GENERAL

1. If in doubt then ask.

2. Unless otherwise noted all dimensions are in millimetres and all levels are in metres.

3. Unless specified otherwise all materials shall be new and suitable for their intended purpose.

4. These structural drawings are to be read in conjunction with all relevant Specialist drawings and specifications.

5. Common abbreviations:
CHS - Circular Hollow Section.
crs - Centres or centre to centre.
D - Ordinary grade deformed reinforcing bar with nominal diameter annotated.
EA - Equal Angle.
FSBW - Full Strength Butt Weld.
FWAR - Fillet Weld All Round.
GP - General purpose weld
H - High grade deformed reinforcing bar with nominal diameter annotated.
PPBW - Partial penetration butt weld
R - Ordinary grade round reinforcing bar with nominal diameter annotated.
RTAD - Refer To Architects Drawings/Details.
RHS - Rectangular Hollow Section
SHS - Square Hollow Section
SP - Special catagory weld
UA - Unequal Angle
UB - Universal Beam
UC - Universal Column
UNO - Unless Noted Otherwise
TOF - Top of Foundation

6. Dimensions shall not be obtained by scaling from drawings.

7. All discrepancies shall be referred to the Engineer for resolution before proceeding with work.

8. The stability of the structure during construction is the responsibility of the builder.

9. All materials and workmanship shall be accordance with the current Codes of Practice except where varied by the Specification and/or drawings.

10. Where proprietary products are specified in the documents the Contractor may submit an alternative product for approval. All materials and workmanship shall be in accordance with manufacturers specification.

11. All timber construction to comply with NZS3604:2011 Timber Framed Buildings.

Rev	Description	Date	By	Checked

GRIDLINE LTD
STRUCTURAL AND CIVIL ENGINEERS
PO BOX 200, ARROWTOWN 9351
EMAIL: WARRICK@ GRIDLINE.CO.NZ
PH: 021 365 070 OR (03)442 0054

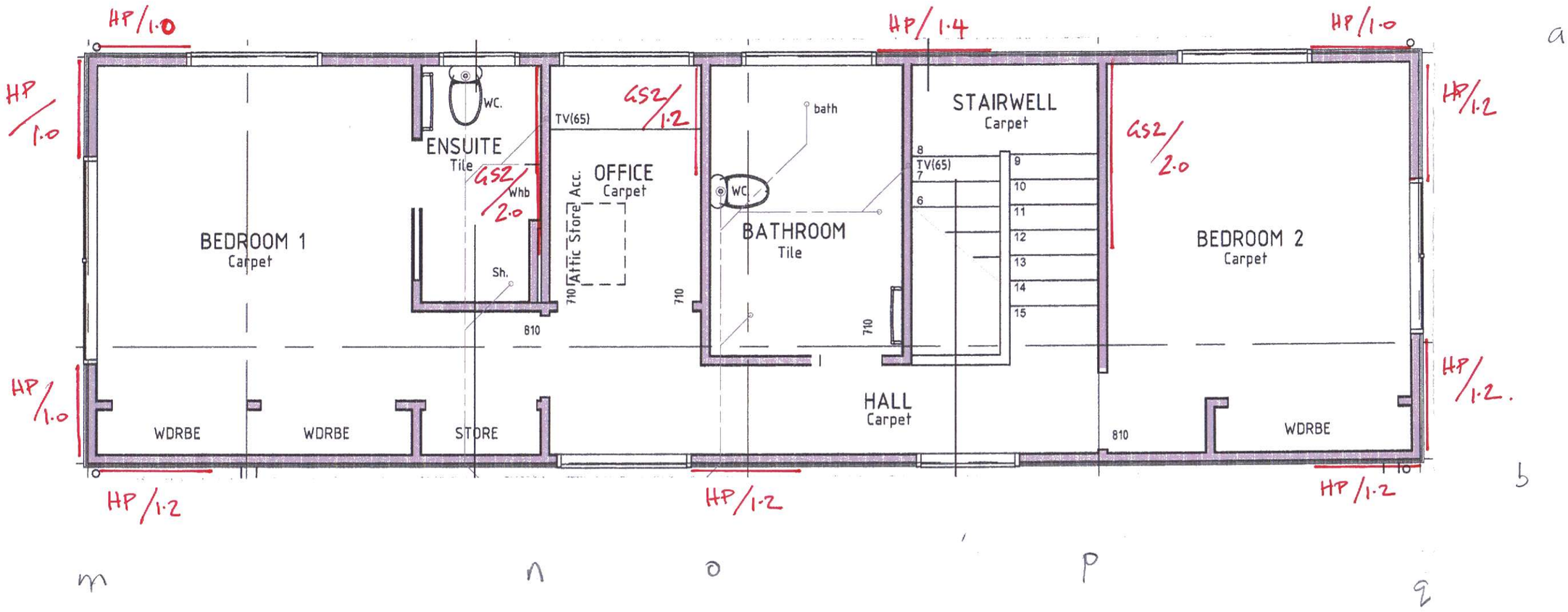
Project Title
Idaburn, Northlake

Drawing Title
Specifications
Bracing Only

Client
Northlake

Scale @ A3
Designed by WW
Drawn by WW
Date July 2016

Job No. 1932
Drawing No. SK01
Rev.



