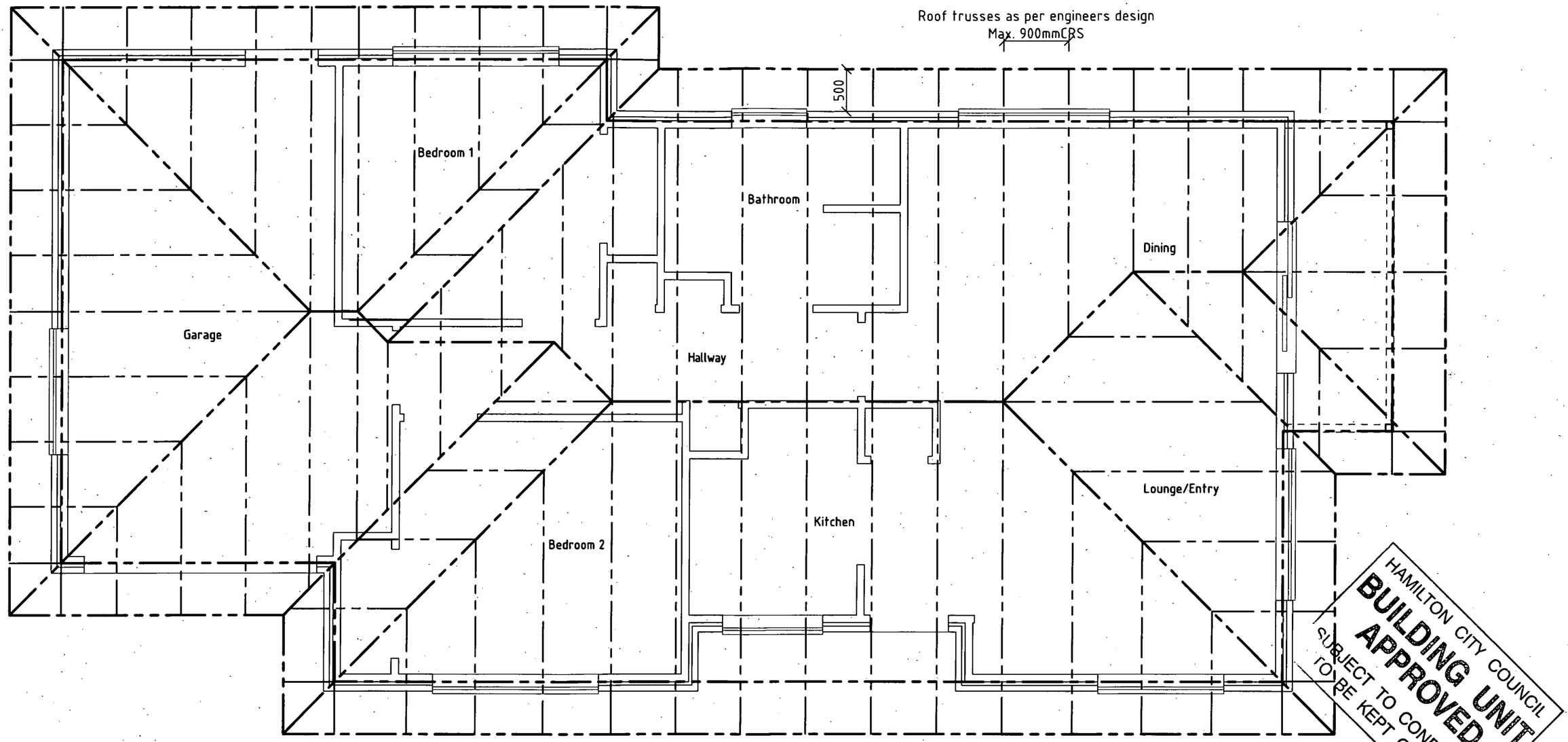
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ROOF LAYOUT OF HOUSE ON LOT 3

LOT 3

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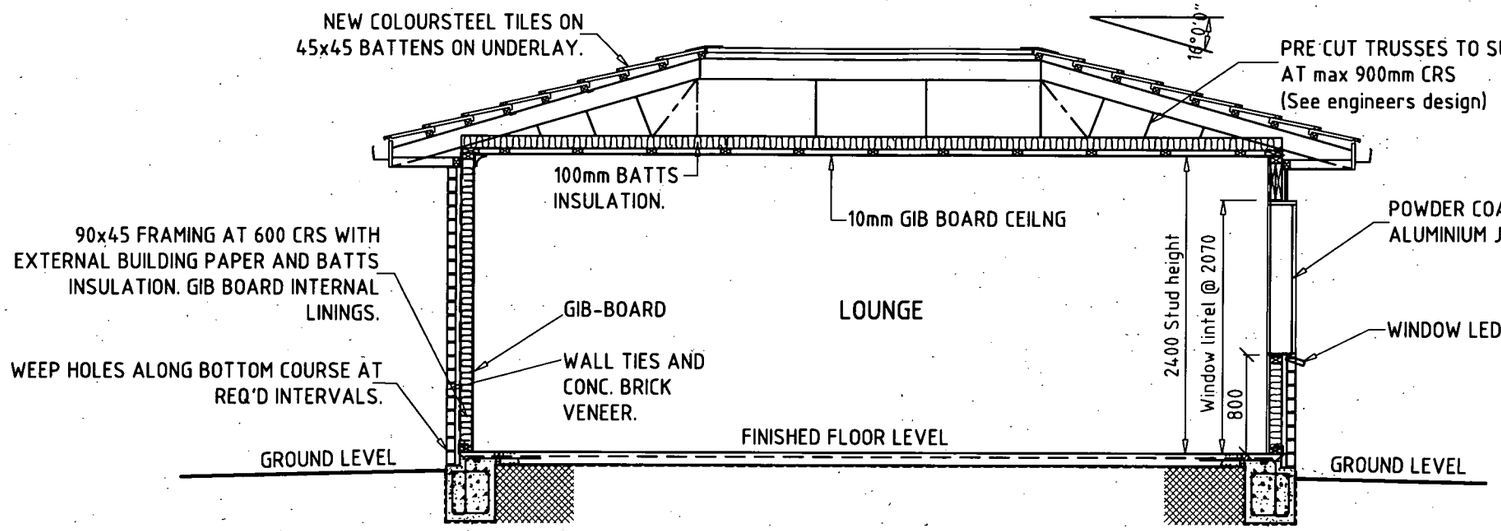
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TYPICAL CROSS SECTION A-A' - House 3

SCALE: 1:50

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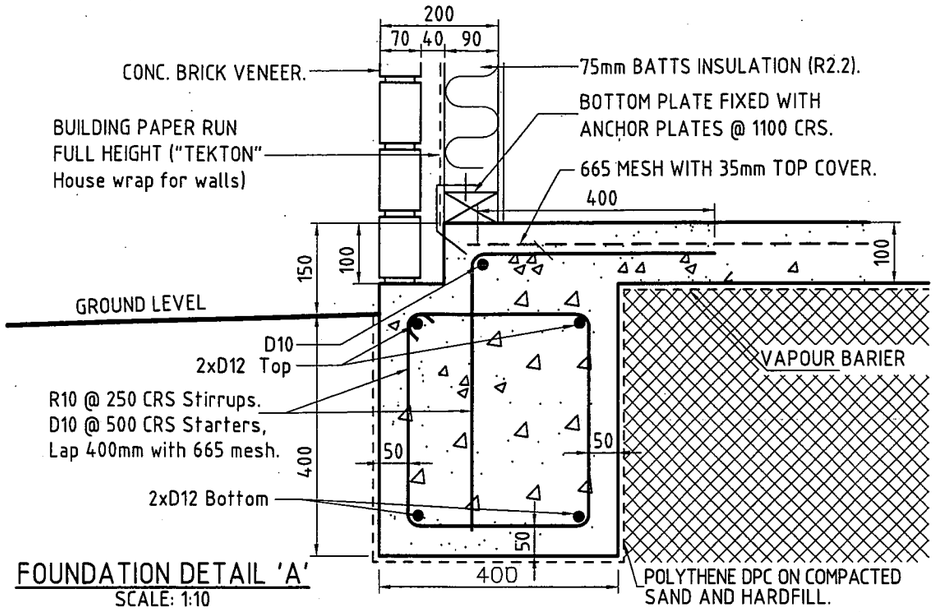
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FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

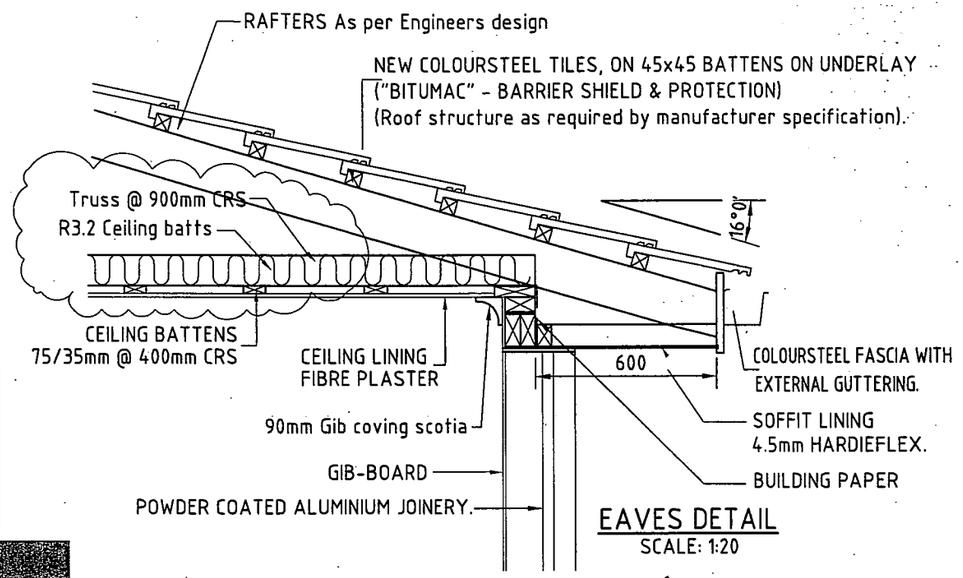
H 1.1, Douglas Fir or UTKD
- Ground floor exterior wall framing

H.1.2
- Internal loadbearing wall framing
- Ceiling framing
- Boundary joist
- Skillion roof framing
- Enclosed beams

H 3.1
- Cavity battens
- Wet area's
- Painted posts and beams

H 3.2
- Fence pailings, rails not in ground contact
- External rafters, posts and beams

H 5.0
- Foundation piling



EAVES DETAIL
SCALE: 1:20

Figure 51: Valley gutters for profiled metal
Paragraph 8.4.18.2

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 roof cladding over gutter shall be reduced to 60 mm to provide a clearance gap of 40 mm.

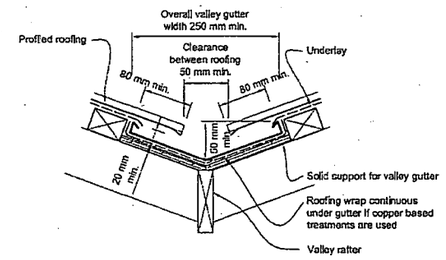
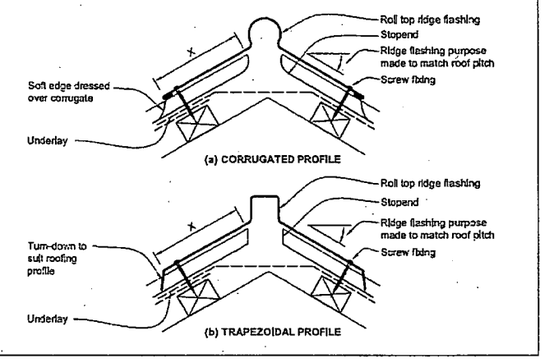
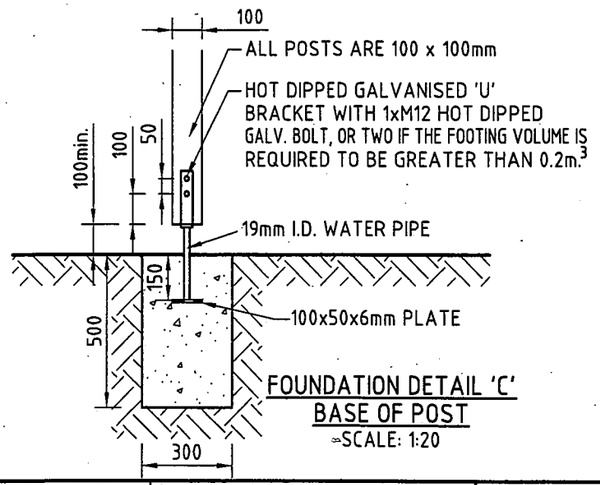


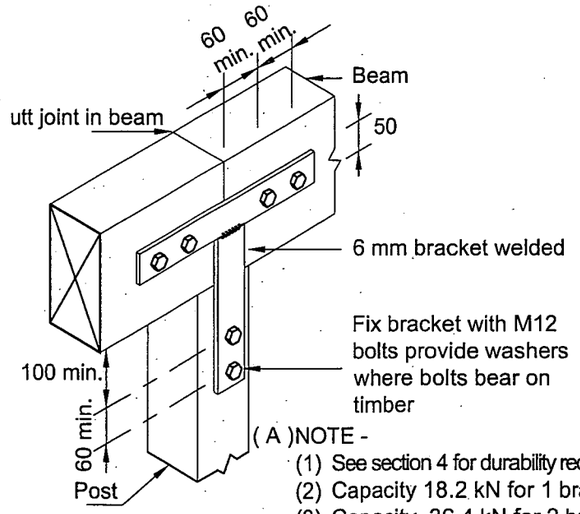
Figure 46: Ridge and hip flashings for profiled metal
Paragraphs 4.6.1.2, 8.4.11 and 8.4.12 d)

NOTE: X = variable according to *wind zone* – refer Table 7.

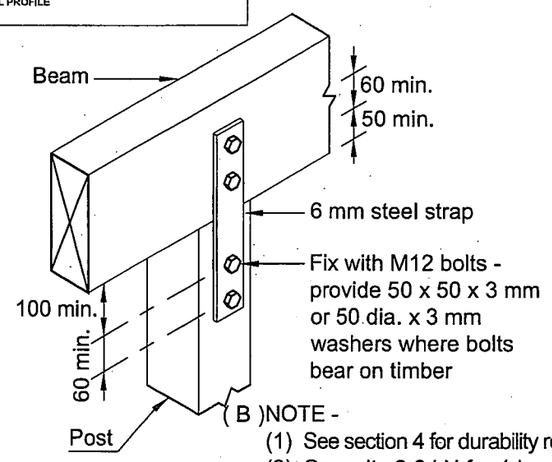




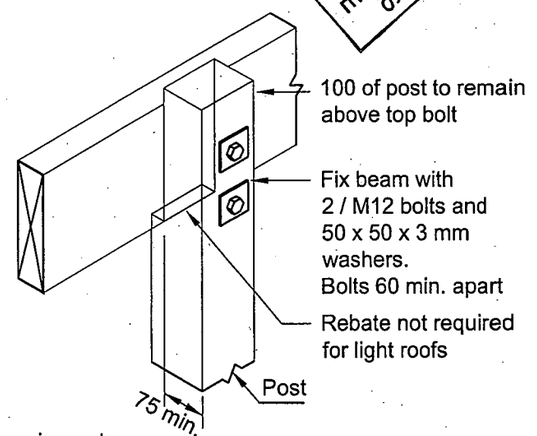
FOUNDATION DETAIL 'C'
BASE OF POST
SCALE: 1:20



(A) NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 18.2 kN for 1 bracket
(3) Capacity 36.4 kN for 2 brackets.



(B) NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN for 1 bracket
(3) Capacity 19.5 kN for 2 brackets.



(C) NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN.

Details of Beam/ Post connection
NOT TO SCALE

HAMILTON CITY COUNCIL
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ALL LOTS

Amendment: 24/05/2010 | Description: Ceiling R value changed.

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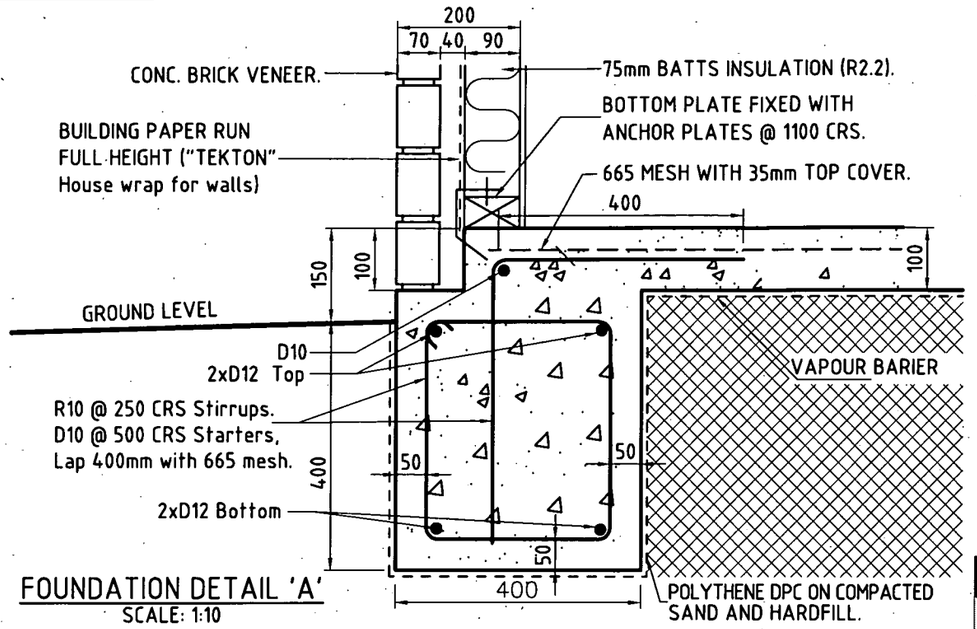
PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

Surveyors–Land Engineers
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7 HARDLEY STREET–HAMILTON–NEW ZEALAND P.O. BOX 9379
E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

McPherson Goodwin

Surveyor: | Checked: GI Ruffell | Sheet 11 of 15.
Design/Drawn: M. Spasovska | Date: April/ 2010 | Scale: As shown @ A3 | Ref.: 15147



FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

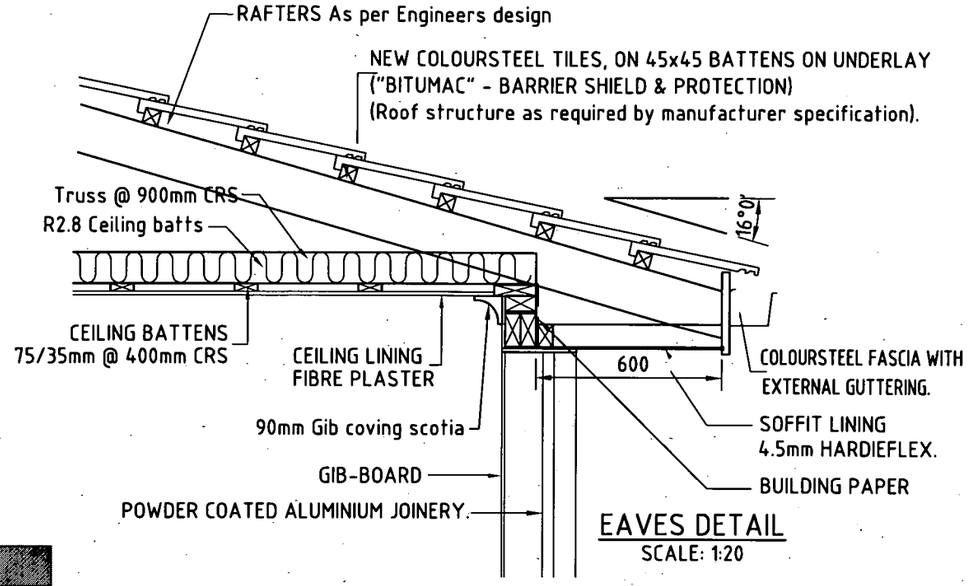
H 1.1, Douglas Fir or UTKD
- Ground floor exterior wall framing

H 1.2
- Internal loadbearing wall framing
- Ceiling framing
- Boundary joist
- Skillion roof framing
- Enclosed beams

H 3.1
- Cavity battens
- Wet area's
- Painted posts and beams

H 3.2
- Fence pailings, rails not in ground contact
- External rafters, posts and beams

H 5.0
- Foundation piling



EAVES DETAIL
SCALE: 1:20

Figure 51: Valley gutters for profiled metal
Paragraph 8.4.10.2

NOTE: (1) Refer to Table 9 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 roof cladding over gutter shall be reduced to 60 mm to provide a clearance gap of 40 mm.

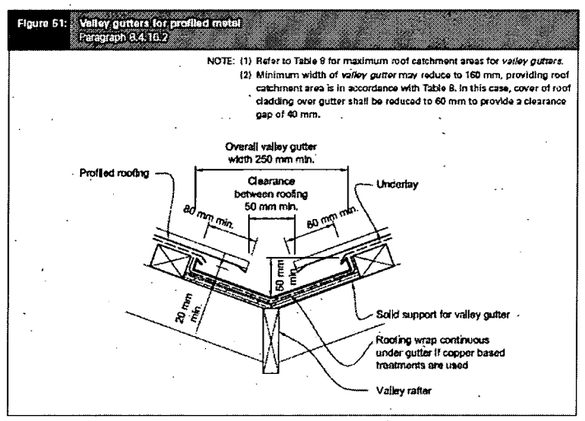
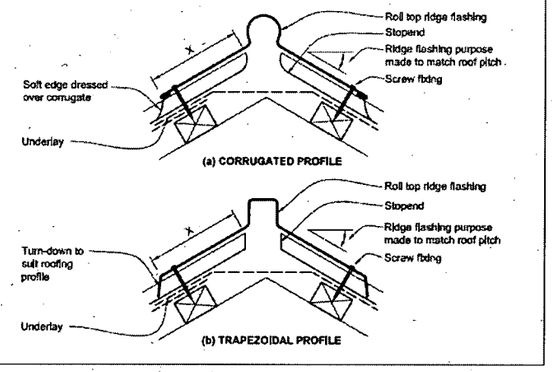
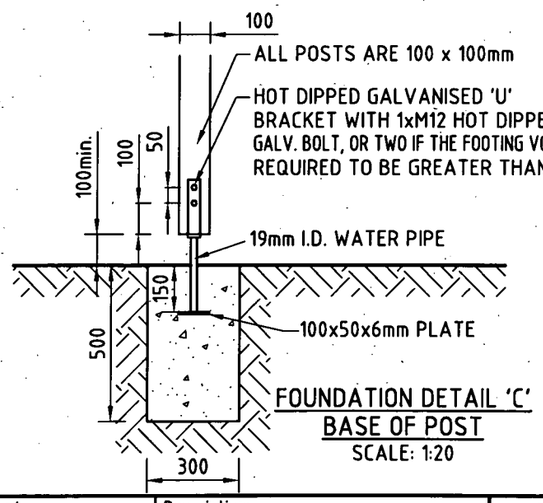


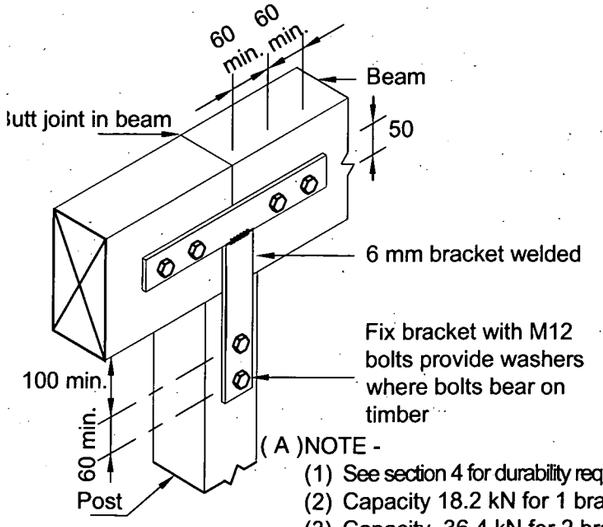
Figure 46: Ridge and hip flashings for profiled metal
Paragraphs 4.8.1.2, 8.4.11 and 8.4.12 d)

NOTE: X = variable according to *wind zone* – refer Table 7.

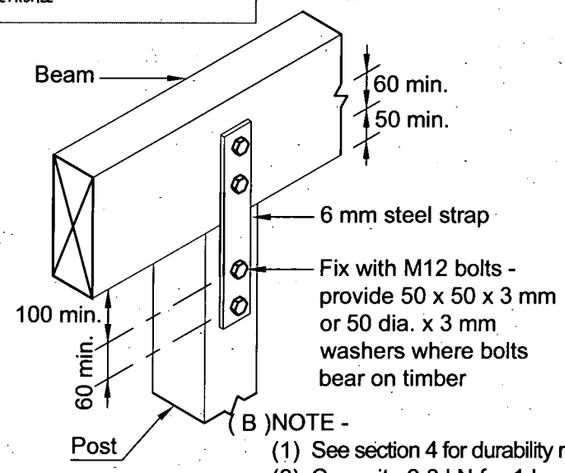




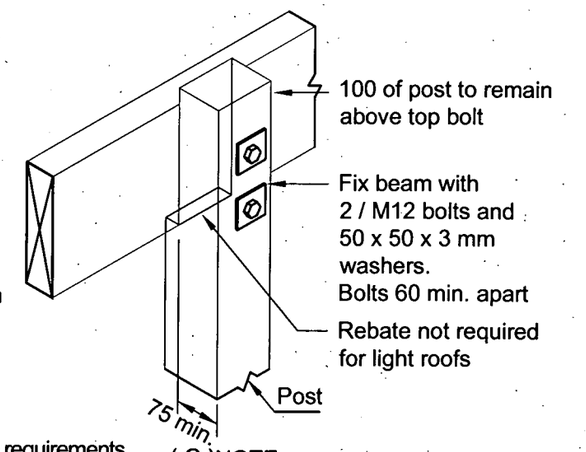
FOUNDATION DETAIL 'C'
BASE OF POST
SCALE: 1:20



(A)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 18.2 kN for 1 bracket
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(B)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN for 1 bracket
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(C)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN.

Details of Beam/ Post connection
NOT TO SCALE

ALL LOTS

SUPERSEDED

Amendment:	Description:

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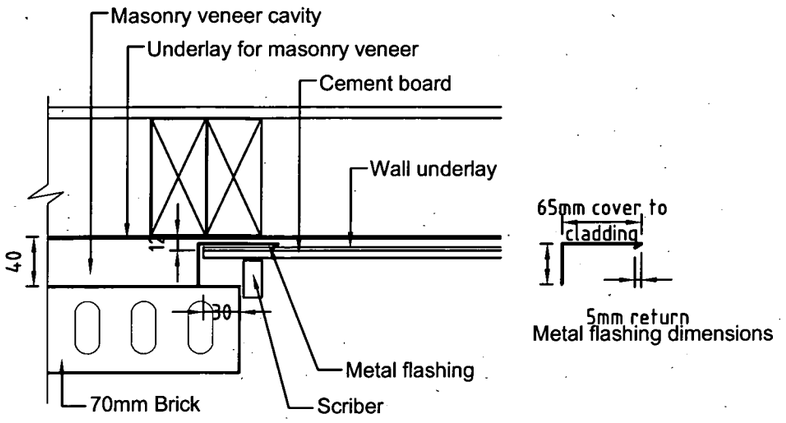
NOTES:
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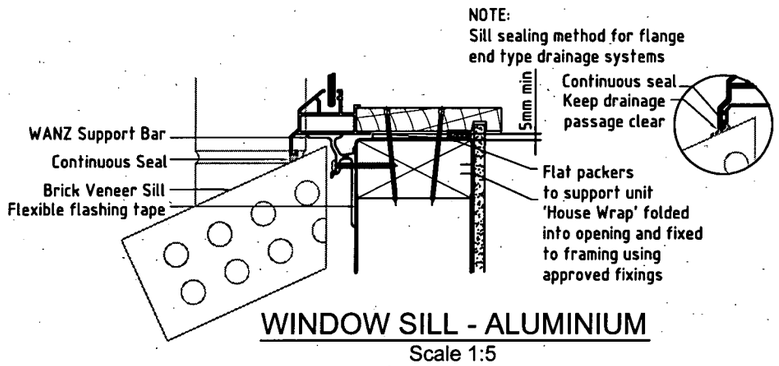
Surveyors–Land Engineers
–Land Development,
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E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335
McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: As shown @ A3	Sheet 11 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



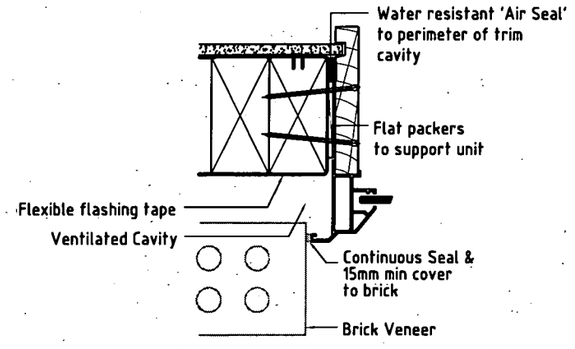
BRICK TO CEMENT BOARD DETAIL

Scale 1:5



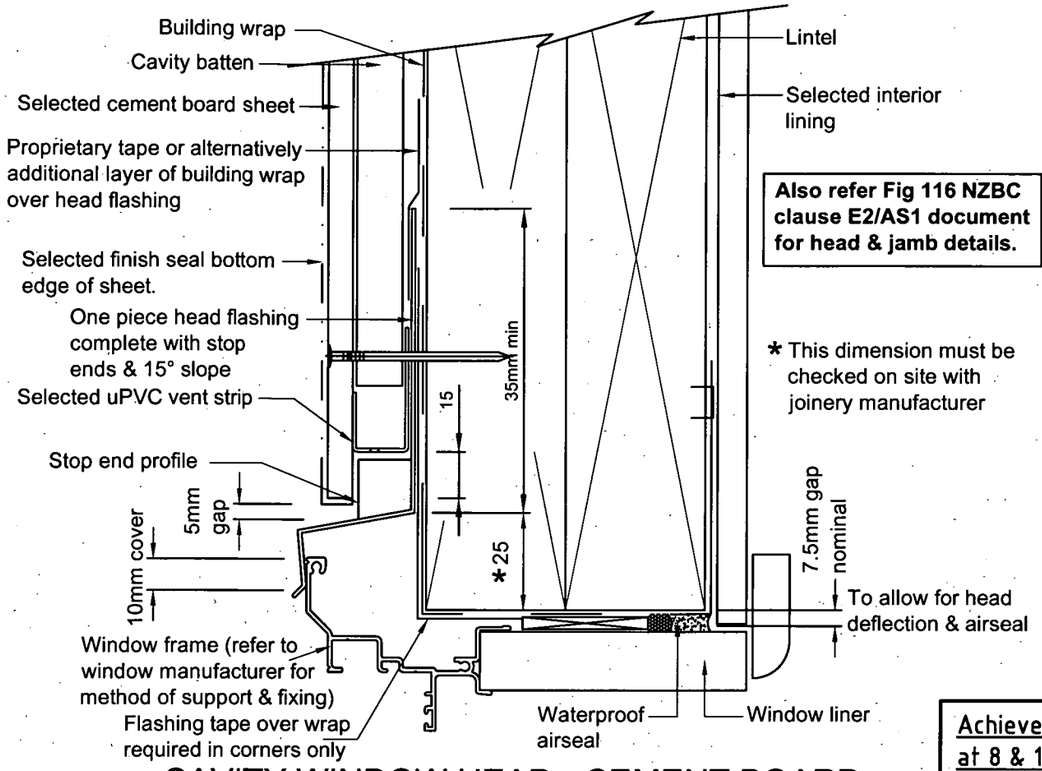
WINDOW SILL - ALUMINIUM

Scale 1:5



WINDOW JAMB - ALUMINIUM

Scale 1:5

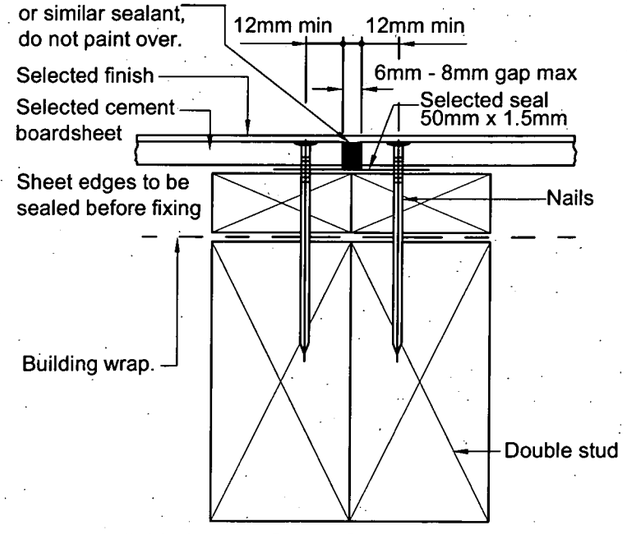


Also refer Fig 116 NZBC clause E2/AS1 document for head & jamb details.

* This dimension must be checked on site with joinery manufacturer

CAVITY WINDOW HEAD - CEMENT BOARD

NTS



CAVITY VERTICAL SEALANT JOINT - CEMENT BOARD

NTS

HAMILTON CITY COUNCIL
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Achieved R Values for proposed seven new houses at 8 & 10 Yorkshire Road:

1). Concrete slab Rt = 1.3

2). Walls:

× Rse	(Exterior surface)	0.03
× Layer 1	(cladding)	0.06
× Layer 2 Rb	(air space and insulated frame space with R2.2)	1.88
× Layer 3	(lining)	0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.1m²°K/W

3). Double glazing windows:

× Rse	(exterior surface)	0.03
× Layer of 6mm float glass		0.006
× 12mm air (unventilated) space		0.14
× Layer of 6mm float glass		0.006
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		0.27m²°K/W

4). Roof structure (pitched roofs)

× Rse	(exterior surface)	0.03
× Roof cladding (steel tiles)		0.01
× Roof space & R3.2 insulation		2.72
× 10mm Gib plasterboard		0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.9m²°K/W

ALL LOTS

Amendment:	Description:

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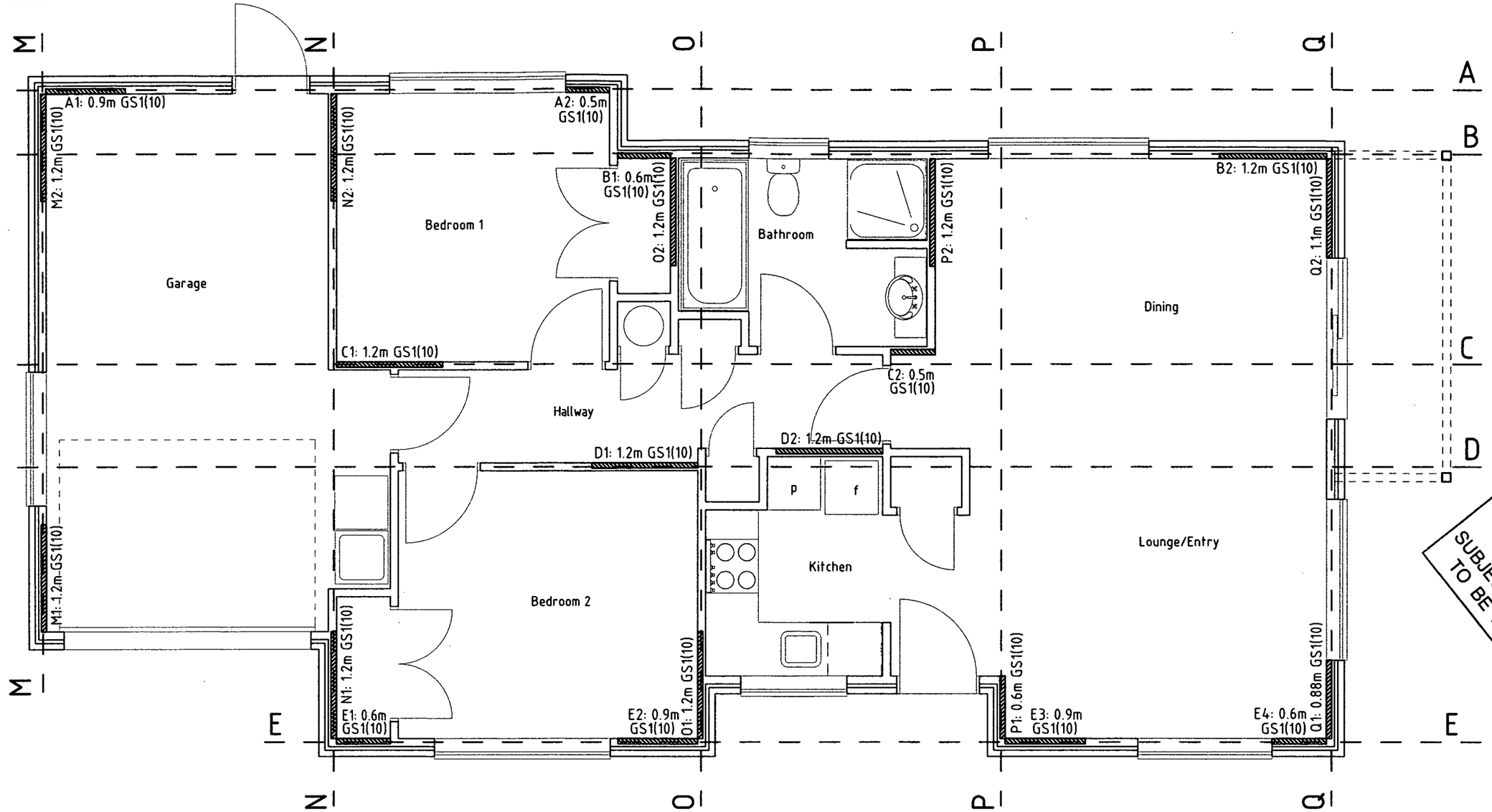
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McPherson Goodwin

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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



HAMILTON CITY COUNCIL
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BRACING CALCULATION FOR HOUSE ON LOT 3

Table 1: 10 mm GIB® Plasterboard BU ratings

		GIB® Bracing Systems 2009	
Type	L (m) minimum	Lining	Other Requirements
		GIB® Standard	
GS1(10)	0.4	10 mm GIB® Standard Plasterboard one face	n/a
	1.2		
GS2(10)	0.6	10 mm GIB® Standard Plasterboard both faces	
	1.8		
		GIB Braceline®	
BL1(10)	0.4	10mm GIB Braceline® one face	Hold-Downs
	1.2		
BLP	0.4	10mm GIB Braceline® one face plywood other	
	0.9		
BLG	0.6	10mm GIB Braceline® one face 10mm GIB® Standard other	
	1.2		

LOT 3

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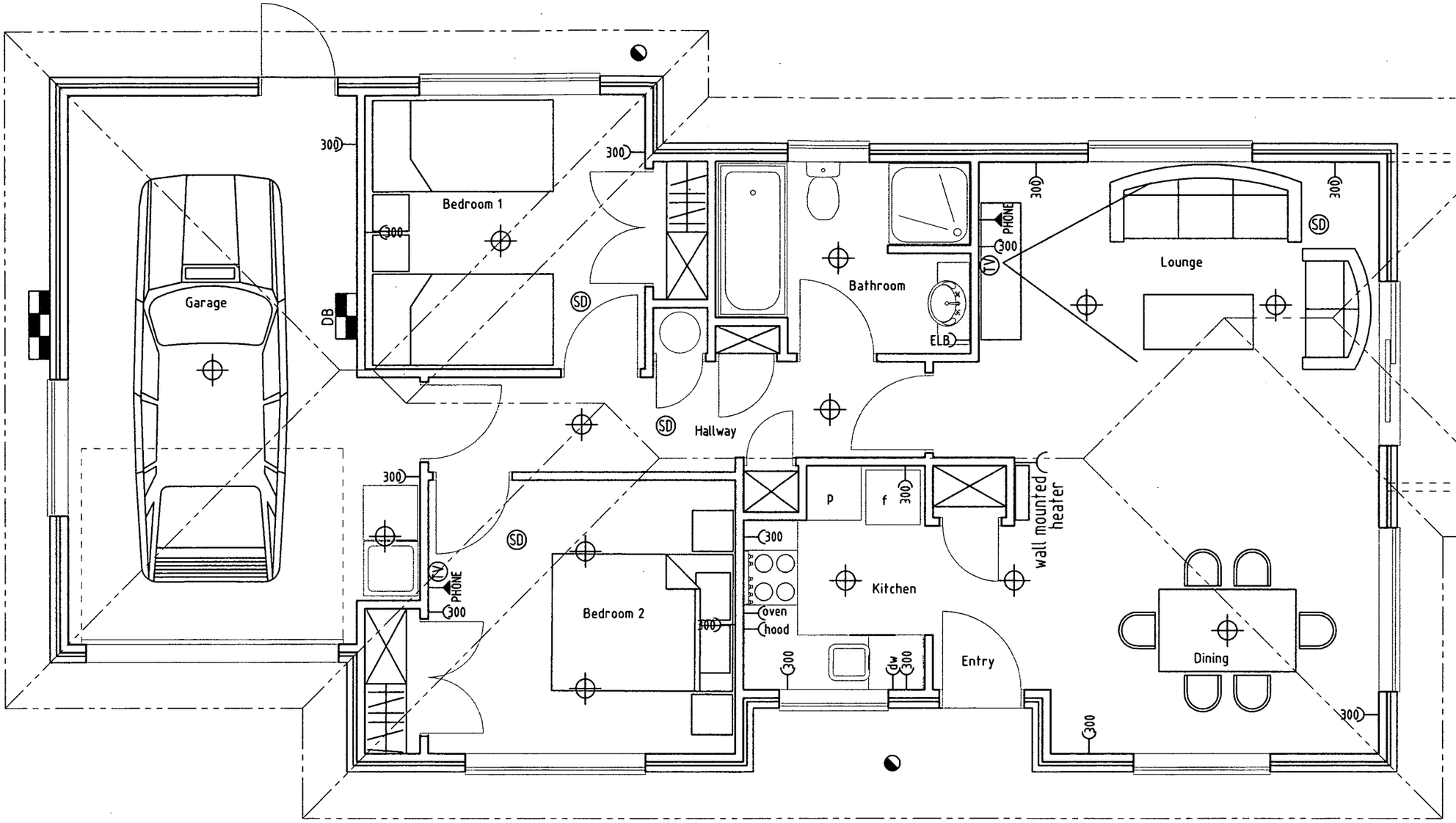
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ELECTRICAL KEY:

- SD — SMOKE ALARM
- METER BOX
- DB — RECESS DITRIBUTION BOARD
- 300 — TYPICAL DOUBLE POWER POINT (300 A.F.F.L.)
- ELB — SHAVERS PLUG
- BAYONET LIGHTS
- SELECTED CEILING LIGHT FITTINGS
- PHONE — PHONE JACK
- TV — TV AERIAL JACK

APPLIANCES/ FITTINGS:

RANGE HOOD - ELECTRIC - SIMPSON RA6WH
ELECTRIC STOVE - SIMPSON 63H906W

ELECTRICAL LAYOUT OF HOUSE ON LOT 3

LOT 3

Amendment:	Description:

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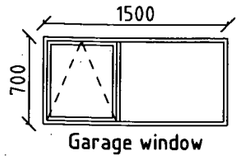
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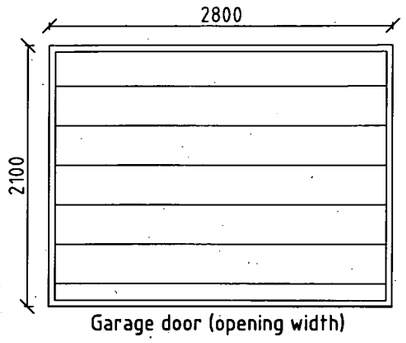
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

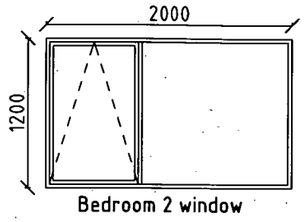


Garage window

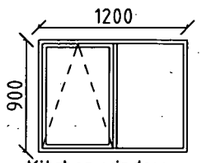
PROPOSED SOUTH ELEVATION ON LOT 3



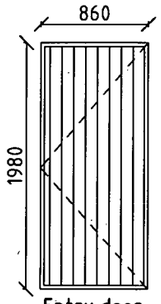
Garage door (opening width)



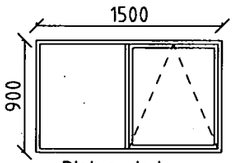
Bedroom 2 window



Kitchen window

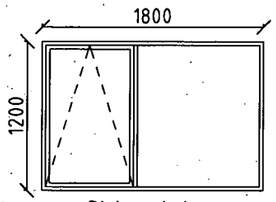


Entry door

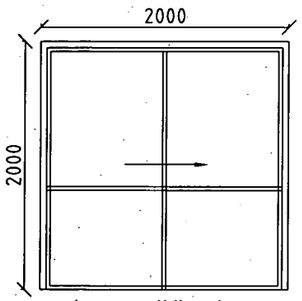


Dining window

PROPOSED EAST ELEVATION ON LOT 3

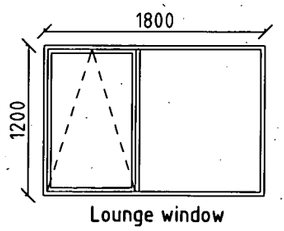


Dining window

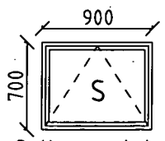


Lounge sliding door

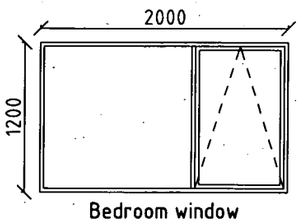
PROPOSED NORTH ELEVATION ON LOT 3



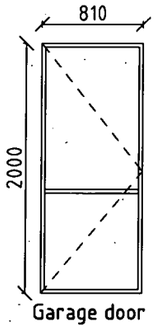
Lounge window



Bathroom window



Bedroom window



Garage door

PROPOSED WEST ELEVATION ON LOT 3

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BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

LOT 3

Amendment:	Description:

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NOTES:
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PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

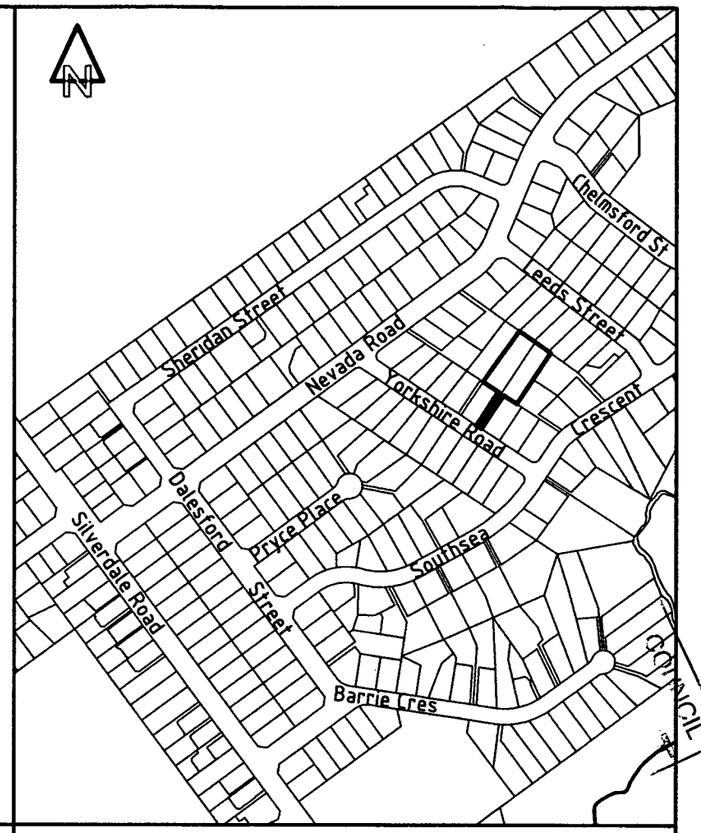
Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

Surveyors–Land Engineers
–Land Development,
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Town Planning Consultants
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Surveyor:	Checked: GI Ruffell	Scale: 1:50 @ A3	Sheet 7 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT OF LOT 61 & 62 DPS 9556 & LOT 2 DP 428322



Address: 8 & 10 Yorkshire Road, Hamilton
Prepared for: CKC Holdings Ltd.

House on lot 4

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MEMORANDUM OF EASEMENT			
Purpose	Shown	Serv.Tenem.	Dom.Tenem.
Right of way, Right to drain: sewage & water, Right to convey: water, gas, electricity, telecommunication & computer media	(A)	Lot 3 hereon	Lots 1, 2 & 4–7 hereon

MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council



SITE COVERAGE:

Lots: 1,2 & 4 = 107m² = 36%

Lots 3 & 5= 104m² = 35%

Lots: 6 & 7 = 104m² = 35%

Amendment:	Description:

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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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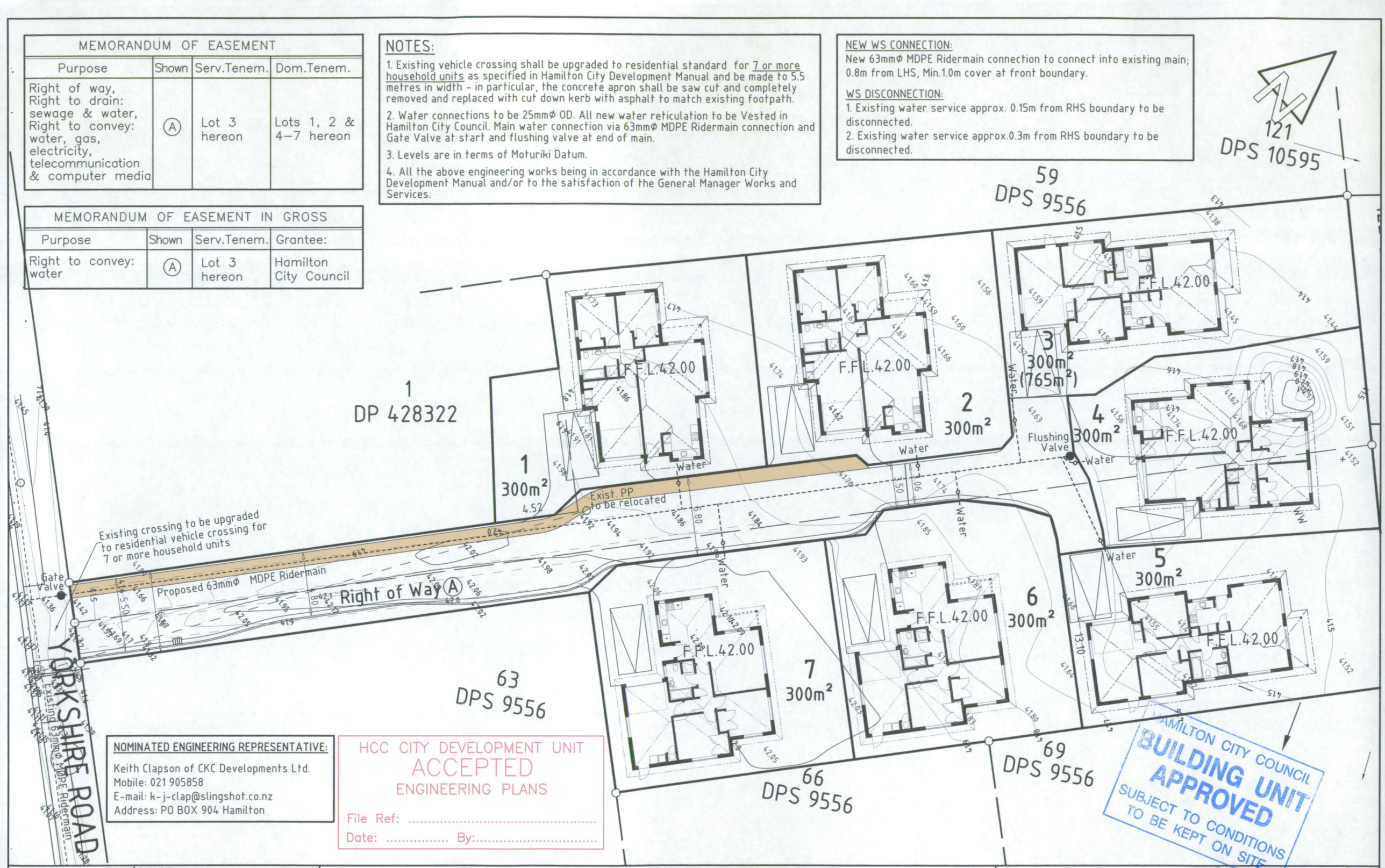
MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council

NOTES:

1. Existing vehicle crossing shall be upgraded to residential standard for 7 or more household units as specified in Hamilton City Development Manual and be made to 5.5 metres in width – in particular, the concrete apron shall be saw cut and completely removed and replaced with cut down kerb with asphalt to match existing footpath.
2. Water connections to be 25mmØ OD. All new water reticulation to be Vested in Hamilton City Council. Main water connection via 63mmØ MDPE Ridermain connection and Gate Valve at start and flushing valve at end of main.
3. Levels are in terms of Moturiki Datum.
4. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.

NEW WS CONNECTION:
New 63mmØ MDPE Ridermain connection to connect into existing main; 0.8m from LHS, Min.1.0m cover at front boundary.

WS DISCONNECTION:
1. Existing water service approx. 0.15m from RHS boundary to be disconnected.
2. Existing water service approx.0.3m from RHS boundary to be disconnected.



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Address: PO BOX 904 Hamilton

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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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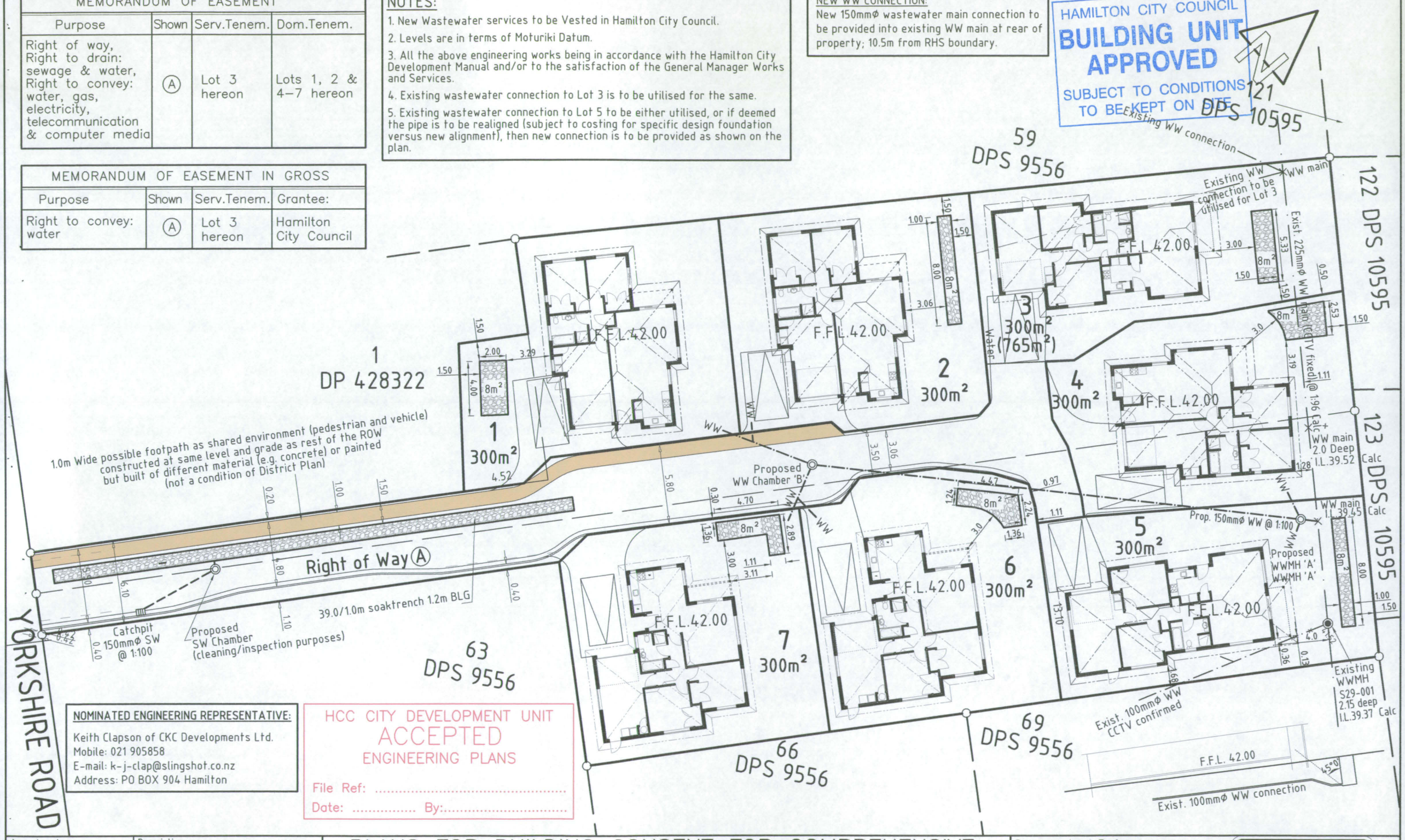
MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council

NOTES:

1. New Wastewater services to be Vested in Hamilton City Council.
2. Levels are in terms of Moturiki Datum.
3. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.
4. Existing wastewater connection to Lot 3 is to be utilised for the same.
5. Existing wastewater connection to Lot 5 to be either utilised, or if deemed the pipe is to be realigned (subject to costing for specific design foundation versus new alignment), then new connection is to be provided as shown on the plan.

NEW WW CONNECTION:
New 150mmØ wastewater main connection to be provided into existing WW main at rear of property; 10.5m from RHS boundary.

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Amendment:	Description:

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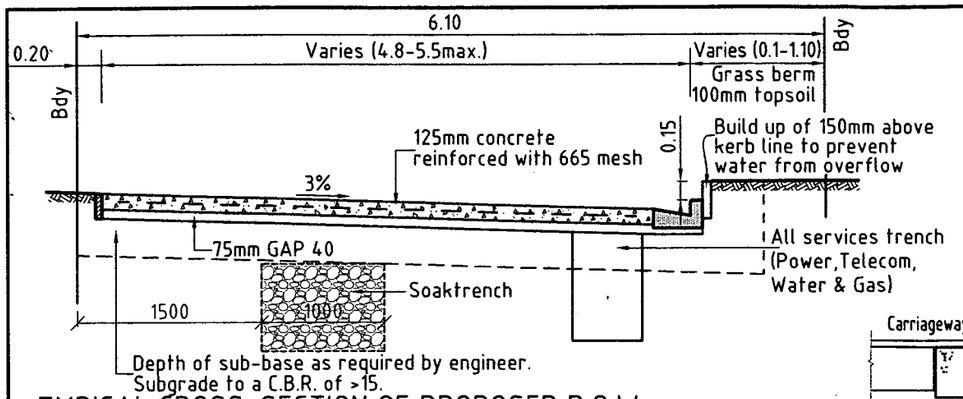
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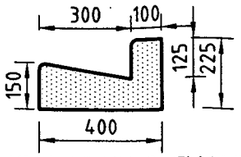
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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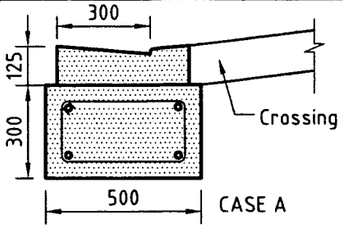
TYPICAL CROSS-SECTION OF PROPOSED R.O.W.

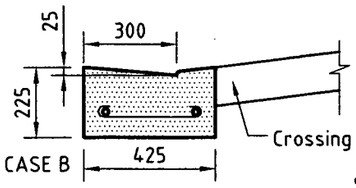
SCALE: 1 : 50



VERTICAL KERB & CHANNEL

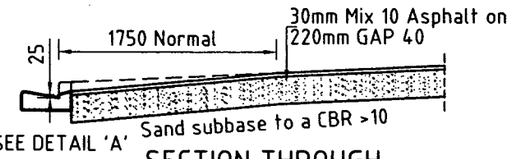
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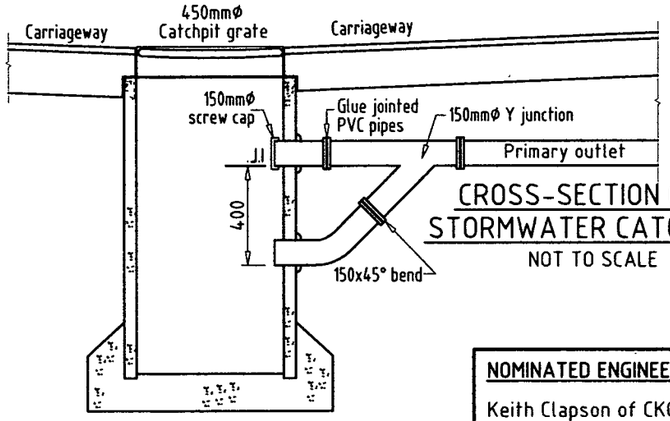
COMMERCIAL CHANNEL CROSSING

SCALE: 1:20



SECTION THROUGH COMMERCIAL VEHICLE CROSSING

SCALE: 1:50



CROSS-SECTION OF STORMWATER CATCHPIT

NOT TO SCALE

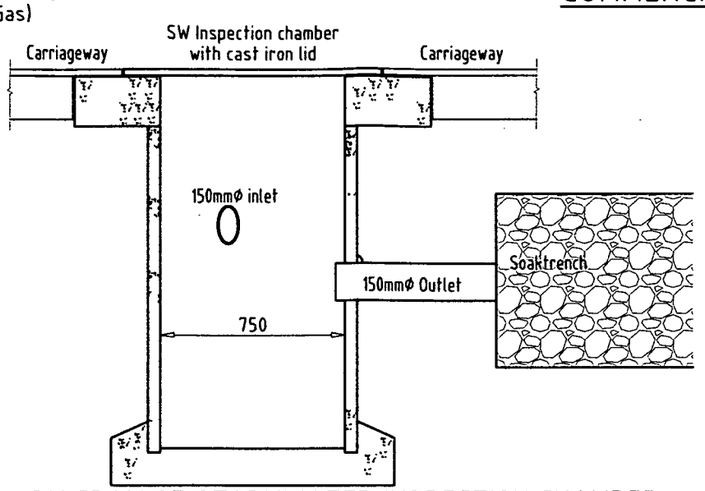
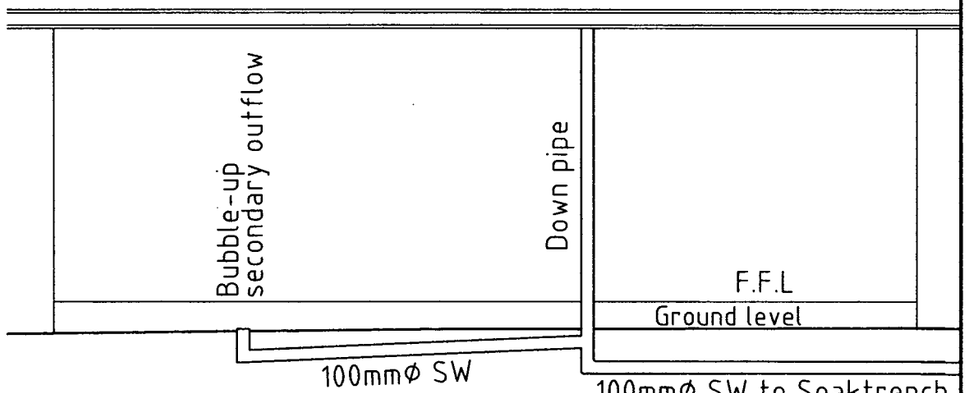


DIAGRAM OF STORMWATER INSPECTION CHAMBER

SCALE: 1:25



DETAIL OF SW SECONDARY OVERFLOW FOR LOTS 3-6

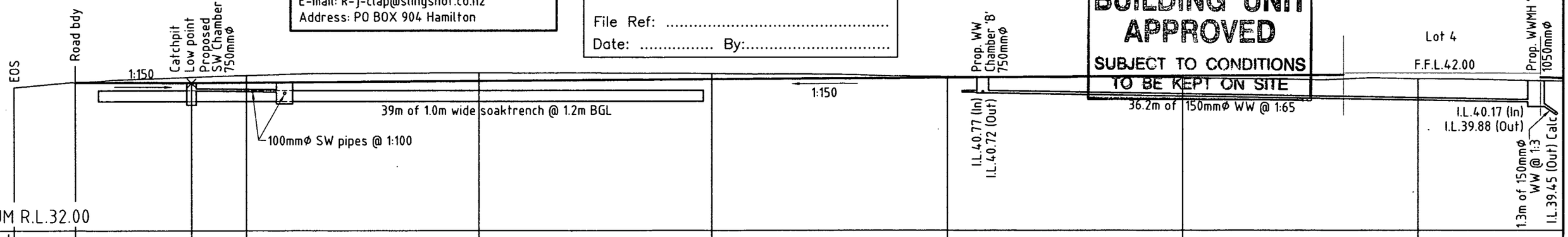
NOT TO SCALE

NOMINATED ENGINEERING REPRESENTATIVE:

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Address: PO BOX 904 Hamilton

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Proposed LOC finished levels	41.43		41.38	41.40	41.51	41.61	41.71	41.81				
Existing ground levels	41.12			41.86	42.03	41.97	41.78	41.70		41.64		
Chainages	0.00	3.96	11.46	15.00	30.00	45.00	60.00	75.00		90.00		

LONGITUDINAL SECTION OF PROPOSED RIGHT OF WAY - Scale: Hz: 1:250, Vt: 1:250

ALL LOTS

Amendment:	Description:

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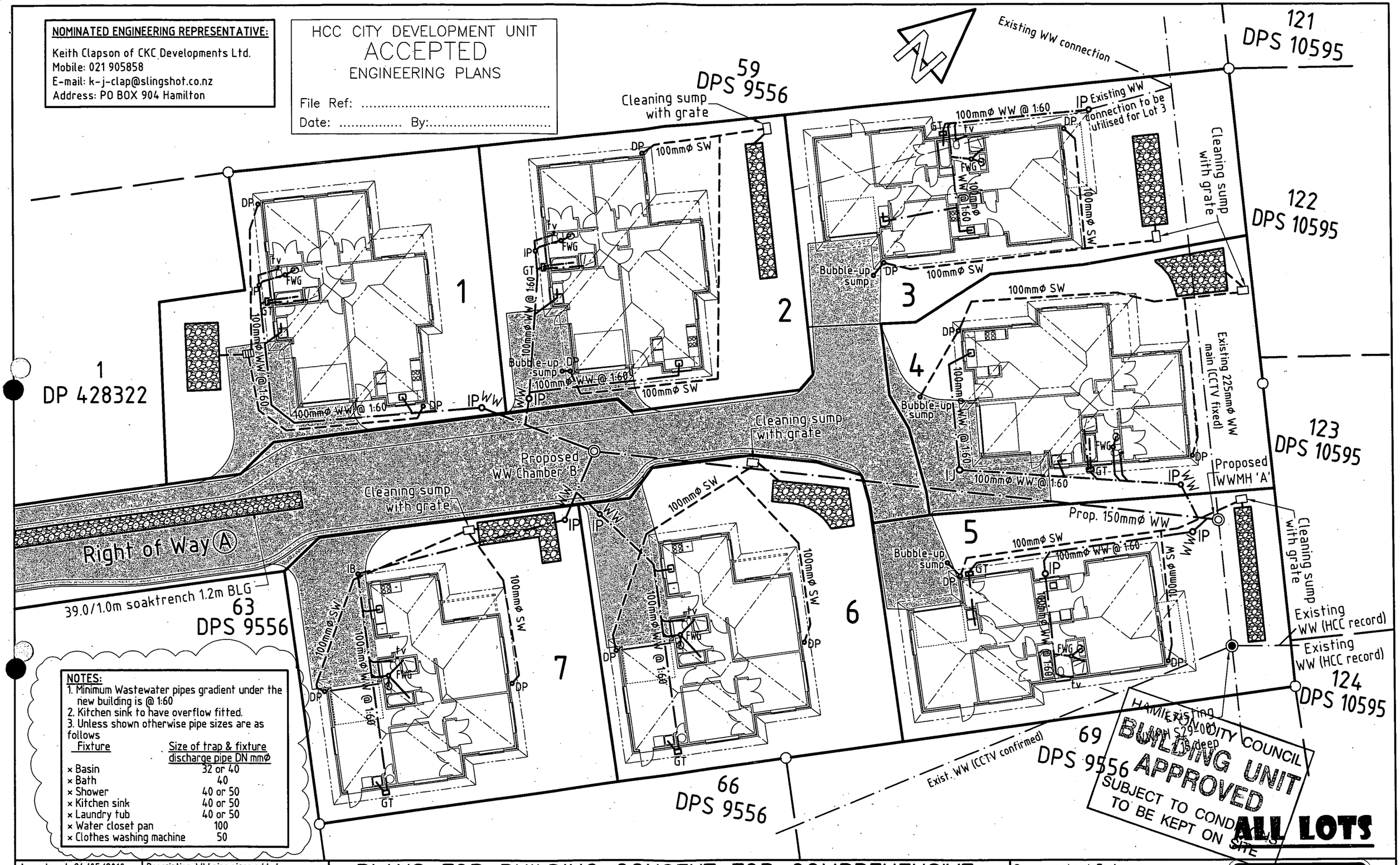
Surveyor:	Checked: GI Ruffell	Scale: 1:250 @ A3	Sheet 4 of 5
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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NOTES:
1. Minimum Wastewater pipes gradient under the new building is @ 1:60
2. Kitchen sink to have overflow fitted.
3. Unless shown otherwise pipe sizes are as follows

Fixture	Size of trap & fixture discharge pipe DN mmø
× Basin	32 or 40
× Bath	40
× Shower	40 or 50
× Kitchen sink	40 or 50
× Laundry tub	40 or 50
× Water closet pan	100
× Clothes washing machine	50

Amendment: 24/05/2010	Description: WW pipe sizes added.

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SUPERSEDED

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121 DPS 10595

Existing WW connection

59 DPS 9556

Cleaning sump with grate

122 DPS 10595

123 DPS 10595

1 DP 428322

1

2

3

4

5

6

7

Right of Way Ⓐ

63 DPS 9556

66 DPS 9556

69 DPS 9556

124 DPS 10595

Proposed WW Chamber 'B'

Proposed WWMH 'A'

Proposed 150mmø WW

Existing 225mmø WW main (CCTV fixed)

Existing WWMH S29-001 2.15 deep

Exist. WW (CCTV confirmed)

39.0/1.0m soaktrench 1.2m BLG

100mmø SW

100mmø WW @ 1:60

Bubble-up sump

DP

IP

IB

GT

FWG

Tv

SUPERSEDED ALL LOTS

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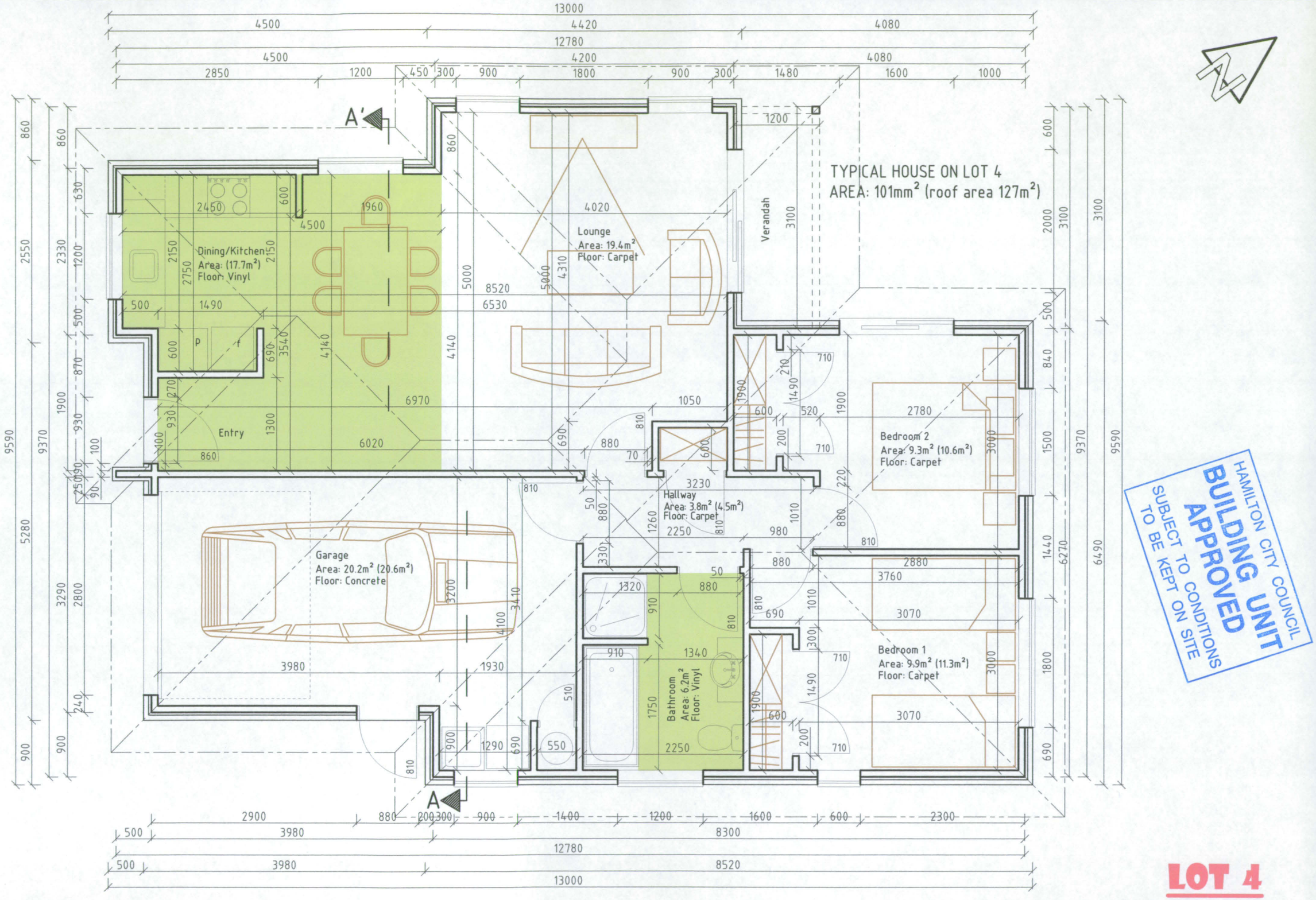
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



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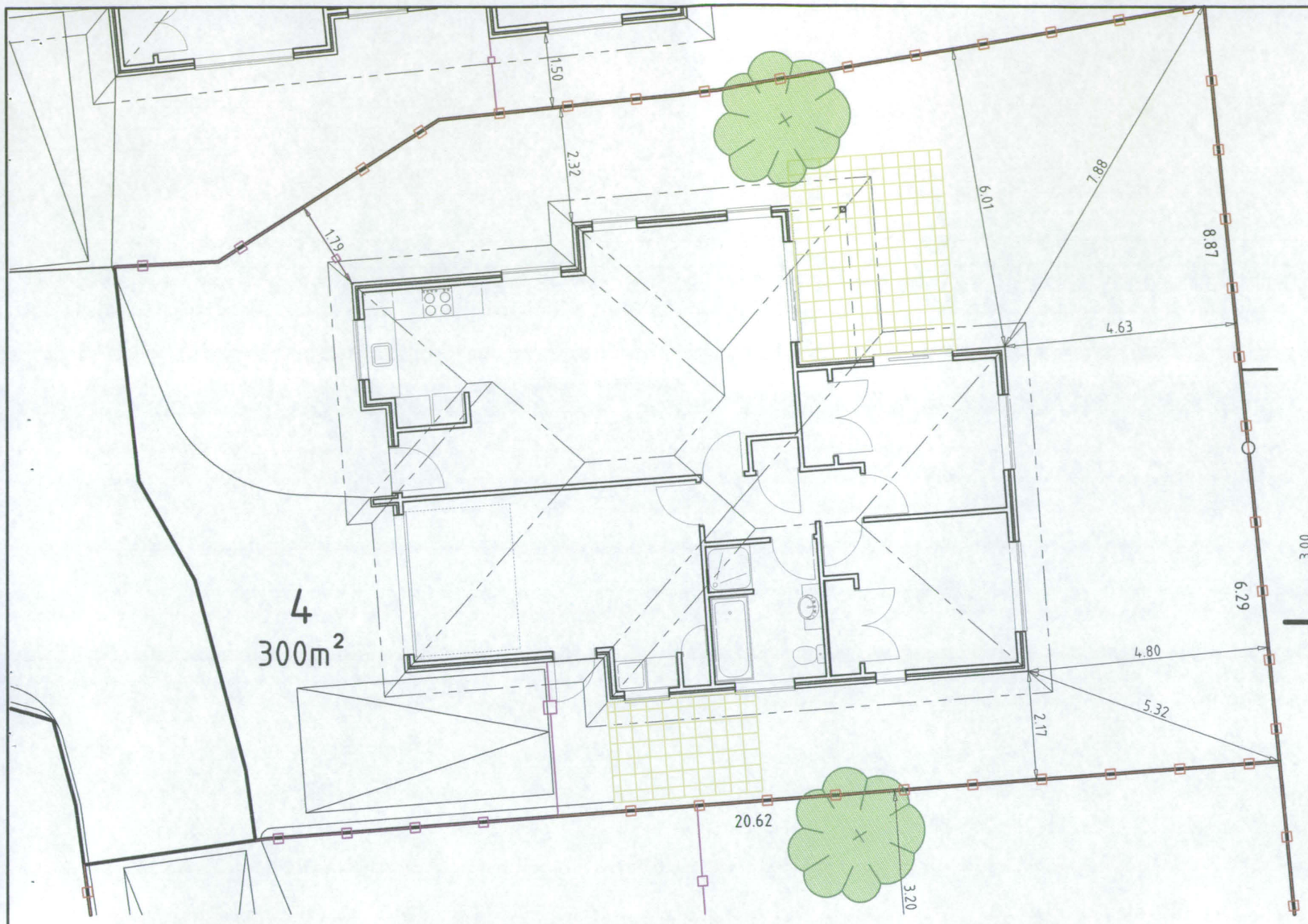
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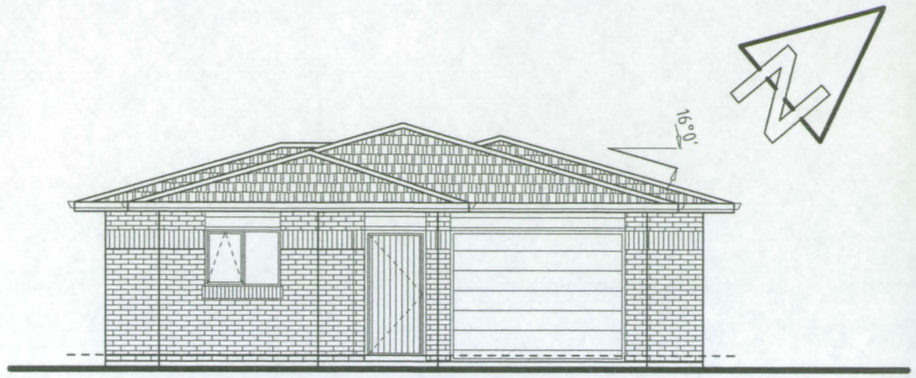
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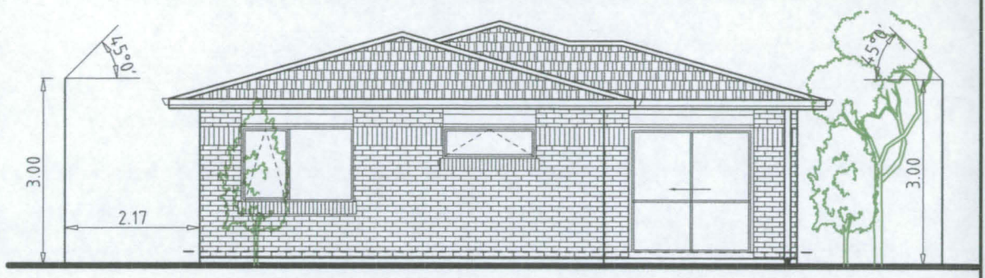
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147





PROPOSED SOUTH ELEVATION ON LOT 4

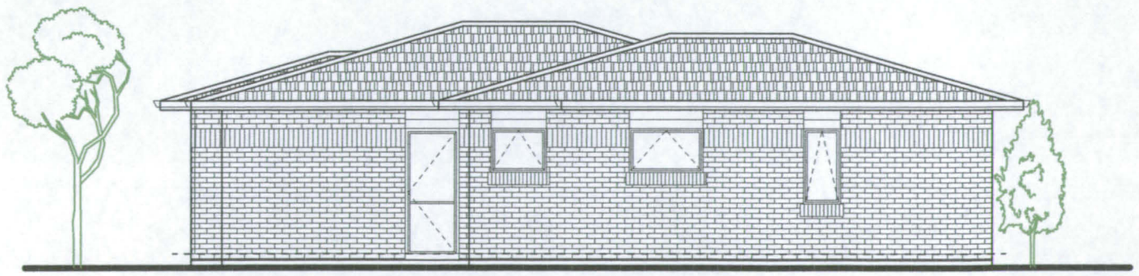


PROPOSED NORTH ELEVATION ON LOT 4

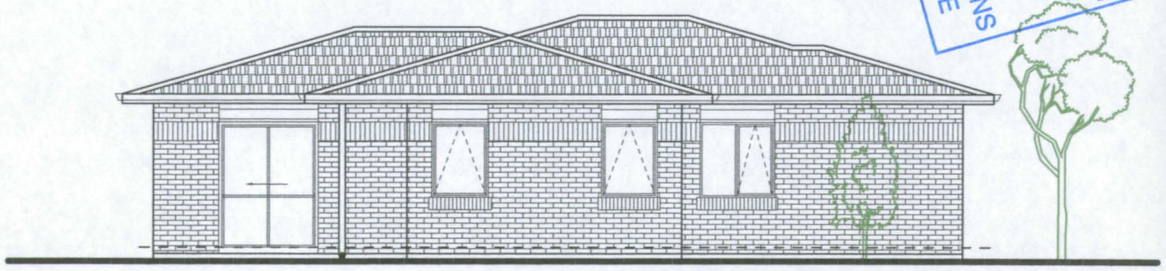
KEY:

- Brick veneer cladding
- Weatherboard or harditex cladding
- Colorsteel roof tiles
- Double glazing aluminium joinery

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PROPOSED EAST ELEVATION ON LOT 4



PROPOSED WEST ELEVATION ON LOT 4

LOT 4

Amendment:	Description:

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NOTES:
1. Areas and distances are subject to survey.
2. Total CT area: 2565m²

PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

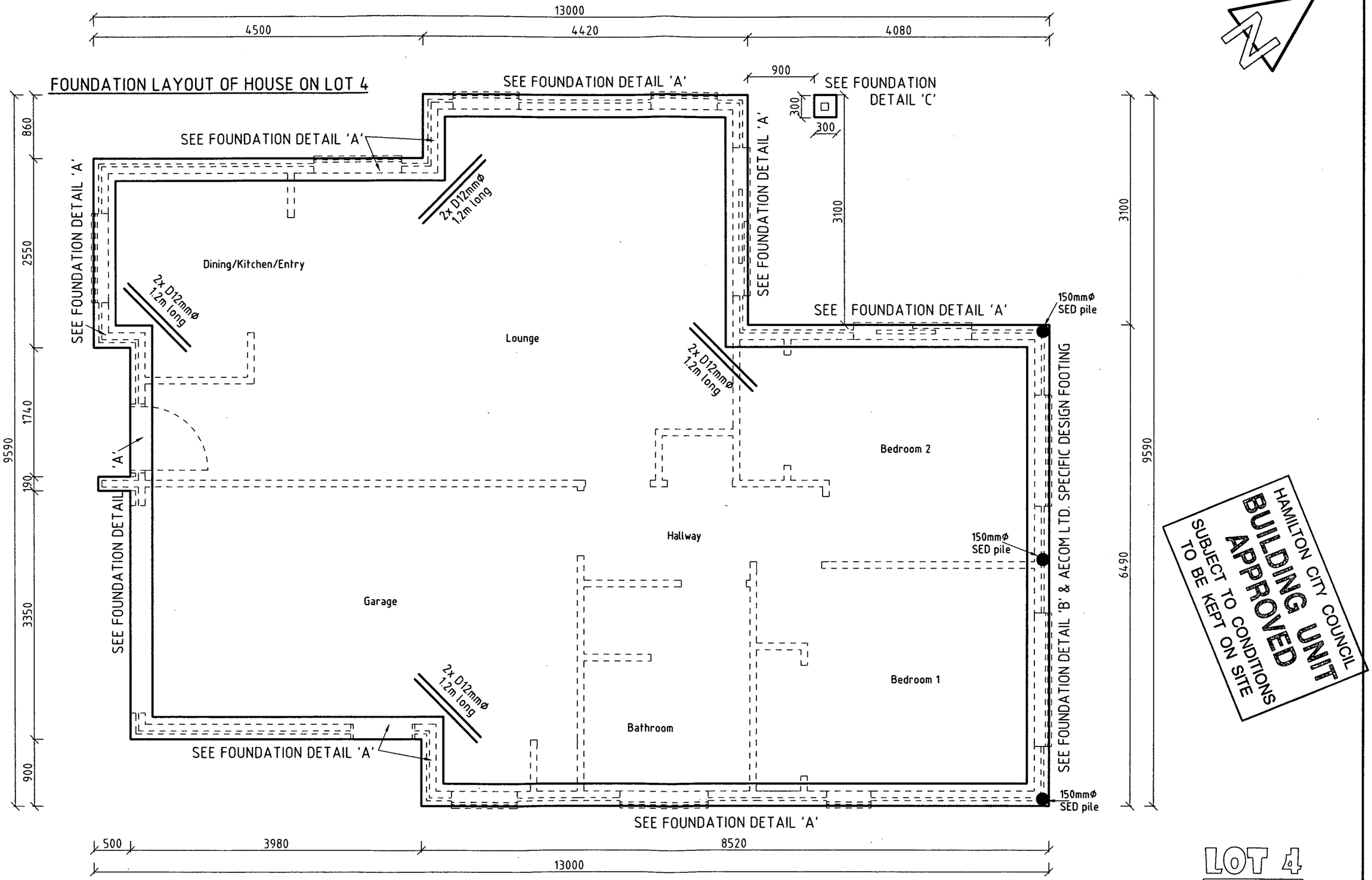
Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & SA6B/363 | Address: 8 and 10 Yorkshire Road, Hamilton

