

**IN THE MATTER OF
THE CANTERBURY EARTHQUAKES ROYAL COMMISSION**

BRIEF OF EVIDENCE OF JOHN STUART O'LOUGHLIN

Dated 15 December 2011

Solicitors:
Williams & Co
Christchurch

Kerry Williams

Counsel instructed:
Richard Raymond
PO Box 9344
Tower Junction
Christchurch 8149
Ph (03) 343 1321
Email: r.raymond@canterburychambers.co.nz
Mobile 027 465 3321

1. My full name is John Stuart O'Loughlin, I am a Structural Engineer living in Christchurch.
2. I graduated with a BSc from Canterbury University in 1968. I then commenced my degree in engineering and graduated with a Bachelor of Engineering (Honours) in 1970, also from Canterbury University. I then worked for the predecessors of what is now known as Holmes Consulting Group. I commenced my own practice in 1974, which is now known as O'Loughlin Taylor Spence Limited ("the company"). Since 1974 I have been engaged on a significant range of commercial and industrial buildings throughout Christchurch and the South Island. I have 42 years experience in the profession.
3. John Spence joined me in practice in 1986.

194 Hereford Street (Joe's Garage)

4. I am giving this evidence to the Canterbury Earthquakes Royal Commission to outline my involvement with 194 Hereford Street ("the building") and in particular the strengthening work which my company was involved in. Where relevant, I have referred to documents which I have provided to the Commission. In addition, Rhys Smith, an associate – senior engineer with the company, has provided a brief detailing his involvement after the 4 September 2010 earthquake and the work the company then carried out for the owner.

O'Loughlin Taylor Spence Limited's initial engagement in 2002

5. In August 2002, the building was owned by Mrs Dorenda Britten. She engaged Architecture Warren & Mahoney Limited ("AWM") (Bill Gregory) to consider proposed alterations to the building. At that stage, she was considering changing the use of the building. As I recall, the upper floor was to be for office space with the ground floor to be used for a restaurant or café. Prior to that date, all of the building had been used for office space.
6. The company was engaged by AWM. I have a letter dated 22 August 2002 to AWM confirming that the company would be happy to provide structural engineering design on the building as secondary consultants to AWM. At that stage, I said that we did not see the structural work as a large part of the project as we understood a change of use of the building was not involved and therefore section 38(b) of the Building Act would apply for structural issues. I noted that should a tenancy other than offices be involved, then a change of use may apply in which case the more severe requirements of section 46 of the Act could be invoked.

7. As the project progressed, Mrs Britten decided she wanted to have the flexibility of a change of use to keep her options open for the ground floor. There is an account to AWM dated 31 October 2002 which records our inspection of the building and advising on structural items, attending to the internal demolition and checking on the extent of what may be removed from the building. The fee also covered structural design and working drawings for upgrading the building to as near as is reasonably practical (being the terminology in the Building Act for bringing the building as close as possible to the strength of a new building).
8. We did not do any further work on it at that stage, however as at October 2002 the ground floor was essentially a shell, with the original partitions removed. We had done the design work for what would be required for strengthening at that stage, but the work was not done, because the proposed tenant pulled out. Mrs Britten subsequently sold the building.

2004 engagement

9. The company was approached by the new owners of the building, Robert Douglas and Sarah Harrow, in July 2004 regarding strengthening. I refer to Exhibit **JSO1** which is the company's report to Mr Douglas and Ms Harrow on the existing structure as at 21 July 2004. That report summarises what I have outlined above and records that after Mrs Britten's proposed lessee withdrew, the building had been left with most of the timber framed wall linings removed, some timber framed walls removed and load bearing studs left unlined but none of the proposed strengthening work completed. The report concluded that the then condition of the building was in a worse state than when we completed the strengthening design in October 2002 and would most probably be defined by the Christchurch City Council ("CCC") as an Earthquake Prone building.
10. On the same date we provided the owners with an estimate of the cost to supply and erect steel work for the strengthening and also an additional penthouse level which was then proposed to be built on top of the first floor.
11. A further fee proposal was provided on 6 September 2004 to allow for certain items of structural design to the issue of a building consent. This included the modification of the existing strengthening design which we had completed for Mrs Britten, to include the new penthouse level.
12. A further fee proposal was submitted on 27 October 2004 for the structural strengthening of the existing unreinforced masonry building, which allowed for a proposed penthouse level in the future, but we did not quote for the actual structural design of the penthouse level because at that stage the owners had decided not to proceed with it.

13. I note from Mr Zarifeh's letter on behalf of the Commission to the company dated 21 September 2011 that the Commission has obtained CCC's file in relation to the building. I note that a Producer Statement – PS1 – Design was issued by John Spence on 29 November 2004 in relation to B1 (structure) of the Building Regulations 1992.
14. **JSO2** records the transfer of the company's drawings, at consent stage, to the owners on 30 November 2004. The document transfer form records that the set of drawings was "*for the strengthening of the existing building to bring it out of the "earthquake prone" category and into compliance with the NZ Building Code and Earthquake Society recommendations*". The same documents were sent (on the date) to CCC and to the contractor, which was Armitage Williams Construction Limited.
15. Mr Douglas and Ms Harrow requested we send our invoice to a company which must have been formed by that date, The Red Raspberry Company, and our fee note is dated 30 November 2004, in accordance with the quote dated 27 October 2004 for the "*design and drawings for strengthening of existing building to suit proposed development. Producer Statement design*".
16. We then provided a quote for the completion of stage 1, which primarily dealt with liaising with the Council, providing tender documents and overseeing the tender process and answering contractor queries for the proposed construction.
17. By fax dated 10 January 2005 Mr Douglas sent to us a copy of CCC's letter dated 13 December 2004. The Council was processing the application and working through the further information which was required by it. For convenience, a copy is produced as **JSO3**. I note the reference at paragraph 5 of the letter to a geotech report being required as the site had been identified by ECan as having high liquefaction potential. Our file records that the plans we had prepared were sent to Tonkin & Taylor on 23 December 2004 at the owner's request.
18. We responded to CCC's inquiries on 14 February 2005; **JSO4**.
19. The project proceeded reasonably slowly. As at August 2005 we were still completing the construction set of drawings. By that stage, another firm of architects, Richard Proko Limited, were working on a final architectural set of drawings.
20. Our document transfer records show that on 22 August 2005 the construction drawings were issued to Armitage Williams. The plans included the earthquake strengthening details.

21. **JSO5** is our fax to the contractors concerning the detail of a 250 PFC beam over the removed column in the garage. The fax includes drawings "D2" and "D3".
22. There was a site meeting with all those involved with the project on 21 November 2005. I have reviewed the minutes and none of the items referred to relate to the earthquake strengthening.
23. By fax dated 29 November 2005, **JSO6**, we noted to the contractors a variation in the brickwork construction in situ. I do not think this is of any particular relevance but include it because an instruction would have arisen later in relation to this issue.
24. **JSO7** is a record of a site instruction dated 6 December 2005 which confirms that all reinforcement was in all the pads shown on our structural drawings and all foundation pads were ready to pour. This was the first site instruction for the construction stage.
25. **JSO8** is the site instruction of 12 December 2005 detailing progress to that date.
26. On 19 January 2006 we sent to the contractors details of the HILTI HY-20 injection system for wall ties. The covering fax and details "D5" and "D6" are produced as **JSO9**.
27. The site instruction of 10 January 2006, **JSO10**, records progress in relation to the steel portal frames, the first floor joists, the 250 PFC across the garage door detail and also block grouting cavity on grid 4 and A. I note that the HILTI system was extended by Mr Horton to grid 1, as well as the earlier detailed grids.
28. The site instruction for 19 January 2006 is **JSO11**. Progress to that point is detailed in relation to the first floor joists and ply floor diaphragm and roof joists.
29. **JSO12** is the site instruction of 30 January 2006, which records the progress with the roof joists, the angles carrying the floor joists and the roof joists and grouted detailed cavities left by fallen bricks with removed walls.
30. Further details were sought by CCC by letter dated 30 January 2006, **JSO13**. It includes a request for details of the restraint of the roof parapets, for all four sides.
31. By facsimile dated 10 February 2006, Mr Horton provided confirmation of the parapet restraint and refers to the relevant drawings, **JSO14**. OTS/2808/S3B and S4B were indicative drawings. I refer to these plans further below. The site instruction (JSO14) of 10 February 2006, gives specific detail as to how the parapet restraint was to be built, in response to the query from CCC and also by way of instruction to the contractor.

32. Later in the day, Mr Horton sent a further fax to the contractors containing detailed design of the proposed parapet restraints. The fax is produced as **JSO15** and includes drawings "D8", "D9" and "D10".
33. **JSO16** is the site instruction of 22 February 2006 in relation to preparing to cast the ground floor slab. I carried out this inspection.
34. **JSO17** is my site instruction of 24 March 2006 confirming that the structural work was complete.
35. I issued a Producer Statement – PS4 – Construction Review on 21 April 2006 (**JSO18**).

Damage to the east wall – 2008

36. By August 2008 the tenant on the first floor of the building was Miles Construction Limited. We received instructions from Alastair Miles of that company to review and have professional structural input on the party wall issues in relation to the building. Our brief was to keep a watch on the repairs being carried out by the owner at 196 Hereford Street. The old building at 196 Hereford Street had been demolished and a new building was being erected for "Calendar Girls". When the old building was demolished, it left the eastern wall exposed and some damage to the brickwork. My letter to Miles Construction on these issues dated 18 November 2008 is produced as **JSO19**.
37. My further report to Alastair Miles dated 27 March 2009 is produced as **JSO20**.
38. Due to the nature of the works at Calendar Girls, where a deep excavation was required at basement level, further underpinning works were required on the building to protect the integrity of the foundation of the east wall. My email to Alastair Miles in relation to that issue, dated 21 August 2009, is **JSO21**.

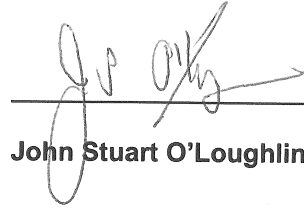
The strengthening work drawings

39. I produce as **JSO22** the structural engineering drawings for the building, S1B, S2B, S3B and S4B.
40. I have read the brief of evidence of Rhys Collin Smith. He refers to a report dated 18 January 2011 he prepared for Joe's Garage Hereford Street Limited which summarises the construction of the building and the strengthening which was carried out as described above. I concur with the summary of the work completed and refer to it.
41. Finally, I note that I have produced above documents taken from our files which I regard as relevant to the matters at issue. The complete file is of course

available to the Commission, or Counsel Assisting the Commission, for inspection if required.

42. This statement is true to the best of my knowledge and belief and was made by me knowing that it may be used as evidence for the purposes of the Canterbury Earthquakes Royal Commission of Inquiry.

Dated this 15th day of December 2011.




John Stuart O'Loughlin

O'Loughlin Taylor Spence Ltd

CONSULTING ENGINEERS

FAX TRANSMISSION

St Elmo Courts
47 Hereford Street
Christchurch 1



P O Box 2373
Fax 379 1642
Telephone 379 2734
Email: consultants@ots.co.nz

Reference: 2808

JSO 1

COMPANY:	ROBERT DOUGLAS & SARAH HARROW	PROJECT:	STRENGTHEN BUILDING 194 HEREFORD STREET
ATTENTION:	ROBERT & SARAH	DATE:	21/07/2004
Fax No.	04 8028677	No. of Pages Following:	0
SENDER:	Andrew J Horton	<i>Please advise if all pages are not received</i>	
cc.	David Hill, fax: 3793346		
RE:	194 HEREFORD STREET: STRUCTURAL REPORT ON EXISTING STRUCTURE		

Dear Robert & Sarah,

I enclose the following report on the existing structure for your information.

- OTS was engaged by the present owner Mrs Dorenda Britten to undertake structural strengthening work on this building in October 2002.
- As the building stood at this time according to the New Zealand National Society for Earthquake Engineering publication, "Draft Guidelines for Assessing and Strengthening Earthquake Risk Buildings (10 February 1995)", it would probably have been defined by the Christchurch City Council as an Earthquake Prone building and definitely would have been defined as an Earthquake Risk building.
- OTS put forward a design to bring the building up to "as near as reasonably practical" to present code requirements. This meant that the owner had flexibility in leasing the building in respect to the use the building would eventually be put to. The previous use of the building was as offices and any other use of this building would have been deemed by the Christchurch City Council as a change of use and required structural strengthening to "as near as reasonably practical".
- OTS submitted structural drawings OTS/2808/S1-S4, dated 14/10/2002, to the owner showing the required steel frames to perform this strengthening work.
- The present owner began demolition work to the interior of the building on the understanding that she had a leasee ready to move in as soon as the structural strengthening work was completed. The leasee pulled out at the last minute and the building has been left with all the timber framed wall linings removed, some timber framed walls removed and load bearing studs left unlined but none of the proposed strengthening work completed.
- The present condition of the building is then in a worse state to when OTS completed the strengthening design in October 2002 and would most probably be defined by the Christchurch City Council as an Earthquake Prone building.

Any queries on this please don't hesitate to ask.

Yours sincerely,



Andrew J Horton



ACENZ

DIRECTORS: J S O'Loughlin BSc BE (Hons) MIPENZ, J S Spence BE (Hons) MIPENZ

O'Loughlin Taylor Spence & ENGINEERS CONSULTING

St Elmo Courts
47 Hereford Street
Christchurch 1

P.O Box
Fax 379
Telephone 379

OK
S/
JSO2

DOCUMENT TRANSFER

TO ROBERT DOUGLAS &
SARAH WARREN

ATTENTION ROBERT DOUGLAS

Reference: 2808
PROJECT: HEREFORD 194
194 HEREFORD STREET
CHRISTCHURCH
DATE: 30/11/2004

Document No.	Issue	DESCRIPTION	NUMBER
OTS/2008/S1 ^A	CONSENT	STEELWORK, GROUND FLOOR PLAN, FRAME LAYOUT	1
S2 ^A	CONSENT	STEELWORK, FIRST FLOOR PLAN, FRAME LAYOUT	1
S3 ^A	CONSENT	STEELWORK, TYPICAL FRAME, DETAILS	1
S4 ^A	CONSENT	STEELWORK, MODIFIED FRAMES, DETAILS	1
PRODUCER STATEMENT DESIGN		COPY FOR CLIENT	1

COMMENT: SPECIFICATION TO FOLLOW
THIS SET IS FOR THE STRENGTHENING OF THE EXISTING BUILDING TO BRING IT OUT OF THE "EARTHQUAKE PRONE" CATEGORY AND INTO COMPLIANCE WITH THE NZ BUILDING CODE & EARTHQUAKE SOCIETY RECOMMENDATIONS.