Rev	Description	Date	By	Checked

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PH: 021 365 070 OR (03) 442 0054

PROJECT TITLE
IDABURN, NORTHLAKE

DRAWING TITLE
UPPER FLOOR
BRACING.

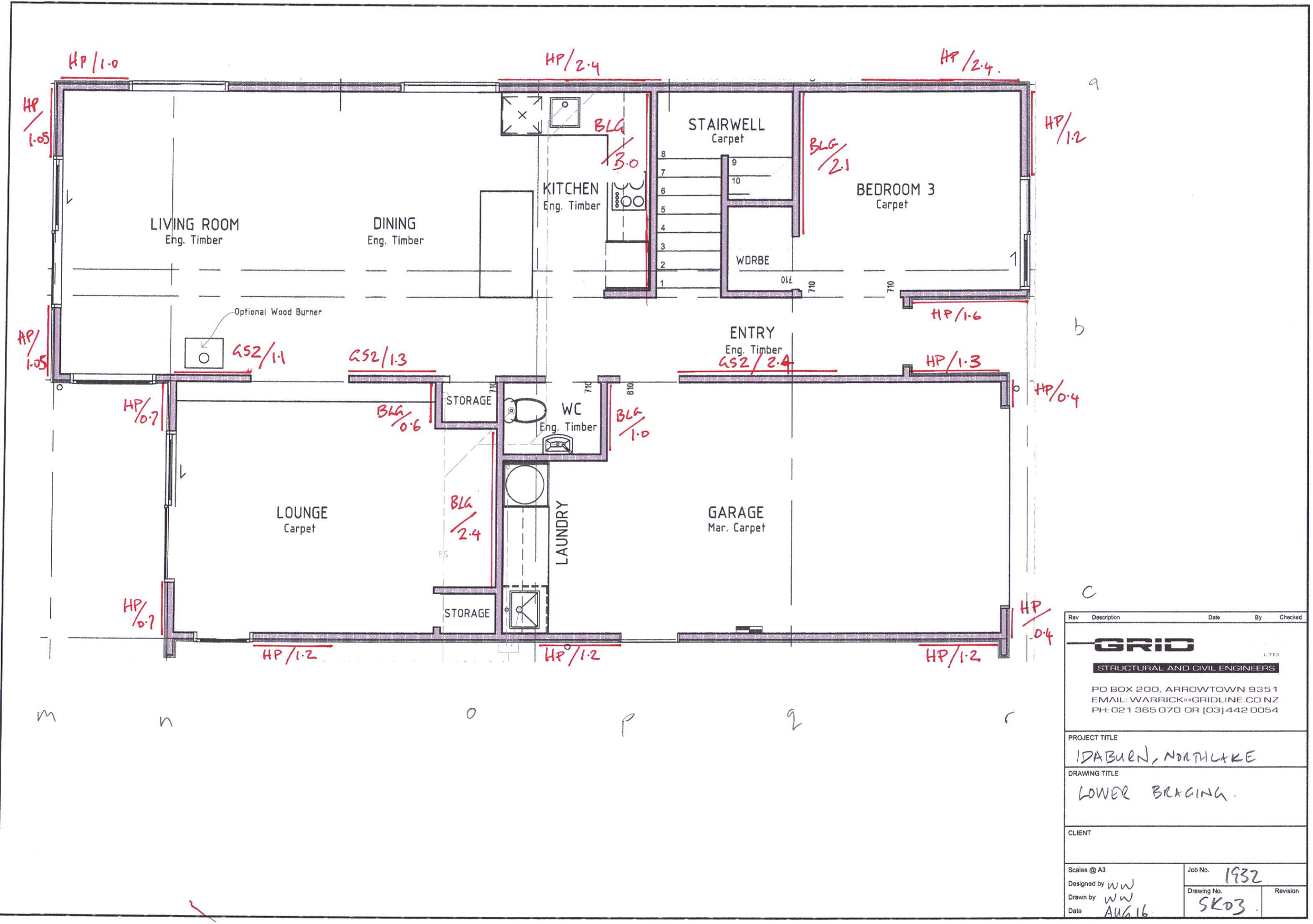
CLIENT

Scales @ A3
Designed by WW
Drawn by WW
Date AUG 16.