Surveyors–Land Engineers
–Land Development,
Resource Management and
Town Planning Consultants
7 HARDLEY STREET–HAMILTON–NEW ZEALAND P.O. BOX 9379
E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

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Surveyor:	Checked: GI Ruffell	Scale: 1:100 @ A3	Sheet 7 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

FOUNDATION LAYOUT OF HOUSE ON LOT 4



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LOT 4

Amendment:	Description:

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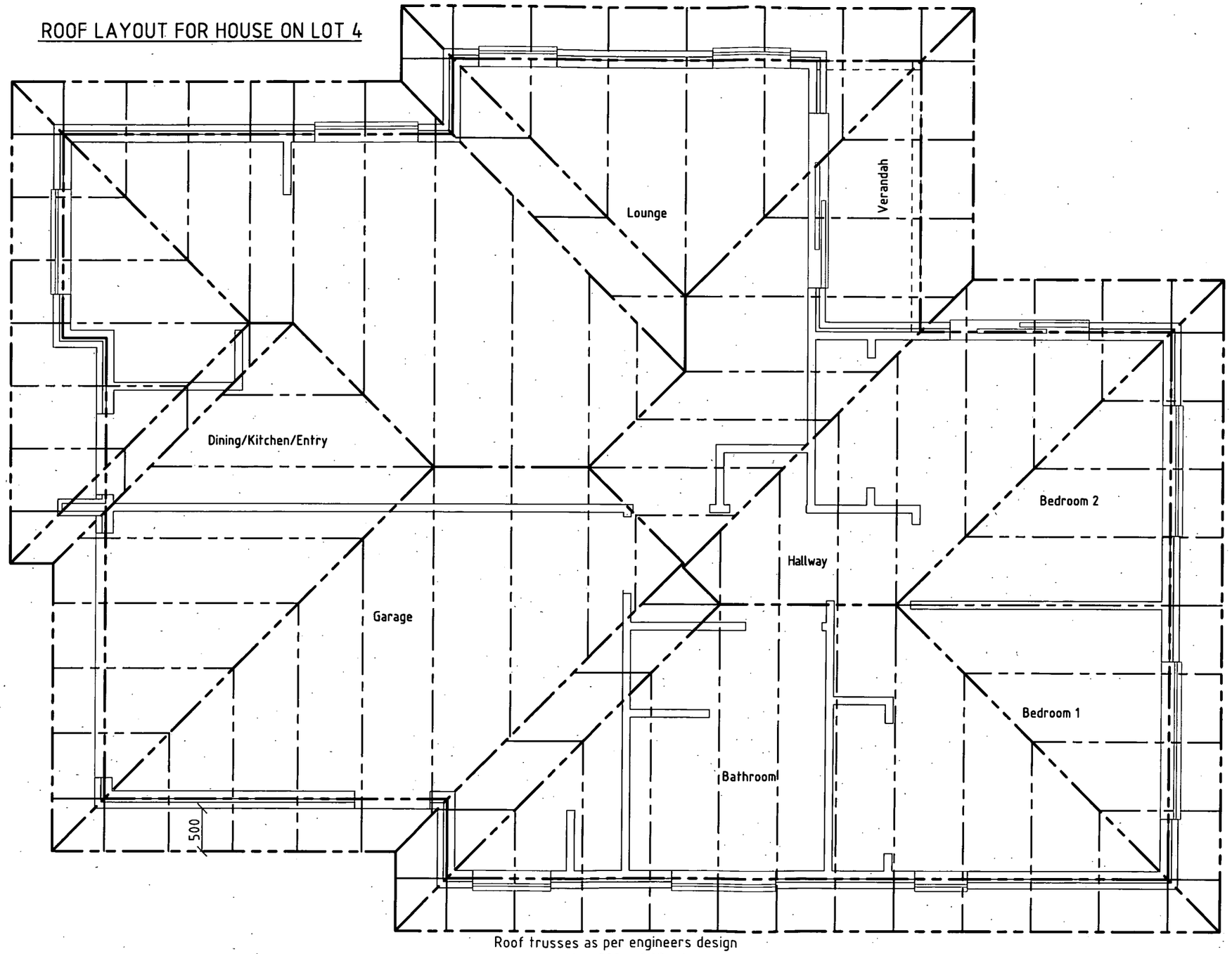
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

ROOF LAYOUT FOR HOUSE ON LOT 4



Roof trusses as per engineers design
Max. 900mmCRS

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LOT 4

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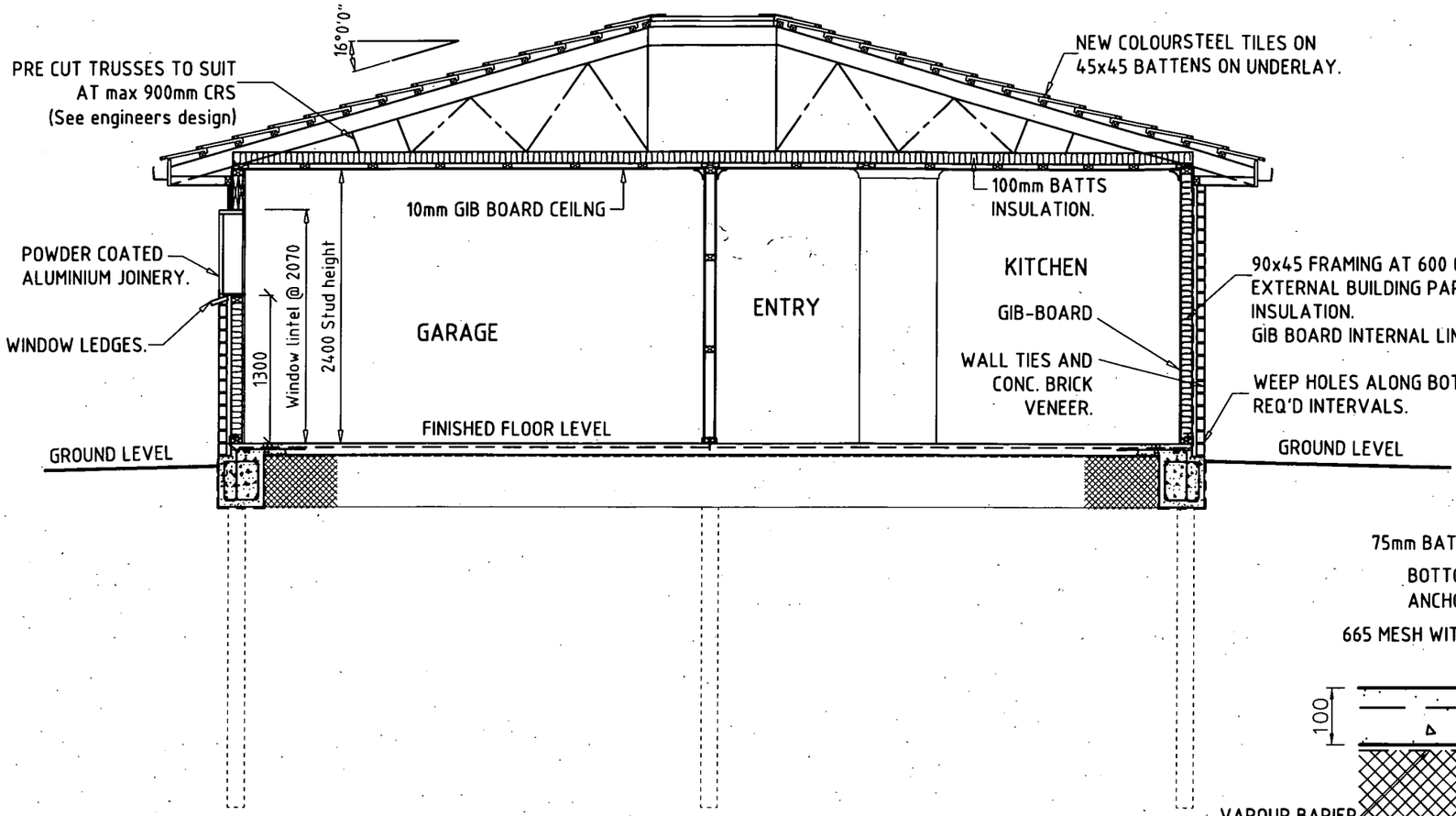
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Surveyor:	Checked: GI Ruffell	Scale: 1:50 @ A3	Sheet 7 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

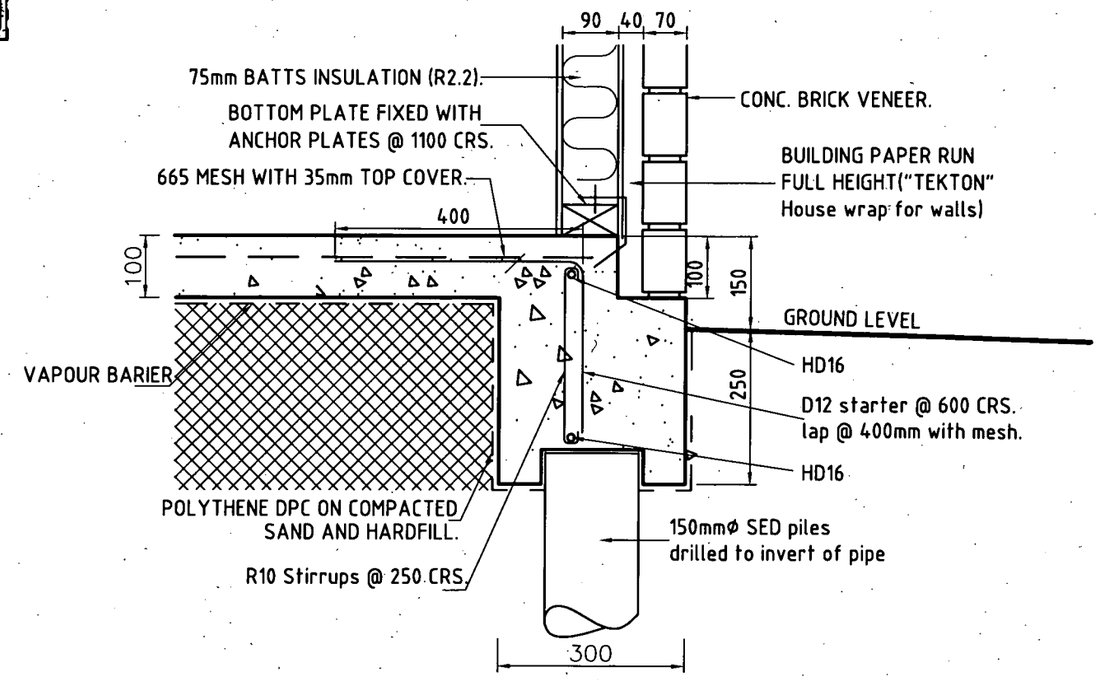
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TYPICAL CROSS SECTION A-A' - House 4

SCALE: 1:50

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TO BE KEPT ON SITE



FOUNDATION DETAIL 'B'
FOR HOUSE ON LOTS 4 & 5 ONLY

SCALE: 1:10

(FOR MORE INFORMATION SEE AECOM LTD. SPECIFIC DESIGN)

LOT 4

Amendment:	Description:

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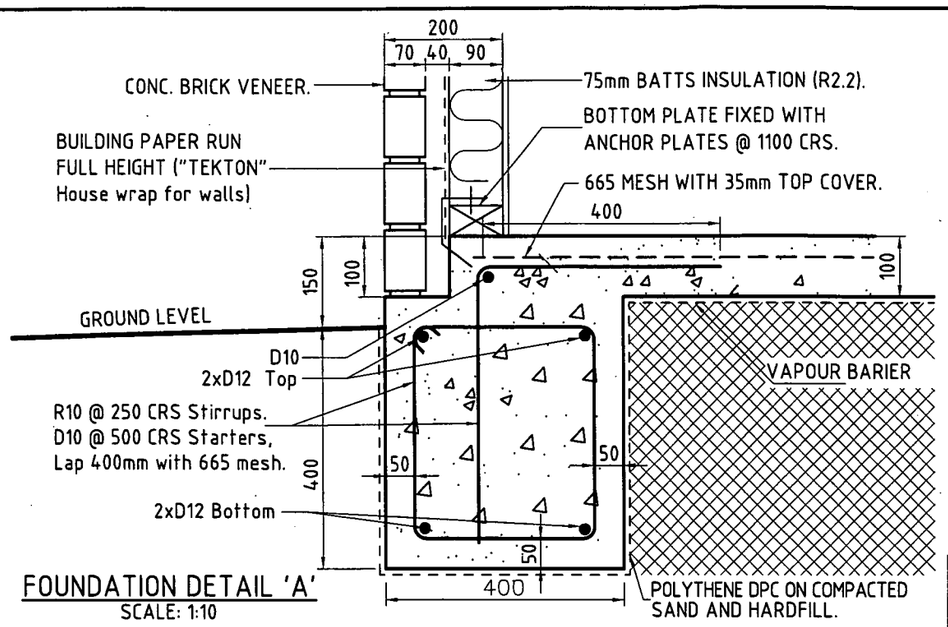
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

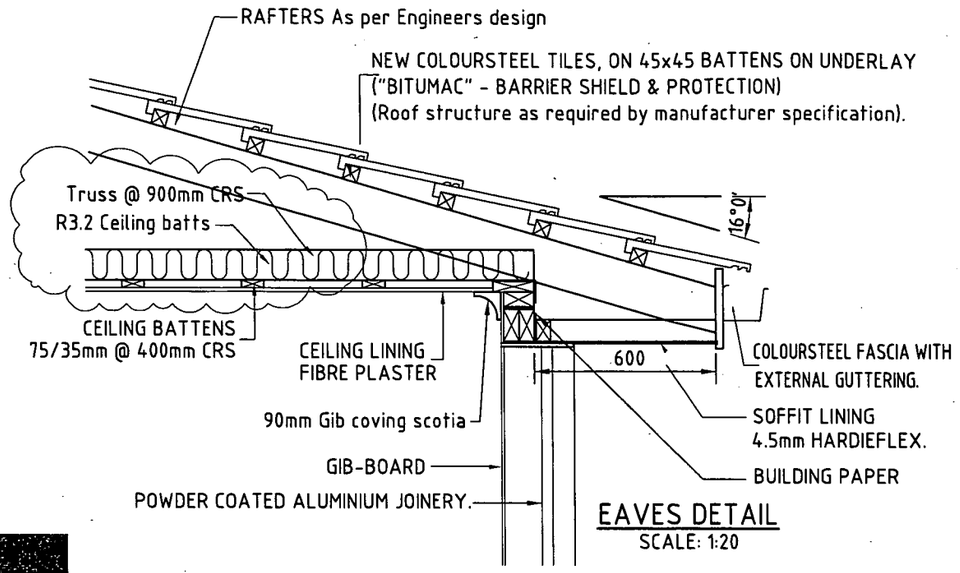
H 1.1, Douglas Fir or UTKD
- Ground floor exterior wall framing

H 1.2
- Internal loadbearing wall framing
- Ceiling framing
- Boundary joist
- Skillion roof framing
- Enclosed beams

H 3.1
- Cavity battens
- Wet area's
- Painted posts and beams

H 3.2
- Fence pailings, rails not in ground contact
- External rafters, posts and beams

H 5.0
- Foundation piling



EAVES DETAIL
SCALE: 1:20

Figure 46: Ridge and hip flashings for profiled metal
Paragraphs 4.6.1.2, 8.4.11 and 8.4.12 d)

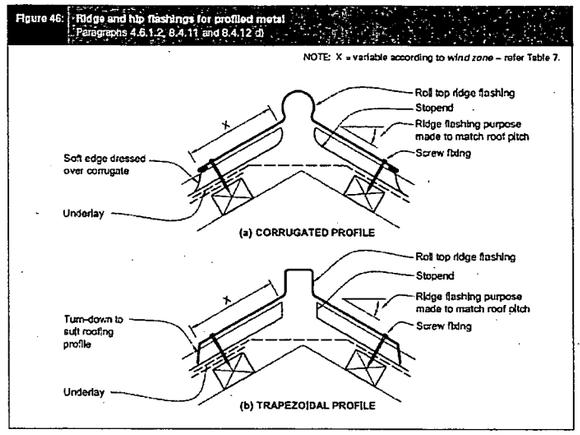
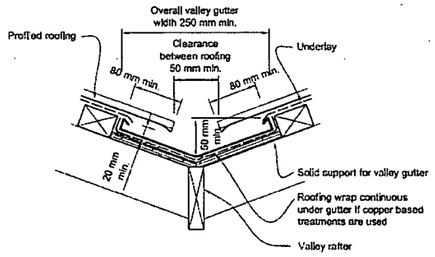
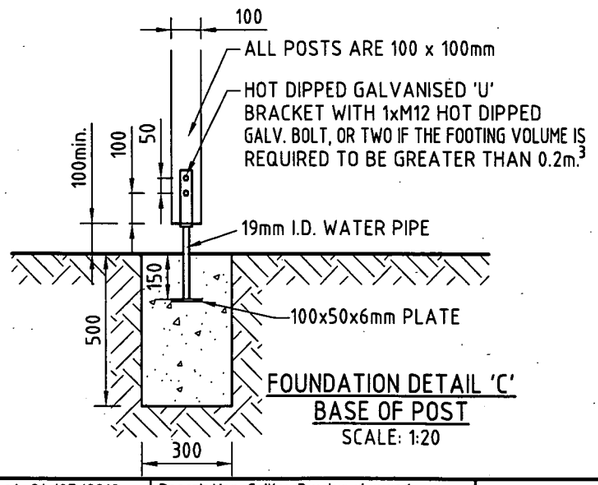


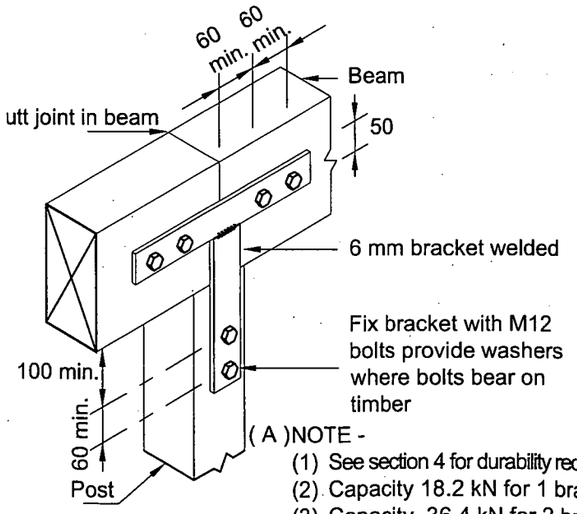
Figure 51: Valley gutters for profiled metal
Paragraph 8.4.16.2

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 roof cladding over gutter shall be reduced to 60 mm to provide a clearance gap of 40 mm.

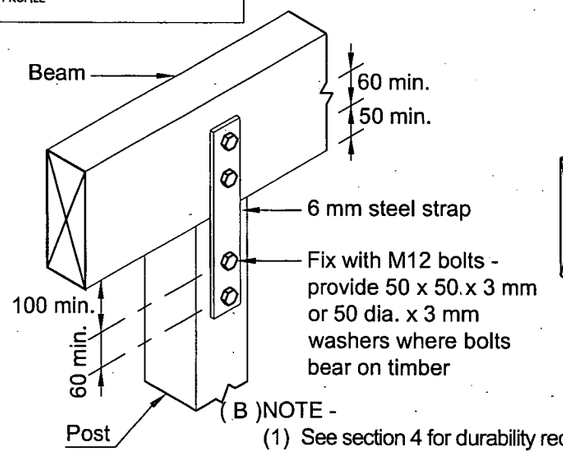




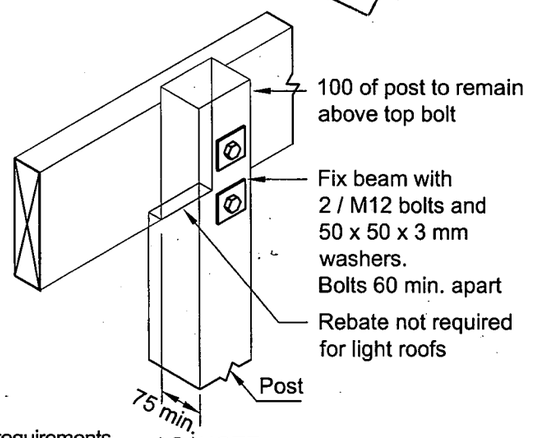
FOUNDATION DETAIL 'C'
BASE OF POST
SCALE: 1:20



(A)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 18.2 kN for 1 bracket
(3) Capacity 36.4 kN for 2 brackets.



(B)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN for 1 bracket
(3) Capacity 19.5 kN for 2 brackets.



(C)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN.

Details of Beam/ Post connection
NOT TO SCALE

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SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

ALL LOTS

Amendment: 24/05/2010	Description: Ceiling R value changed.

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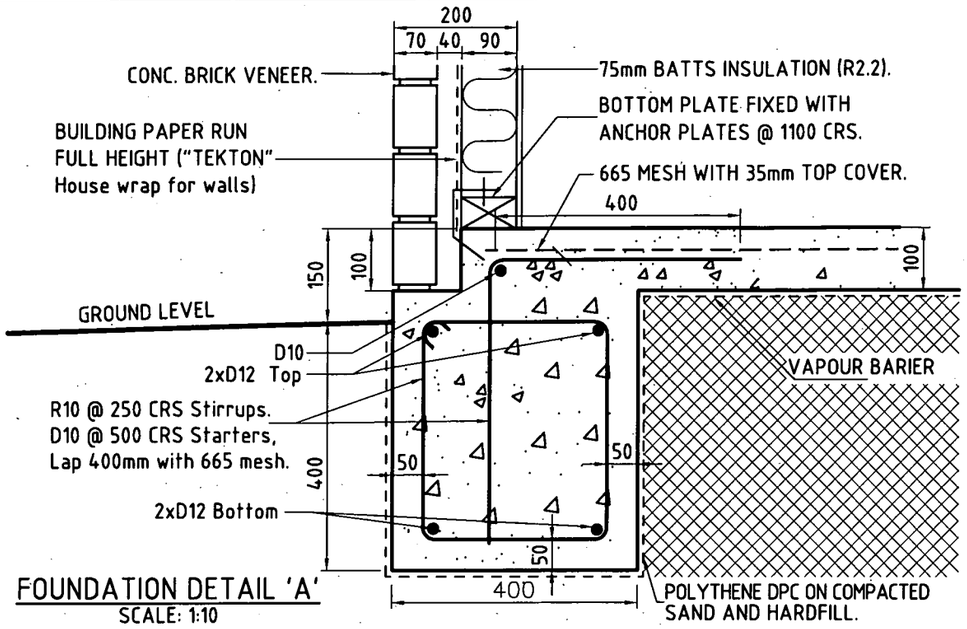
NOTES:
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PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

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E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335
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Surveyor:	Checked: GI Ruffell	Sheet 11 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010	Scale: As shown @ A3 Ref.: 15147



FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

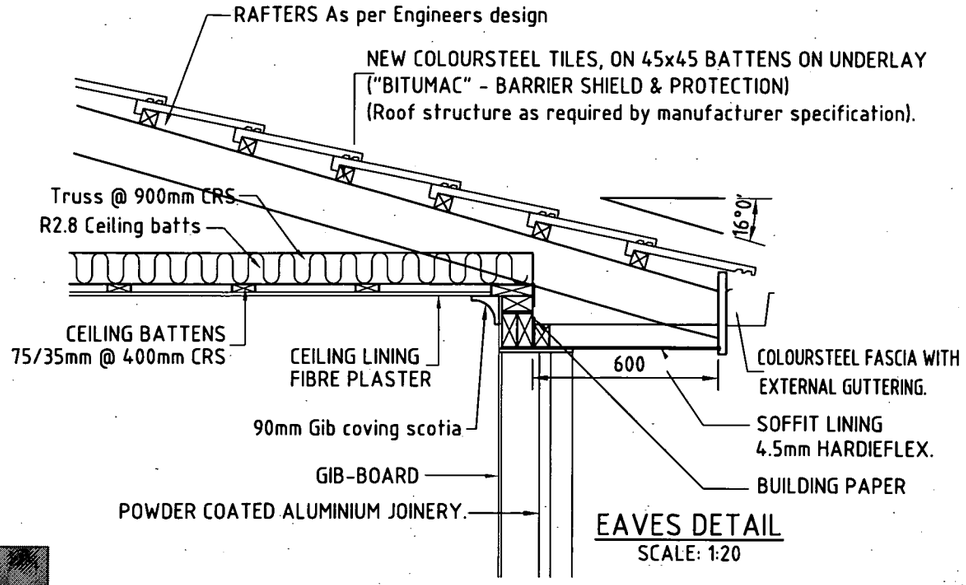
H 1.1, Douglas Fir or UTKD
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- Boundary joist
- Skillion roof framing
- Enclosed beams

H 3.1
- Cavity battens
- Wet area's
- Painted posts and beams

H 3.2
- Fence pailings, rails not in ground contact
- External rafters, posts and beams

H 5.0
- Foundation piling



EAVES DETAIL
SCALE: 1:20

Figure 51: Valley gutters for profiled metal
Paragraph 8.4.16.2

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 roof cladding over gutter shall be reduced to 60 mm to provide a clearance gap of 40 mm.

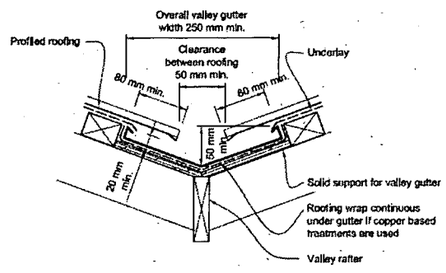
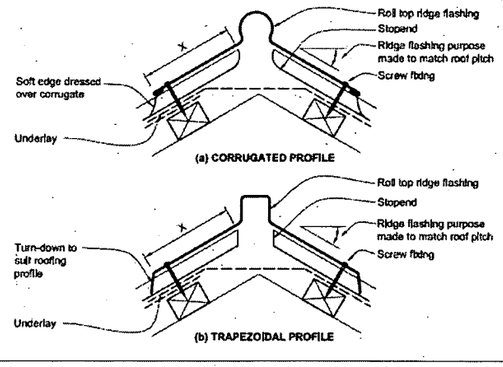
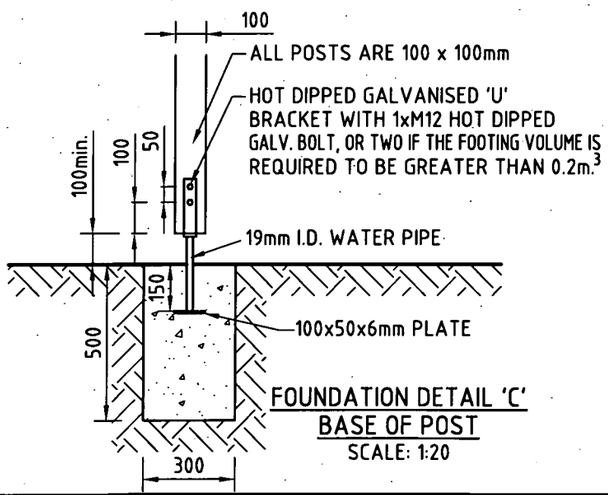


Figure 46: Ridge and hip flashings for profiled metal
Paragraphs 4.8.1.2, 8.4.11 and 8.4.12 d)

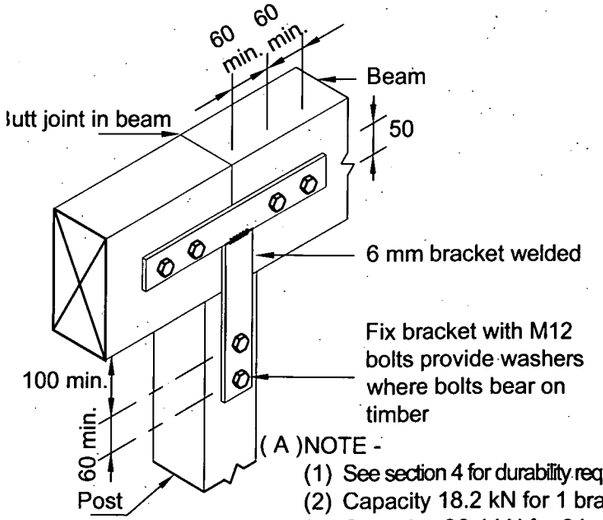
NOTE: X = variable according to *wind zone* – refer Table 7.



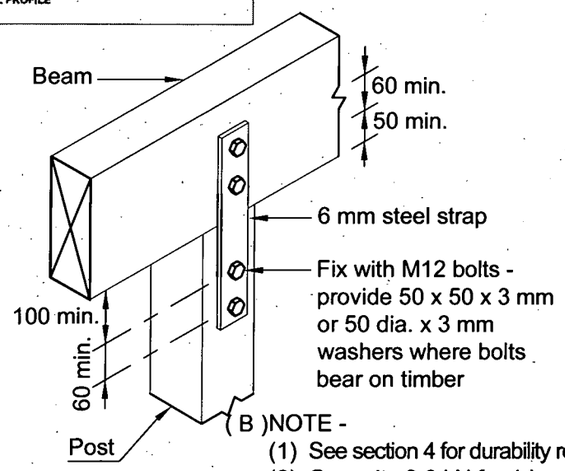
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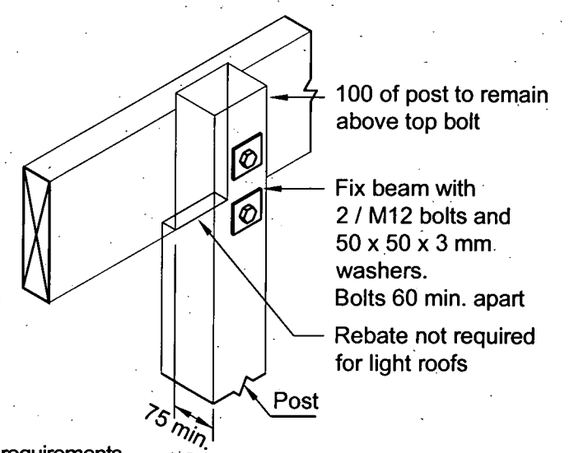
FOUNDATION DETAIL 'C'
BASE OF POST
SCALE: 1:20



(A)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 18.2 kN for 1 bracket
(3) Capacity 36.4 kN for 2 brackets.



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(2) Capacity 9.8 kN for 1 bracket
(3) Capacity 19.5 kN for 2 brackets.



(C)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN.

Details of Beam/ Post connection
NOT TO SCALE

ALL LOTS

Amendment: | Description:

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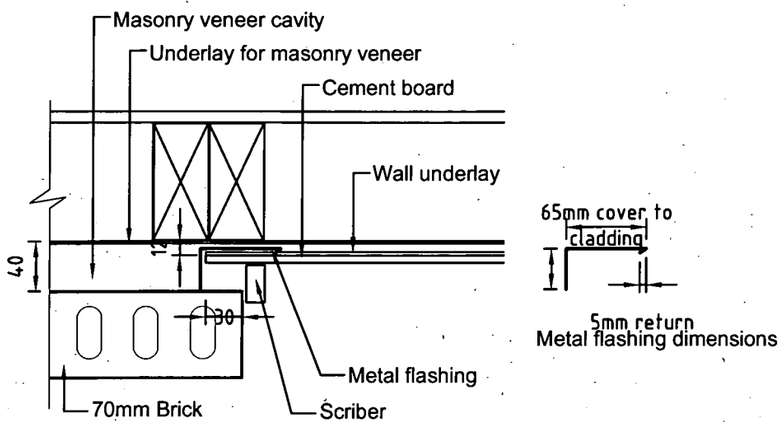
PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

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McPherson Goodwin

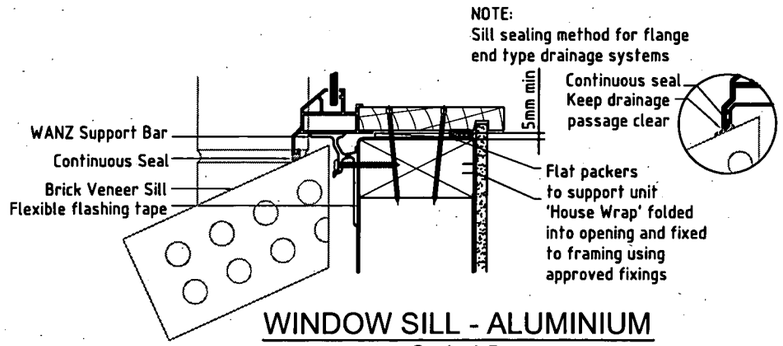
Surveyor:	Checked: Gl Ruffell	Scale: As shown @ A3	Sheet 15 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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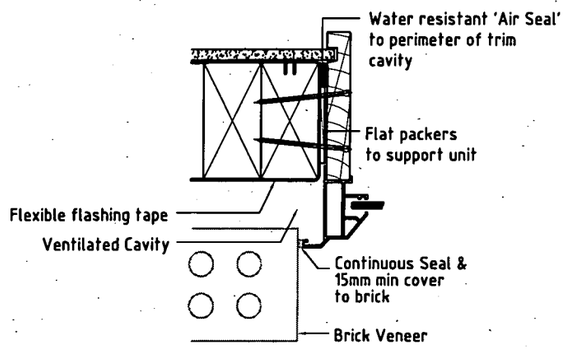
BRICK TO CEMENT BOARD DETAIL

Scale 1:5



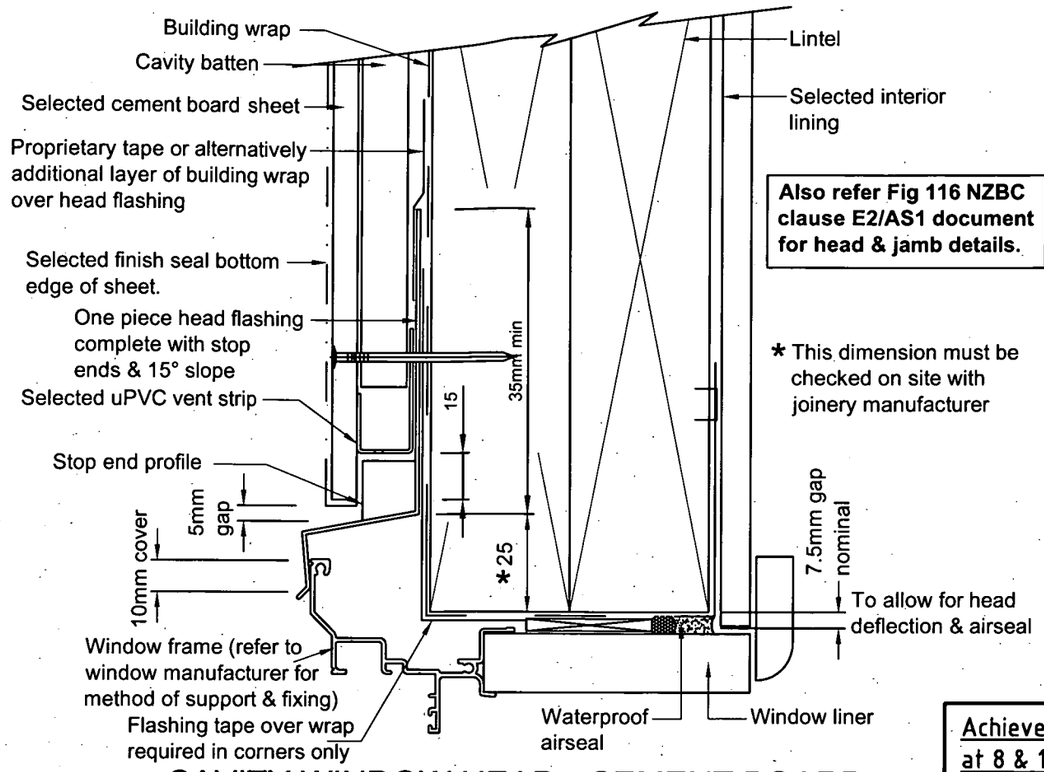
WINDOW SILL - ALUMINIUM

Scale 1:5



WINDOW JAMB - ALUMINIUM

Scale 1:5

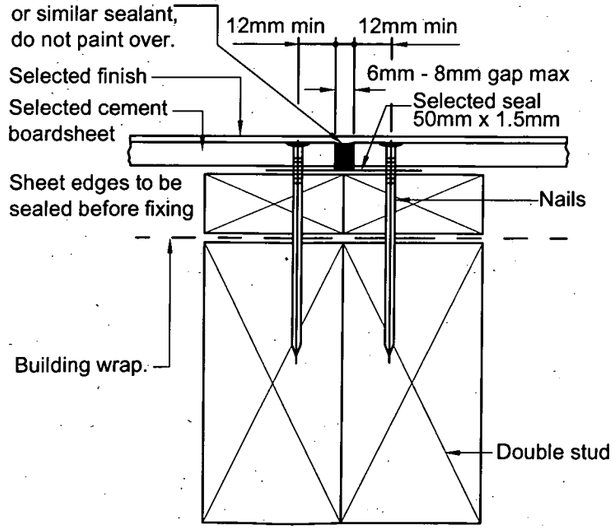


Also refer Fig 116 NZBC clause E2/AS1 document for head & jamb details.

* This dimension must be checked on site with joinery manufacturer

CAVITY WINDOW HEAD - CEMENT BOARD

NTS



CAVITY VERTICAL SEALANT JOINT - CEMENT BOARD

NTS

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

Achieved R Values for proposed seven new houses at 8 & 10 Yorkshire Road:

1). Concrete slab Rt = 1.3

2). Walls:

× Rse	(Exterior surface)	0.03
× Layer 1	(cladding)	0.06
× Layer 2 Rb	(air space and insulated frame space with R2.2)	1.88
× Layer 3	(lining)	0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.1m²°K/W

3). Double glazing windows:

× Rse	(exterior surface)	0.03
× Layer of 6mm float glass		0.006
× 12mm air (unventilated) space		0.14
× Layer of 6mm float glass		0.006
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		0.27m²°K/W

4). Roof structure (pitched roofs)

× Rse	(exterior surface)	0.03
× Roof cladding (steel tiles)		0.01
× Roof space & R3.2 insulation		2.72
× 10mm Gib plasterboard		0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.9m²°K/W

ALL LOTS

Amendment:	Description:

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Town Planning Consultants
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E-mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: As shown @ A3	Sheet 2 of 5
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

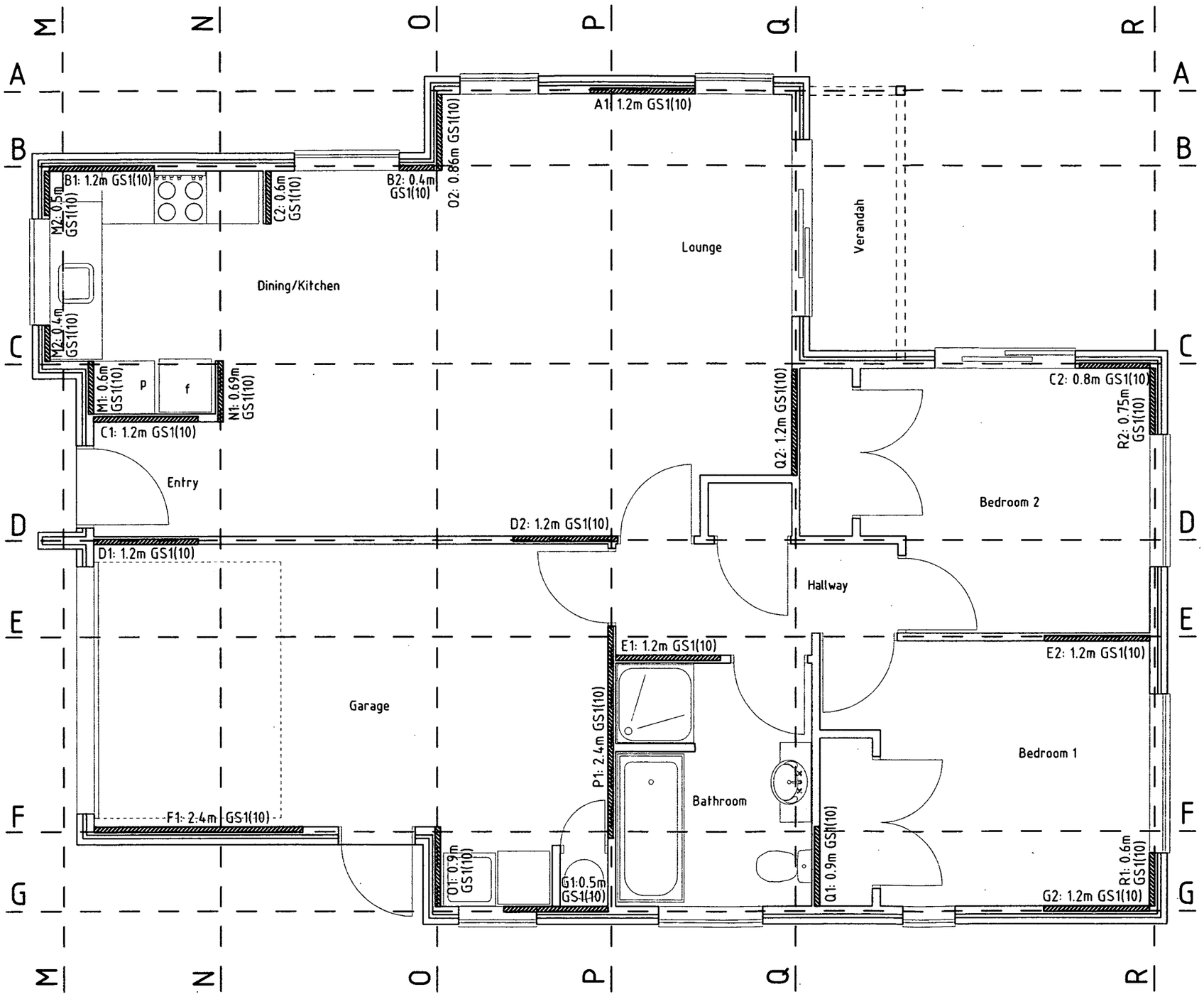


Table 1: 10 mm GIB® Plasterboard BU ratings

		GIB® Bracing Systems 2009	
Type	L (m) minimum	Lining	Other Requirements
		GIB® Standard	
GS1(10)	0.4	10 mm GIB® Standard Plasterboard one face	n/a
	1.2		
GS2(10)	0.6	10 mm GIB® Standard Plasterboard both faces	
	1.8		
		GIB Braceline®	
BL1(10)	0.4	10mm GIB Braceline® one face	Hold-Downs
	1.2		
BLP	0.4	10mm GIB Braceline® one face plywood other	
	0.9		
BLG	0.6	10mm GIB Braceline® one face 10mm GIB® Standard other	
	1.2		

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BRACING CALCULATIONS FOR HOUSE ON LOT 4

LOT 4

Amendment:	Description:

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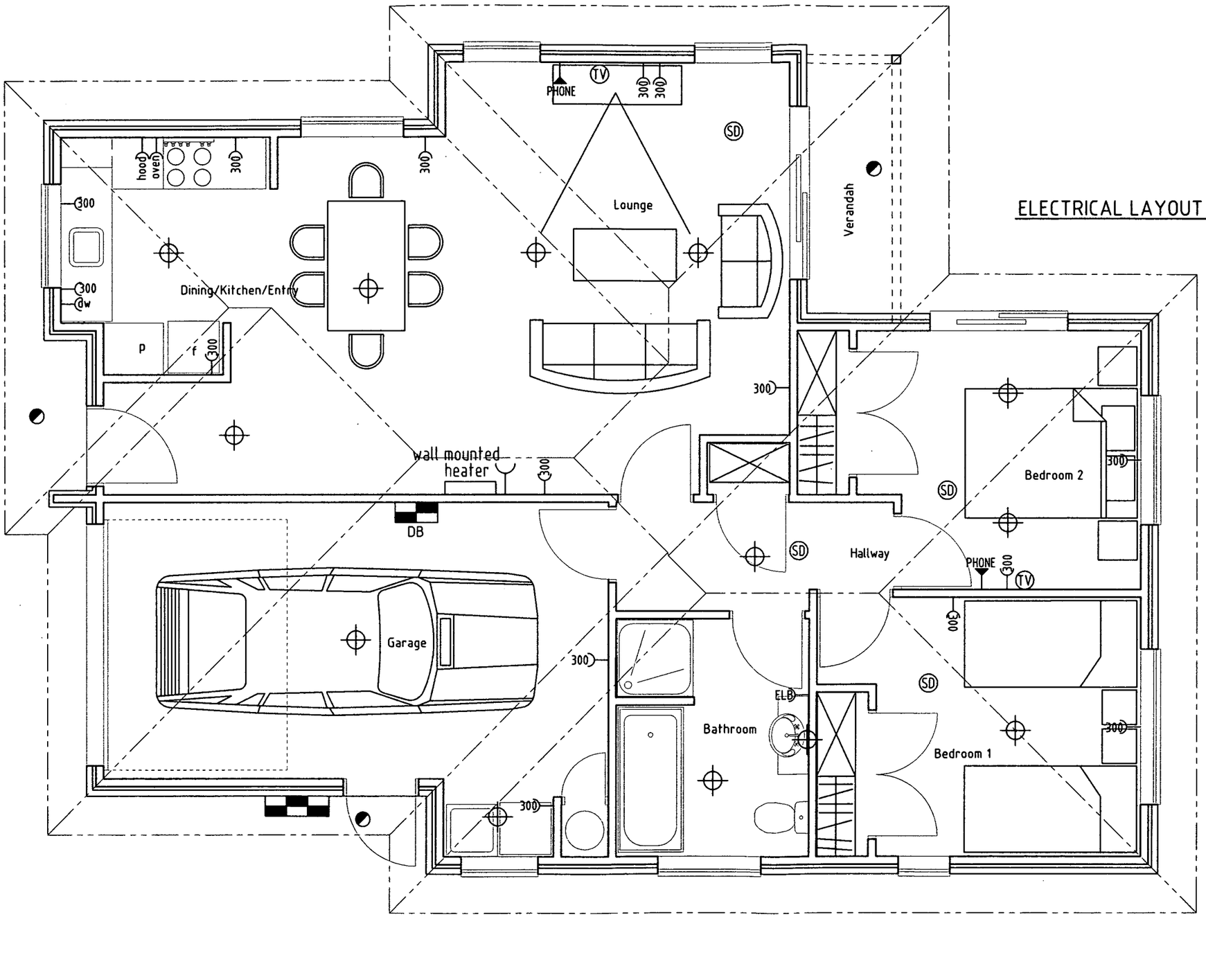
PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

Surveyors–Land Engineers
–Land Development,
Resource Management and
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



ELECTRICAL LAYOUT OF HOUSE ON LOT 4

ELECTRICAL KEY:

- SD — SMOKE ALARM
- METER BOX
- DB — RECESS DITRIBUTION BOARD
- 300 — TYPICAL DOUBLE POWER POINT (300 A.F.F.L.)
- ELB — SHAVERS PLUG
- BAYONET LIGHTS
- SELECTED CEILING LIGHT FITTINGS
- PHONE — PHONE JACK
- TV — TV AERIAL JACK

APPLIANCES/ FITTINGS:

RANGE HOOD - ELECTRIC - SIMPSON RA6WH
ELECTRIC STOVE - SIMPSON 63H906W

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LOT 4

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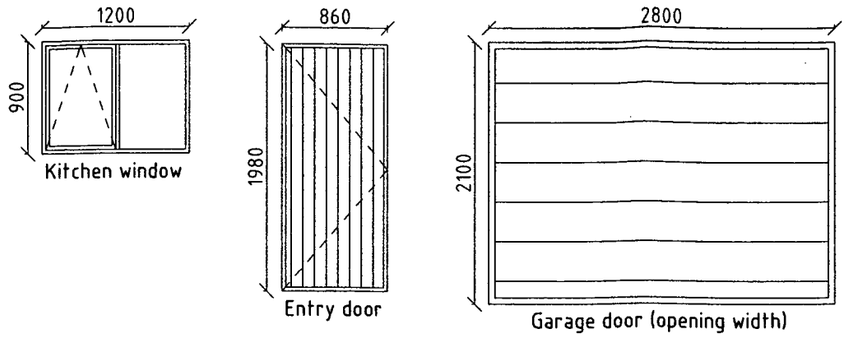
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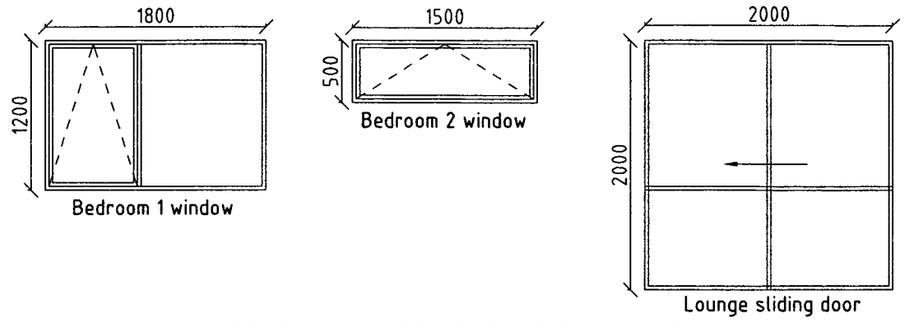
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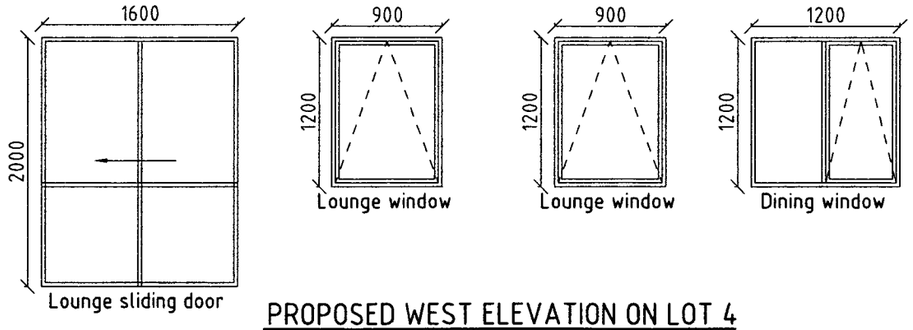
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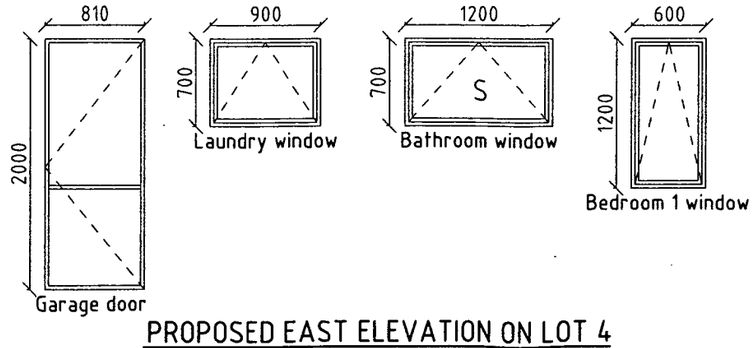
PROPOSED SOUTH ELEVATION ON LOT 4



PROPOSED NORTH ELEVATION ON LOT 4



PROPOSED WEST ELEVATION ON LOT 4



PROPOSED EAST ELEVATION ON LOT 4

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LOT 4

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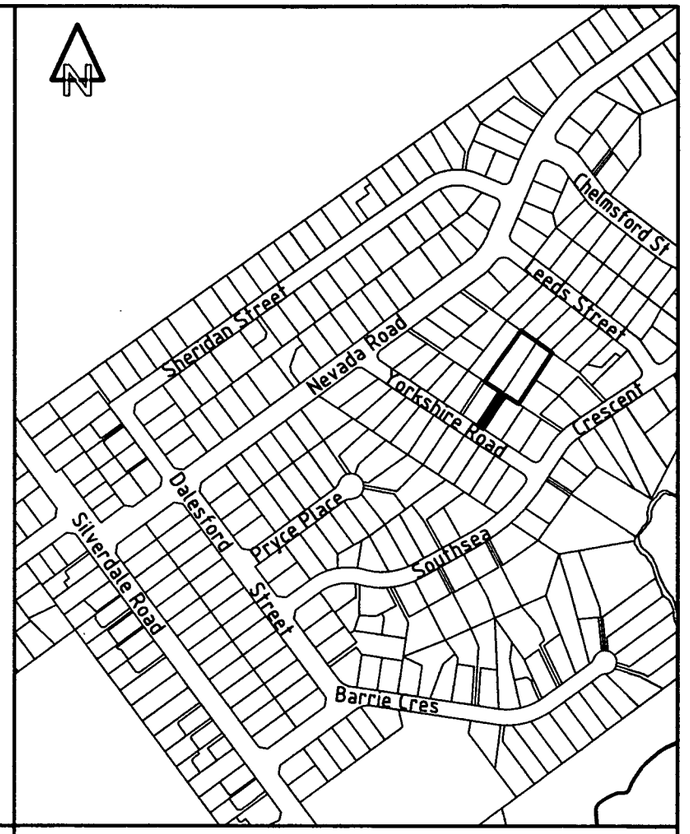
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT OF LOT 61 & 62 DPS 9556 & LOT 2 DP 428322



Address: 8 & 10 Yorkshire Road, Hamilton
Prepared for: CKC Holdings Ltd.

House on lot 5

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MEMORANDUM OF EASEMENT			
Purpose	Shown	Serv.Tenem.	Dom.Tenem.
Right of way, Right to drain: sewage & water, Right to convey: water, gas, electricity, telecommunication & computer media	Ⓐ	Lot 3 hereon	Lots 1, 2 & 4–7 hereon

MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	Ⓐ	Lot 3 hereon	Hamilton City Council



SITE COVERAGE:

Lots: 1,2 & 4 = 107m² = 36%
Lots 3 & 5= 104m² = 35%
Lots: 6 & 7 = 104m² = 35%

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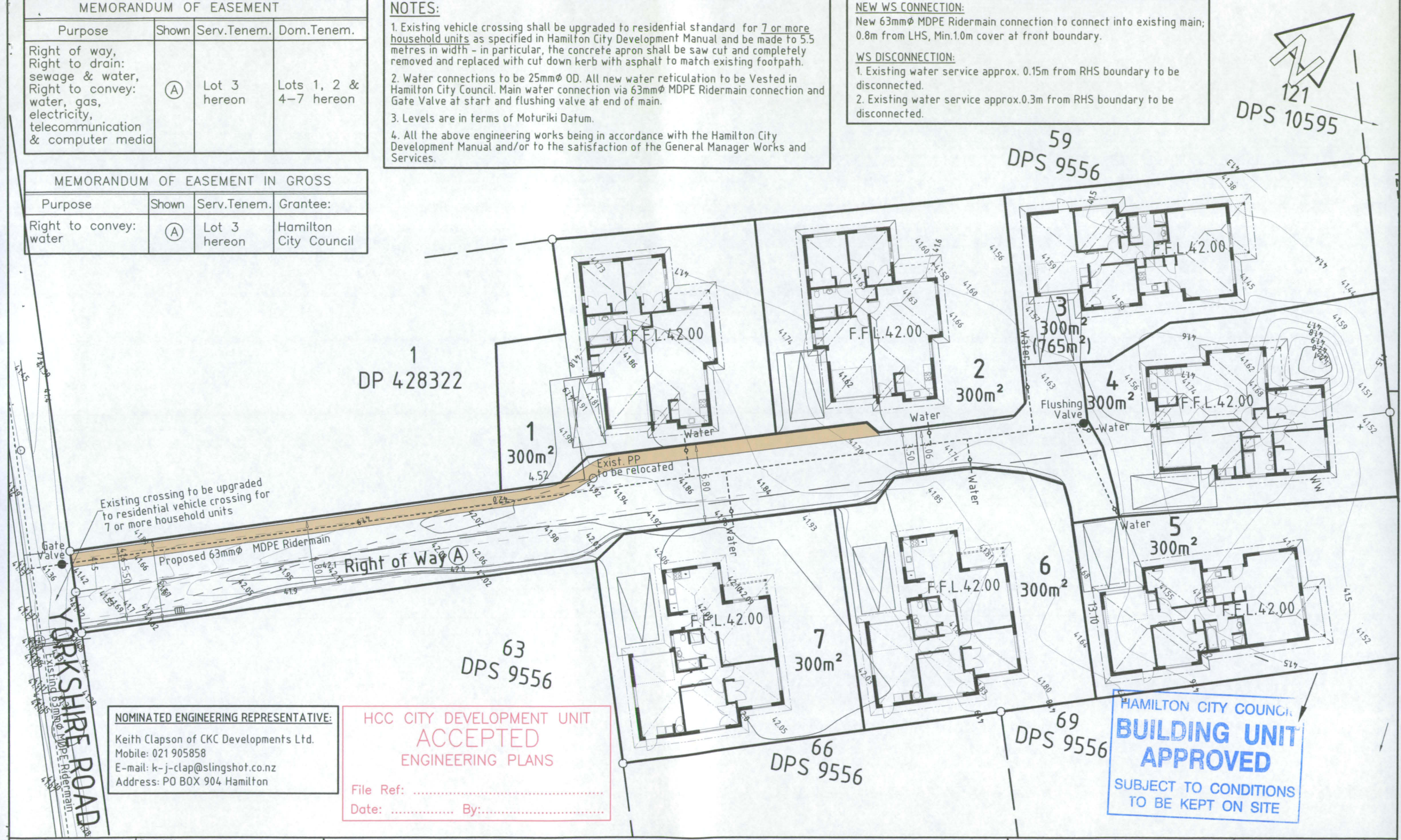
MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council

NOTES:

1. Existing vehicle crossing shall be upgraded to residential standard for 7 or more household units as specified in Hamilton City Development Manual and be made to 5.5 metres in width – in particular, the concrete apron shall be saw cut and completely removed and replaced with cut down kerb with asphalt to match existing footpath.
2. Water connections to be 25mmØ OD. All new water reticulation to be Vested in Hamilton City Council. Main water connection via 63mmØ MDPE Ridermain connection and Gate Valve at start and flushing valve at end of main.
3. Levels are in terms of Moturiki Datum.
4. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.

NEW WS CONNECTION:
New 63mmØ MDPE Ridermain connection to connect into existing main; 0.8m from LHS, Min.1.0m cover at front boundary.

WS DISCONNECTION:
1. Existing water service approx. 0.15m from RHS boundary to be disconnected.
2. Existing water service approx.0.3m from RHS boundary to be disconnected.



NOMINATED ENGINEERING REPRESENTATIVE:
Keith Clapson of CKC Developments Ltd.
Mobile: 021 905858
E-mail: k-j-clap@slingshot.co.nz
Address: PO BOX 904 Hamilton

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File Ref: .....
Date: ..... By:.....

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BUILDING UNIT
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Right of way, Right to drain: sewage & water, Right to convey: water, gas, electricity, telecommunication & computer media	(A)	Lot 3 hereon	Lots 1, 2 & 4–7 hereon

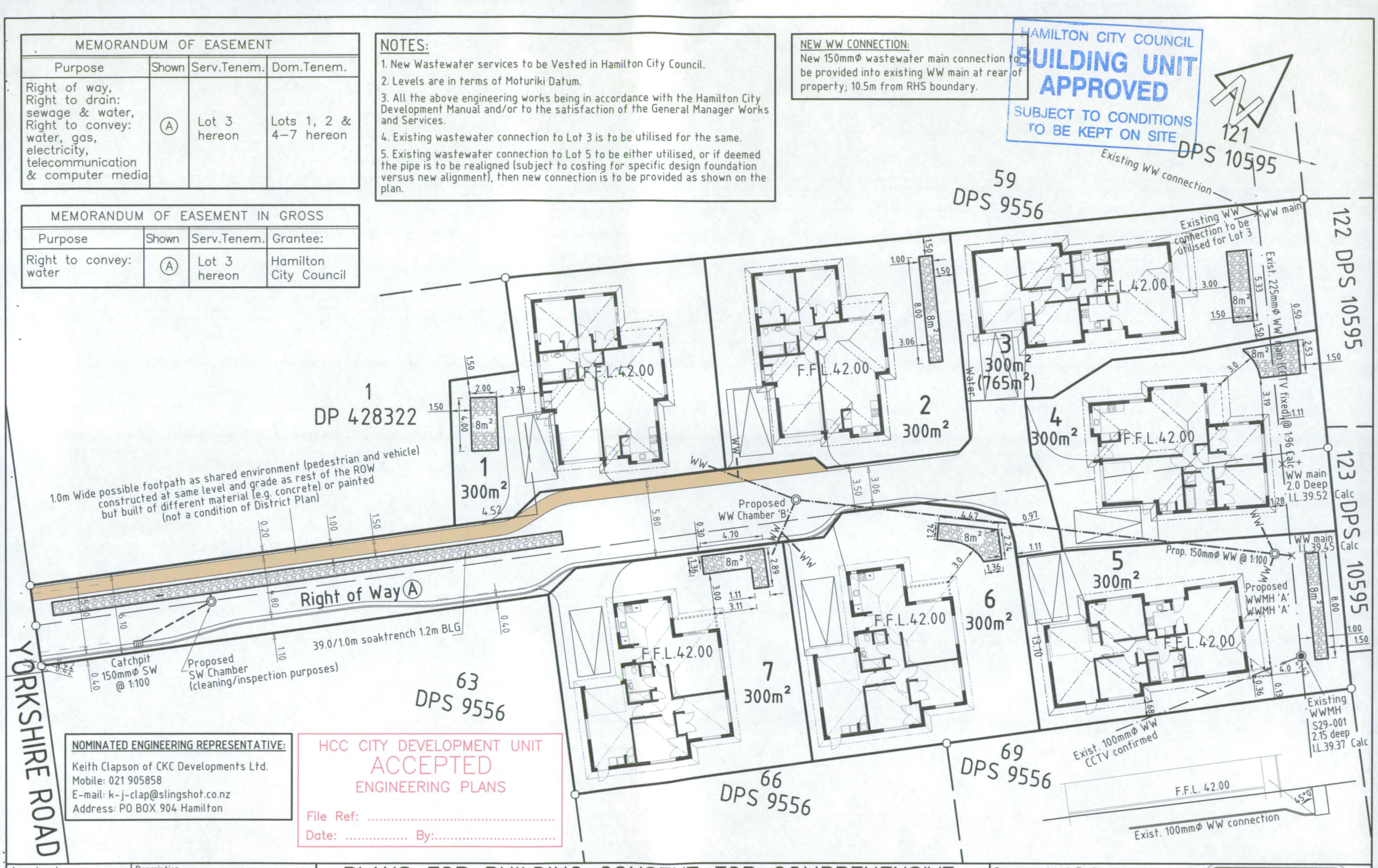
MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council

NOTES:

1. New Wastewater services to be Vested in Hamilton City Council.
2. Levels are in terms of Moturiki Datum.
3. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.
4. Existing wastewater connection to Lot 3 is to be utilised for the same.
5. Existing wastewater connection to Lot 5 to be either utilised, or if deemed the pipe is to be realigned (subject to costing for specific design foundation versus new alignment), then new connection is to be provided as shown on the plan.

NEW WW CONNECTION:
New 150mmØ wastewater main connection to be provided into existing WW main at rear of property; 10.5m from RHS boundary.

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Address: PO BOX 904 Hamilton

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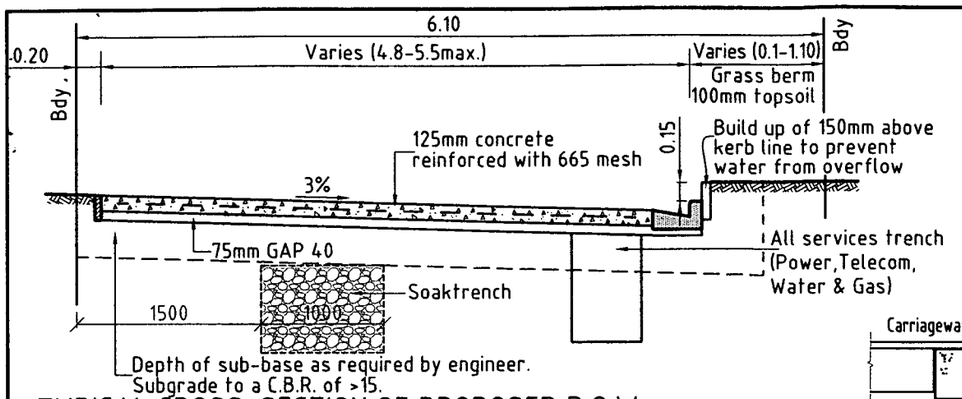
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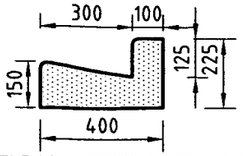
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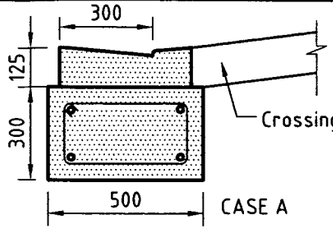
TYPICAL CROSS-SECTION OF PROPOSED R.O.W.

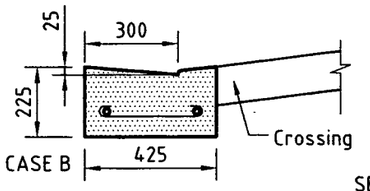
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VERTICAL KERB & CHANNEL

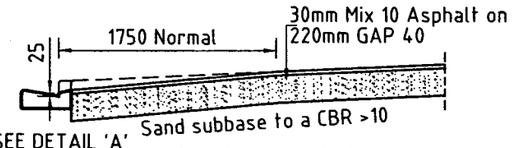
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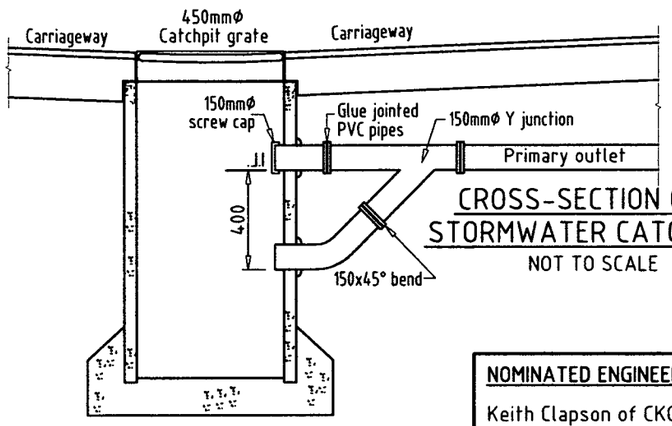
COMMERCIAL CHANNEL CROSSING

SCALE: 1:20



SECTION THROUGH COMMERCIAL VEHICLE CROSSING

SCALE: 1:50



CROSS-SECTION OF STORMWATER CATCHPIT

NOT TO SCALE

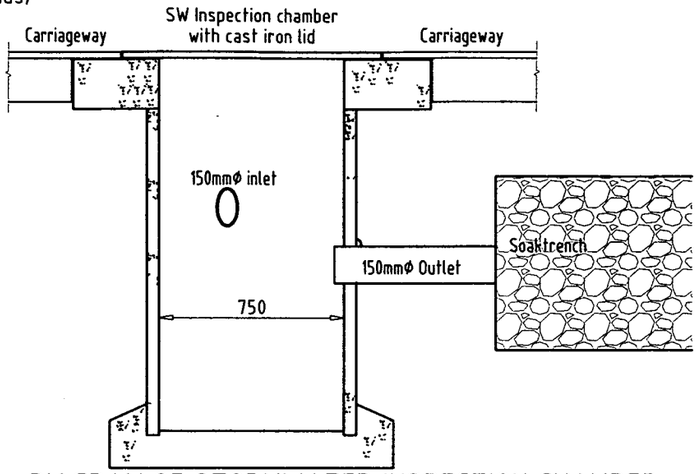
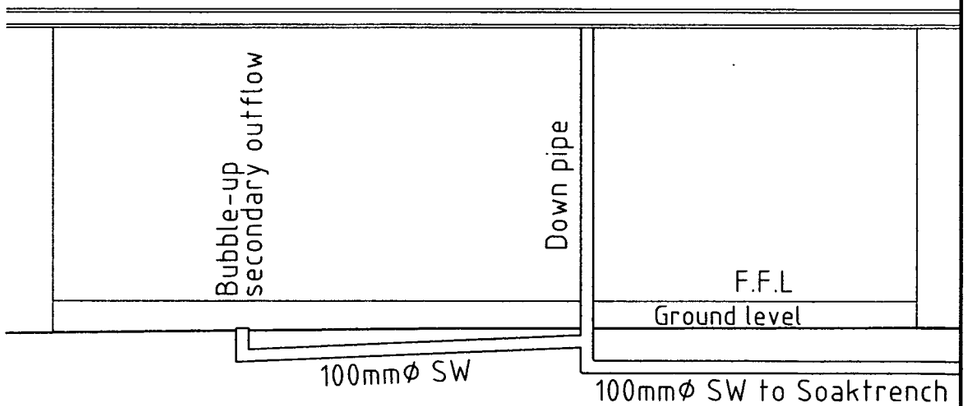


DIAGRAM OF STORMWATER INSPECTION CHAMBER

SCALE: 1:25



DETAIL OF SW SECONDARY OVERFLOW FOR LOTS 3-6

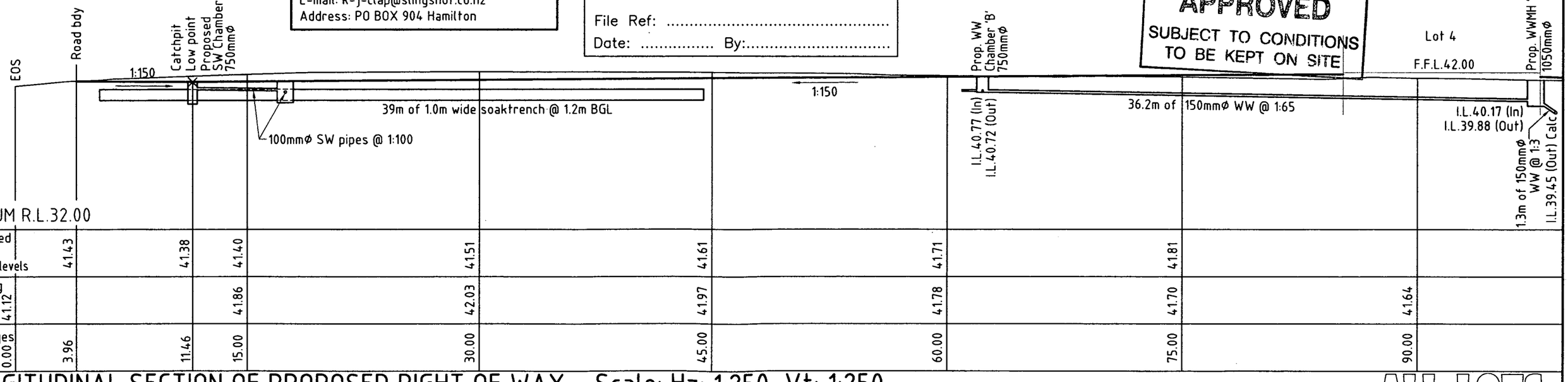
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Proposed LOC finished levels	41.43		41.38	41.40		41.51	41.61	41.71		41.81		
Existing ground levels	41.12			41.86		42.03	41.97	41.78		41.70	41.64	
Chainages	0.00	3.96	11.46	15.00		30.00	45.00	60.00		75.00	90.00	

LONGITUDINAL SECTION OF PROPOSED RIGHT OF WAY - Scale: Hz: 1:250, Vt: 1:250

ALL LOTS

Amendment:	Description:

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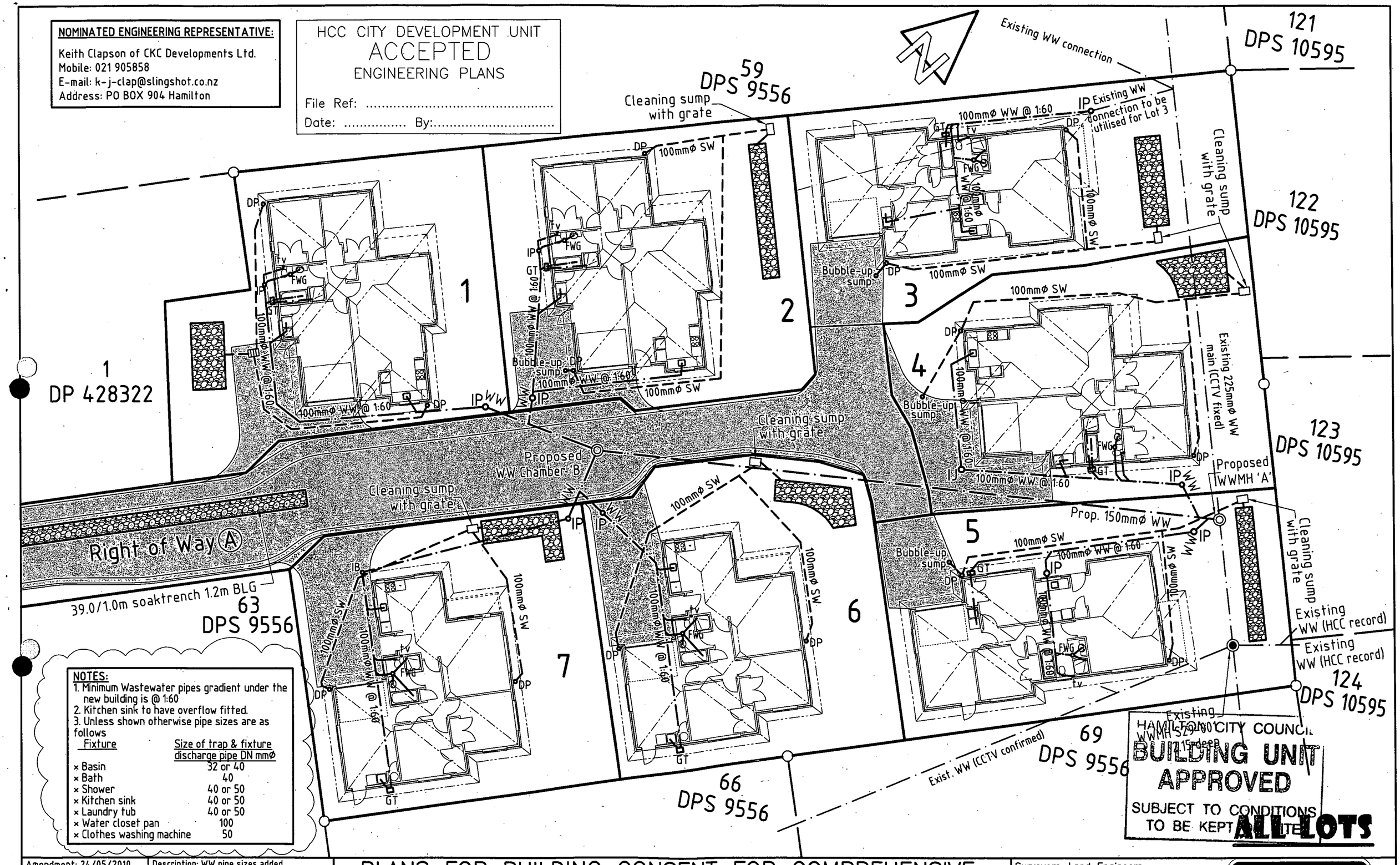
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NOTES:
1. Minimum Wastewater pipes gradient under the new building is @ 1:60
2. Kitchen sink to have overflow fitted.
3. Unless shown otherwise pipe sizes are as follows

Fixture	Size of trap & fixture discharge pipe DN mmø
× Basin	32 or 40
× Bath	40
× Shower	40 or 50
× Kitchen sink	40 or 50
× Laundry tub	40 or 50
× Water closet pan	100
× Clothes washing machine	50

Amendment: 24/05/2010	Description: WW pipe sizes added.

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Town Planning Consultants
7 HARDLEY STREET–HAMILTON–NEW ZEALAND P.O. BOX 9379
E-mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: 1:200 @ A3	Sheet 5 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

NOMINATED ENGINEERING REPRESENTATIVE:

Keith Clapson of CKC Developments Ltd.
Mobile: 021 905858
E-mail: k-j-clap@slingshot.co.nz
Address: PO BOX 904 Hamilton

HCC CITY DEVELOPMENT UNIT
ACCEPTED
ENGINEERING PLANS

File Ref: .....
Date: ..... By:.....