- sent by:
- Surface Mail
 - Airmail
 - Courier
 - Hand
 -

- copies to:
- Client (x1)
 - Contractor
 - Architect
 - Quantity Surveyor
 -



CHRISTCHURCH CITY COUNCIL

JSO3

13 Dec. 04

R. Douglas & S. Harrow
P.O. Box 5475
WELLINGTON

Dear Sir/Madam

APPLICATION FOR BUILDING CONSENT
PROJECT NO. 10051163
SITE ADDRESS - 194 HEREFORD ST.
STAGE 1 EARTHQUAKE STRENGTHENING

Processing of your application has shown the need for further information as detailed below:

1. Detail of the fixing of diaphragms at first floor level to walls.
2. Is there an acceptable frame on grid A ?
3. A Structural Design Features Report setting out how the provisions of New Zealand Standard 4203:1992 are met. In particular, the Lateral Force Coefficient (& % of current Code requirements), and its derivation are required.
4. Is a lift to be provided ? This may be a requirement of stage 2.
5. The site has been identified by E-Can as having a High Liquefaction Potential. A Geo-tech report is required.
6. Ventilation may have to be addressed in stage 2, depending on use(s)
7. Note, there will be no Interim Code Compliance Certificate issued for this stage as the new Building Act will be in force, see attached.

Please ensure that all amended and/or new documents are provided in duplicate, (or triplicate if planning matters are involved). Any changes/amendments made to the drawings should be highlighted with clouds or other means to allow easy identification of the changes.

An early response will assist in completion of consent processing with minimum delays.

Yours faithfully

Peter Harrow
BUILDING CONSENT CO-ORDINATOR
BUILDING CONTROL TEAM



BUILDINGS TO WHICH THE PUBLIC ARE
ADMITTED, AND THE EFFECT OF THE NEW
BUILDING ACT 2004

Your attention is drawn to the new Building Act 2004, section 363 (which commences on 30/11/04), regarding it being an offence to permit the public use of any building or part of a building for which no Code Compliance Certificate has been issued.

Until 31/3/05, the Council is able to issue Interim Code Compliance Certificates under the Building Act 1991, but from that date, under Part 5 section 436 of the new Building Act 2004, no further Interim Code Compliance Certificates can be issued.

To summarise, from 30/11/04, the public use of a building is not permitted unless either an Interim Code Compliance Certificate or a Code Compliance Certificate has been issued, and from 31/3/05 unless a Code Compliance Certificate has been issued.

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FAX TRANSMISSION

Reference: 2808

JSO 4

COMPANY: Christchurch City Council Building Control Team	PROJECT: HEREFORD 194 194 HEREFORD ST, CHCH
ATTENTION: PETER HARROW	DATE: 14/02/2005
Fax No. Auto	No. of Pages Following: 1
SENDER: Andrew J Horton	<i>Please advise if all pages are not received</i>
cc. R Douglas, fax: 04 8022082	
RE: PROJECT #: 10051163: REQUEST FOR FURTHER INFORMATION	

Peter,

- Query #1: Please find enclosed detail sheet OTS/2808/D1 showing typical fixing of structural floor diaphragm at first floor level to walls.
- Query #2: The existing frame is made up of 600x600 brick columns with 600x600 concrete bond beams with infill brick to underside of windows at each level. OTS has assumed that the 1st floor structural floor diaphragm will transfer the tributary lateral loading from Grid A back onto the portal frame on Grid B as a deep cantilever and that the concrete bond beams will take the gravity loading between brick columns.
- Query #3: First floor joists have been checked to NZS4203:1992 load cases 1.2G+1.6Q and G+0.7Q. Portal frames have been checked to NZS4203:1992 load cases 1.2G+1.6Q, G+0.7Q & G+Qu+Eu (with $\mu=1.25$, $T_1=1.56\text{sec}$, $C=0.1904$ & >80% of current code requirements provided).
- Query #5: What is the Council's answer to the note on OTS's PS1 regarding our assumptions for foundations? I have read the entire Tonkin & Taylor report but find it non-conclusive regarding these matters.

Regards,

Andrew J Horton



DIRECTORS: J S O'Loughlin BSc BE (Hons) MIPENZ, J S Spence BE (Hons) MIPENZ

O'LOUGHLIN TAYLOR SPENCE LTD
CONSULTING ENGINEERS
St. Elmo Courts, 47 Hereford St. Box 2373
Tel. 379-2734 Fax 379-1642 CHRISTCHURCH

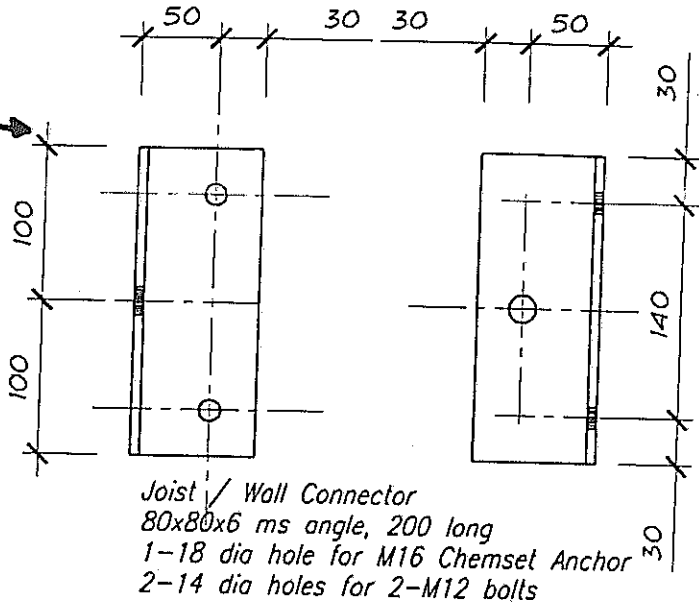
JOB NAME: **HEREFORD 194**
SECTION: **194 HEREFORD STREET**
JOB No.: **2808**
DATE: **14/01/2005**

PAGE NO.:
D1
DESIGNED: **AJH**
CHECKED:

DETAIL SHEET

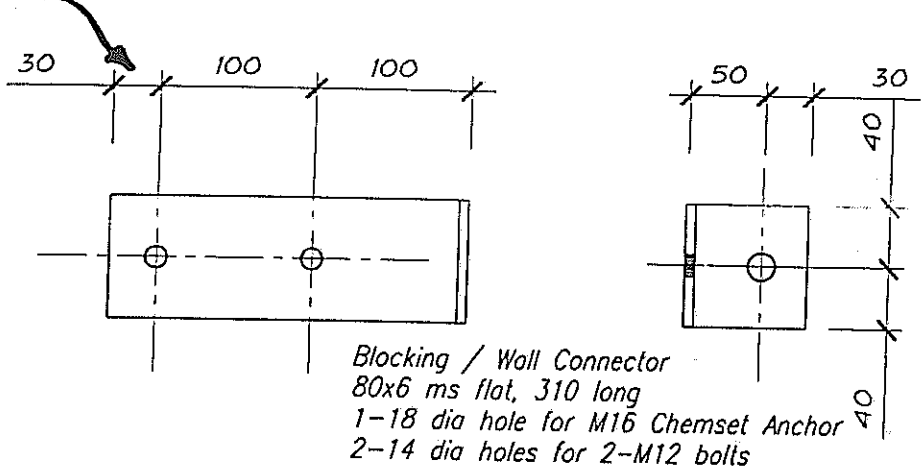
H1 WALL TO FLOOR CONNECTION (REFER OTS/2808/SA^A)

(1:5)



H2 WALL TO FLOOR CONNECTION (REFER OTS/2808/SA^A)

(1:5)



NOTE: ALL DETAILS TO BE CONFIRMED ON SITE AT TIME OF CONSTRUCTION.

CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE

O'Loughlin Taylor Spence Ltd
CONSULTING ENGINEERS

St Elmo Courts
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Christchurch 1

P O Box 2373
Fax 379 1642
Telephone 379 2734
Email: consultants@ots.co.nz

FAX TRANSMISSION

J505

Reference: 2808

COMPANY: AW CONSTRUCTION

PROJECT: HEREFORD 194

194 HEREFORD ST, CHCH

ATTENTION: BEN HARROW

DATE: 16/11/2005

Fax No. 3599416

No. of Pages Following: D2 - D4

SENDER: Andrew J Horton

Please advise if all pages are not received

RE: DETAILS OF 250PFC BEAM OVER REMOVED COLUMN IN GARAGE

Ben,

1. Please find enclosed the abovementioned details.
2. As a result of the site visit undertaken on 14th November 2005 it has come to OTS's attention that the mortar in the brick walls is very loose. The water-blasting contractor arrived as I was present and told Barry that he wouldn't risk undertaking high-pressure cleaning of the bricks due to this loose mortar.
3. OTS suggests re-pointing of the bricks is required before any high-pressure cleaning of the bricks can be undertaken.
4. Even if high-pressure cleaning of the bricks is not undertaken I suggest that re-pointing of the bricks should still be undertaken to ensure their stability and structural integrity. This can be monitored on site.

Any queries or concerns please don't hesitate to give me call.

Regards,

Andrew



ACENZ DIRECTORS: J S O'Loughlin BSc BE (Hons) MIPENZ, J S Spence BE (Hons) MIPENZ

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JOB NAME: HEREFORD 194

PAGE NO.:

SECTION: 194 HEREFORD ST, CATH CITY

P2

JOB No.: 2808

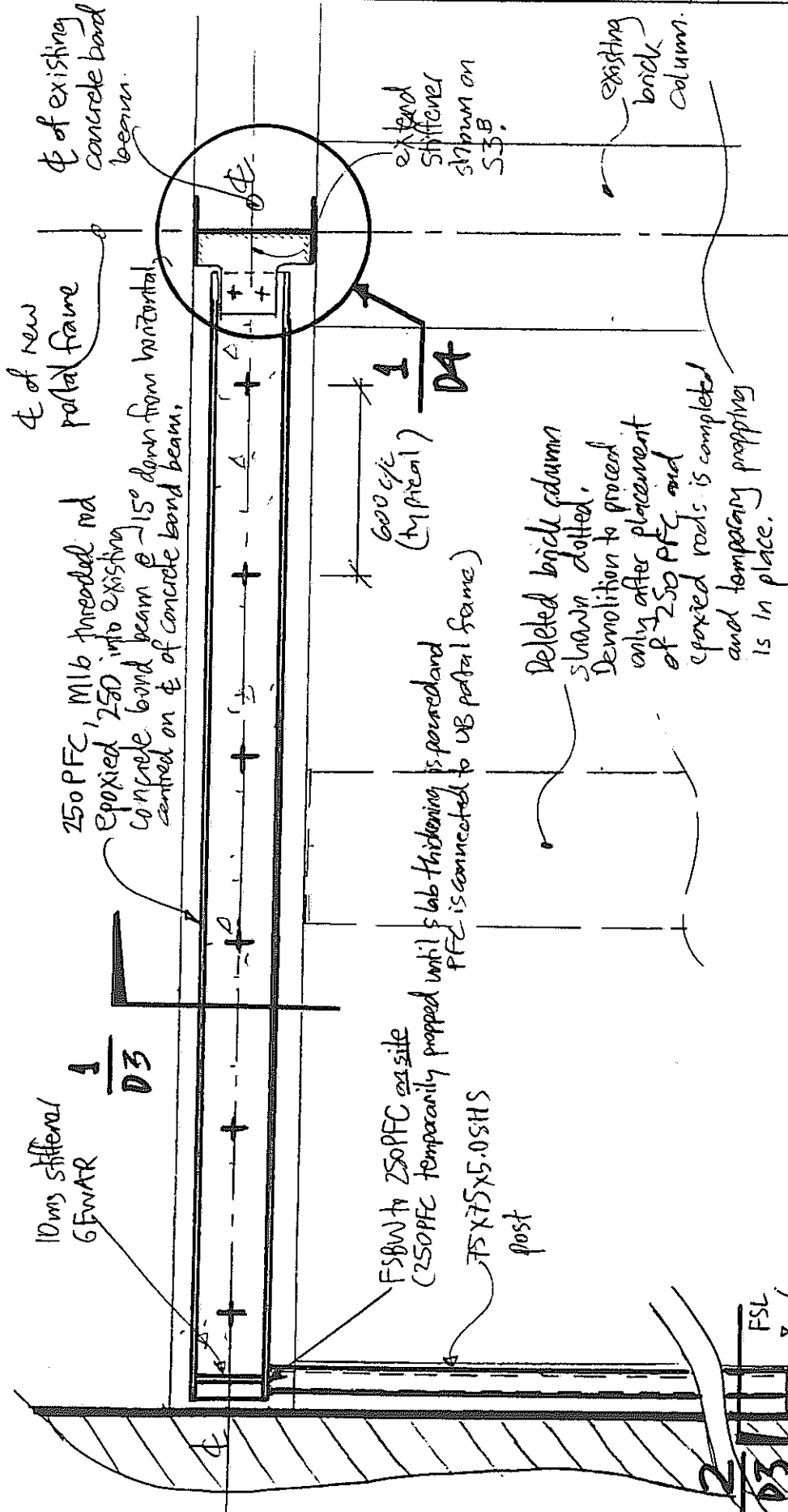
DESIGNED:

AJH

DATE: 16/11/2005

CHECKED:

DETAIL SHEET



INTERNAL ELEVATION (VIEWED FROM INSIDE LOOKING OUT TO LNERPOOL ST)
DE PFC BEAM REPLACING REMOVED BRICK COLUMN TO GARAGE

(NTS)