Job No. 1932

Drawing No. S/K02

Revision



Rev	Description	Date	By	Checked

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PROJECT TITLE
IDABURN, NORTHLAKE

DRAWING TITLE
LOWER BRACING.

CLIENT

Scales @ A3
Designed by WW
Drawn by WW
Date AUG 16

Job No. 1932
Drawing No. SK03.
Revision

GIB EzyBrace® System Specification – GS1-N

JUNE 2011

Specification Code	Minimum Length (m)	Lining requirement
GS1-N	0.4	Any 10mm or 13mm GIB® Standard Plasterboard to one side only

WALL FRAMING

Wall framing to comply with;

- NZBC B1 - Structure; AS1 Clause 3 Timber (NZS 3604:2011)
- NZBC B2 - Durability AS1 Clause 3.2 Timber (NZS 3602)

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING

Timber Floor

Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or

Three power driven 90 x 3.15 nails at 600mm centres.

Concrete floor

INTERNAL WALL BRACING LINES

In accordance with the requirements of NZS 3604:2011 for internal wall plate fixing or 75 x 3.8mm shot fired fasteners with 16mm discs spaced at 150mm and 300mm from end studs and 600mm centres thereafter.

EXTERNAL WALL BRACING LINES

In accordance with the requirements of NZS 3604 for external plate fixing.

WALL LINING

Any 10mm or 13mm GIB® Plasterboard lining.
Sheets can be fixed vertically or horizontally.
Sheet joints shall be touch fitted.
Use full length sheets where possible.

PERMITTED SUBSTITUTION

For permitted GIB® Plasterboard substitutions refer to Page 21 in GIB Ezybrace® Systems 2011.

FASTENING THE LINING

Fasteners

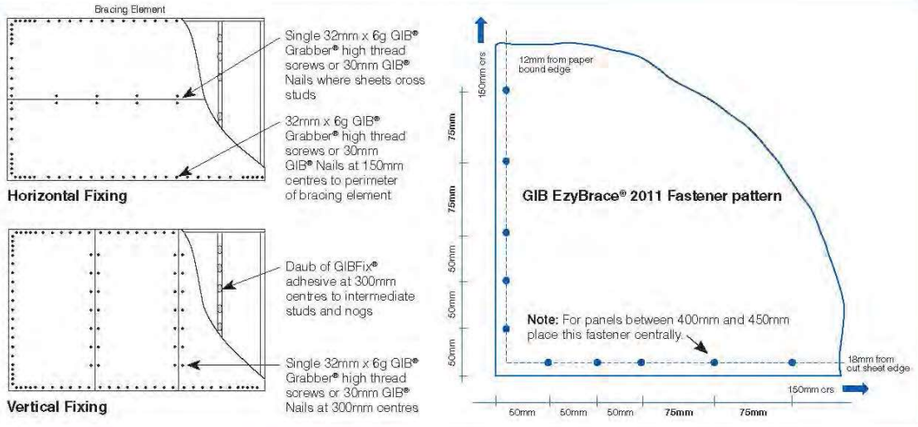
32mm x 6g GIB® Grabber® high thread screws; or 30mm GIB® Nails.

Fastener centres

50,100,150, 225, 300mm from each corner and 150mm thereafter around the perimeter of the bracing element.
For vertically fixed sheets place fasteners at 300mm centres to intermediate sheet joints.
For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud.
Use daubs of GIB Fix® adhesive at 300mm centres to intermediate studs.
Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

JOINTING

All fastener heads stopped and all sheet joints paper tape reinforced and stopped in accordance with the GIB® Site Guide.



In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow the specifications. This Specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems 2011 and has been appraised in accordance with the BRANZ Appraisal No. 294 (2011).

BRANZ Appraised
Appraisal No.294 [2011]

Construction

Rev	Description	Date	By	Checked

GRIDLINE LTD
STRUCTURAL AND CIVIL ENGINEERS
PO BOX 200, ARROWTOWN 9351
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PROJECT TITLE
Northlake, Wanaka

DRAWING TITLE
Bracing Details

CLIENT
Northlake

Scales @ A3
Designed by WW
Drawn by WW
Date June 2016

Job No. 1932
Drawing No. SK B 01
Revision

GIB EzyBrace® System Specification – GS2-N

JUNE 2011

Specification Code	Minimum Length (m)	Lining requirement
GS2-N	0.4	Any 10mm or 13mm GIB® Standard Plasterboard fixed to each side of the wall framing.