SUPERSEDED

SUPERSEDED

121 DPS 10595

Existing WW connection

59 DPS 9556

Cleaning sump with grate

122 DPS 10595

123 DPS 10595

1 DP 428322

1

2

3

4

5

6

7

100mmø WW @ 1:60

100mmø SW

Bubble-up sump

Proposed WW Chamber 'B'

Proposed WWMH 'A'

Proposed 150mmø WW

Existing 225mmø WW main (CCTV fixed)

Existing WWMH S29-001 2.15 deep

Exist. WW (CCTV confirmed)

Right of Way Ⓐ

39.0/1.0m soaktrench 1.2m BLG

63 DPS 9556

66 DPS 9556

69 DPS 9556

124 DPS 10595

SUPERSEDED

ALL LOTS

Amendment:	Description:

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NOTES:
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2. Total CT area: 2565m²

PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & SA6B/363 | Address: 8 and 10 Yorkshire Road, Hamilton

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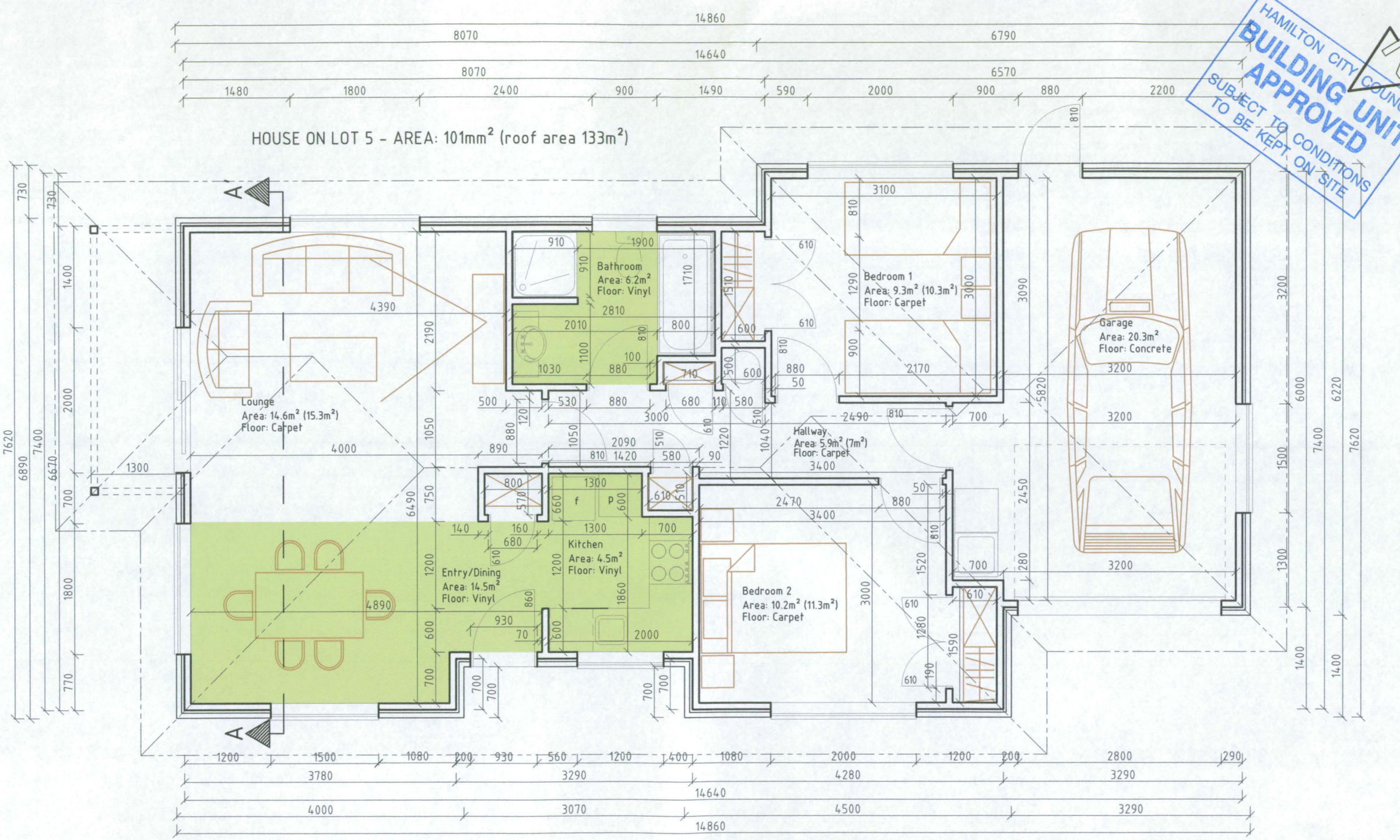
McPherson Goodwin

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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

HOUSE ON LOT 5 - AREA: 101mm² (roof area 133m²)



LOT 5

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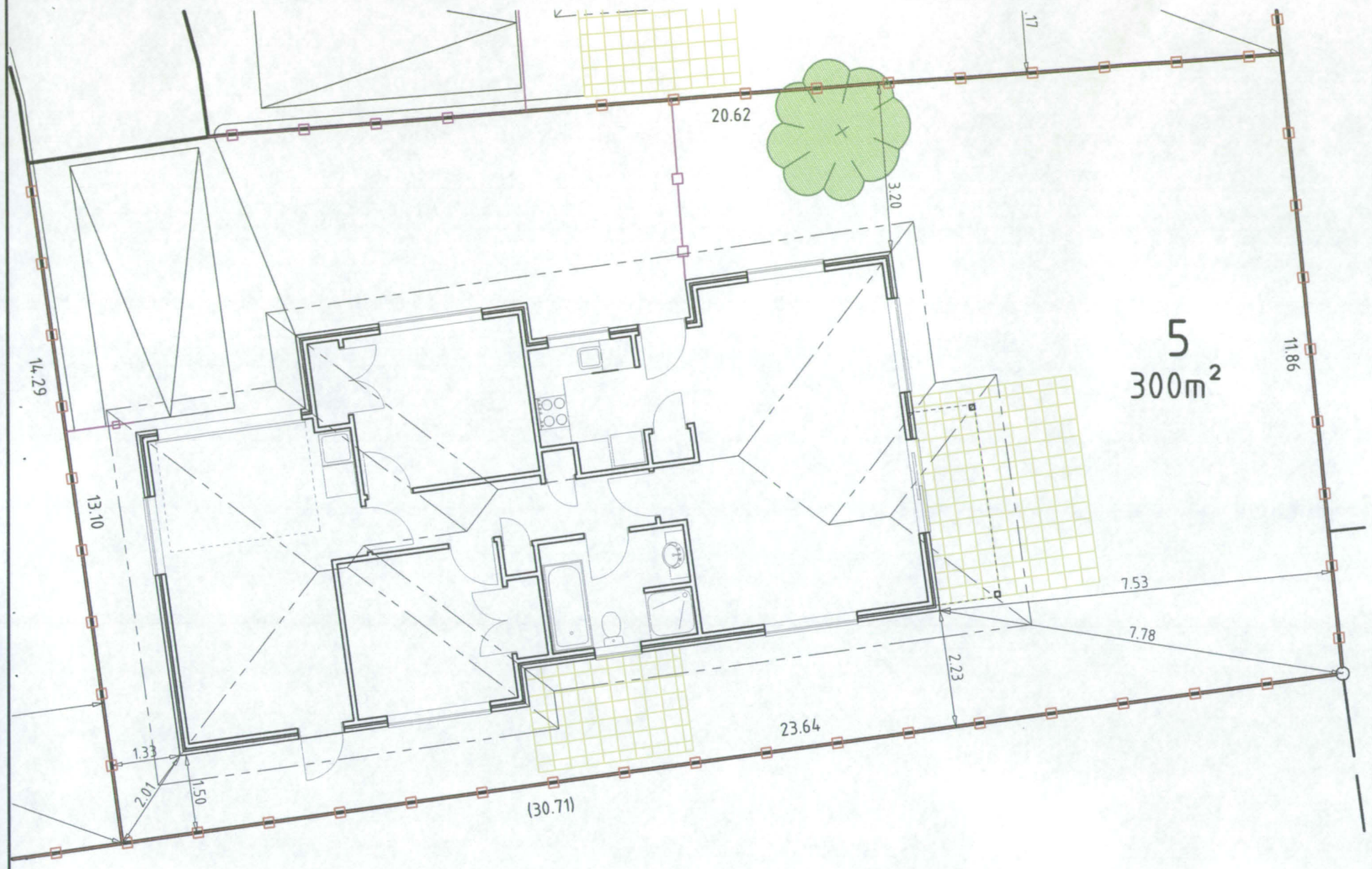
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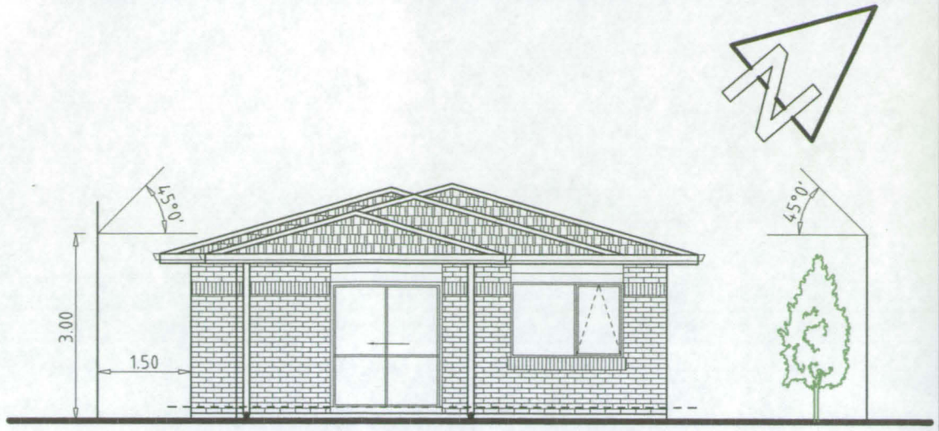
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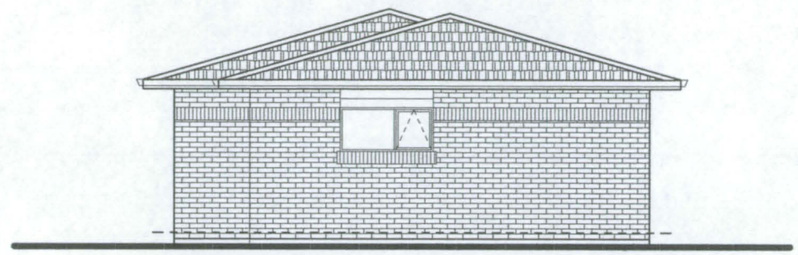
McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: 1:50 @ A3	Sheet 6 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147





PROPOSED NORTH ELEVATION ON LOT 5

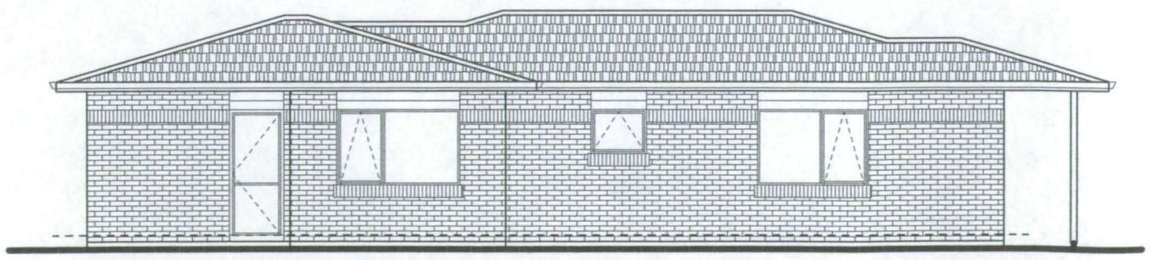


PROPOSED SOUTH ELEVATION ON LOT 5

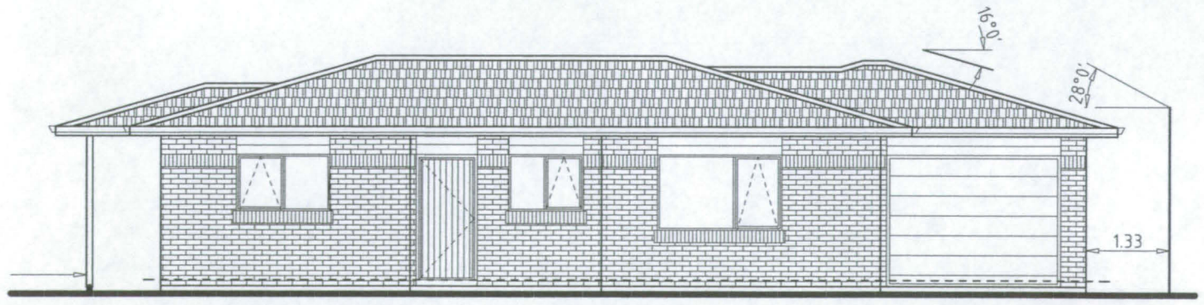
KEY:

- Brick veneer cladding
- Weatherboard or harditex cladding
- Colour steel roof tiles
- Double glazing aluminium joinery

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BUILDING UNIT
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SUBJECT TO CONDITIONS TO BE KEPT ON SITE



PROPOSED EAST ELEVATION ON LOT 5



PROPOSED WEST ELEVATION ON LOT 5

LOT 5

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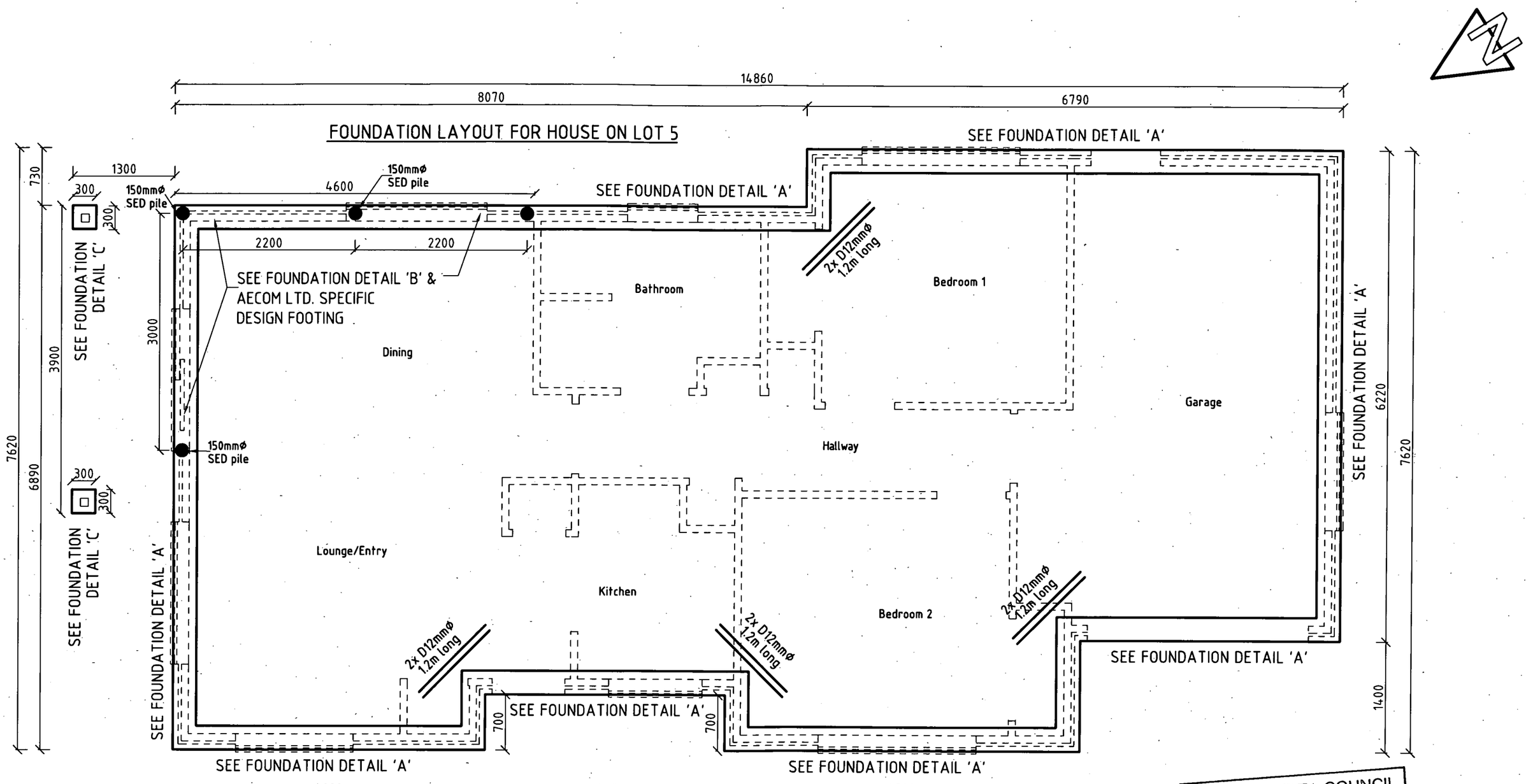
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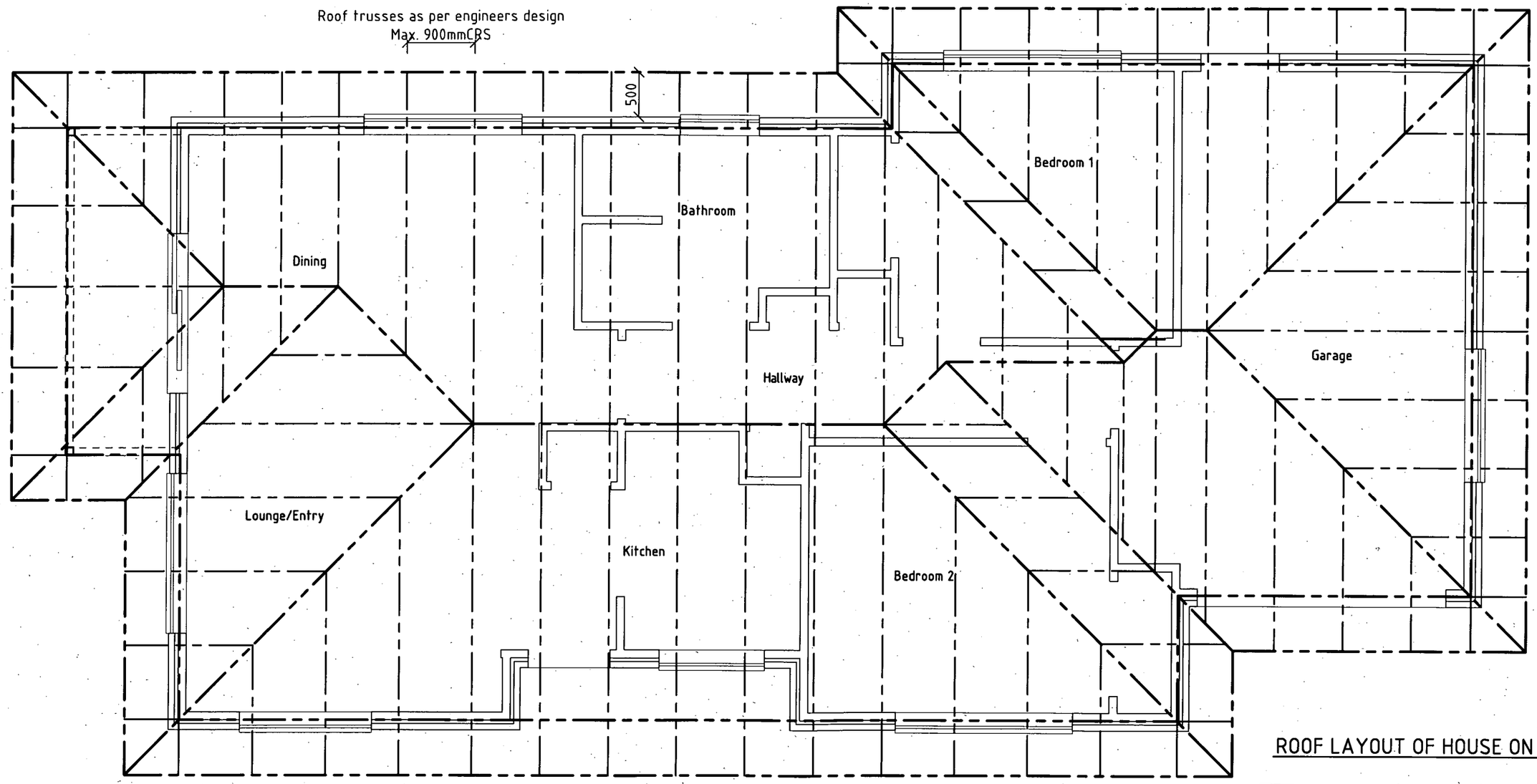
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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ROOF LAYOUT OF HOUSE ON LOT 5

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BUILDING UNIT
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SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

LOT 5

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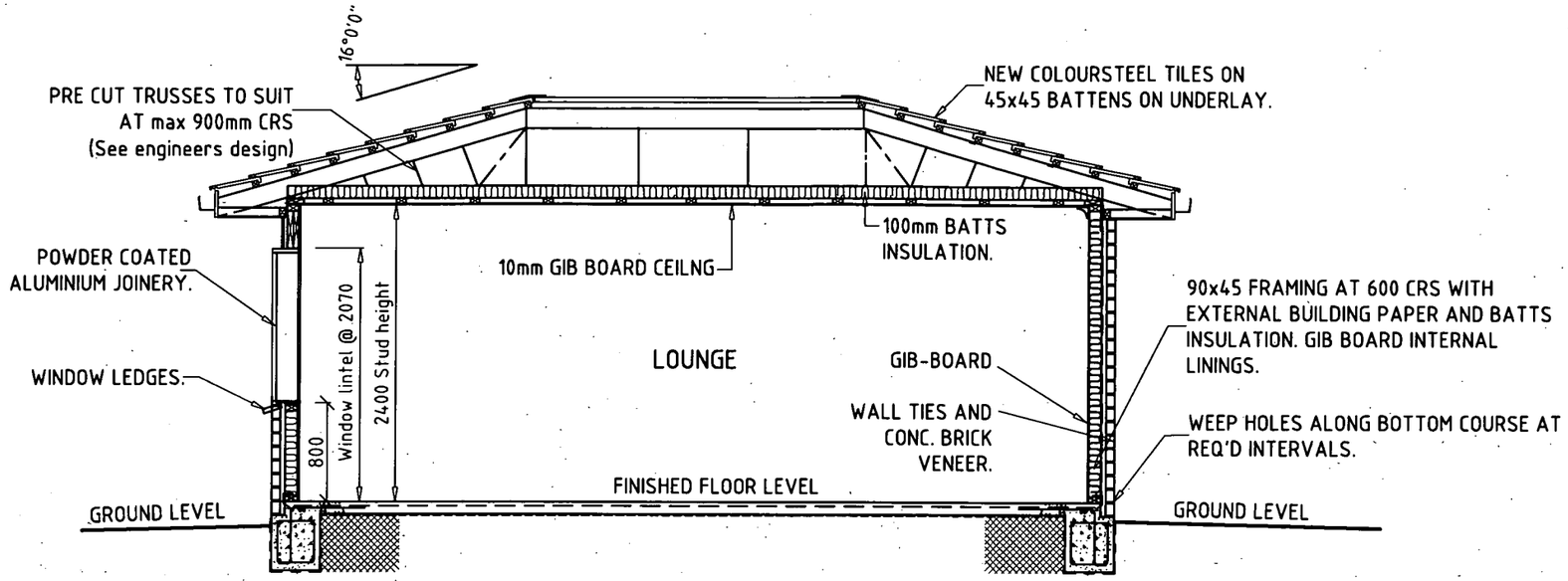
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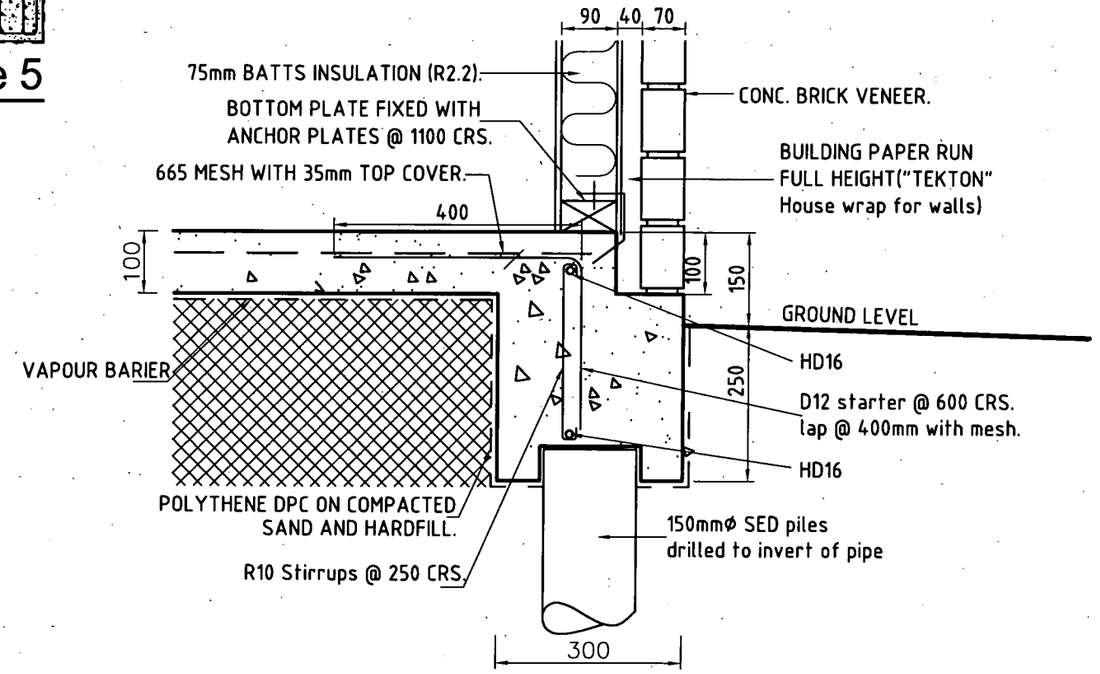
Surveyor:	Checked: GI Ruffell	Scale: 1:50 @ A3	Sheet 7 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



TYPICAL CROSS SECTION A-A' - House 5

SCALE: 1:50

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BUILDING UNIT
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TO BE KEPT ON SITE



FOUNDATION DETAIL 'B'
FOR HOUSE ON LOTS 4 & 5 ONLY

SCALE: 1:10

(FOR MORE INFORMATION SEE AECOM LTD. SPECIFIC DESIGN)

LOT 5

Amendment:	Description:

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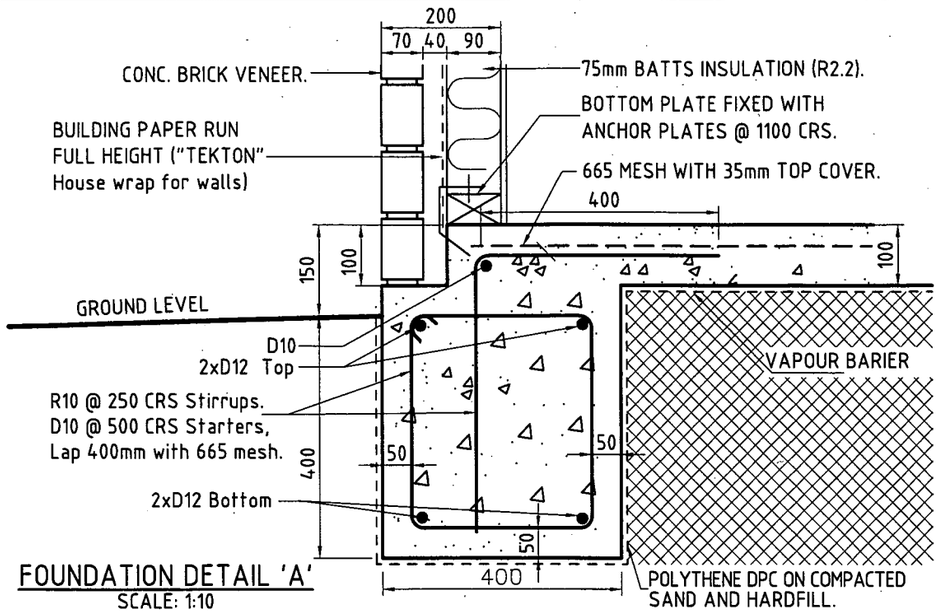
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

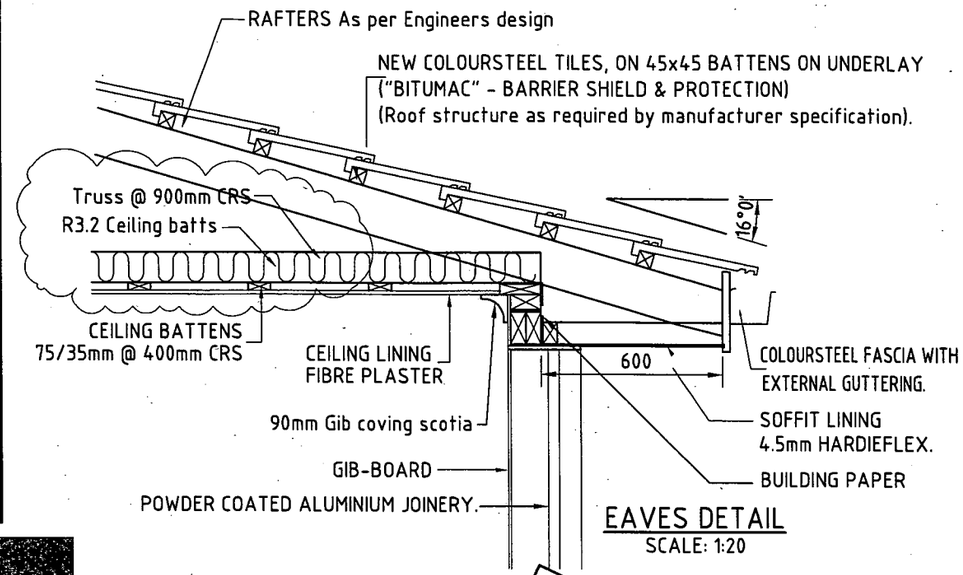
H 1.1, Douglas Fir or UTKD
- Ground floor exterior wall framing

H 1.2
- Internal loadbearing wall framing
- Ceiling framing
- Boundary joist
- Skillion roof framing
- Enclosed beams

H 3.1
- Cavity battens
- Wet area's
- Painted posts and beams

H 3.2
- Fence pailings, rails not in ground contact
- External rafters, posts and beams

H 5.0
- Foundation piling



EAVES DETAIL
SCALE: 1:20

HAMILTON CITY COUNCIL
BUILDING UNIT
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Figure 51: Valley gutters for profiled metal
Paragraph 8.4.16.2

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 roof cladding over gutter shall be reduced to 60 mm to provide a clearance gap of 40 mm.

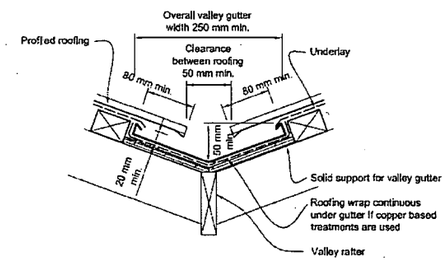
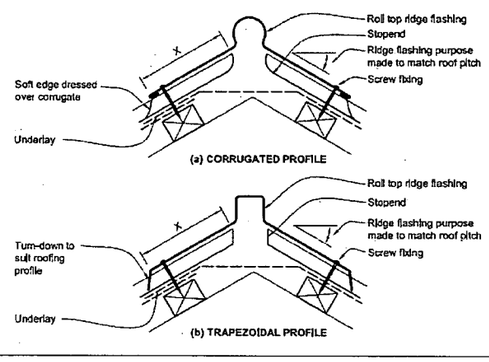
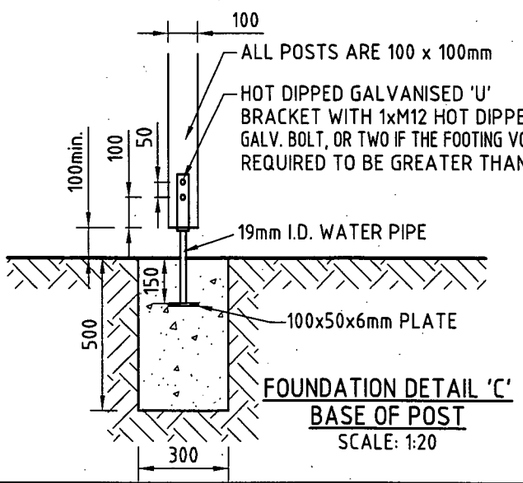


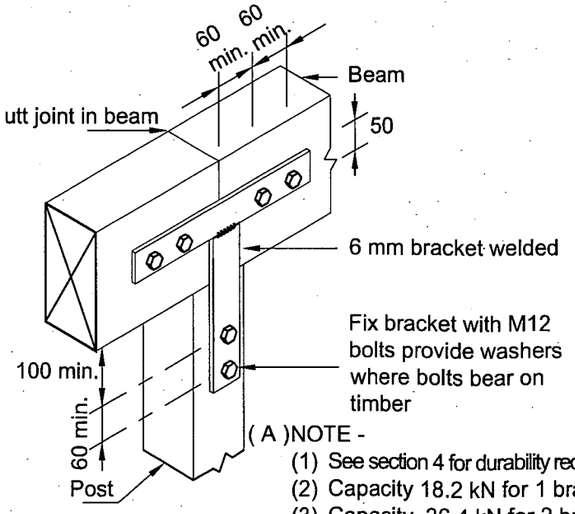
Figure 46: Ridge and hip flashings for profiled metal
Paragraphs 4.6.1.2, 8.4.11 and 8.4.12.d)

NOTE: X = variable according to *wind zone* – refer Table 7.

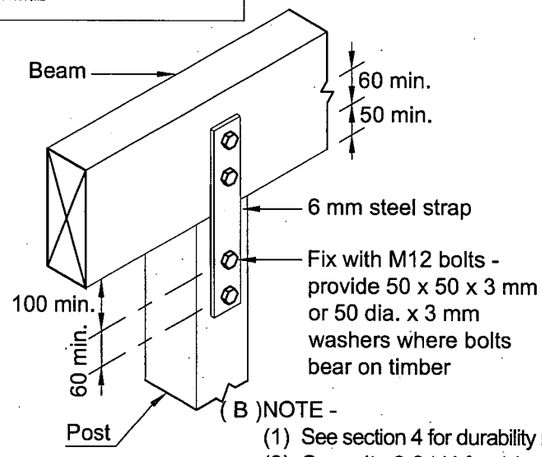




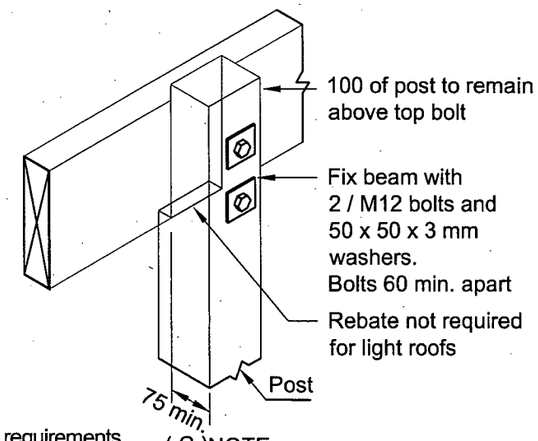
FOUNDATION DETAIL 'C'
BASE OF POST
SCALE: 1:20



(A)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 18.2 kN for 1 bracket
(3) Capacity 36.4 kN for 2 brackets.



(B)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN for 1 bracket
(3) Capacity 19.5 kN for 2 brackets.



(C)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN.

Details of Beam/ Post connection
NOT TO SCALE

ALL LOTS

Amendment: 24/05/2010	Description: Ceiling R value changed.

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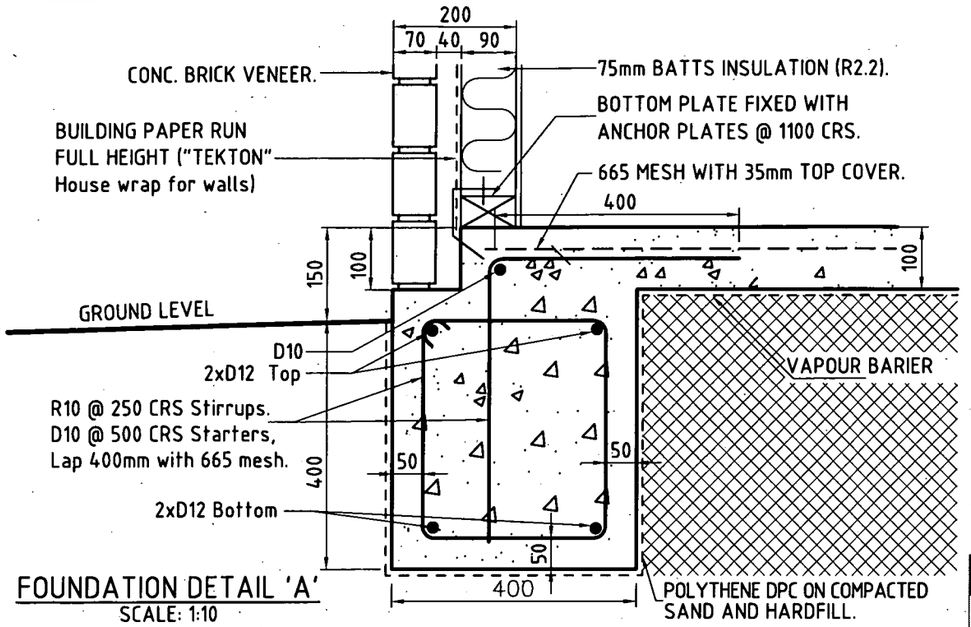
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

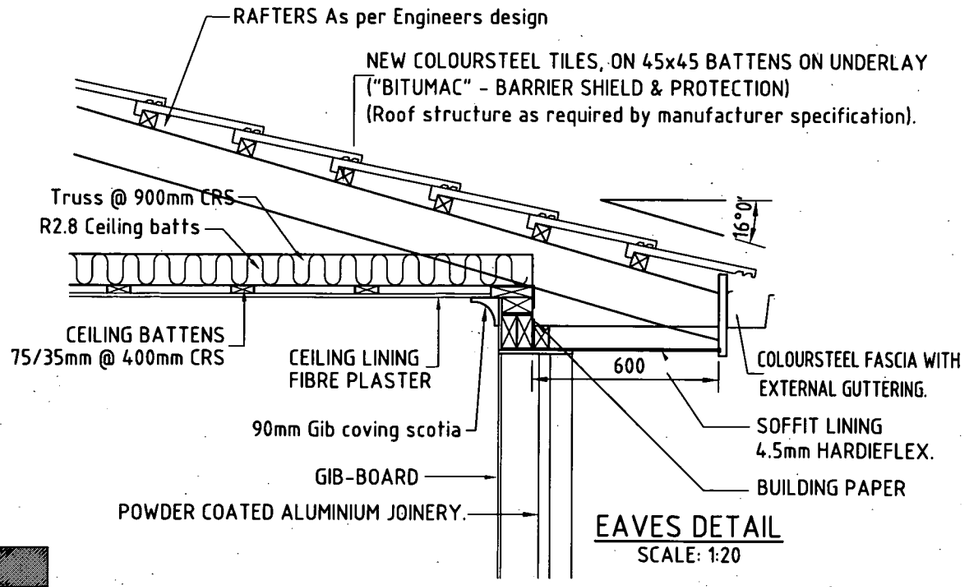
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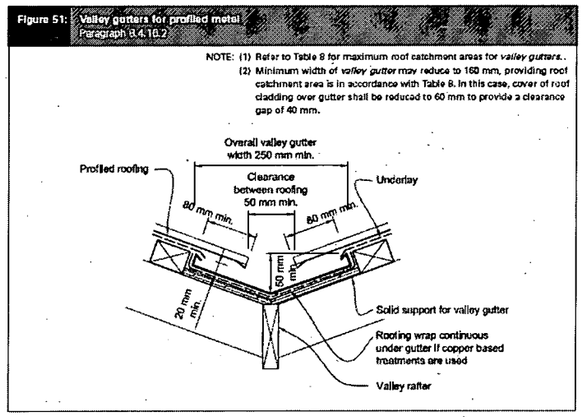
H 3.1
- Cavity battens
- Wet area's
- Painted posts and beams

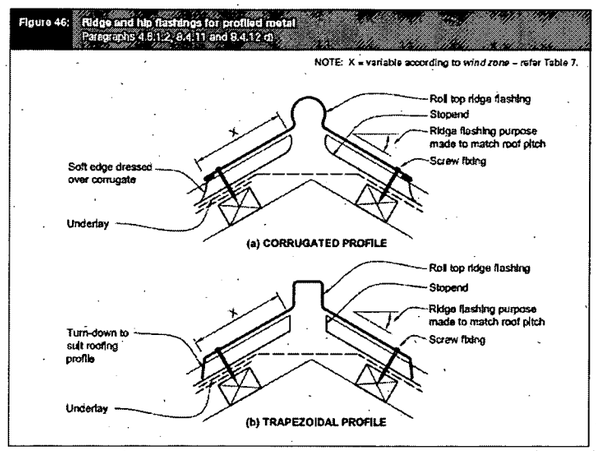
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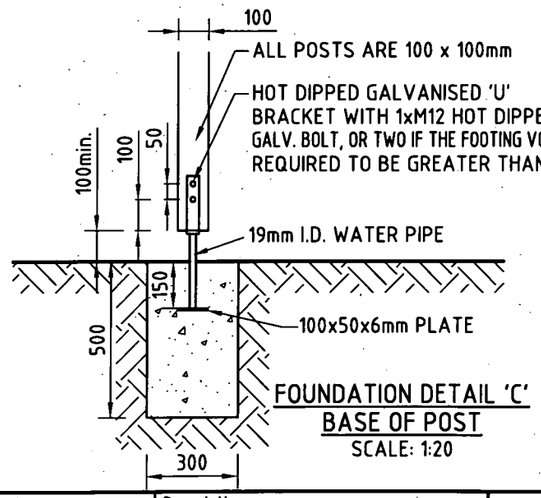


EAVES DETAIL
SCALE: 1:20

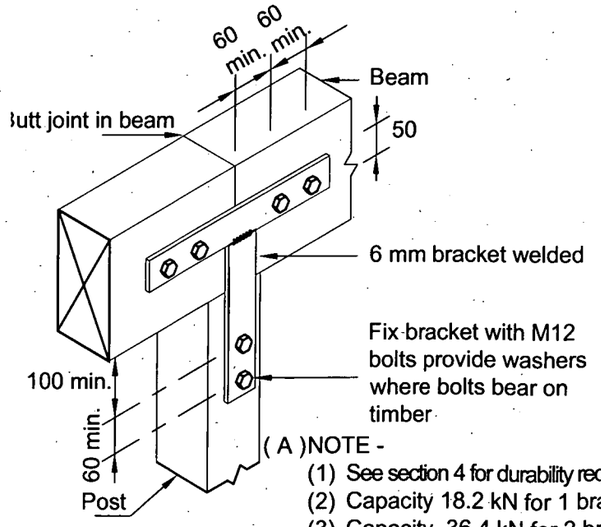




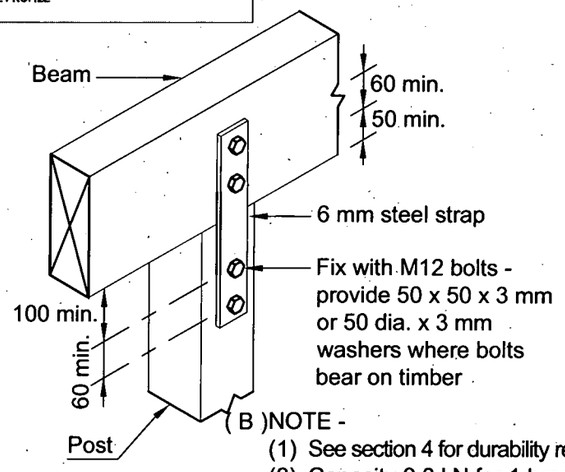
SUPERSEDED



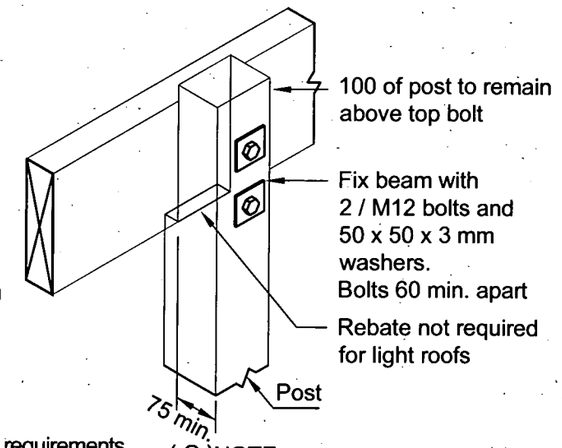
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Details of Beam/ Post connection
NOT TO SCALE

ALL LOTS

Amendment:	Description:

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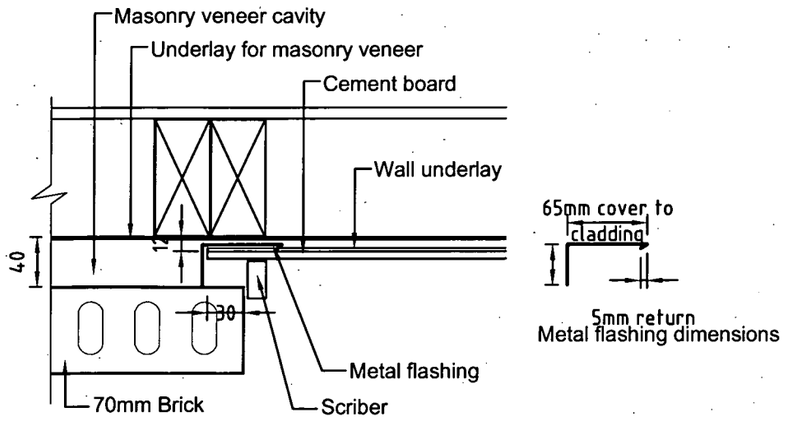
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Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

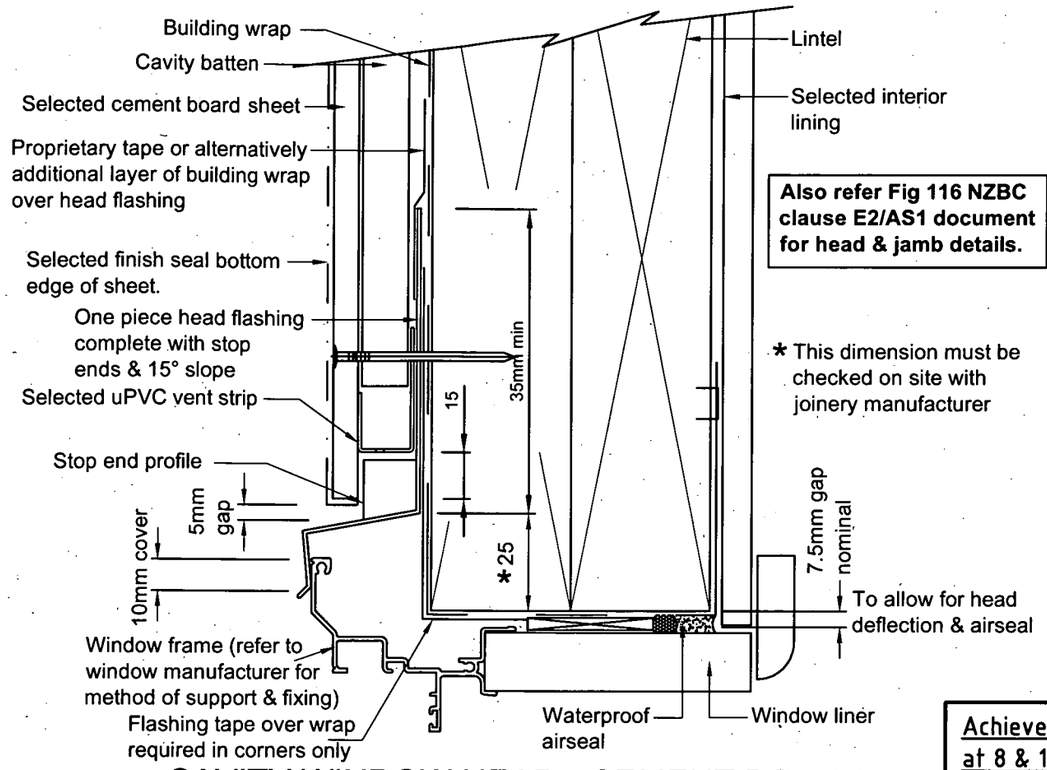
Surveyors–Land Engineers
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Town Planning Consultants
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E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335
McPherson Goodwin

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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



BRICK TO CEMENT BOARD DETAIL

Scale 1:5



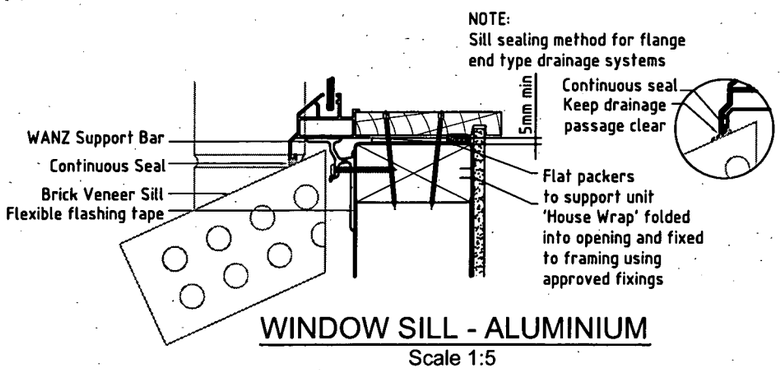
Also refer Fig 116 NZBC clause E2/AS1 document for head & jamb details.

* This dimension must be checked on site with joinery manufacturer

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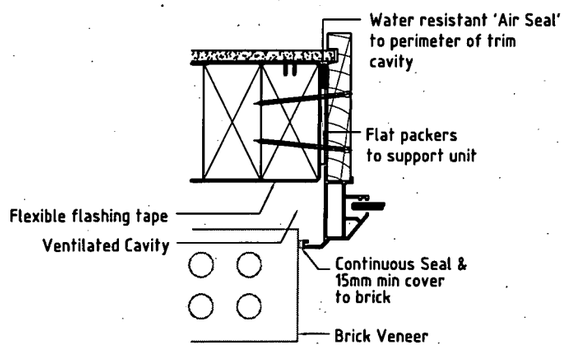
CAVITY WINDOW HEAD - CEMENT BOARD

NTS



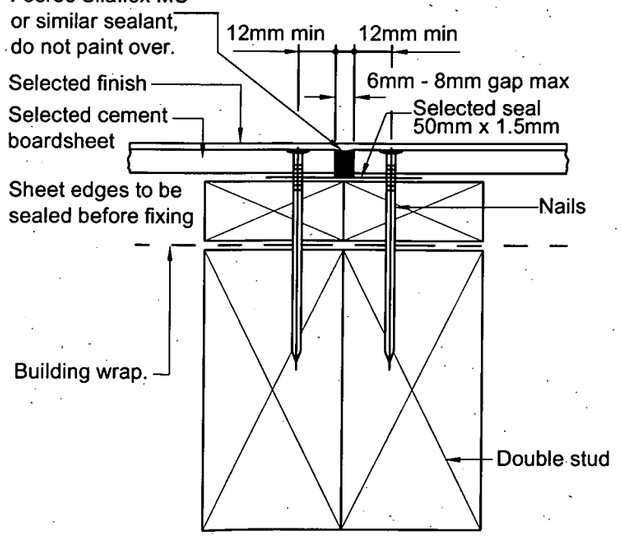
WINDOW SILL - ALUMINIUM

Scale 1:5



WINDOW JAMB - ALUMINIUM

Scale 1:5



CAVITY VERTICAL SEALANT JOINT - CEMENT BOARD

NTS

Achieved R Values for proposed seven new houses at 8 & 10 Yorkshire Road:

1). Concrete slab Rt = 1.3

2). Walls:

× Rse	(Exterior surface)	0.03
× Layer 1	(cladding)	0.06
× Layer 2 Rb	(air space and insulated frame space with R2.2)	1.88
× Layer 3	(lining)	0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.1m²°K/W

3). Double glazing windows:

× Rse	(exterior surface)	0.03
× Layer of 6mm float glass		0.006
× 12mm air (unventilated) space		0.14
× Layer of 6mm float glass		0.006
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		0.27m²°K/W

4). Roof structure (pitched roofs)

× Rse	(exterior surface)	0.03
× Roof cladding (steel tiles)		0.01
× Roof space & R3.2 insulation		2.72
× 10mm Gib plasterboard		0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.9m²°K/W

ALL LOTS

Amendment:	Description:

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NOTES:
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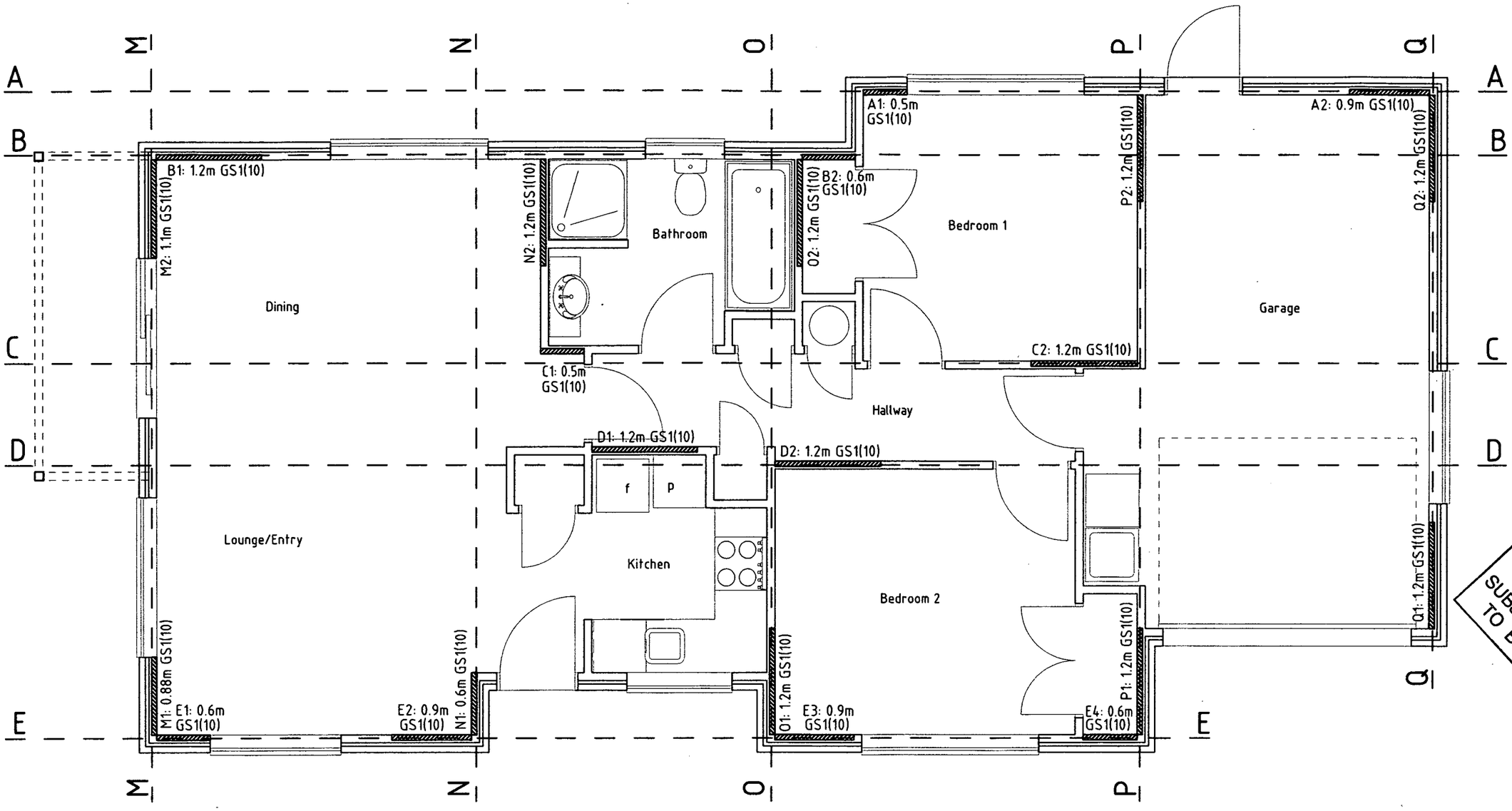
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

McPherson Goodwin Surveyors Ltd_MS_ 5/05/2010 9:50 a.m. _15147_BLDG_CONSENT.dwg Original sheet size A3 (420/297)



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BRACING CALCULATION FOR HOUSE ON LOT 5

Table 1: 10 mm GIB® Plasterboard BU ratings

GIB® Bracing Systems 2009			
Type	L (m) minimum	Lining	Other Requirements
GIB® Standard			
GS1(10)	0.4	10 mm GIB® Standard Plasterboard one face	n/a
	1.2		
GS2(10)	0.6	10 mm GIB® Standard Plasterboard both faces	
	1.8		
GIB Braceline®			
BL1(10)	0.4	10mm GIB Braceline® one face	Hold-Downs
	1.2		
BLP	0.4	10mm GIB Braceline® one face plywood other	
	0.9		
BLG	0.6	10mm GIB Braceline® one face 10mm GIB® Standard other	
	1.2		

LOT 5

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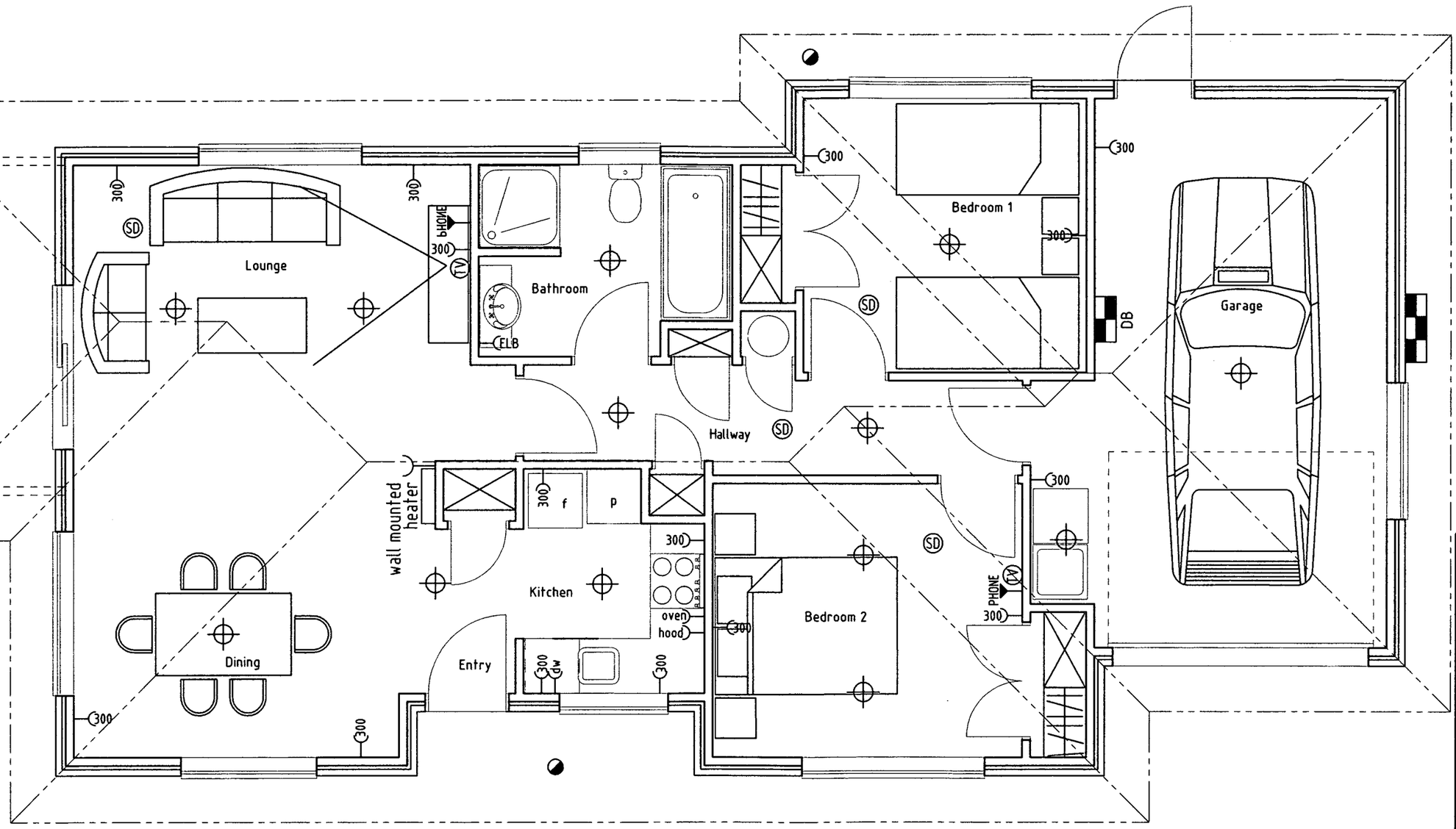
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ELECTRICAL KEY:

- SD — SMOKE ALARM
- METER BOX
- DB — RECESS DITRIBUTION BOARD
- 300 — TYPICAL DOUBLE POWER POINT (300 A.F.F.L.)
- ELB — SHAVERS PLUG
- BAYONET LIGHTS
- SELECTED CEILING LIGHT FITTINGS
- PHONE — PHONE JACK
- TV — TV AERIAL JACK

APPLIANCES/ FITTINGS:

RANGE HOOD - ELECTRIC - SIMPSON RA6WH
ELECTRIC STOVE - SIMPSON 63H906W

ELECTRICAL LAYOUT OF HOUSE ON LOT 5

LOT 5

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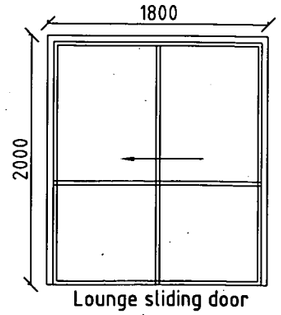
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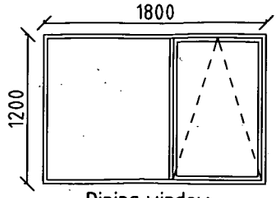
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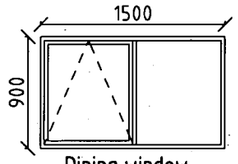


Lounge sliding door

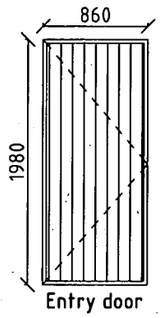


Dining window

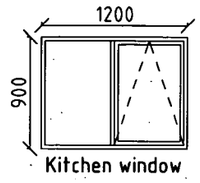
PROPOSED NORTH ELEVATION ON LOT 5



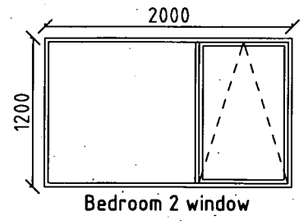
Dining window



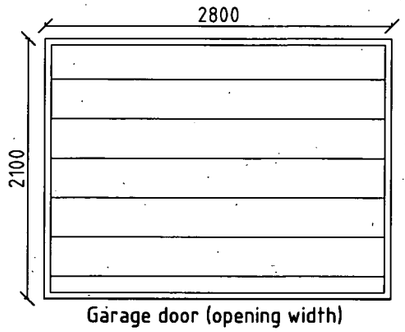
Entry door



Kitchen window

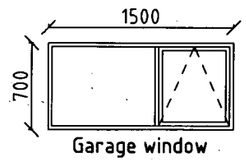


Bedroom 2 window



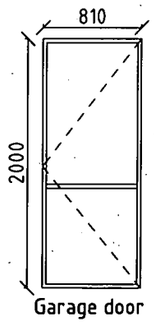
Garage door (opening width)

PROPOSED WEST ELEVATION ON LOT 5

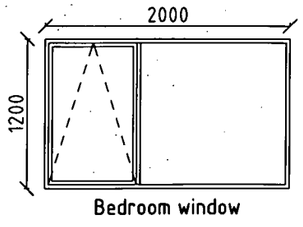


Garage window

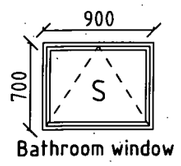
PROPOSED SOUTH ELEVATION ON LOT 5



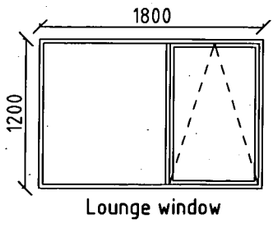
Garage door



Bedroom window



Bathroom window



Lounge window

PROPOSED EAST ELEVATION ON LOT 5

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TO BE KEPT ON SITE

LOT 5

Amendment:	Description:

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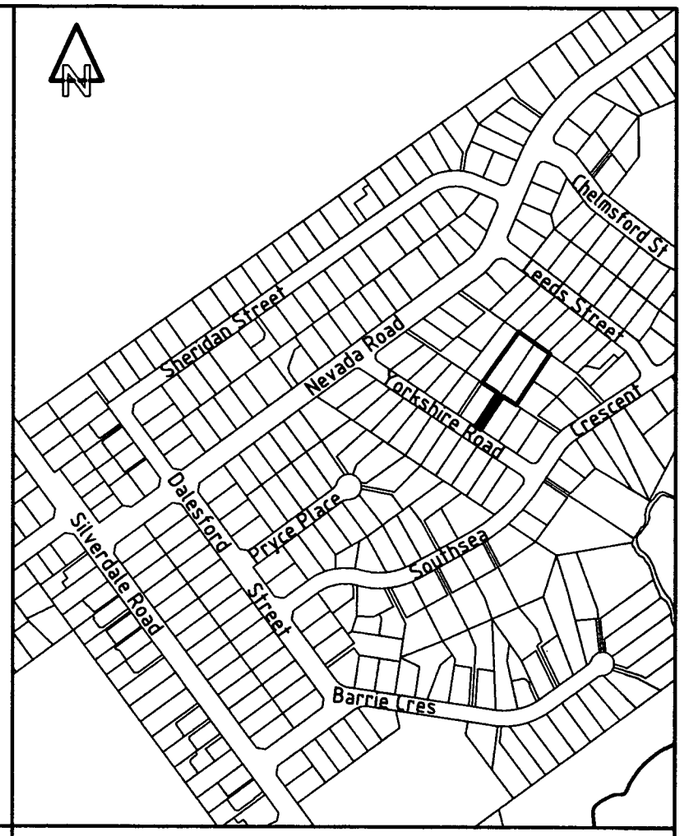
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT OF LOT 61 & 62 DPS 9556 & LOT 2 DP 428322



Address: 8 & 10 Yorkshire Road, Hamilton
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House on lot 6

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McPherson Goodwin

MEMORANDUM OF EASEMENT			
Purpose	Shown	Serv.Tenem.	Dom.Tenem.
Right of way, Right to drain: sewage & water, Right to convey: water, gas, electricity, telecommunication & computer media	(A)	Lot 3 hereon	Lots 1, 2 & 4–7 hereon

MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council



SITE COVERAGE:
Lots: 1,2 & 4 = 107m² = 36%
Lots 3 & 5= 104m² = 35%
Lots: 6 & 7 = 104m² = 35%

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED ALL LOTS
SUBJECT TO CONDITIONS TO BE KEPT ON SITE

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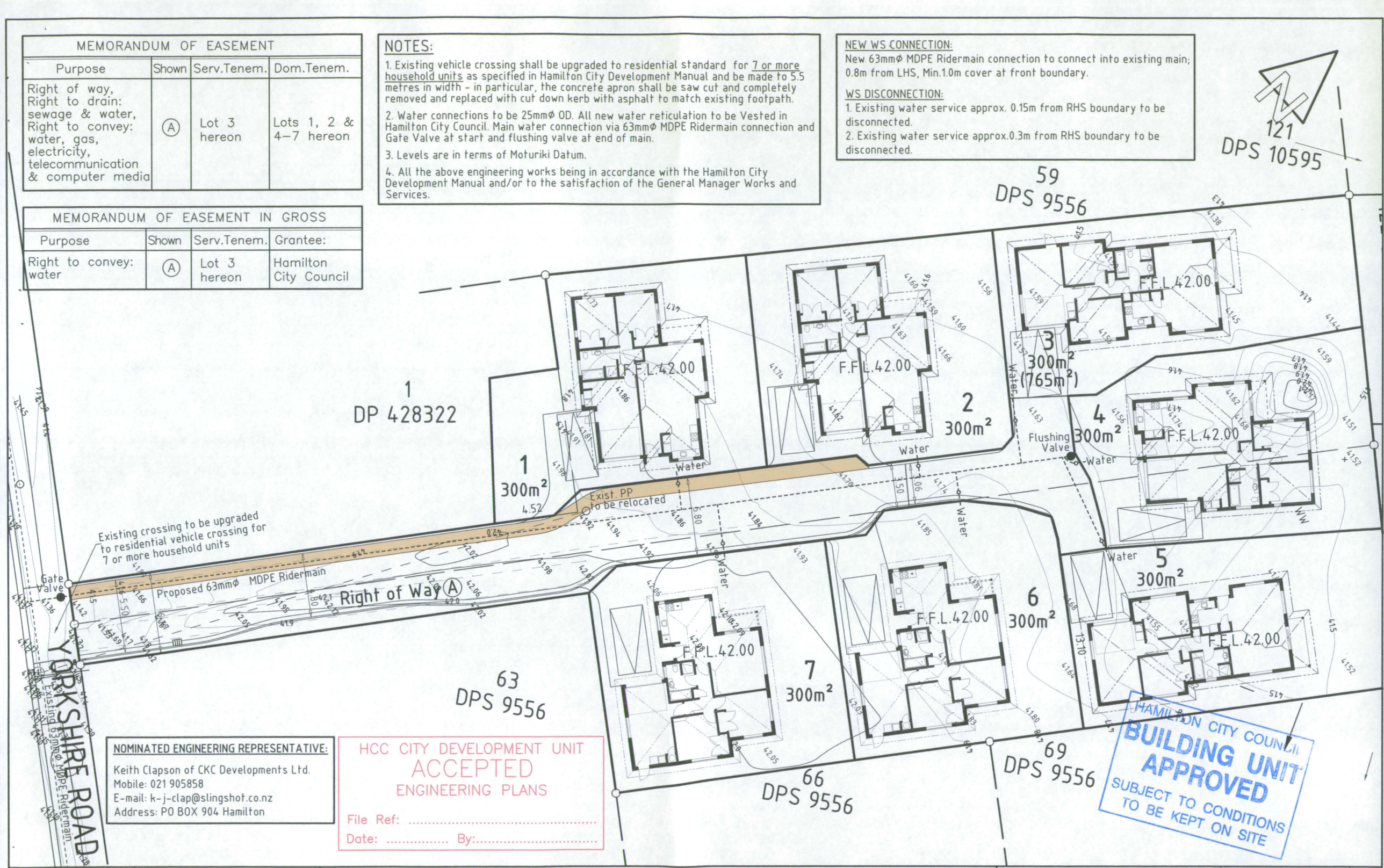
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NOTES:

1. Existing vehicle crossing shall be upgraded to residential standard for 7 or more household units as specified in Hamilton City Development Manual and be made to 5.5 metres in width – in particular, the concrete apron shall be saw cut and completely removed and replaced with cut down kerb with asphalt to match existing footpath.
2. Water connections to be 25mmØ OD. All new water reticulation to be Vested in Hamilton City Council. Main water connection via 63mmØ MDPE Ridermain connection and Gate Valve at start and flushing valve at end of main.
3. Levels are in terms of Moturiki Datum.
4. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.

NEW WS CONNECTION:
New 63mmØ MDPE Ridermain connection to connect into existing main; 0.8m from LHS, Min.1.0m cover at front boundary.

WS DISCONNECTION:
1. Existing water service approx. 0.15m from RHS boundary to be disconnected.
2. Existing water service approx.0.3m from RHS boundary to be disconnected.



NOMINATED ENGINEERING REPRESENTATIVE:
Keith Clapson of CKC Developments Ltd.
Mobile: 021 905858
E-mail: k-j-clap@slingshot.co.nz
Address: PO BOX 904 Hamilton

HCC CITY DEVELOPMENT UNIT
ACCEPTED
ENGINEERING PLANS
File Ref: .....
Date: ..... By:.....

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
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Amendment:	Description:

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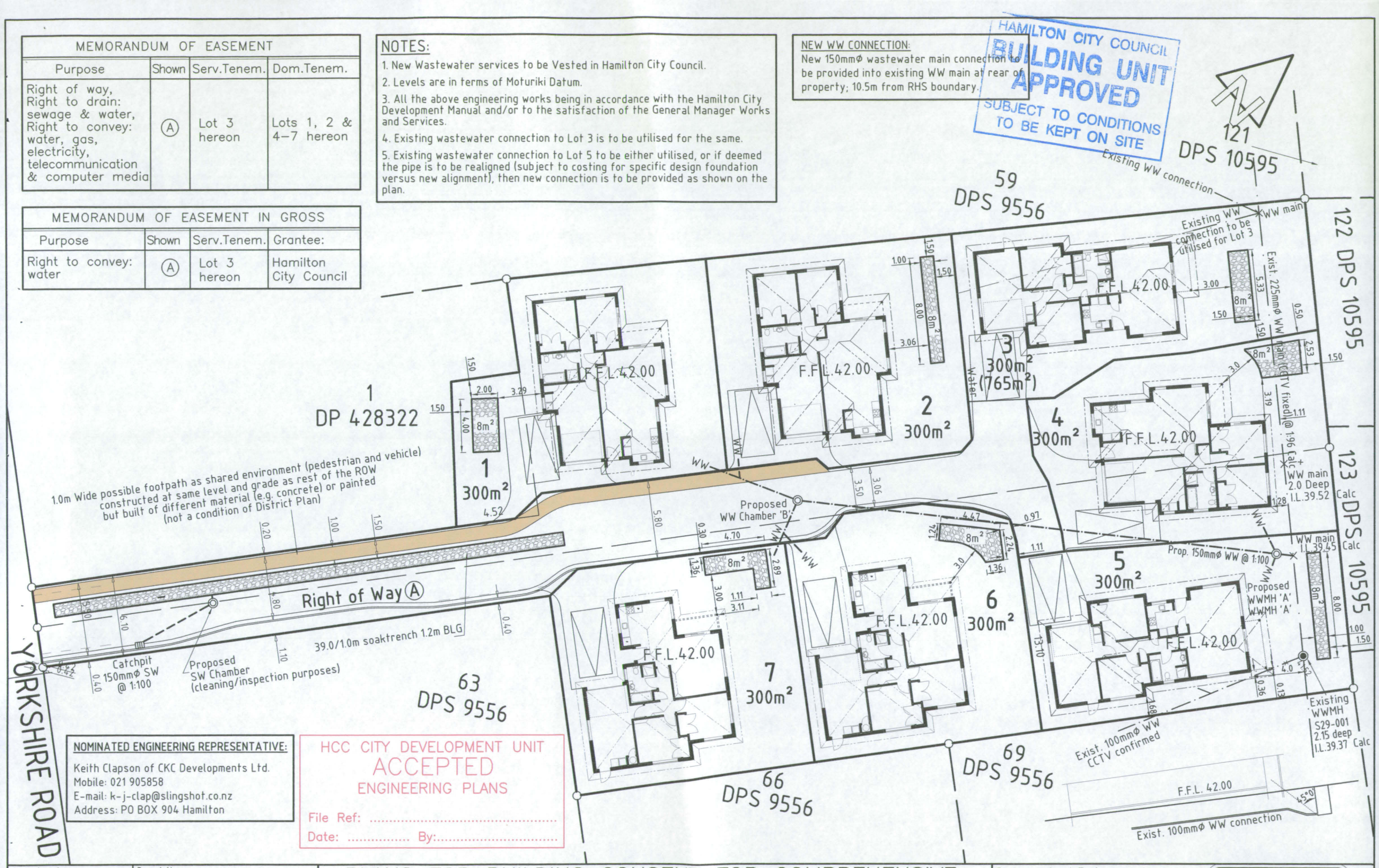
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NOTES:

1. New Wastewater services to be Vested in Hamilton City Council.
2. Levels are in terms of Moturiki Datum.
3. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.
4. Existing wastewater connection to Lot 3 is to be utilised for the same.
5. Existing wastewater connection to Lot 5 to be either utilised, or if deemed the pipe is to be realigned (subject to costing for specific design foundation versus new alignment), then new connection is to be provided as shown on the plan.

NEW WW CONNECTION:
New 150mmØ wastewater main connection to be provided into existing WW main at rear of property; 10.5m from RHS boundary.

HAMILTON CITY COUNCIL
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SUBJECT TO CONDITIONS TO BE KEPT ON SITE



NOMINATED ENGINEERING REPRESENTATIVE:

Keith Clapson of CKC Developments Ltd.
Mobile: 021 905858
E-mail: k-j-clap@slingshot.co.nz
Address: PO BOX 904 Hamilton

HCC CITY DEVELOPMENT UNIT
ACCEPTED
ENGINEERING PLANS
File Ref: .....
Date: ..... By:.....

Amendment: | Description:

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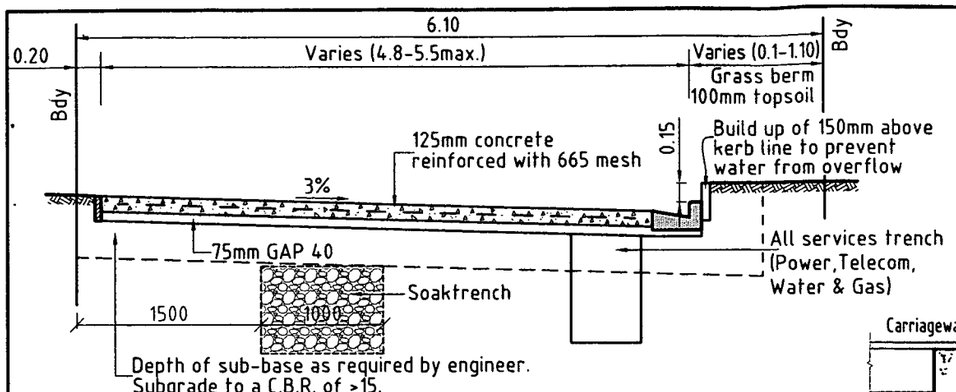
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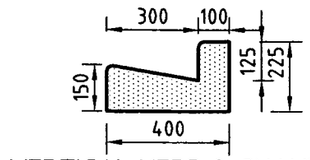
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Design/Drawn: M. Spasovska | Date: April/ 2010
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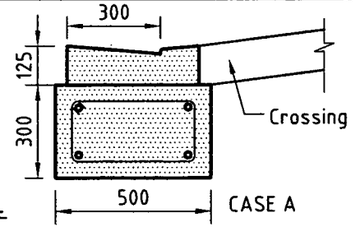
TYPICAL CROSS-SECTION OF PROPOSED R.O.W.

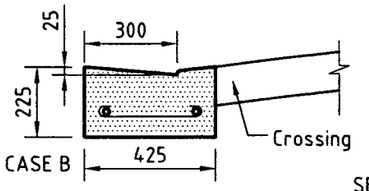
SCALE: 1 : 50



VERTICAL KERB & CHANNEL

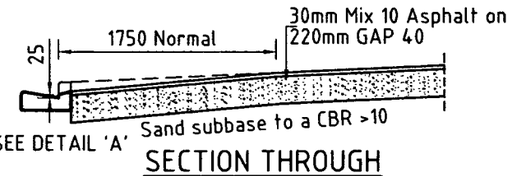
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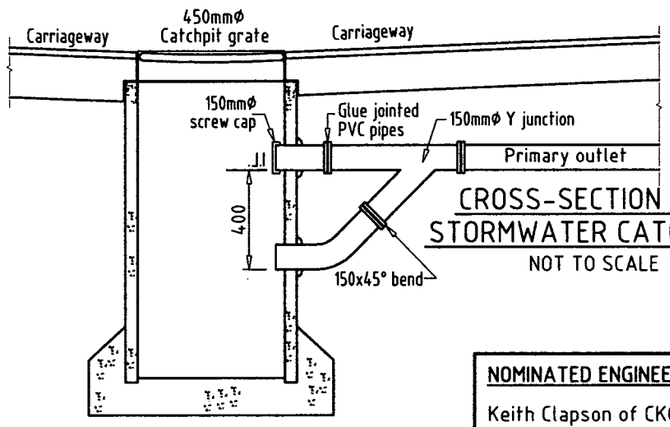
COMMERCIAL CHANNEL CROSSING

SCALE: 1:20



SECTION THROUGH COMMERCIAL VEHICLE CROSSING

SCALE: 1:50



CROSS-SECTION OF STORMWATER CATCHPIT

NOT TO SCALE

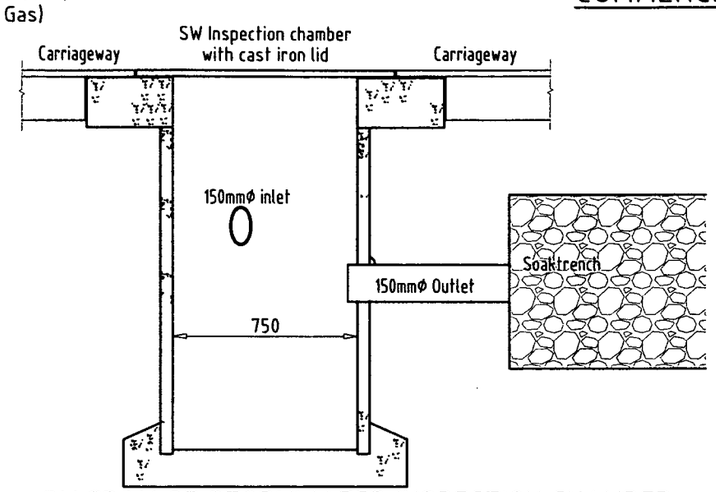
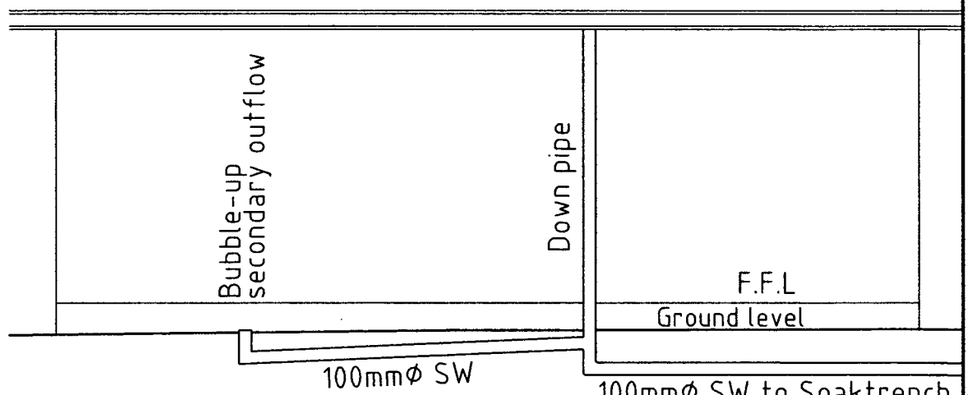


DIAGRAM OF STORMWATER INSPECTION CHAMBER

SCALE: 1:25



DETAIL OF SW SECONDARY OVERFLOW FOR LOTS 3-6

NOT TO SCALE

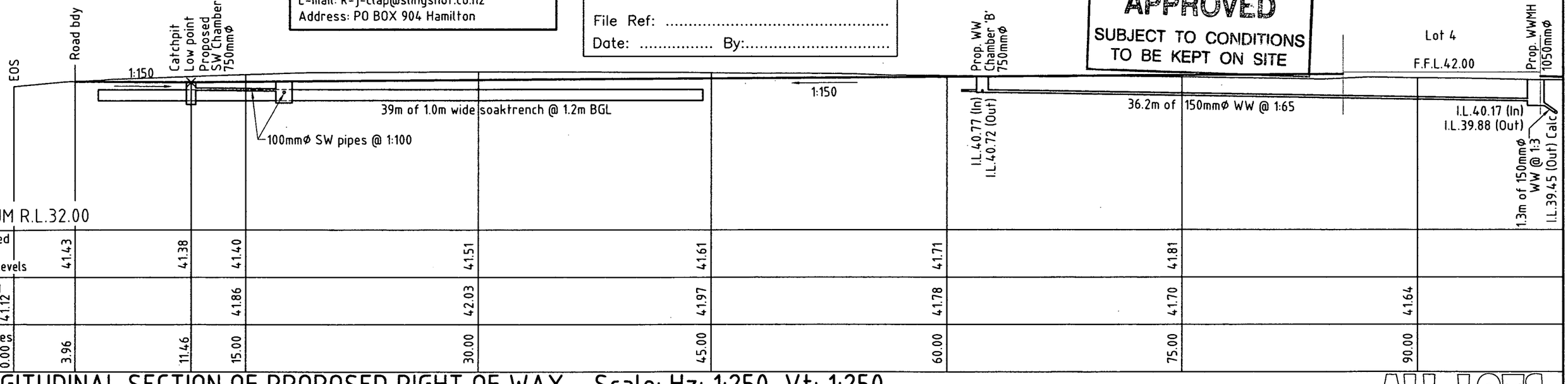
NOMINATED ENGINEERING REPRESENTATIVE:

Keith Clapson of CKC Developments Ltd.
Mobile: 021 905858
E-mail: k-j-clap@slingshot.co.nz
Address: PO BOX 904 Hamilton

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Proposed LOC finished levels	41.43		41.38	41.40		41.51	41.61	41.71		41.81			
Existing ground levels	41.12			41.86		42.03	41.97	41.78		41.70		41.64	
Chainages	0.00	3.96	11.46	15.00		30.00	45.00	60.00		75.00		90.00	

LONGITUDINAL SECTION OF PROPOSED RIGHT OF WAY - Scale: Hz: 1:250, Vt: 1:250

ALL LOTS

Amendment:	Description:

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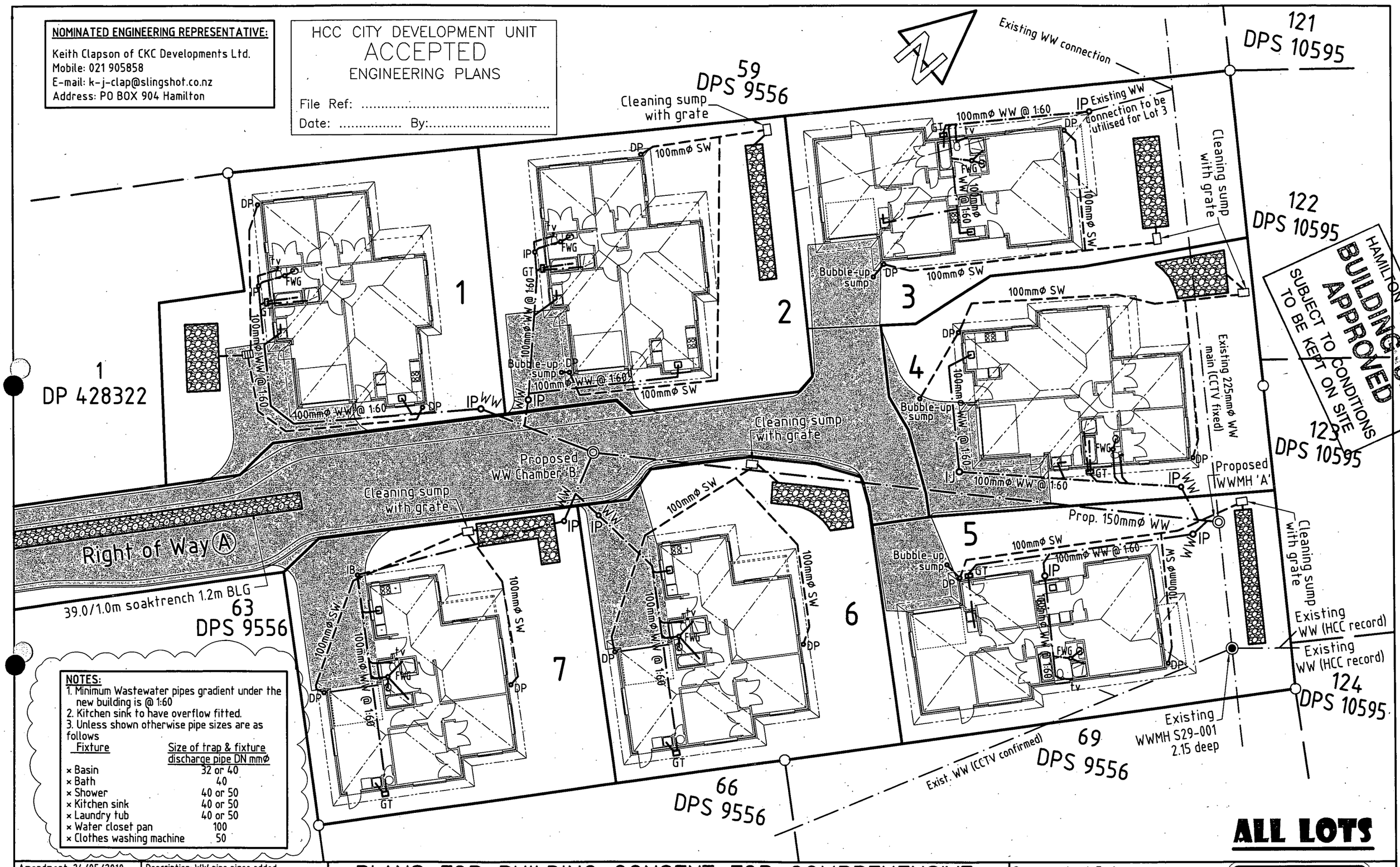
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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NOTES:
1. Minimum Wastewater pipes gradient under the new building is @ 1:60
2. Kitchen sink to have overflow fitted.
3. Unless shown otherwise pipe sizes are as follows

Fixture	Size of trap & fixture discharge pipe DN mmø
× Basin	32 or 40
× Bath	40
× Shower	40 or 50
× Kitchen sink	40 or 50
× Laundry tub	40 or 50
× Water closet pan	100
× Clothes washing machine	50

Amendment: 24/05/2010	Description: WW pipe sizes added.