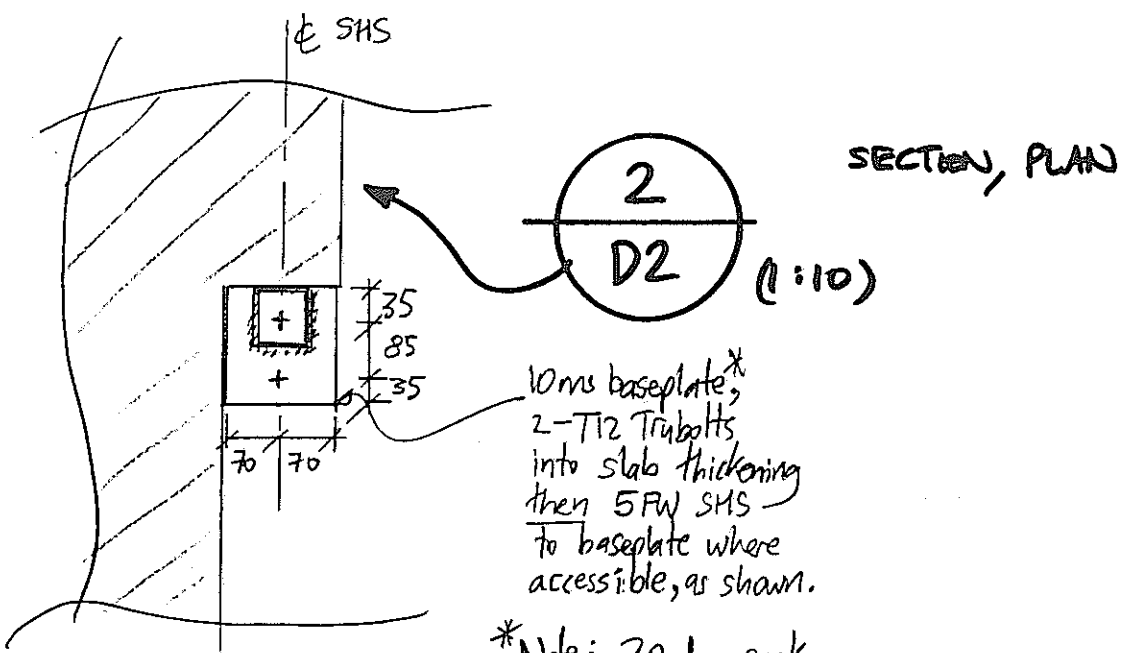
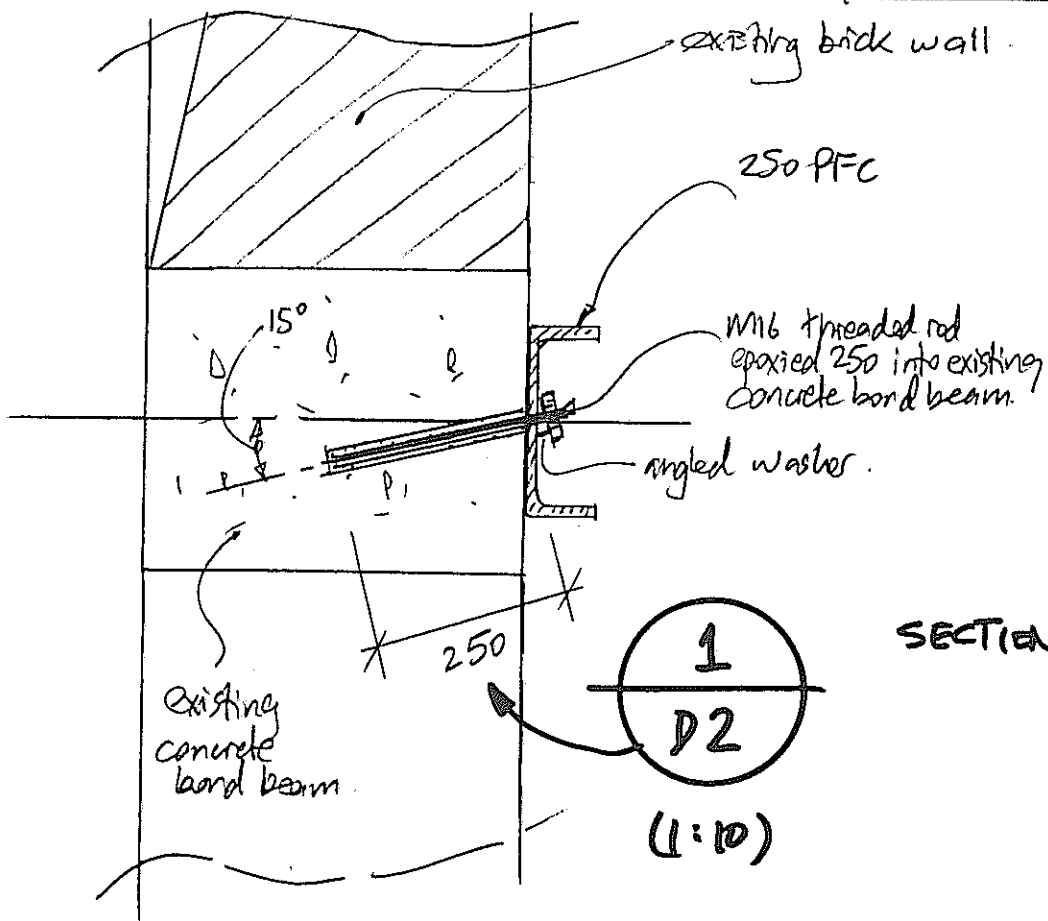
CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE

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JOB NAME: HEREFORD 194
SECTION: 194 HEREFORD ST, CHRISTCHURCH
JOB No.: 2808
DATE: 16/11/2005

PAGE NO.: 03
DESIGNED: AJH
CHECKED:

DETAIL SHEET



*Note: 20 dry pack mortar applied under baseplate for tolerances as required.

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DETAIL SHEET

JOB NAME: HEREFORD 194

PAGE NO.:

SECTION: 194 HEREFORD ST, CATH CITY

D4

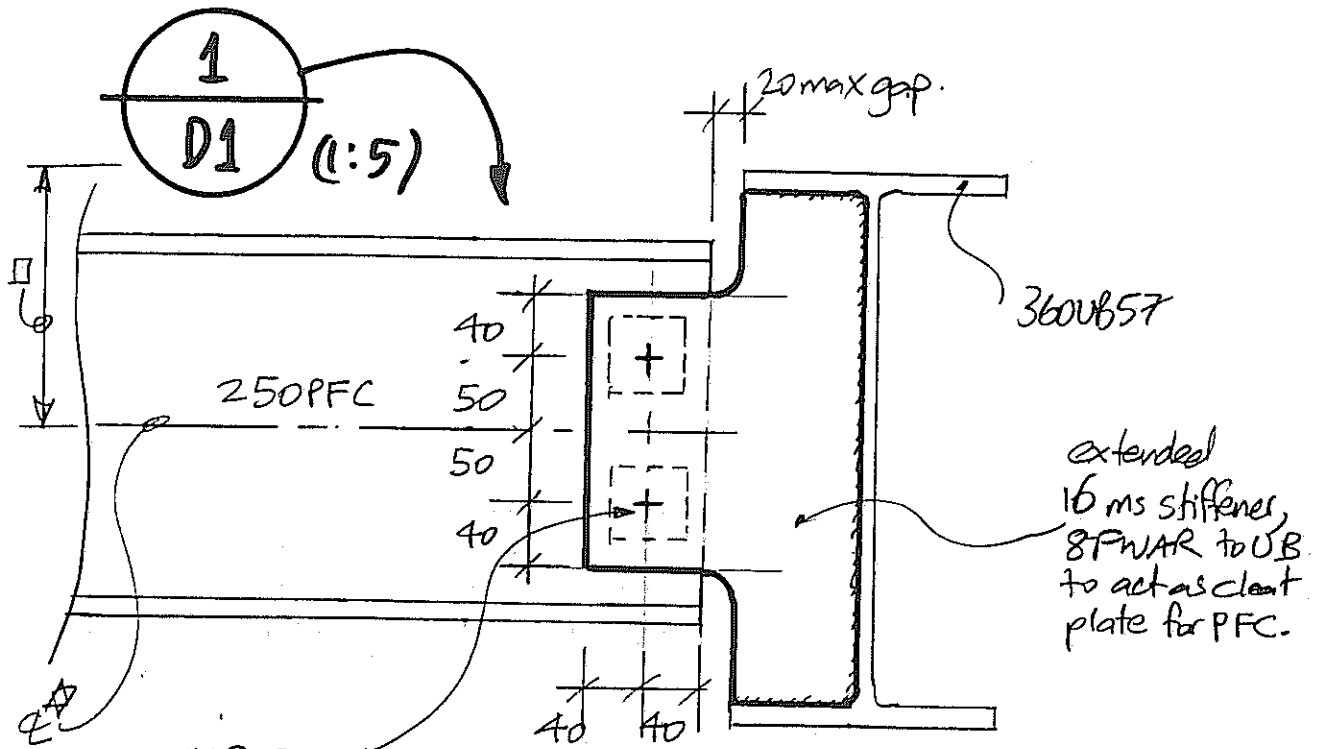
JOB No.: 2808

DESIGNED:

AJH

DATE: 16/11/2005

CHECKED:



M20
Grade 8.8/8
bolts,
50x50 washers
to pack 250PFC flat up against
existing concrete beam if required.

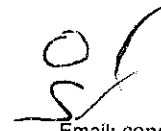
A ϕ of 250 PFC is to match ϕ of existing concrete beam.
 $\square = 170 \text{ mm}$ (to be confirmed on site).

CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE

O'Loughlin Taylor Spence Ltd

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FAX TRANSMISSION

Reference: 2808

J 506

COMPANY: ARMITAGE WILLIAMS
CONSTRUCTION LTD

PROJECT: HEREFORD 194

194 HEREFORD STREET

ATTENTION: BEN HARROW

DATE: 29/11/2005

Fax No. 3599416

No. of Pages Following: 0

SENDER: Andrew J Horton

Please advise if all pages are not received

cc.

RE: **CAVITY CONSTRUCTION IN BRICKWORK:
25MPA NON-SHRINK, BLOCK GROUT FILLED**

Ben,

- Two layers of double brick construction separated by a 70mm cavity have been encountered in the brick walls facing Liverpool Street and removal of safes has also revealed a strange single brick wall construction with a 70mm cavity to the party wall.
- The sparseness of existing brick ties across the cavities has lead to the decision to solid fill the cavities with 25MPa, non-shrink, block grout and then to epoxy the bars shown on OTS structural drawings right through the cavity and 25mm into the second layer (outside layer) of bricks typically.
- Around the safe area further bricks need to be removed to ascertain whether this is a local issue or whether the single layer with cavity extends all the way along the party wall. If the single layer with cavity does extend all the way along the party wall then this is a very atypical form of construction and one, which OTS has never before encountered. This cavity would also need to be solid filled as above and bars epoxied through to at least 25mm into the second brick back from the cavity.
- Any queries on this please don't hesitate to ask.

Regards,

Andrew



ACENZ

DIRECTORS: J S O'Loughlin BSc BE (Hons) MIPENZ, J S Spence BE (Hons) MIPENZ

O'Loughlin Taylor Spence Ltd
CONSULTING ENGINEERSSt Elmo Courts
47 Hereford Street
Christchurch 1P O Box 2373
Fax 379 1642
Telephone 379 2734
Email: consultants@ots.co.nz**SITE INSTRUCTION**Contract **HEREFORD 194**
194 Hereford StreetDate **06.12.2005** No. **1**
File: **2808**

PROGRESS

JS07

- Pad prepour reinforcement check.

INSTRUCTIONS & COMMENT

- All reinforcement is in all the pads shown on OTS structural drawings.
- All foundation pads are ready to pour.

Andrew HortonCOPIES TO: Rick Proko Ltd
Armitage Williams

- A No Variation
- B Contract Variation

O'Loughlin Taylor Spence Ltd
CONSULTING ENGINEERSSt Elmo Courts
47 Hereford Street
Christchurch 1P O Box 2373
Fax 379 1642
Telephone 379 2734
Email: consultants@ots.co.nz**SITE INSTRUCTION**Contract **HEREFORD 194**
194 Hereford StreetDate **12.12.2005** No. **2**
File: **2808**

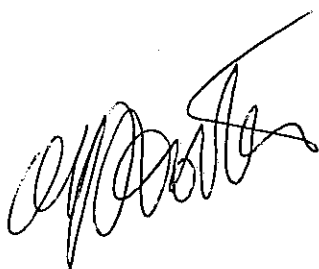
PROGRESS

J508

- Steel portal legs full height to just underside of parapet.

INSTRUCTIONS & COMMENT

- All steel portal legs are temporarily in place - need to be bolted into position.
- First floor and roof joists have been cut contrary to OTS details which showed steel beams being placed up under existing joists. OTS detail now not achievable.
- Contractor to decide cheapest detail to replace/strengthen first floor & roof structures, first floor joists and roof joists, and confirm with OTS.

Andrew HortonCOPIES TO: Rick Proko Ltd
Armitage Williams

- A No Variation
- B Contract Variation

O'Loughlin Taylor Spence Ltd CONSULTING ENGINEERS

St Elmo Courts
47 Hereford Street
Christchurch 1

P O Box 2373
Fax 379 1642
Telephone 379 2734

Email: consultants@ots.co.nz

FAX TRANSMISSION

Reference: 2808

JS09

COMPANY: AW CONSTRUCTION

PROJECT: HEREFORD 194

194 HEREFORD ST, CHCH

ATTENTION: BEN HARROW

DATE: 19/01/2006

Fax No. 3599416

No. of Pages Following: D5-D6

SENDER: Andrew J Horton

Please advise if all pages are not received

RE: **DETAILS OF HILTI HY-20 INJECTION SYSTEM FOR WALL TIES**

Ben,

Please find enclosed the abovementioned details, HILTI specification sheet and also a copy of HILTI's quote for Grid 1 only.

We will also be using this detail on Grid E, 2 & F so you can do the figures for that.

Any queries or concerns please don't hesitate to give me call.