WALL FRAMING

Wall framing to comply with;

- NZBC B1 - Structure; AS1 Clause 3 Timber (NZS 3604:2011)
- NZBC B2 - Durability AS1 Clause 3.2 Timber (NZS 3602)

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING

Timber Floor

Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or

Three power driven 90 x 3.15 nails at 600mm centres.

Concrete floor

INTERNAL WALL BRACING LINES

In accordance with the requirements of NZS 3604:2011 for internal wall plate fixing or 75 x 3.8mm shot fired fasteners with 16mm discs spaced at 150mm and 300mm from end studs and then 600mm centres thereafter.

WALL LINING

One layer 10mm or 13mm GIB® Plasterboard to each side of the wall.

Sheets can be fixed vertically or horizontally.

Sheet joints shall be touch fitted.

Use full length sheets where possible.

PERMITTED SUBSTITUTION

For permitted GIB® Plasterboard substitutions refer to Page 21 in GIB® Ezybrace Systems 2011.

FASTENING THE LINING

Fasteners

32mm x 6g GIB® Grabber® high thread screws; or 30mm GIB® Nails.

Fastener centres

50,100,150, 225, 300mm from each corner and 150mm thereafter around the perimeter of the bracing element.

For vertically fixed sheets place fasteners at 300mm centres to intermediate sheet joints.

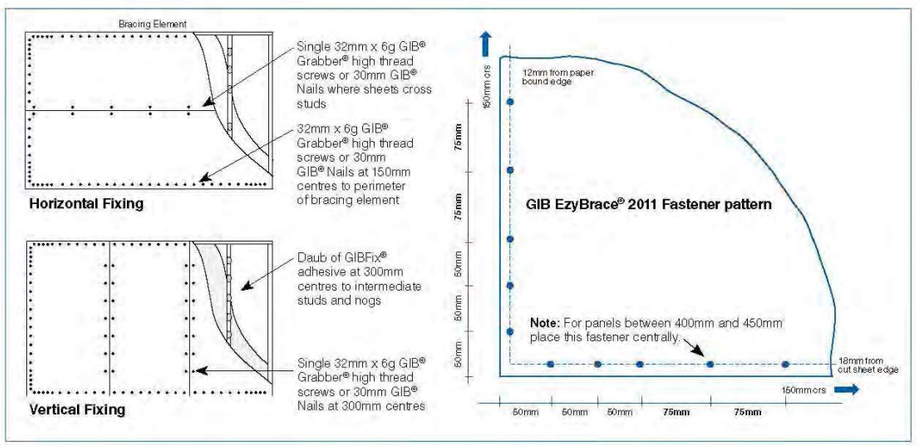
For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud.

Use daubs of GIB Fix® adhesive at 300mm centres to intermediate studs.

Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

JOINTING

All fastener heads stopped and all sheet joints paper tape reinforced and stopped in accordance with the GIB® Site Guide.



Construction

In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow the specifications. This Specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems 2011 and has been appraised in accordance with the BRANZ Appraisal No. 294 (2011).

BRANZ Appraised
Appraisal No.294 [2011]

Rev	Description	Date	By	Checked

GRIDLINE LTD
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PO BOX 200, ARROWTOWN 9351
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PROJECT TITLE
Northlake, Wanaka

DRAWING TITLE
Bracing Details

CLIENT
Northlake

Scales @ A3
Designed by WW
Drawn by WW
Date June 2016

Job No. 1932
Drawing No. SK B 02
Revision

GIB EzyBrace® System Specification – BLP-H

JUNE 2011

Specification Code	Minimum Length (m)	Lining requirement	Other requirements
BLP-H	0.4	10mm or 13mm GIB Braceline® to one side of the frame plus minimum 7mm Ecoply to the other side	Hold downs

WALL FRAMING

Wall framing to comply with;

- NZBC B1 - Structure; AS1 Clause 3 Timber (NZS 3604:2011)
- NZBC B2 - Durability AS1 Clause 3.2 Timber (NZS 3602)

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING

Timber Floor

Use panel hold downs at each end of the bracing element. The GIB® HandiBrac is recommended. See details in GIB Ezybrace® Systems 2011 or GIB® Site Guide.
Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or
Three power driven 90 x 3.15 nails at 600mm centres.

Concrete floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB Ezybrace® Systems 2011 or GIB® Site Guide. Within the length of the bracing element bottom plates are to be fixed in accordance with the requirements of NZS 3604.

WALL LINING

One layer 10mm or 13mm GIB Braceline® to one side of the wall plus minimum 7mm Ecoply construction plywood manufactured to AS/NZS 2269:2004 to the other side. Plasterboard sheets can be fixed vertically or horizontally. Plywood is to be fixed vertically with edges supported. Sheet joints shall be touch fitted. Use full length sheets where possible.