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SUPERSEDED

SUPERSEDED

1
DP 428322

59
DPS 9556

121
DPS 10595

122
DPS 10595

123 DPS 10595

Existing WW connection

Cleaning sump with grate

100mmø WW @ 1:60

100mmø SW

IP Existing WW connection to be utilised for Lot 3

Bubble-up sump

Existing 225mmø WW main (CCTV fixed)

Proposed WWMH 'A'

Proposed 150mmø WW

Proposed WW Chamber 'B'

Right of Way Ⓐ

39.0/1.0m soaktrench 1.2m BLG

63
DPS 9556

66
DPS 9556

69
DPS 9556

124
DPS 10595

Exist. WW (CCTV confirmed)

Existing WWMH S29-001 2.15 deep

ALL LOTS

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B'

B

Lounge
Area: 16.9m²
Floor: Carpet

Dining/Kitchen/Entry
Area: (16.3m²)
Floor: Vinyl

Hallway
Area: 5.0m² (5.3m²)
Floor: Carpet

Bedroom 2
Area: 11.1m² (12.3m²)
Floor: Carpet

Bedroom 1
Area: 10.6m² (11.7m²)
Floor: Carpet

Bathroom
Area: 5.6m²
Floor: Vinyl

Garage
Area: 19.7m² (20.2m²)
Floor: Concrete

TYPICAL HOUSE ON LOTS 6 & 7
AREA: 100mm² (roof area 129m²)

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LOTS 6 & 7

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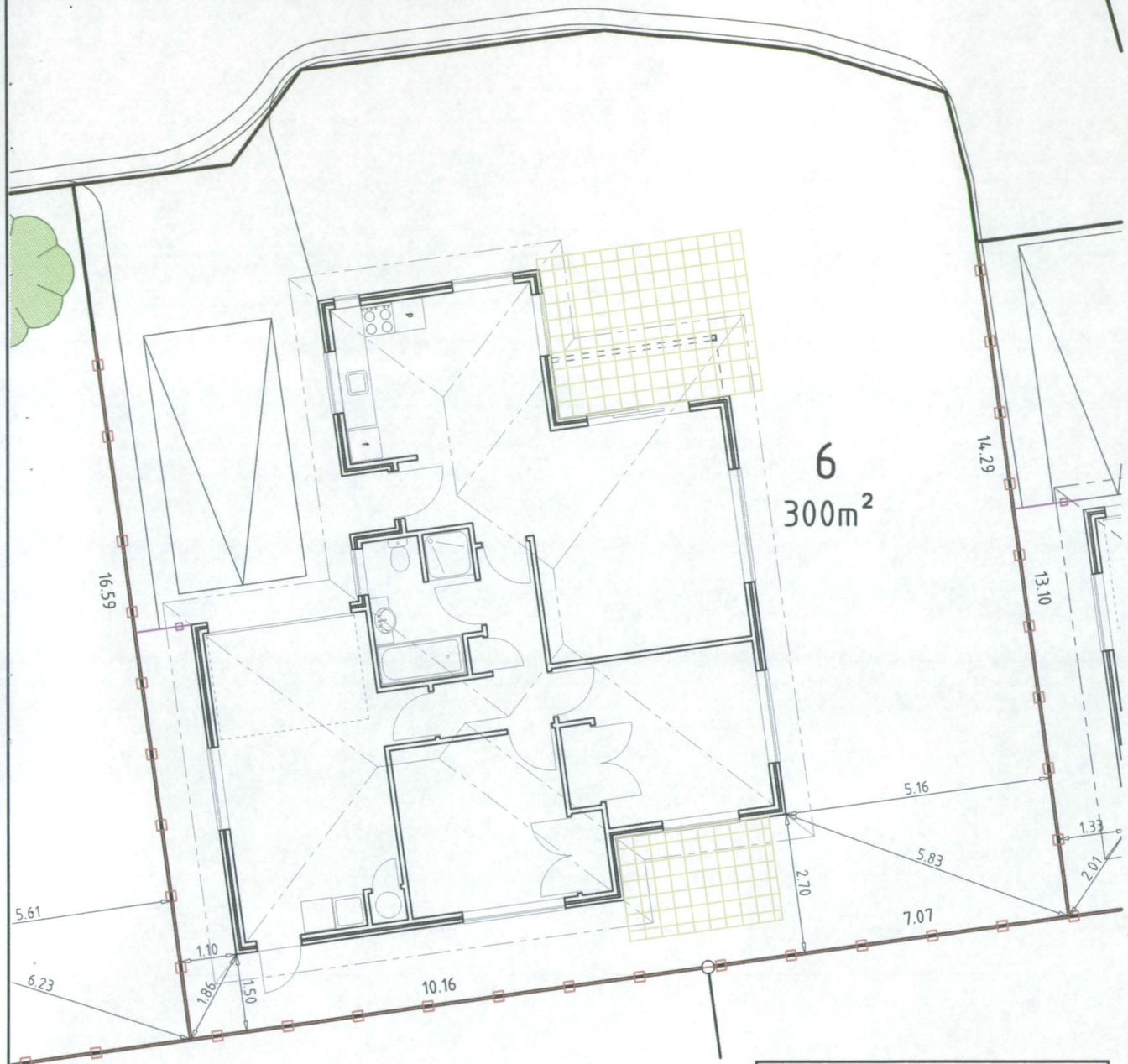
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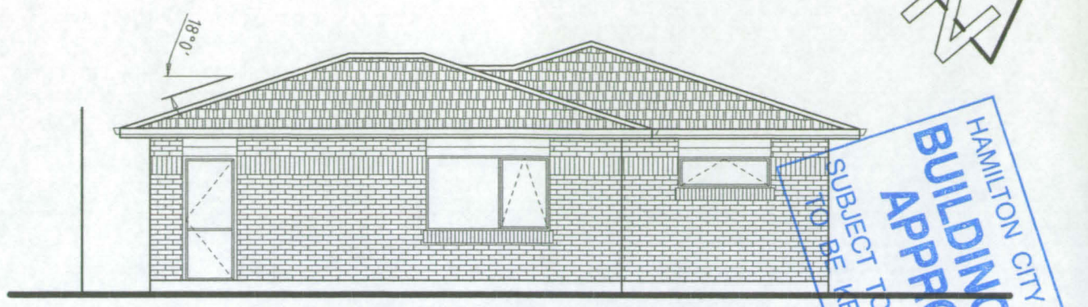
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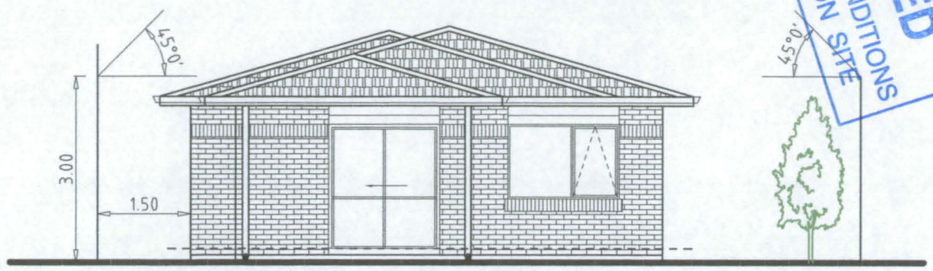
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

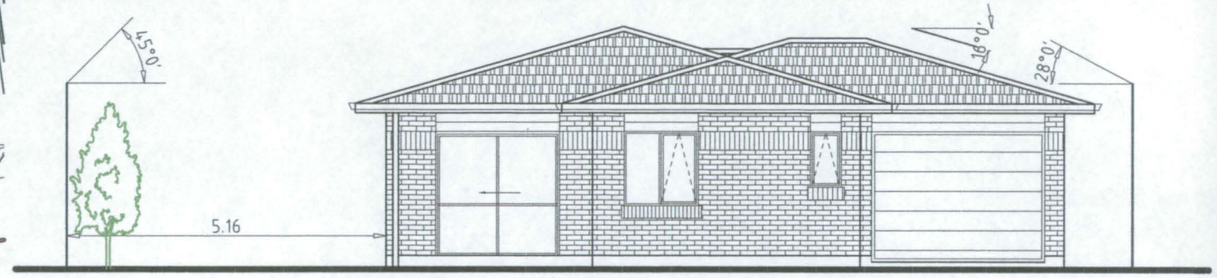




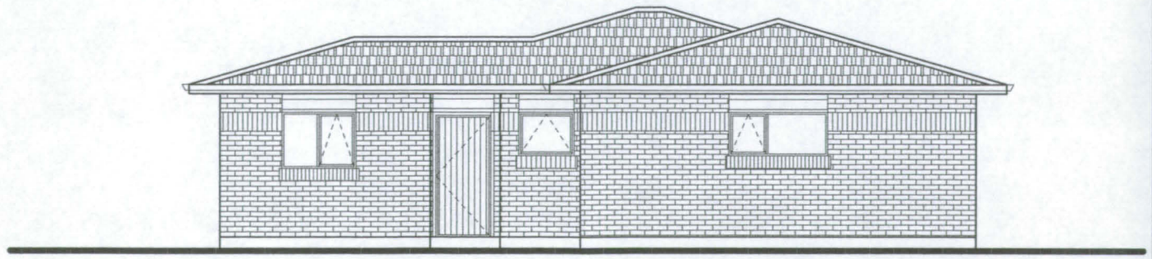
PROPOSED EAST ELEVATION ON LOT 6



PROPOSED NORTH ELEVATION ON LOT 5



PROPOSED WEST ELEVATION ON LOT 6



PROPOSED SOUTH ELEVATION ON LOT 6

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KEY:

- Brick veneer cladding
- Weatherboard or harditex cladding
- Coloursteel roof tiles
- Double glazing aluminium joinery

LOT 6

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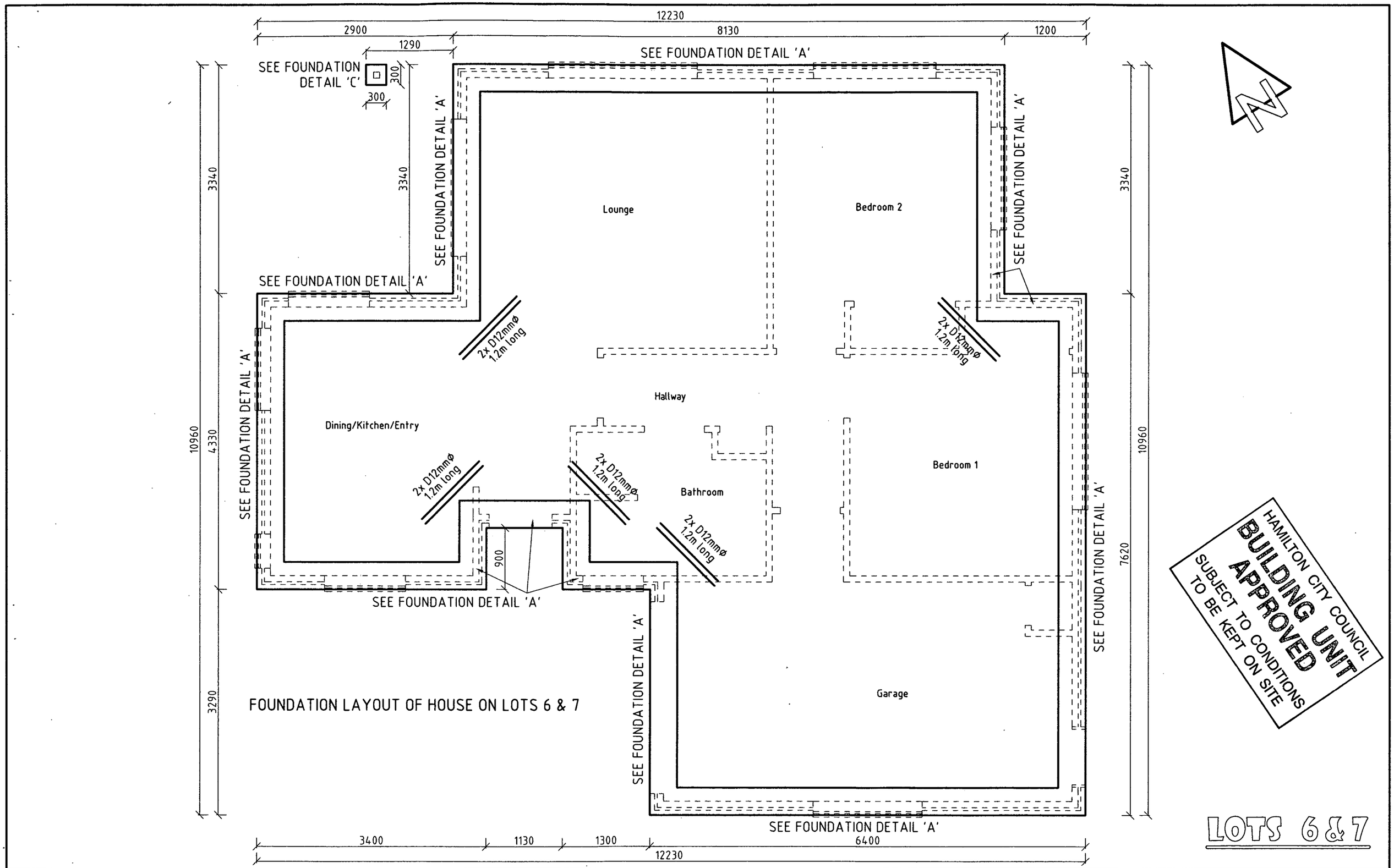
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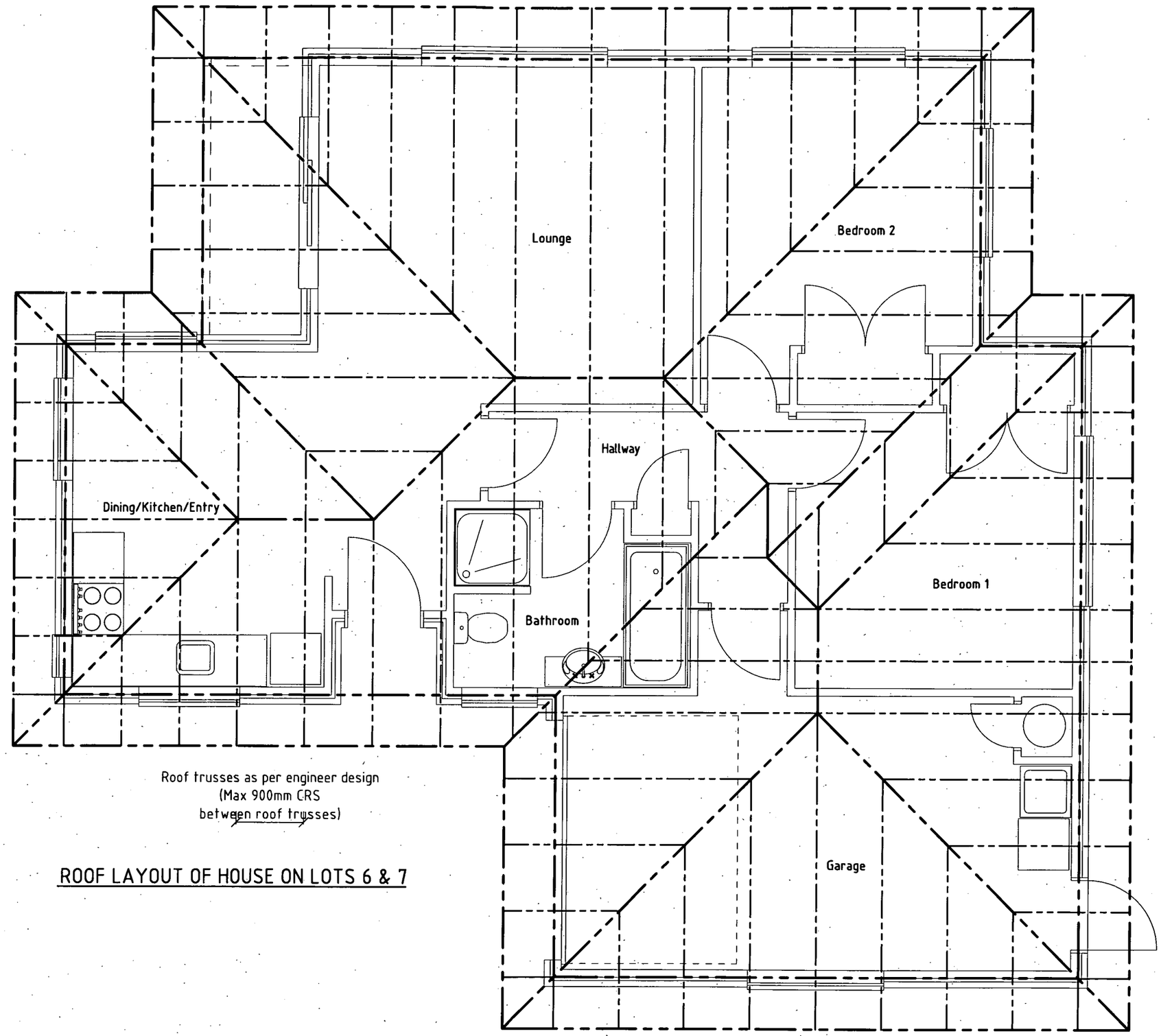
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ROOF LAYOUT OF HOUSE ON LOTS 6 & 7

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LOTS 6 & 7

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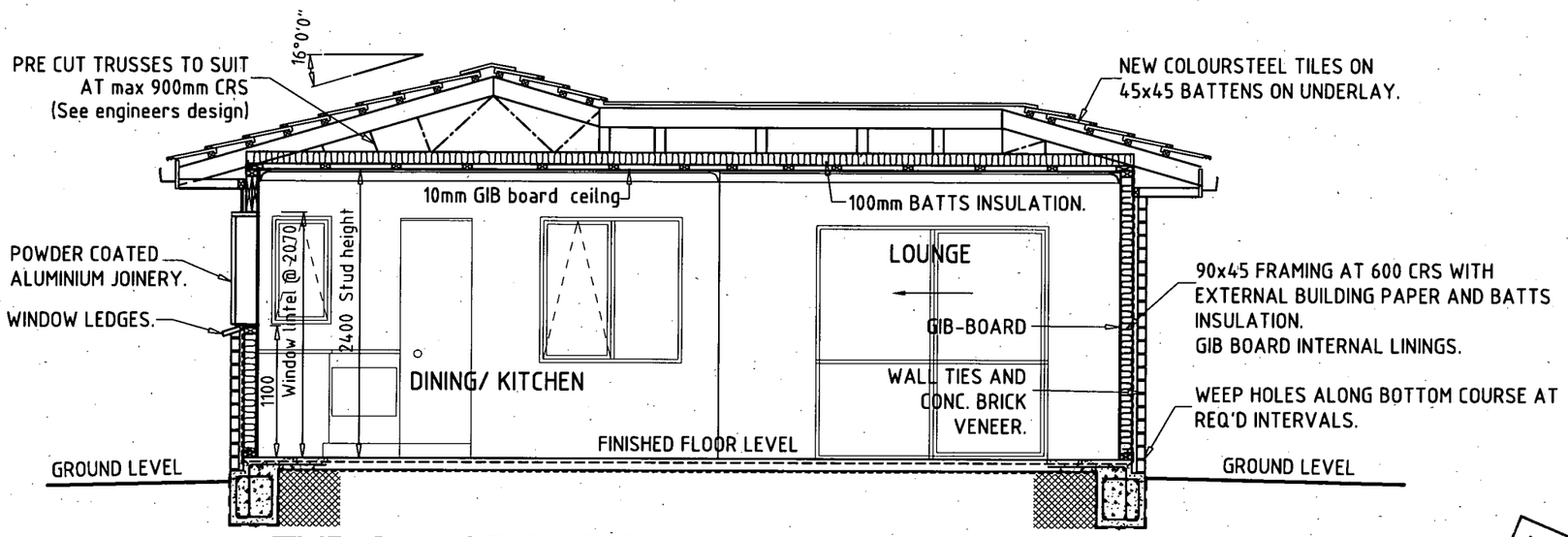
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TYPICAL CROSS SECTION B-B' - House 6 & 7

SCALE: 1:50

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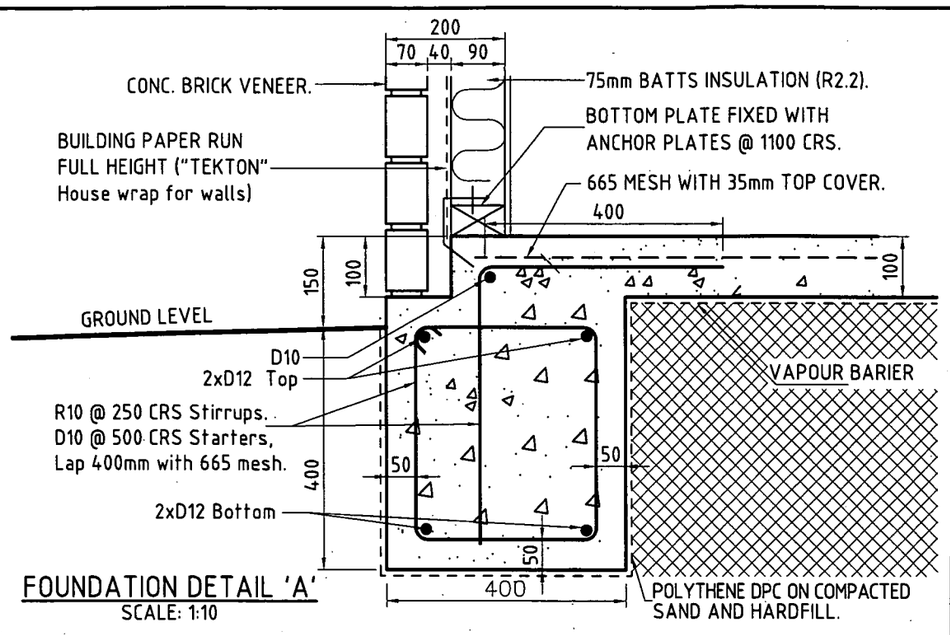
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FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

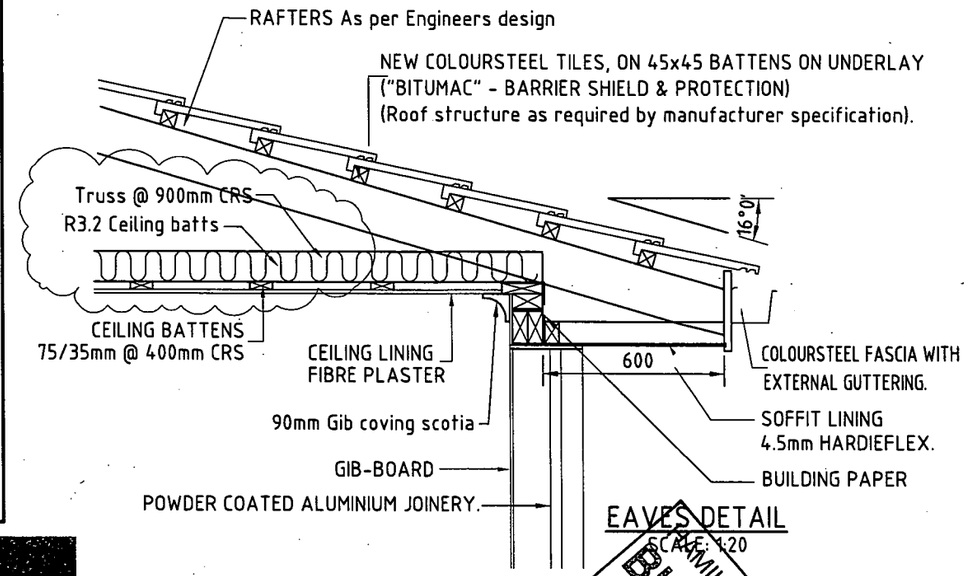
H 1.1, Douglas Fir or UTKD
- Ground floor exterior wall framing

H 1.2
- Internal loadbearing wall framing
- Ceiling framing
- Boundary joist
- Skillion roof framing
- Enclosed beams

H 3.1
- Cavity battens
- Wet area's
- Painted posts and beams

H 3.2
- Fence pailings, rails not in ground contact
- External rafters, posts and beams

H 5.0
- Foundation piling



EAVES DETAIL
SCALE: 1:20

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Figure 46: Ridge and hip flashings for profiled metal
Paragraphs 4.6.1.2, 8.4.11 and 8.4.12 d)

NOTE: X = variable according to *wind zone* – refer Table 7.

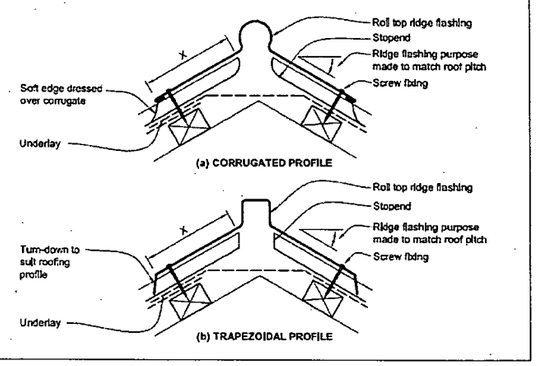
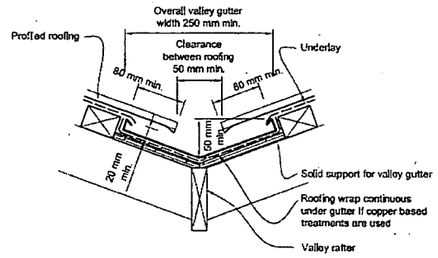
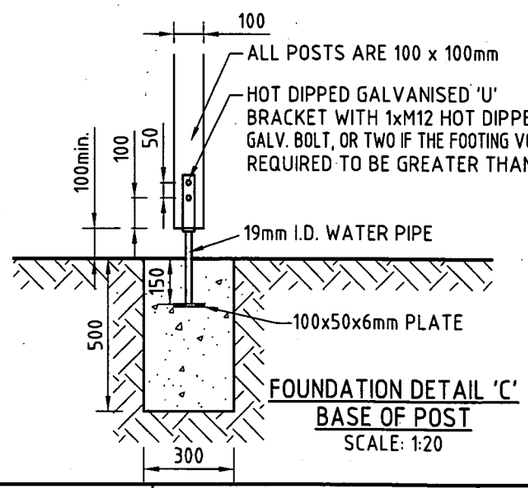


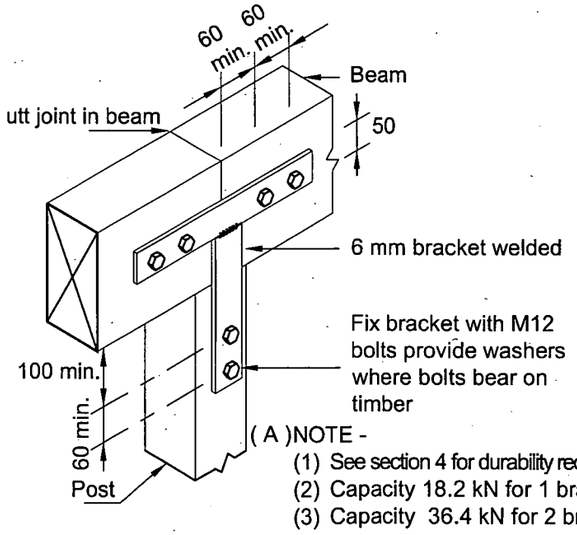
Figure 51: Valley gutters for profiled metal
Paragraph 8.4.16.2

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 roof cladding over gutter shall be reduced to 60 mm to provide a clearance gap of 40 mm.

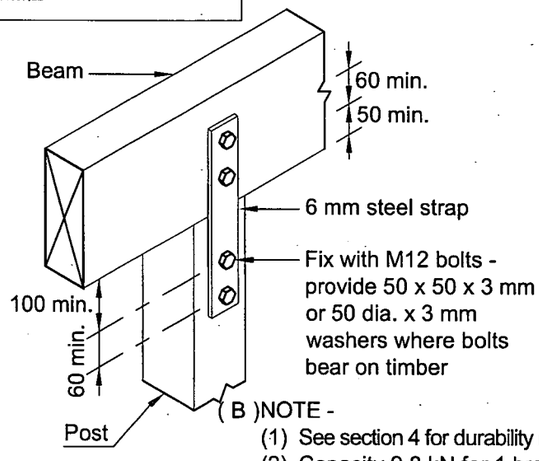




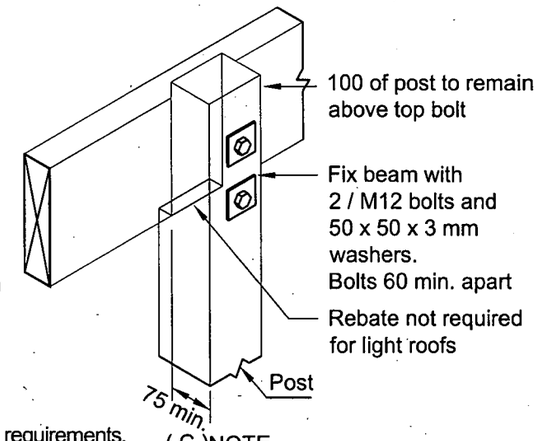
FOUNDATION DETAIL 'C'
BASE OF POST
SCALE: 1:20



(A)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 18.2 kN for 1 bracket
(3) Capacity 36.4 kN for 2 brackets.



(B)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN for 1 bracket
(3) Capacity 19.5 kN for 2 brackets.



(C)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN.

Details of Beam/ Post connection
NOT TO SCALE

ALL LOTS

Amendment: 24/05/2010	Description: Ceiling R value changed.

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NOTES:
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2. Total CT area: 2565m²

PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

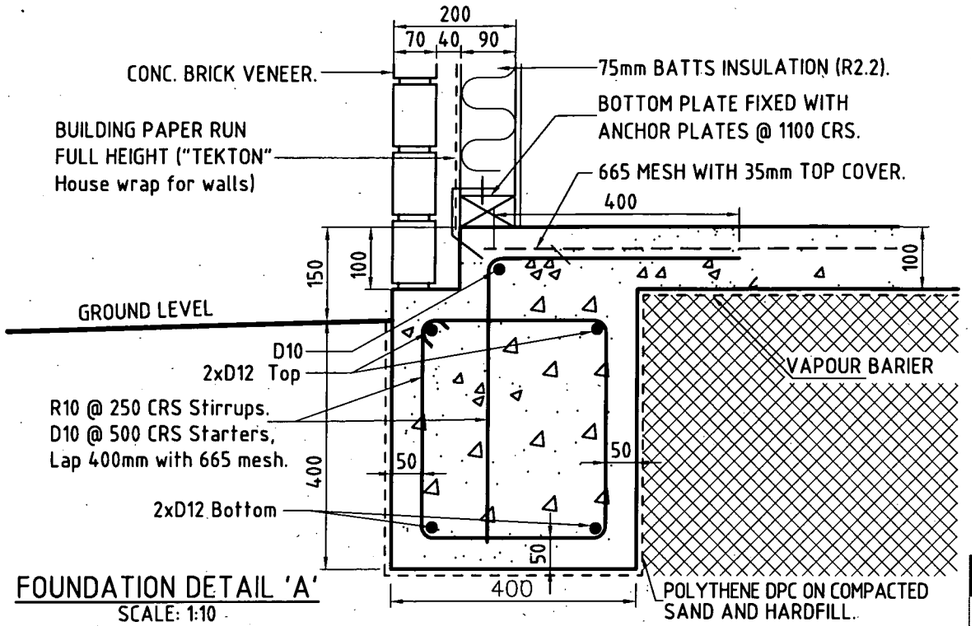
Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

Surveyors—Land Engineers
—Land Development,
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McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: As shown @ A3	Sheet 11 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

McPherson Goodwin Surveyors Ltd_MS__ 24/05/2010 9:30 a.m. _15147_BLDG_CONSENT.dwg Original sheet size A3 [420/297]



FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

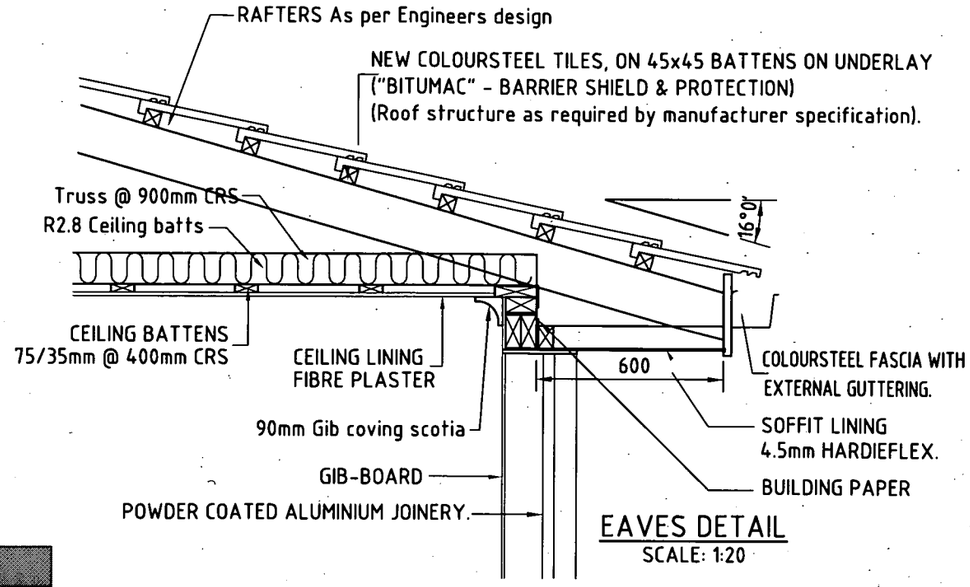
H 1.1, Douglas Fir or U.T.K.D
- Ground floor exterior wall framing

H 1.2
- Internal loadbearing wall framing
- Ceiling framing
- Boundary joist
- Skillion roof framing
- Enclosed beams

H 3.1
- Cavity battens
- Wet area's
- Painted posts and beams

H 3.2
- Fence pailings, rails not in ground contact
- External rafters, posts and beams

H 5.0
- Foundation piling



EAVES DETAIL
SCALE: 1:20

Figure 51: Valley gutters for profiled metal
Paragraph 8.4.10.2

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 roof cladding over gutter shall be reduced to 60 mm to provide a clearance gap of 40 mm.

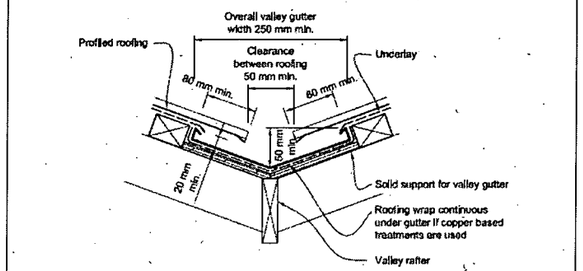
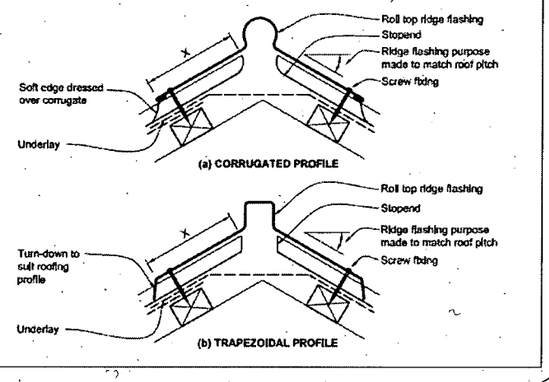
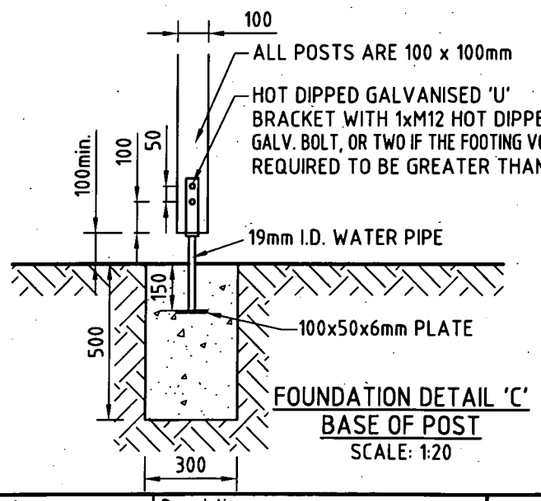


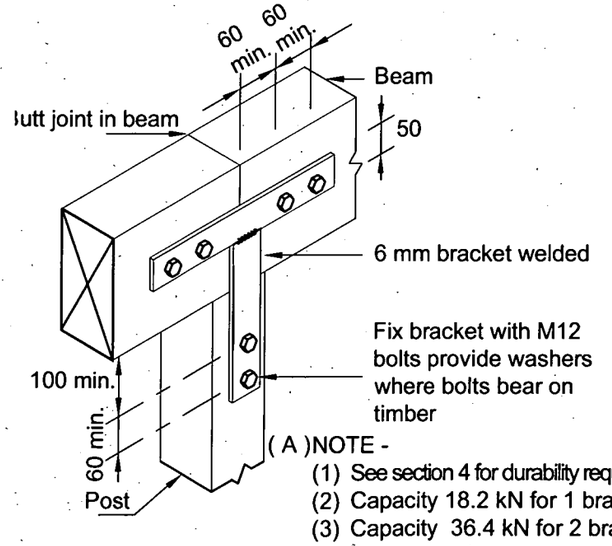
Figure 46: Ridge and hip flashings for profiled metal
Paragraphs 4.6.1.2, 8.4.11 and 8.4.12 d)

NOTE: X = variable according to *wind zone* – refer Table 7.

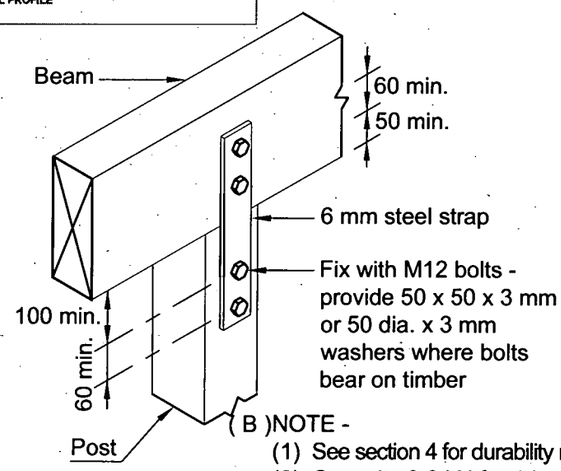




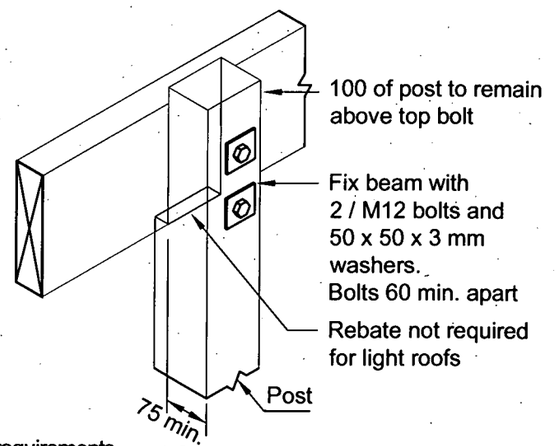
FOUNDATION DETAIL 'C'
BASE OF POST
SCALE: 1:20



(A)NOTE -
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(2) Capacity 18.2 kN for 1 bracket
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(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN for 1 bracket
(3) Capacity 19.5 kN for 2 brackets.



(C)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN.

Details of Beam/ Post connection
NOT TO SCALE

ALL LOTS

SUPERSEDED

SUPERSEDED

Amendment:	Description:

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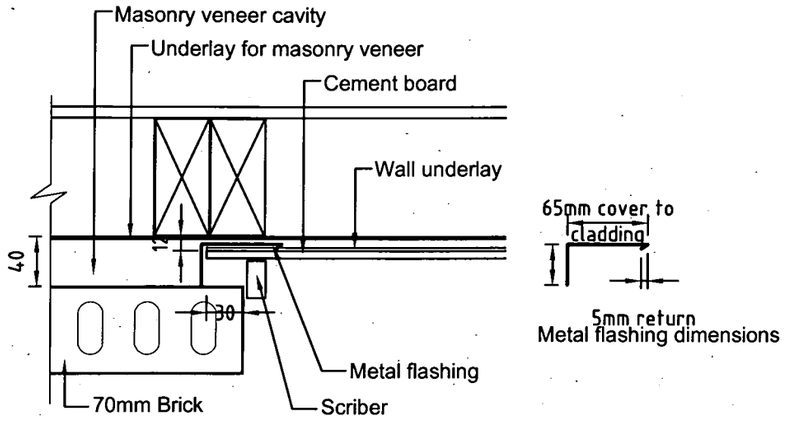
NOTES:
1. Areas and distances are subject to survey.
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PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

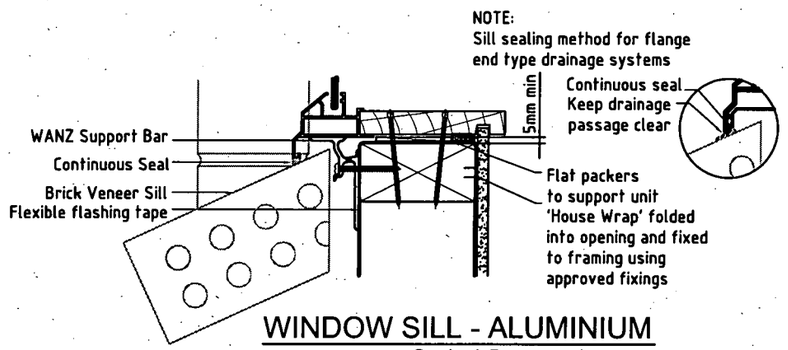
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E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335
McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: As shown @ A3	Sheet 17 of 18
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



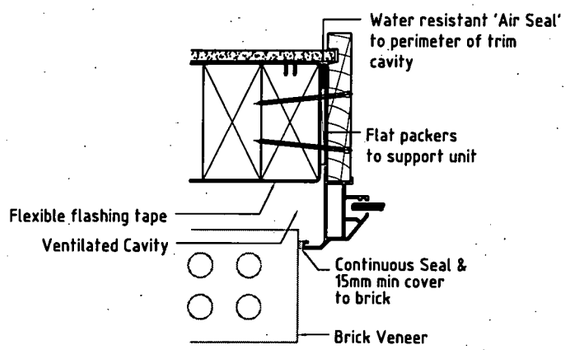
BRICK TO CEMENT BOARD DETAIL

Scale 1:5



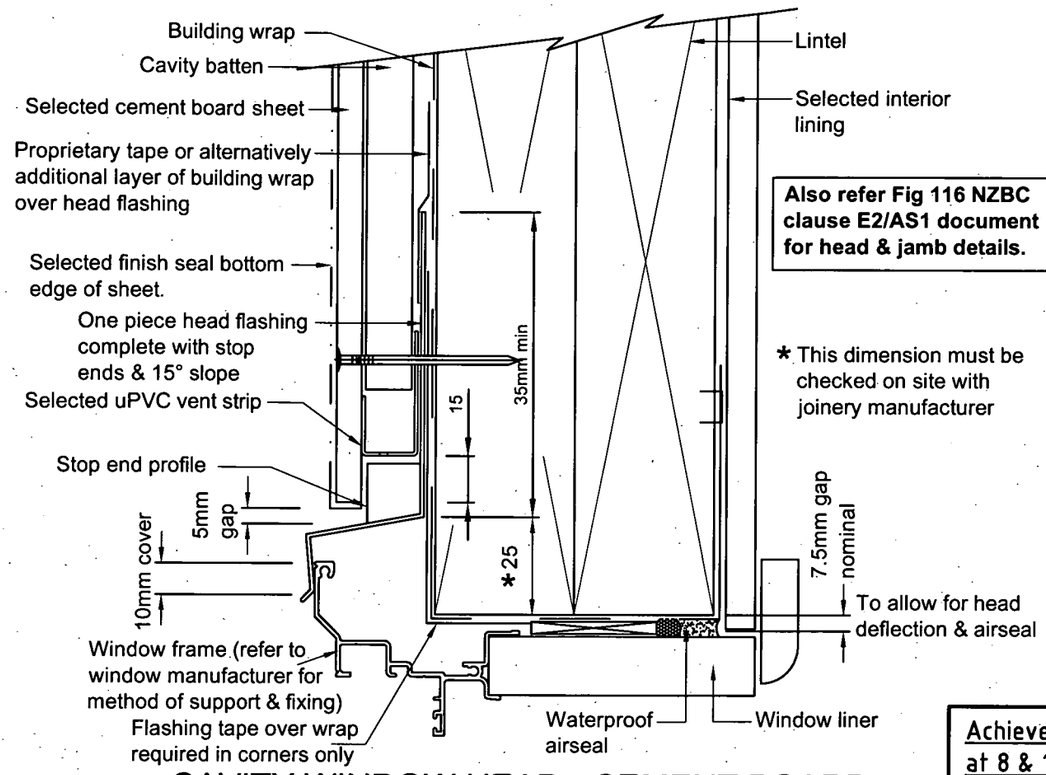
WINDOW SILL - ALUMINIUM

Scale 1:5



WINDOW JAMB - ALUMINIUM

Scale 1:5

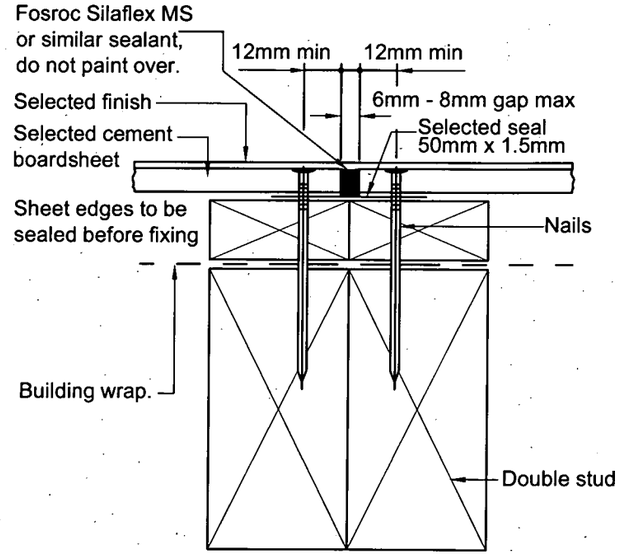


Also refer Fig 116 NZBC clause E2/AS1 document for head & jamb details.

* This dimension must be checked on site with joinery manufacturer

CAVITY WINDOW HEAD - CEMENT BOARD

NTS



CAVITY VERTICAL SEALANT JOINT - CEMENT BOARD

NTS

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Achieved R Values for proposed seven new houses at 8 & 10 Yorkshire Road:

1). Concrete slab Rt = 1.3

2). Walls:

× Rse	(Exterior surface)	0.03
× Layer 1	(cladding)	0.06
× Layer 2 Rb	(air space and insulated frame space with R2.2)	1.88
× Layer 3	(lining)	0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.1m²°K/W

3). Double glazing windows:

× Rse	(exterior surface)	0.03
× Layer of 6mm float glass		0.006
× 12mm air (unventilated) space		0.14
× Layer of 6mm float glass		0.006
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		0.27m²°K/W

4). Roof structure (pitched roofs)

× Rse	(exterior surface)	0.03
× Roof cladding (steel tiles)		0.01
× Roof space & R3.2 insulation		2.72
× 10mm Gib plasterboard		0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.9m²°K/W

ALL LOTS

Amendment:	Description:

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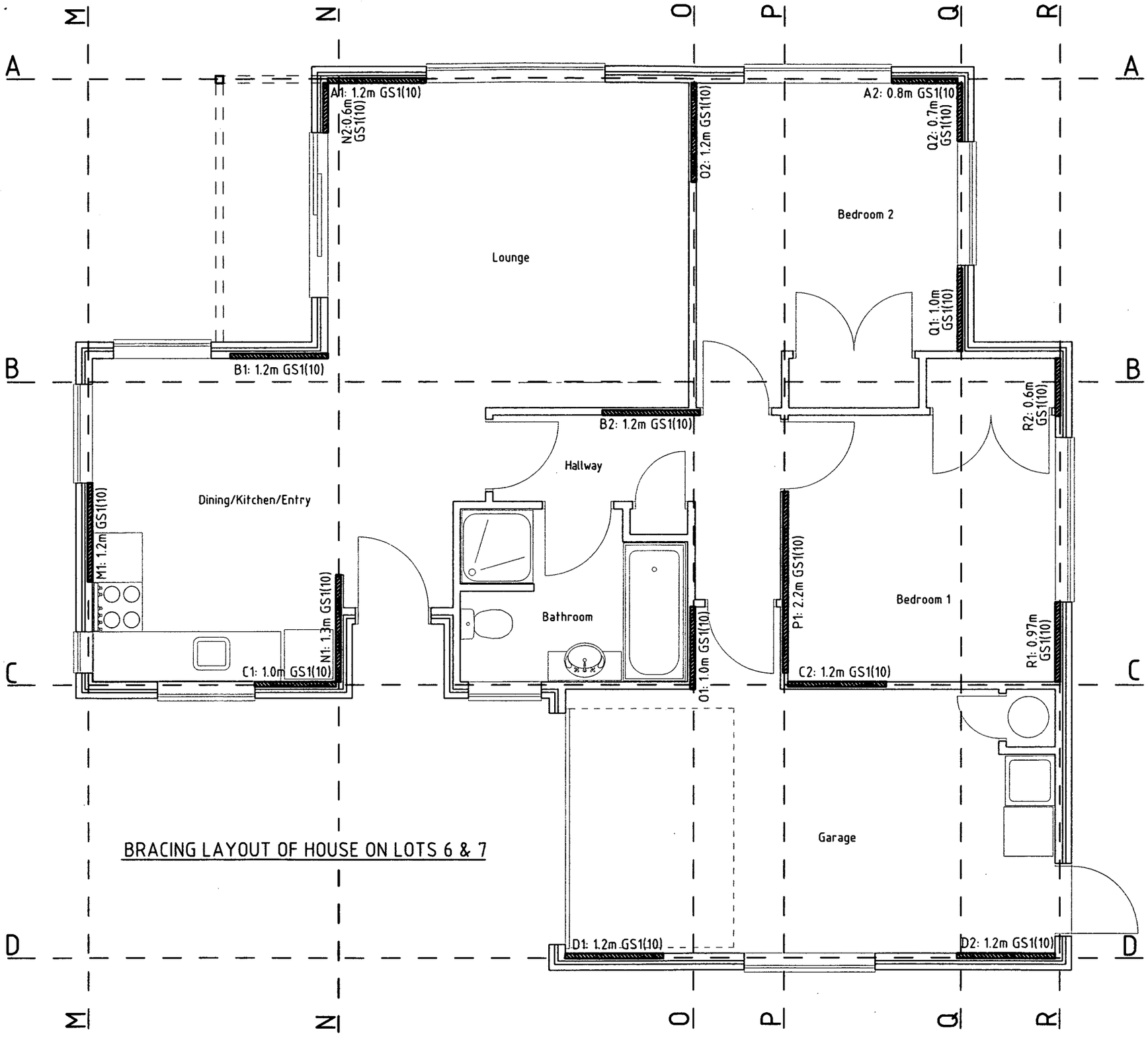
PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

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Surveyor:	Checked: GI Ruffell	Scale: As shown @ A3	Sheet 2 of AS
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



BRACING LAYOUT OF HOUSE ON LOTS 6 & 7

Table 1: 10 mm GIB® Plasterboard BU ratings

		GIB® Bracing Systems 2009	
Type	L (m) minimum	Lining	Other Requirements
		GIB® Standard	
GS1(10)	0.4	10 mm GIB® Standard Plasterboard one face	n/a
	1.2		
GS2(10)	0.6	10 mm GIB® Standard Plasterboard both faces	
	1.8		
		GIB Braceline®	
BL1(10)	0.4	10mm GIB Braceline® one face	Hold-Downs
	1.2		
BLP	0.4	10mm GIB Braceline® one face plywood other	
	0.9		
BLG	0.6	10mm GIB Braceline® one face 10mm GIB® Standard other	
	1.2		

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LOTS 6 & 7

Amendment:	Description:

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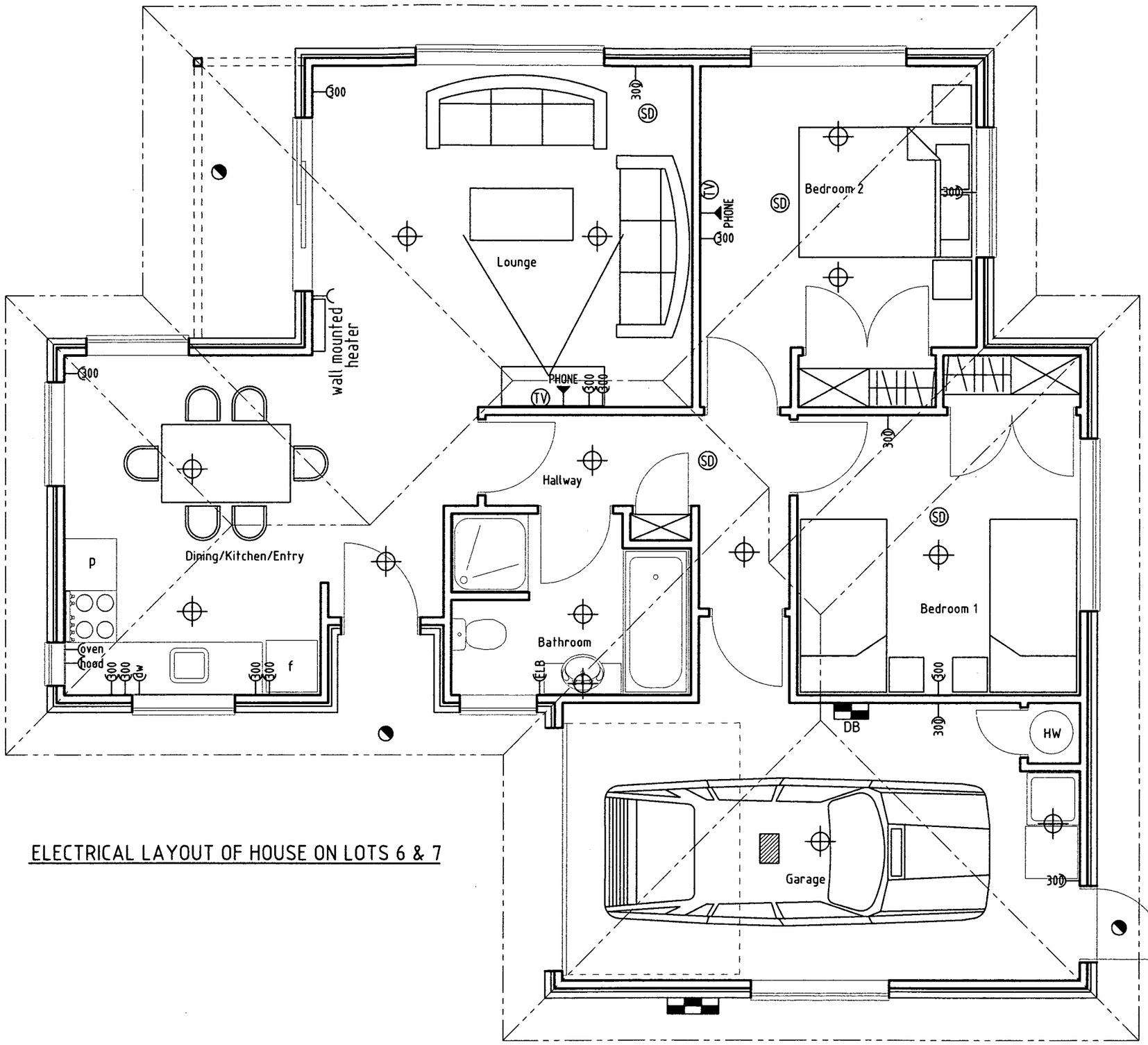
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



ELECTRICAL LAYOUT OF HOUSE ON LOTS 6 & 7

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ELECTRICAL KEY:

- (SD) SMOKE DETECTOR (FIRST ALERT FRSAKLSA88CN)
- METER BOX
- DB RECESS DITRIBUTION BOARD
- 300 TYPICAL DOUBLE POWER POINT (300 A.F.F.L.)
- ELB SHAVERS PLUG
- BAYONET LIGHTS
- SELECTED CEILING LIGHT FITTINGS
- PHONE PHONE JACK
- (TV) TV AERIAL JACK
- GARAGE DOOR MOTOR

APPLIANCES/ FITTINGS:

RANGE HOOD - ELECTRIC - SIMPSON RA6WH
ELECTRIC STOVE - SIMPSON 63H906W

LOTS 6 & 7

Amendment:	Description:

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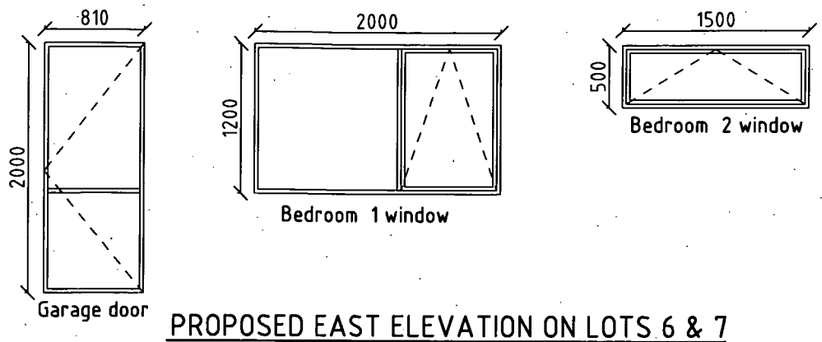
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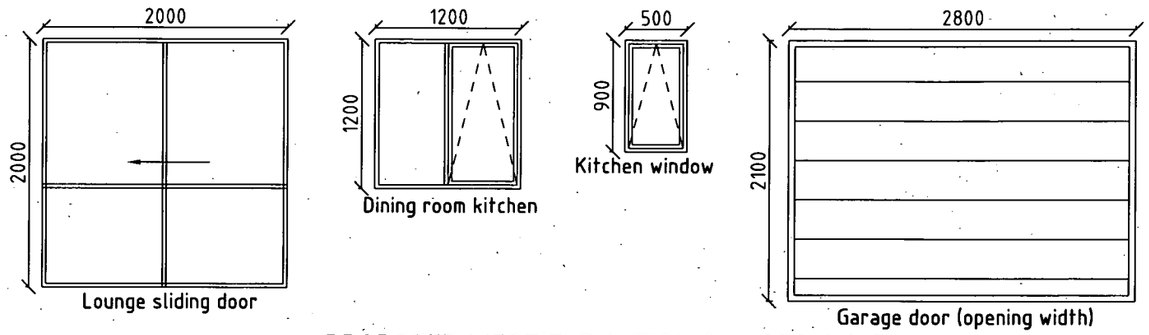
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

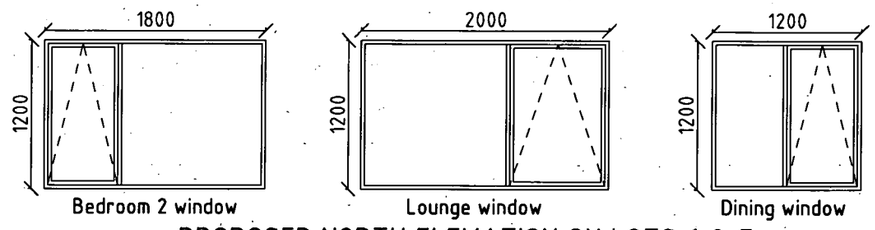
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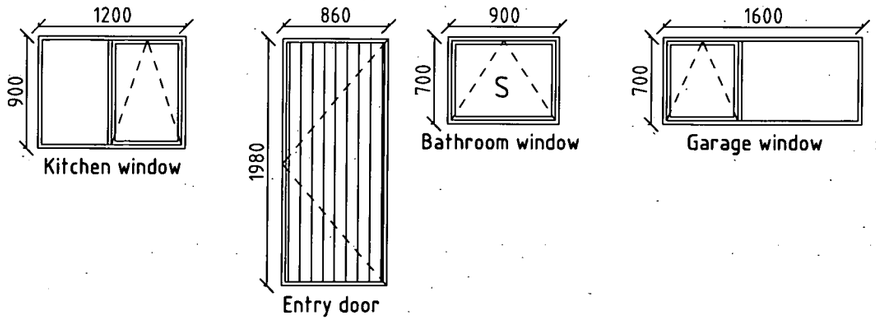
PROPOSED EAST ELEVATION ON LOTS 6 & 7



PROPOSED WEST ELEVATION ON LOTS 6 & 7



PROPOSED NORTH ELEVATION ON LOTS 6 & 7



PROPOSED SOUTH ELEVATION ON LOTS 6 & 7

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LOTS 6 & 7

Amendment:	Description:

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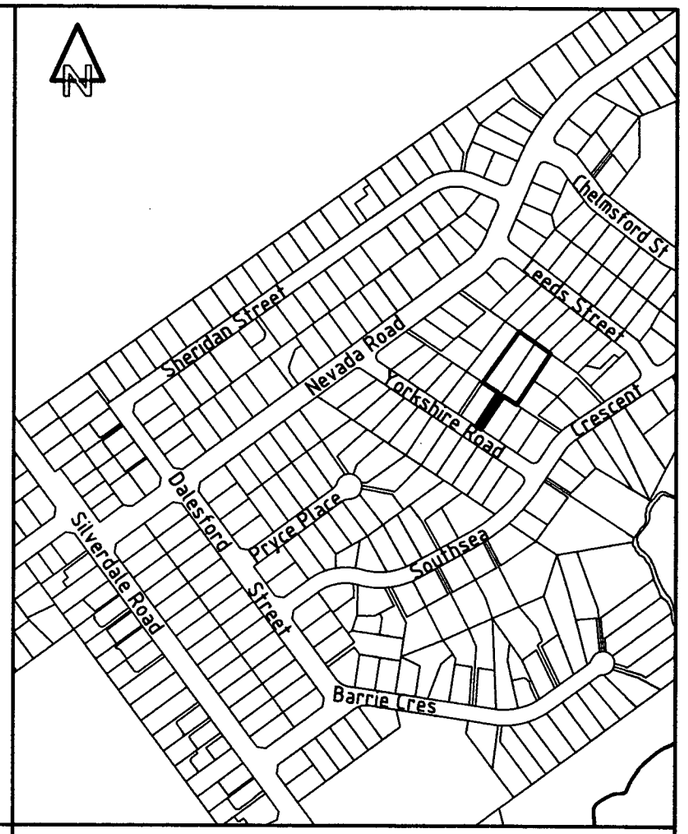
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E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT OF LOT 61 & 62 DPS 9556 & LOT 2 DP 428322



Address: 8 & 10 Yorkshire Road, Hamilton
Prepared for: CKC Holdings Ltd.

House on lot 2

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E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

MEMORANDUM OF EASEMENT			
Purpose	Shown	Serv.Tenem.	Dom.Tenem.
Right of way, Right to drain: sewage & water, Right to convey: water, gas, electricity, telecommunication & computer media	(A)	Lot 3 hereon	Lots 1, 2 & 4–7 hereon

MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council



SITE COVERAGE:

Lots: 1,2 & 4 = 107m² = 36%

Lots 3 & 5= 104m² = 35%

Lots: 6 & 7 = 104m² = 35%

Amendment:	Description:

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Surveyors–Land Engineers
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McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: 1:250 @ A3	Sheet 1 of A5
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

MEMORANDUM OF EASEMENT			
Purpose	Shown	Serv.Tenem.	Dom.Tenem.
Right of way, Right to drain: sewage & water, Right to convey: water, gas, electricity, telecommunication & computer media	(A)	Lot 3 hereon	Lots 1, 2 & 4–7 hereon

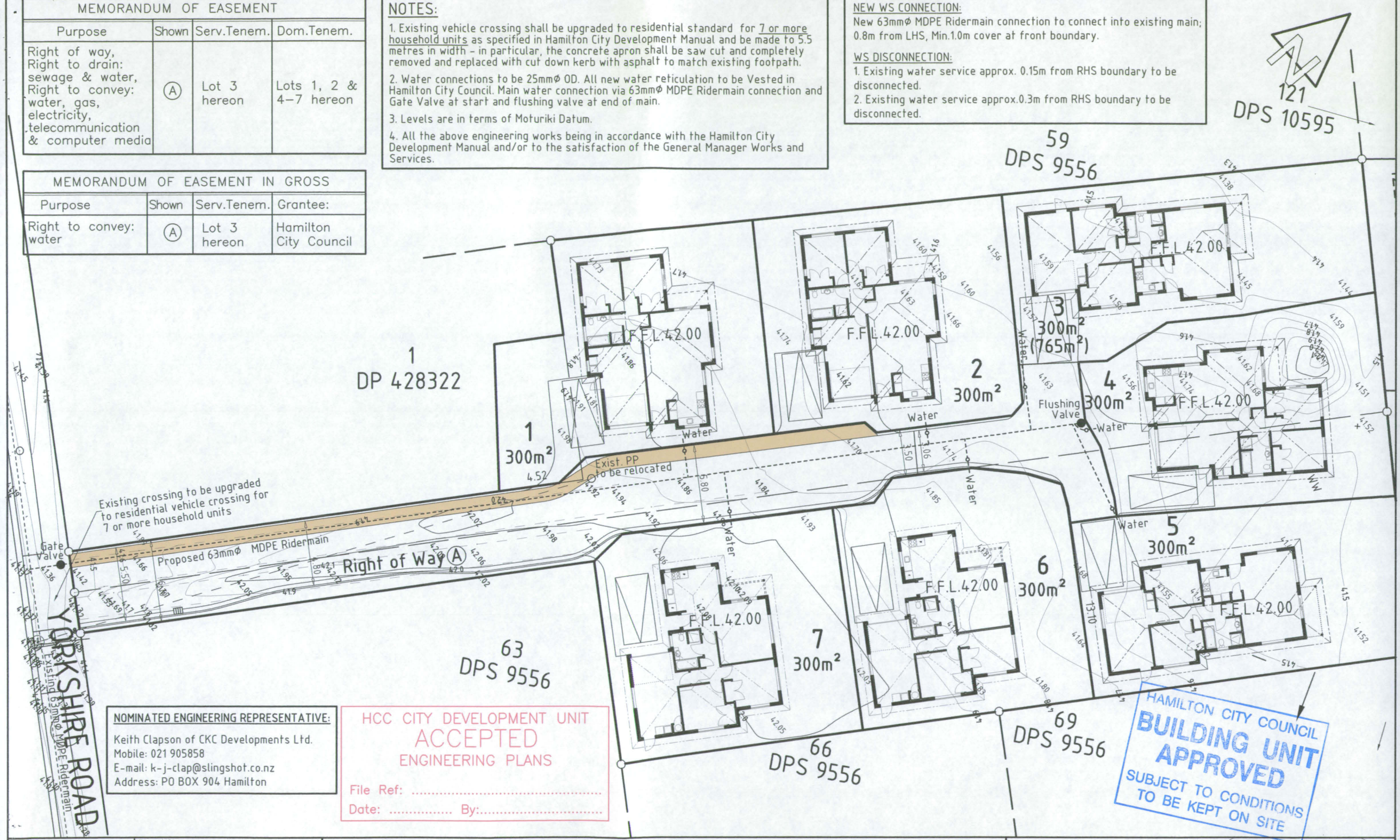
MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council

NOTES:

1. Existing vehicle crossing shall be upgraded to residential standard for 7 or more household units as specified in Hamilton City Development Manual and be made to 5.5 metres in width – in particular, the concrete apron shall be saw cut and completely removed and replaced with cut down kerb with asphalt to match existing footpath.
2. Water connections to be 25mmØ OD. All new water reticulation to be Vested in Hamilton City Council. Main water connection via 63mmØ MDPE Ridermain connection and Gate Valve at start and flushing valve at end of main.
3. Levels are in terms of Moturiki Datum.
4. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.

NEW WS CONNECTION:
New 63mmØ MDPE Ridermain connection to connect into existing main; 0.8m from LHS, Min.1.0m cover at front boundary.

WS DISCONNECTION:
1. Existing water service approx. 0.15m from RHS boundary to be disconnected.
2. Existing water service approx.0.3m from RHS boundary to be disconnected.



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Address: PO BOX 904 Hamilton

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HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS TO BE KEPT ON SITE

Amendment:	Description:

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NOTES:
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PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & SA6B/363 | Address: 8 and 10 Yorkshire Road, Hamilton

Surveyors–Land Engineers
–Land Development,
Resource Management and
Town Planning Consultants
7 HARDLEY STREET–HAMILTON–NEW ZEALAND P.O. BOX 9379
E-mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335
McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: 1:250 @ A3	Sheet 2 of 5
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

MEMORANDUM OF EASEMENT			
Purpose	Shown	Serv.Tenem.	Dom.Tenem.
Right of way, Right to drain: sewage & water, Right to convey: water, gas, electricity, telecommunication & computer media	(A)	Lot 3 hereon	Lots 1, 2 & 4–7 hereon

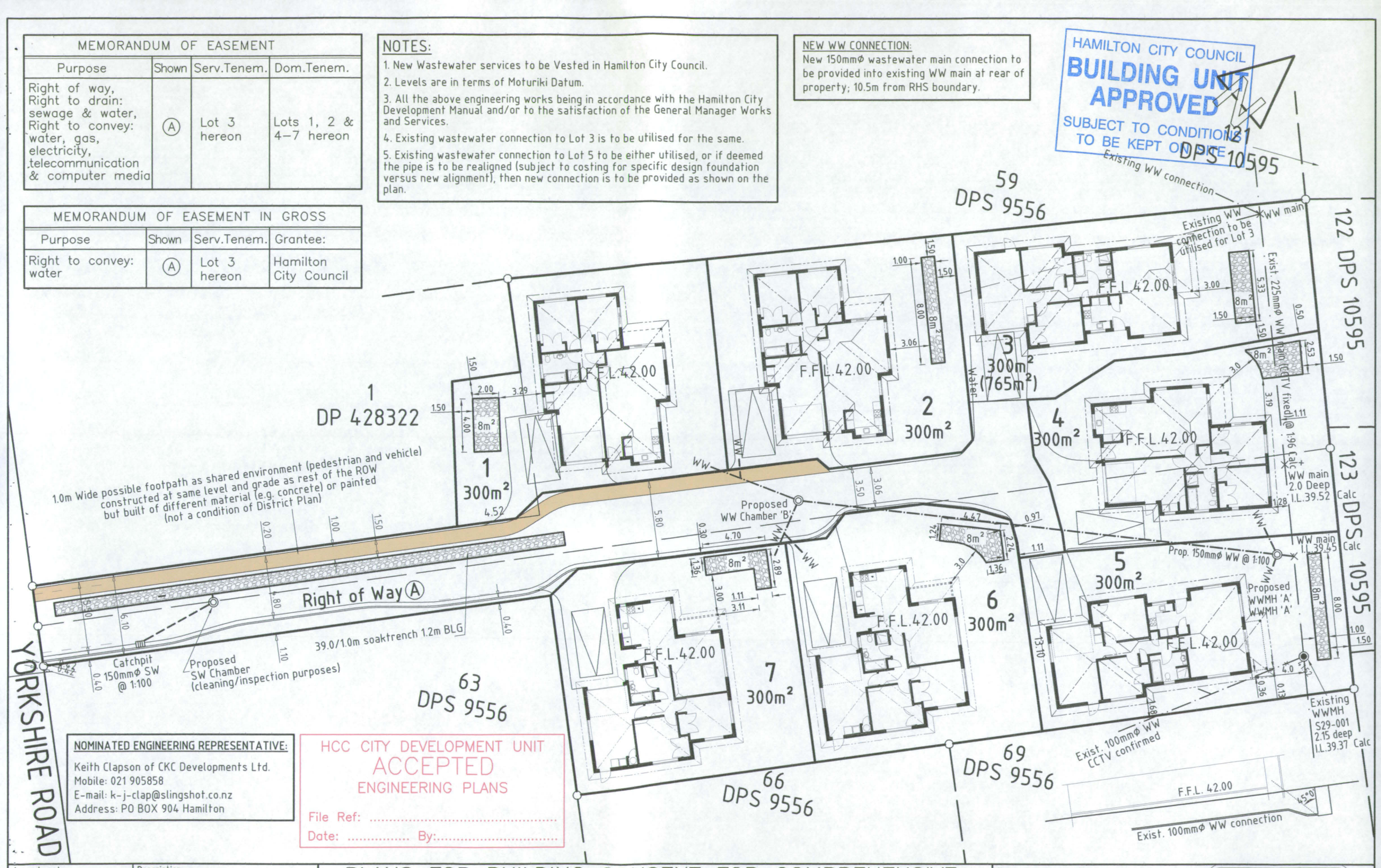
MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council

NOTES:

1. New Wastewater services to be Vested in Hamilton City Council.
2. Levels are in terms of Moturiki Datum.
3. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.
4. Existing wastewater connection to Lot 3 is to be utilised for the same.
5. Existing wastewater connection to Lot 5 to be either utilised, or if deemed the pipe is to be realigned (subject to costing for specific design foundation versus new alignment), then new connection is to be provided as shown on the plan.

NEW WW CONNECTION:
New 150mmØ wastewater main connection to be provided into existing WW main at rear of property; 10.5m from RHS boundary.

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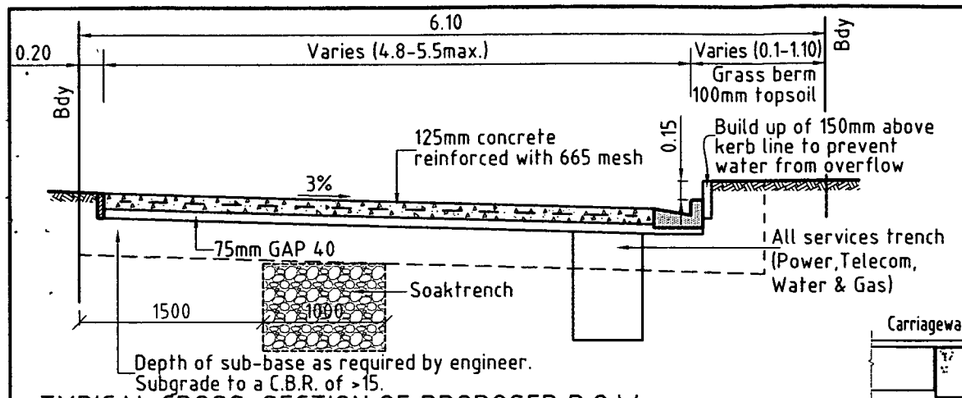
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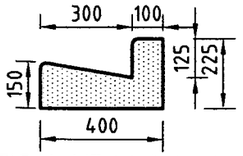
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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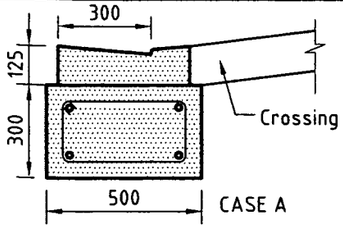
TYPICAL CROSS-SECTION OF PROPOSED R.O.W.

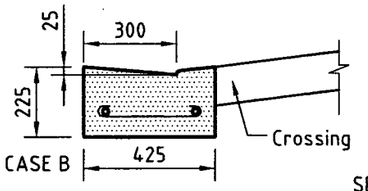
SCALE: 1 : 50



VERTICAL KERB & CHANNEL

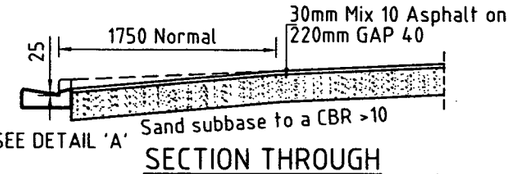
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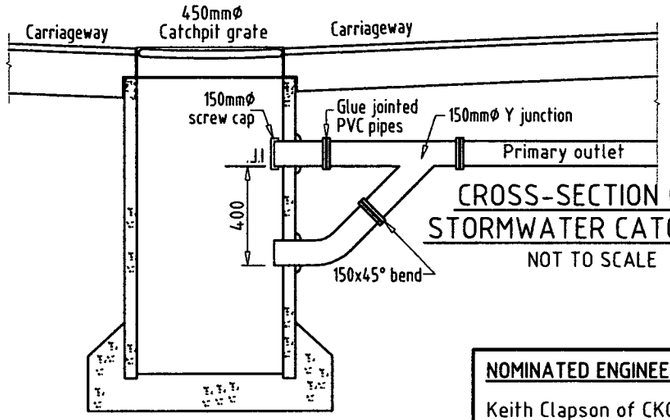
COMMERCIAL CHANNEL CROSSING

SCALE: 1:20



SECTION THROUGH COMMERCIAL VEHICLE CROSSING

SCALE: 1:50



CROSS-SECTION OF STORMWATER CATCHPIT

NOT TO SCALE

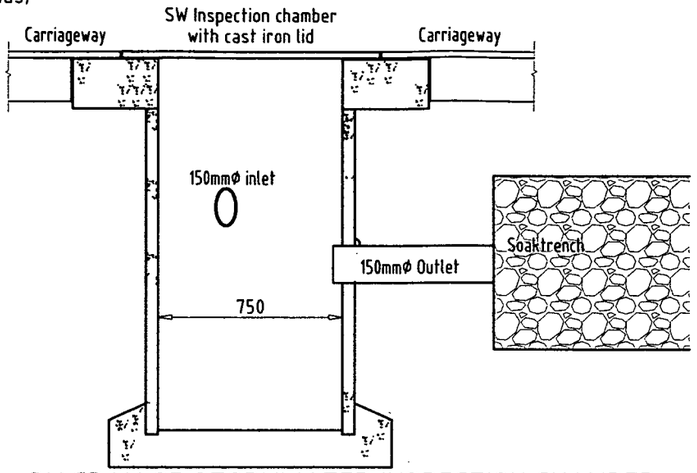
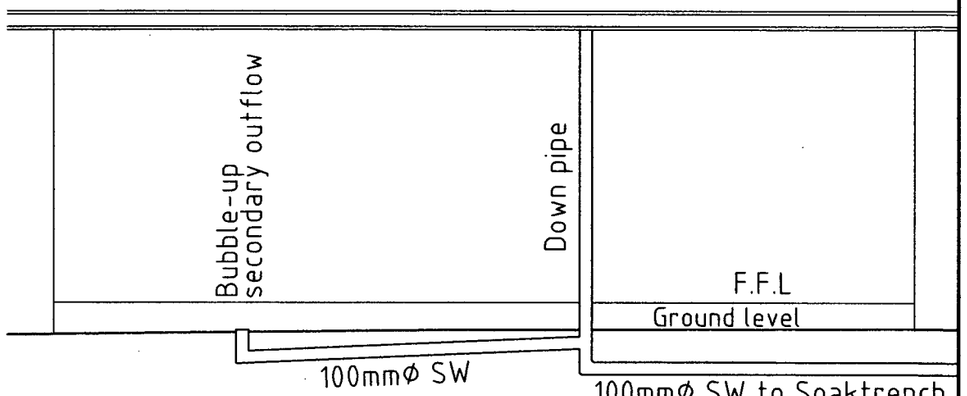


DIAGRAM OF STORMWATER INSPECTION CHAMBER

SCALE: 1:25



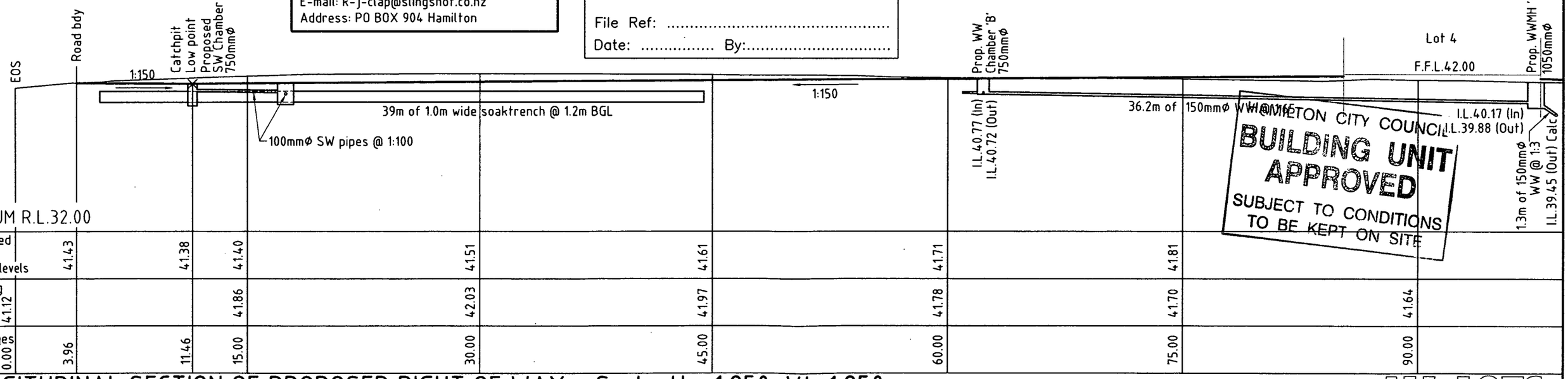
DETAIL OF SW SECONDARY OVERFLOW FOR LOTS 3-6

NOT TO SCALE

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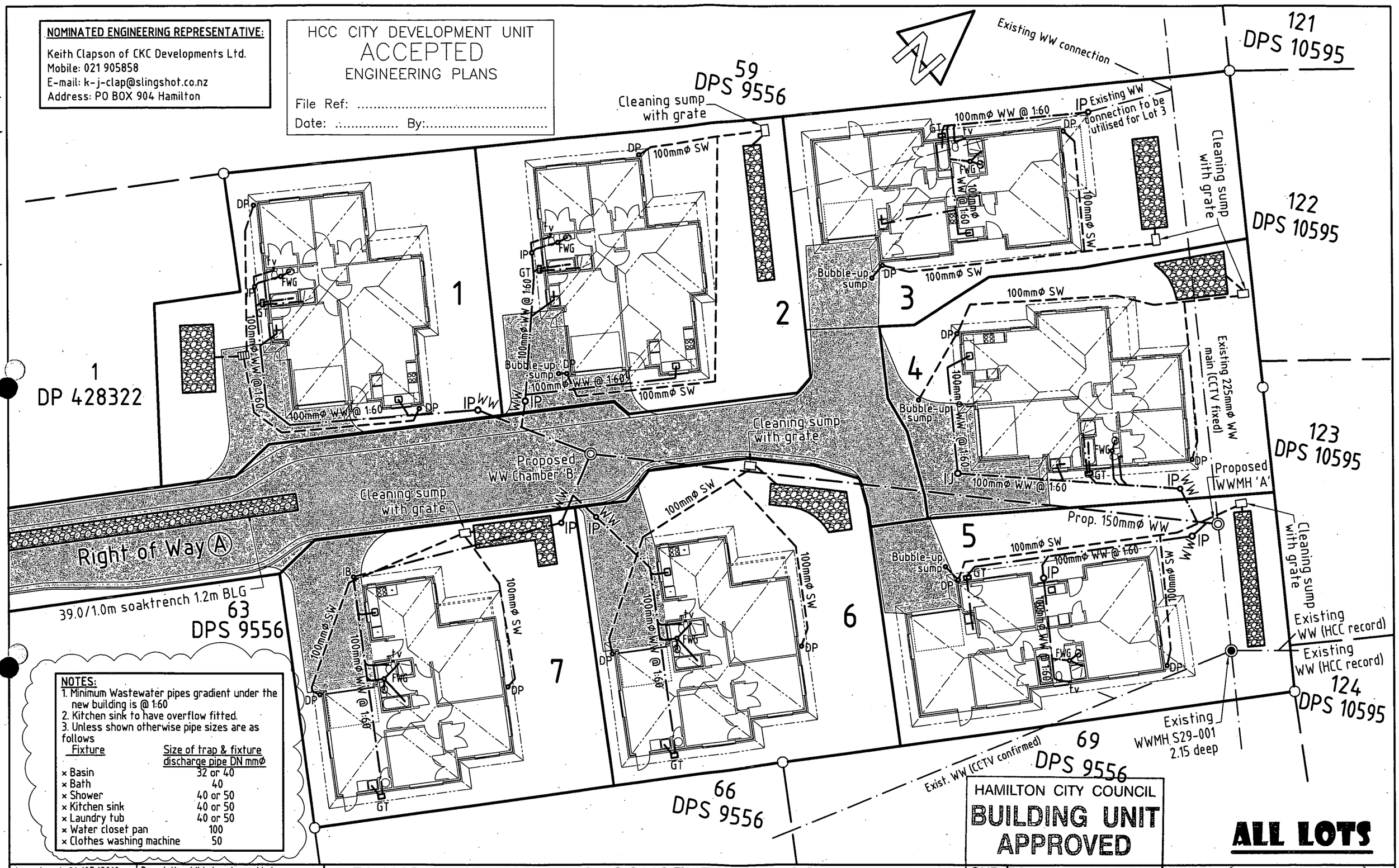


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NOTES:
1. Minimum Wastewater pipes gradient under the new building is @ 1:60
2. Kitchen sink to have overflow fitted.
3. Unless shown otherwise pipe sizes are as follows

Fixture	Size of trap & fixture discharge pipe DN mmø
× Basin	32 or 40
× Bath	40
× Shower	40 or 50
× Kitchen sink	40 or 50
× Laundry tub	40 or 50
× Water closet pan	100
× Clothes washing machine	50

HAMILTON CITY COUNCIL
BUILDING UNIT
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ALL LOTS

Amendment: 24/05/2010	Description: WW pipe sizes added.