Regards,

Andrew



ACENZ

DIRECTORS: J S O'Loughlin BSc BE (Hons) MIPENZ, J S Spence BE (Hons) MIPENZ

O'LOUGHLIN TAYLOR SPENCE LTD
CONSULTING ENGINEERS
St. Elmo Courts, 47 Hereford St. Box 2373
Tel. 379-2734 Fax 379-1642 CHRISTCHURCH

JOB NAME: **HEREFORD 194**
SECTION: **194 HEREFORD STREET**
JOB No.: **2808**
DATE: **10/01/2006**

PAGE NO.:
D5
DESIGNED: **AJH**
CHECKED:

DETAIL SHEET

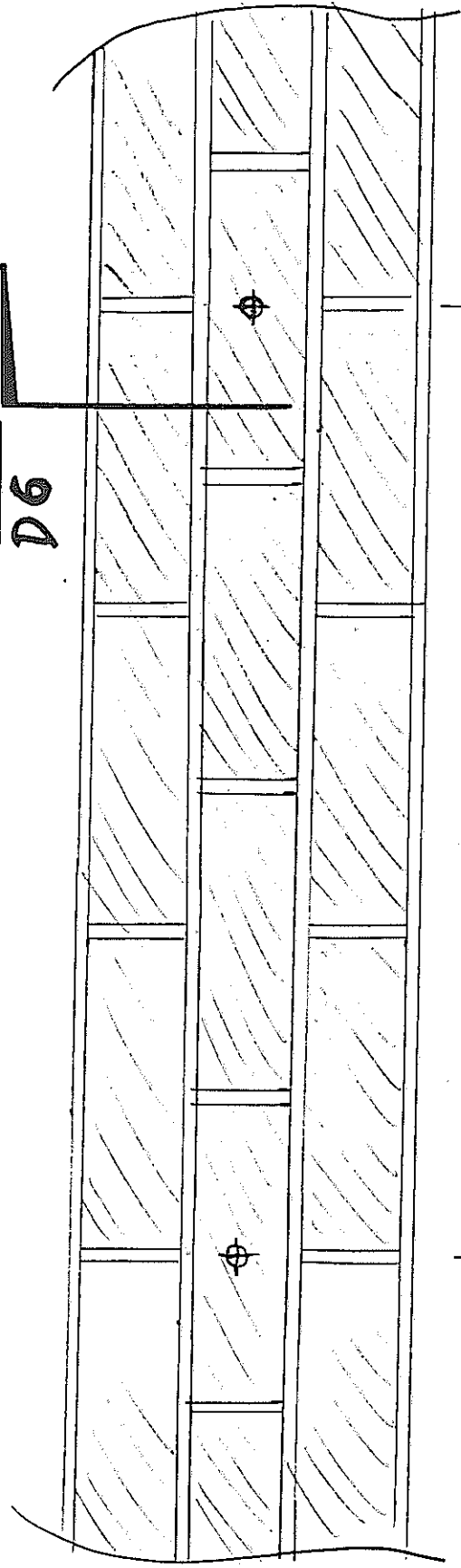
CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE

HILT HY 20 INJECTION SYSTEM FOR WALL TIES:

"SINGLE - CAVITY - SINGLE" BRICK WALL SITUATIONS.

* REFER HILT EMAIL
TO OTS FOR DETAILS
NOTE: THAT HILT QUOTE
IS ONLY FOR GRID 1
FIRST -> ROOF LEVEL

1
D6



horizontally every 3rd brick
(approx 700chs)

back

back

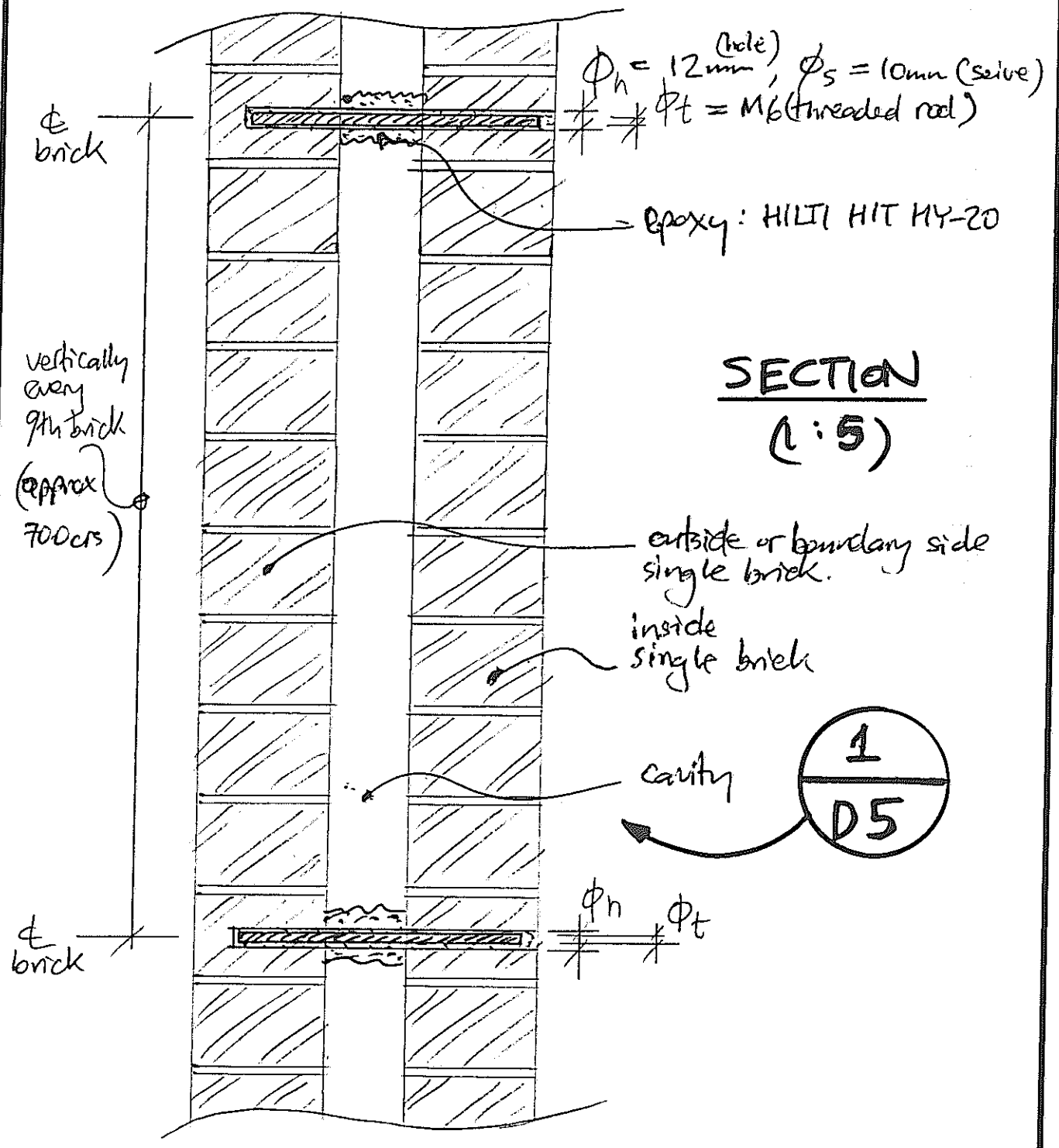
ELEVATION (VIEWED FROM INSIDE)

(1:5)

O'LOUGHLIN TAYLOR SPENCE LTD
CONSULTING ENGINEERS
St. Elmo Courts, 47 Hereford St. Box 2373
Tel. 379-2734 Fax 379-1642 CHRISTCHURCH

JOB NAME: HEREFORD 194		PAGE NO.: D6
SECTION: 194 HEREFORD ST.		
JOB No.: 2808	DESIGNED: ASH	
DATE: 10/01/2006	CHECKED:	

DETAIL SHEET



HILTI HY 20 INJECTION SYSTEM FOR WALL TIES *
"SINGLE-CAVITY-SINGLE" BRICKWALL SITUATIONS.

* See note on D5

CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE

Hilti HIT Injection Technique

Hilti HIT supplementary programme

Mesh sleeves in 1 metre length

Cut to length using Hilti HIT-SMC scissors

Mesh sleeve by the metre, 12, 16 and 22 mm diameter
 Ideal for use in old building renovation
 The Hilti HIT-SMC 25 scissors with mandrel are available for individual cutting to length on the jobsite

Hilti HIT-S mesh sleeves for HIT C 20

For anchor rods size:	Sleeve inside diameter (mm)	Hole dia. (mm)	Mesh length (mm)	For anchor studs	Box contents	Ordering designation	Item no.
M6, M8	9.5	12	1000	M6, M8	1	Hilti HIT-S 12 x 1000	49762/8
M8, M10, M12	12.5	16	1000	M8, M10, M12	1	Hilti HIT-S 16 x 1000	49763/6
M12, M16	18.5	22	1000	M12, M16	1	Hilti HIT-S 22 x 1000	49764/4

Scissors

Box contents	Ordering designation	Item no.
1	Hilti HIT-SMC 25 with mandrel	77329/1

Mixers

For use with:
 C 50 and C 100
 C 20
 Jumbo capsule

Box contents	Ordering designation	Item no.
100	Hilti HIT-M	68156/9
100	Hilti HIT-M A mixer	68071/0
5	Hilti HIT-M mixer, large	45493/4

Extension tube for Hilti HIT mixer

For cutting to length

Length (mm)
 1000

Ordering designation	Item no.
PE-tube	24632/2

Accessories

	Box contents	Ordering designation	Item no.
Blow out pump	1	Blow out pump	60579/0
Brush 13 mm dia. with grip	5	Brush 13 mm dia. HG	229133/4
Brush 18 mm dia. with grip	5	Brush 18 mm dia. HG	229134/2
Brush 28 mm dia. with grip	5	Brush 28 mm dia. HG	229135/2
Brush 18 mm dia. with thread connection	5	Brush 18 mm dia. GA	229135/7
Brush 28 mm dia. with thread connection	5	Brush 28 mm dia. GA	229137/5
Brush 38 mm dia. with thread connection	5	Brush 38 mm dia. GA	229673/9
Brush 50 mm dia. with thread connection	5	Brush 50 mm dia. GA	229674/7
Brush extension with grip and thread connection	1		229138/3
Brush extension with thread connection (both side)	1		238727/2
Overhead holder	100	Hilti HIT-Z10 M 8	68170/0
Overhead holder	100	Hilti HIT-Z10 M 10	68171/8
Overhead holder	100	Hilti HIT-Z10 M 12	68172/6
Overhead holder	100	Hilti HIT-Z10 M 16	68173/4
Drip guard	10	Hilti HIT-Z8	68165/0

Andrew Horton

From: "Sims, Matthew" <Matthew.Sims@hilti.com>
To: <andrew.horton@ots.co.nz>
Cc: "Wilson, Tazio" <Tazio.Wilson@hilti.com>; "Tapp, Wayne" <Wayne.Tapp@hilti.com>; "Langley, Paul" <Paul.Langley@hilti.com>
Sent: Thursday, 8 December 2005 2:47 p.m.
Subject: Hilti Hit HY20 Injection Technique

Dear Andrew,

Thank you for your enquiry regarding the Hilti HY20 injection system for wall ties.

We are pleased to provide the following quotation.

Qty

200	M12 x 250mm Sieves	\$4.00 each
200	M6 x 250mm threaded rod (304 St/St)	\$3.18 each
20	Tubes Hit HY-20	\$39.60 per tube.

All prices exclude GST.

Based on an estimation of 10 fixings per tube but as you will appreciate the amount of resin injected is not an exact science with hollow applications – it comes down to the user.

This estimation of resin equates to a total cost of each fixing = \$11.14 each. Total cost (proviso of 10 fxgs per tube) \$2,228 + GST

Please bear in mind that sieves are 1 mtr long (and cost \$16 each) and will need to be cut on site (very simple task).

Please do not hesitate to contact me should you have any questions or concerns.

Best regards,

Matthew Sims
National Sales Manager

Hilti (New Zealand) Limited
Unit 6, 251 Blenheim Road
Christchurch

19/12/2005

P 03 343 5319 | **F** 03 348 6930

E Matthew.sims@hilti.com

www.hilti.com

No virus found in this incoming message.

Checked by AVG Free Edition.

Version: 7.1.371 / Virus Database: 267.13.12/194 - Release Date: 7/12/2005

19/12/2005

O'Loughlin Taylor Spence Ltd CONSULTING ENGINEERS

St Elmo Courts
47 Hereford Street
Christchurch 1

P O Box 2373
Fax 379 1642
Telephone 379 2734
Email: consultants@ots.co.nz

JSO10

SITE INSTRUCTION

Contract **HEREFORD 194**
194 Hereford Street

Date **10.01.06** No. **3**
File: **2808**

PROGRESS

1. Steel portal frames.
2. First floor joists.
3. 250 PFC across garage door detail.
4. Block grouting cavity on Grid 4 & A.

INSTRUCTIONS & COMMENT

1. • All steel portals are now in place. The occasional epoxied rod into ground to first floor isn't yet in place.
 - Epoxied rod fixings into first to roof are awaiting engineer's detail.
 - A system of sieve and rod will be used (Hilti) at 700 crs each way (as per email sent to Armitage Williams) to the first to roof "single-cavity-single" brick wall on Grids 1, E, 2 & F (see structural drawing for grids) tying the two faces of brick together.
2. • First Floor Joists: Armitage Williams has decided to replace, in sections, all existing first floor joists with new 250 x 50 joists at 300 crs. Section between Grid F & E is in place. Engineer to provide shelf angle detail to support joists on Grid F.
3. • 250PFC in place with post and cleated onto portal on Grid E according to OTS detail.
4. • Cavity has been grouted on Grid 4 between Grid E & F.