PERMITTED SUBSTITUTION

For permitted GIB® Plasterboard substitutions refer to Page 21 in GIB Ezybrace® Systems 2011.

FASTENING THE LINING

Fasteners

GIB Braceline® side

32mm x 6g GIB® Grabber® high thread screws.
(GIB Braceline® Nails may be used with 10mm GIB Braceline® only)

Plywood

50 x 2.8mm Galv or Stainless steel FH nails.

Fastener centres

GIB® Plasterboard side

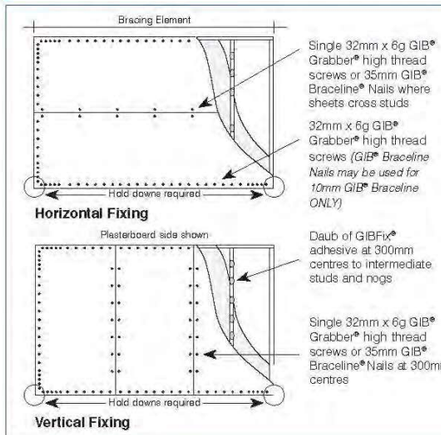
50,100,150, 225, 300mm from each corner and then 150mm thereafter around the perimeter of the bracing element.
For vertically fixed sheets place fasteners at 300mm centres to the intermediate sheet joints.
For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud.
Use daubs of GIB®Fix adhesive at 300mm centres to intermediate studs.
Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

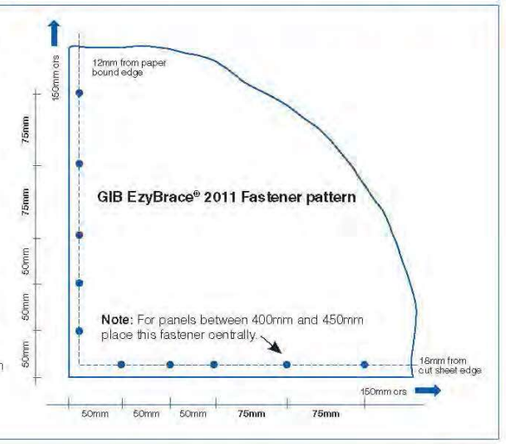
Plywood side

150mm centres to the perimeter of each sheet. GIB® corner fastener pattern does not apply to the plywood side. 300mm centres to intermediate studs.

JOINTING

All fastener heads stopped and all sheet joints paper tape reinforced and stopped in accordance with the GIB® Site Guide.





In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow the specifications. This Specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems 2011 and has been appraised in accordance with the BRANZ Appraisal No. 294 (2011).

BRANZ Appraised
Appraisal No.294 [2011]

Construction

Rev	Description	Date	By	Checked

GRIDLINE LTD
STRUCTURAL AND CIVIL ENGINEERS
PO BOX 200, ARROWTOWN 9351
EMAIL: WARRICK@GRIDLINE.CO.NZ
PH: 021 365 070 OR (03) 442 0054

PROJECT TITLE: Northlake, Wanaka

DRAWING TITLE: Bracing Details

CLIENT: Northlake

Scales @ A3
Designed by WW
Drawn by WW
Date June 2016

Job No. 1932
Drawing No. SK B 05
Revision

GIB EzyBrace® System Specification – BLG-H

JUNE 2011

Specification Code	Minimum Length (m)	Lining requirement	Other requirements
BLG-H	0.4	10mm or 13mm GIB Braceline® to one side of the frame plus any 10mm or 13mm GIB Plasterboard to the other side	Hold downs

WALL FRAMING

Wall framing to comply with;

- NZBC B1 - Structure; AS1 Clause 3 Timber (NZS 3604:2011)
- NZBC B2 - Durability AS1 Clause 3.2 Timber (NZS 3602)

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING

Timber Floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB Ezybrace® Systems 2011 or GIB® Site Guide.
Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or
Three power driven 90 x 3.15 nails at 600mm centres.

Concrete floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB Ezybrace® Systems 2011 or GIB® Site Guide. Within the length of the bracing element bottom plates are to be fixed in accordance with the requirements of NZS 3604.

WALL LINING

One layer 10mm or 13mm GIB® Braceline to one side of the wall plus any 10mm or 13mm GIB® Plasterboard lining to the other side. Sheets can be fixed vertically or horizontally. Sheet joints shall be touch fitted. Use full length sheets where possible.

PERMITTED SUBSTITUTION

For permitted GIB® Plasterboard substitutions refer to Page 21 in GIB Ezybrace® Systems 2011.