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NOTES:
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PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd.	Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729	Address: 8 and 10 Yorkshire Road, Hamilton

McPherson Goodwin
Surveying • Land Development
Resource Management and Town Planning Consultants
7 HARDLEY STREET—HAMILTON—NEW ZEALAND P.O. BOX 9379
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Surveyor:	Checked: GI Ruffell	Scale: 1:200 @ A3	Sheet 5 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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SUPERSEDED

SUPERSEDED

1
DP 428322

59
DPS 9556

121
DPS 10595

122
DPS 10595

123 DPS 10595

Existing WW connection

Cleaning sump with grate

IP Existing WW connection to be utilised for Lot 3

100mmø WW @ 1:60

100mmø SW

Bubble-up sump

Existing 225mmø WW main (CCTV fixed)

Proposed WWMH 'A'

Proposed 150mmø WW

Proposed WW Chamber 'B'

Right of Way Ⓐ

39.0/1.0m soaktrench 1.2m BLG

63
DPS 9556

66
DPS 9556

69
DPS 9556

124
DPS 10595

Exist. WW (CCTV confirmed)

Existing WWMH S29-001 2.15 deep

1 2 3 4 5 6 7

ALL LOTS

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TYPICAL HOUSE ON LOTS 1 & 2
AREA: 101mm² (roof area 127m²)

Verandah

Lounge
Area: 19.4m²
Floor: Carpet

Dining/Kitchen
Area: (17.7m²)
Floor: Vinyl

Entry

Bedroom 2
Area: 9.3m² (10.6m²)
Floor: Carpet

Hallway
Area: 3.8m² (4.5m²)
Floor: Carpet

Bedroom 1
Area: 9.9m² (11.3m²)
Floor: Carpet

Bathroom
Area: 6.2m²
Floor: Vinyl

Garage
Area: 20.2m² (20.6m²)
Floor: Concrete

A'

A

HAMILTON CITY COUNCIL
BUILDING UNIT
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LOTS 1 & 2

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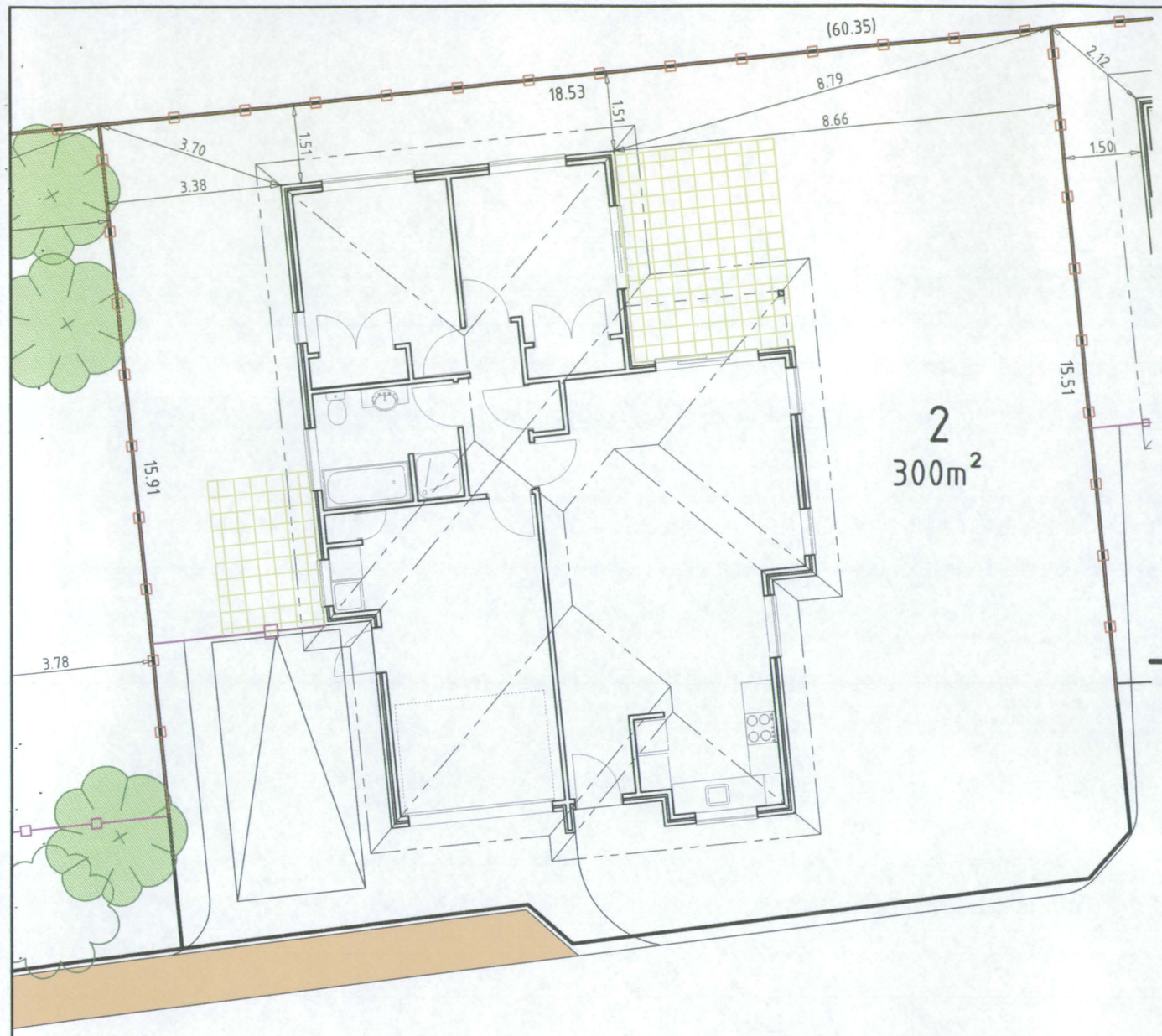
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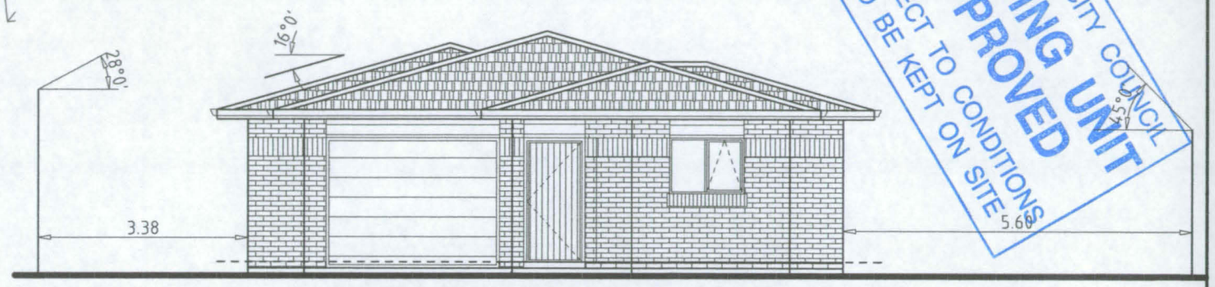
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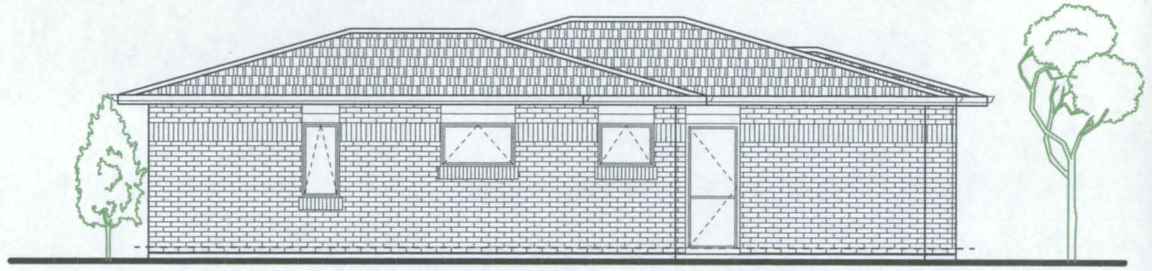


PROPOSED WEST ELEVATION ON LOT 2

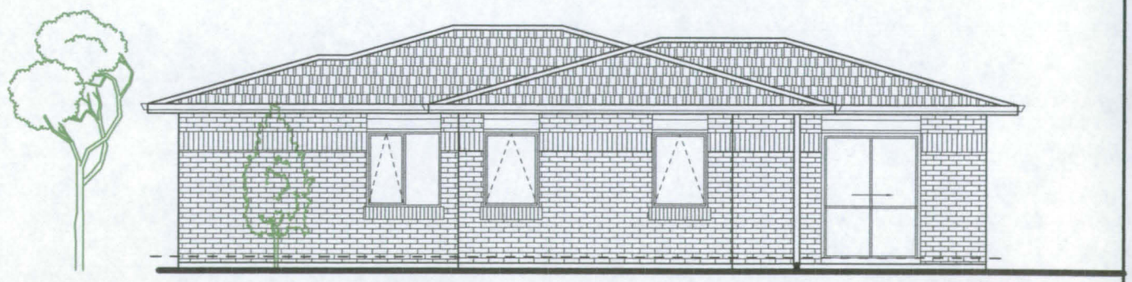
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PROPOSED EAST ELEVATION ON LOT 2



PROPOSED SOUTH ELEVATION ON LOT 2



PROPOSED NORTH ELEVATION ON LOT 2

KEY:

- Brick veneer cladding
- Weatherboard or harditex cladding
- Coloursteel roof tiles
- Double glazing aluminium joinery

LOT 2

Amendment: | Description:

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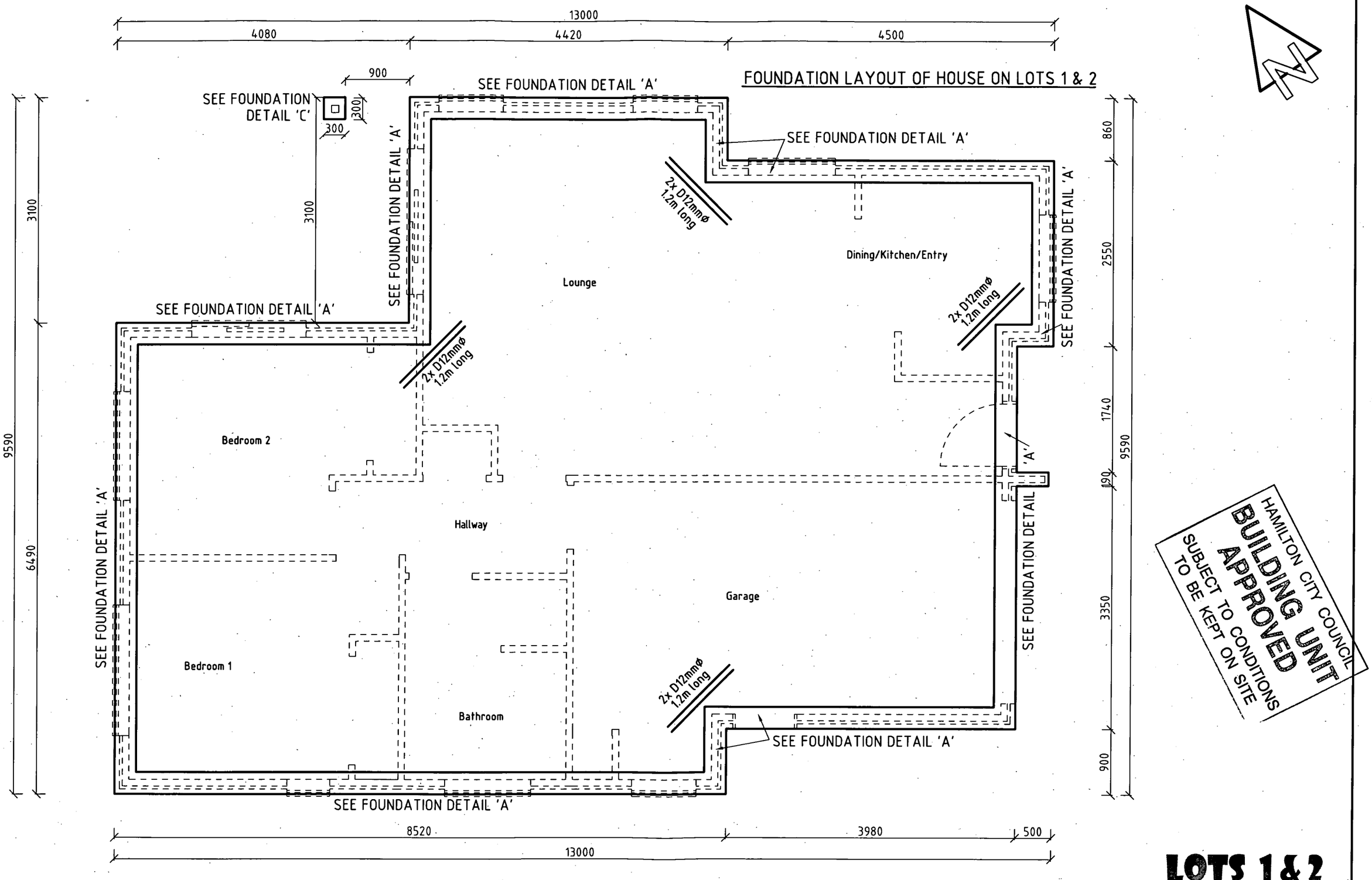
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Surveyor: | Checked: GI Ruffell | Design/Drawn: M. Spasovska | Date: April/ 2010

Scale: 1:100 @ A3 | Sheet 7 of 15 | Ref.: 15147

FOUNDATION LAYOUT OF HOUSE ON LOTS 1 & 2



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LOTS 1 & 2

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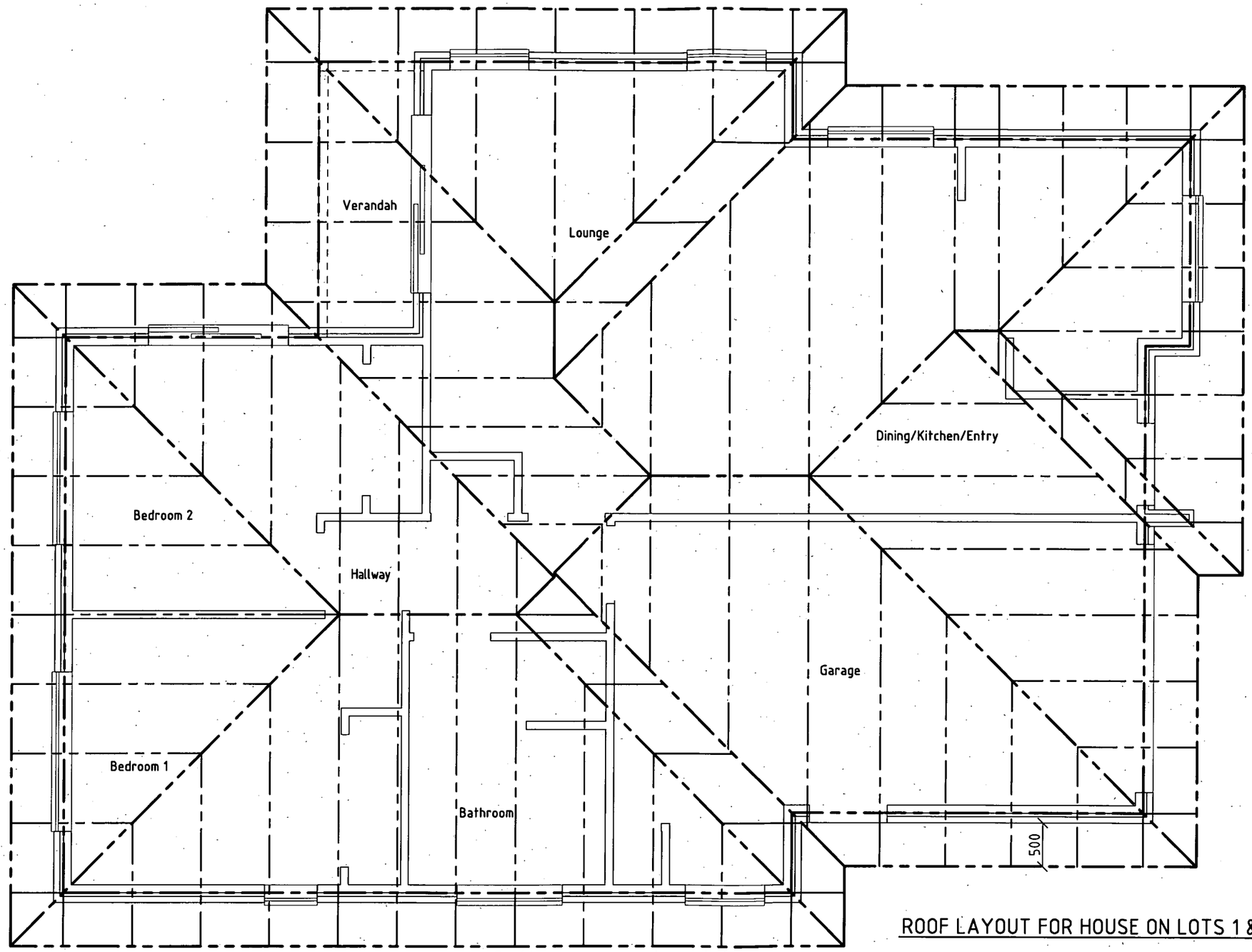
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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ROOF LAYOUT FOR HOUSE ON LOTS 1 & 2

LOTS 1 & 2

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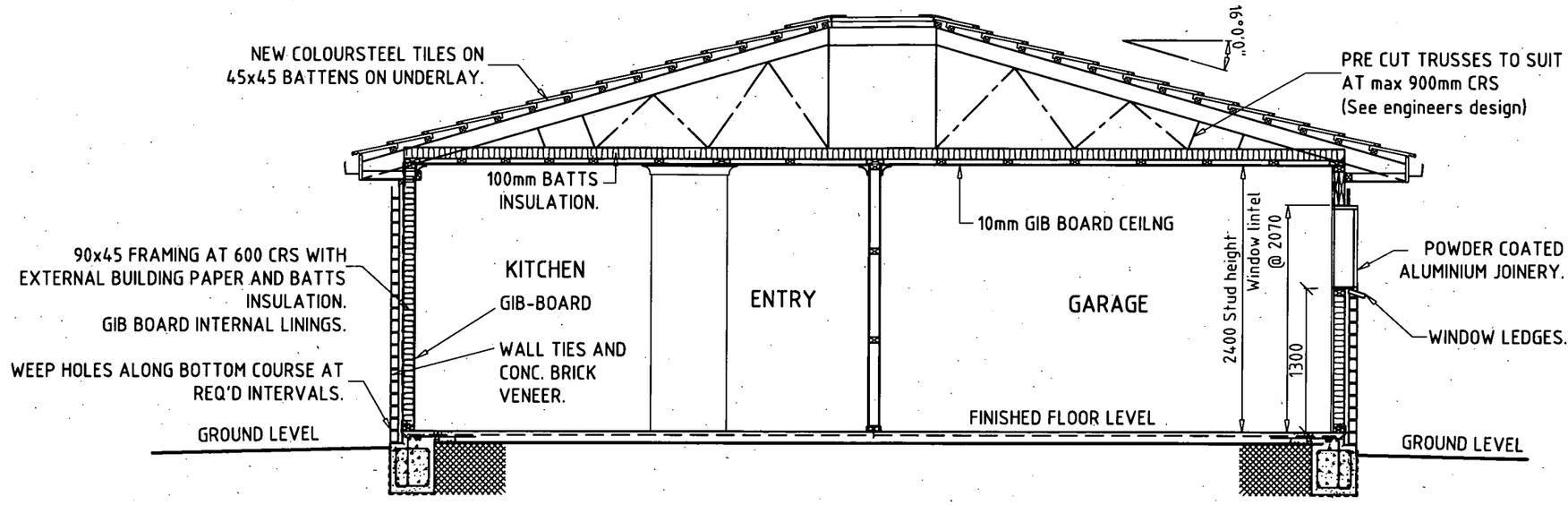
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TYPICAL CROSS SECTION A-A' - House 1 & 2

SCALE: 1:50

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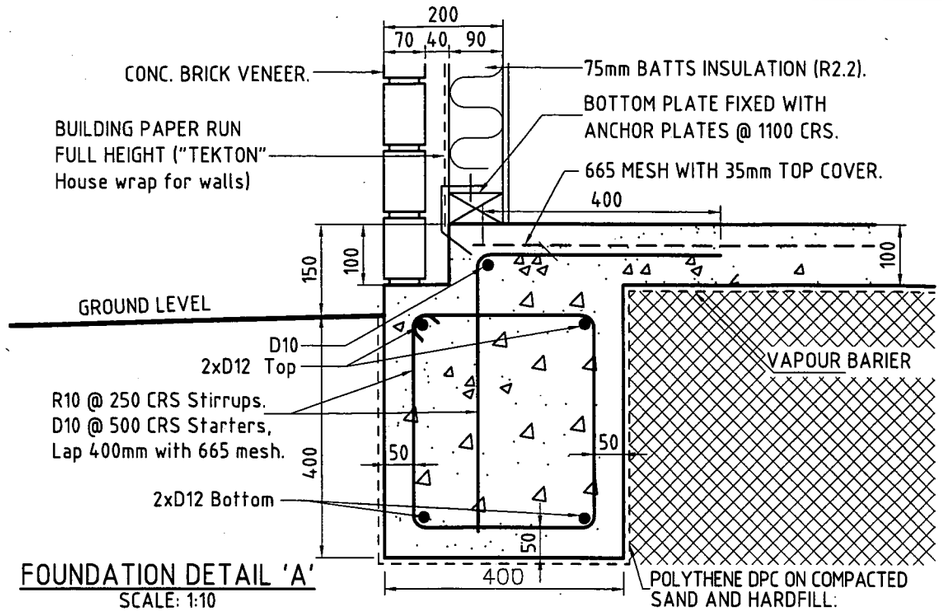
PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

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–Land Development,
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7 HARDLEY STREET–HAMILTON–NEW ZEALAND P.O. BOX 9379
E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: 1:50 @ A3	Sheet 10 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

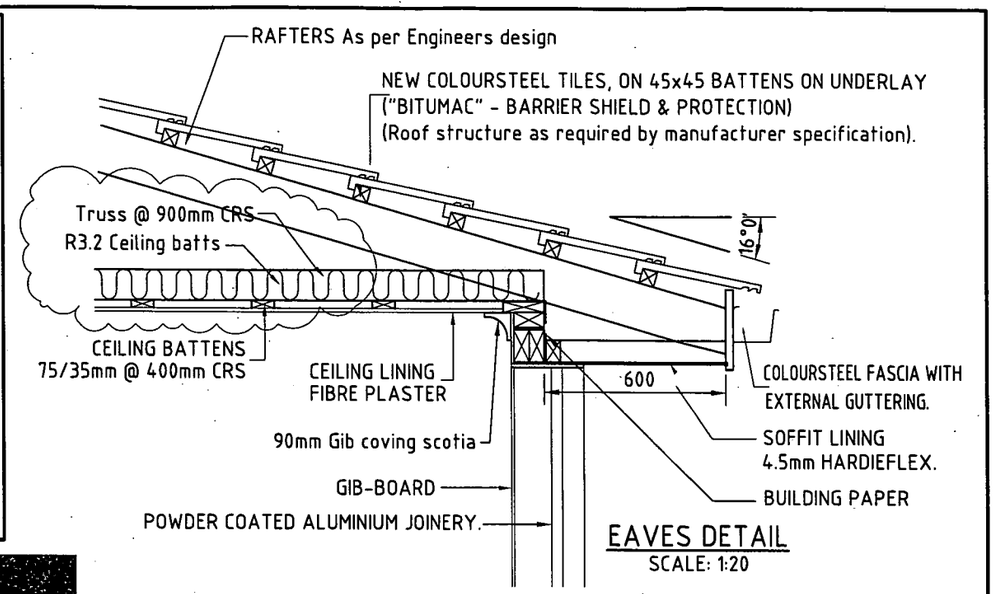
H 1.1, Douglas Fir or UTKD
- Ground floor exterior wall framing

H 1.2
- Internal loadbearing wall framing
- Ceiling framing
- Boundary joist
- Skillion roof framing
- Enclosed beams

H 3.1
- Cavity battens
- Wet area's
- Painted posts and beams

H 3.2
- Fence pailings, rails not in ground contact
- External rafters, posts and beams

H 5.0
- Foundation piling



EAVES DETAIL
SCALE: 1:20

Figure 51: Valley gutters for profiled metal
Paragraph 8.4.16.2

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 roof cladding over gutter shall be reduced to 60 mm to provide a clearance gap of 40 mm.

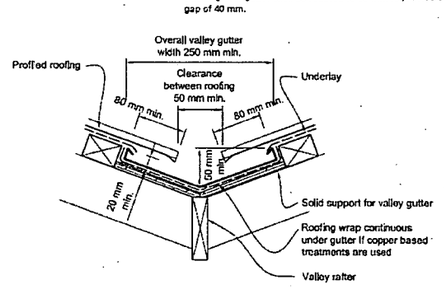
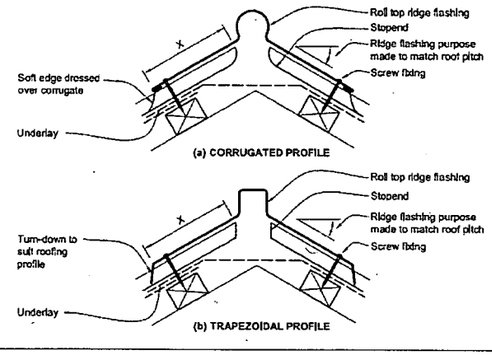
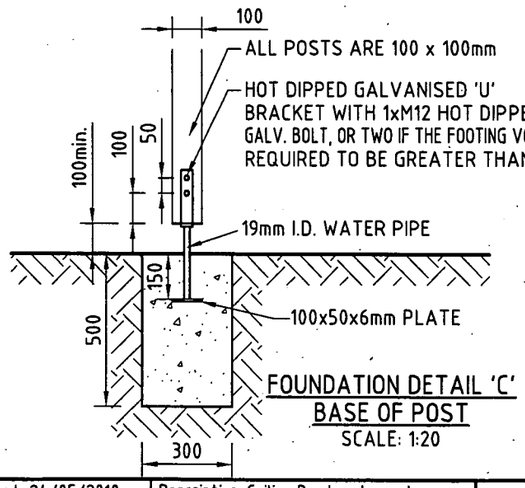


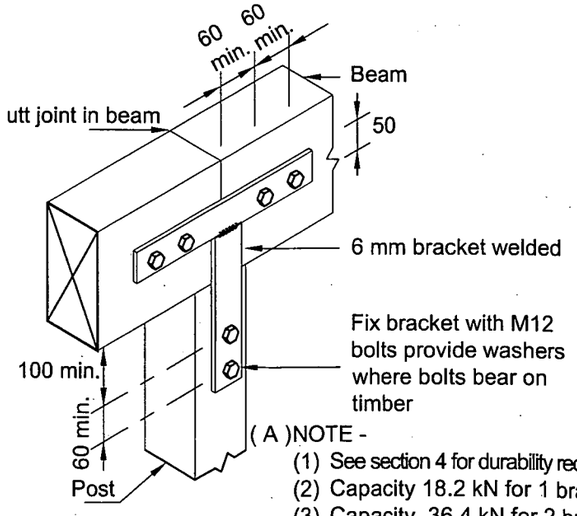
Figure 46: Ridge and hip flashings for profiled metal
Paragraphs 4.6.1.2, 8.4.11 and 8.4.12 d)

NOTE: X = variable according to *wind zone* – refer Table 7.

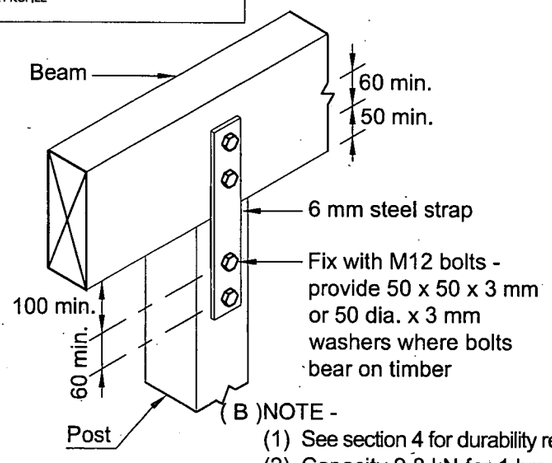




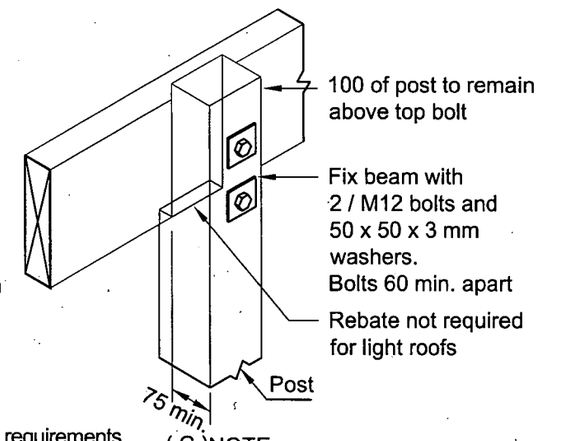
FOUNDATION DETAIL 'C'
BASE OF POST
SCALE: 1:20



(A)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 18.2 kN for 1 bracket
(3) Capacity 36.4 kN for 2 brackets.



(B)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN for 1 bracket
(3) Capacity 19.5 kN for 2 brackets.



(C)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN.

Details of Beam/ Post connection
NOT TO SCALE

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ALL LOTS

Amendment: 24/05/2010	Description: Ceiling R value changed.

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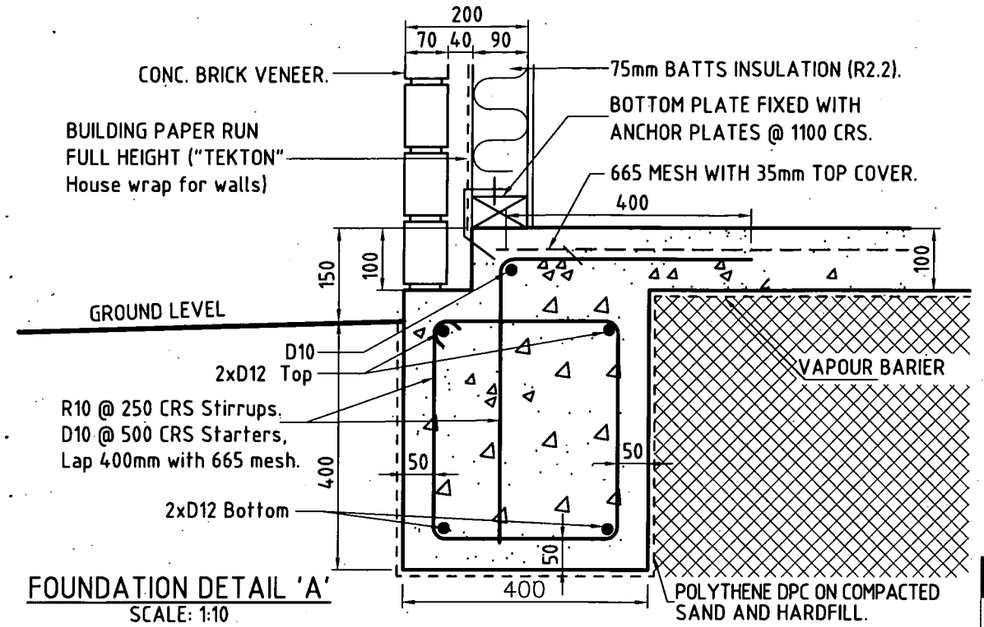
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McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: As shown @ A3	Sheet 11 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

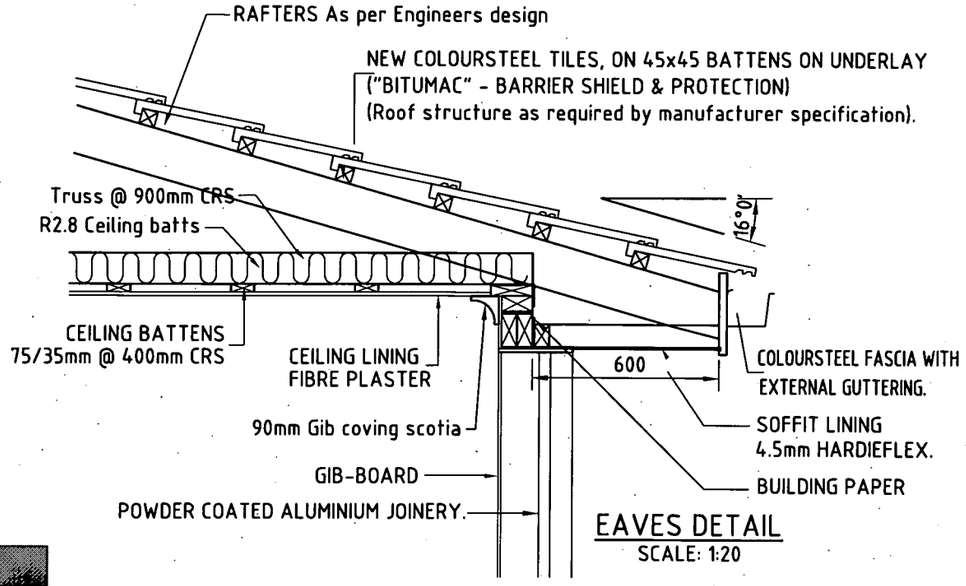
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EAVES DETAIL
SCALE: 1:20

Figure 51: Valley gutters for profiled metal
Paragraph 9.4.16.2

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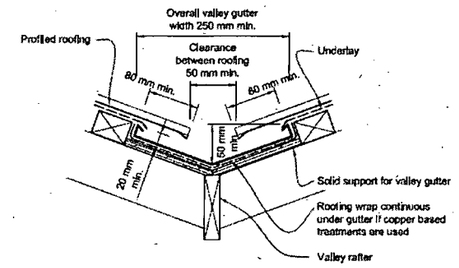
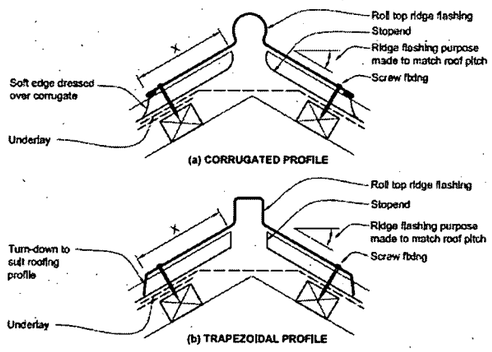
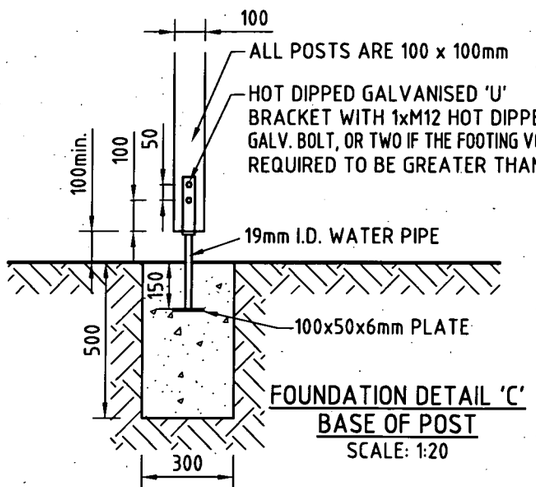


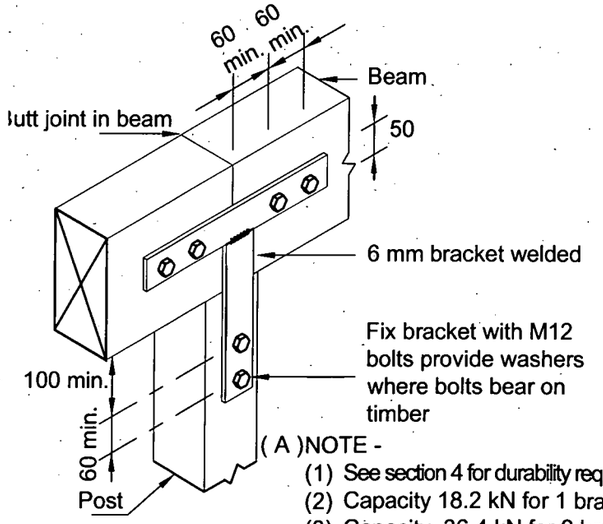
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Paragraphs 4.6.1.2, 9.4.11 and 9.4.12 a)

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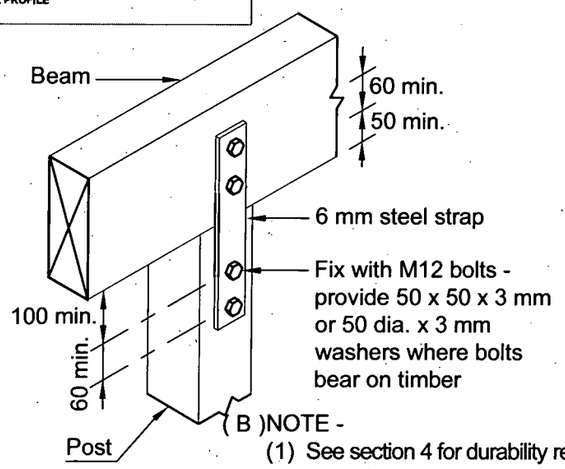




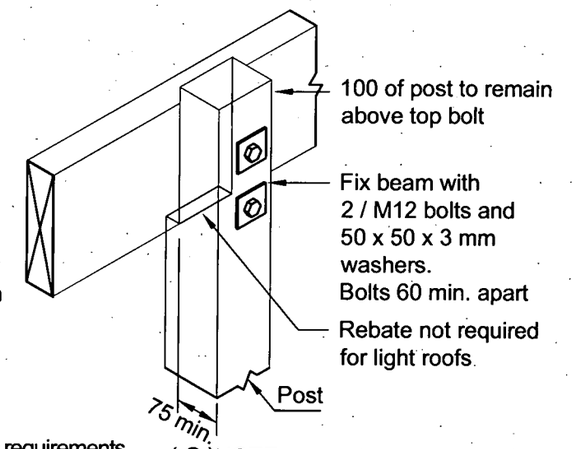
FOUNDATION DETAIL 'C'
BASE OF POST
SCALE: 1:20



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Details of Beam/ Post connection
NOT TO SCALE

ALL LOTS

Amendment:	Description:

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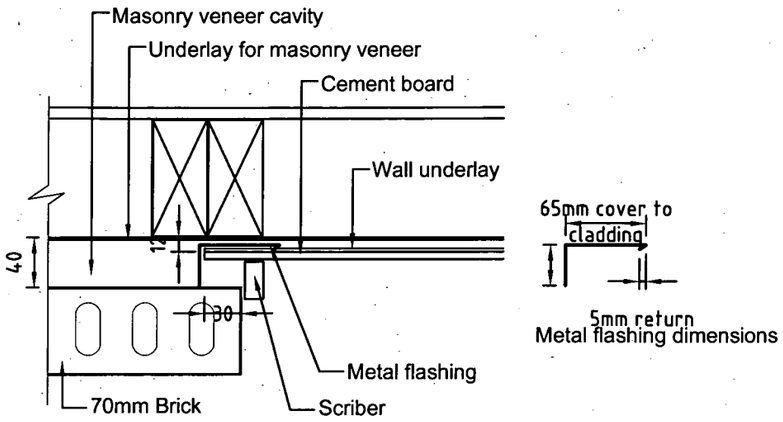
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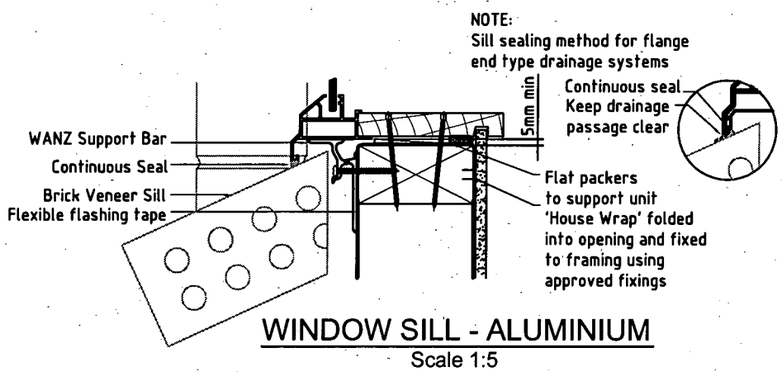
Surveyors–Land Engineers
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McPherson Goodwin

Surveyor:	Checked: Gl Ruffell	Scale: As shown @ A3	Sheet 1 of 5
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



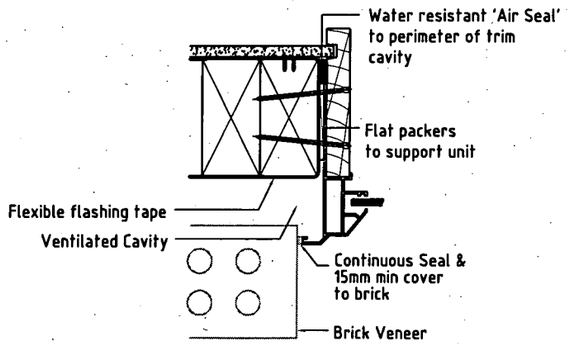
BRICK TO CEMENT BOARD DETAIL

Scale 1:5



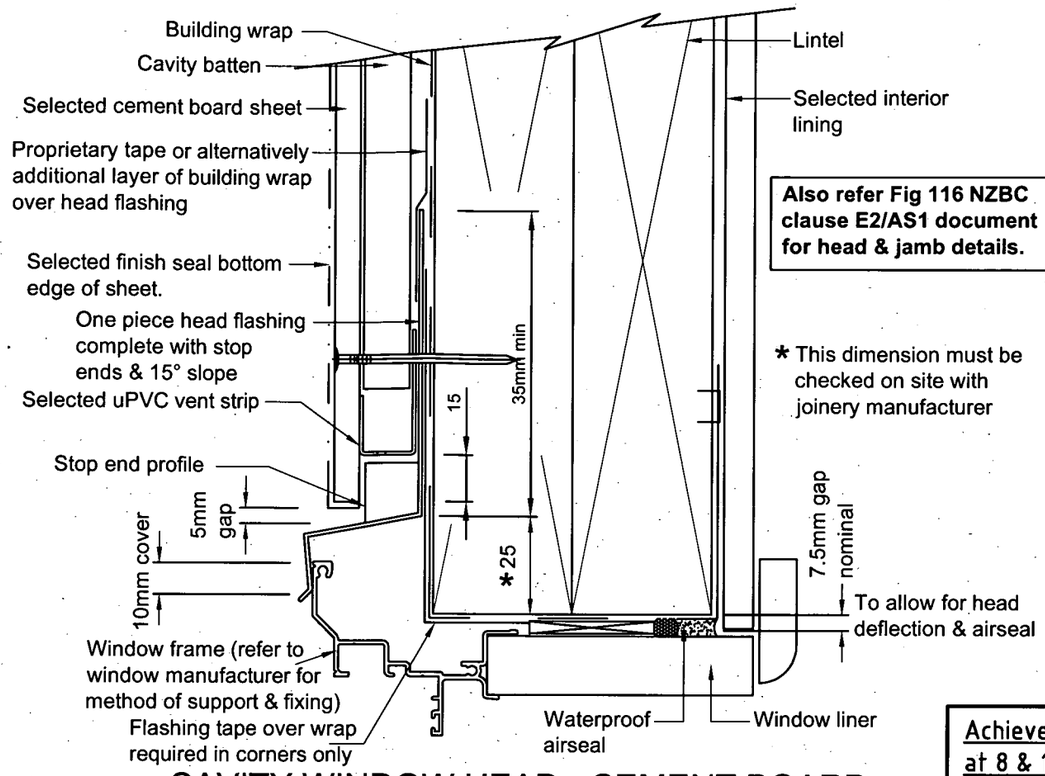
WINDOW SILL - ALUMINIUM

Scale 1:5



WINDOW JAMB - ALUMINIUM

Scale 1:5

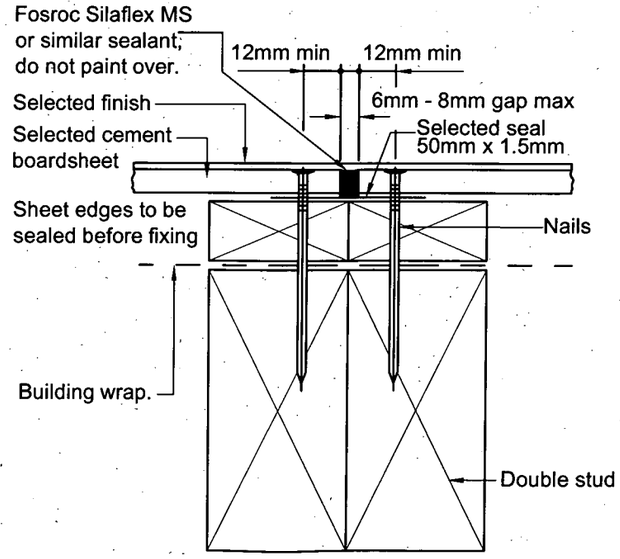


Also refer Fig 116 NZBC clause E2/AS1 document for head & jamb details.

* This dimension must be checked on site with joinery manufacturer

CAVITY WINDOW HEAD - CEMENT BOARD

NTS



CAVITY VERTICAL SEALANT JOINT - CEMENT BOARD

NTS

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Achieved R Values for proposed seven new houses at 8 & 10 Yorkshire Road:

1). Concrete slab Rt = 1.3

2). Walls:

× Rse	(Exterior surface)	0.03
× Layer 1	(cladding)	0.06
× Layer 2 Rb	(air space and insulated frame space with R2.2)	1.88
× Layer 3	(lining)	0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.1m²°K/W

3). Double glazing windows:

× Rse	(exterior surface)	0.03
× Layer of 6mm float glass		0.006
× 12mm air (unventilated) space		0.14
× Layer of 6mm float glass		0.006
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		0.27m²°K/W

4). Roof structure (pitched roofs)

× Rse	(exterior surface)	0.03
× Roof cladding (steel tiles)		0.01
× Roof space & R3.2 insulation		2.72
× 10mm Gib plasterboard		0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.9m²°K/W

ALL LOTS

Amendment:	Description:

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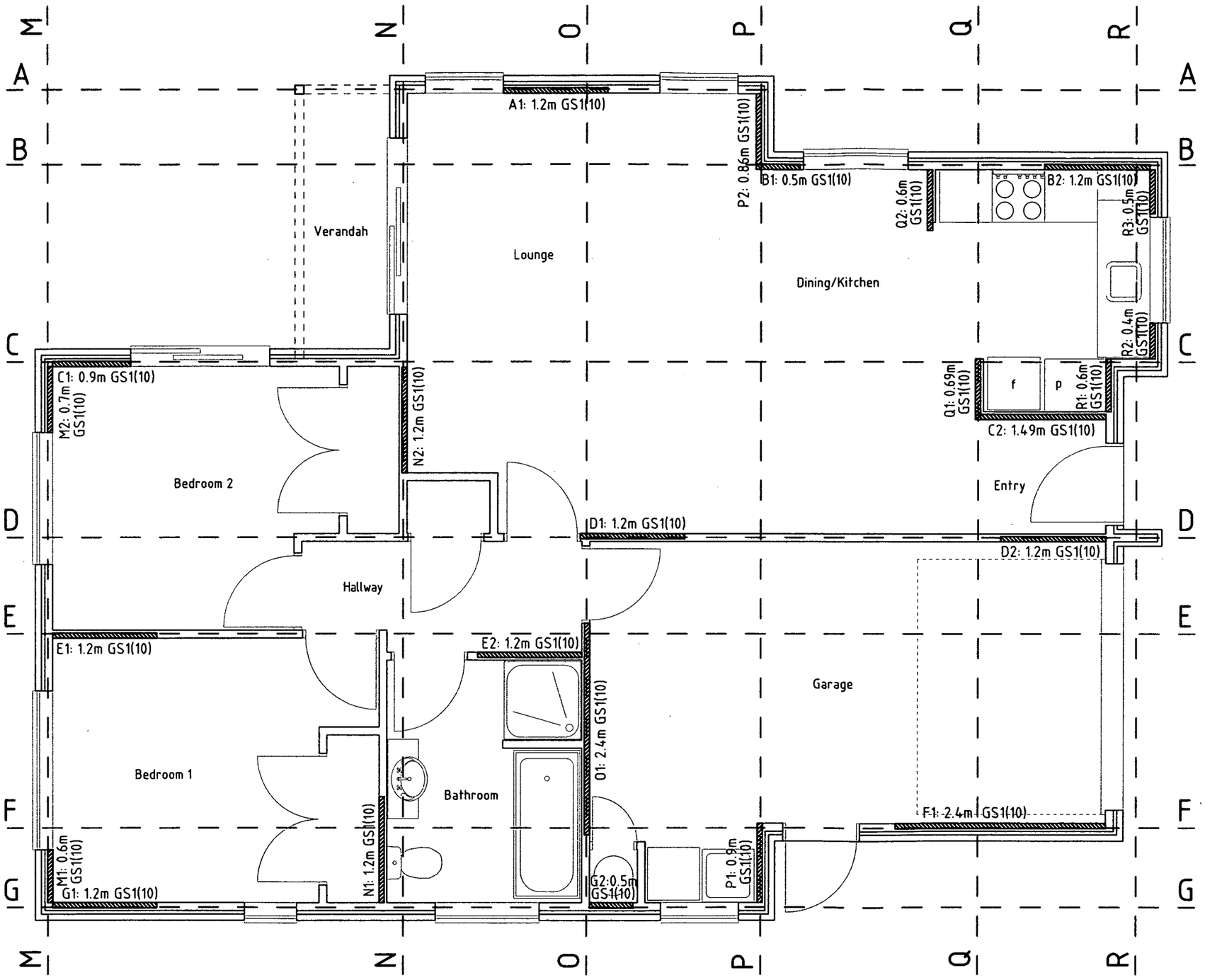
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Surveyor:	Checked: GI Ruffell	Scale: As shown @ A3	Sheet 12 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



HAMILTON CITY COUNCIL
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Table 1: 10 mm GIB® Plasterboard BU ratings

Type	L (m) minimum	Lining	Other Requirements
		GIB® Bracing Systems 2009	
		GIB® Standard	
GS1(10)	0.4	10 mm GIB® Standard Plasterboard one face	n/a
	1.2		
GS2(10)	0.6	10 mm GIB® Standard Plasterboard both faces	
	1.8		
		GIB Braceline®	
BL1(10)	0.4	10mm GIB Braceline® one face	Hold-Downs
	1.2		
BLP	0.4	10mm GIB Braceline® one face plywood other	
	0.9		
BLG	0.6	10mm GIB Braceline® one face 10mm GIB® Standard other	
	1.2		

BRACING CALCULATIONS FOR HOUSE ON LOTS 1 & 2

LOTS 1 & 2

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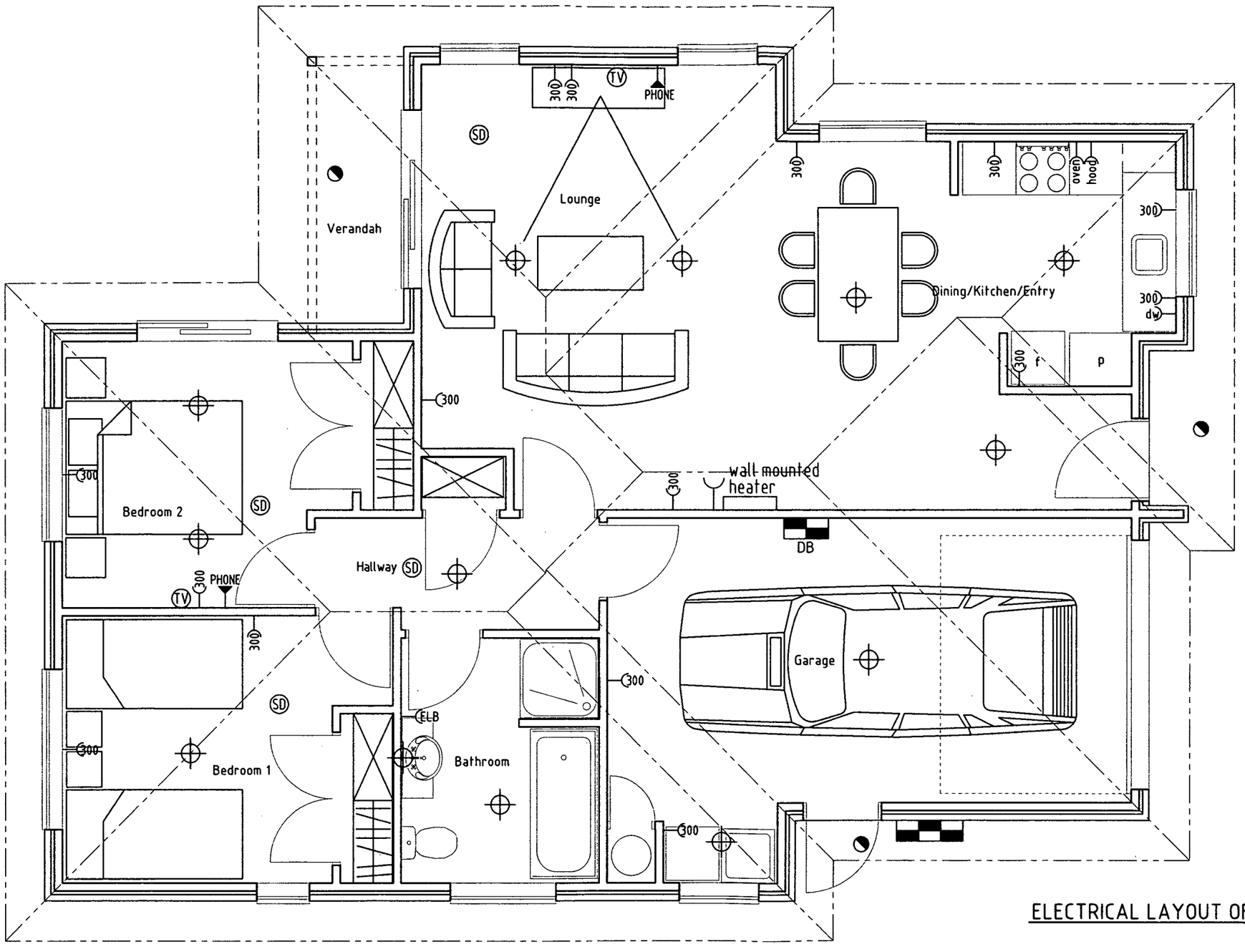
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ELECTRICAL KEY:

- SD — SMOKE ALARM
- METER BOX
- DB — RECESS DITRIBUTION BOARD
- 300 — TYPICAL DOUBLE POWER POINT (300 A.F.F.L.)
- ELB — SHAVERS PLUG
- BAYONET LIGHTS
- SELECTED CEILING LIGHT FITTINGS
- PHONE — PHONE JACK
- TV — TV AERIAL JACK

APPLIANCES/ FITTINGS:

RANGE HOOD - ELECTRIC - SIMPSON RA6WH
ELECTRIC STOVE - SIMPSON 63H906W

ELECTRICAL LAYOUT OF HOUSE ON LOTS 1 & 2

LOTS 1 & 2

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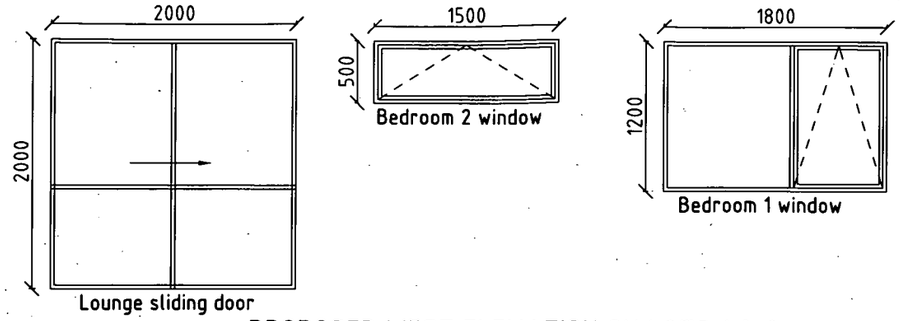
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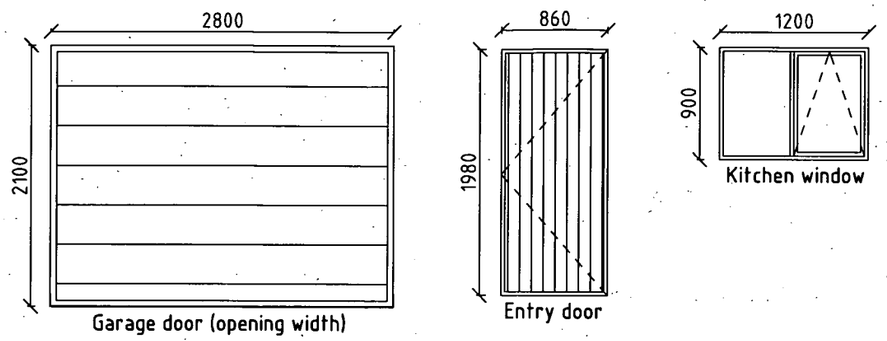
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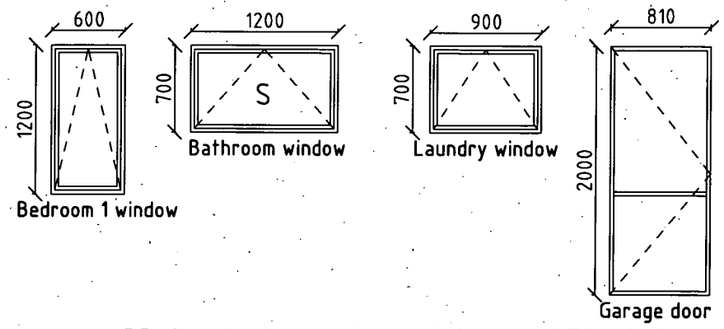
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



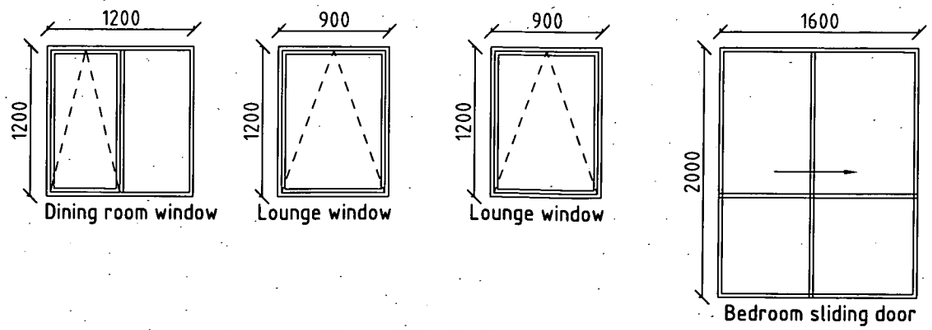
PROPOSED WEST ELEVATION ON LOTS 1 & 2



PROPOSED EAST ELEVATION ON LOTS 1 & 2



PROPOSED SOUTH ELEVATION ON LOTS 1 & 2



PROPOSED NORTH ELEVATION ON LOTS 1 & 2

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LOTS 1 & 2

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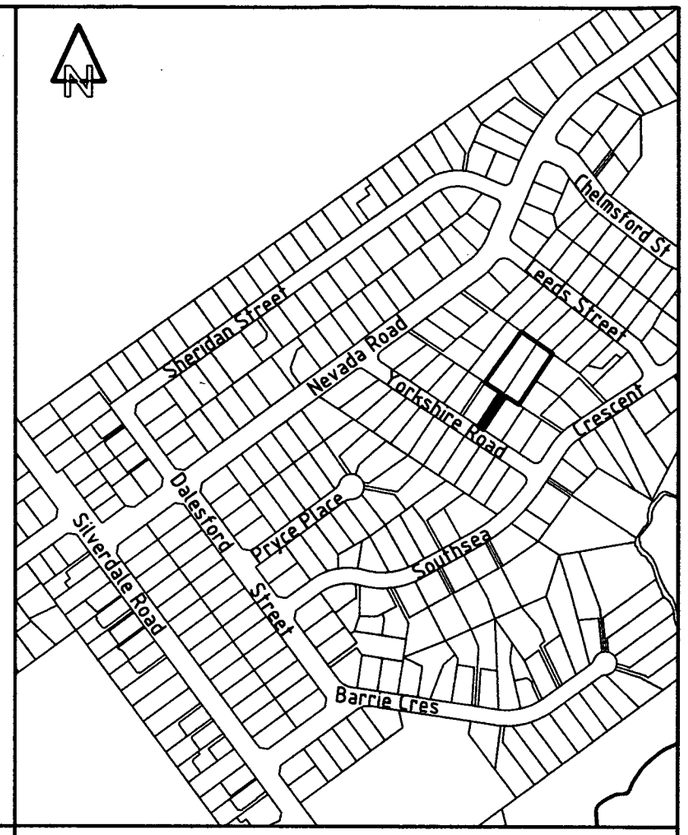
PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

Surveyors–Land Engineers
–Land Development,
Resource Management and
Town Planning Consultants
7 HARDLEY STREET–HAMILTON–NEW ZEALAND P.O. BOX 9379
E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: 1:50 @ A3	Sheet 15 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT OF LOT 61 & 62 DPS 9556 & LOT 2 DP 428322

Address: 8 & 10 Yorkshire Road, Hamilton
Prepared for: CKC Holdings Ltd.

House on lot 7

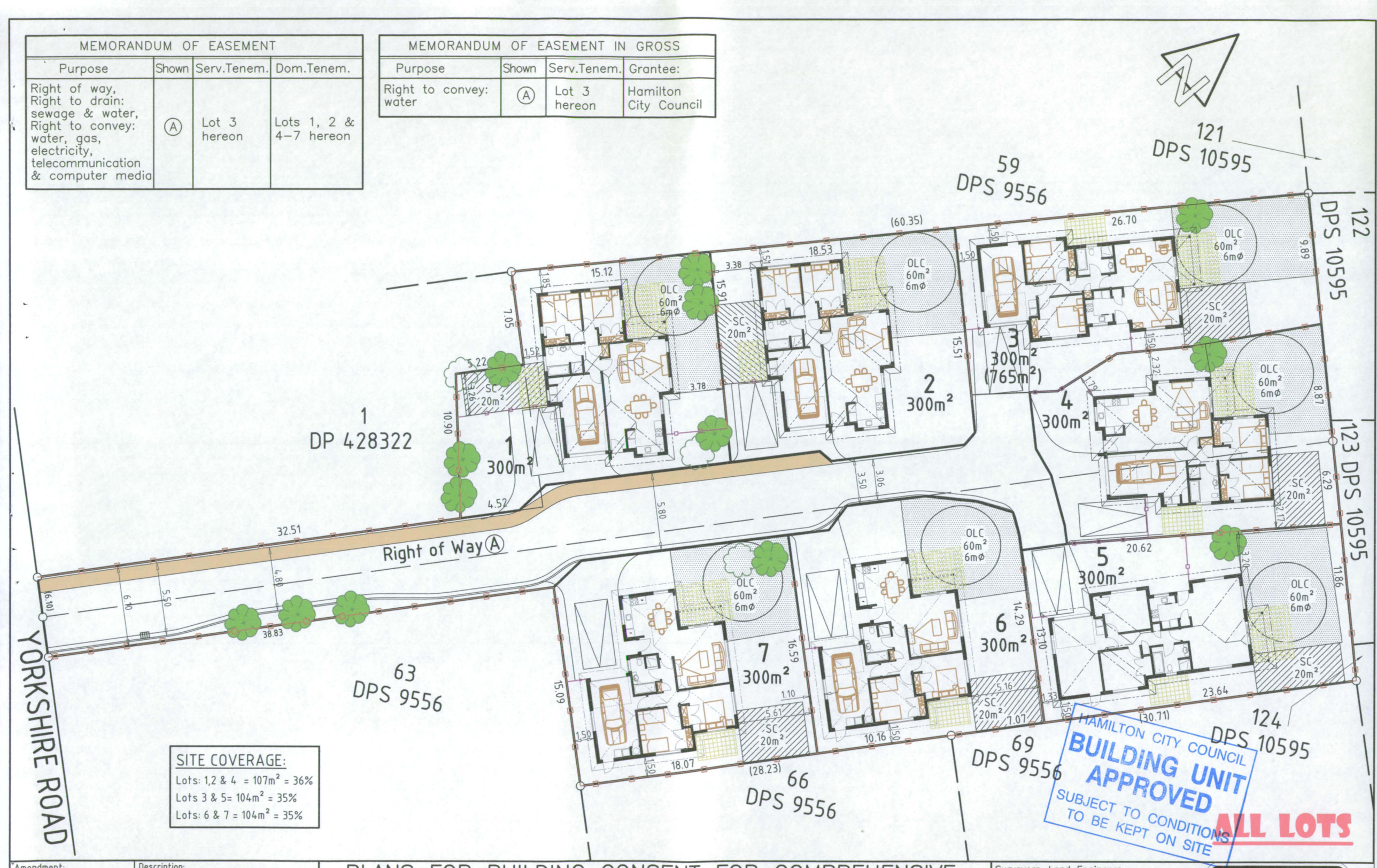
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MEMORANDUM OF EASEMENT			
Purpose	Shown	Serv.Tenem.	Dom.Tenem.
Right of way, Right to drain: sewage & water, Right to convey: water, gas, electricity, telecommunication & computer media	(A)	Lot 3 hereon	Lots 1, 2 & 4–7 hereon

MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council



SITE COVERAGE:

Lots: 1,2 & 4 = 107m² = 36%
Lots 3 & 5= 104m² = 35%
Lots: 6 & 7 = 104m² = 35%

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

ALL LOTS

Amendment:	Description:

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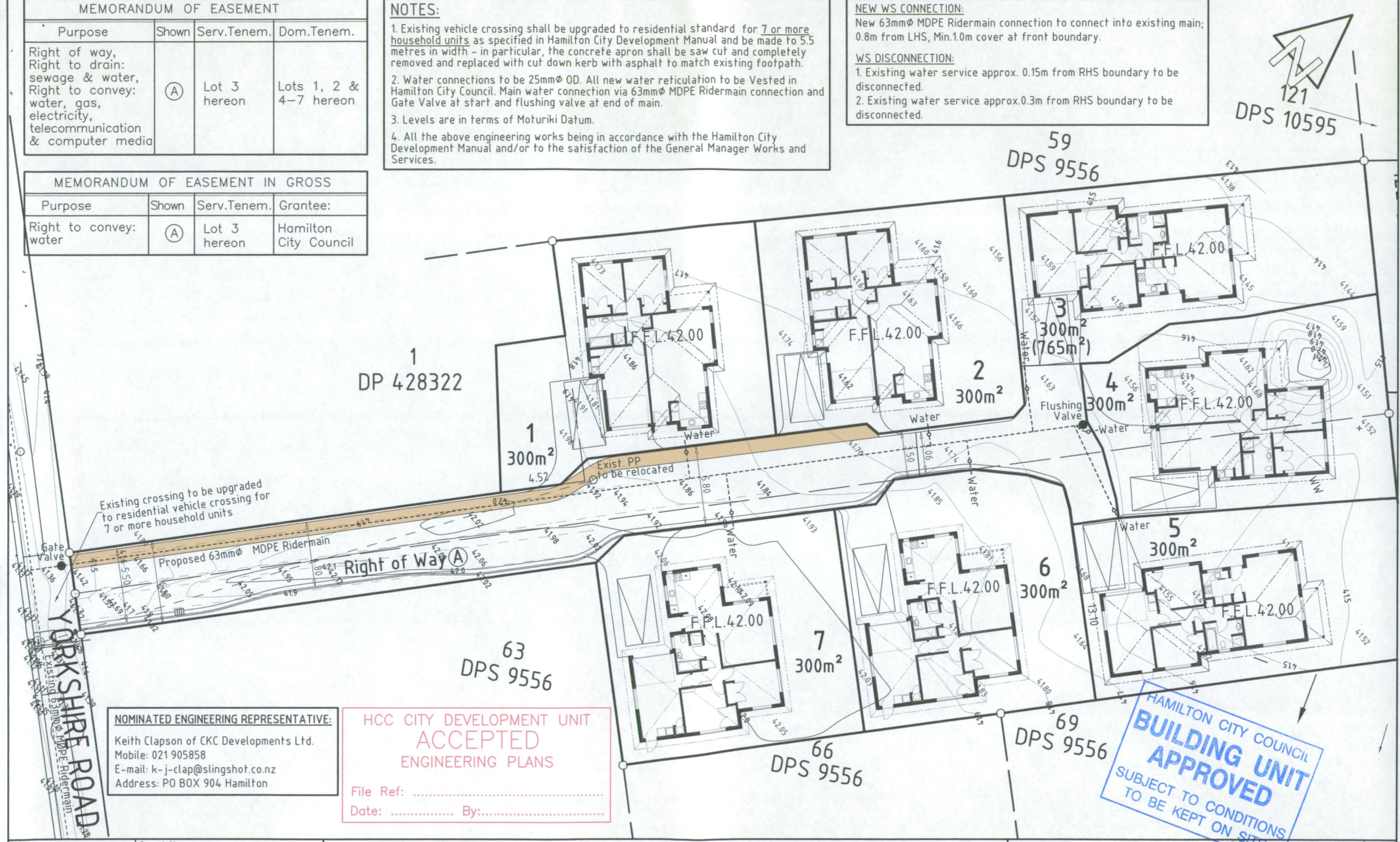
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NOTES:

1. Existing vehicle crossing shall be upgraded to residential standard for 7 or more household units as specified in Hamilton City Development Manual and be made to 5.5 metres in width – in particular, the concrete apron shall be saw cut and completely removed and replaced with cut down kerb with asphalt to match existing footpath.
2. Water connections to be 25mmØ OD. All new water reticulation to be Vested in Hamilton City Council. Main water connection via 63mmØ MDPE Ridermain connection and Gate Valve at start and flushing valve at end of main.
3. Levels are in terms of Moturiki Datum.
4. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.

NEW WS CONNECTION:
New 63mmØ MDPE Ridermain connection to connect into existing main; 0.8m from LHS, Min.1.0m cover at front boundary.

WS DISCONNECTION:
1. Existing water service approx. 0.15m from RHS boundary to be disconnected.
2. Existing water service approx.0.3m from RHS boundary to be disconnected.



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Date: ..... By:.....

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS TO BE KEPT ON SITE

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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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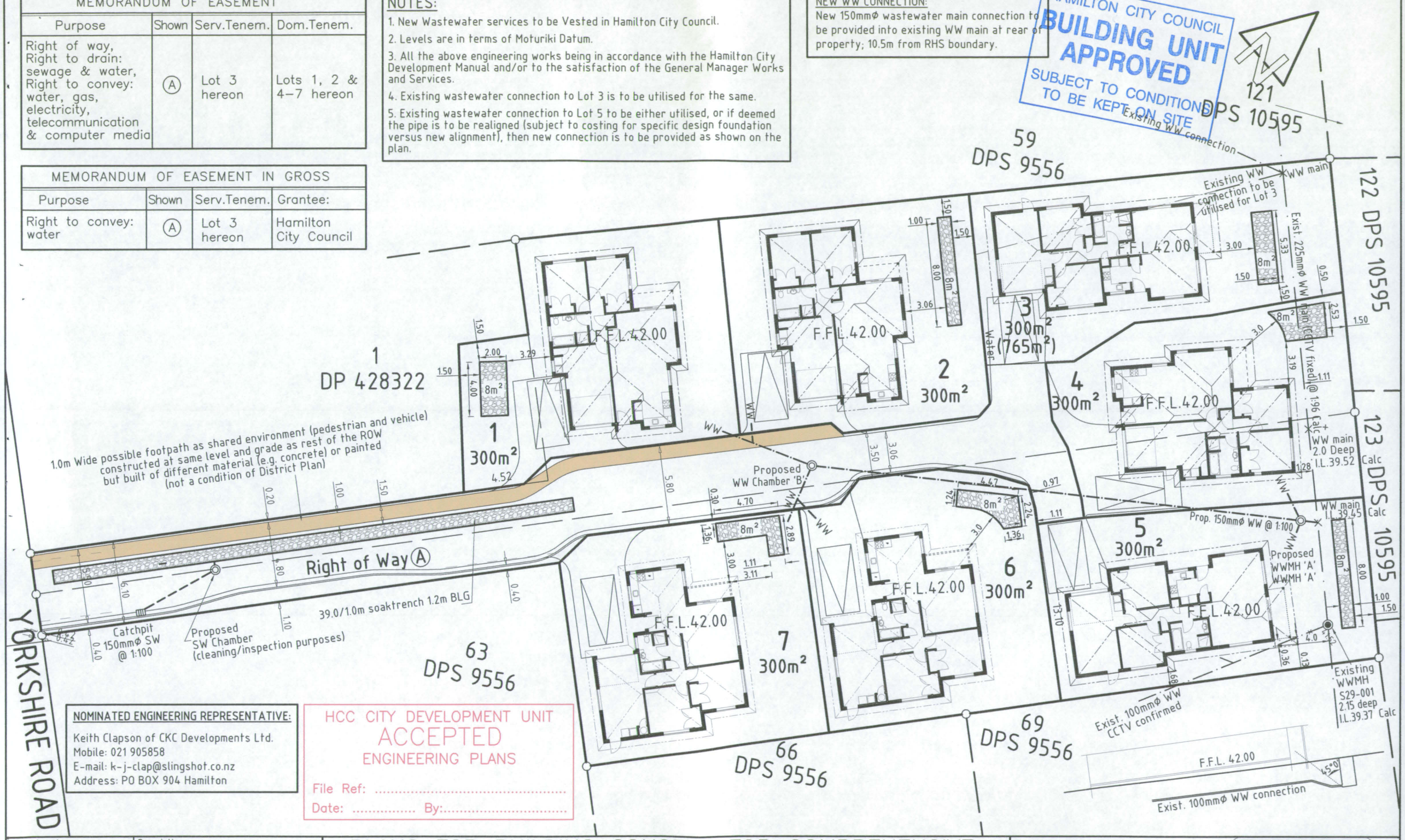
MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council

NOTES:

1. New Wastewater services to be Vested in Hamilton City Council.
2. Levels are in terms of Moturiki Datum.
3. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.
4. Existing wastewater connection to Lot 3 is to be utilised for the same.
5. Existing wastewater connection to Lot 5 to be either utilised, or if deemed the pipe is to be realigned (subject to costing for specific design foundation versus new alignment), then new connection is to be provided as shown on the plan.

NEW WW CONNECTION:
New 150mmØ wastewater main connection to be provided into existing WW main at rear of property; 10.5m from RHS boundary.

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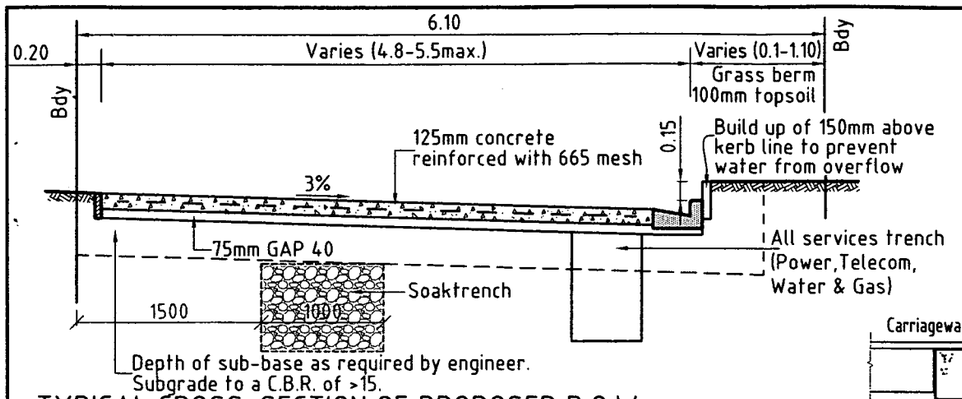
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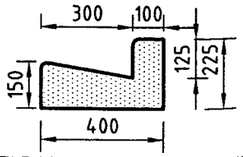
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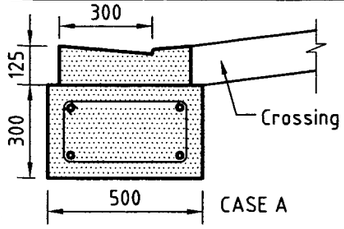
TYPICAL CROSS-SECTION OF PROPOSED R.O.W.

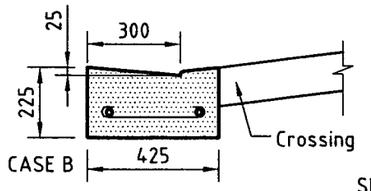
SCALE: 1 : 50



VERTICAL KERB & CHANNEL

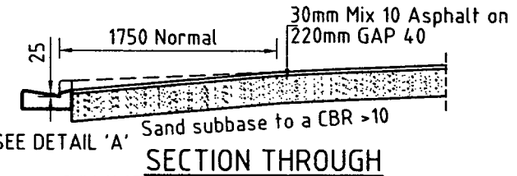
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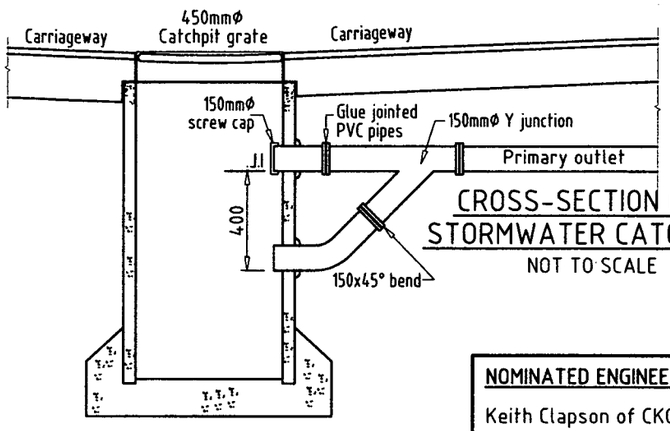
COMMERCIAL CHANNEL CROSSING

SCALE: 1:20



SECTION THROUGH COMMERCIAL VEHICLE CROSSING

SCALE: 1:50



CROSS-SECTION OF STORMWATER CATCHPIT

NOT TO SCALE

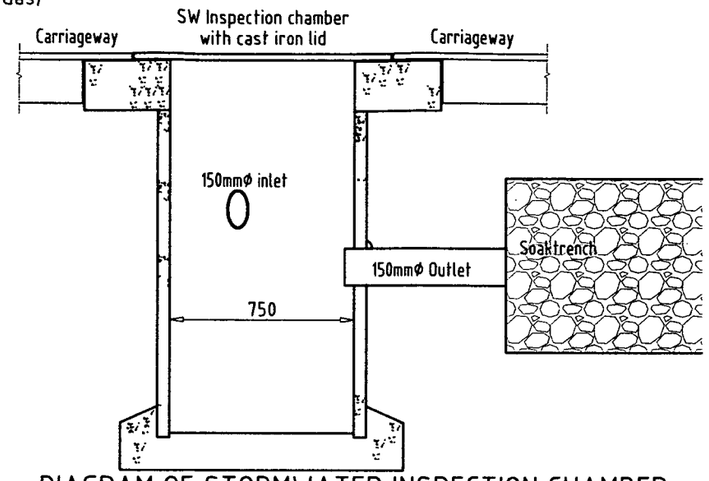
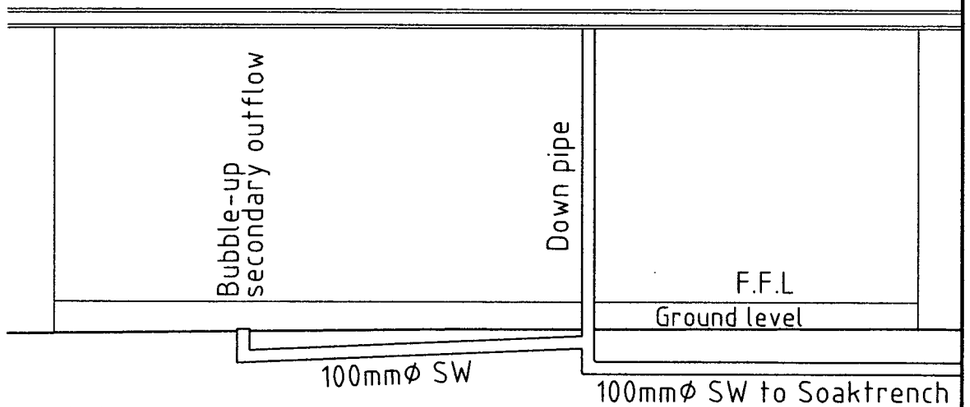


DIAGRAM OF STORMWATER INSPECTION CHAMBER

SCALE: 1:25



DETAIL OF SW SECONDARY OVERFLOW FOR LOTS 3-6

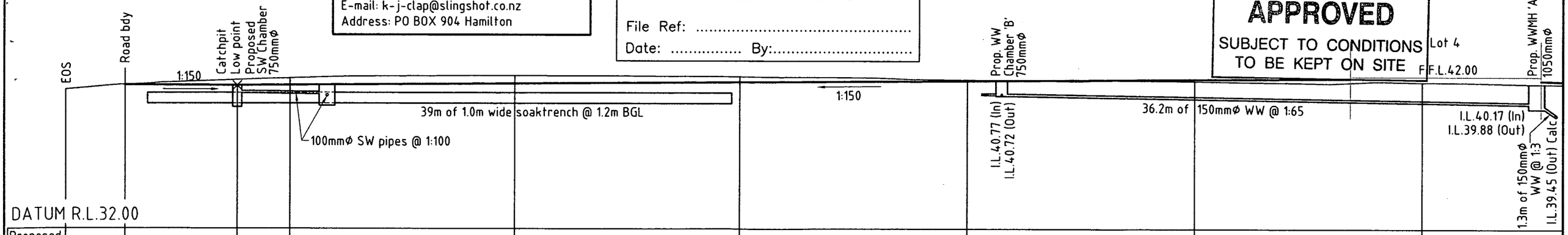
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Proposed LOC finished levels	41.43		41.38		41.40	41.51	41.61	41.71	41.81				
Existing ground levels	41.12				41.86	42.03	41.97	41.78	41.70		41.64		
Chainages	0.00	3.96		11.46	15.00	30.00	45.00	60.00	75.00		90.00		

LONGITUDINAL SECTION OF PROPOSED RIGHT OF WAY - Scale: Hz: 1:250, Vt: 1:250

ALL LOTS

Amendment:	Description:

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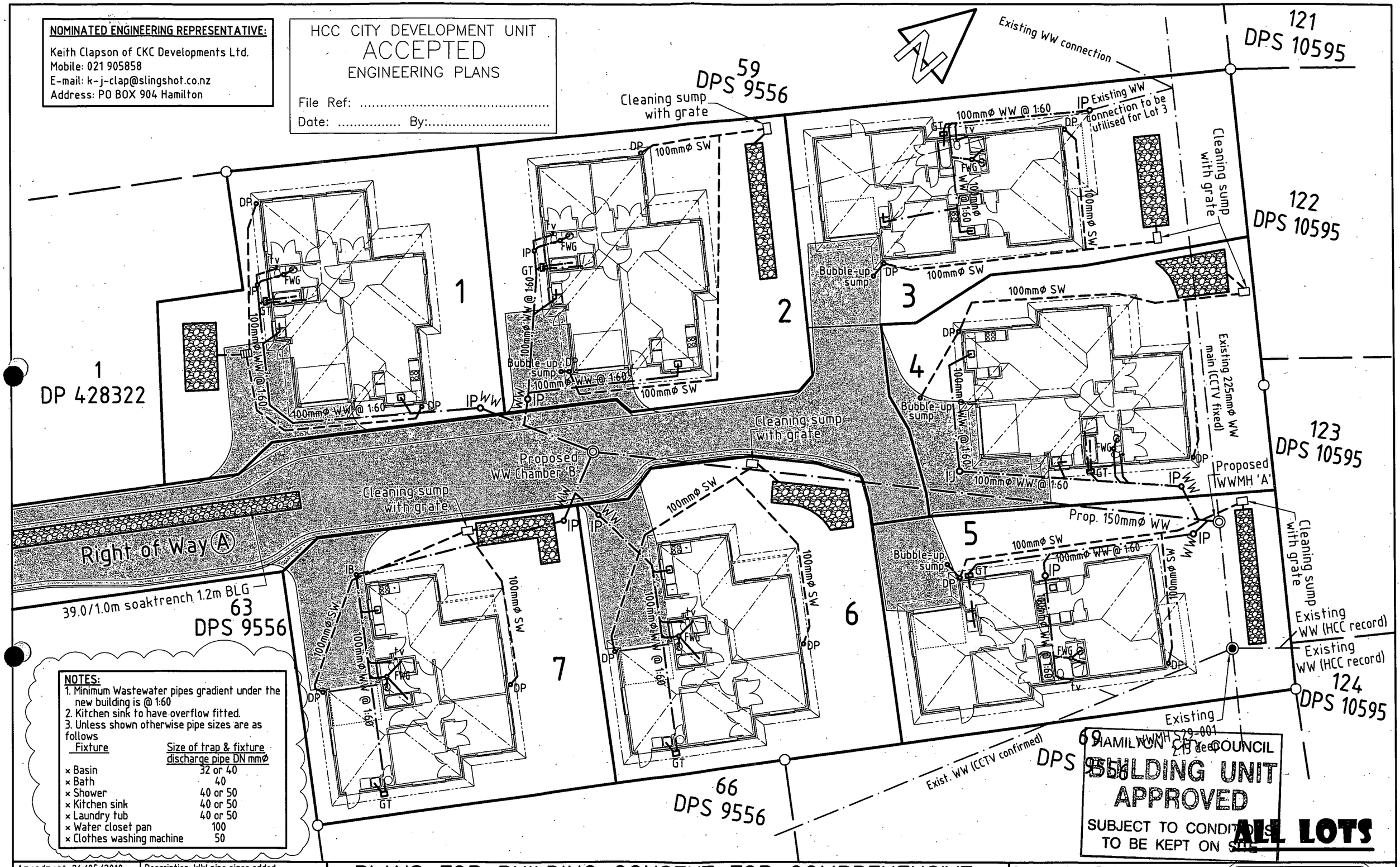
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

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NOTES:
1. Minimum Wastewater pipes gradient under the new building is @ 1:60
2. Kitchen sink to have overflow fitted.
3. Unless shown otherwise pipe sizes are as follows

Fixture	Size of trap & fixture discharge pipe DN mmø
× Basin	32 or 40
× Bath	40
× Shower	40 or 50
× Kitchen sink	40 or 50
× Laundry tub	40 or 50
× Water closet pan	100
× Clothes washing machine	50

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ALL LOTS

Amendment: 24/05/2010	Description: WW pipe sizes added.