A J HORTON

COPIES TO: Rick Proko Ltd
Armitage Williams

- A No Variation
- B Contract Variation

✓ C
✓ S

O'Loughlin Taylor Spence Ltd

CONSULTING ENGINEERS

St Elmo Courts
47 Hereford Street
Christchurch 1

P O Box 2373
Fax 379 1642
Telephone 379 2734
Email: consultants@ots.co.nz

SITE INSTRUCTION

JSO11

Contract **HEREFORD 194**
194 Hereford Street

Date **19.01.06** No. **4**
File: **2808**

PROGRESS

1. First floor joists and plyfloor diaphragm
2. Roof joists.

INSTRUCTIONS & COMMENT

1. • First floor joist blocking detail acceptable and plywood sheets nailed at 75 crs over blocking on lines of portal frames.
 - Sections continue to be erected and plyfloor is over each section of joists erected.
 - Standard connections between brickwalls and joists shown on OTS/2808/S4^B & D1 are yet to be put in place.
2. • Roof joists are 250 x 50 at 300 crs and are to have the same blocking detail as first floor joists over the portal frames.
 - One section completed so far between Grid F & E.
 - Standard connections between brickwalls and joists mentioned above are not yet in place.



A J HORTON

COPIES TO: Rick Proko Ltd
Armitage Williams

- A No Variation
- B Contract Variation

O'Loughlin Taylor Spence Ltd

CONSULTING ENGINEERS

St Elmo Courts
47 Hereford Street
Christchurch 1

P O Box 2373
Fax 379 1642
Telephone 379 2734
Email: consultants@ots.co.nz

SITE INSTRUCTION

Contract **HEREFORD 194**
194 Hereford Street

Date **30.01.06** No. **5**
File: **2808**

PROGRESS

JSO12

1. Roof joists.
2. Angles carrying floor joists and roof joists.
3. Grouted detail for cavities left by fallen bricks, etc, removed walls.

INSTRUCTIONS & COMMENT

1. Roof joists continuing to be erected.
2. 100 x 100 x 6 EA under roof joists and floor joists to Grid F. 22 diameter Chemset at 800 centres with sieves right through bolt through with washer, tighten nut once Epcon epoxy is set to clamp single layers of brick.
3. Cover 1.2 m height sections of brick wall with 12 mm ply and fill with 25 mPa block grout, allow to cure and harden and continue to full height. Prop accordingly.



A J HORTON

COPIES TO: Rick Proko Ltd
AW Construction : Attention Ben Harrow

- A No Variation
B Contract Variation

J5013



CHRISTCHURCH
CITY COUNCIL - YOUR PEOPLE YOUR CITY

CHRISTCHURCH CITY COUNCIL

30 Jan. 06

Wayne Fleming
Richard Proko Ltd.
P.O. Box 1232
CHRISTCHURCH

Attention Andrew OTS
Regards - Wayne

379 1642

Dear Sir

APPLICATION FOR BUILDING CONSENT
PROJECT NO. 10051163 / 10059508
SITE ADDRESS - 194 HEREFORD ST,
FURTHER AMENDED PLANS - ROOF

Processing of your application has shown the need for further information as detailed below:

1. Details of final design of roof diaphragm.
2. Details of restraint of roof parapets -- all 4 sides.
3. Details at front and rear parapets.
4. An amended Producer Statement Design- B1 covering amendments.

Please ensure that all amended and/or new documents are provided in duplicate, (or triplicate if planning matters are involved). Any changes/amendments made to the drawings should be highlighted with clouds or other means to allow easy identification of the changes.

An early response will assist in completion of consent processing with minimum delays.

Yours faithfully

Peter Harrow
BUILDING CONSENT CO-ORDINATOR
BUILDING CONTROL TEAM

O'Loughlin Taylor Spence Ltd
CONSULTING ENGINEERS

FAX TRANSMISSION

St Elmo Courts
47 Hereford Street
Christchurch 1

P O Box 2373
Fax 379 1642
Telephone 379 2734
Email: consultants@ots.co.nz

Reference: 2808

JS014

COMPANY: AW CONSTRUCTION

PROJECT: HEREFORD 194

194 HEREFORD ST, CHCH

ATTENTION: BEN HARROW

DATE: 10/02/2006

Fax No. 3599416

No. of Pages Following: 0

SENDER: Andrew J Horton

Please advise if all pages are not received

cc. CCC, BCT, Attn: Peter Harrow, fax: 9418920

RE: **CONFIRMATION OF PARAPET RESTRAINT SHOWN INDICATIVELY ON
OTS/2808/S3^B&S4^B**

Ben,

- Along Gridline 1 we have 250UB31 portal legs extending to near the top of the parapet on Grid B, C, D and E. I propose welding (FSBW) 150PFC horizontal lateral restraint members (toes down) between these portal legs to the portal leg at each of the abovementioned grids approx 400mm down from the top of the parapet and bolting M20 CHEMSETS into sieves @ 800crs through the 150PFC and into the brick parapet. These continue between Grid B and A and return along Gridline A.
- Along Gridline 4 I propose the same detail as the one along Gridline 1 with the 150PFC horizontal lateral restraint members (toes down) positioned approx 600mm down from the top of the parapet.
- Along Gridline A, E and F we will need to use continuous 150PFC horizontal lateral restraint members (toes down) to the underside of the DHS150/12 purlins with 150x80x6ms cleats 5FWAR to the top of the 150PFC web for 2-M12 bolts to each purlin. Again bolt M20 CHEMSETS into sieves @ 800crs through the 150PFC and into the brick parapet.
- OTS detail sheets will follow ASAP of these proposed parapet restraints.
- Any queries or concerns please don't hesitate to give me call.

Regards,

Andrew

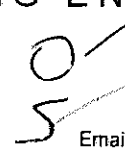


ACENZ DIRECTORS: J S O'Loughlin BSc BE (Hons) MIPENZ, J S Spence BE (Hons) MIPENZ

O'Loughlin Taylor Spence Ltd

CONSULTING ENGINEERS

St Elmo Courts
47 Hereford Street
Christchurch 1


 P O Box 2373
 Fax 379 1642
 Telephone 379 2734
 Email: consultants@ots.co.nz

FAX TRANSMISSION

Reference: 2808

J5015

COMPANY: AW CONSTRUCTION

PROJECT: HEREFORD 194

194 HEREFORD ST, CHCH

ATTENTION: BEN HARROW

DATE: 10/02/2006

Fax No. 3599416

No. of Pages Following: 3

SENDER: Andrew J Horton

Please advise if all pages are not received

cc.

RE: **CONFIRMATION OF PARAPET RESTRAINT SHOWN INDICATIVELY ON
OTS/2808/S3^B&S4^B**

Ben,

- OTS detail sheets follow of these proposed parapet restraints.
- Please read these detail sheets in conjunction with OTS fax sent earlier today.
- Any queries or concerns please don't hesitate to give me call.

Regards,

Andrew



ACENZ

DIRECTORS: J S O'Loughlin BSc BE (Hons) MIPENZ, J S Spence BE (Hons) MIPENZ

O'LOUGHLIN TAYLOR SPENCE LTD
CONSULTING ENGINEERS
St. Elmo Courts, 47 Hereford St. Box 2373
Tel. 379-2734 Fax 379-1642 CHRISTCHURCH

DETAIL SHEET

JOB NAME: **HEREFORD 194**

PAGE NO.:

SECTION: **194 HEREFORD STREET**

D8

JOB No.: **2808**

DESIGNED:

AJH

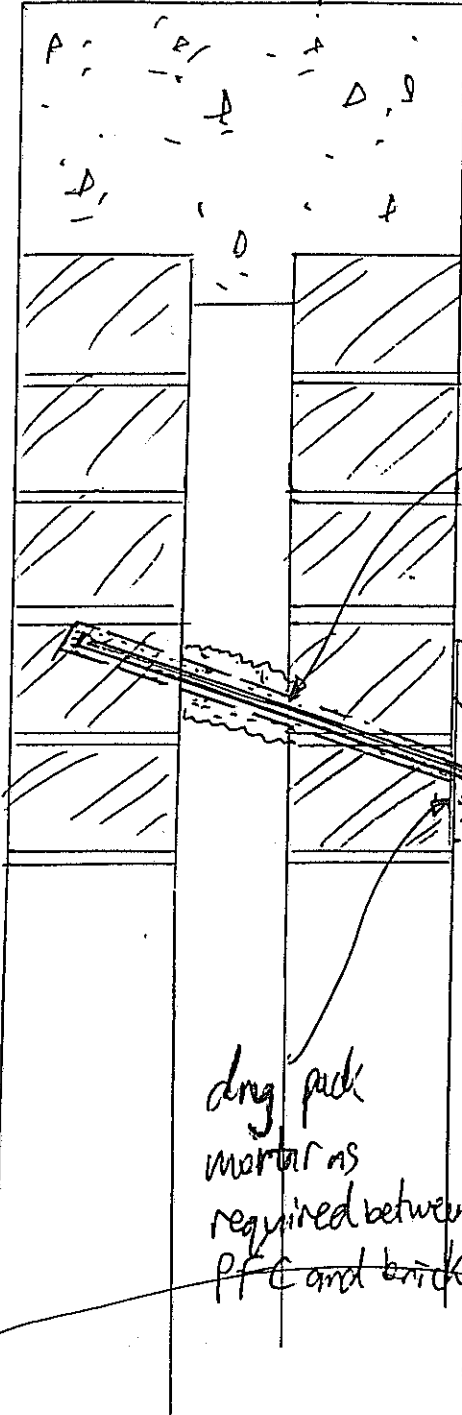
DATE:

10/02/2006

CHECKED:

PARAPET - GRID 1 & 4

TYPICAL SECTION THROUGH PARAPET (1:5)



1020 CHEMSET into siewes
filled with CHEMSET Capsule. Injection technique
@ 800 c/s

250 UB31 legs.

FSBW
PFC
to UB.

150 PFC
either side
of each
250 UB31 leg.

dry pack
mortar as
required between
PFC and brick.

CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE

O'LOUGHLIN TAYLOR SPENCE LTD
CONSULTING ENGINEERS
St. Elmo Courts, 47 Hereford St. Box 2373
Tel. 379-2734 Fax 379-1642 CHRISTCHURCH

JOB NAME: HEREFORD 194
SECTION: 194 HEREFORD STREET
JOB No.: 2808
DATE: 10/02/2006

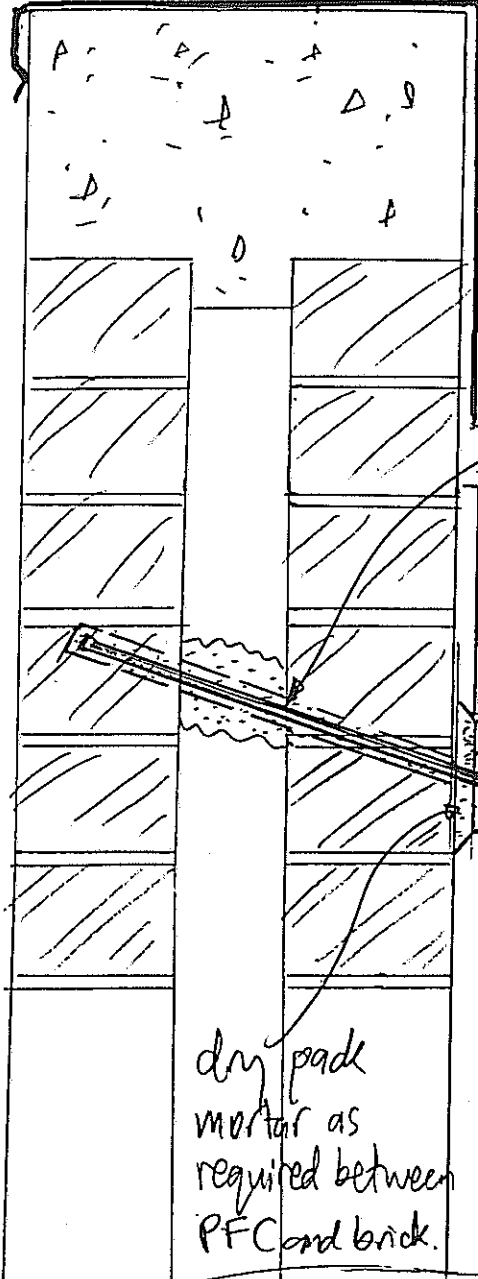
PAGE NO.:
D9
DESIGNED: ASH
CHECKED:

DETAIL SHEET

TYPICAL SECTION THROUGH PARAPET

(1:5)

PARAPET GRID A, E & F



architectural
finishing detail
See architects
details.

TRIMDEK ROOFING
OVER

M20 CHEMSET into sieves
filled with CHEMSET Capsule Injection technique
@ 800 c/s

150x80x6 MS
chast, 5FWAR,
2-M12 bolts to each
purlin.

150 PFC
continuous
all the way
along each
gridline

DHS 150/15
purlins @
1200 c/s.

dry pack
mortar as
required between
PFC and brick.

CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE

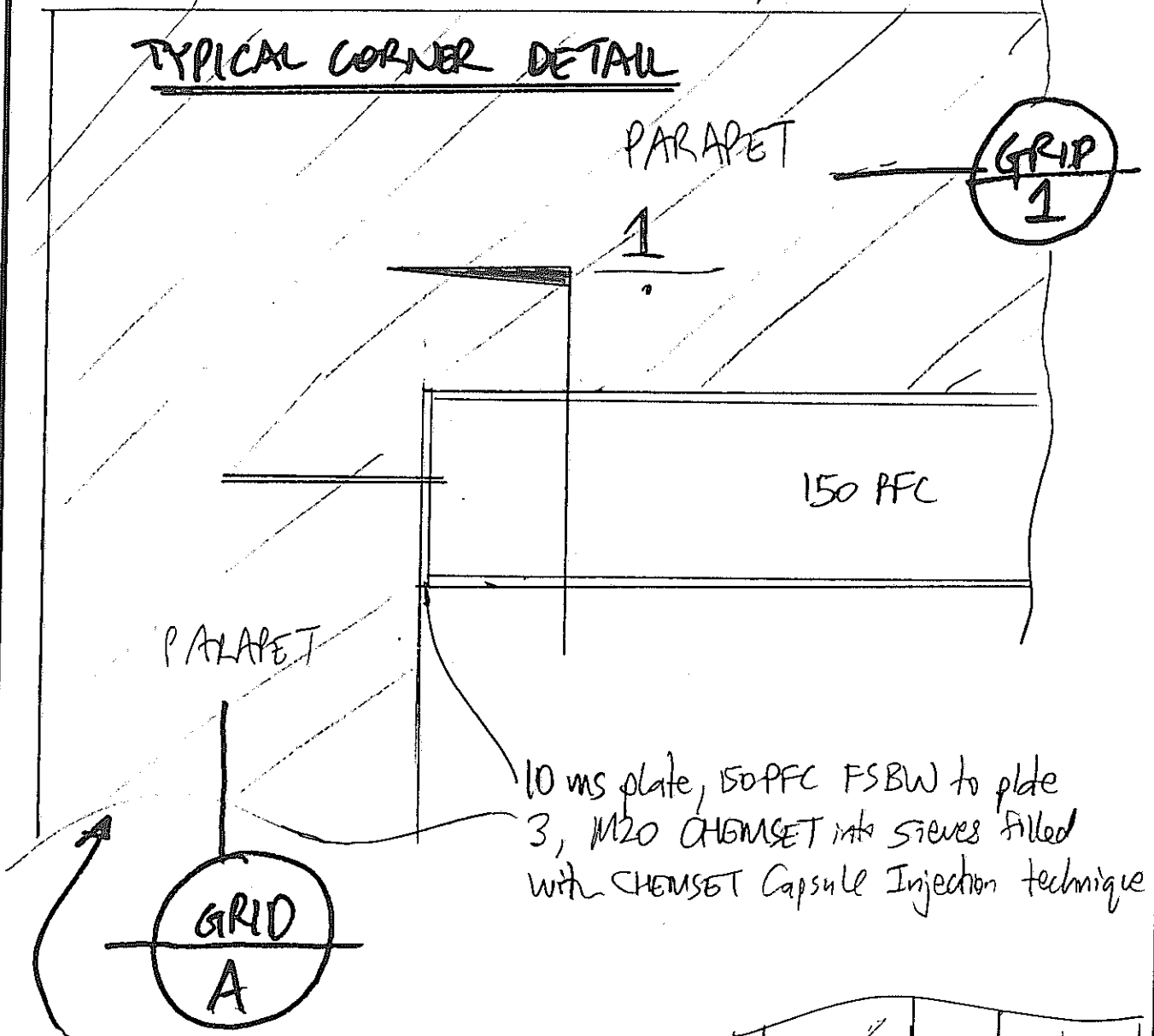
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St. Elmo Courts, 47 Hereford St. Box 2373
Tel. 379-2734 Fax 379-1642 CHRISTCHURCH

JOB NAME: HEREFORD 194
SECTION: 194 HEREFORD STREET
JOB No.: 2808
DATE: 10/02/2006

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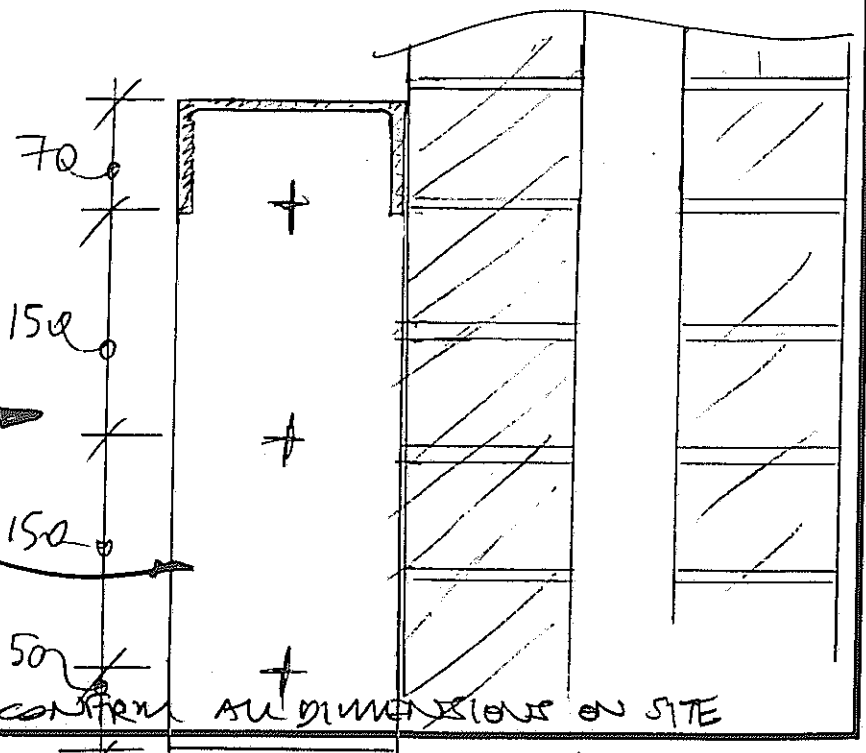
DETAIL SHEET

TYPICAL CORNER DETAIL



PLAN SECTION
(1:5)

SECTION
(1:5)



O'Loughlin Taylor Spence Ltd
CONSULTING ENGINEERS

St Elmo Courts
 47 Hereford Street
 Christchurch 1

P O Box 2373
 Fax 379 1642
 Telephone 379 2734
 Email: consultants@ots.co.nz

SITE INSTRUCTION

JSO16

Contract **HEREFORD 194**
194 Hereford Street

Date **22.02.06**

No. **6**

File: **2808**

PROGRESS

- Preparing to cast ground floor slab tomorrow morning.

INSTRUCTIONS & COMMENT

- DPC and mesh in place. Hairpins around steel column legs. Construction joints prepared.
- 25 Mpa concrete.
- OK to cast.

JOHN O'LOUGHLIN

COPIES TO: Rick Proko Ltd
 AW Construction : Attention Ben Harrow

- A No Variation
- B Contract Variation

O'Loughlin Taylor Spence Ltd
CONSULTING ENGINEERSSt Elmo Courts
47 Hereford Street
Christchurch 1P O Box 2373
Fax 379 1642
Telephone 379 2734
Email: consultants@ots.co.nz**SITE INSTRUCTION****JSO17** ✓Contract **HEREFORD 194**
Liverpool Street/Hereford StreetDate **24.03.06** No. **7**
File: **2808****PROGRESS**

- Structural work complete.

INSTRUCTIONS & COMMENT

- Checked fixing of portal frames to brick walls and OK.
- I beams dry packed between flange and brickwork.
- OK to line.

JOHN O'LOUGHLIN

COPIES TO: Rick Proko Ltd
AW Construction : Attention Ben Harrow

A No Variation
B Contract Variation



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

Building Regulation Clause(s)

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: **JOHN STUART O'LOUGHLIN**
(Suitably qualified Design Professional)

TO: **ROBERT DOUGLAS & SARAH HARROW**
(Owner)

TO BE SUPPLIED TO: **CHRISTCHURCH CITY COUNCIL**
(Territorial Authority)

IN RESPECT OF: **STRENGTHENING EXISTING BUILDING**
(Description of Building Work)

AT: **194 HEREFORD STREET**
CHRISTCHURCH
(Address)

JSO18

LOT DP SO

O'LOUGHLIN TAYLOR SPENCE LTD has been engaged by **OWNER**
(Design Firm) *(Owner/Developer/Contractor)*

to provide **STRUCTURAL ENGINEERING** services
(Extent of Engagement)

in respect of clause(s) **B1** of the Building Regulations 1992 for the building work described by the drawings and specifications prepared by **O'LOUGHLIN TAYLOR SPENCE LTD**
(Design Firm)

titled **ALTERATIONS TO 194 HEREFORD ST** and numbered **2808 / S1A, S2A, S3A, S4A**

Authorised variation(s) No. **1 – 7** (copies attached) have been issued during the course of the works. I have sighted Building Consent No. **10051163** and the attached conditions of building consent.

As an independent design professional covered by a current policy of Professional Indemnity Insurance to a minimum value of \$200,000, I or personnel under my control have carried out periodic reviews of the work appropriate to the engagement and based upon these reviews and information supplied by the contractor during the course of the works

I BELIEVE ON REASONABLE GROUNDS that All Part only as specified in the attached particulars of the building work under the above Building Consent with respect to Clause(s) **B1** of the Building Regulations 1992 has been completed to the extent required by that Building Consent.

(Signature suitably qualified Design Professional)

Date **21 APRIL 2006**

BSC BE (HONS) MIPENZ
(Professional Qualifications)

CPEng # **35368**

Member ACENZ

P O BOX 2373, CHRISTCHURCH
(Address)

IPENZ NZIA

This form to accompany Form 9 of the Building Regulations 1992 for the issue of a Code Compliance Certificate.

GUIDANCE ON USE OF PRODUCER STATEMENTS

This producer statement has been prepared by a combined task committee consisting of members of the New Zealand Institute of Architects, Institution of Professional Engineers New Zealand, Association of Consulting Engineers New Zealand and the Building Officials Institute of New Zealand.

Four producer statements are available and brief details on the purpose of each are as follows:

- Design:** Intended for use by the person responsible for the design in circumstances where the Territorial Authority will rely on the producer statement to issue a Building Consent.
- Design Review:** Intended for use by a suitably qualified independent design professional where the Territorial Authority does not undertake an internal review and relies on the independent design professional's review to issue the Building Consent.
- Construction:** Intended for the use by the contractor of the building works where the Territorial Authority requires a producer statement at the completion of construction.
- Construction Review:** Intended for use by the person required by the Building Consent to undertake construction monitoring of the building works in circumstances where the Territorial Authority will rely on the producer statement to issue a Code Compliance Certificate.

The producer statements system is intended to provide Territorial Authorities with reasonable grounds for the issuing of a Building Consent or Code Compliance Certificate without having to duplicate design or construction checking by others.

The following criteria are recommended to Territorial Authorities with respect to the use of the producer statements.

Definition of Suitably Qualified Design Professional

A suitably qualified design professional should have recognised qualifications and experience for the work undertaken and should be either:

- (i) an active member of the Association of Consulting Engineers New Zealand (ACENZ) or;
- (ii) a member of the Institution of Professional Engineers New Zealand (IPENZ) having a current policy of Professional Indemnity Insurance for a sum not less than \$200,000 or;
- (iii) a member of the New Zealand Institute of Architects (NZIA) having a current policy of Professional Indemnity Insurance for a sum of not less than \$200,000.

Design Build Contracts

If the design professional is engaged by the contractor, the territorial authority should satisfy itself that it is appropriate for the territorial authority to rely upon a producer statement from the design professional.

Consulting Services during Construction Phase

There are several levels of service which a design professional may provide during the construction phase of a project. The territorial authority is encouraged to require that the service to be provided by the design professional is appropriate for the project concerned.

Requirement to provide Producer Statement

Territorial Authorities should ensure that the applicant is aware of any circumstances in which there may be a requirement for producer statements for the construction phase of building work at the time the building consent is issued as no design professional should be expected to provide a producer statement unless such a requirement forms part of the design professional's engagement.

Attached Particulars

Attached particulars referred to in this producer statement refer to supplementary information appended to the producer statement.

J5019

2808/JSO

18 November 2008

Miles Construction Ltd
PO Box 36680
Christchurch

Attention: Alastair Miles

Dear Sir,

**JOES GARAGE, 194 HEREFORD STREET, CHRISTCHURCH
EAST WALL DAMAGE**

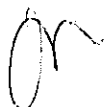
Further to your instructions, we have been keeping a watch on repairs by the owner at 196 Hereford Street.

To date scaffolding was erected at the south end of the wall and the wall was re-bricked. No repairs have been made to the centre section of the wall where the roof trusses of the previous building at 196 Hereford Street were seated in the wall. Nor has repair been attempted at the north end of the wall when we inspected today.

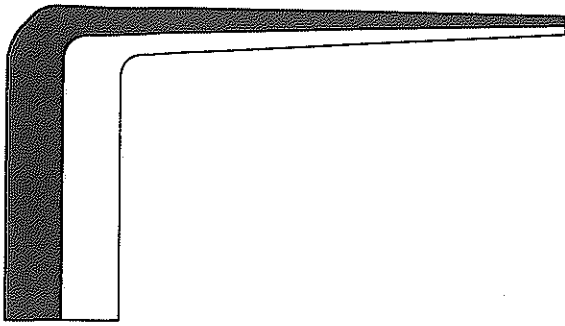
There are two screw piles on site so there should not be too much vibration to Joes Garage from the piling process if all screw piles are to be used.

I will continue to check on progress.

Yours faithfully



John O'Loughlin



O'Loughlin Taylor Spence Ltd
CONSULTING ENGINEERS

St Elmo Courts
47 Hereford Street
Christchurch 8140
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2808/JSO

27 March 2009

Miles Construction Ltd
PO Box 36680
Christchurch

Attention: Alastair Miles

Dear Sir,

**JOES GARAGE, 194 HEREFORD STREET, CHRISTCHURCH
EAST WALL DAMAGE**

We visited the site yesterday 26 March 2009 to check on progress in repairing the damage that occurred to the east wall when the adjacent building on the east was demolished.

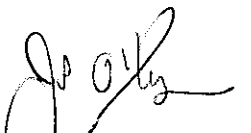
I previously reported in November 2008 when some progress had been made towards repair of the east wall at the south end.

Yesterday the construction site where the building was demolished appears abandoned and the scaffolding used by the bricklayer gone. The centre and north end of the wall are not yet repaired although some new brickwork at the north west corner has been laid to a height of about 2.0 metres.

I am concerned that with the Autumn and Winter rain expected over the next eight weeks, the gaps left in Joes Garage east wall at the north east corner will give cause to deterioration of the brickwork and possibly cause damage to internal linings and fittings of the restaurant.

I believe the owners of the adjacent site need to be encouraged to complete the repair work.