FASTENING THE LINING

Fasteners

GIB Braceline® side
32mm x 6g GIB® Grabber® high thread screws.
(GIB Braceline® Nails may be used with 10mm GIB Braceline® only)

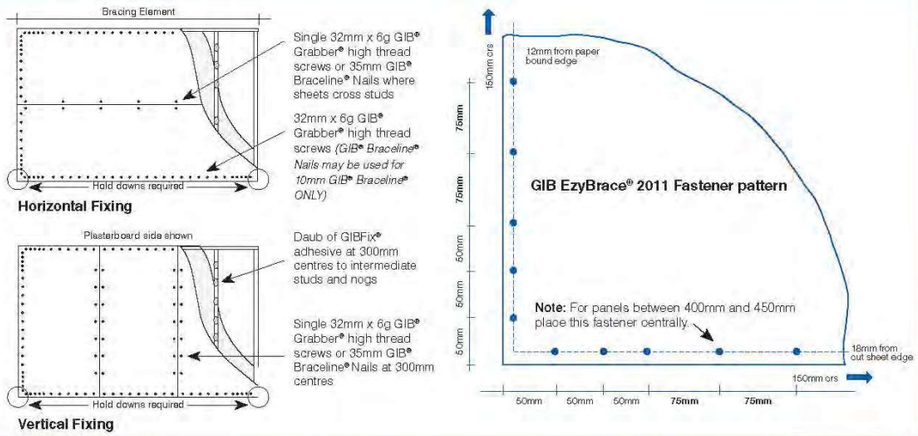
Other side
32mm x 6g GIB® Grabber® high thread screws; or
30mm GIB Nails.

Fastener centres

50,100,150, 225, 300mm from each corner and then 150mm thereafter around the perimeter of the bracing element.
For vertically fixed sheets place fasteners at 300mm centres to the intermediate sheet joints.
For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud.
Use daubs of GIB Fix® adhesive at 300mm centres to intermediate studs.
Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

JOINTING

All fastener heads stopped and all sheet joints paper tape reinforced and stopped in accordance with the GIB® Site Guide.



In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow the specifications. This Specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems 2011 and has been appraised in accordance with the BRANZ Appraisal No. 294 (2011).

BRANZ Appraised
Appraisal No.294 [2011]

Construction

Rev	Description	Date	By	Checked

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PROJECT TITLE
Northlake, Wanaka

DRAWING TITLE
Bracing Details

CLIENT
Northlake

Scales @ A3
Designed by WW
Drawn by WW
Date June 2016

Job No. 1932
Drawing No. SK B 06
Revision

Bottom Plate Fixing

JUNE 2011

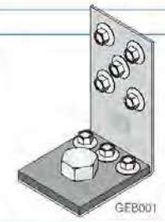
Bottom plate fixings for GIB® Bracing Elements			
Brace type	**Concrete slabs**		**Timber floors**
	External wall	**Internal wall**	**External and Internal walls**
GS1-N	As per NZS 3604:2011. No specific additional fastening required	As per NZS 3604:2011. Alternatively use 75 x 3.8mm shot-fired fasteners with 16mm washers, 150mm and 300mm from each end of the bracing element and at 600mm thereafter.	Pairs of 100 x 3.75mm flat head hand driven nails or 3 / 90 x 3.15mm power driven nails at 600mm centres in accordance with NZS 3604:2011
GS2-N	Not applicable		
GSP-H BL1-H BLP-H	Intermediate fastenings to comply with NZS 3604:2011. In addition: GIB Handibrac® fixings or metal wrap-around strap fixings and bolt as illustrated on pages 19 and 20		Pairs of 100 x 3.75mm flat head hand driven nails or 3 / 90 x 3.15mm power driven nails at 600mm centres in accordance with NZS 3604:2011. In addition: GIB Handibrac® fixings or metal wrap-around strap fixings and bolt as illustrated below.
BLG-H	Not applicable	As for GSP-N, BL1-H, BLP-H on concrete slab above	

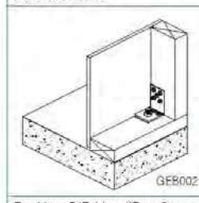
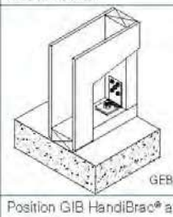
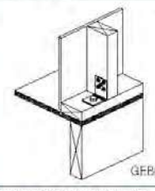
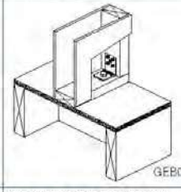
Panel Hold-down Details

GIB HandiBrac® – RECOMMENDED METHOD

Developed in conjunction with MiTek™ NZ, the GIB HandiBrac® has been designed and tested for use as a hold-down in GIB® BL and GSP bracing elements.