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SUPERSEDED

SUPERSEDED

1
DP 428322

59
DPS 9556

121
DPS 10595

122
DPS 10595

123 DPS 10595

Existing WW connection

Cleaning sump with grate

Cleaning sump with grate

Cleaning sump with grate

Cleaning sump with grate

IP Existing WW connection to be utilised for Lot 3

Bubble-up sump

Bubble-up sump

Bubble-up sump

Bubble-up sump

Existing 225mmø WW main (CCTV fixed)

Proposed WW Chamber 'B'

Proposed WWMH 'A'

Proposed 150mmø WW

Right of Way Ⓐ

39.0/1.0m soaktrench 1.2m BLG

63
DPS 9556

66
DPS 9556

69
DPS 9556

124
DPS 10595

Existing WWMH S29-001 2.15 deep

Exist. WW (CCTV confirmed)

SUPERSEDED

ALL LOTS

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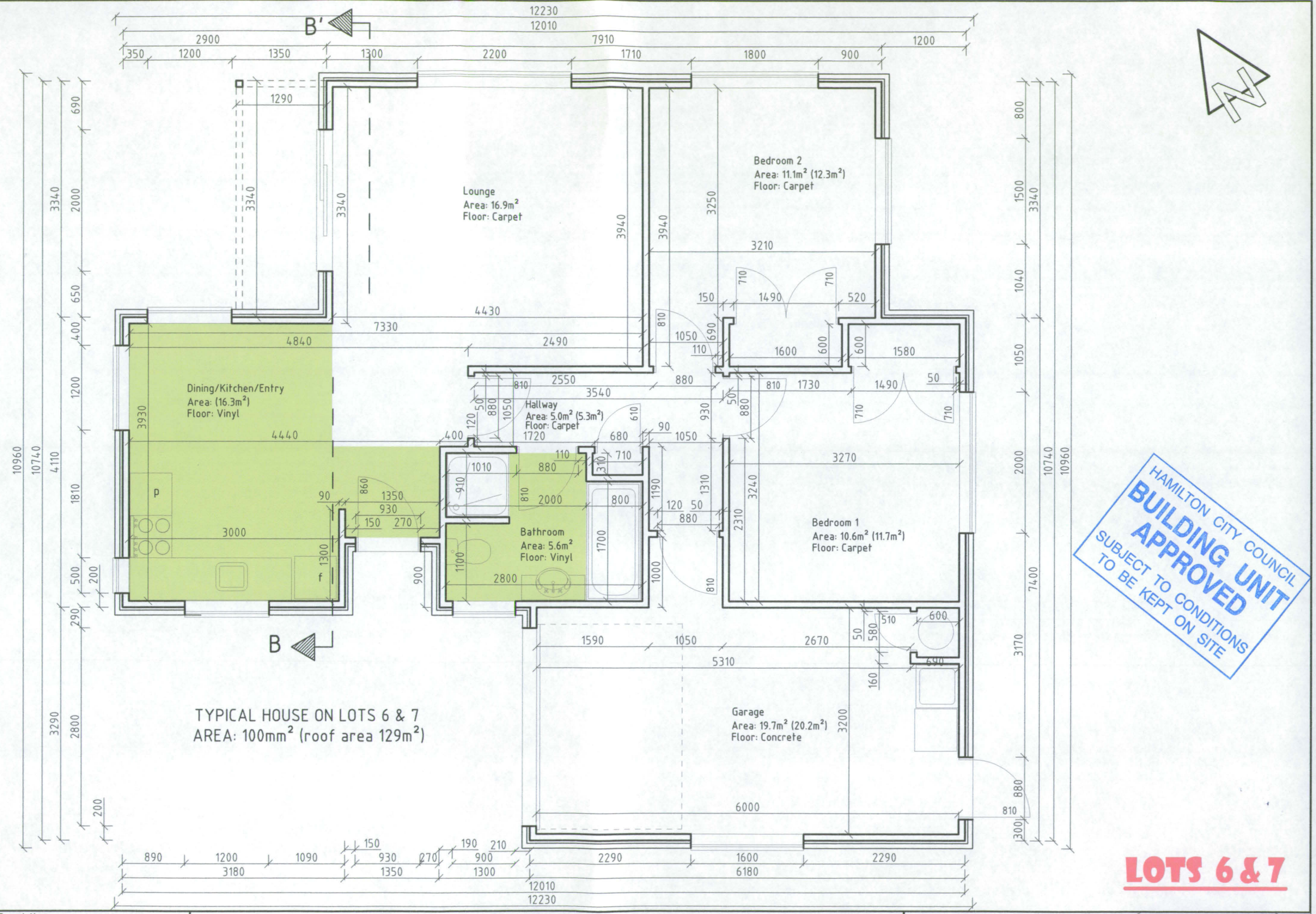
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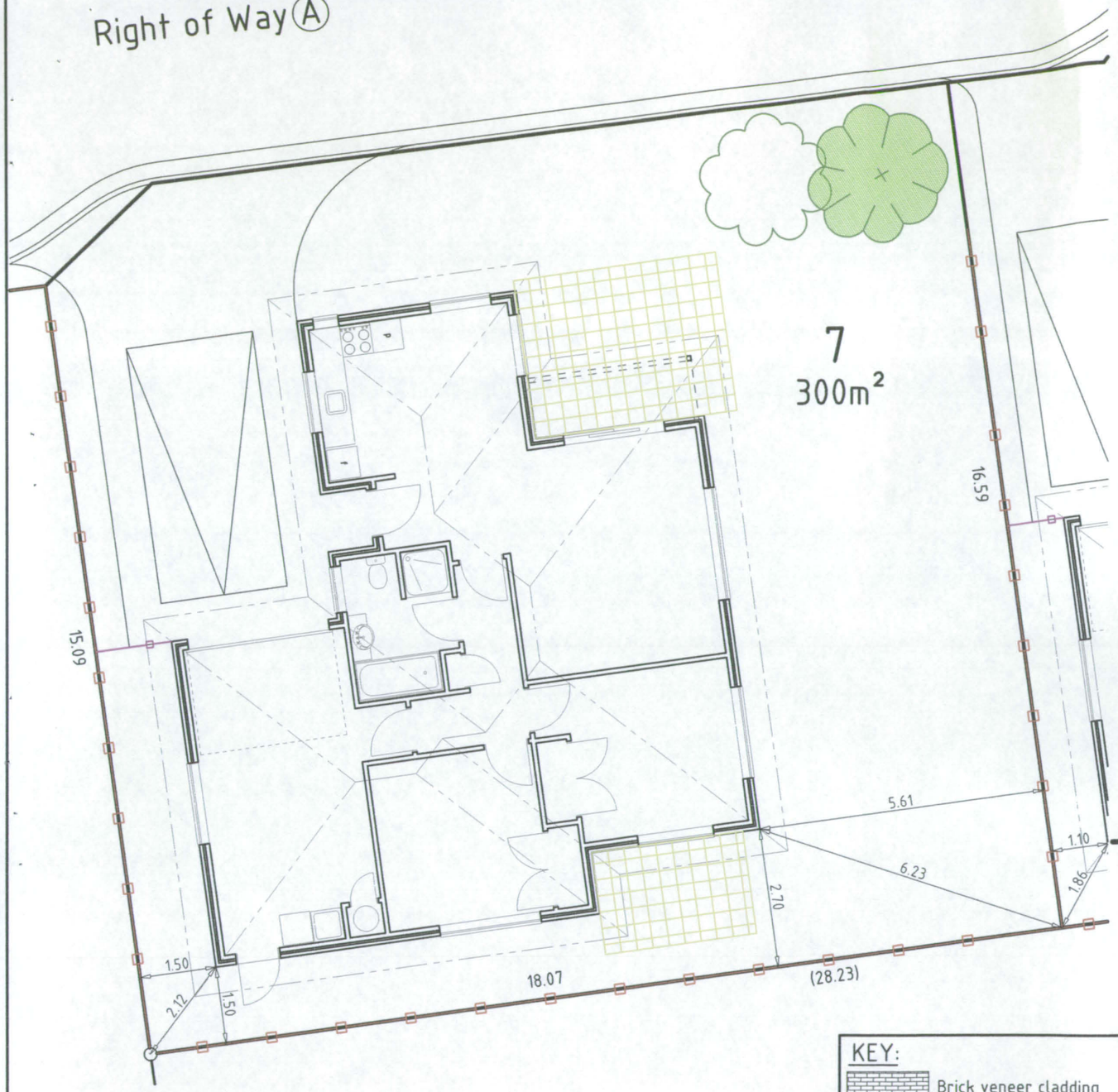
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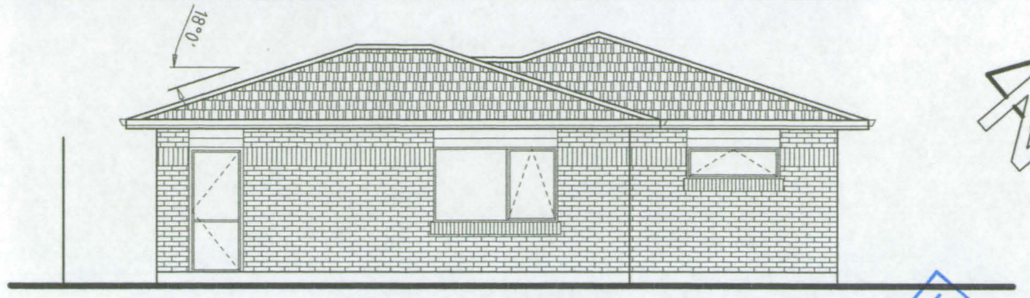
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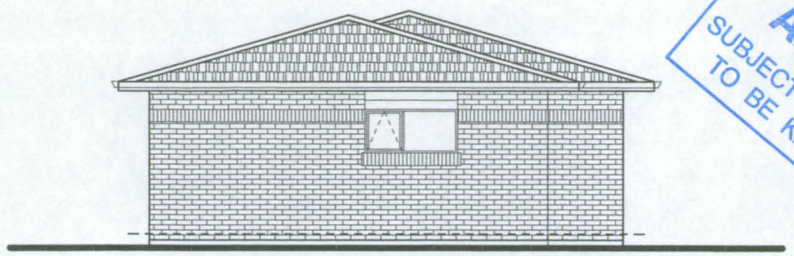
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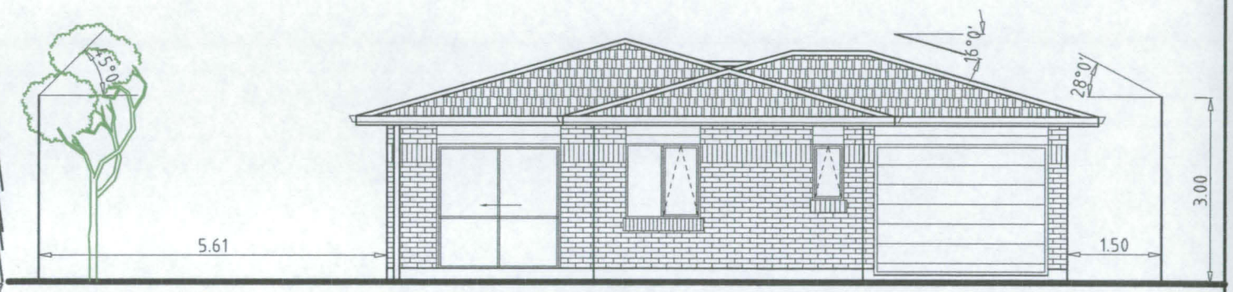


PROPOSED EAST ELEVATION ON LOT 7

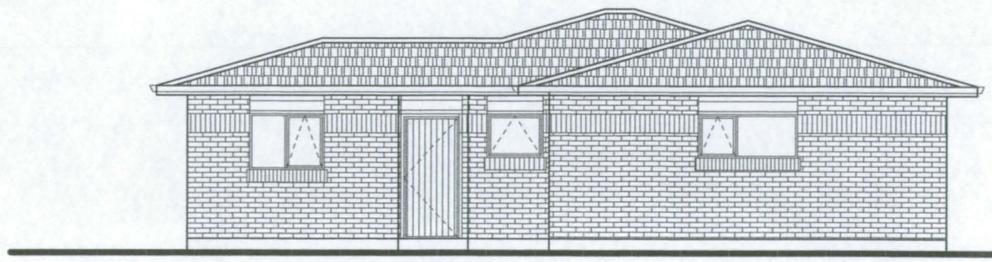


PROPOSED SOUTH ELEVATION ON LOT 3

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TO BE KEPT ON SITE



PROPOSED WEST ELEVATION ON LOT 7



PROPOSED SOUTH ELEVATION ON LOT 7

KEY:

- Brick veneer cladding
- Weatherboard or harditex cladding
- Coloursteel roof tiles
- Double glazing aluminium joinery

LOT 7

Amendment:	Description:

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NOTES:
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2. Total CT area: 2565m²

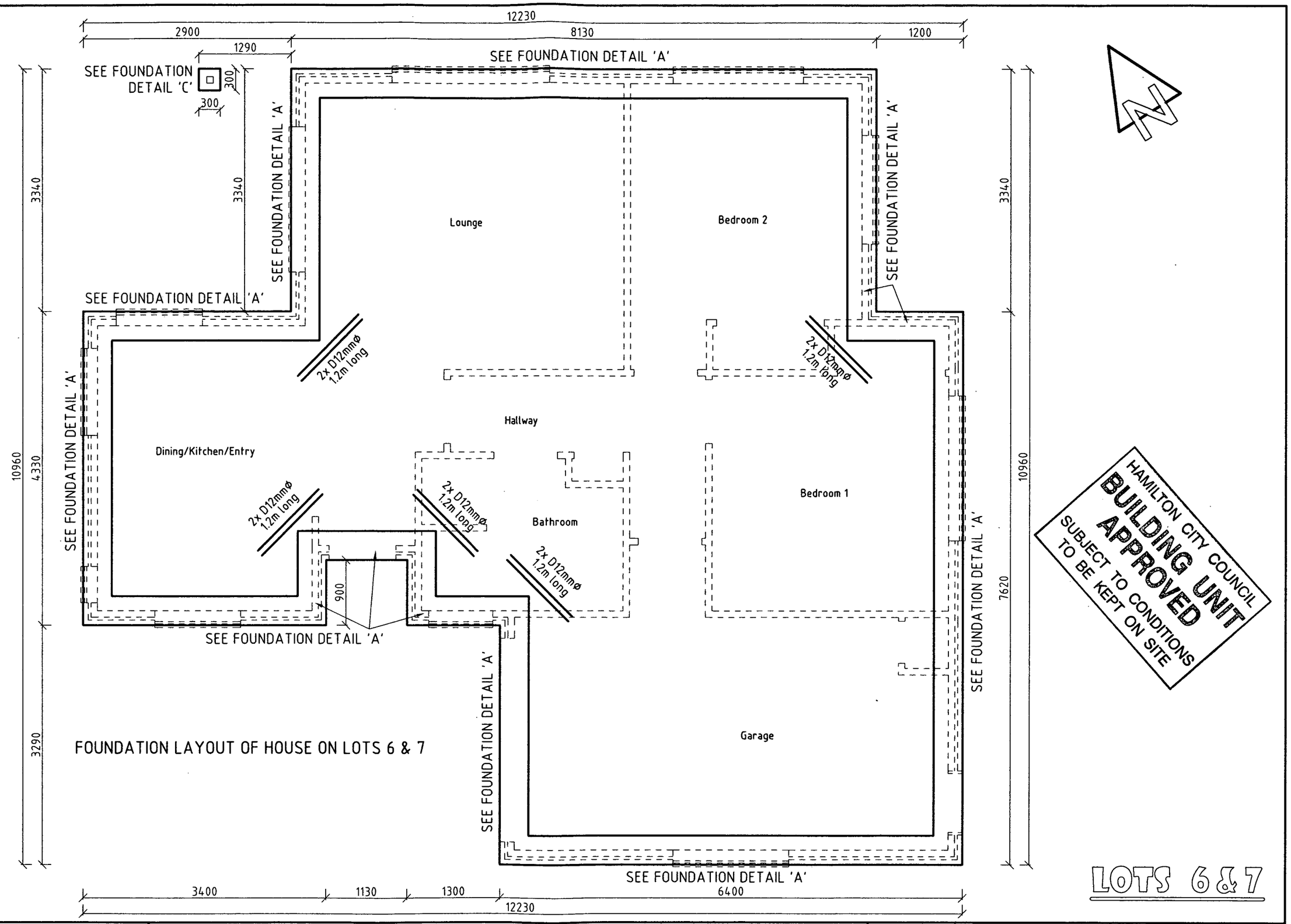
PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & SA6B/363 | Address: 8 and 10 Yorkshire Road, Hamilton

Surveyors–Land Engineers
–Land Development,
Resource Management and
Town Planning Consultants
7 HARDLEY STREET–HAMILTON–NEW ZEALAND P.O. BOX 9379
E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: 1:100 @ A3	Sheet 7 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



FOUNDATION LAYOUT OF HOUSE ON LOTS 6 & 7

LOTS 6&7

Amendment:	Description:

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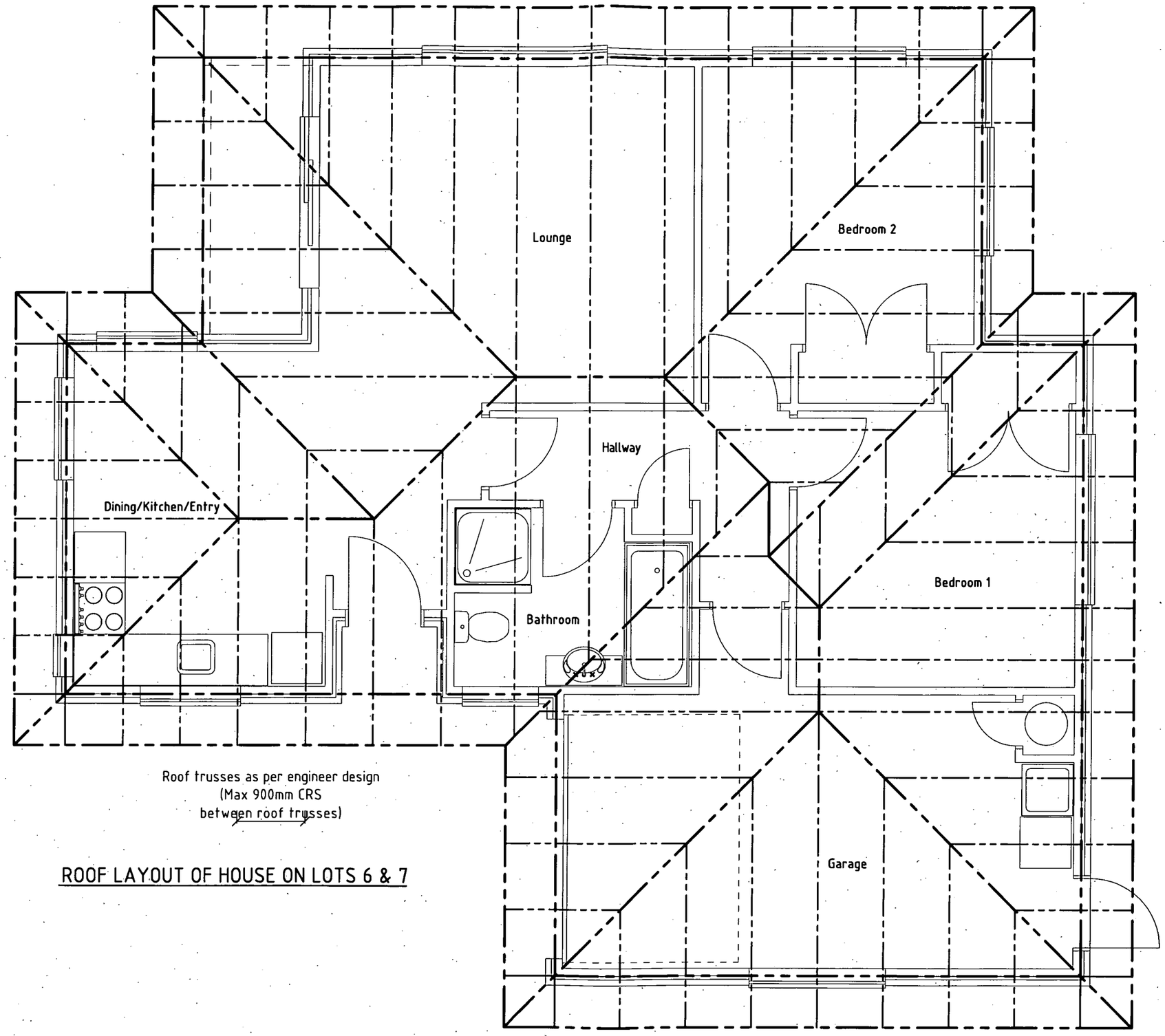
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



ROOF LAYOUT OF HOUSE ON LOTS 6 & 7

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LOTS 6 & 7

Amendment:	Description:

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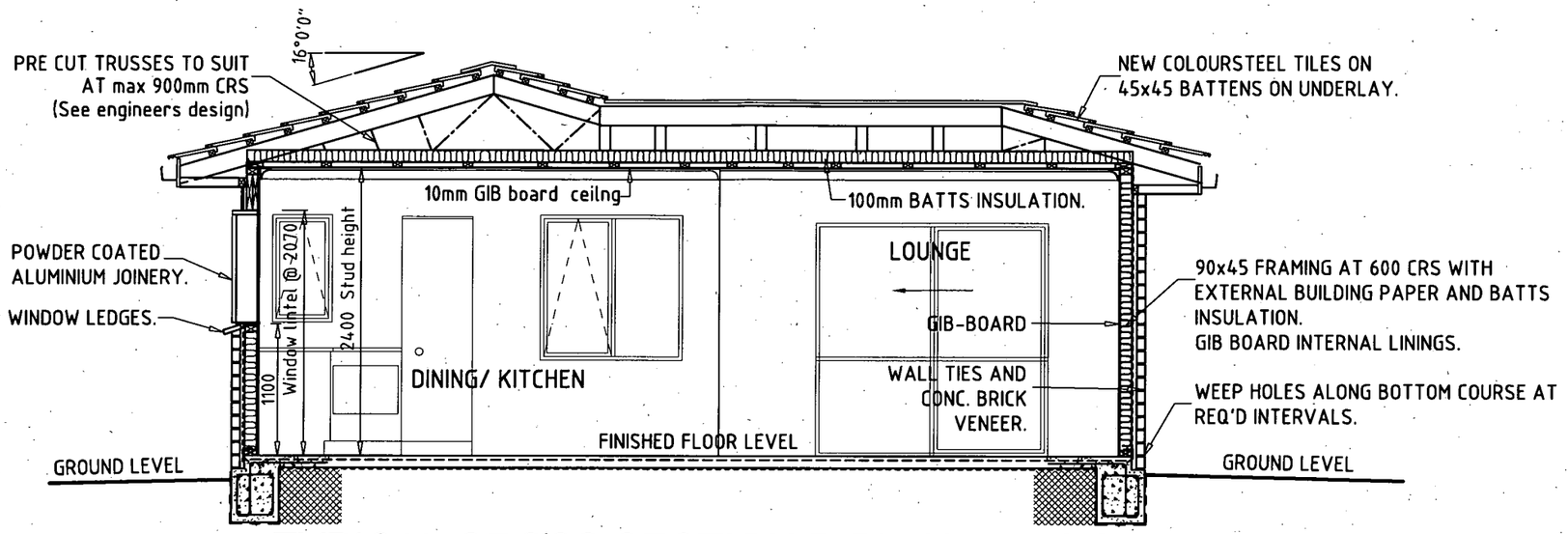
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TYPICAL CROSS SECTION B-B' - House 6 & 7

SCALE: 1:50

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LOTS 6 & 7

Amendment:	Description:

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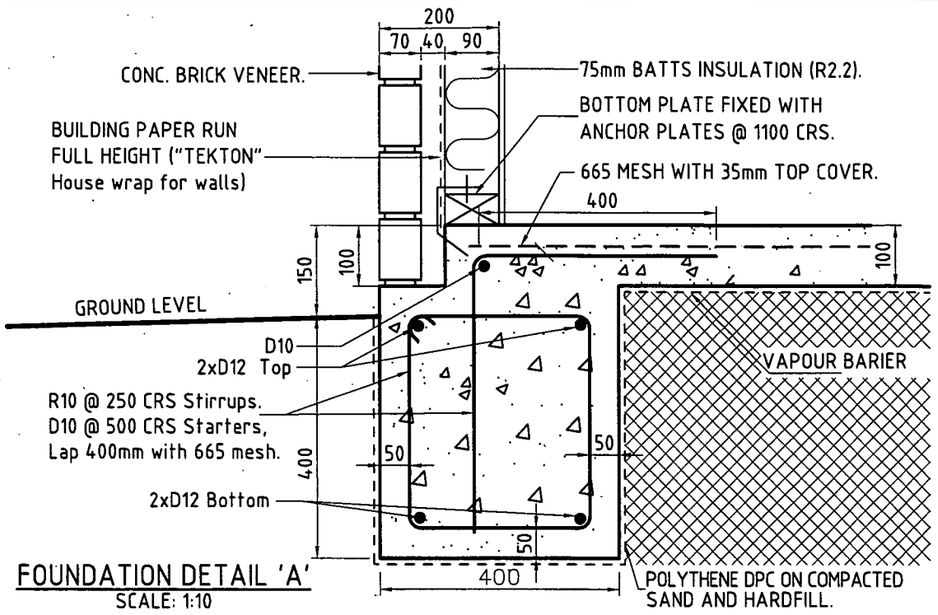
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Surveyor:	Checked: GI Ruffell	Scale: 1:50 @ A3	Sheet No 15 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

McPherson Goodwin Surveyors Ltd_MS__ 5/05/2010 9:50 a.m. _15147_BLDG_CONSENT.dwg Original sheet size A3 (420/297)



FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

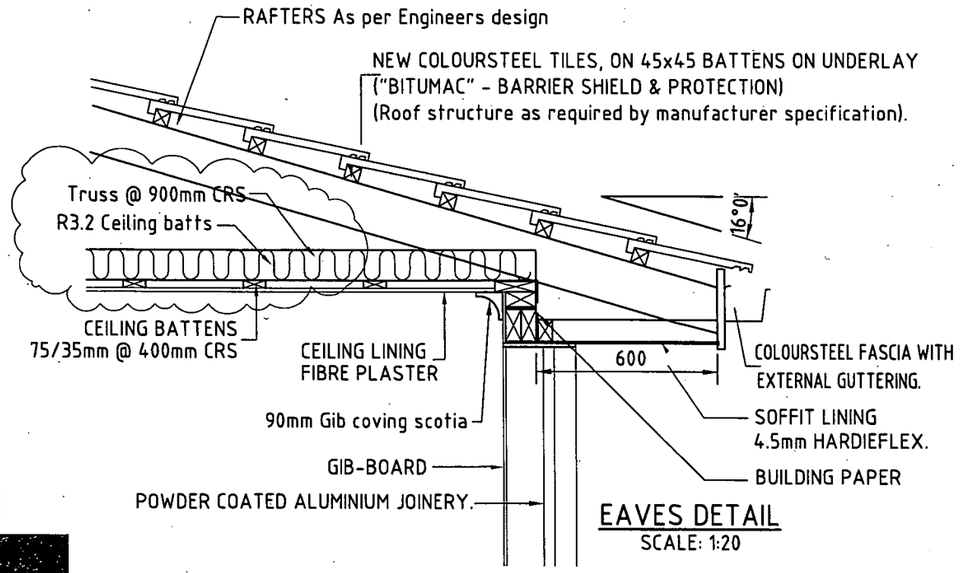
H 1.1, Douglas Fir or UTKD
- Ground floor exterior wall framing

H 1.2
- Internal loadbearing wall framing
- Ceiling framing
- Boundary joist
- Skillion roof framing
- Enclosed beams

H 3.1
- Cavity battens
- Wet area's
- Painted posts and beams

H 3.2
- Fence pailings, rails not in ground contact
- External rafters, posts and beams

H 5.0
- Foundation piling



EAVES DETAIL
SCALE: 1:20

Figure 51: Valley gutters for profiled metal
Paragraph 8.4.16.2

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 roof cladding over gutter shall be reduced to 60 mm to provide a clearance gap of 40 mm.

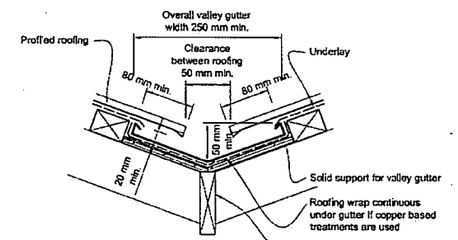
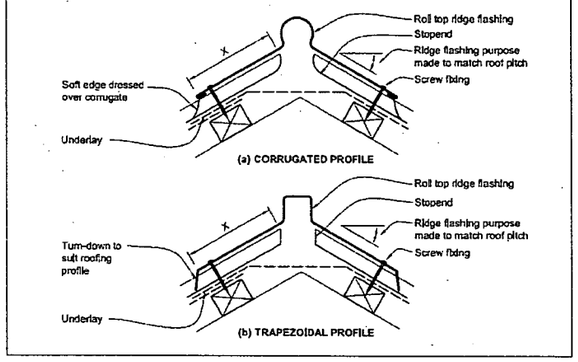
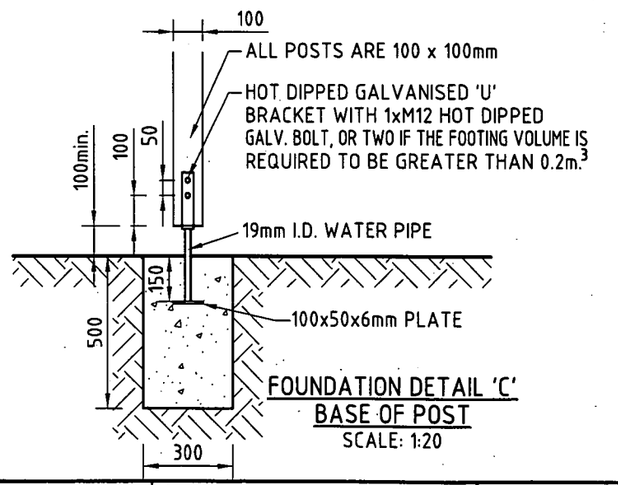


Figure 46: Ridge and hip flashings for profiled metal
Paragraphs 4.6.1.2, 8.4.11 and 8.4.12 d)

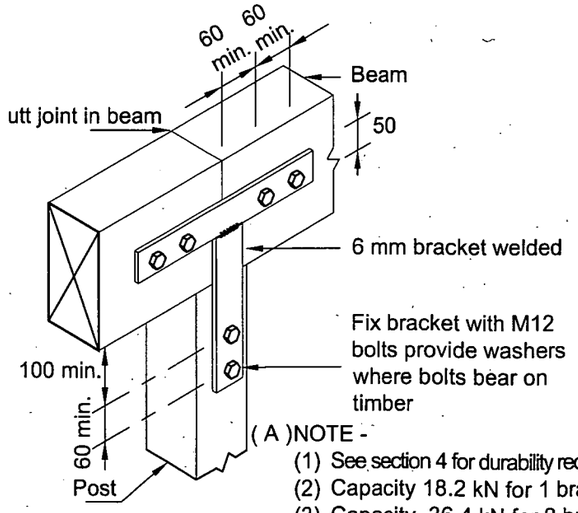
NOTE: X = variable according to *wind zone* – refer Table 7.



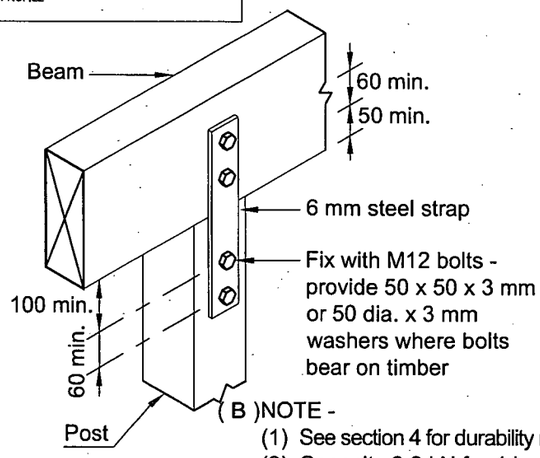
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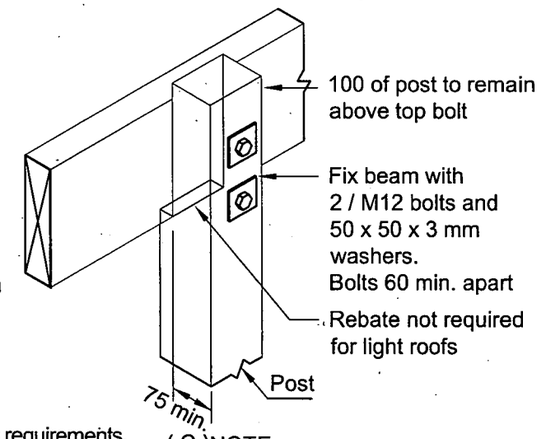
FOUNDATION DETAIL 'C'
BASE OF POST
SCALE: 1:20



(A)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 18.2 kN for 1 bracket
(3) Capacity 36.4 kN for 2 brackets.



(B)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN for 1 bracket
(3) Capacity 19.5 kN for 2 brackets.



(C)NOTE -
(1) See section 4 for durability requirements.
(2) Capacity 9.8 kN.

Details of Beam/ Post connection
NOT TO SCALE

ALL LOTS

Amendment: 24/05/2010	Description: Ceiling R value changed.

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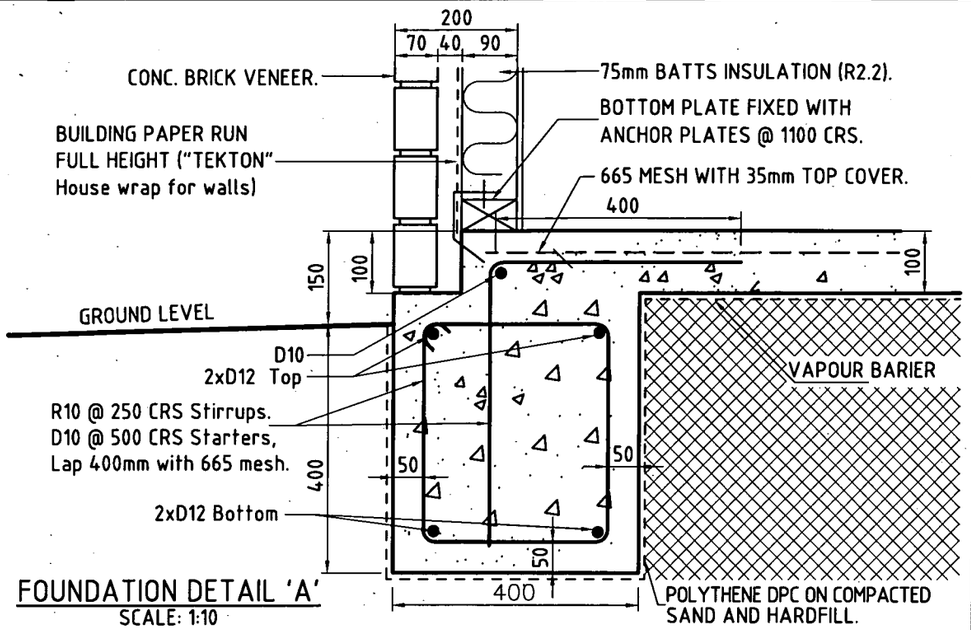
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McPherson Goodwin

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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



FOUNDATION DETAIL 'A'
SCALE: 1:10

TIMBER TREATMENT:

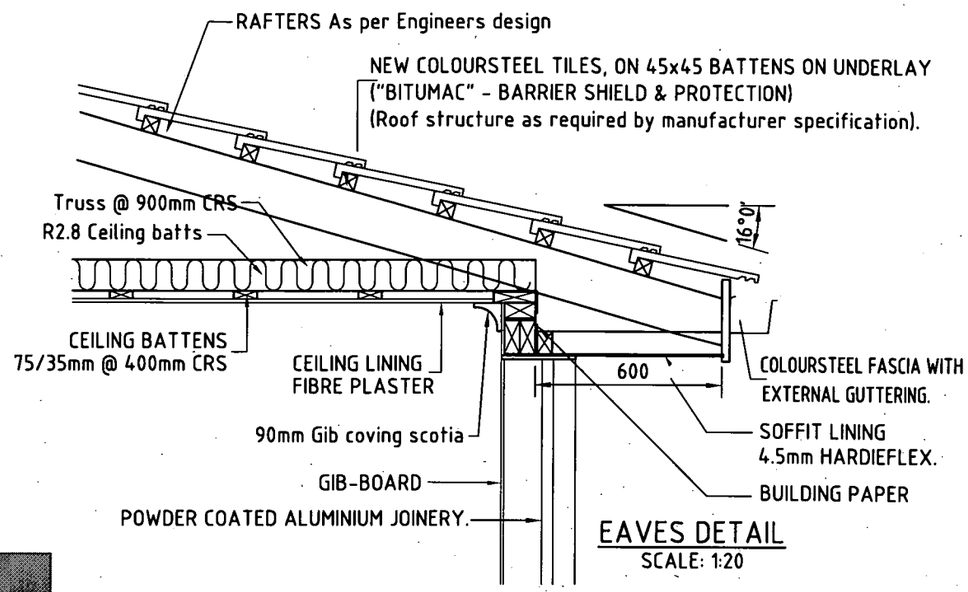
H 1.1, Douglas Fir or UTKD
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H 1.2
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- Ceiling framing
- Boundary joist
- Skillion roof framing
- Enclosed beams

H 3.1
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- Wet area's
- Painted posts and beams

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- External rafters, posts and beams

H 5.0
- Foundation piling



EAVES DETAIL
SCALE: 1:20

Figure 51: Valley gutters for profiled metal
Paragraph 8.4.16.2

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 roof cladding over gutter shall be reduced to 60 mm to provide a clearance gap of 40 mm.

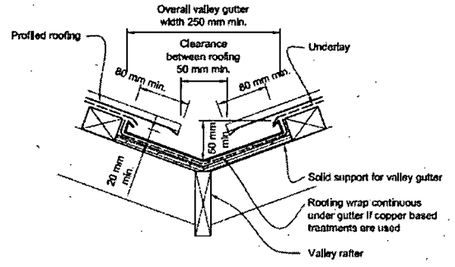
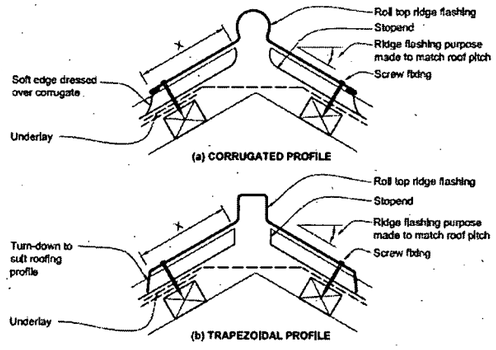


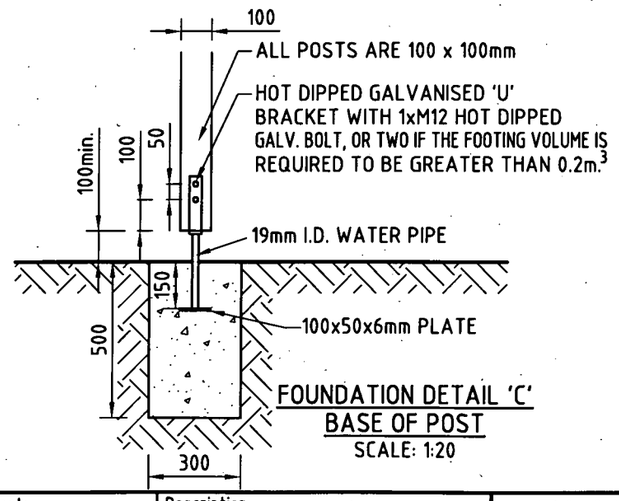
Figure 46: Ridge and hip flashings for profiled metal
Paragraphs 4.6.1.2, 8.4.11 and 8.4.12 (f)

NOTE: X = variable according to *wind zone* – refer Table 7.

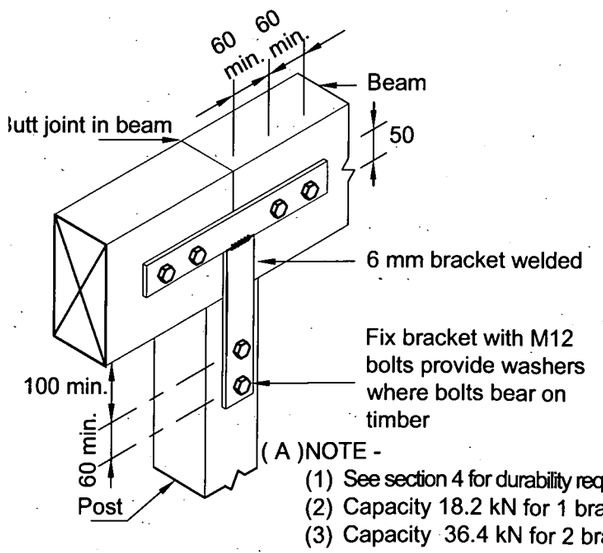


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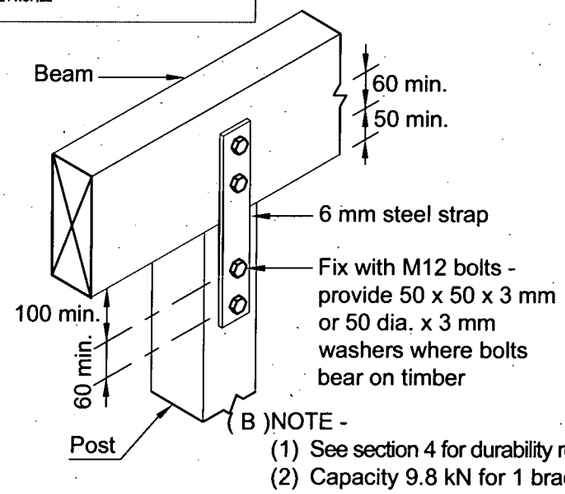
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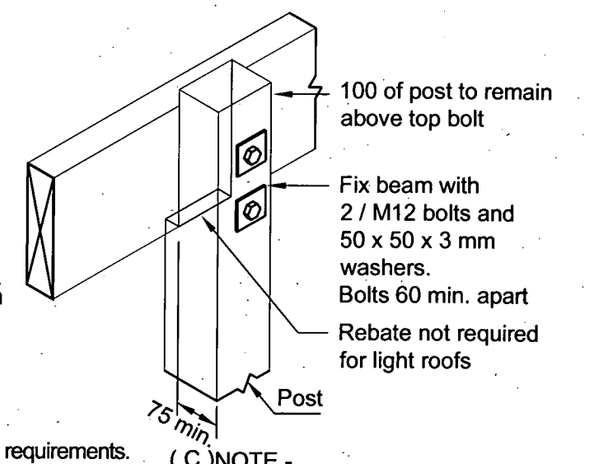
FOUNDATION DETAIL 'C'
BASE OF POST
SCALE: 1:20



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(C)NOTE -
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Details of Beam/ Post connection
NOT TO SCALE

ALL LOTS

Amendment:	Description:

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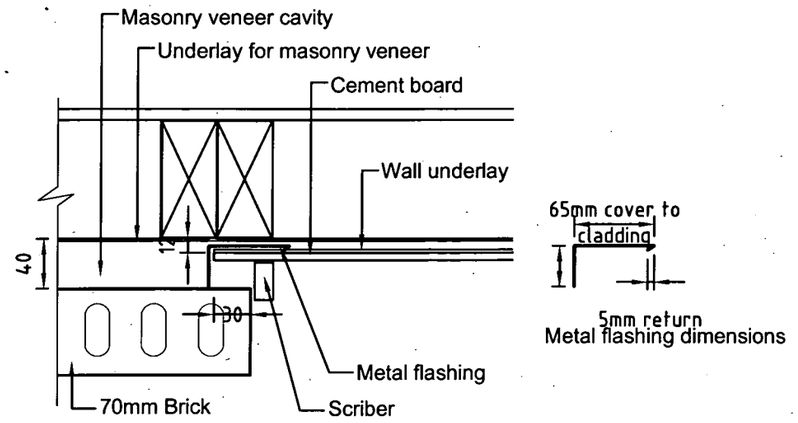
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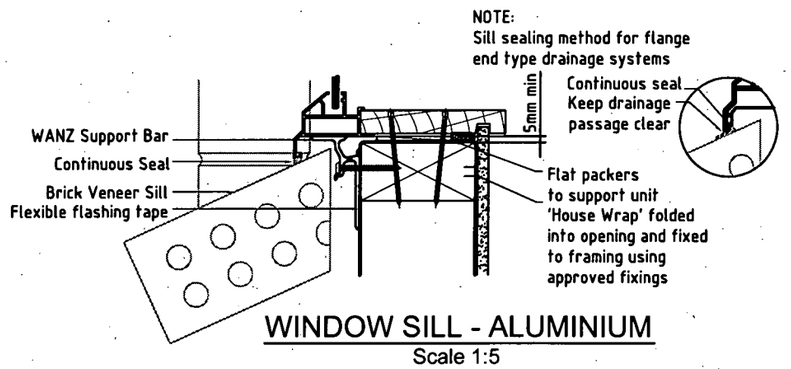
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



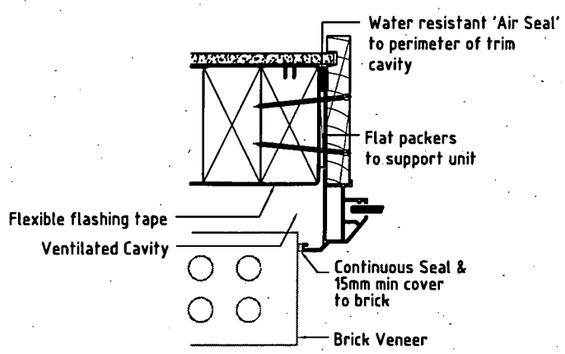
BRICK TO CEMENT BOARD DETAIL

Scale 1:5



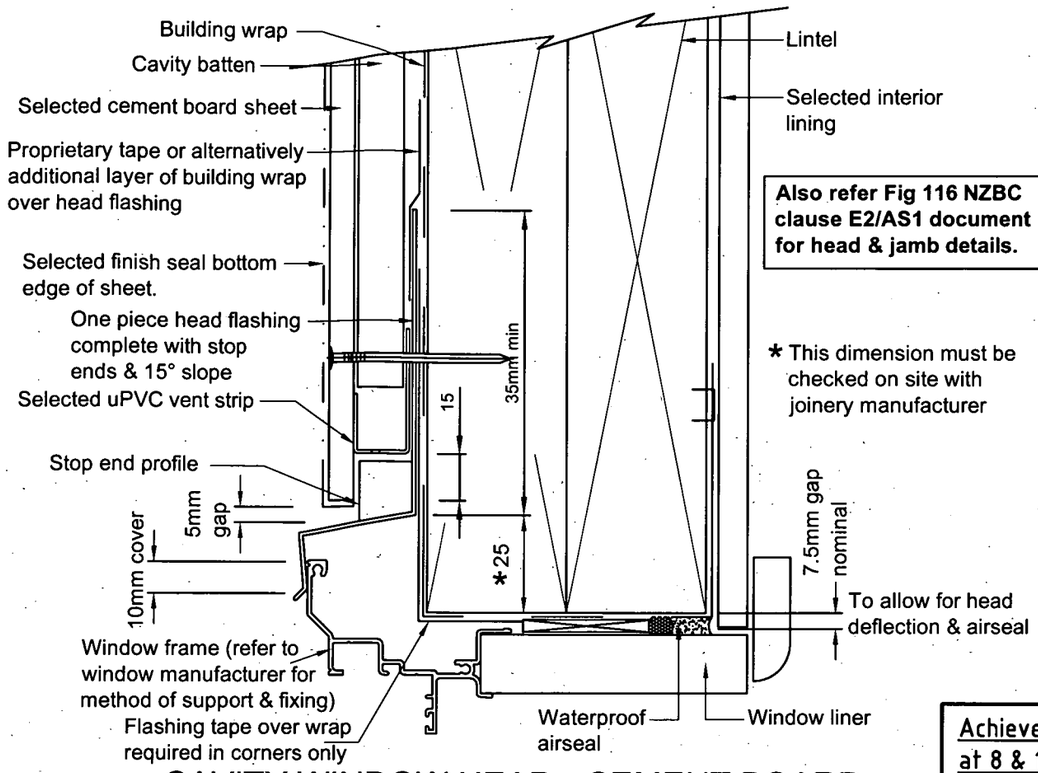
WINDOW SILL - ALUMINIUM

Scale 1:5



WINDOW JAMB - ALUMINIUM

Scale 1:5

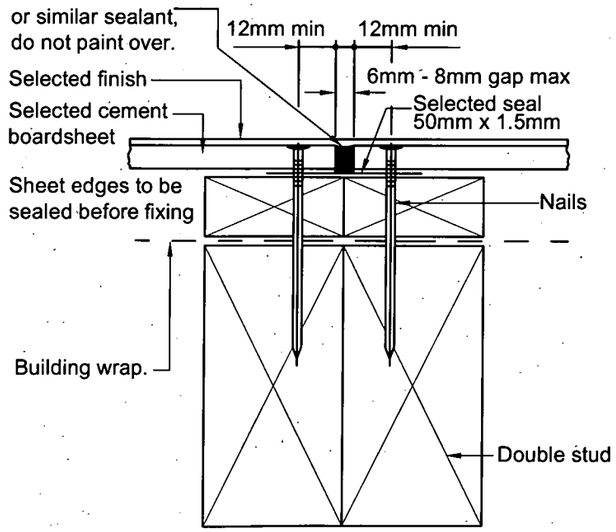


Also refer Fig 116 NZBC clause E2/AS1 document for head & jamb details.

* This dimension must be checked on site with joinery manufacturer

CAVITY WINDOW HEAD - CEMENT BOARD

NTS



CAVITY VERTICAL SEALANT JOINT - CEMENT BOARD

NTS

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BUILDING UNIT
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TO BE KEPT ON SITE

Achieved R Values for proposed seven new houses at 8 & 10 Yorkshire Road:

1). Concrete slab Rt = 1.3

2). Walls:

× Rse	(Exterior surface)	0.03
× Layer 1	(cladding)	0.06
× Layer 2 Rb	(air space and insulated frame space with R2.2)	1.88
× Layer 3	(lining)	0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.1m²°K/W

3). Double glazing windows:

× Rse	(exterior surface)	0.03
× Layer of 6mm float glass		0.006
× 12mm air (unventilated) space		0.14
× Layer of 6mm float glass		0.006
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		0.27m²°K/W

4). Roof structure (pitched roofs)

× Rse	(exterior surface)	0.03
× Roof cladding (steel tiles)		0.01
× Roof space & R3.2 insulation		2.72
× 10mm Gib plasterboard		0.04
× Rsi	(interior surface)	0.09
Total Thermal Resistance, Rt		2.9m²°K/W

ALL LOTS

Amendment:	Description:

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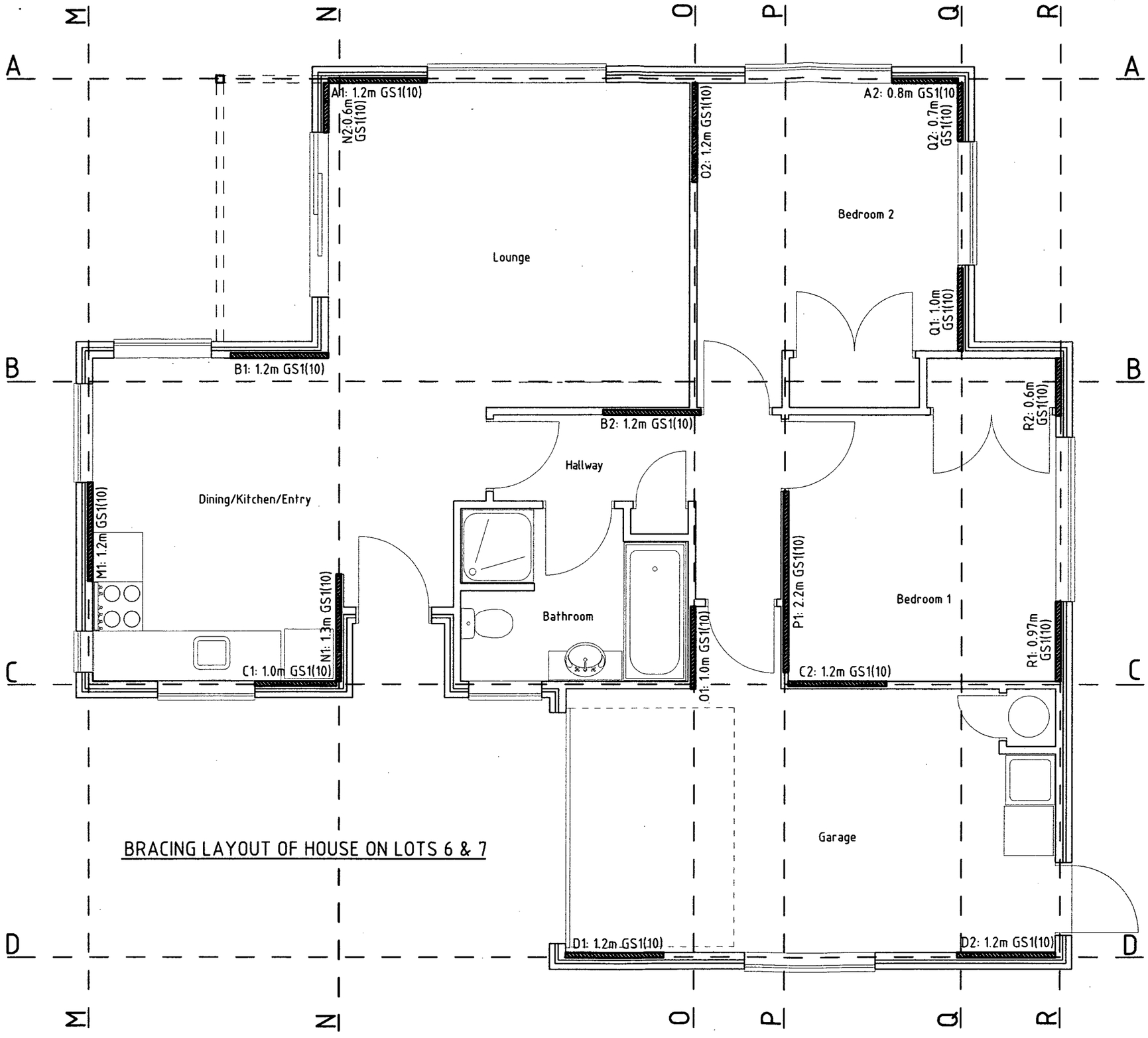
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Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



BRACING LAYOUT OF HOUSE ON LOTS 6 & 7

Table 1: 10 mm GIB® Plasterboard BU ratings

		GIB® Bracing Systems 2009	
Type	L (m) minimum	Lining	Other Requirements
		GIB® Standard	
GS1(10)	0.4	10 mm GIB® Standard Plasterboard one face	n/a
	1.2		
GS2(10)	0.6	10 mm GIB® Standard Plasterboard both faces	
	1.8		
		GIB Braceline®	
BL1(10)	0.4	10mm GIB Braceline® one face	Hold-Downs
	1.2		
BLP	0.4	10mm GIB Braceline® one face plywood other	
	0.9		
BLG	0.6	10mm GIB Braceline® one face 10mm GIB® Standard other	
	1.2		

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

LOTS 6 & 7

Amendment: | Description:

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M.G.S.L. acknowledges the supply of some base data from The relevant Local Authorities and L.I.N.Z. in the preparation of this plan.

NOTES:
1. Areas and distances are subject to survey.
2. Total CT area: 2565m²

PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

Surveyors–Land Engineers
–Land Development,
Resource Management and
Town Planning Consultants
7 HARDLEY STREET–HAMILTON–NEW ZEALAND P.O. BOX 9379
E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

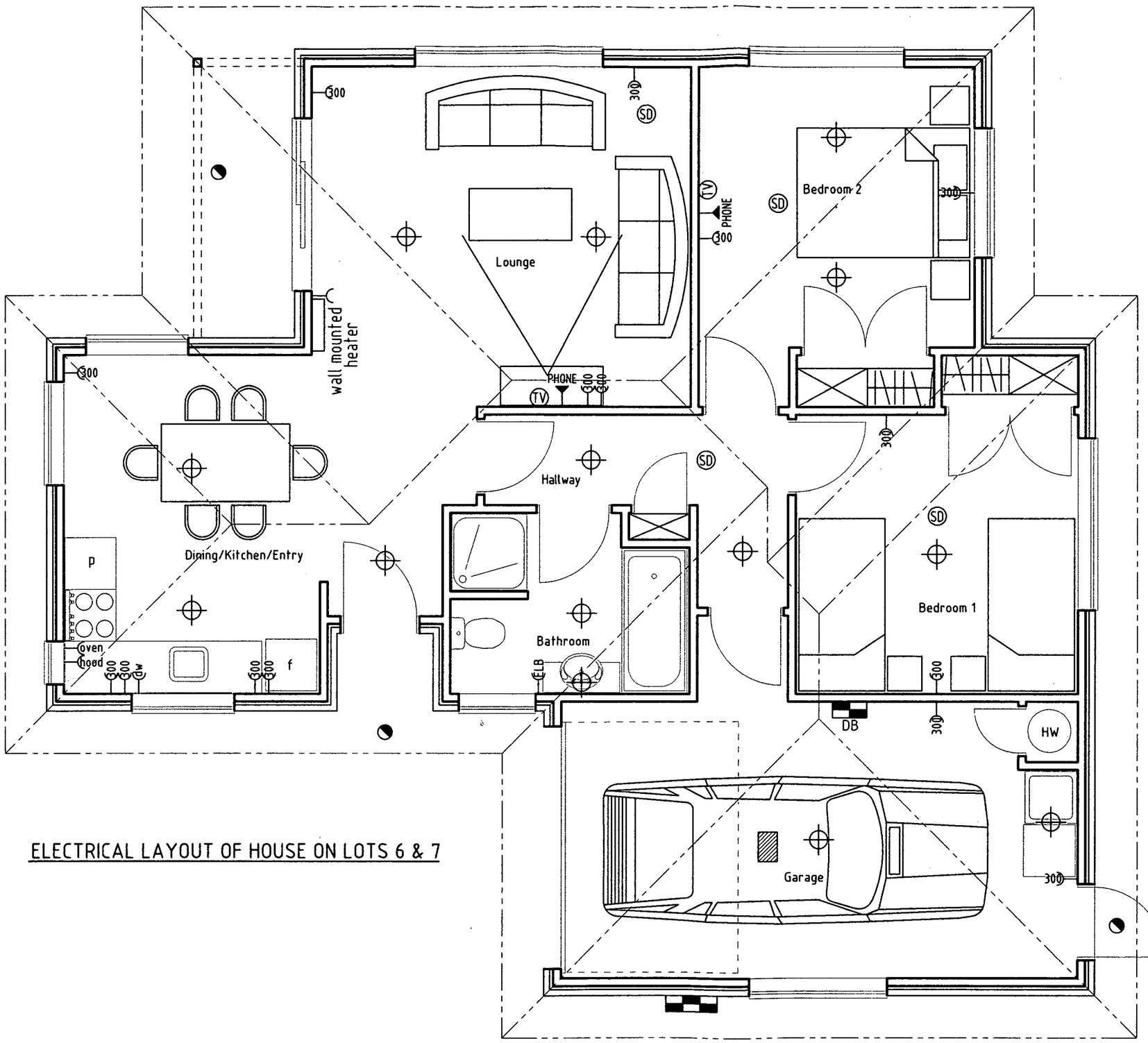
McPherson Goodwin

Surveyor: | Checked: GI Ruffell | Design/Drawn: M. Spasovska | Date: April/ 2010

Scale: 1:50 @ A3

Sheet 12 of 15
Ref.: 15147

McPherson Goodwin Surveyors Ltd_MS__ 5/05/2010 9:50 a.m. _15147_BLDG_CONSENT.dwg Original sheet size A3 (420*297)



ELECTRICAL LAYOUT OF HOUSE ON LOTS 6 & 7

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
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TO BE KEPT ON SITE

ELECTRICAL KEY:

- (SD) SMOKE DETECTOR (FIRST ALERT FRSAKLSA88CN)
- METER BOX
- DB RECESS DITRIBUTION BOARD
- 300 TYPICAL DOUBLE POWER POINT (300 A.F.F.L.)
- ELB SHAVERS PLUG
- BAYONET LIGHTS
- SELECTED CEILING LIGHT FITTINGS
- PHONE PHONE JACK
- (TV) TV AERIAL JACK
- GARAGE DOOR MOTOR

APPLIANCES/ FITTINGS:

RANGE HOOD - ELECTRIC - SIMPSON RA6WH
ELECTRIC STOVE - SIMPSON 63H906W

LOTS 6 & 7

Amendment:	Description:

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NOTES:
1. Areas and distances are subject to survey.
2. Total CT area: 2565m²

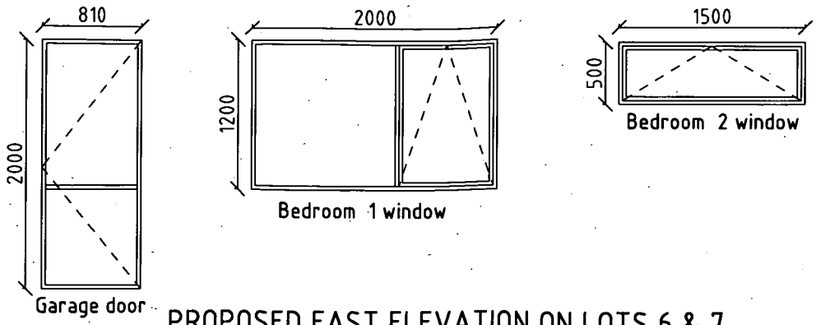
PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

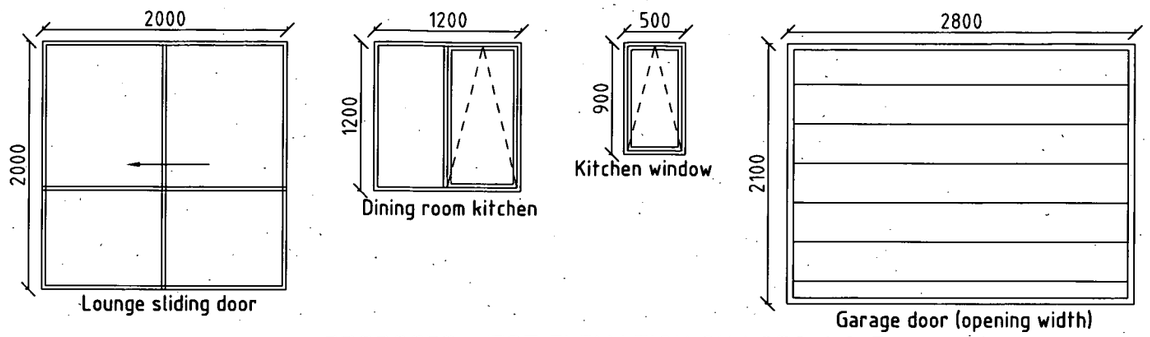
Surveyors–Land Engineers
–Land Development,
Resource Management and
Town Planning Consultants
7 HARDLEY STREET–HAMILTON–NEW ZEALAND P.O. BOX 9379
E–mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

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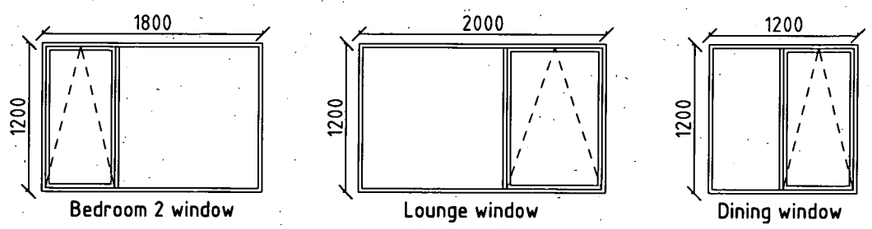
Surveyor:	Checked: GI Ruffell	Scale: 1:50 @ A3	Sheet 14 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



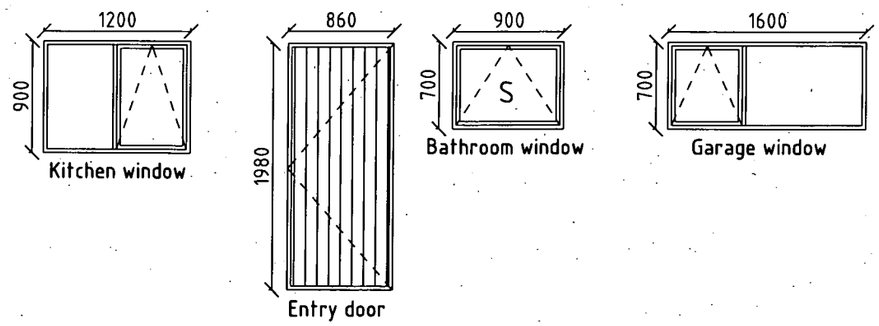
PROPOSED EAST ELEVATION ON LOTS 6 & 7



PROPOSED WEST ELEVATION ON LOTS 6 & 7



PROPOSED NORTH ELEVATION ON LOTS 6 & 7



PROPOSED SOUTH ELEVATION ON LOTS 6 & 7

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

LOTS 6 & 7

Amendment:	Description:

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The information on this plan is the property of McPherson Goodwin Surveyors Ltd (M.G.S.L.)
M.G.S.L. acknowledges the supply of some base data from The relevant Local Authorities and L.I.N.Z. in the preparation of this plan.

NOTES:
1. Areas and distances are subject to survey.
2. Total CT area: 2565m^2

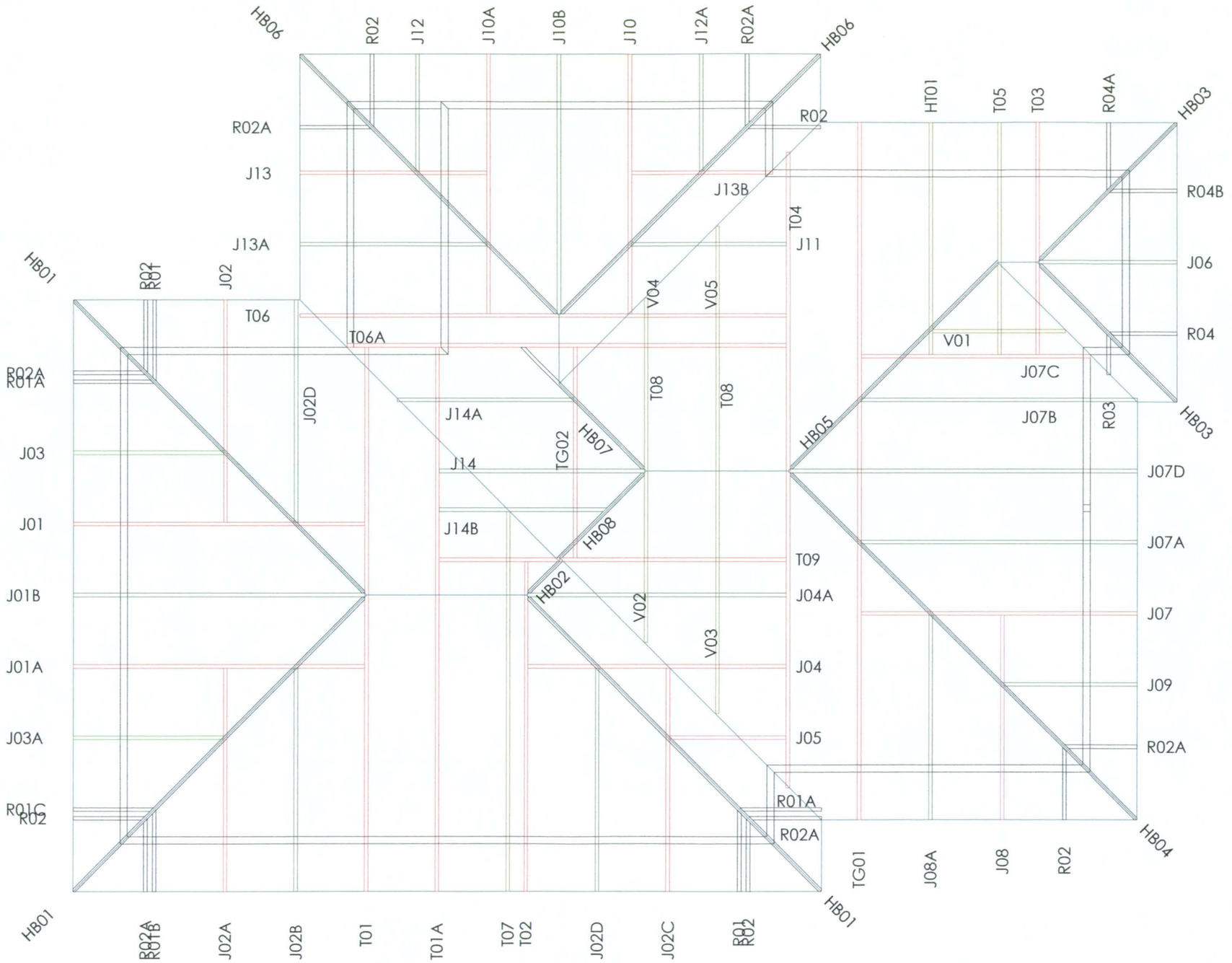
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Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

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E-mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335

McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: 1:50 @ A3	Sheet 15 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



THOMSONS BUILDING CENTRE

Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 1 42
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Buildable Truss Layout

Date : 29 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:
Roof Pitch : 16.00 Deg
Roof Material : Galv Iron .5mm
Ceiling Material : Standard
Wind Zone : Medium
Roof Snow Load : 0.000 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250kPa
Floor Live Load : kPa
Wind Speed : 37.0 m/s

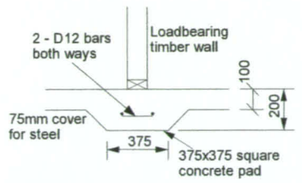
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MiTek

Job Title : 1230
Sheet : 1
Revision Number :

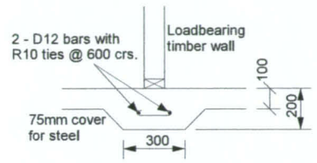
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Slab Thickening Details

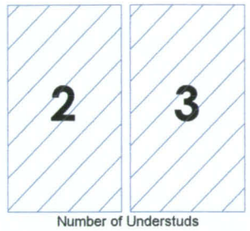


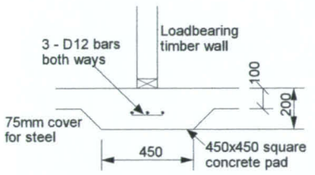
TYPE FP1 - 375x375mm Pad



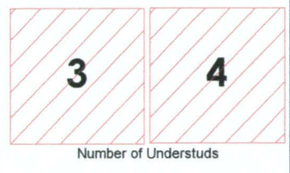


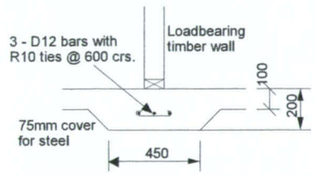
TYPE FS1 - 300mm Strip footing





TYPE FP2 - 450x450mm Pad



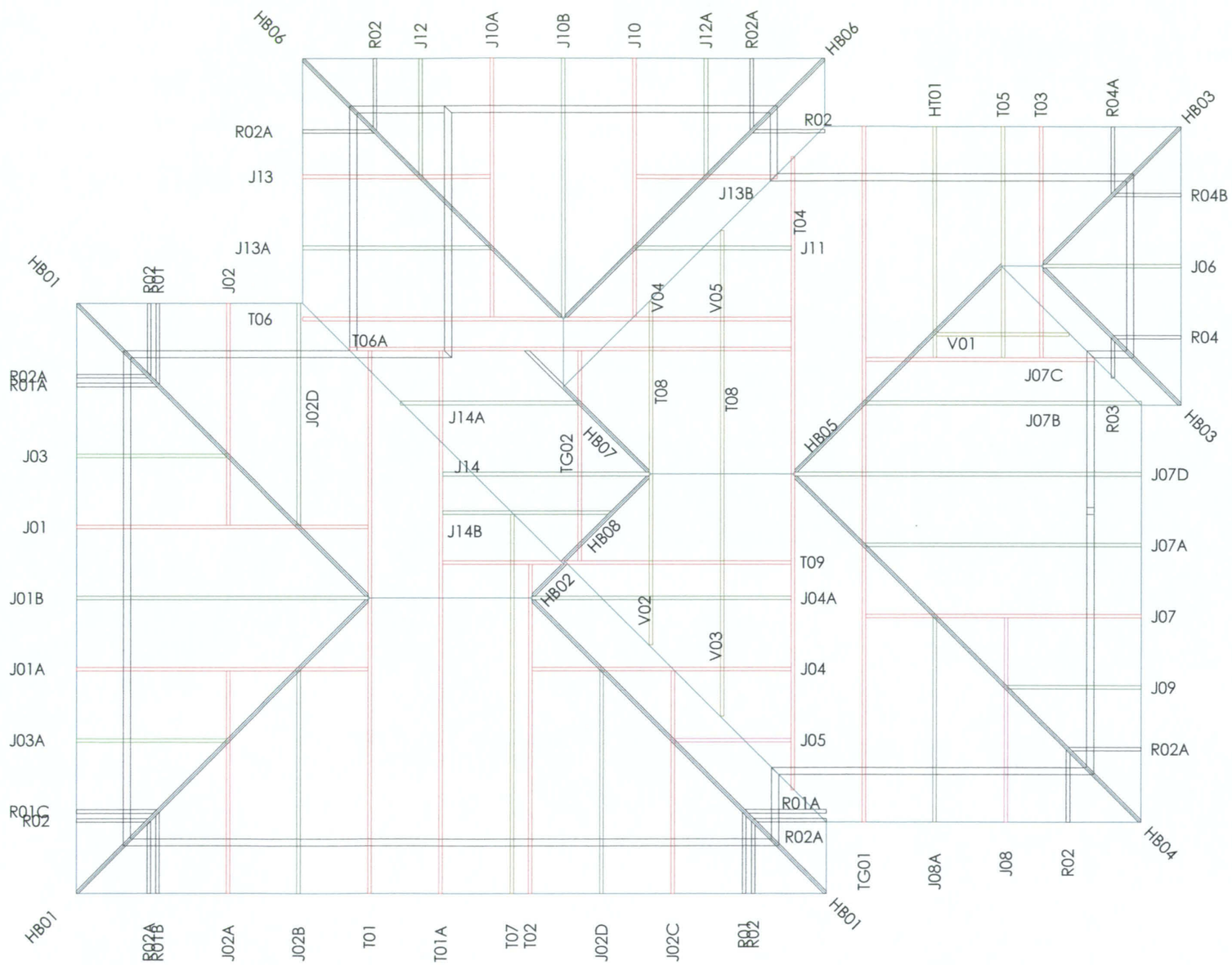


TYPE FS2 - 450mm Strip footing



NOTES:

The numbers found within the hatched area is the number of studs required below each truss.
Refer to:
GANG-NAIL Internal Load Bearing on Concrete Floor Slabs brochure 12/2006



NO EXTRA SLAB THICKENING REQUIRED

THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 1 #2
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Slab Thickening

Date : 29 Apr,2010	Drawn : Administrator
Scale : 1: 100	System : MiTek 20/20

Job Details:

Roof Pitch	: 16.000deg
Roof Material	: Galv Iron .5mm
Ceiling Material	: Standard
Wind Zone	: Medium
Roof Snow Load	: 0.000 kPa

Truss Centres	: 900 mm
Roof Live Load	: 0.250kPa
Floor Live Load	: kPa
Wind Speed	: 37.0 m/s

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MiTek

Job Title : 1230
Sheet : 2
Revision Number :

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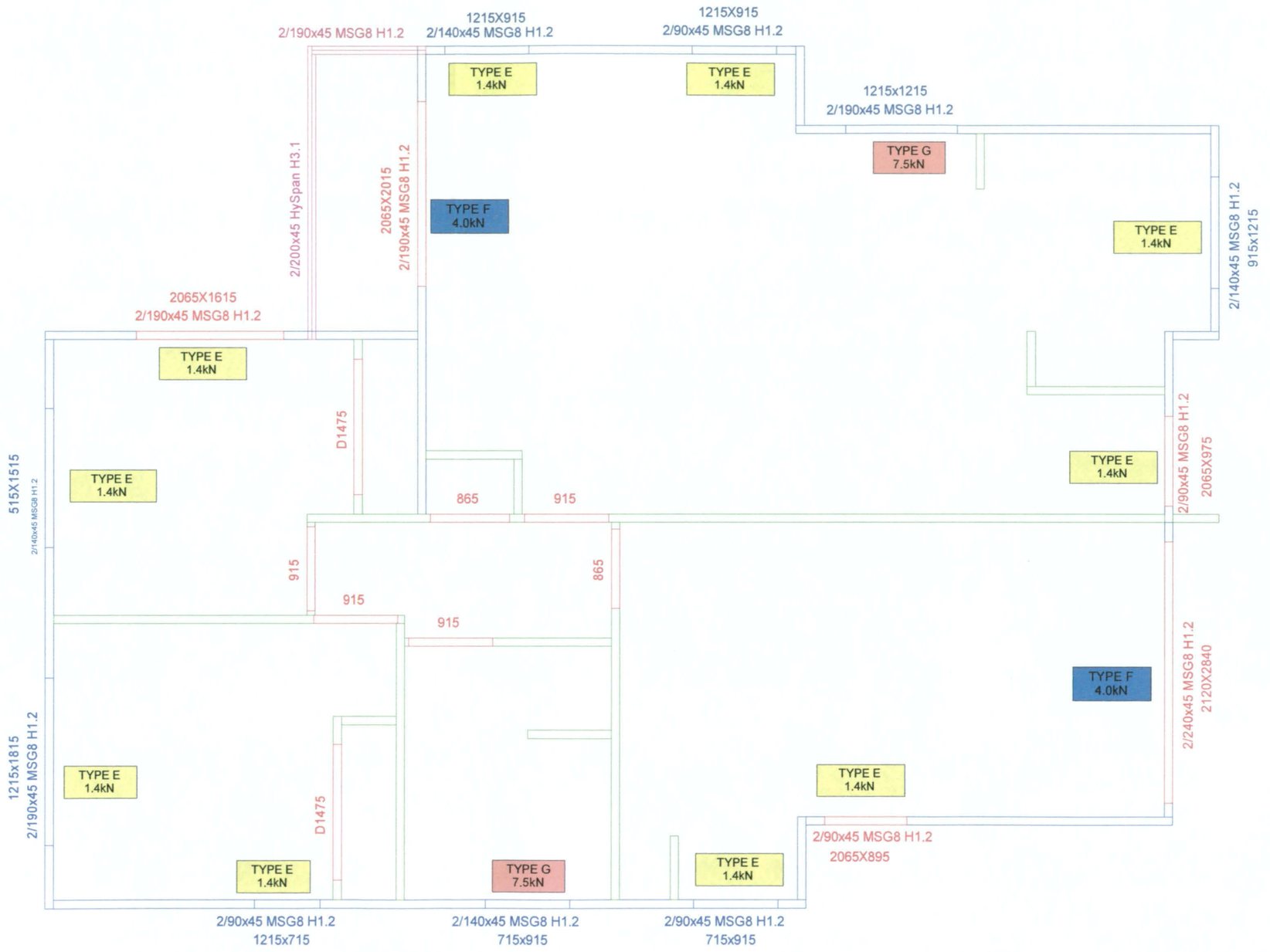
Lintel Fixing Details

TYPE E
1.4kN

TYPE F
4.0kN

TYPE G
7.5kN

TYPE H
13.5kN



NOTES:

Refer to:
Lintel Fixing Schedule 04/2008
pages 28 & 29, Structrual Fixings
On-site Guide for Buildng Code
Compliance 2009 Edition

(Alternative to NZS 3604:1999
Table 8.14 & Figure 8.12)

THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 1 & 2
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Lintel Fixing

Date : 29 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:
Roof Pitch : 16.00 Deg
Roof Material : Galv Iron .5mm
Ceiling Material : Standard
Wind Zone : Medium
Roof Snow Load : 0.000 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250kPa
Floor Live Load : kPa
Wind Speed : 37.0 m/s

PrimeCad v4.6.3.30

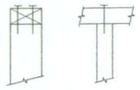
MiTek

Job Title :
1230
Sheet :
3
Revision Number :

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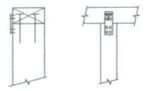
Stud to top plate fixing details

Type A is minimum fixing required unless specified otherwise



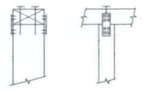
FIXING TYPE A
0.7kN

2/90x3.33 plain steel wire nails driven vertically into stud.



FIXING TYPE B
1.7kN

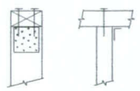
2/90x3.33 plain steel wire nails driven vertically into stud, plus single LUMBERLOK Tylok 2T4 plate.



FIXING TYPE C
2.7kN

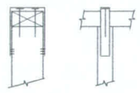
2/90x3.33 plain steel wire nails driven vertically into stud, plus pair LUMBERLOK Tylok 2T4 plates.

FIXING TYPE D
6.0kN



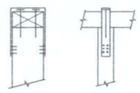
2/90x3.33 plain steel wire nails driven vertically into stud, plus LUMBERLOK 6kN Stud Anchor.

OR



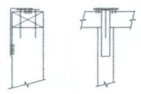
2/90x3.33 plain steel wire nails driven vertically into stud, plus LUMBERLOK Tylok Stud Tie

OR



LUMBERLOK Sheet Brace Strap 400 with 6/30x3.15 nails each stud face

OR

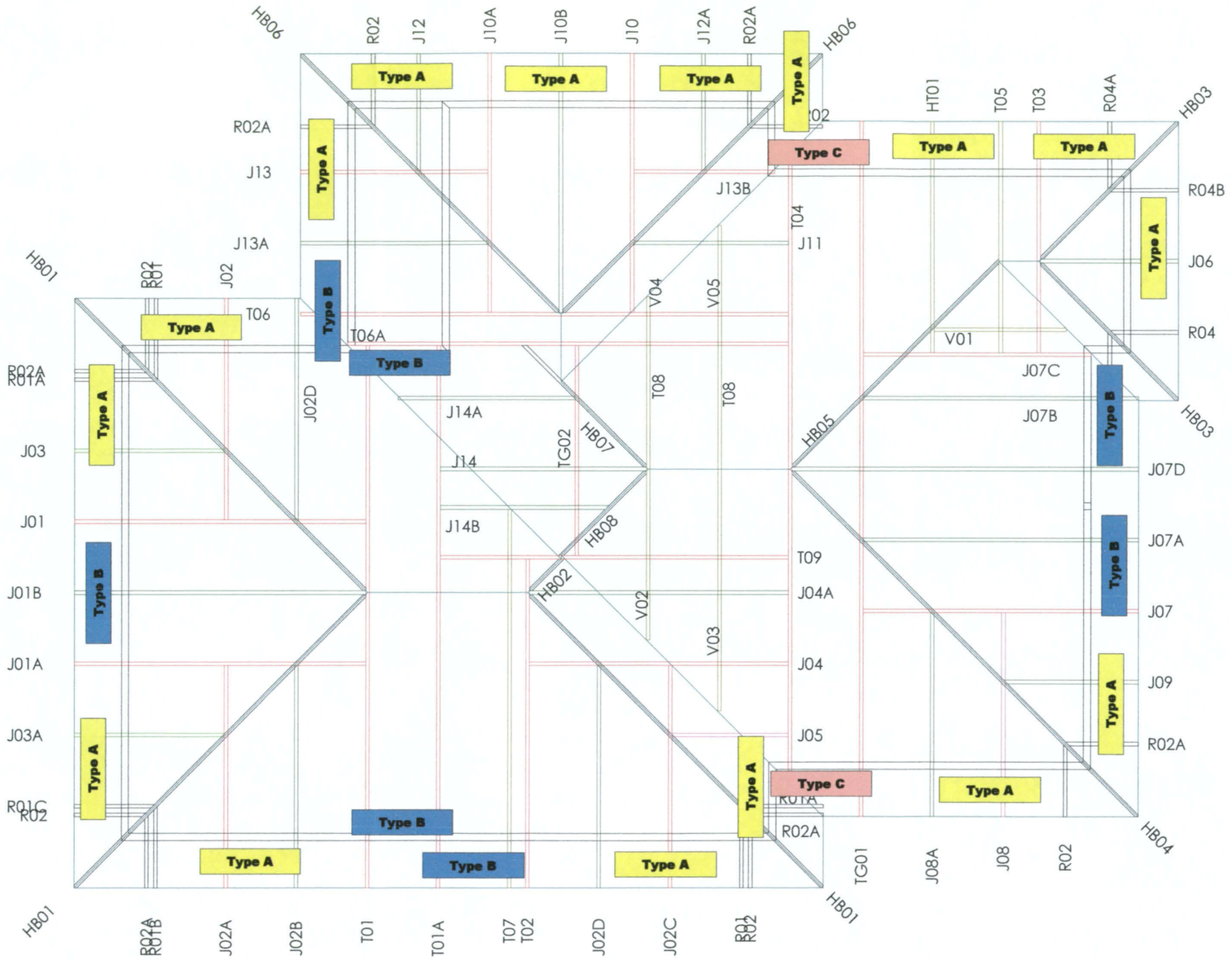


LUMBERLOK Stud Strap

NOTES:

Refer to:
LUMBERLOK Wall Fixing Chart - Stud to Top Plate Fixing Schedule 01/10

(Alternative to NZS3604:1999 Table 8.18)



THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 1 & 2
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Stud To Top Plate Fixing

Date : 29 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:
Roof Pitch : 16.00 Deg
Roof Material : Galv Iron .5mm
Ceiling Material : Standard
Wind Zone : Medium
Roof Snow Load : 0.000 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250kPa
Floor Live Load : kPa
Wind Speed : 37.0 m/s

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MiTek

Job Title :
1230
Sheet :
4
Revision Number :

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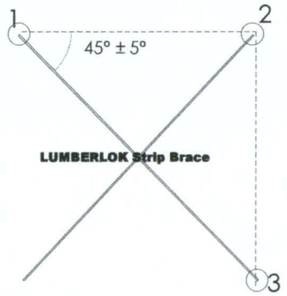
Truss Fixings

	Qty
D - Pair of LUMBERLOK Wire Dogs	**76**
X - LUMBERLOK JH47x90 Joist Hanger	**46**
Z - LUMBERLOK JH47x120 Joist Hanger	**11**
P - LUMBERLOK JH47x190 Joist Hanger	
E - LUMBERLOK JH95x165 Joist Hanger	
O - Pair of LUMBERLOK CT200 Ceiling Ties	
H - LUMBERLOK CT400 Cyclone Tie	**8**
B - LUMBERLOK CT600 Cyclone Tie	
M - Pair of LUMBERLOK Multi Grips	
NP - LUMBERLOK Nailon Plate	
N - LUMBERLOK N21 Diagonal Cleat	
W - Pair of LUMBERLOK CPC40 Cleats	**4**
2 x Type17 - 14g x 75mm screws	**8**
K - LUMBERLOK 16kN Truss to Top Plate set	
S/S - 300mm Sheet Brace Strap @1200mm crs	
LUMBERLOK product nails required	**6**

Roof Bracing

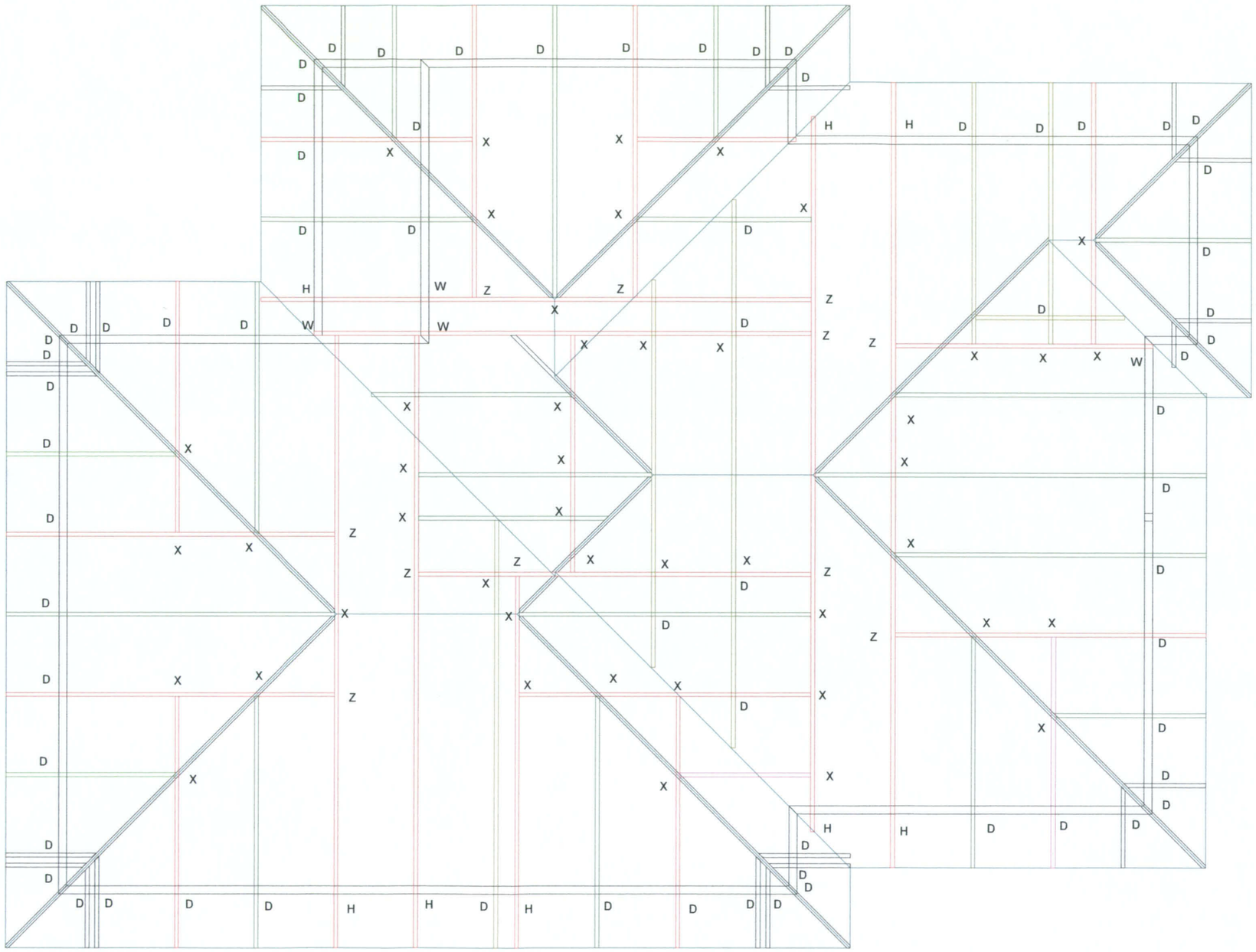
Refer to:
LUMBERLOK Roof Bracing Specifications brochure 08/2006 for end fixing details.