Yours faithfully



John O'Loughlin

Jayne Sutherland

JSO21

From: Jayne Sutherland
Sent: Friday, 21 August 2009 4:24 p.m.
To: 'alastair@milesconstruction.co.nz'
Subject: Underpinning East Wall, 194 Hereford Street, Christchurch

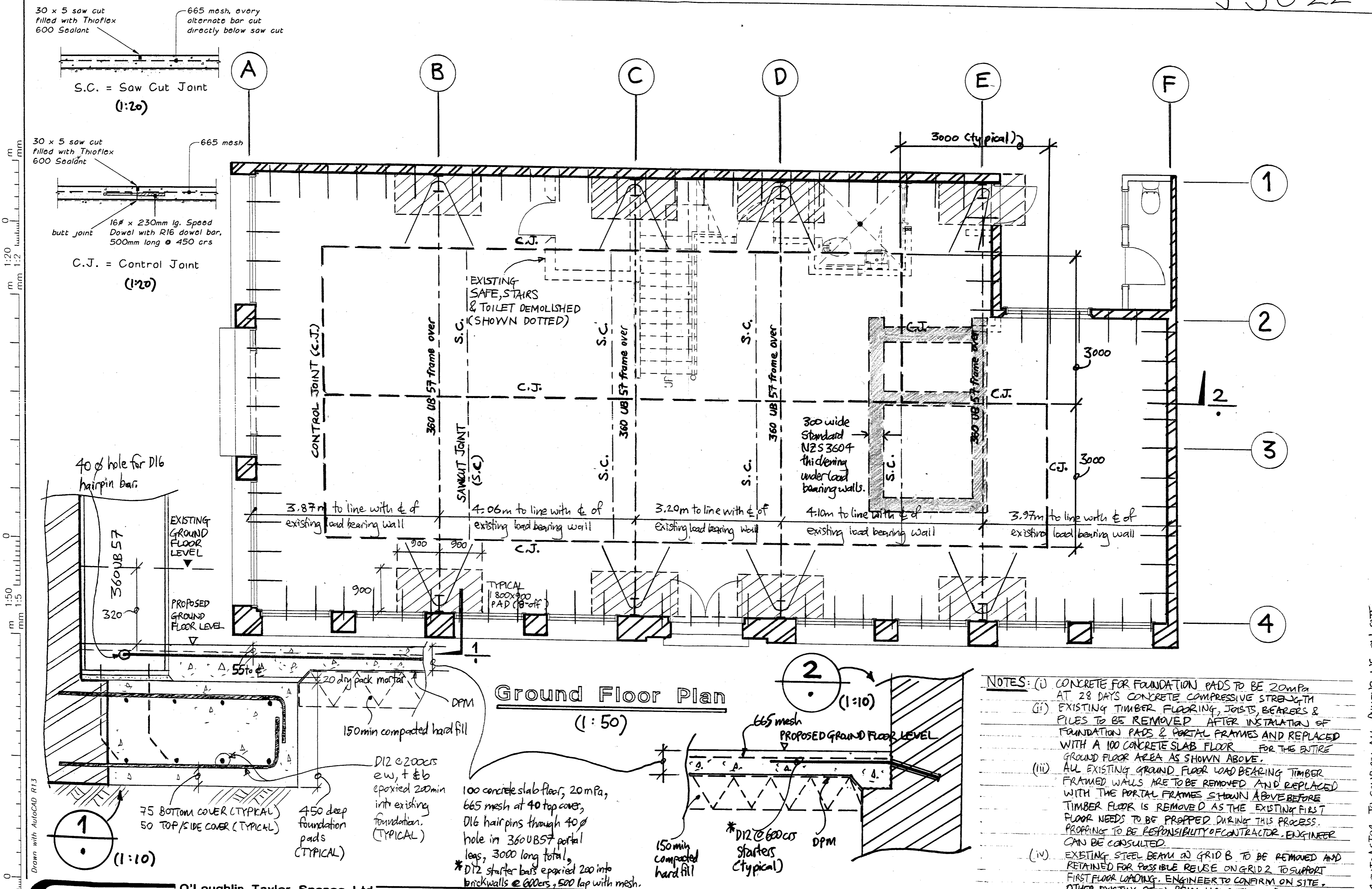
Alistair,

Further to your email I checked 13 August 2009 and work had not commenced at that stage. I checked again today and five sections of underpinning have been completed. The concrete underpinning is in 900mm wide (approximately) sections at about 2.5 metre centres and appears satisfactory. The contractor has started at the south end and is working his way northward along the east wall of 194 Hereford Street.

Regards

John O'Loughlin

21/08/09



- NOTES:**
- (i) CONCRETE FOR FOUNDATION PADS TO BE 20MPa AT 28 DAYS CONCRETE COMPRESSIVE STRENGTH
 - (ii) EXISTING TIMBER FLOORING, JOISTS, BEARERS & PILES TO BE REMOVED AFTER INSTALLATION OF FOUNDATION PADS & PORTAL FRAMES AND REPLACED WITH A 100 CONCRETE SLAB FLOOR FOR THE ENTIRE GROUND FLOOR AREA AS SHOWN ABOVE.
 - (iii) ALL EXISTING GROUND FLOOR LOAD BEARING TIMBER FRAMED WALLS ARE TO BE REMOVED AND REPLACED WITH THE PORTAL FRAMES SHOWN ABOVE BEFORE TIMBER FLOOR IS REMOVED AS THE EXISTING FIRST FLOOR NEEDS TO BE PROPPED DURING THIS PROCESS. PROPPING TO BE RESPONSIBILITY OF CONTRACTOR. ENGINEER CAN BE CONSULTED.
 - (iv) EXISTING STEEL BEAM @ GRID B TO BE REMOVED AND RETAINED FOR POSSIBLE REUSE ON GRID 2 TO SUPPORT FIRST FLOOR LOADING. ENGINEER TO CONFIRM ON SITE. OTHER EXISTING STEEL BEAM ALSO RETAINED FOR REUSE.

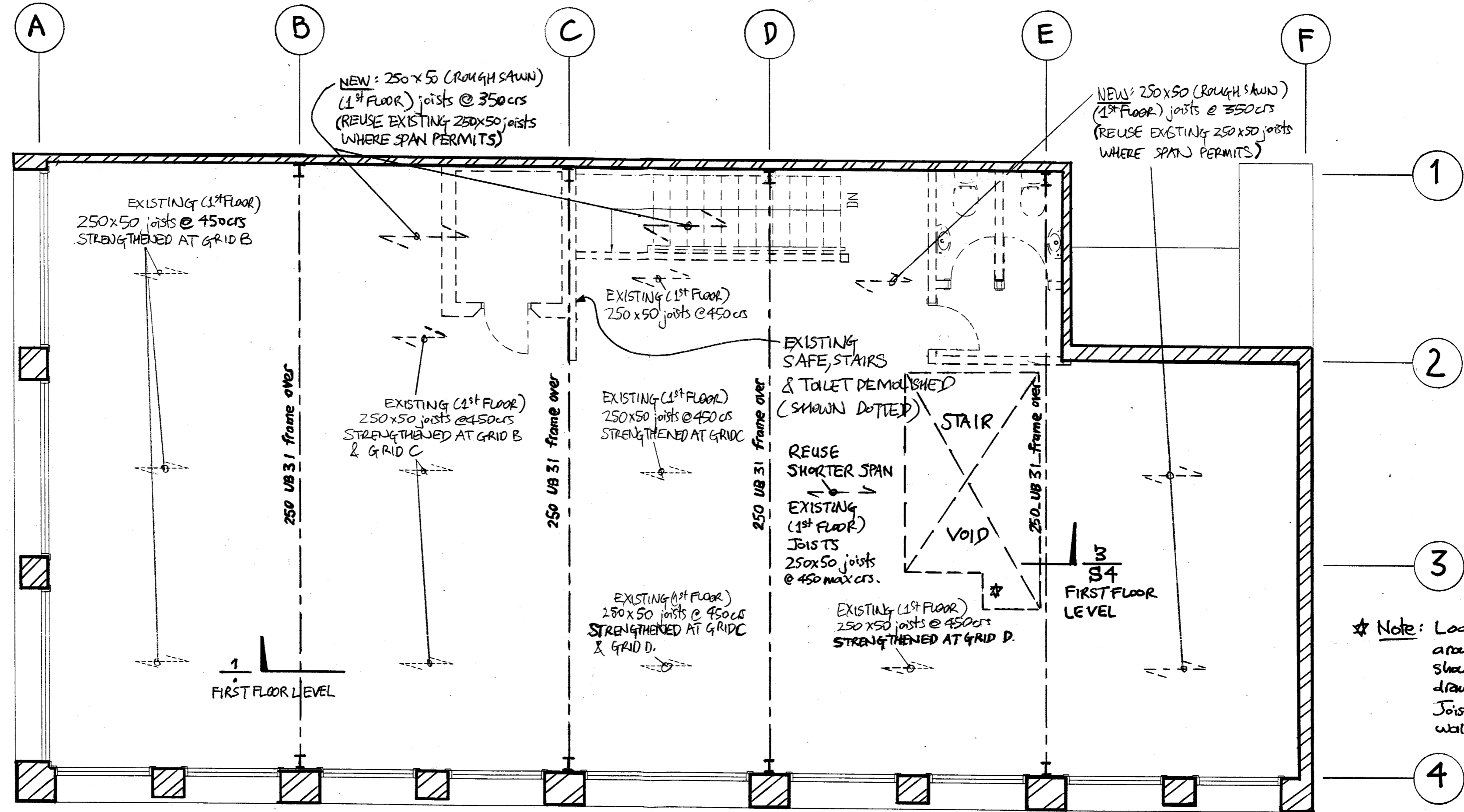
Drawn with AutoCAD R13

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ALTERATIONS to 194 HEREFORD STREET
 CHRISTCHURCH

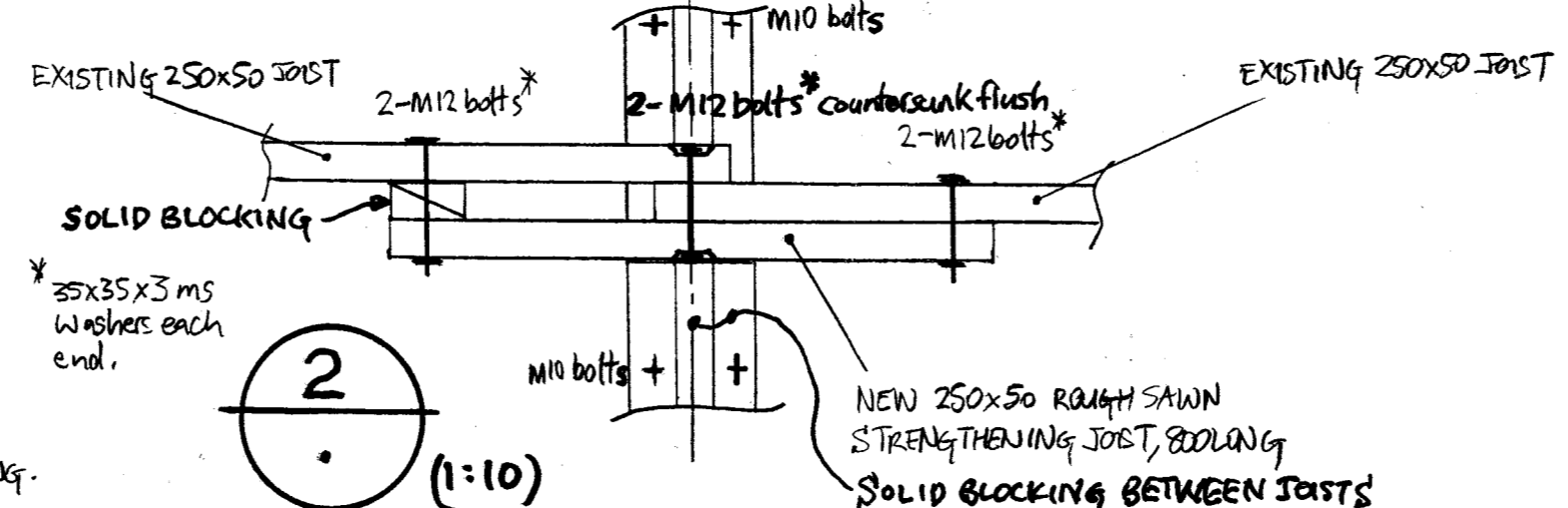
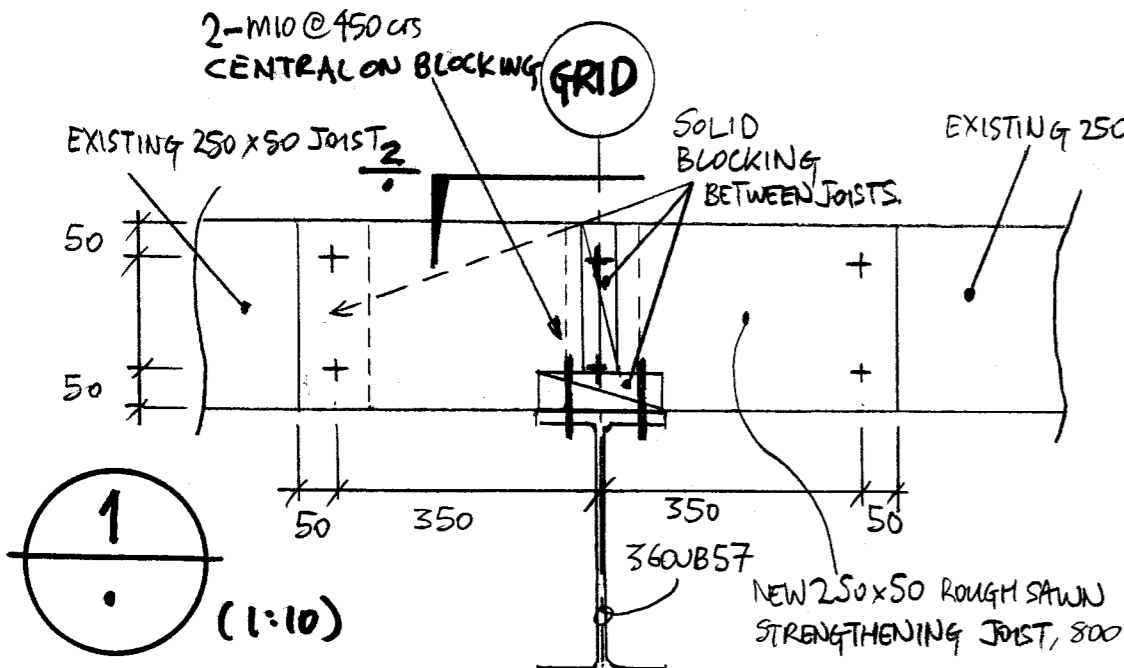
scale	date	issue	rev	sheet	rev
1:50	29/11/04	CONSENT	A	1	
	22/08/05	CONSTRUCTION	B	1	
A2 size					

CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE



* Note: Load bearing walls around stairs are shown on Architects drawings. Joists to span onto these walls where required.