- The GIB HandiBrac® registered design provides for quick and easy installation
- The GIB HandiBrac® provides a flush surface for the wall linings because it is fitted inside the framing. There is no need to check in the framing as recommended with conventional straps
- The GIB HandiBrac® is suitable for both new and retrofit construction
- The design also allows for installation and inspection at any stage prior to fitting internal linings



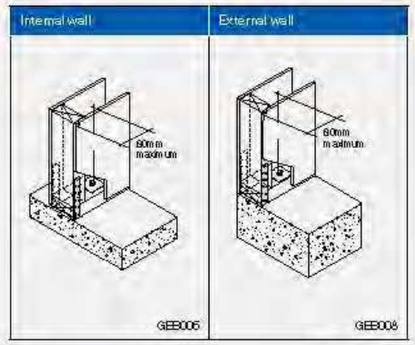
Concrete Floor		Timber Floor	
External walls	**Internal walls**	**External walls**	**Internal walls**
 GEB002	 GEB003	 GEB004	 GEB005
Position GIB HandiBrac® as close as practicable to the internal edge of the bottom plate	Position GIB HandiBrac® at the stud / plate junction	Position GIB HandiBrac® in the centre of the perimeter joist or bearer	Position GIB HandiBrac® in the centre of floor joist or full depth solid block
Hold-down fastener requirements			
A mechanical fastening with a minimum characteristic uplift capacity of 15kN.		12x150mm galvanised coach screw	

Refer to gib.co.nz/cad for CAD details.

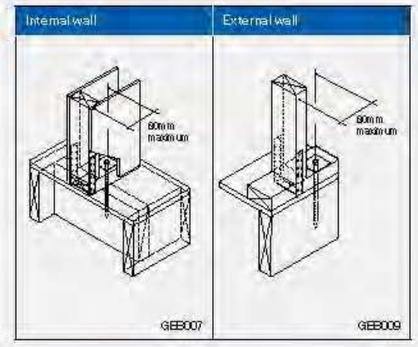
BOTTOM PLATE ANCHOR PLACEMENT

When using stud to plate straps the bottom plate anchor placement has been reduced from a maximum of 100mm to 80mm from the end of the bracing element. This distance is consistent with the bolt location in the GIB HandiBrac® and ensures performance equivalence when GIB HandiBrac® and strap fixings are compared. The change represents industry best practice and does not affect previous bracing designs and installations.

CONCRETE FLOOR



TIMBER FLOOR



GIB HandiBrac®

The GIB HandiBrac® has been designed and tested by Winstone Wallboards and remains the preferred panel hold-down fixing for use with high performance GIB EzyBrace® Systems. The registered design bracket is fitted inside the framing and provides a flush surface for wall-lining.

GIB EzyBrace® software and technical literature available at gib.co.nz/gib-ezybrace-systems.

FOR TECHNICAL ASSISTANCE CALL THE
GIB® HELPLINE ON 0800 100 442.

Substitution: GIB EzyBrace® Systems are not generic. In order for GIB® Systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise system performance. Where specified, GIB® branded components must be used when specifying and installing GIB EzyBrace® Systems.

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Rev	Description	Date	By	Checked

GRIDLINE LTD
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PROJECT TITLE
Northlake, Wanaka

DRAWING TITLE
Bracing Details

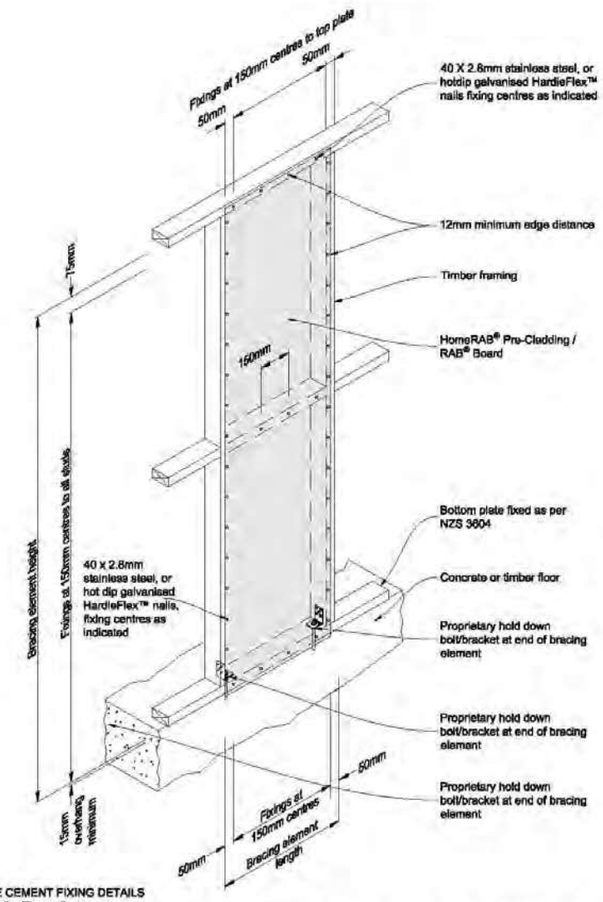
CLIENT
Northlake

Scales @ A3
Designed by WW
Drawn by WW
Date June 2016

Job No. 1932
Drawing No. SK B 07
Revision

15 Bracing figures - Pre-cladding

Figure 5: 400/600mm HomeRAB® Pre-Cladding or RAB® Board to concrete or timber floor