The brace must be located such that it forms an angle of 45° ± 5° to the wall



NOTES:

All other areas must have a minimum of a pair of 90mm skew nails for truss to top plate connections.
Refer to:
LUMBERLOK Timber Connectors Characteristic Loadings Data brochure 03/4



THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 1 & 2
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Truss Fixings & Roof Bracing

Date : 29 Apr,2010	Drawn : Administrator
Scale : 1: 100	System : MiTek 20/20

Job Details:

Roof Pitch	: 16.00 Deg
Roof Material	: Galv Iron .5mm
Ceiling Material	: Standard
Wind Zone	: Medium
Roof Snow Load	: 0.000 kPa

Truss Centres	: 900 mm
Roof Live Load	: 0.250kPa
Floor Live Load	: kPa
Wind Speed	: 37.0 m/s

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MiTek

Job Title : 1230
Sheet : 5
Revision Number :

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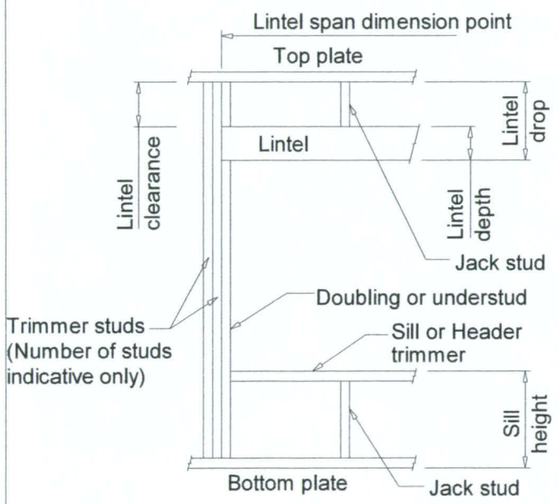
LUMBERLOK®

04/2008

LINTEL FIXING SCHEDULE
ALTERNATIVE TO TABLE 8.14 & FIGURE 8.12
NZS 3604:1999

- ★ All fixings are designed for vertical loads only. Dead loads include the roof weight and standard ceiling weight of 0.20 kPa.
- ★ Refer to Table 8.19 NZS 3604:1999 for nailing schedule to resist horizontal loads.
- ★ These fixings assume the correct choice of rafter/truss to top plate connections have been made.
- ★ All fixings assume bottom plate thickness of 45mm maximum. Note: TYLOK options on timber species.
- ★ Wall framing arrangements under girder trusses are not covered in this schedule.
- ★ All timber selections are as per NZS 3604:1999

DEFINITIONS



SELECTION CHART FOR LINTEL FIXING

Lintel Span	Loaded Dimension (See Fig. 1.3 NZS 3604:1999)	Light Roof Wind Zone				Heavy Roof Wind Zone			
		L	M	H	VH	L	M	H	VH
1.5	2.0	E	E	F	F	E	E	F	F
	3.0	E	E	F	G	E	E	F	F
	4.0	E	F	G	G	E	E	F	G
	5.0	E	F	G	G	E	E	G	G
	6.0	E	F	G	H	E	E	G	G
2.0	2.0	E	F	F	G	E	E	F	F
	3.0	E	F	G	G	E	E	F	G
	4.0	E	F	G	G	E	E	G	G
	5.0	E	G	G	H	E	E	G	G
	6.0	F	G	G	H	E	F	G	H
2.4	2.0	E	F	F	G	E	E	F	F
	3.0	F	F	G	G	E	E	G	G
	4.0	F	G	G	H	E	E	G	G
	5.0	F	G	G	H	E	F	G	H
	6.0	F	G	H	H	E	F	G	H
3.0	2.0	E	F	G	G	E	E	F	G
	3.0	F	F	G	H	E	E	G	G
	4.0	F	G	G	H	E	F	G	H
	5.0	F	G	H	H	E	F	G	H
	6.0	G	G	H	-	E	F	H	H
3.6	2.0	F	F	G	G	E	E	F	G
	3.0	F	G	G	H	E	F	G	G
	4.0	F	G	H	H	E	F	G	H
	5.0	F	G	H	-	E	F	H	H
	6.0	G	H	H	-	E	F	H	-
4.2	2.0	F	F	G	G	E	E	G	G
	3.0	F	G	H	H	E	F	G	H
	4.0	G	G	H	-	E	F	H	H
	5.0	G	H	H	-	E	F	H	-
	6.0	G	H	-	-	E	G	H	-
4.8	2.0	F	G	G	H	E	E	G	G
	3.0	F	G	H	H	E	F	G	H
	4.0	G	G	H	-	E	F	H	H
	5.0	G	H	-	-	E	F	H	-
	6.0	G	H	-	-	E	G	H	-

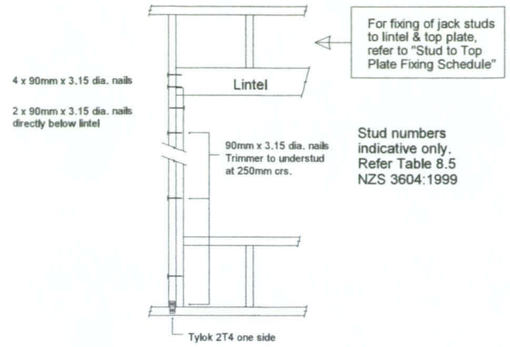
NOTES:

Lintels supporting girders trusses for ALL load cases use:
Fixing Type G where contributary area = 10m²
Fixing Type H where contributary area = 20m²
All cases outside this require specific design.

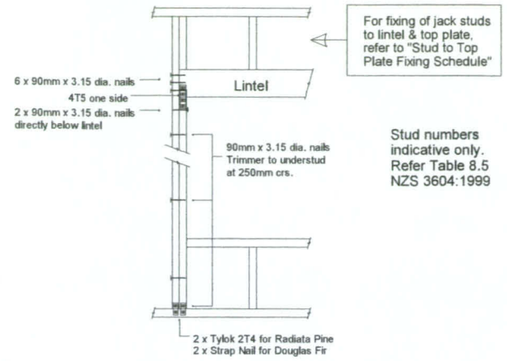
04/2008

LINTEL FIXING OPTIONS

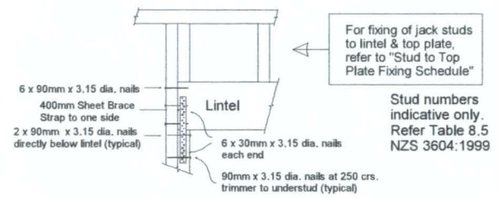
TYPE E 1.4kN

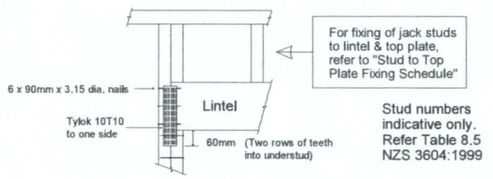


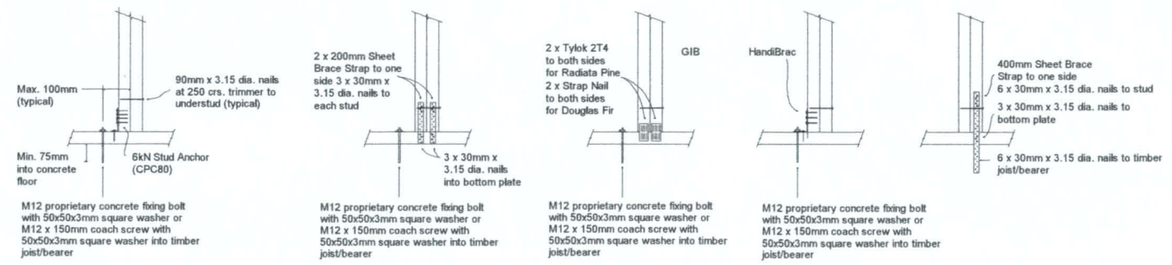
TYPE F 4.0kN



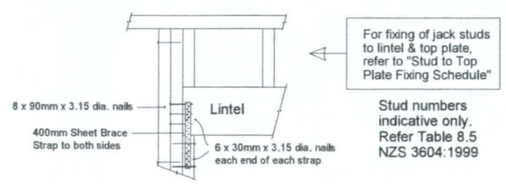
TYPE G 7.5kN

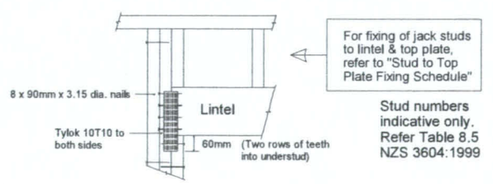


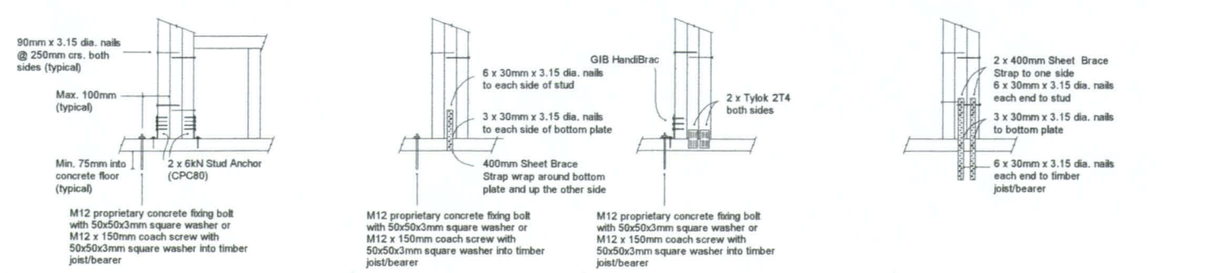




TYPE H 13.5kN







MiTek New Zealand Ltd.

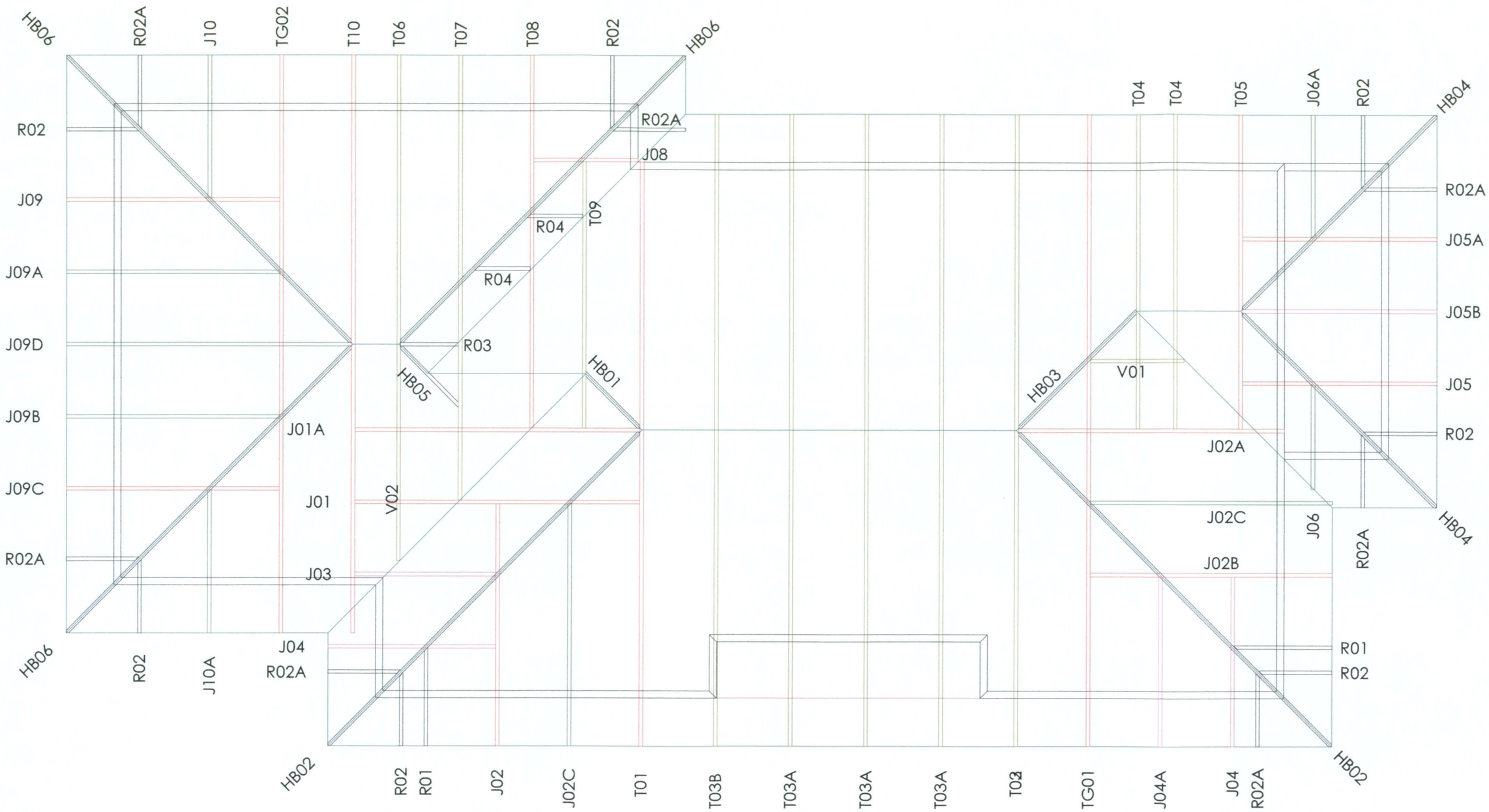
AUCKLAND
PO Box 58-014, Greenmount
Phone: (09) 274 7100
Fax: (09) 274 7100
www.miteknz.co.nz

CHRISTCHURCH
PO Box 8387, Riccarton
Phone: (03) 348 9591
Fax: (03) 348 9314

HOME OF GANG-NAIL® BUILDING SYSTEMS

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THOMSONS BUILDING CENTRE

Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 3
Yorkshire Street

Sheet Title :
For Building Consent
Buildable Truss Layout

Date : 28 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:
Roof Pitch : 16.000 Deg
Roof Material : Galv Iron .5mm
Ceiling Material : Standard
Wind Zone : Medium
Roof Snow Load : 0.000 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250kPa
Floor Live Load : kPa
Wind Speed : 37.0 m/s

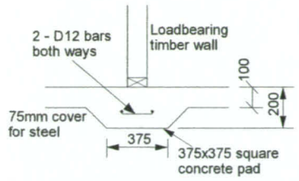
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MiTek

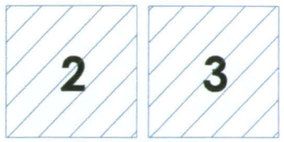
Job Title :
1224
Sheet :
1
Revision Number :

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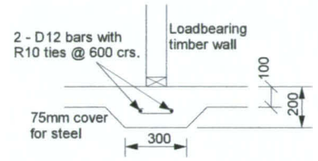
Slab Thickening Details



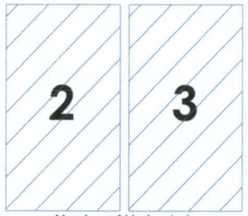
TYPE FP1 - 375x375mm Pad



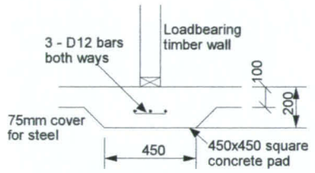
Number of Understuds



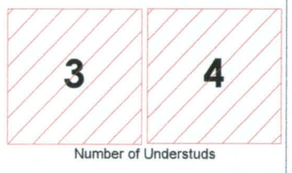
TYPE FS1 - 300mm Strip footing



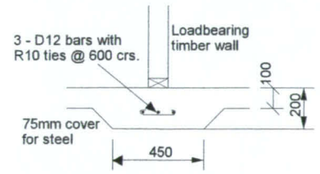
Number of Understuds



TYPE FP2 - 450x450mm Pad



Number of Understuds



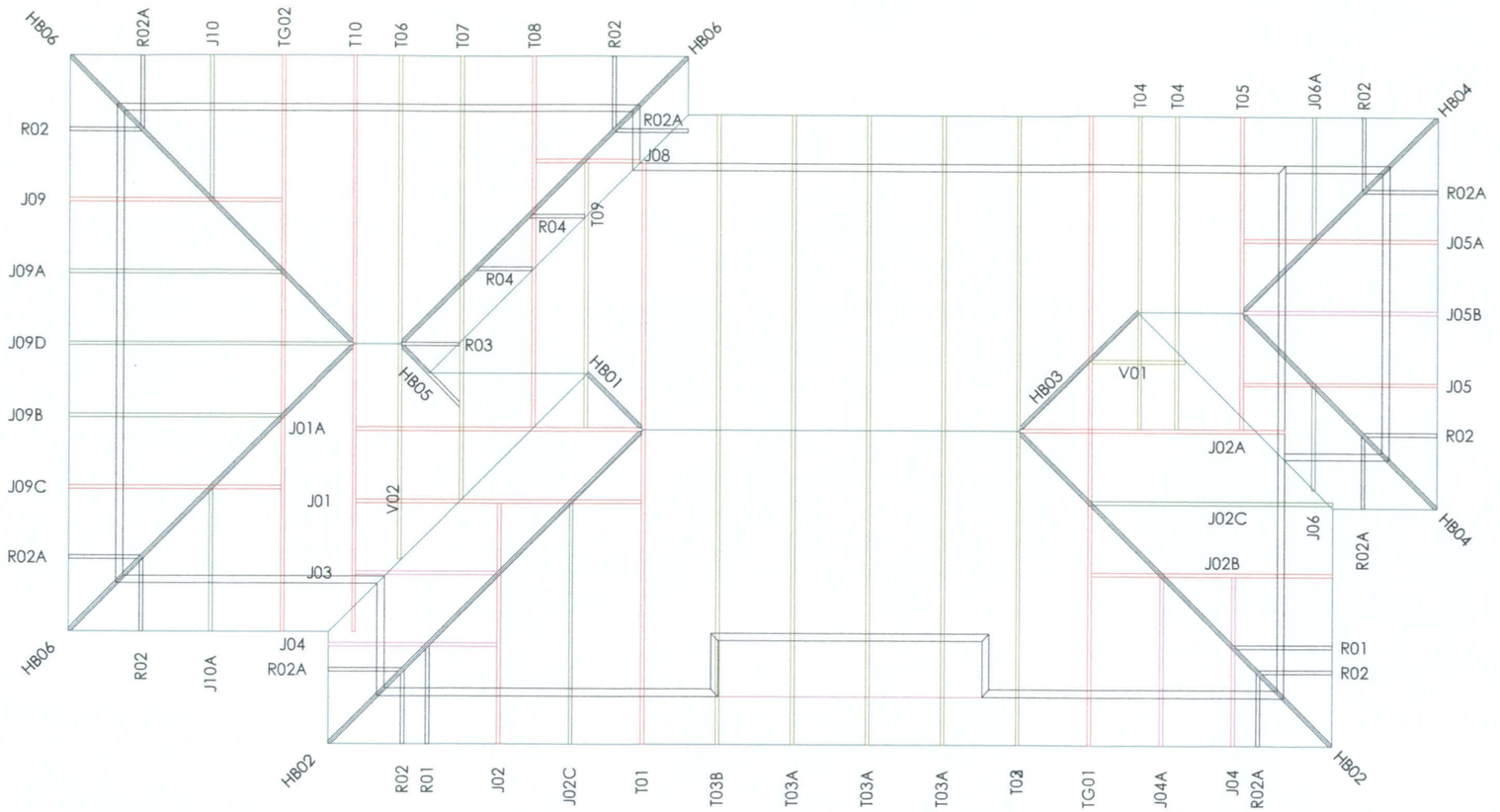
TYPE FS2 - 450mm Strip footing



Number of Understuds

NOTES:

The numbers found within the hatched area is the number of studs required below each truss.
Refer to:
GANG-NAIL Internal Load Bearing on Concrete Floor Slabs brochure 12/2006



NO EXTRA SLAB THICKENING REQUIRED

THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 3
Yorkshire Street

Sheet Title :
For Building Consent
Slab Thickening

Date : 28 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:

Roof Pitch	: 16.000 Deg	Truss Centres	: 900 mm
Roof Material	: Galv Iron .5mm	Roof Live Load	: 0.250 kPa
Ceiling Material	: Standard	Floor Live Load	: kPa
Wind Zone	: Medium	Wind Speed	: 37.0 m/s
Roof Snow Load	: 0.000 kPa		

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MiTek

Job Title : 1224
Sheet : 2
Revision Number :

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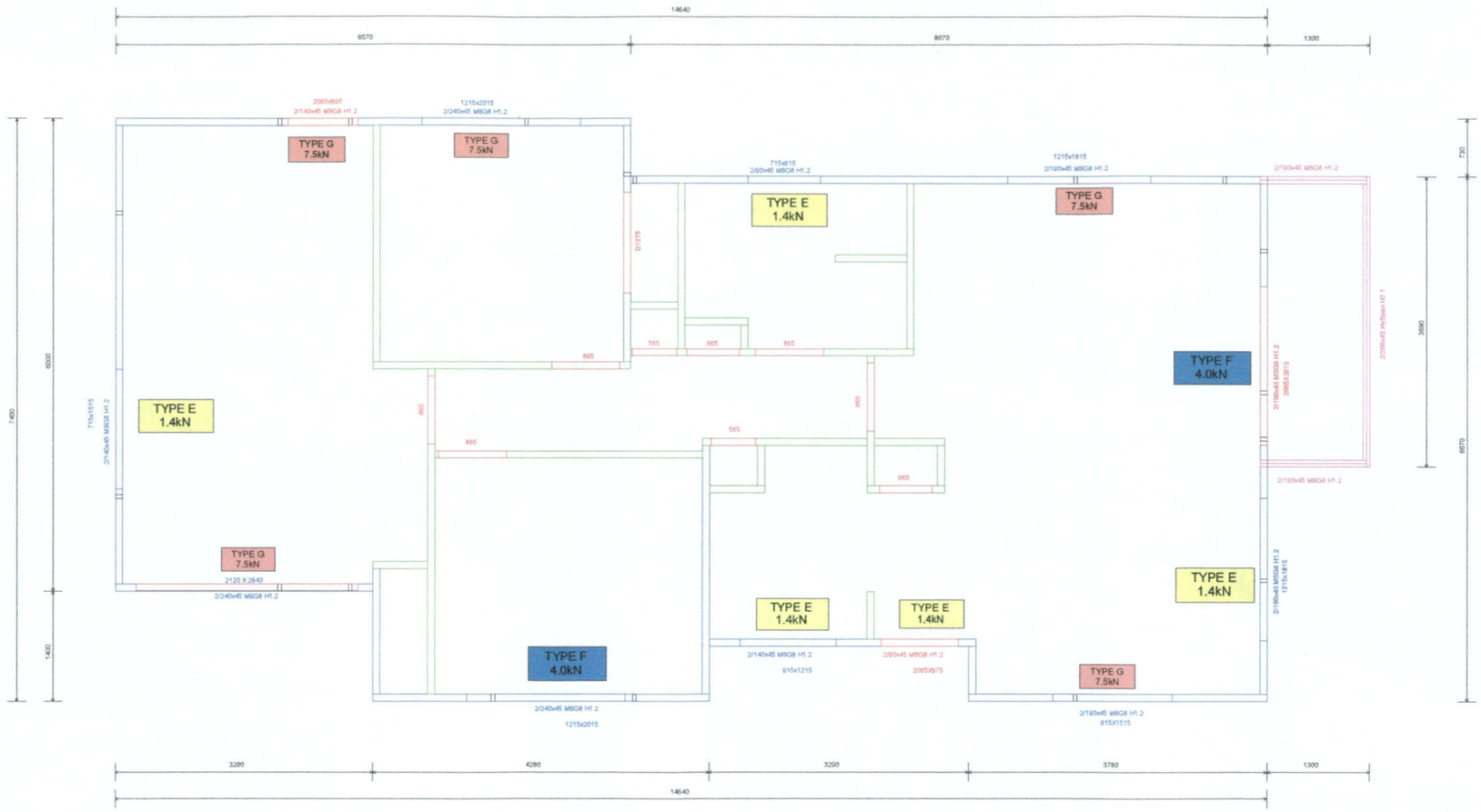
Lintel Fixing Details

TYPE E
1.4kN

TYPE F
4.0kN

TYPE G
7.5kN

TYPE H
13.5kN



NOTES:

Refer to:
Lintel Fixing Schedule 04/2008
pages 28 & 29, Structrual Fixings
On-site Guide for Buildng Code
Compliance 2009 Edition

(Alternative to NZS 3604:1999
Table 8.14 & Figure 8.12)

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THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 3
Yorkshire Street

Sheet Title :
For Building Consent
Lintel Fixing

Date : 28 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:
Roof Pitch : 16.000 Deg
Roof Material : Galv Iron .5mm
Ceiling Material : Standard
Wind Zone : Medium
Roof Snow Load : 0.000 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250 kPa
Floor Live Load : kPa
Wind Speed : 37.0 m/s

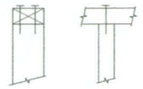
MiTek

Job Title :
1224
Sheet :
3
Revision Number :

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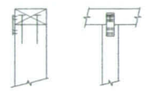
Stud to top plate fixing details

Type A is minimum fixing required unless specified otherwise



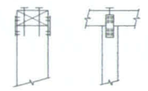
FIXING TYPE A
0.7kN

2/90x3.33 plain steel wire nails driven vertically into stud.



FIXING TYPE B
1.7kN

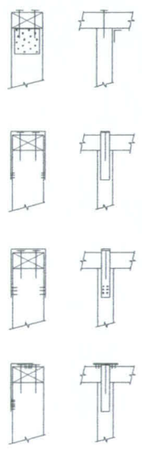
2/90x3.33 plain steel wire nails driven vertically into stud, plus single LUMBERLOK Tylok 2T4 plate.



FIXING TYPE C
2.7kN

2/90x3.33 plain steel wire nails driven vertically into stud, plus pair LUMBERLOK Tylok 2T4 plates.

FIXING TYPE D
6.0kN



2/90x3.33 plain steel wire nails driven vertically into stud, plus LUMBERLOK 6kN Stud Anchor.

OR

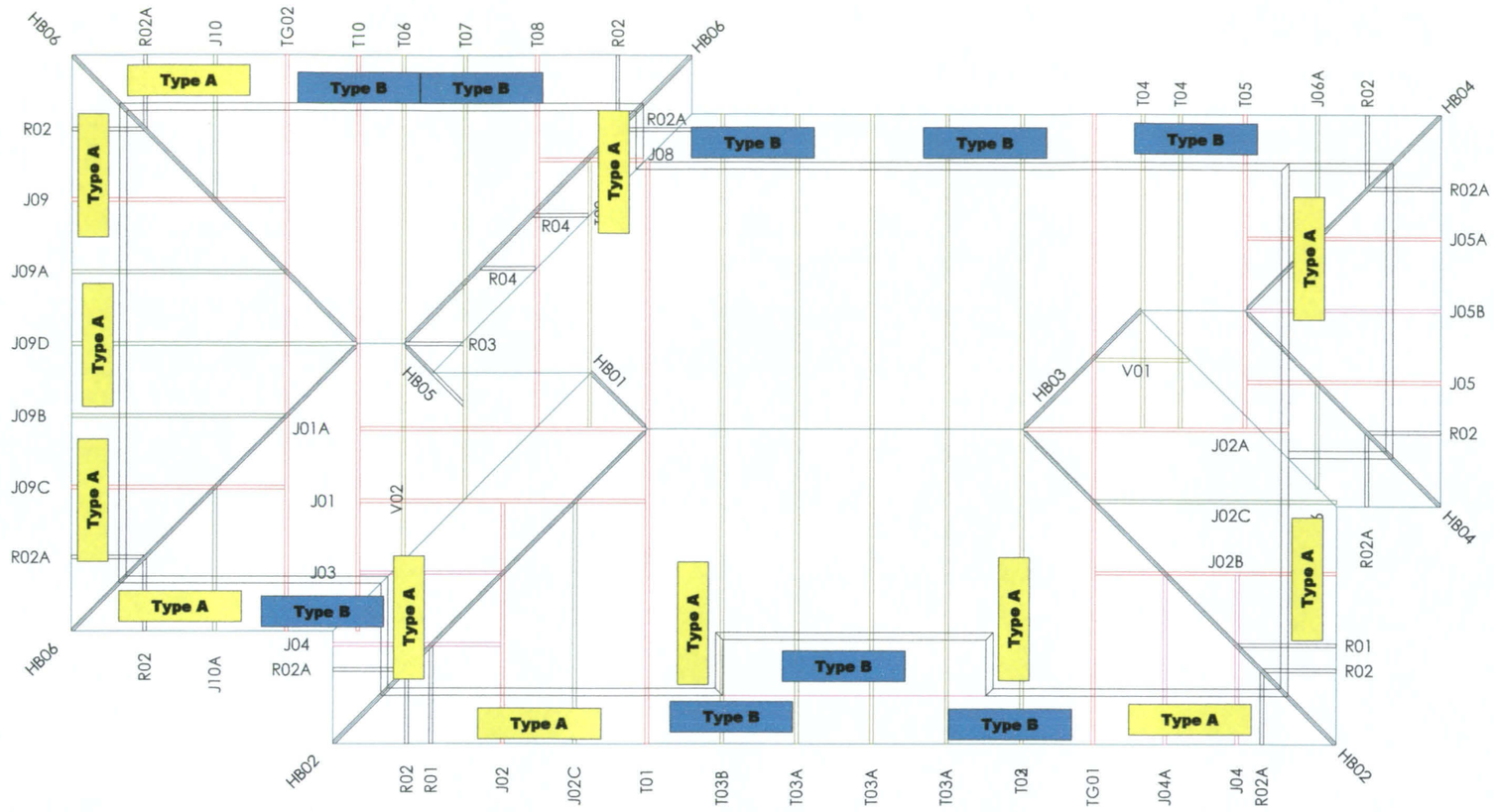
2/90x3.33 plain steel wire nails driven vertically into stud, plus LUMBERLOK Tylok Stud Tie

OR

LUMBERLOK Sheet Brace Strap 400 with 6/30x3.15 nails each stud face

OR

LUMBERLOK Stud Strap



NOTES:

Refer to:
LUMBERLOK Wall Fixing Chart - Stud to Top Plate Fixing Schedule 01/10

(Alternative to NZS3604:1999 Table 8.18)

THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 3
Yorkshire Street

Sheet Title :
For Building Consent
Stud To Top Plate Fixing

Date : 28 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:

Roof Pitch	: 16.00 Deg	Truss Centres	: 900 mm
Roof Material	: Galv Iron .5mm	Roof Live Load	: 0.250kPa
Ceiling Material	: Standard	Floor Live Load	: kPa
Wind Zone	: Medium	Wind Speed	: 37.0 m/s
Roof Snow Load	: 0.000 kPa		

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MiTek

Job Title : 1224
Sheet : 4
Revision Number :

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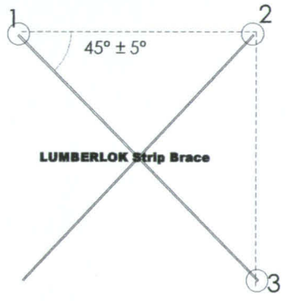
Truss Fixings

	Qty
D - Pair of LUMBERLOK Wire Dogs	**60**
X - LUMBERLOK JH47x90 Joist Hanger	**31**
Z - LUMBERLOK JH47x120 Joist Hanger	**3**
P - LUMBERLOK JH47x190 Joist Hanger	
E - LUMBERLOK JH95x165 Joist Hanger	
O - Pair of LUMBERLOK CT200 Ceiling Ties	
H - LUMBERLOK CT400 Cyclone Tie	**9**
B - LUMBERLOK CT600 Cyclone Tie	
M - Pair of LUMBERLOK Multi Grips	
NP - LUMBERLOK Nailon Plate	
N - LUMBERLOK N21 Diagonal Cleat	
W - Pair of LUMBERLOK CPC40 Cleats	**2**
2 x Type17 - 14g x 75mm screws	**4**
K - LUMBERLOK 16kN Truss to Top Plate set	
S/S - 300mm Sheet Brace Strap @1200mm crs	
LUMBERLOK product nails required	**4**

Roof Bracing

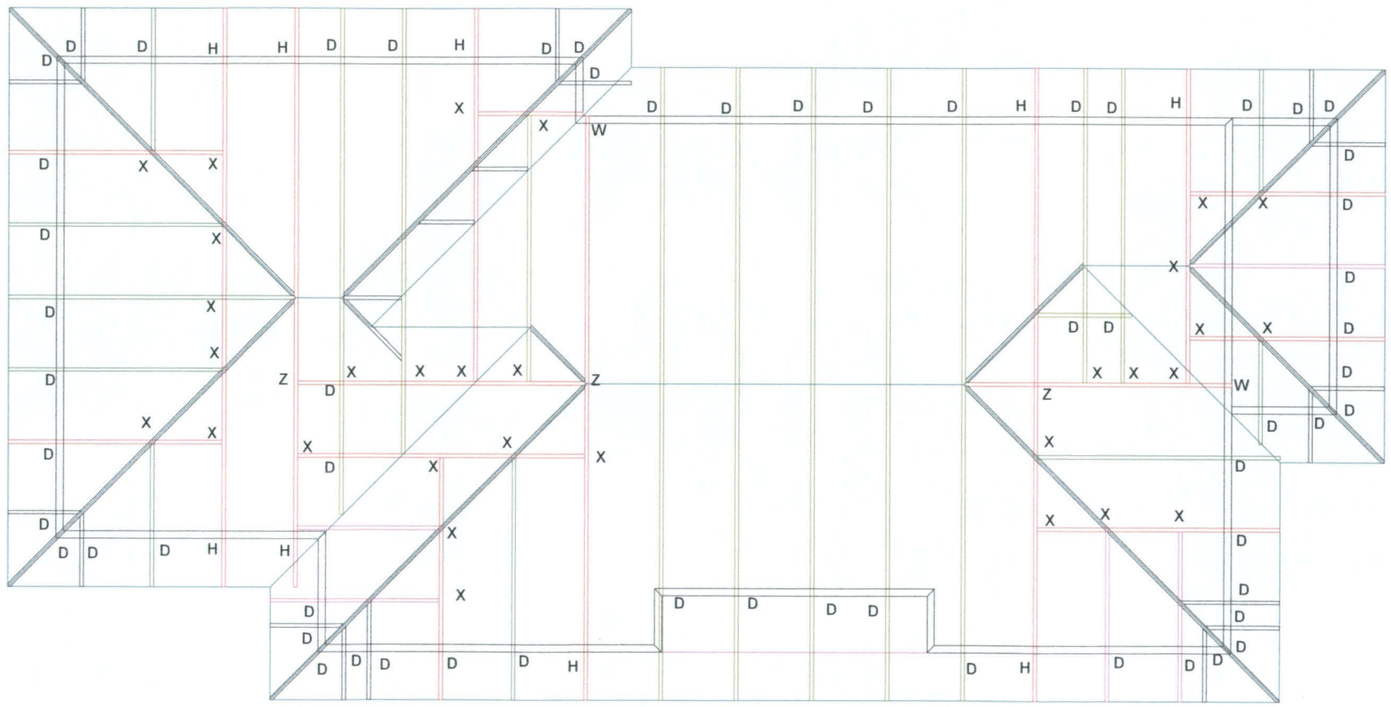
Refer to:
LUMBERLOK Roof Bracing Specifications brochure 08/2006 for end fixing details.

The brace must be located such that it forms an angle of 45° ± 5° to the wall



NOTES:

All other areas must have a minimum of a pair of 90mm skew nails for truss to top plate connections.
Refer to:
LUMBERLOK Timber Connectors Characteristic Loadings Data brochure 03/4



THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 3
Yorkshire Street

Sheet Title :
For Building Consent
Truss Fixings & Roof Bracing

Date : 28 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:

Roof Pitch	: 16.00 Deg	Truss Centres	: 900 mm
Roof Material	: Galv Iron .5mm	Roof Live Load	: 0.250 kPa
Ceiling Material	: Standard	Floor Live Load	: kPa
Wind Zone	: Medium	Wind Speed	: 37.0 m/s
Roof Snow Load	: 0.000 kPa		

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MiTek

Job Title : 1224
Sheet : 5
Revision Number :

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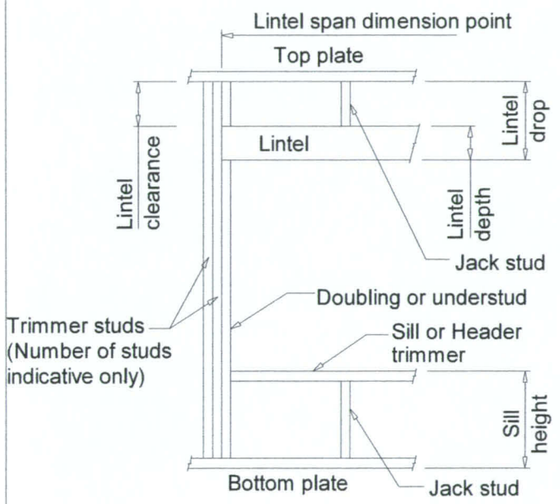
LUMBERLOK®

04/2008

LINTEL FIXING SCHEDULE
ALTERNATIVE TO TABLE 8.14 & FIGURE 8.12
NZS 3604:1999

- ★ All fixings are designed for vertical loads only. Dead loads include the roof weight and standard ceiling weight of 0.20 kPa.
- ★ Refer to Table 8.19 NZS 3604:1999 for nailing schedule to resist horizontal loads.
- ★ These fixings assume the correct choice of rafter/truss to top plate connections have been made.
- ★ All fixings assume bottom plate thickness of 45mm maximum. Note: TYLOK options on timber species.
- ★ Wall framing arrangements under girder trusses are not covered in this schedule.
- ★ All timber selections are as per NZS 3604:1999

DEFINITIONS



SELECTION CHART FOR LINTEL FIXING

Lintel Span	Loaded Dimension (See Fig. 1.3 NZS 3604:1999)	Light Roof Wind Zone				Heavy Roof Wind Zone			
		L	M	H	VH	L	M	H	VH
1.5	2.0	E	E	F	F	E	E	F	F
	3.0	E	E	F	G	E	E	F	F
	4.0	E	F	G	G	E	E	F	G
	5.0	E	F	G	G	E	E	G	G
	6.0	E	F	G	H	E	E	G	G
2.0	2.0	E	F	F	G	E	E	F	F
	3.0	E	F	G	G	E	E	F	G
	4.0	E	F	G	G	E	E	G	G
	5.0	E	G	G	H	E	E	G	G
	6.0	F	G	G	H	E	F	G	H
2.4	2.0	E	F	F	G	E	E	F	F
	3.0	F	F	G	G	E	E	G	G
	4.0	F	G	G	H	E	E	G	G
	5.0	F	G	G	H	E	F	G	H
	6.0	F	G	H	H	E	F	G	H
3.0	2.0	E	F	G	G	E	E	F	G
	3.0	F	F	G	H	E	E	G	G
	4.0	F	G	G	H	E	F	G	H
	5.0	F	G	H	H	E	F	G	H
	6.0	G	G	H	-	E	F	H	H
3.6	2.0	F	F	G	G	E	E	F	G
	3.0	F	G	G	H	E	F	G	G
	4.0	F	G	H	H	E	F	G	H
	5.0	F	G	H	-	E	F	H	H
	6.0	G	H	H	-	E	F	H	-
4.2	2.0	F	F	G	G	E	E	G	G
	3.0	F	G	H	H	E	F	G	H
	4.0	G	G	H	-	E	F	H	H
	5.0	G	H	H	-	E	F	H	-
	6.0	G	H	-	-	E	G	H	-
4.8	2.0	F	G	G	H	E	E	G	G
	3.0	F	G	H	H	E	F	G	H
	4.0	G	G	H	-	E	F	H	H
	5.0	G	H	-	-	E	F	H	-
	6.0	G	H	-	-	E	G	H	-

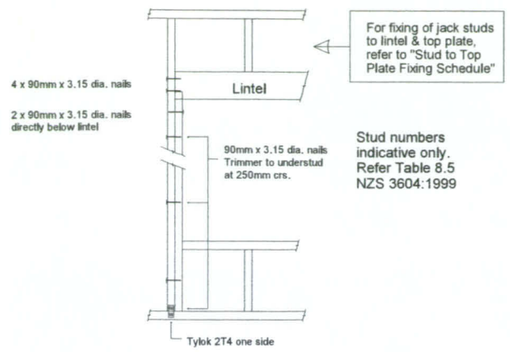
NOTES:

Lintels supporting girders trusses for ALL load cases use:
Fixing Type G where contributary area = 10m²
Fixing Type H where contributary area = 20m²
All cases outside this require specific design.

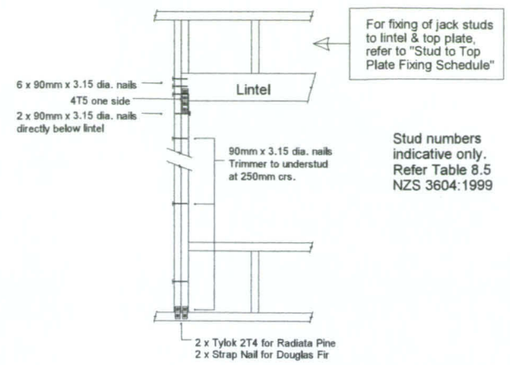
04/2008

LINTEL FIXING OPTIONS

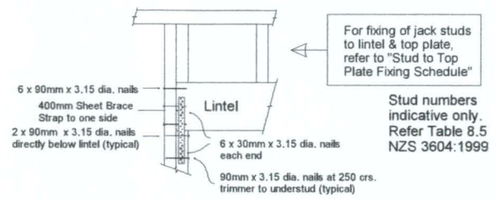
TYPE E 1.4kN

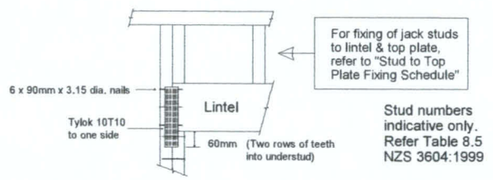


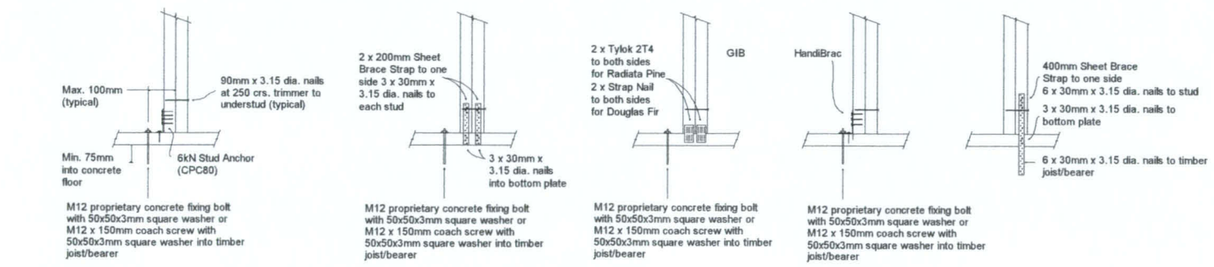
TYPE F 4.0kN



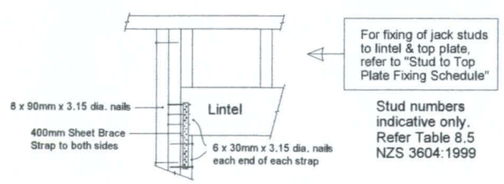
TYPE G 7.5kN

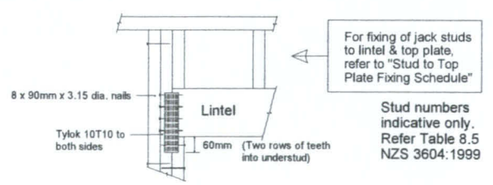


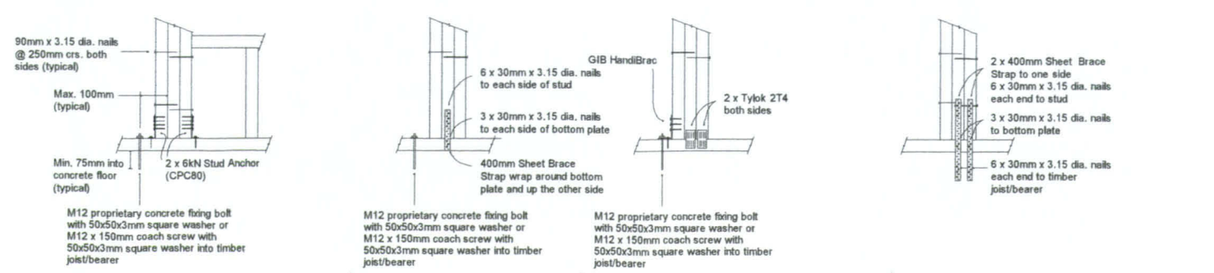




TYPE H 13.5kN







MiTek New Zealand Ltd.

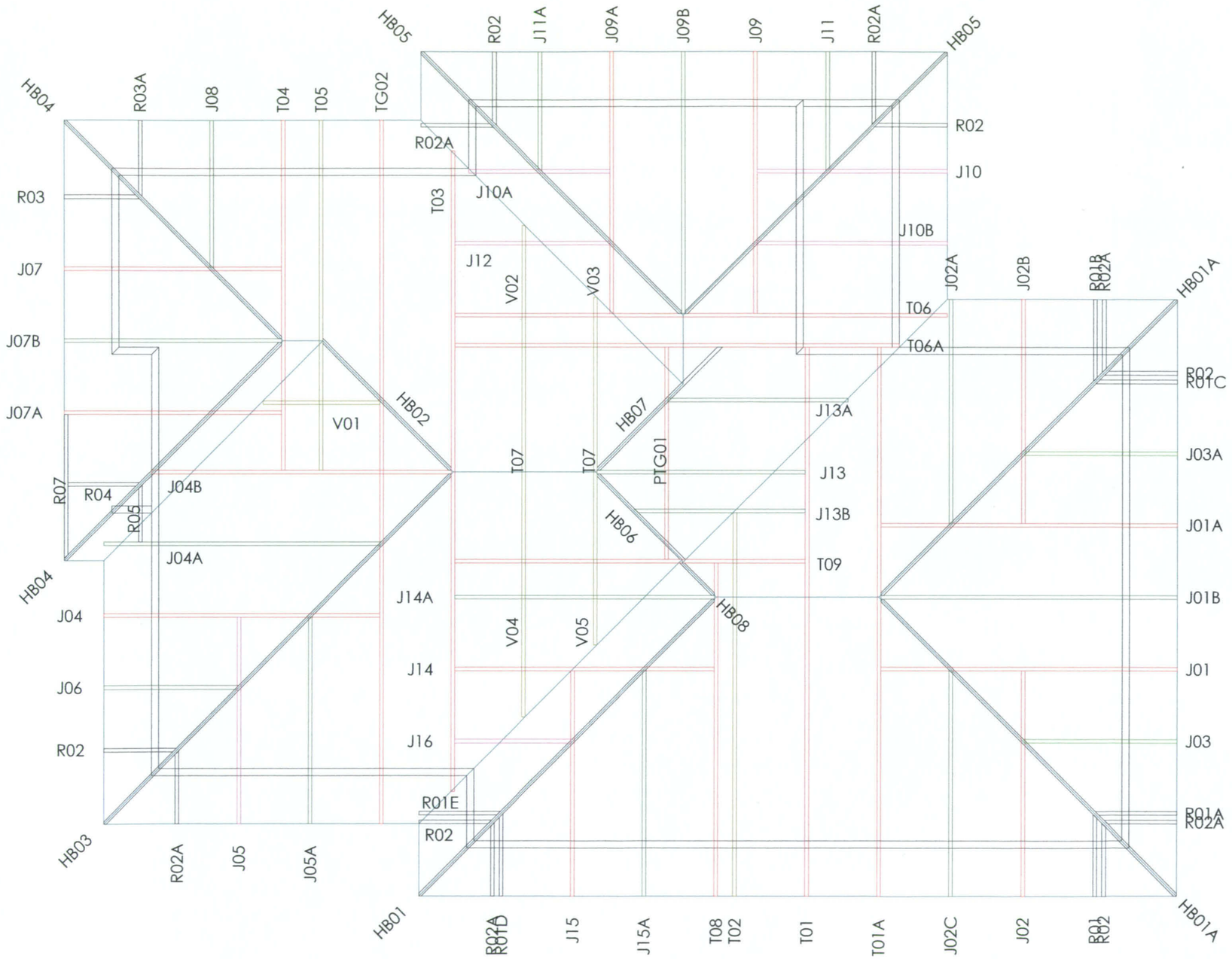
AUCKLAND
PO Box 58-014, Greenmount
Phone: (09) 274 7100
Fax: (09) 274 7100
www.miteknz.co.nz

CHRISTCHURCH
PO Box 8387, Riccarton
Phone: (03) 348 8591
Fax: (03) 348 0314

HOME OF GANG-NAIL® BUILDING SYSTEMS

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THOMSONS BUILDING CENTRE

Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 4
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Buildable Truss Layout

Date : 29 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:

Roof Pitch	: 16.000 deg
Roof Material	: Galv Iron .5mm
Ceiling Material	: Standard
Wind Zone	: Medium
Roof Snow Load	: 0.000 kPa

Truss Centres	: 900 mm
Roof Live Load	: 0.250kPa
Floor Live Load	: kPa
Wind Speed	: 37.0 m/s

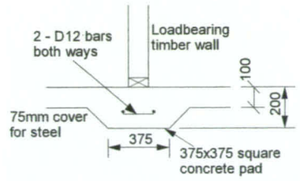
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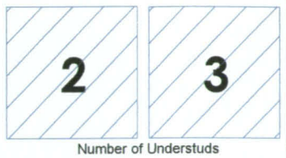
MiTek

Job Title : 1235
Sheet : 1
Revision Number :

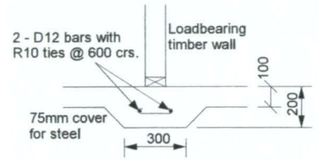
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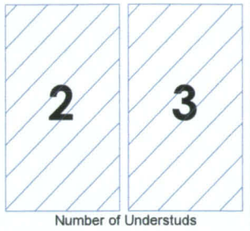
Slab Thickening Details



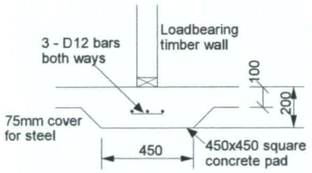


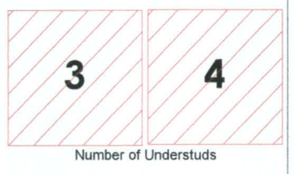
TYPE FP1 - 375x375mm Pad



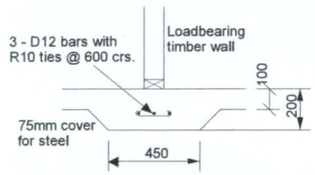


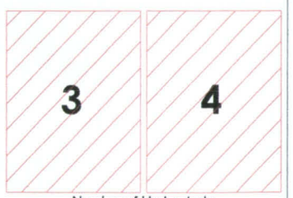
TYPE FS1 - 300mm Strip footing





TYPE FP2 - 450x450mm Pad

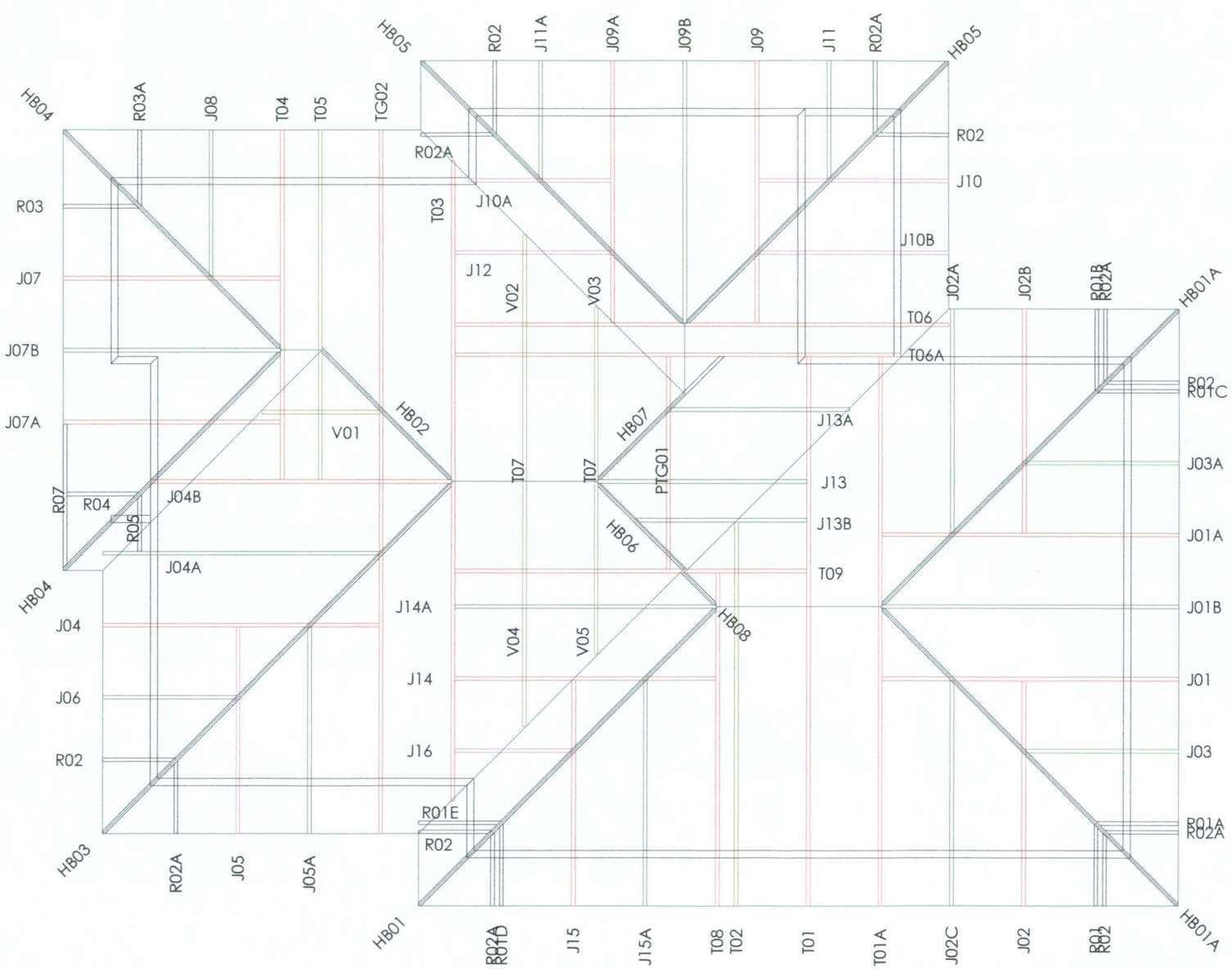




TYPE FS2 - 450mm Strip footing

NOTES:

The numbers found within the hatched area is the number of studs required below each truss.
Refer to:
GANG-NAIL Internal Load Bearing on Concrete Floor Slabs brochure 12/2006



NO EXTRA SLAB THICKENING REQUIRED

THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 4
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Slab Thickening

Date : 29 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:
Roof Pitch : 16.00 Deg
Roof Material : Galv Iron .5mm
Ceiling Material : Standard
Wind Zone : Medium
Roof Snow Load : 0.000 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250kPa
Floor Live Load : kPa
Wind Speed : 37.0 m/s

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MiTek

Job Title : 1235
Sheet : 2
Revision Number :

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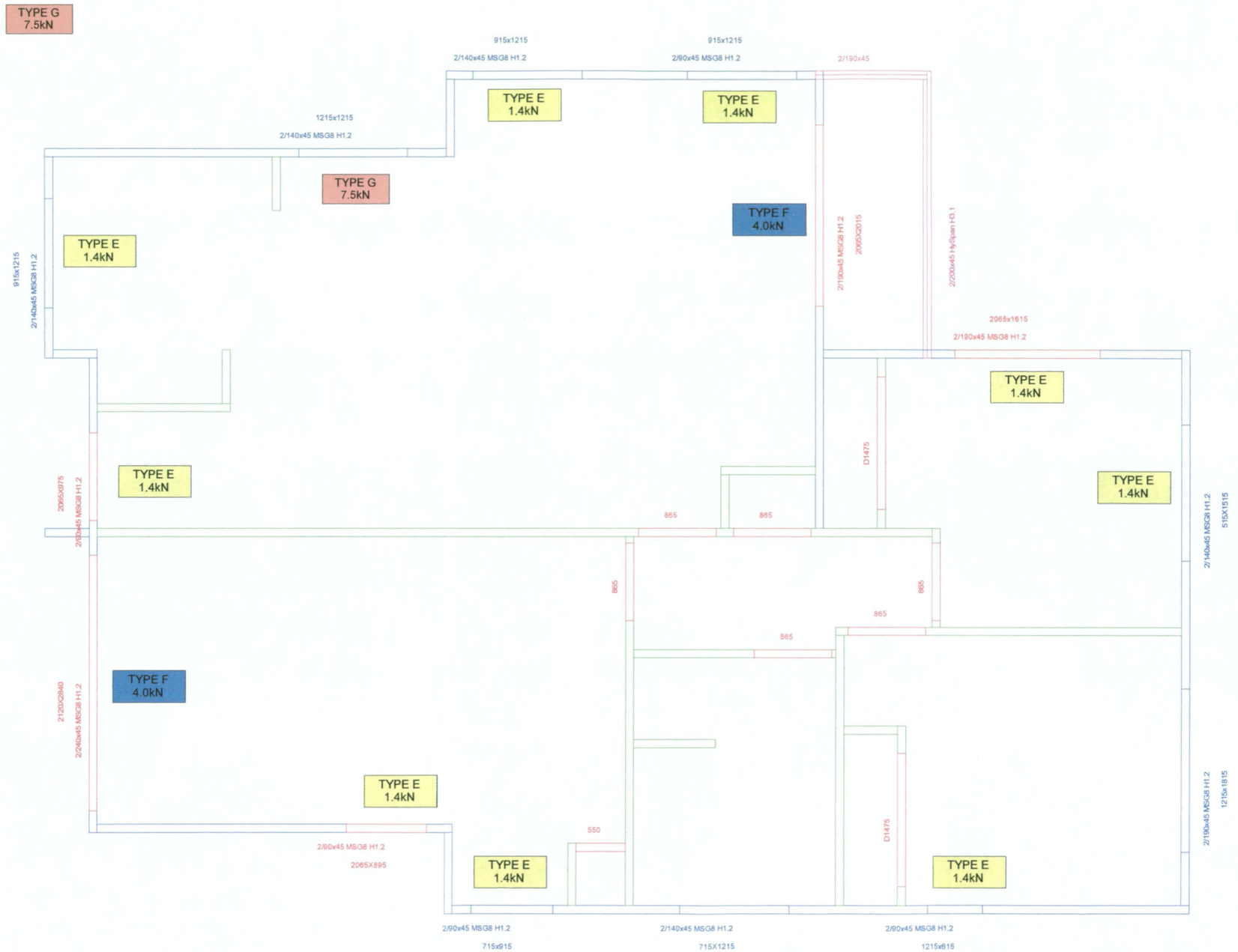
Lintel Fixing Details

TYPE E
1.4kN

TYPE F
4.0kN

TYPE G
7.5kN

TYPE H
13.5kN



NOTES:

Refer to:
Lintel Fixing Schedule 04/2008
pages 28 & 29, Structrual Fixings
On-site Guide for Buildng Code
Compliance 2009 Edition

(Alternative to NZS 3604:1999
Table 8.14 & Figure 8.12)

THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 4
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Lintel Fixing

Date : 29 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:
Roof Pitch : 16.000deg
Roof Material : Galv Iron .5mm
Ceiling Material : Standard
Wind Zone : Medium
Roof Snow Load : 0.000 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250kPa
Floor Live Load : kPa
Wind Speed : 37.0 m/s

PrimeCad v4.6.3.30

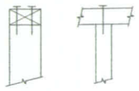
MiTek

Job Title :
1235
Sheet :
3
Revision Number :

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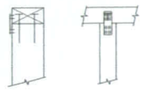
Stud to top plate fixing details

Type A is minimum fixing required unless specified otherwise



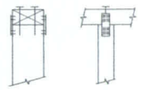
FIXING TYPE A
0.7kN

2/90x3.33 plain steel wire nails driven vertically into stud.



FIXING TYPE B
1.7kN

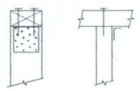
2/90x3.33 plain steel wire nails driven vertically into stud, plus single LUMBERLOK Tylok 2T4 plate.



FIXING TYPE C
2.7kN

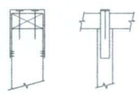
2/90x3.33 plain steel wire nails driven vertically into stud, plus pair LUMBERLOK Tylok 2T4 plates.

FIXING TYPE D
6.0kN



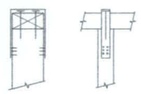
2/90x3.33 plain steel wire nails driven vertically into stud, plus LUMBERLOK 6kN Stud Anchor.

OR



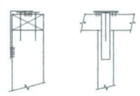
2/90x3.33 plain steel wire nails driven vertically into stud, plus LUMBERLOK Tylok Stud Tie

OR



LUMBERLOK Sheet Brace Strap 400 with 6/30x3.15 nails each stud face

OR

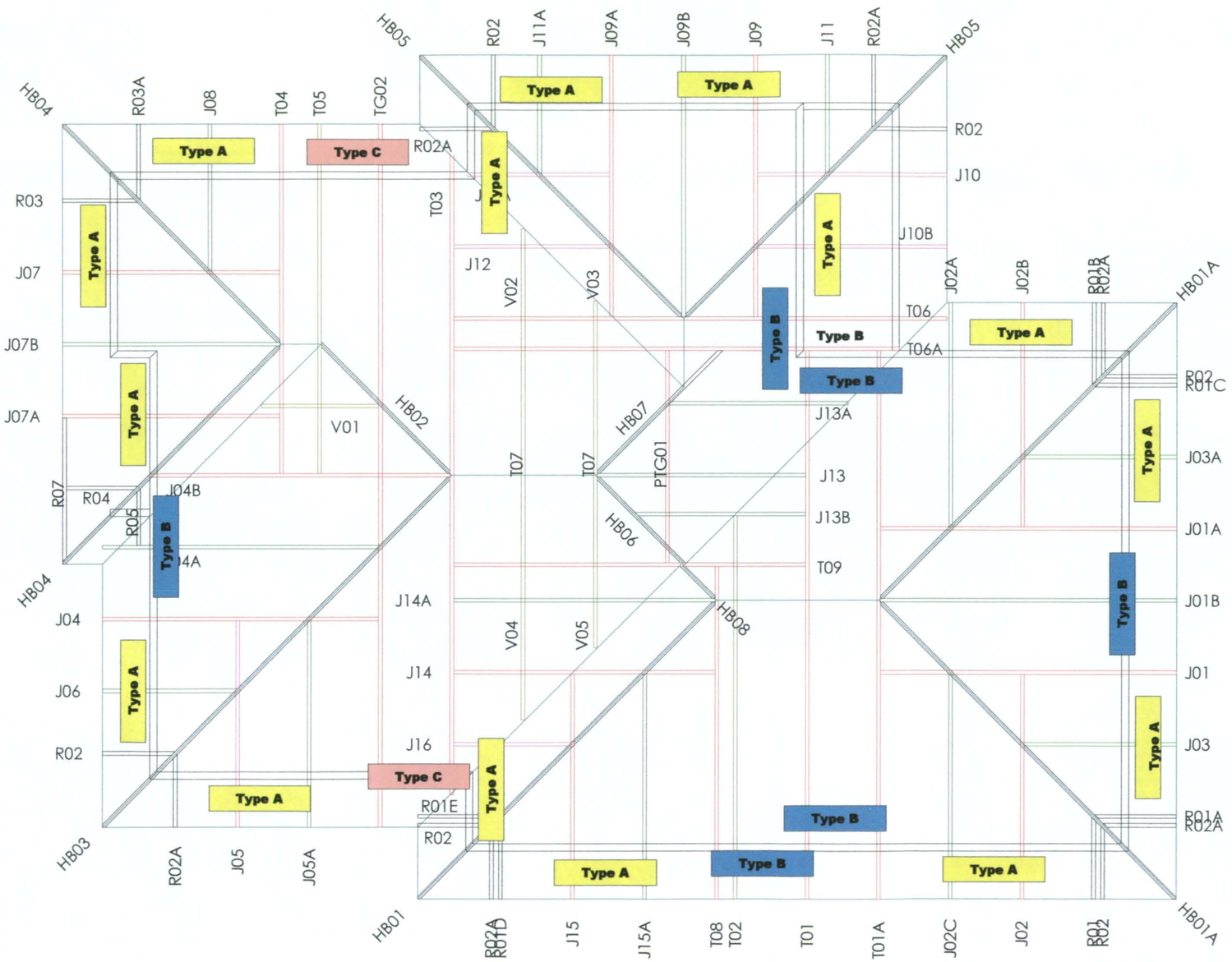


LUMBERLOK Stud Strap

NOTES:

Refer to:
LUMBERLOK Wall Fixing Chart - Stud to Top Plate Fixing Schedule 01/10

(Alternative to NZS3604:1999 Table 8.18)



THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 4
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Stud To Top Plate Fixing

Date : 29 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:
Roof Pitch : 16.00 Deg
Roof Material : Galv Iron .5mm
Ceiling Material : Standard
Wind Zone : Medium
Roof Snow Load : 0.000 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250kPa
Floor Live Load : kPa
Wind Speed : 37.0 m/s

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MiTek

Job Title : 1235
Sheet : 4
Revision Number :

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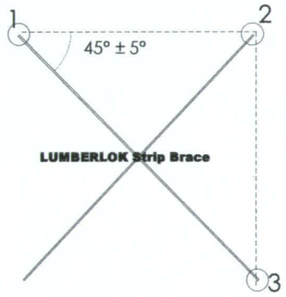
Truss Fixings

	Qty
D - Pair of LUMBERLOK Wire Dogs	**67**
X - LUMBERLOK JH47x90 Joist Hanger	**40**
Z - LUMBERLOK JH47x120 Joist Hanger	**13**
P - LUMBERLOK JH47x190 Joist Hanger	
E - LUMBERLOK JH95x165 Joist Hanger	
O - Pair of LUMBERLOK CT200 Ceiling Ties	
H - LUMBERLOK CT400 Cyclone Tie	**9**
B - LUMBERLOK CT600 Cyclone Tie	
M - Pair of LUMBERLOK Multi Grips	**3**
NP - LUMBERLOK Nailon Plate	
N - LUMBERLOK N21 Diagonal Cleat	
W - Pair of LUMBERLOK CPC40 Cleats	**5**
2 x Type17 - 14g x 75mm screws	**10**
K - LUMBERLOK 16kN Truss to Top Plate set	
S/S - 300mm Sheet Brace Strap @1200mm crs	
LUMBERLOK product nails required	**6**

Roof Bracing

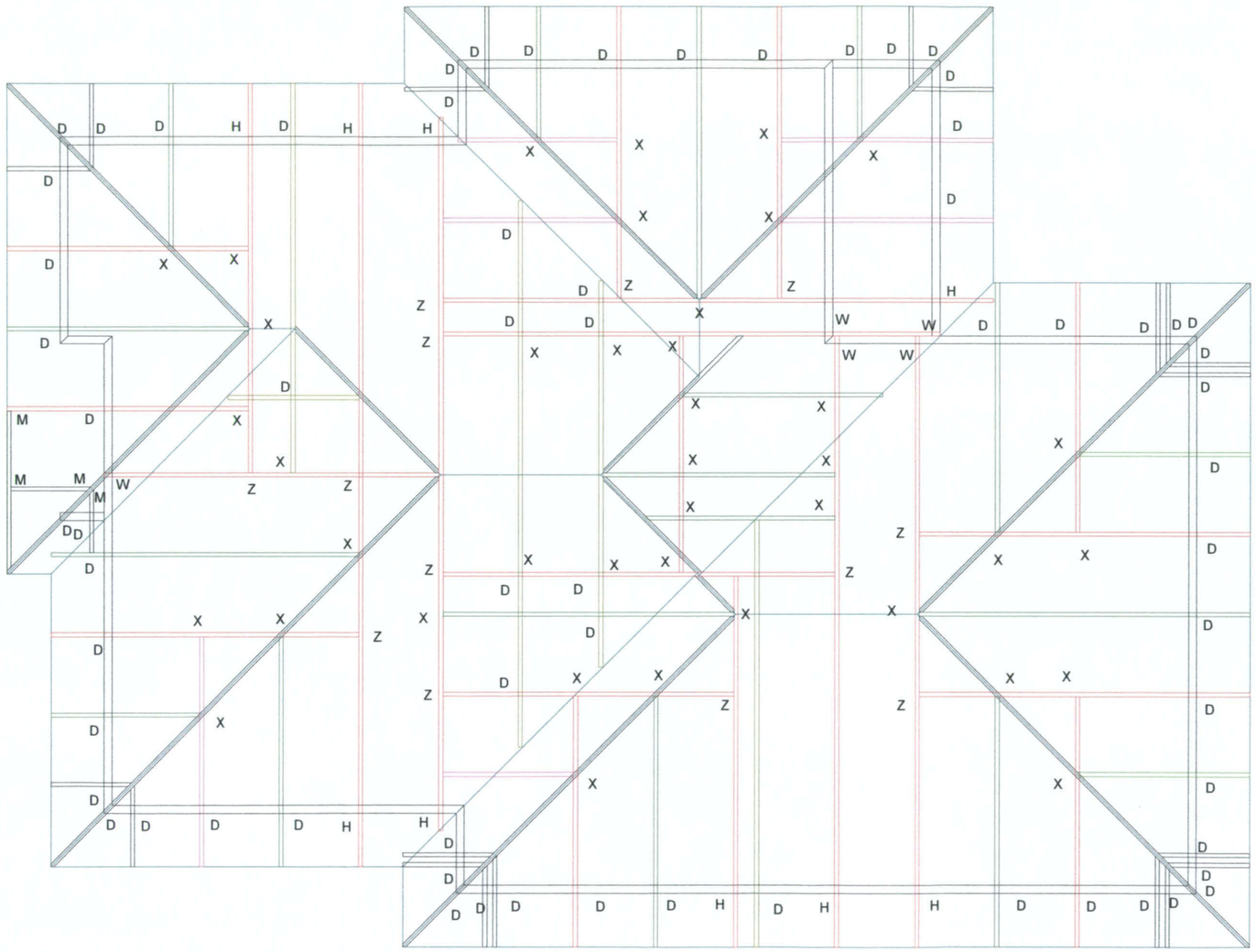
Refer to:
LUMBERLOK Roof Bracing Specifications brochure 08/2006 for end fixing details.

The brace must be located such that it forms an angle of 45° ± 5° to the wall



NOTES:

All other areas must have a minimum of a pair of 90mm skew nails for truss to top plate connections.
Refer to:
LUMBERLOK Timber Connectors Characteristic Loadings Data brochure 03/4



THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 4
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Truss Fixings & Roof Bracing

Date : 29 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:

Roof Pitch	: 16.0 Deg	Truss Centres	: 900 mm
Roof Material	: Galv Iron .5mm	Roof Live Load	: 0.250 kPa
Ceiling Material	: Standard	Floor Live Load	: kPa
Wind Zone	: Medium	Wind Speed	: 37.0 m/s
Roof Snow Load	: 0.000 kPa		

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MiTek

Job Title : 1235
Sheet : 5
Revision Number :

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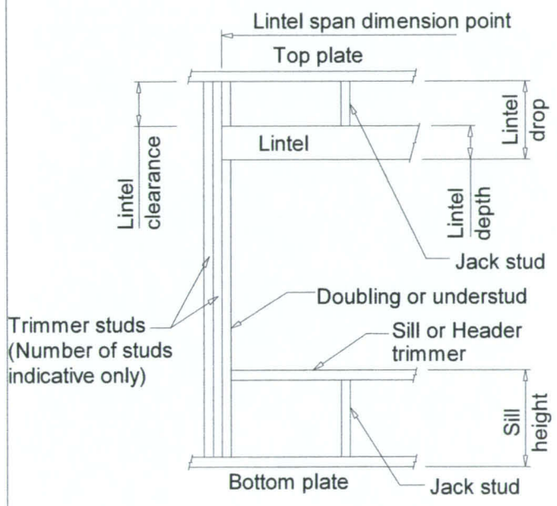
LUMBERLOK®

04/2008

LINTEL FIXING SCHEDULE
ALTERNATIVE TO TABLE 8.14 & FIGURE 8.12
NZS 3604:1999

- ★ All fixings are designed for vertical loads only. Dead loads include the roof weight and standard ceiling weight of 0.20 kPa.
- ★ Refer to Table 8.19 NZS 3604:1999 for nailing schedule to resist horizontal loads.
- ★ These fixings assume the correct choice of rafter/truss to top plate connections have been made.
- ★ All fixings assume bottom plate thickness of 45mm maximum. Note: TYLOK options on timber species.
- ★ Wall framing arrangements under girder trusses are not covered in this schedule.
- ★ All timber selections are as per NZS 3604:1999

DEFINITIONS



SELECTION CHART FOR LINTEL FIXING

Lintel Span	Loaded Dimension (See Fig. 1.3 NZS 3604:1999)	Light Roof Wind Zone				Heavy Roof Wind Zone			
		L	M	H	VH	L	M	H	VH
1.5	2.0	E	E	F	F	E	E	F	F
	3.0	E	E	F	G	E	E	F	F
	4.0	E	F	G	G	E	E	F	G
	5.0	E	F	G	G	E	E	G	G
	6.0	E	F	G	H	E	E	G	G
2.0	2.0	E	F	F	G	E	E	F	F
	3.0	E	F	G	G	E	E	F	G
	4.0	E	F	G	G	E	E	G	G
	5.0	E	G	G	H	E	E	G	G
	6.0	F	G	G	H	E	F	G	H
2.4	2.0	E	F	F	G	E	E	F	F
	3.0	F	F	G	G	E	E	G	G
	4.0	F	G	G	H	E	E	G	G
	5.0	F	G	G	H	E	F	G	H
	6.0	F	G	H	H	E	F	G	H
3.0	2.0	E	F	G	G	E	E	F	G
	3.0	F	F	G	H	E	E	G	G
	4.0	F	G	G	H	E	F	G	H
	5.0	F	G	H	H	E	F	G	H
	6.0	G	G	H	-	E	F	H	H
3.6	2.0	F	F	G	G	E	E	F	G
	3.0	F	G	G	H	E	F	G	G
	4.0	F	G	H	H	E	F	G	H
	5.0	F	G	H	-	E	F	H	H
	6.0	G	H	H	-	E	F	H	-
4.2	2.0	F	F	G	G	E	E	G	G
	3.0	F	G	H	H	E	F	G	H
	4.0	G	G	H	-	E	F	H	H
	5.0	G	H	H	-	E	F	H	-
	6.0	G	H	-	-	E	G	H	-
4.8	2.0	F	G	G	H	E	E	G	G
	3.0	F	G	H	H	E	F	G	H
	4.0	G	G	H	-	E	F	H	H
	5.0	G	H	-	-	E	F	H	-
	6.0	G	H	-	-	E	G	H	-

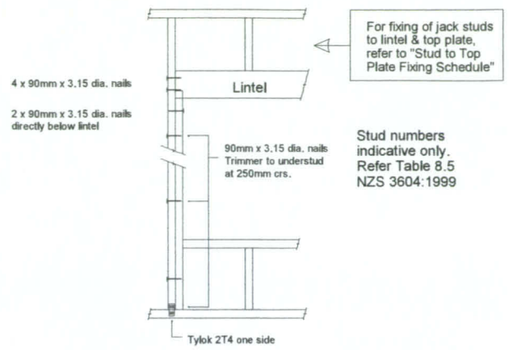
NOTES:

Lintels supporting girders trusses for ALL load cases use:
Fixing Type G where contributary area = 10m²
Fixing Type H where contributary area = 20m²
All cases outside this require specific design.