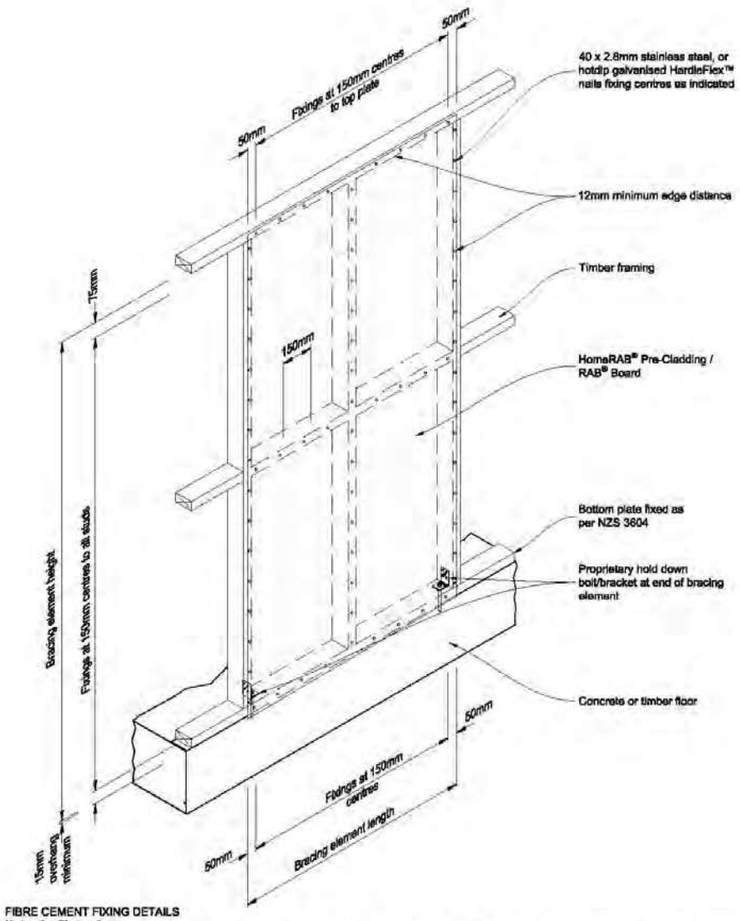
FIBRE CEMENT FIXING DETAILS

Notes for Figure 5:

- **Concrete floor** bottom plate fixing:- Ramset bracing anchor kit Concrete or GIB Handibrac® with 15kN anchor at each end of bracing element
- **Timber floor** bottom plate fixing:- Ramset bracing anchor kit Wood or GIB Handibrac® with a 12x150mm galvanised coach screw at each end of bracing element

Product	System	Minimum length
HomeRAB® Pre-Cladding	HP	400 or 600mm
HomeRAB® Pre-Cladding with 10mm GIB® Standard plasterboard	HPg	400 or 600mm
RAB® Board	JHD	400 or 600mm

Figure 6: 1200mm HomeRAB® Pre-Cladding or RAB® Board to concrete or timber floor



FIBRE CEMENT FIXING DETAILS

Notes for Figure 6:

- **Concrete floor** bottom plate fixing:- Ramset bracing anchor kit Concrete or GIB Handibrac® with 15kN anchor at each end of bracing element
- **Timber floor** bottom plate fixing:- Ramset bracing anchor kit Wood or GIB Handibrac® with a 12x150mm galvanised coach screw at each end of bracing element

Product	System	Minimum length
HomeRAB® Pre-Cladding	HP	1200mm
HomeRAB® Pre-Cladding with 10mm GIB® Standard plasterboard	HPg	1200mm
RAB® Board	JHD	1200mm

Rev	Description	Date	By	Checked

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STRUCTURAL AND CIVIL ENGINEERS
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PROJECT TITLE
Northlake, Wanaka

DRAWING TITLE
Bracing Details

CLIENT
Northlake

Scales @ A3
Designed by WW
Drawn by WW
Date June 2016

Job No. 1932
Drawing No. SK B 09
Revision