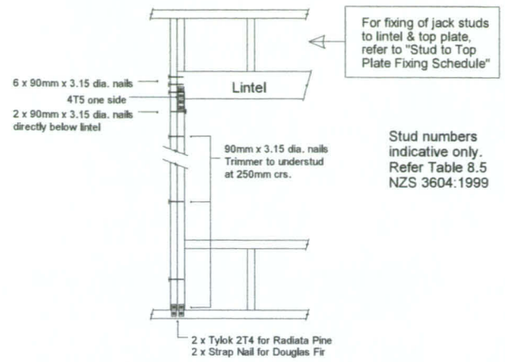
04/2008

LINTEL FIXING OPTIONS

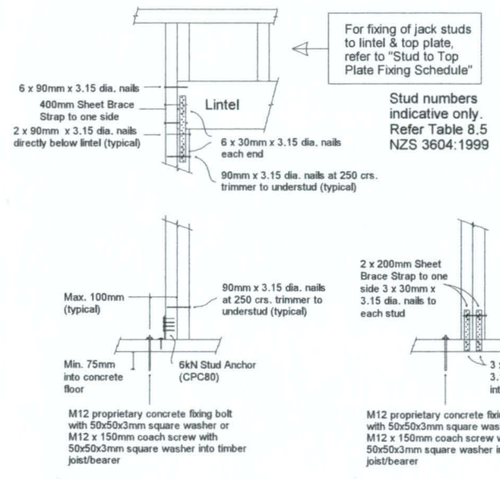
TYPE E 1.4kN

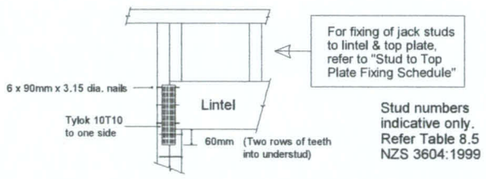


TYPE F 4.0kN

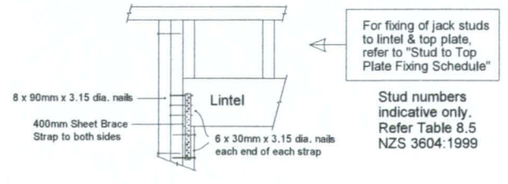


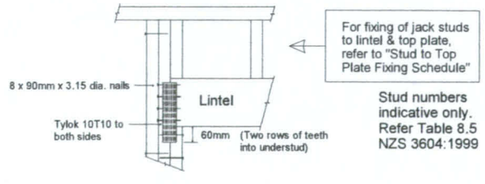
TYPE G 7.5kN

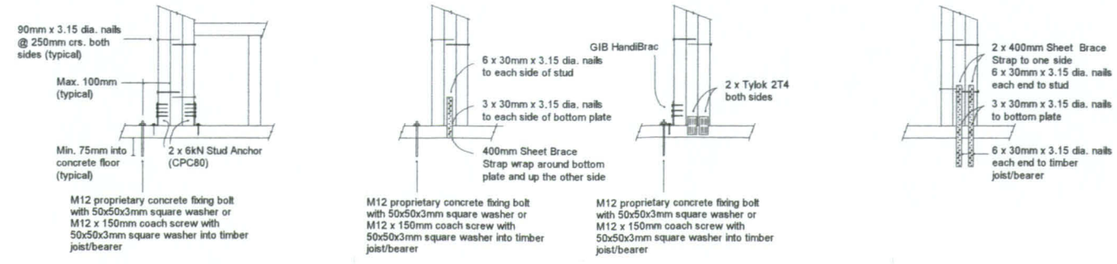




TYPE H 13.5kN







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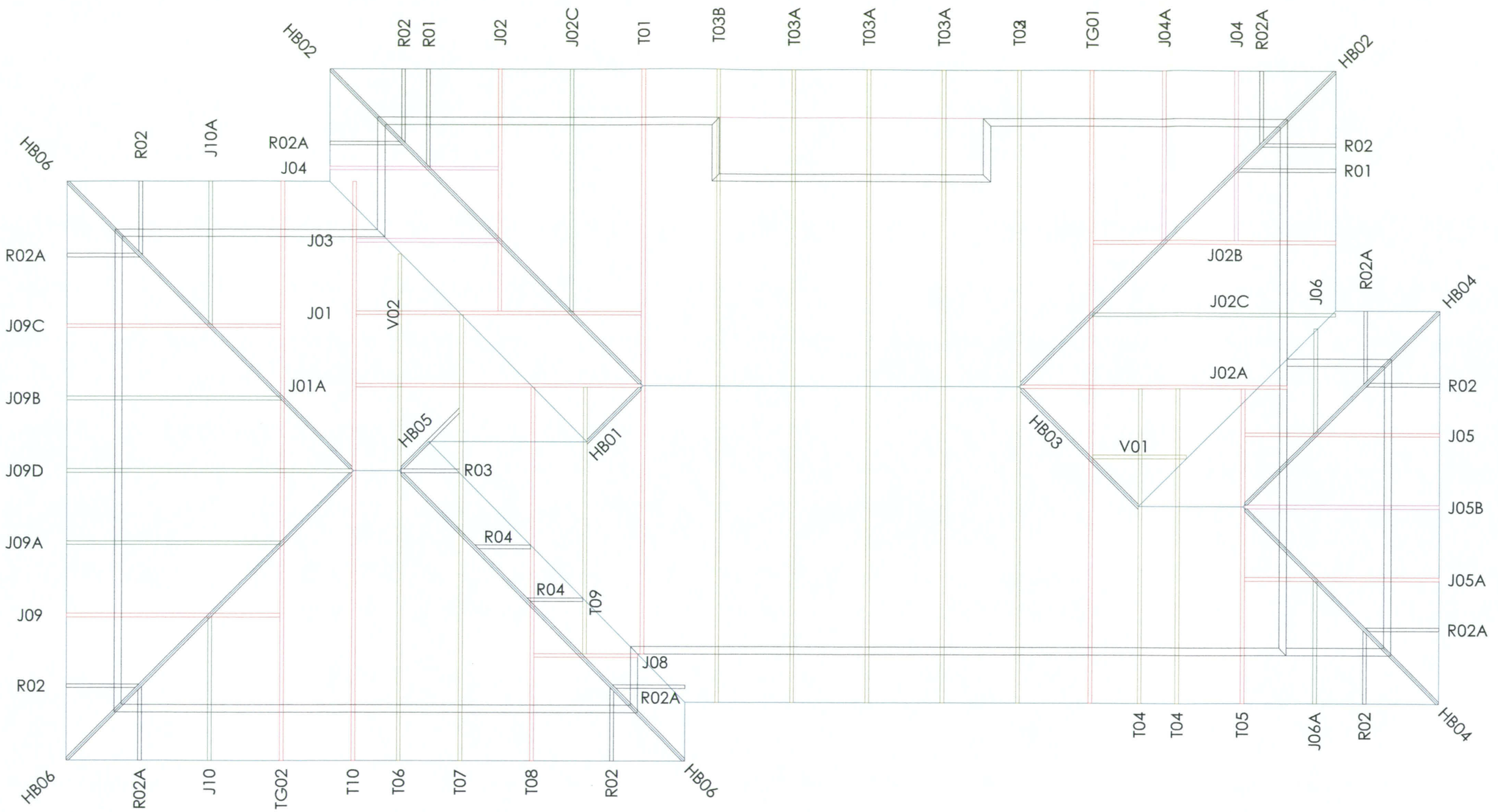
AUCKLAND
PO Box 58-014, Greenmount
Phone: (09) 274 7100
Fax: (09) 274 7100
www.miteknz.co.nz

CHRISTCHURCH
PO Box 8347, Riccarton
Phone: (03) 348 8591
Fax: (03) 348 0314

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THOMSONS BUILDING CENTRE

Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 5
Yorkshire Street

Sheet Title :
For Building Consent
Buildable Truss Layout

Date : 28 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:

Roof Pitch	: 16.00 Deg	Truss Centres	: 900 mm
Roof Material	: Galv Iron .5mm	Roof Live Load	: 0.250kPa
Ceiling Material	: Standard	Floor Live Load	: kPa
Wind Zone	: Medium	Wind Speed	: 37.0 m/s
Roof Snow Load	: 0.000 kPa		

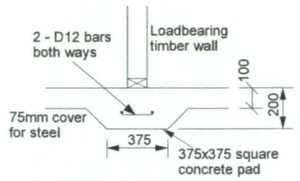
PrimeCad v4.6.3.30

MiTek

Job Title : 1229
Sheet : 1
Revision Number :

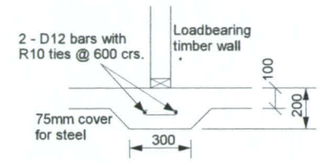
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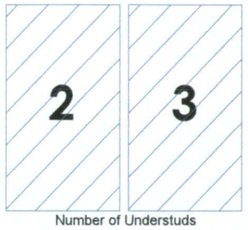
Slab Thickening Details



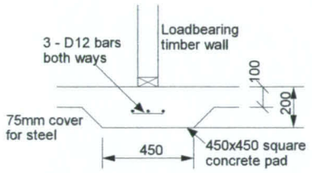


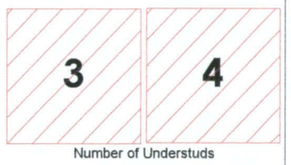
TYPE FP1 - 375x375mm Pad



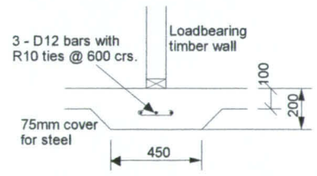


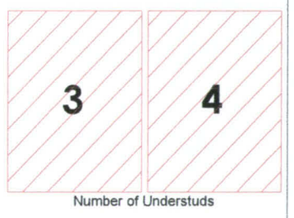
TYPE FS1 - 300mm Strip footing





TYPE FP2 - 450x450mm Pad

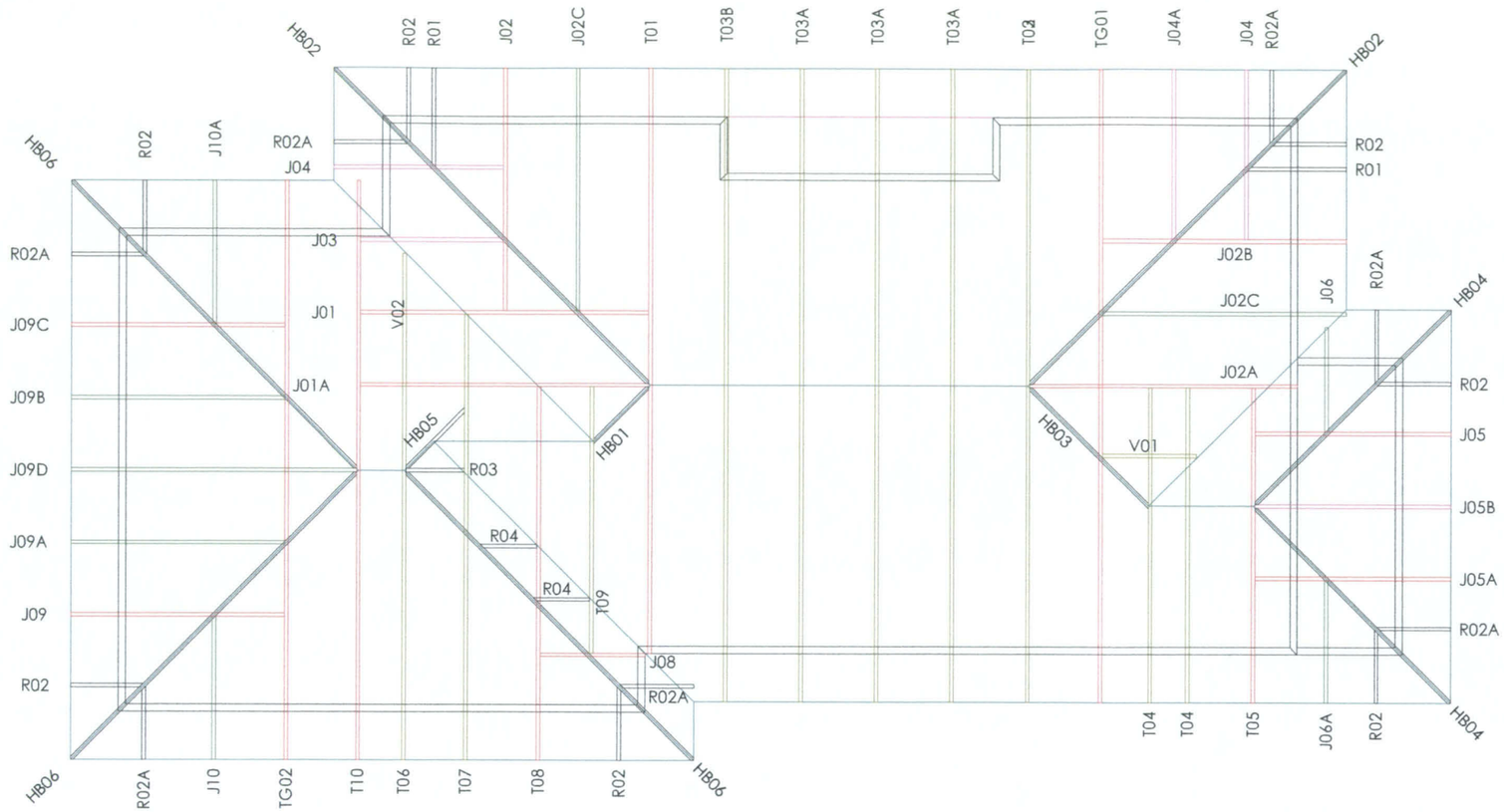




TYPE FS2 - 450mm Strip footing

NOTES:

The numbers found within the hatched area is the number of studs required below each truss.
Refer to:
GANG-NAIL Internal Load Bearing on Concrete Floor Slabs brochure 12/2006



NO EXTRA SLAB THICKENING REQUIRED

THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 5
Yorkshire Street

Sheet Title :
For Building Consent
Slab Thickening

Date : 28 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:

Roof Pitch	: 16.00Deg	Truss Centres	: 900 mm
Roof Material	: Galv Iron .5mm	Roof Live Load	: 0.250kPa
Ceiling Material	: Standard	Floor Live Load	: kPa
Wind Zone	: Medium	Wind Speed	: 37.0 m/s
Roof Snow Load	: 0.000 kPa		

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MiTek
Job Title : 1229
Sheet : 2
Revision Number :

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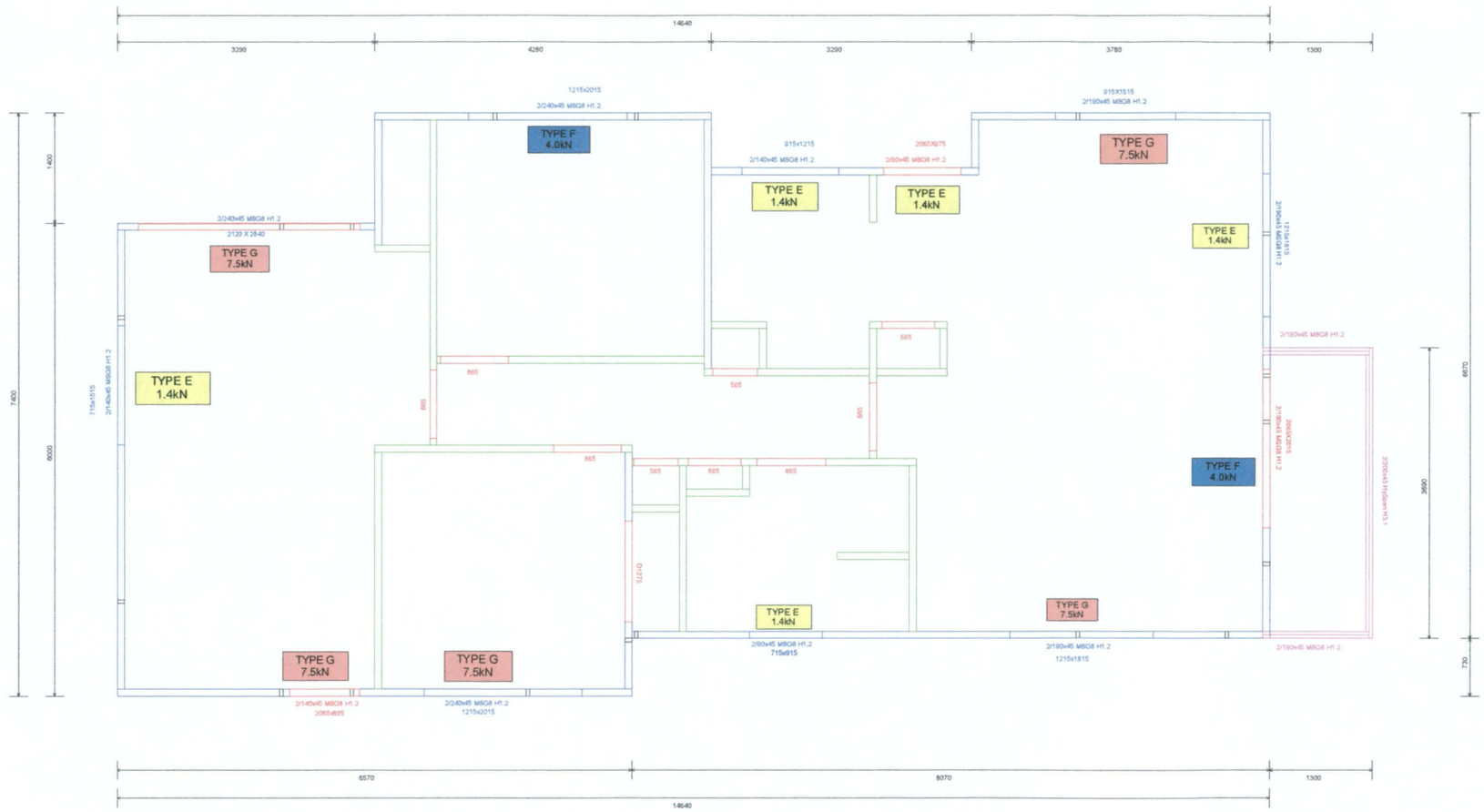
Lintel Fixing Details

TYPE E
1.4kN

TYPE F
4.0kN

TYPE G
7.5kN

TYPE H
13.5kN



NOTES:

Refer to:
Lintel Fixing Schedule 04/2008
pages 28 & 29, Structrual Fixings
On-site Guide for Buildng Code
Compliance 2009 Edition

(Alternative to NZS 3604:1999
Table 8.14 & Figure 8.12)

THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 5
Yorkshire Street

Sheet Title :
For Building Consent
Lintel Fixing

Date : 28 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:

Roof Pitch	: 16.000deg	Truss Centres	: 900 mm
Roof Material	: Galv Iron .5mm	Roof Live Load	: 0.250kPa
Ceiling Material	: Standard	Floor Live Load	: kPa
Wind Zone	: Medium	Wind Speed	: 37.0 m/s
Roof Snow Load	: 0.000 kPa		

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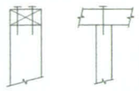
MiTek

Job Title :
1229
Sheet :
3
Revision Number :

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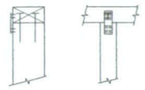
Stud to top plate fixing details

Type A is minimum fixing required unless specified otherwise



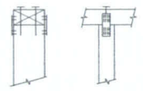
FIXING TYPE A
0.7kN

2/90x3.33 plain steel wire nails driven vertically into stud.



FIXING TYPE B
1.7kN

2/90x3.33 plain steel wire nails driven vertically into stud, plus single LUMBERLOK Tylok 2T4 plate.

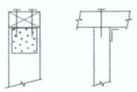


FIXING TYPE C
2.7kN

2/90x3.33 plain steel wire nails driven vertically into stud, plus pair LUMBERLOK Tylok 2T4 plates.

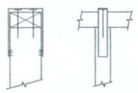
FIXING TYPE D
6.0kN

2/90x3.33 plain steel wire nails driven vertically into stud, plus LUMBERLOK 6kN Stud Anchor.



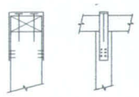
OR

2/90x3.33 plain steel wire nails driven vertically into stud, plus LUMBERLOK Tylok Stud Tie



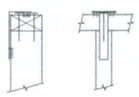
OR

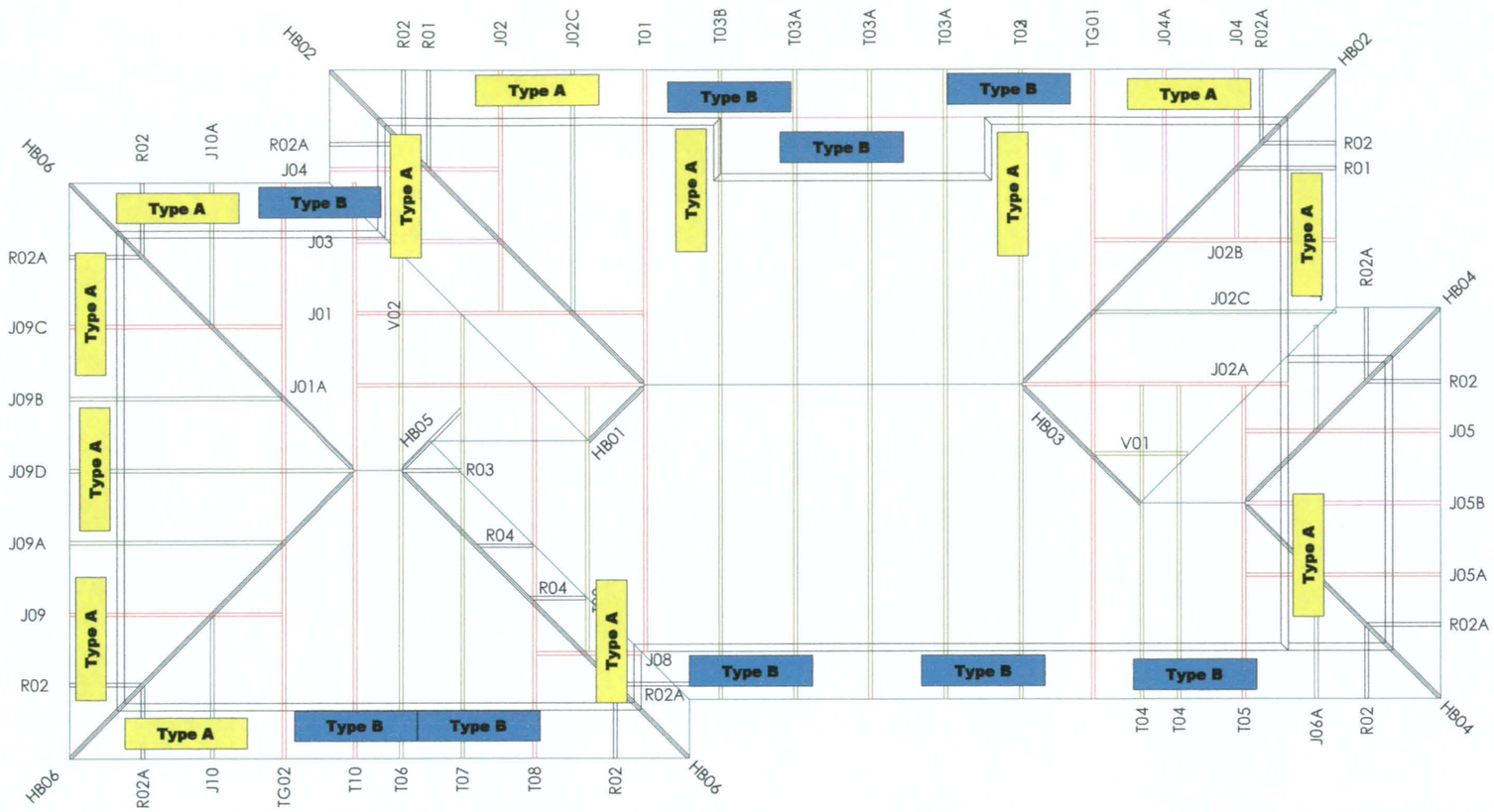
LUMBERLOK Sheet Brace Strap 400 with 6/30x3.15 nails each stud face



OR

LUMBERLOK Stud Strap





NOTES:

Refer to:
LUMBERLOK Wall Fixing Chart - Stud to Top Plate Fixing Schedule 01/10

(Alternative to NZS3604:1999 Table 8.18)

THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 5
Yorkshire Street

Sheet Title :
For Building Consent
Stud To Top Plate Fixing

Date : 28 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:
Roof Pitch : 16.000 Deg
Roof Material : Galv Iron .5mm
Ceiling Material : Standard
Wind Zone : Medium
Roof Snow Load : 0.000 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250 kPa
Floor Live Load : kPa
Wind Speed : 37.0 m/s

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MiTek
Job Title : 1229
Sheet : 4
Revision Number :

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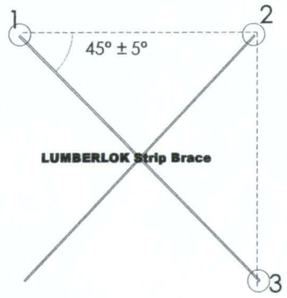
Truss Fixings

	Qty
D - Pair of LUMBERLOK Wire Dogs	**60**
X - LUMBERLOK JH47x90 Joist Hanger	**31**
Z - LUMBERLOK JH47x120 Joist Hanger	**3**
P - LUMBERLOK JH47x190 Joist Hanger	
E - LUMBERLOK JH95x165 Joist Hanger	
O - Pair of LUMBERLOK CT200 Ceiling Ties	
H - LUMBERLOK CT400 Cyclone Tie	**9**
B - LUMBERLOK CT600 Cyclone Tie	
M - Pair of LUMBERLOK Multi Grips	
NP - LUMBERLOK Nailon Plate	
N - LUMBERLOK N21 Diagonal Cleat	
W - Pair of LUMBERLOK CPC40 Cleats	**2**
2 x Type17 - 14g x 75mm screws	**4**
K - LUMBERLOK 16kN Truss to Top Plate set	
S/S - 300mm Sheet Brace Strap @1200mm crs	
LUMBERLOK product nails required	**4**

Roof Bracing

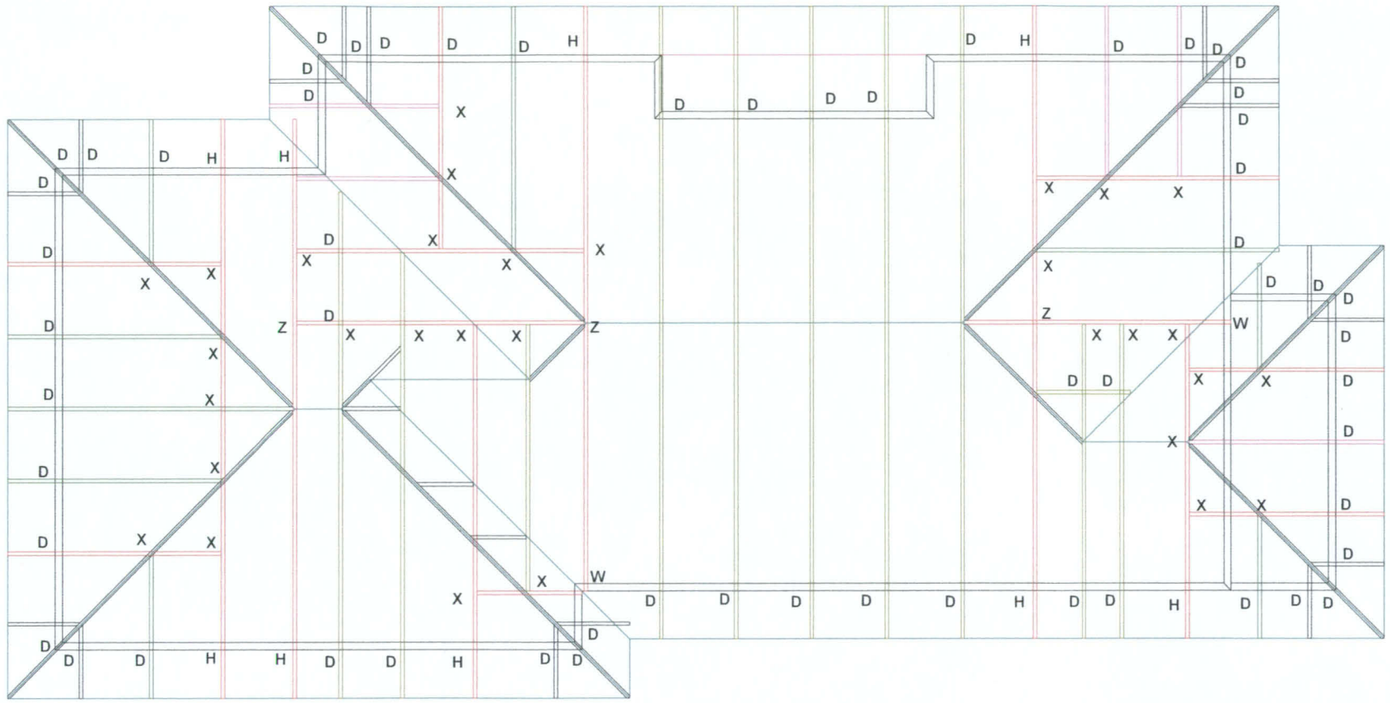
Refer to:
LUMBERLOK Roof Bracing Specifications brochure 08/2006 for end fixing details.

The brace must be located such that it forms an angle of 45° ± 5° to the wall



NOTES:

All other areas must have a minimum of a pair of 90mm skew nails for truss to top plate connections.
Refer to:
LUMBERLOK Timber Connectors Characteristic Loadings Data brochure 03/4



THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 5
Yorkshire Street

Sheet Title :
For Building Consent
Truss Fixings & Roof Bracing

Date : 28 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:

Roof Pitch	: 16.000 deg	Truss Centres	: 900 mm
Roof Material	: Galv Iron .5mm	Roof Live Load	: 0.250 kPa
Ceiling Material	: Standard	Floor Live Load	: kPa
Wind Zone	: Medium	Wind Speed	: 37.0 m/s
Roof Snow Load	: 0.000 kPa		

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Job Title : 1229
Sheet : 5
Revision Number :

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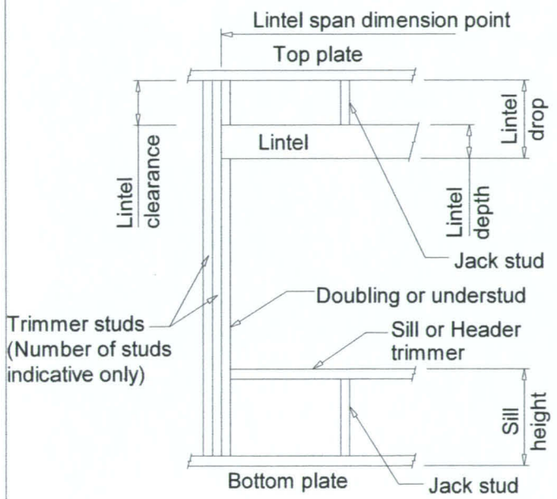
LUMBERLOK®

04/2008

LINTEL FIXING SCHEDULE
ALTERNATIVE TO TABLE 8.14 & FIGURE 8.12
NZS 3604:1999

- ★ All fixings are designed for vertical loads only. Dead loads include the roof weight and standard ceiling weight of 0.20 kPa.
- ★ Refer to Table 8.19 NZS 3604:1999 for nailing schedule to resist horizontal loads.
- ★ These fixings assume the correct choice of rafter/truss to top plate connections have been made.
- ★ All fixings assume bottom plate thickness of 45mm maximum. Note: TYLOK options on timber species.
- ★ Wall framing arrangements under girder trusses are not covered in this schedule.
- ★ All timber selections are as per NZS 3604:1999

DEFINITIONS



SELECTION CHART FOR LINTEL FIXING

Lintel Span	Loaded Dimension (See Fig. 1.3 NZS 3604:1999)	Light Roof Wind Zone				Heavy Roof Wind Zone			
		L	M	H	VH	L	M	H	VH
1.5	2.0	E	E	F	F	E	E	F	F
	3.0	E	E	F	G	E	E	F	F
	4.0	E	F	G	G	E	E	F	G
	5.0	E	F	G	G	E	E	G	G
	6.0	E	F	G	H	E	E	G	G
2.0	2.0	E	F	F	G	E	E	F	F
	3.0	E	F	G	G	E	E	F	G
	4.0	E	F	G	G	E	E	G	G
	5.0	E	G	G	H	E	E	G	G
	6.0	F	G	G	H	E	F	G	H
2.4	2.0	E	F	F	G	E	E	F	F
	3.0	F	F	G	G	E	E	G	G
	4.0	F	G	G	H	E	E	G	G
	5.0	F	G	G	H	E	F	G	H
	6.0	F	G	H	H	E	F	G	H
3.0	2.0	E	F	G	G	E	E	F	G
	3.0	F	F	G	H	E	E	G	G
	4.0	F	G	G	H	E	F	G	H
	5.0	F	G	H	H	E	F	G	H
	6.0	G	G	H	-	E	F	H	H
3.6	2.0	F	F	G	G	E	E	F	G
	3.0	F	G	G	H	E	F	G	G
	4.0	F	G	H	H	E	F	G	H
	5.0	F	G	H	-	E	F	H	H
	6.0	G	H	H	-	E	F	H	-
4.2	2.0	F	F	G	G	E	E	G	G
	3.0	F	G	H	H	E	F	G	H
	4.0	G	G	H	-	E	F	H	H
	5.0	G	H	H	-	E	F	H	-
	6.0	G	H	-	-	E	G	H	-
4.8	2.0	F	G	G	H	E	E	G	G
	3.0	F	G	H	H	E	F	G	H
	4.0	G	G	H	-	E	F	H	H
	5.0	G	H	-	-	E	F	H	-
	6.0	G	H	-	-	E	G	H	-

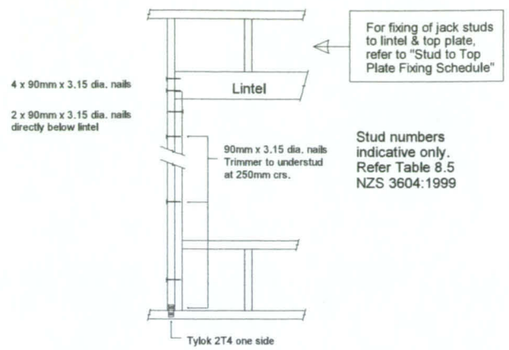
NOTES:

Lintels supporting girders trusses for ALL load cases use:
Fixing Type G where contributary area = 10m²
Fixing Type H where contributary area = 20m²
All cases outside this require specific design.

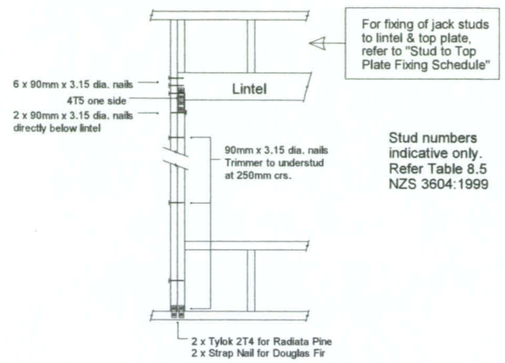
04/2008

LINTEL FIXING OPTIONS

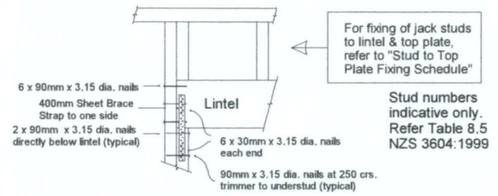
TYPE E
1.4kN

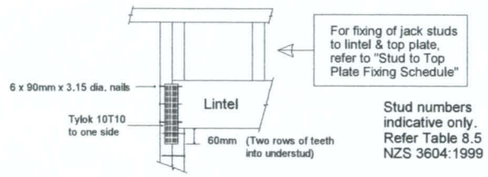


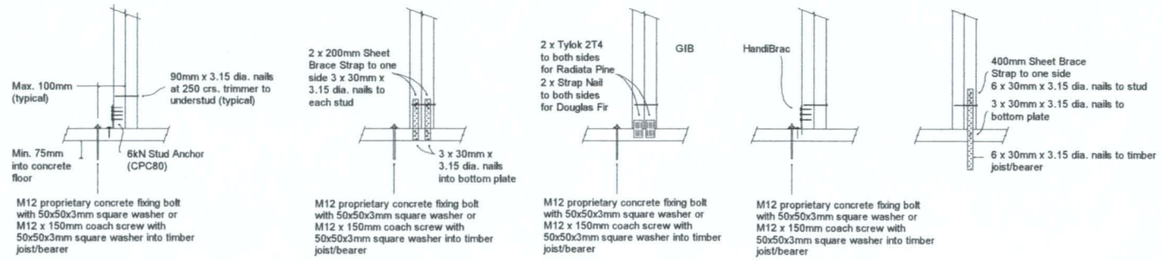
TYPE F
4.0kN



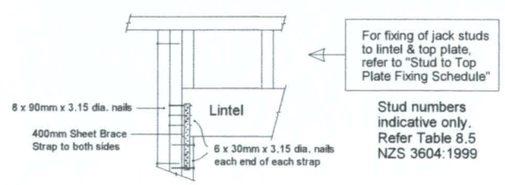
TYPE G
7.5kN

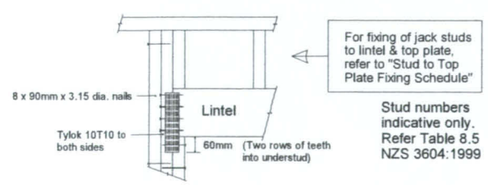


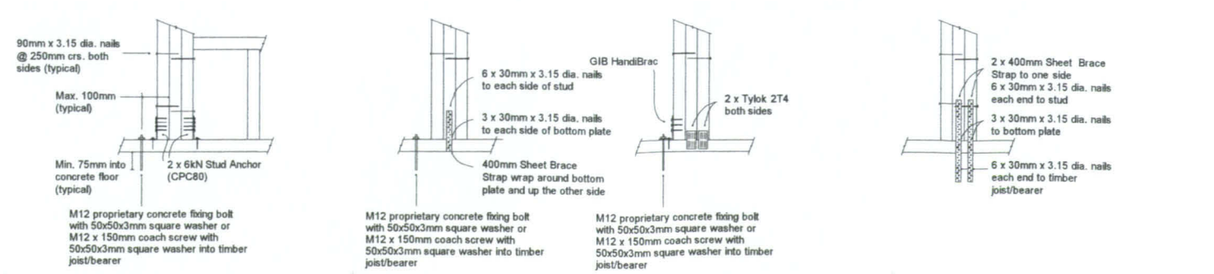




TYPE H
13.5kN







MiTek New Zealand Ltd.

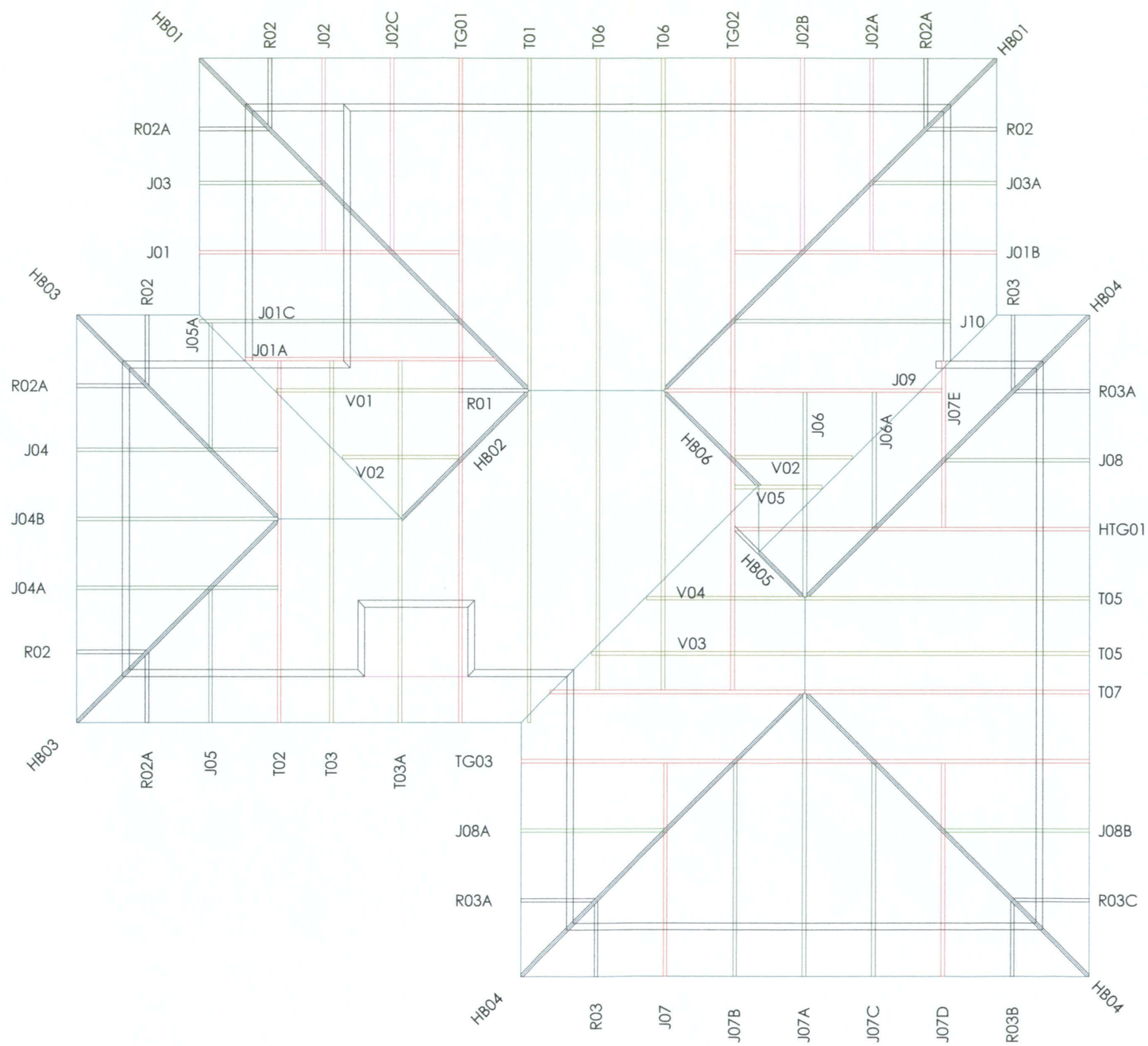
AUCKLAND
PO Box 58-014, Greenmount
Phone: (09) 274 7109
Fax: (09) 274 7100
www.miteknz.co.nz

CHRISTCHURCH
PO Box 8387, Riccarton
Phone: (03) 348 8891
Fax: (03) 348 0214

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THOMSONS BUILDING CENTRE

Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 6 & 7
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Buildable Truss Layout

Date : 29 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:

Roof Pitch	: 16.000 Deg
Roof Material	: Galv Iron .5mm
Ceiling Material	: Standard
Wind Zone	: Medium
Roof Snow Load	: 0.000 kPa

Truss Centres	: 900 mm
Roof Live Load	: 0.250kPa
Floor Live Load	: kPa
Wind Speed	: 37.0 m/s

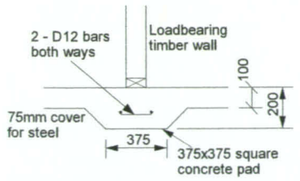
PrimeCad v4.6.3.30

MiTek

Job Title : 1236
Sheet : 1
Revision Number :

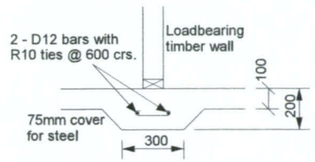
PDF created with pdfFactory Pro trial version www.pdffactory.com

Slab Thickening Details

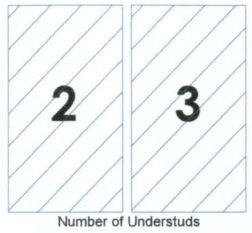


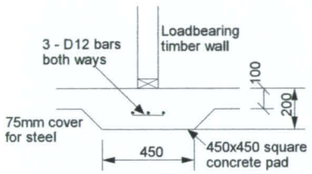
TYPE FP1 - 375x375mm Pad



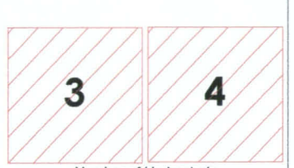


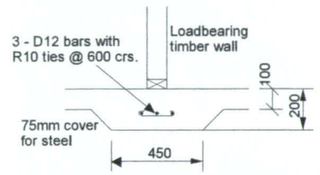
TYPE FS1 - 300mm Strip footing



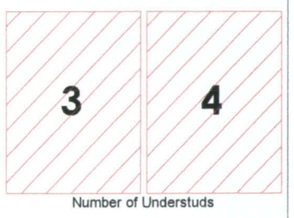


TYPE FP2 - 450x450mm Pad



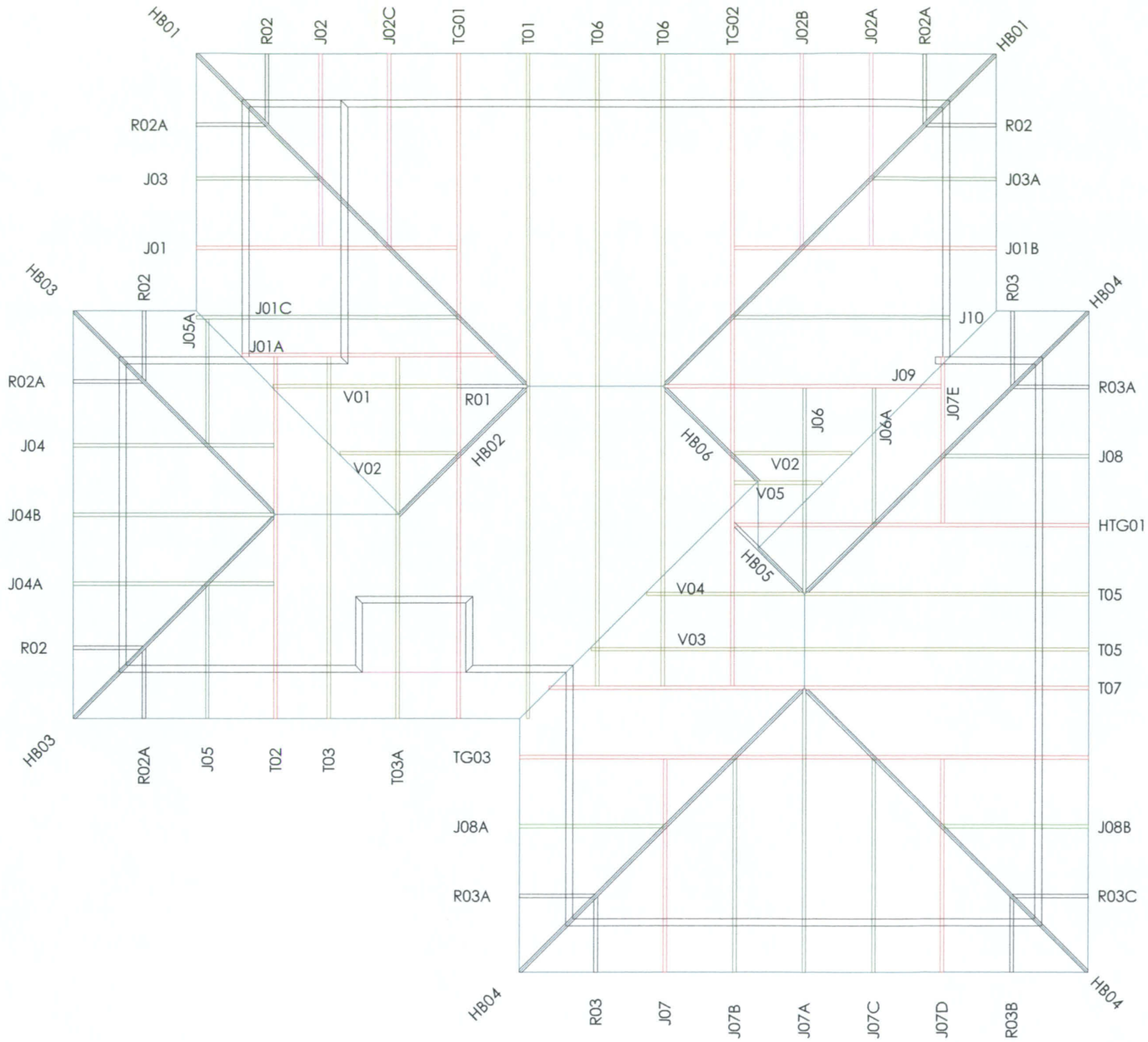


TYPE FS2 - 450mm Strip footing



NOTES:

The numbers found within the hatched area is the number of studs required below each truss.
Refer to:
GANG-NAIL Internal Load Bearing on Concrete Floor Slabs brochure 12/2006



NO EXTRA SLAB THICKENING REQUIRED

THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 6 & 7
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Slab Thickening

Date : 29 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:

Roof Pitch	: 16.000 Deg	Truss Centres	: 900 mm
Roof Material	: Galv Iron .5mm	Roof Live Load	: 0.250 kPa
Ceiling Material	: Standard	Floor Live Load	: kPa
Wind Zone	: Medium	Wind Speed	: 37.0 m/s
Roof Snow Load	: 0.000 kPa		

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MiTek

Job Title : 1236
Sheet : 2
Revision Number :

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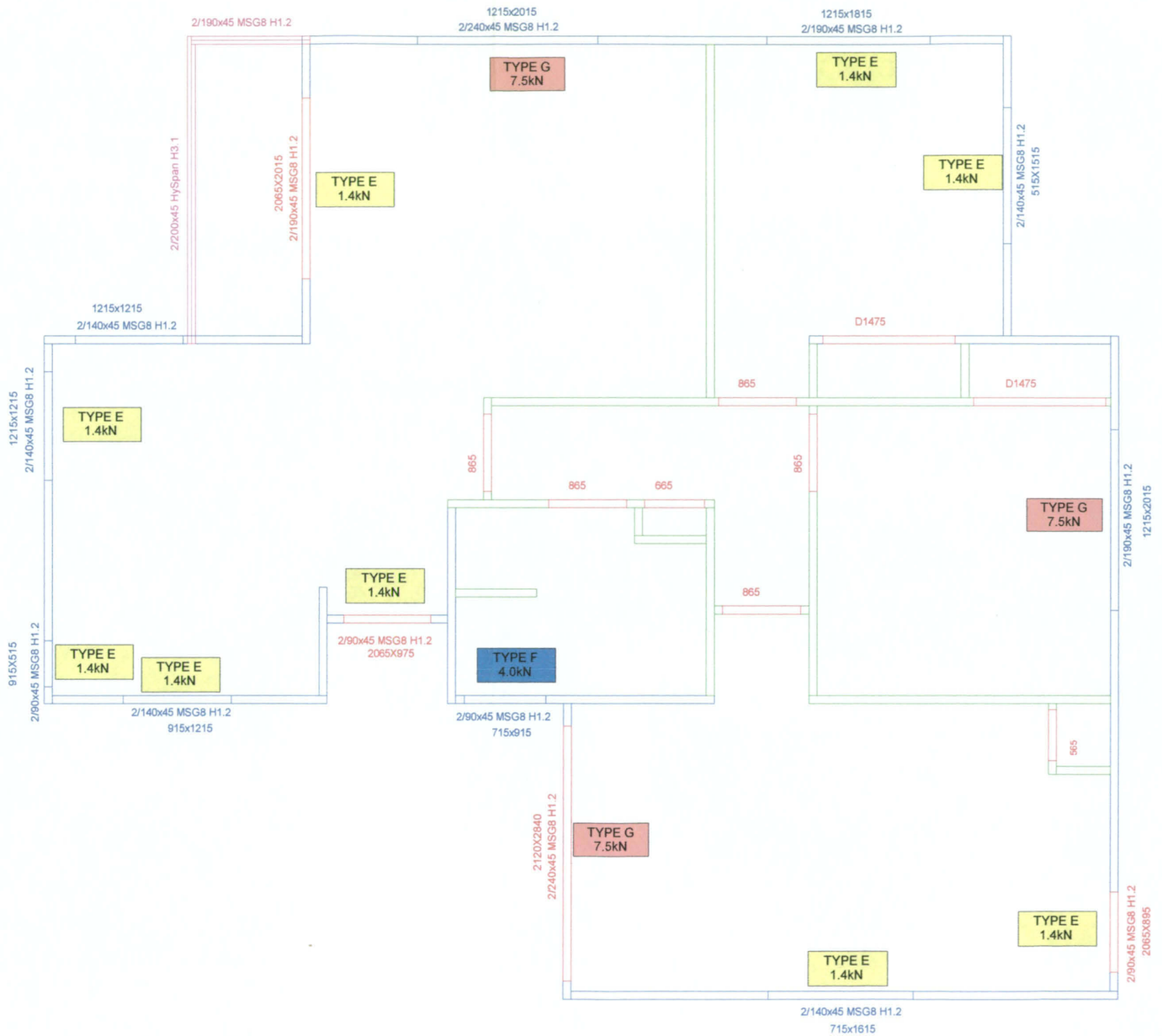
Lintel Fixing Details

TYPE E
1.4kN

TYPE F
4.0kN

TYPE G
7.5kN

TYPE H
13.5kN



NOTES:

Refer to:
Lintel Fixing Schedule 04/2008
pages 28 & 29, Structrual Fixings
On-site Guide for Buildng Code
Compliance 2009 Edition

(Alternative to NZS 3604:1999
Table 8.14 & Figure 8.12)

PrimeCad v4.6.3.30

THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 6 & 7
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Lintel Fixing

Date : 29 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:
Roof Pitch : 16.000 Deg
Roof Material : Galv Iron .5mm
Ceiling Material : Standard
Wind Zone : Medium
Roof Snow Load : 0.000 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250kPa
Floor Live Load : kPa
Wind Speed : 37.0 m/s

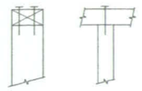
MiTek

Job Title :
1236
Sheet :
3
Revision Number :

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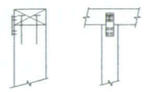
Stud to top plate fixing details

Type A is minimum fixing required unless specified otherwise



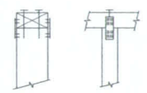
FIXING TYPE A
0.7kN

2/90x3.33 plain steel wire nails driven vertically into stud.



FIXING TYPE B
1.7kN

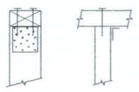
2/90x3.33 plain steel wire nails driven vertically into stud, plus single LUMBERLOK Tylok 2T4 plate.



FIXING TYPE C
2.7kN

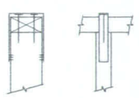
2/90x3.33 plain steel wire nails driven vertically into stud, plus pair LUMBERLOK Tylok 2T4 plates.

FIXING TYPE D
6.0kN



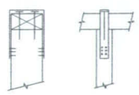
2/90x3.33 plain steel wire nails driven vertically into stud, plus LUMBERLOK 6kN Stud Anchor.

OR



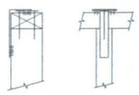
2/90x3.33 plain steel wire nails driven vertically into stud, plus LUMBERLOK Tylok Stud Tie

OR



LUMBERLOK Sheet Brace Strap 400 with 6/30x3.15 nails each stud face

OR

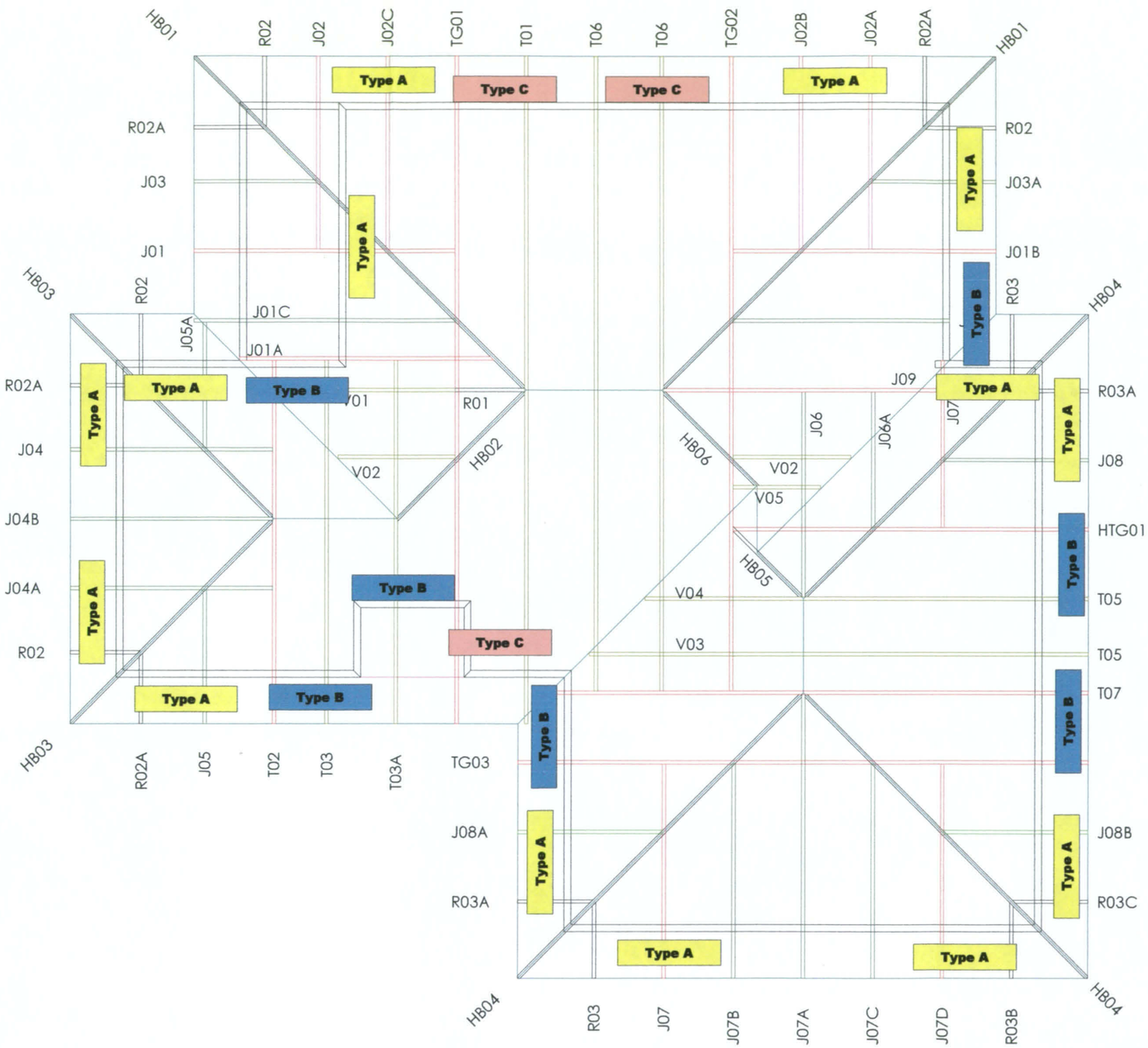


LUMBERLOK Stud Strap

NOTES:

Refer to:
LUMBERLOK Wall Fixing Chart - Stud to Top Plate Fixing Schedule 01/10

(Alternative to NZS3604:1999 Table 8.18)



THOMSONS BUILDING CENTRE Mason Road Whatawhata Ph - 07 8298518 Fax - 07 8298489	Site Address : Lot 6 & 7 Yorkshire Street Hamilton	Sheet Title : For Building Consent Stud To Top Plate Fixing Date : 29 Apr,2010 Drawn : Administrator Scale : 1: 100 System : MiTek 20/20	Job Details: Roof Pitch : 16.000deg Roof Material : Galv Iron .5mm Ceiling Material : Standard Wind Zone : Medium Roof Snow Load: 0.000 kPa Truss Centres : 900 mm Roof Live Load : 0.250kPa Floor Live Load : kPa Wind Speed : 37.0 m/s

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MiTek

Job Title : 1236
Sheet : 4
Revision Number :

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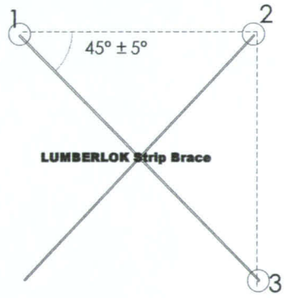
Truss Fixings

	Qty
D - Pair of LUMBERLOK Wire Dogs	**57**
X - LUMBERLOK JH47x90 Joist Hanger	**28**
Z - LUMBERLOK JH47x120 Joist Hanger	**10**
P - LUMBERLOK JH47x190 Joist Hanger	
E - LUMBERLOK JH95x165 Joist Hanger	
O - Pair of LUMBERLOK CT200 Ceiling Ties	**2**
H - LUMBERLOK CT400 Cyclone Tie	**9**
B - LUMBERLOK CT600 Cyclone Tie	
M - Pair of LUMBERLOK Multi Grips	
NP - LUMBERLOK Nailon Plate	
N - LUMBERLOK N21 Diagonal Cleat	
W - Pair of LUMBERLOK CPC40 Cleats	**4**
2 x Type17 - 14g x 75mm screws	**8**
K - LUMBERLOK 16kN Truss to Top Plate set	
S/S - 300mm Sheet Brace Strap @1200mm crs	
LUMBERLOK product nails required	**5**

Roof Bracing

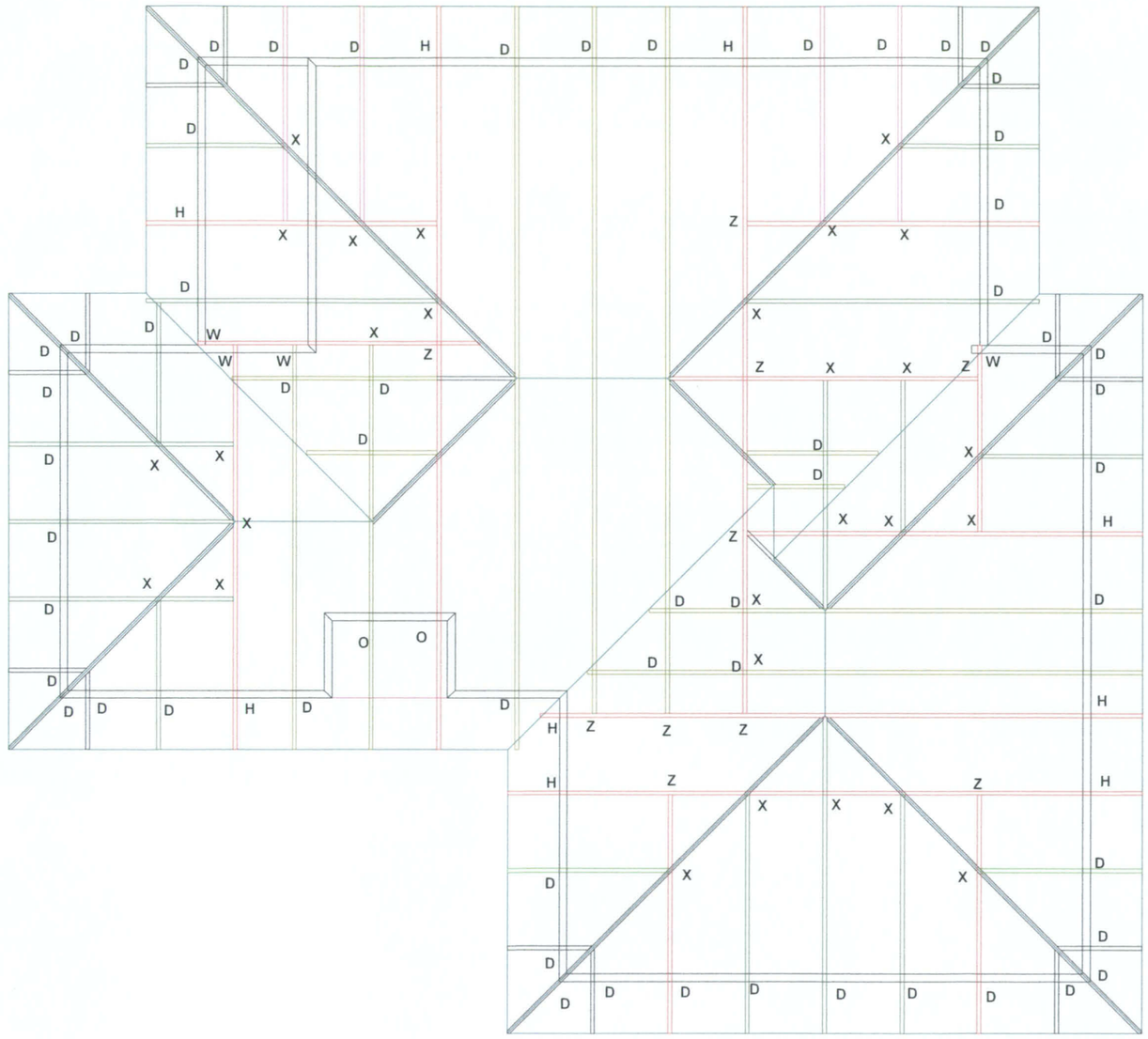
Refer to:
LUMBERLOK Roof Bracing Specifications brochure 08/2006 for end fixing details.

The brace must be located such that it forms an angle of 45° ± 5° to the wall



NOTES:

All other areas must have a minimum of a pair of 90mm skew nails for truss to top plate connections.
Refer to:
LUMBERLOK Timber Connectors Characteristic Loadings Data brochure 03/4



THOMSONS BUILDING CENTRE
Mason Road Whatawhata
Ph - 07 8298518 Fax - 07 8298489

Site Address :
Lot 6 & 7
Yorkshire Street
Hamilton

Sheet Title :
For Building Consent
Truss Fixings & Roof Bracing

Date : 29 Apr,2010 | Drawn : Administrator
Scale : 1: 100 | System : MiTek 20/20

Job Details:

Roof Pitch	: 16.00 Deg	Truss Centres	: 900 mm
Roof Material	: Galv Iron .5mm	Roof Live Load	: 0.250 kPa
Ceiling Material	: Standard	Floor Live Load	: kPa
Wind Zone	: Medium	Wind Speed	: 37.0 m/s
Roof Snow Load	: 0.000 kPa		

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MiTek

Job Title : 1236
Sheet : 5
Revision Number :

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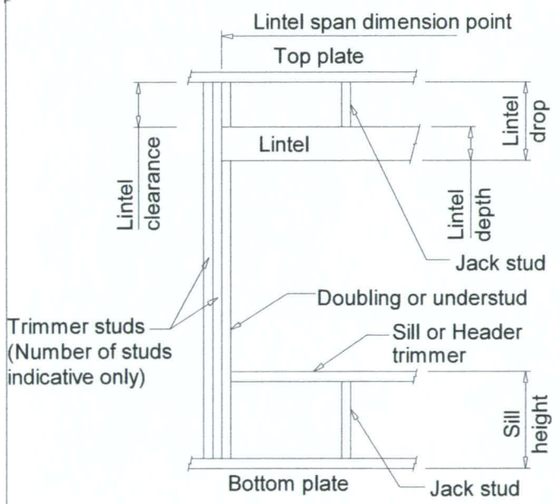
LUMBERLOK®

04/2008

LINTEL FIXING SCHEDULE
ALTERNATIVE TO TABLE 8.14 & FIGURE 8.12
NZS 3604:1999

- ★ All fixings are designed for vertical loads only. Dead loads include the roof weight and standard ceiling weight of 0.20 kPa.
- ★ Refer to Table 8.19 NZS 3604:1999 for nailing schedule to resist horizontal loads.
- ★ These fixings assume the correct choice of rafter/truss to top plate connections have been made.
- ★ All fixings assume bottom plate thickness of 45mm maximum. Note: TYLOK options on timber species.
- ★ Wall framing arrangements under girder trusses are not covered in this schedule.
- ★ All timber selections are as per NZS 3604:1999

DEFINITIONS



SELECTION CHART FOR LINTEL FIXING

Lintel Span	Loaded Dimension (See Fig. 1.3 NZS 3604:1999)	Light Roof Wind Zone				Heavy Roof Wind Zone			
		L	M	H	VH	L	M	H	VH
1.5	2.0	E	E	F	F	E	E	F	F
	3.0	E	E	F	G	E	E	F	F
	4.0	E	F	G	G	E	E	F	G
	5.0	E	F	G	G	E	E	G	G
	6.0	E	F	G	H	E	E	G	G
2.0	2.0	E	F	F	G	E	E	F	F
	3.0	E	F	G	G	E	E	F	G
	4.0	E	F	G	G	E	E	G	G
	5.0	E	G	G	H	E	E	G	G
	6.0	F	G	G	H	E	F	G	H
2.4	2.0	E	F	F	G	E	E	F	F
	3.0	F	F	G	G	E	E	G	G
	4.0	F	G	G	H	E	E	G	G
	5.0	F	G	G	H	E	F	G	H
	6.0	F	G	H	H	E	F	G	H
3.0	2.0	E	F	G	G	E	E	F	G
	3.0	F	F	G	H	E	E	G	G
	4.0	F	G	G	H	E	F	G	H
	5.0	F	G	H	H	E	F	G	H
	6.0	G	G	H	-	E	F	H	H
3.6	2.0	F	F	G	G	E	E	F	G
	3.0	F	G	G	H	E	F	G	G
	4.0	F	G	H	H	E	F	G	H
	5.0	F	G	H	-	E	F	H	H
	6.0	G	H	H	-	E	F	H	-
4.2	2.0	F	F	G	G	E	E	G	G
	3.0	F	G	H	H	E	F	G	H
	4.0	G	G	H	-	E	F	H	H
	5.0	G	H	H	-	E	F	H	-
	6.0	G	H	-	-	E	G	H	-
4.8	2.0	F	G	G	H	E	E	G	G
	3.0	F	G	H	H	E	F	G	H
	4.0	G	G	H	-	E	F	H	H
	5.0	G	H	-	-	E	F	H	-
	6.0	G	H	-	-	E	G	H	-

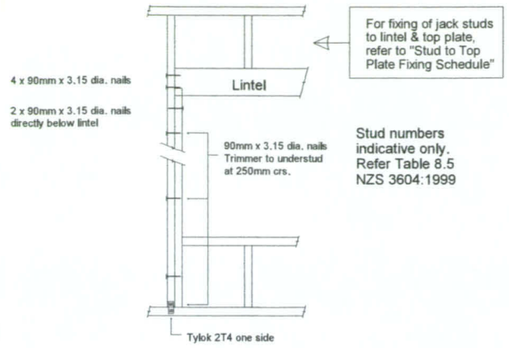
NOTES:

Lintels supporting girders trusses for ALL load cases use:
Fixing Type G where contributary area = 10m²
Fixing Type H where contributary area = 20m²
All cases outside this require specific design.

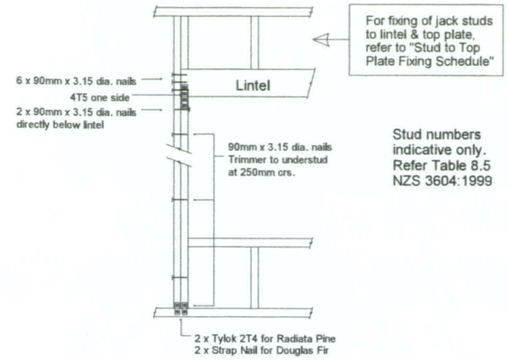
04/2008

LINTEL FIXING OPTIONS

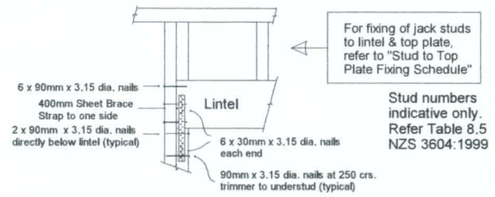
TYPE E 1.4kN

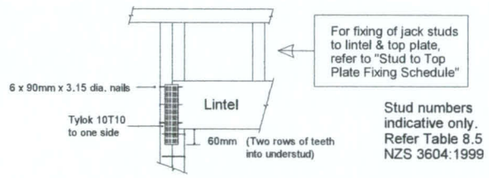


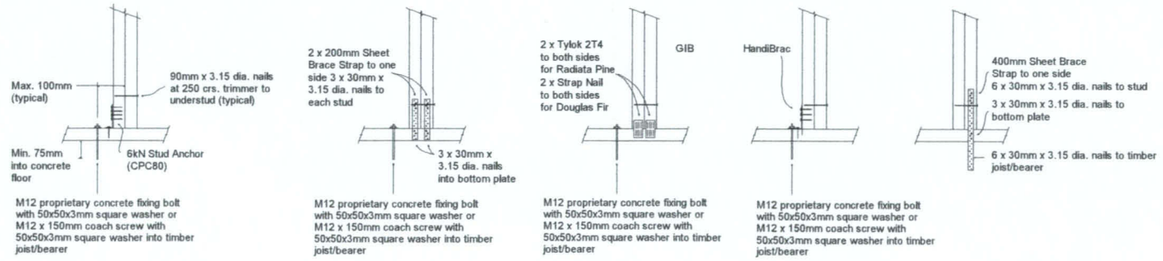
TYPE F 4.0kN



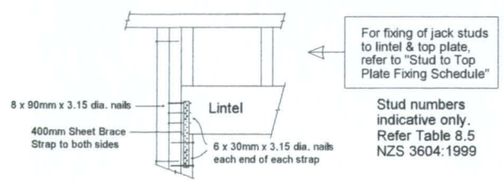
TYPE G 7.5kN

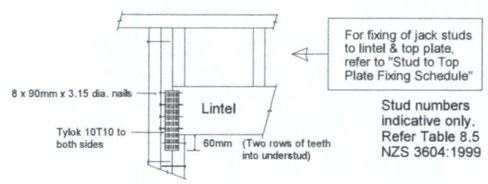


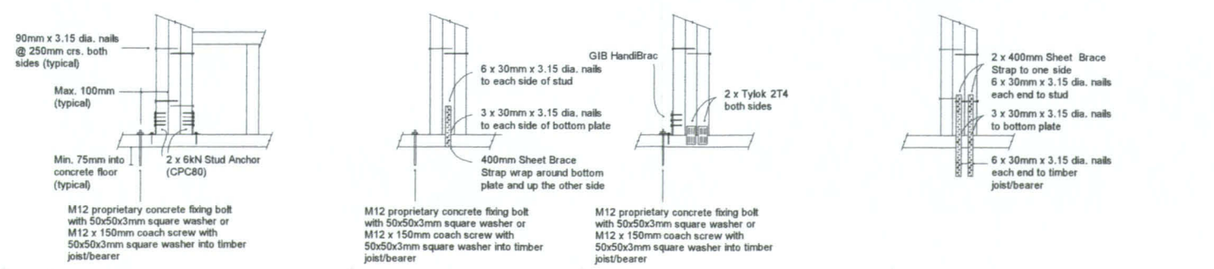




TYPE H 13.5kN







MiTek New Zealand Ltd.

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www.miteknz.co.nz

CHRISTCHURCH
PO Box 8387, Riccarton
Phone: (03) 348 8591
Fax: (03) 348 0314

HOME OF GANG-NAIL® BUILDING SYSTEMS

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MEMORANDUM OF EASEMENT			
Purpose	Shown	Serv.Tenem.	Dom.Tenem.
Right of way, Right to drain: sewage & water, Right to convey: water, gas, electricity, telecommunication & computer media	(A)	Lot 3 hereon	Lots 1, 2 & 4–7 hereon

MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council

NOTES:

1. Existing vehicle crossing shall be upgraded to residential standard for 7 or more household units as specified in Hamilton City Development Manual and be made to 5.5 metres in width - in particular, the concrete apron shall be saw cut and completely removed and replaced with cut down kerb with asphalt to match existing footpath.
2. Water connections to be 25mmØ OD. All new water reticulation to be Vested in Hamilton City Council. Main water connection via 63mmØ MDPE Ridermain connection and Gate Valve at start and flushing valve at end of main.
3. Levels are in terms of Moturiki Datum.
4. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.

NEW WS CONNECTION:
New 63mmØ MDPE Ridermain connection to connect into existing main; 0.8m from LHS, Min. 600 cover at front boundary.

WS DISCONNECTION:
1. Existing water service approx. 0.15m from RHS boundary to be disconnected.
2. Existing water service approx.0.3m from RHS boundary to be disconnected.

121 DPS 10595

59 DPS 9556

1 DP 428322

1 300m² 4.52

2 300m²

3 300m² (765m²)

4 300m²

5 300m²

6 300m²

7 300m²

F.F.L.42.00

Water

Flushing Valve

Exist. PP to be relocated

Existing crossing to be upgraded to residential vehicle crossing for 7 or more household units

Proposed 63mmØ MDPE Ridermain

Right of Way (A)

Gate Valve

YORKSHIRE ROAD

Existing 63mmØ MDPE Ridermain

Existing WW (HCC record) exact location to be confirmed

63 DPS 9556

66 DPS 9556

69 DPS 9556

NOMINATED ENGINEERING REPRESENTATIVE:
Keith Clapson of CKC Developments Ltd.
Mobile: 021 905858
E-mail: k-j-clap@slingshot.co.nz
Address: PO BOX 904 Hamilton

HCC CITY DEVELOPMENT UNIT
ACCEPTED
ENGINEERING PLANS
File Ref: 11/2010/20973.002
Date: 1/06/2010 By:

RECEIVED
28 JUN 2010
CITY DEVELOPMENT

Amendment:	Description:

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NOTES:
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PLANS FOR BUILDING CONSENT FOR COMPREHENSIVE RESIDENTIAL DEVELOPMENT ON LOTS 61 AND 62 DPS 9556 AND LOT 2 DP 428322

Prepared for: CKC Holding Ltd. | Comprised in C.'sT. SA5A/971, SA16A/1036 & 511729 | Address: 8 and 10 Yorkshire Road, Hamilton

Surveyors–Land Engineers –Land Development, Resource Management and Town Planning Consultants
7 HARDLEY STREET–HAMILTON–NEW ZEALAND P.O. BOX 9379
E-mail: mgltd@mgsl.co.nz Fax.: (07) 8391292 Tel.: (07) 8391335
McPherson Goodwin

Surveyor:	Checked: GI Ruffell	Scale: 1:250 @ A3	Sheet 2 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147

MEMORANDUM OF EASEMENT			
Purpose	Shown	Serv.Tenem.	Dom.Tenem.
Right of way, Right to drain: water, Right to convey: water, gas, electricity, telecommunication & computer media	(A)	Lot 3 hereon	Lots 1, 2 & 4–7 hereon

MEMORANDUM OF EASEMENT IN GROSS			
Purpose	Shown	Serv.Tenem.	Grantee:
Right to convey: water	(A)	Lot 3 hereon	Hamilton City Council

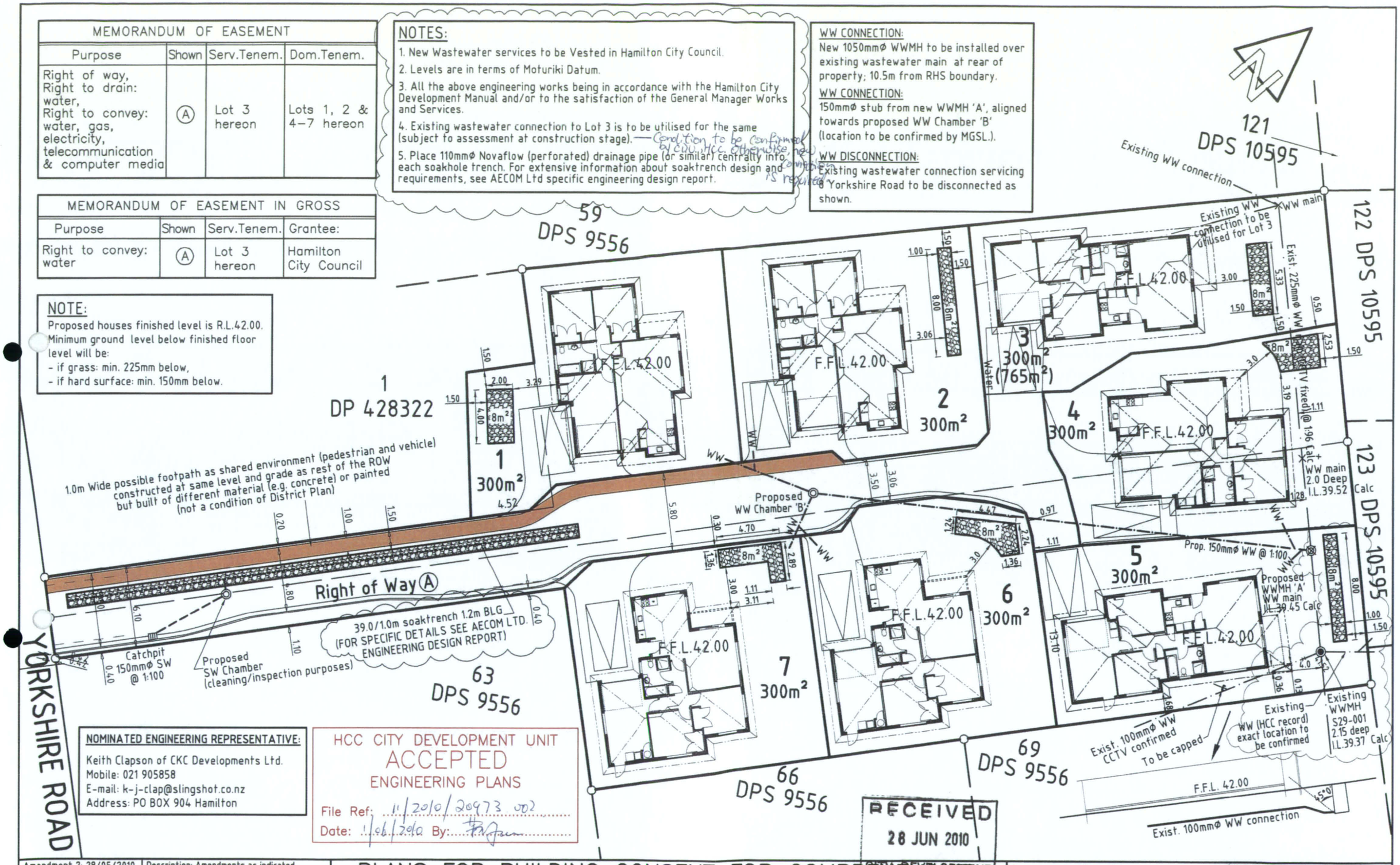
NOTE:
Proposed houses finished level is R.L.42.00.
Minimum ground level below finished floor level will be:
- if grass: min. 225mm below,
- if hard surface: min. 150mm below.

NOTES:
1. New Wastewater services to be Vested in Hamilton City Council.
2. Levels are in terms of Moturiki Datum.
3. All the above engineering works being in accordance with the Hamilton City Development Manual and/or to the satisfaction of the General Manager Works and Services.
4. Existing wastewater connection to Lot 3 is to be utilised for the same (subject to assessment at construction stage). — Condition to be confirmed by CIDU, HCC. Otherwise, new connection is required.
5. Place 110mmØ Novaflow (perforated) drainage pipe (or similar) centrally into each soakhole trench. For extensive information about soaktrench design and requirements, see AECOM Ltd specific engineering design report.

WW CONNECTION:
New 1050mmØ WWMH to be installed over existing wastewater main at rear of property; 10.5m from RHS boundary.

WW CONNECTION:
150mmØ stub from new WWMH 'A', aligned towards proposed WW Chamber 'B' (location to be confirmed by MGSL.).

WW DISCONNECTION:
Existing wastewater connection servicing 8 Yorkshire Road to be disconnected as shown.



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HCC CITY DEVELOPMENT UNIT
ACCEPTED
ENGINEERING PLANS
File Ref: 11/2010/20973.002
Date: 1/06/2010 By:

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CITY DEVELOPMENT

Amendment 2: 28/05/2010	Description: Amendments as indicated.

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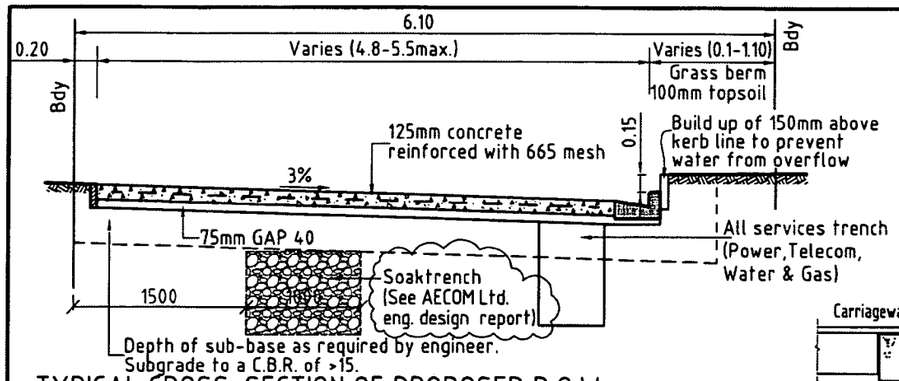
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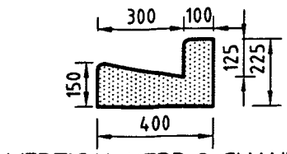
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Surveyor:	Checked: GI Ruffell	Scale: 1:250 @ A3	Sheet 3 of 15
Design/Drawn: M. Spasovska	Date: April/ 2010		Ref.: 15147



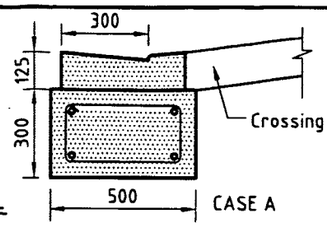
TYPICAL CROSS-SECTION OF PROPOSED R.O.W.

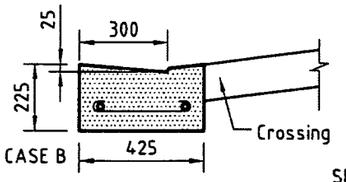
SCALE: 1 : 50



VERTICAL KERB & CHANNEL

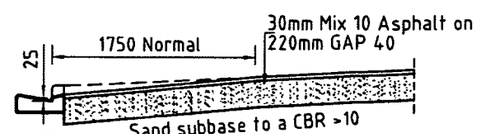
SCALE: 1:20





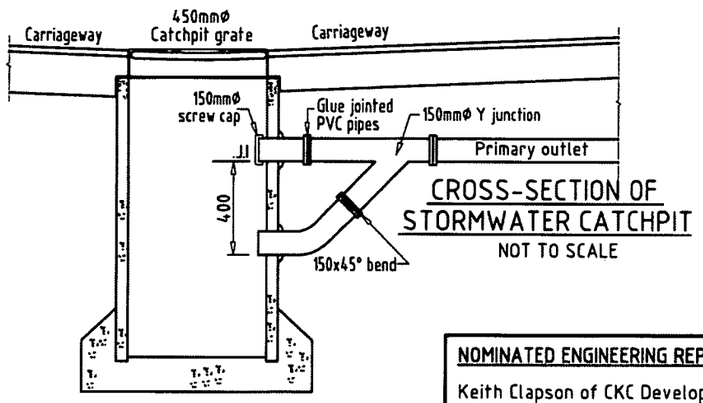
DETAIL 'A' - CHANNEL CROSSING

SCALE: 1:20



SECTION THROUGH COMMERCIAL VEHICLE CROSSING

SCALE: 1:50



CROSS-SECTION OF STORMWATER CATCHPIT

NOT TO SCALE

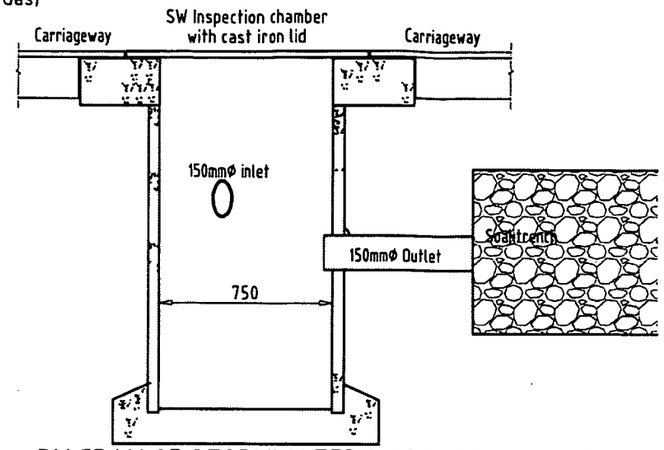
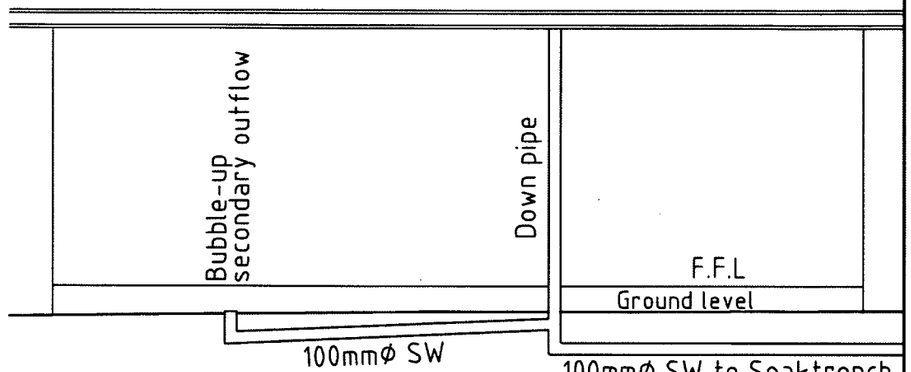


DIAGRAM OF STORMWATER INSPECTION CHAMBER

SCALE: 1:25



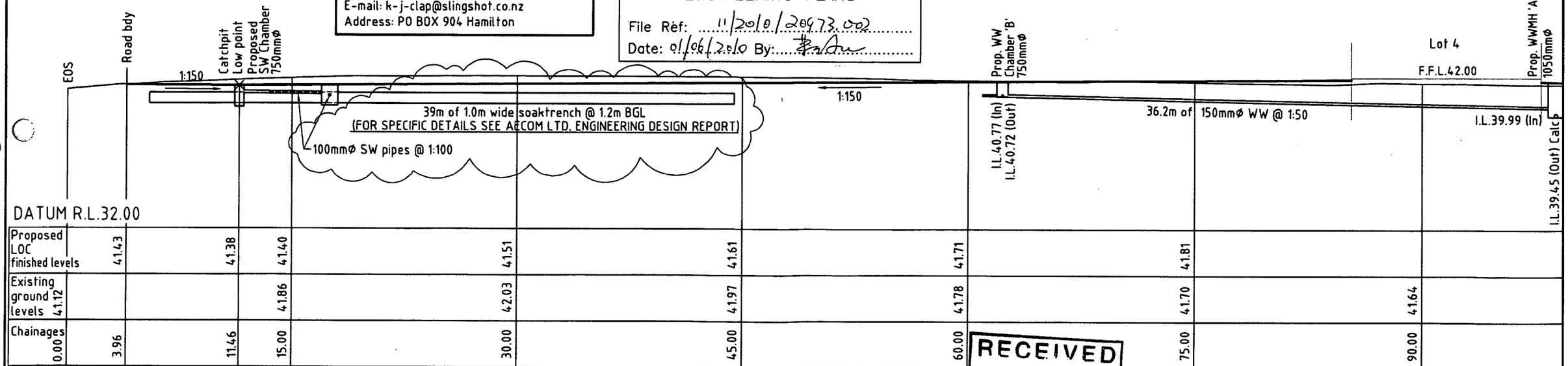
DETAIL OF SW SECONDARY OVERFLOW FOR LOTS 3-6

NOT TO SCALE

NOMINATED ENGINEERING REPRESENTATIVE:

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ACCEPTED
ENGINEERING PLANS
File Ref: 11/2010/20073.002
Date: 01/06/2010 By:



Chainages	0.00	3.96	11.46	15.00	30.00	45.00	60.00	75.00	90.00
Proposed LOC finished levels		41.43	41.38	41.40	41.51	41.61	41.71	41.81	
Existing ground levels	41.12			41.86	42.03	41.97	41.78	41.70	41.64

LONGITUDINAL SECTION OF PROPOSED RIGHT OF WAY - Scale: Hz: 1:250, Vt: 1:250

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28 JUN 2010
SITE DEVELOPMENT

ALL LOTS

Amendment: 28/05/2010 | Description: Amended as indicated

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Surveyor: | Checked: GI Ruffell | Scale: 1:250 @ A3 | Sheet 4 of 15
Design/Drawn: M. Spasovska | Date: April/ 2010 | Ref.: 15147

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Address: PO BOX 904 Hamilton

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ACCEPTED
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File Ref: 41/2010/20073.002
Date: 01/06/2010 By:

Existing WW connection

121 DPS 10595

59 DPS 9556

Cleaning sump with solid cover

122 DPS 10595

123 DPS 10595

1 DP 428322

1

2

3

4

5

6

7

100mmø SW

100mmø WW @ 1:60

400mmø WW @ 1:60

IP Existing WW connection to be utilised for Lot 3

Bubble-up sump

Existing 225mmø WW main (CCTV fixed)

Proposed WW Chamber 'B'

Proposed WWMH 'A'

Prop. 150mmø WW

Right of Way Ⓐ

39.0/1.0m soaktrench 1.2m BLG

63 DPS 9556

124 DPS 10595

Existing WW (HCC record)

Existing WWMH S29-001 2.15 deep

Exist. WW (CCTV confirmed)

69 DPS 9556

66 DPS 9556

NOTES:
1. Minimum Wastewater pipes gradient under the new building is @ 1:60
2. Kitchen sink to have overflow fitted.
3. Unless shown otherwise pipe sizes are as follows

Fixture	Size of trap & fixture discharge pipe DN mmø
× Basin	32 or 40
× Bath	40
× Shower	40 or 50
× Kitchen sink	40 or 50
× Laundry tub	40 or 50
× Water closet pan	100
× Clothes washing machine	50

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CITY DEVELOPMENT

ALL LOTS

Amendment: 24/05/2010 | Description: WW pipe sizes added.

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