First Floor Plan (1:50)



- NOTES:**
- (i) SIMILAR SOLID BLOCKING AND M10 BOLTS @ 350c/s ARRANGEMENT TO NEW 250x50 (ROUGH SAWN) (1st FLOOR) JOISTS @ 350 c/s AS SHOWN IN DETAILS ACROSS.
 - (ii) CEILING BEAMS ALONG GRIDS 2 & 3 MAY BE REQUIRED TO CARRY ROOF JOISTS IN PLACE OF REMOVED LOAD BEARING WALLS. POSITIONS & BEAMS REQUIRED WILL BE CONFIRMED AT TIME OF OPENING UP THE 1st FLOOR CEILING AT TIME OF CONSTRUCTION. ANY REQUIRED CEILING BEAMS WILL BE CONNECTED INTO 250UB31 PARTIAL FRAMES. ALLOW TO MAKE GOOD ANY ROOFING TRAY WHICH HAS LOST ITS INTEGRITY, ALSO ANY ROOF MEMBERS EFFECTED BY ROT DUE TO WATER INTRUSION INTO ROOF SPACE.
 - (iii) OTS/2808/S3B SHOWS ALL THE REQUIRED REFERENCES FOR STRENGTHENING BRICKWORK CONNECTIONS TO TRUSSES FLOORS & ROOFS (PARAPETS). S4B GIVES TYPICAL DETAILS TO BE CONFIRMED AT TIME OF CONSTRUCTION.

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**ALTERATIONS to 194 HEREFORD STREET
CHRISTCHURCH**

Scale	Date	Issue	Rev	Title	Drn	CHK	Sheet	Rev
1:50	22/11/04	CONSENT	A	STEELWORK	grn	T.H.	S2 B	
	22/09/05	CONSTRUCTION	B	FIRST FLOOR PLAN	ckd			
				FRAME LAYOUT	app			

A2 size

File 2808

1:20
m
mm
1:2

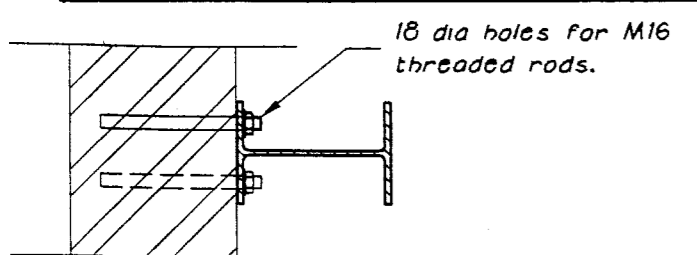
1:50
m
mm
1:5

1:10
m
mm
1:10

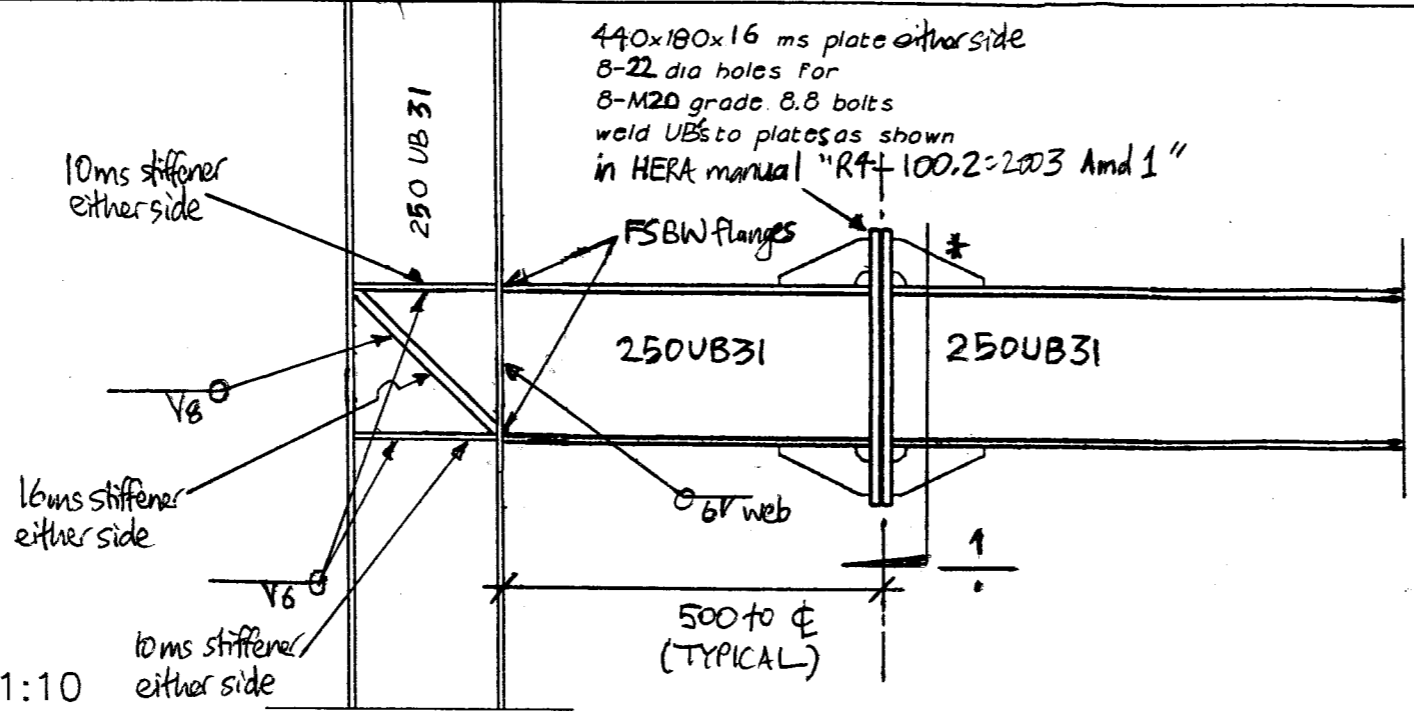
Drawn with AutoCAD R13

CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE

NOTES: Steel portal frames to be fully welded as shown below or connected using HERA connectors detailed to right. Contractor to choose preferred method of construction and erection of steel portal frames.



leg/wall connection 1:10



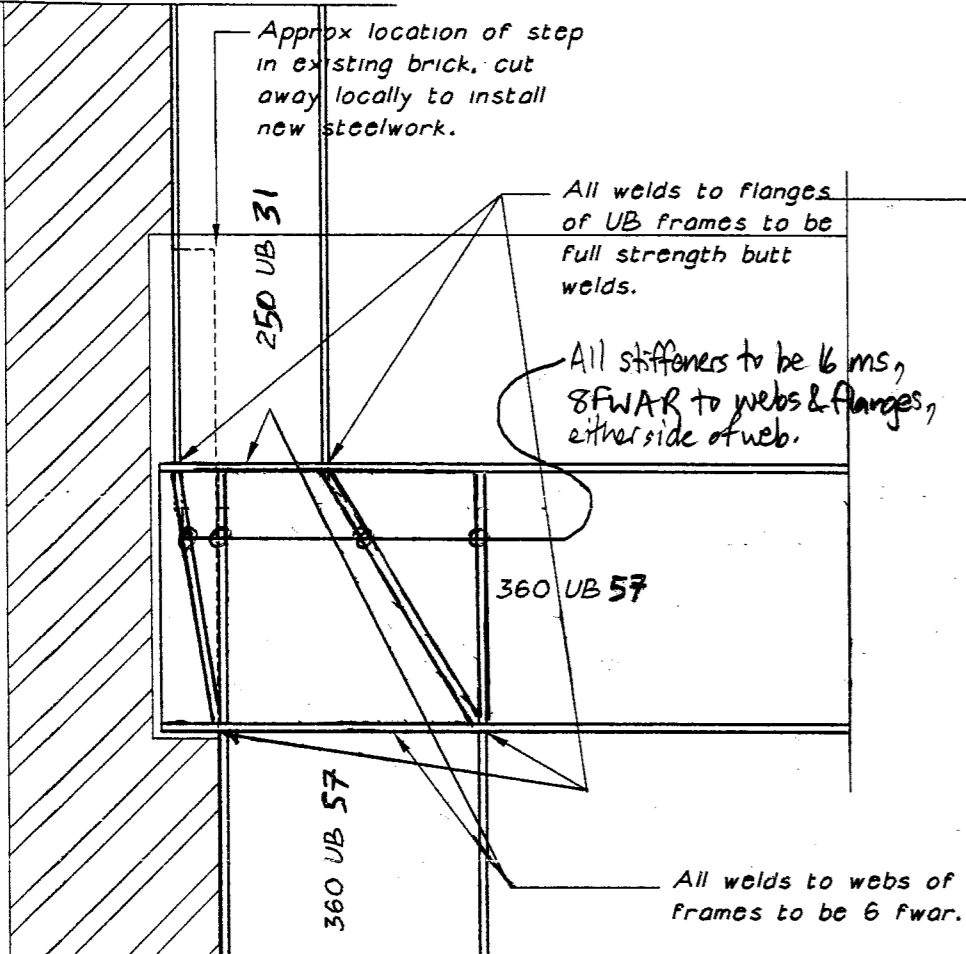
bolted option

Use H3 & H4 details for Wall to Roof connections

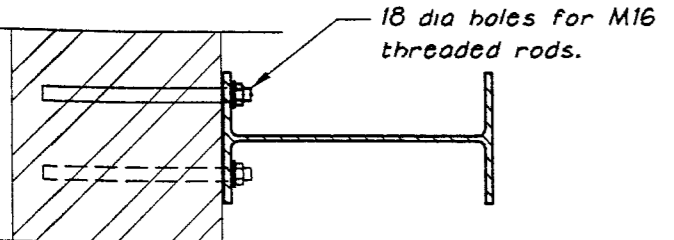
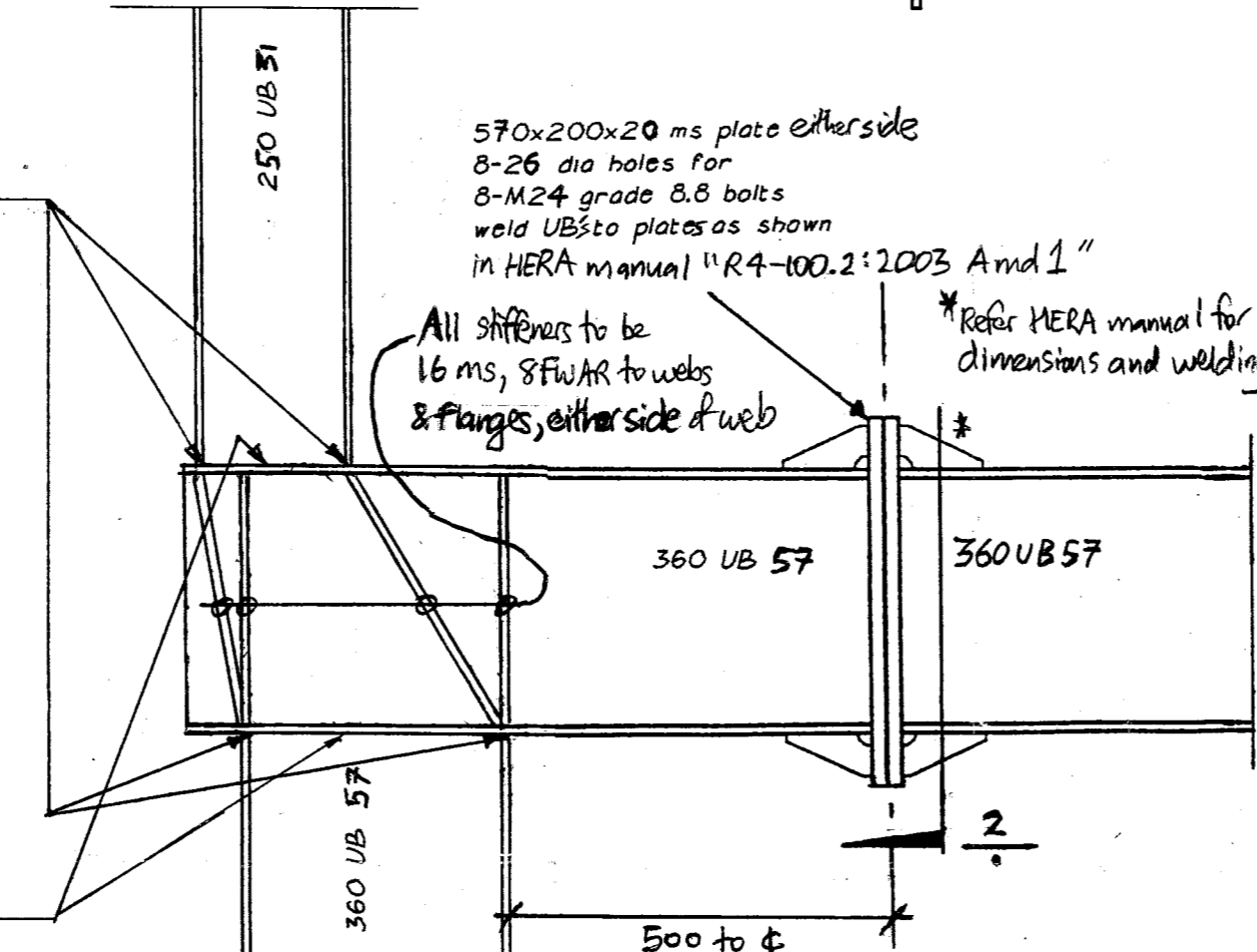
NOTES:
Steelwork is connected to existing brickwalls with 16 dia threaded rods, grout into existing brick as far as possible using the Epoxy Chemset Injection System. Maintain approx 50 cover to far face of wall.
Welds to be 6 fillet welds all round unless noted otherwise

A Roof Diaphragm level shown is for the option of putting on a 15mm PLYFLOOR structural floor diaphragm for a proposed Second Floor Level. If this isn't done then we will need a GIB Base line Ceiling Diaphragm at Ceiling Level replacing the existing ceiling.

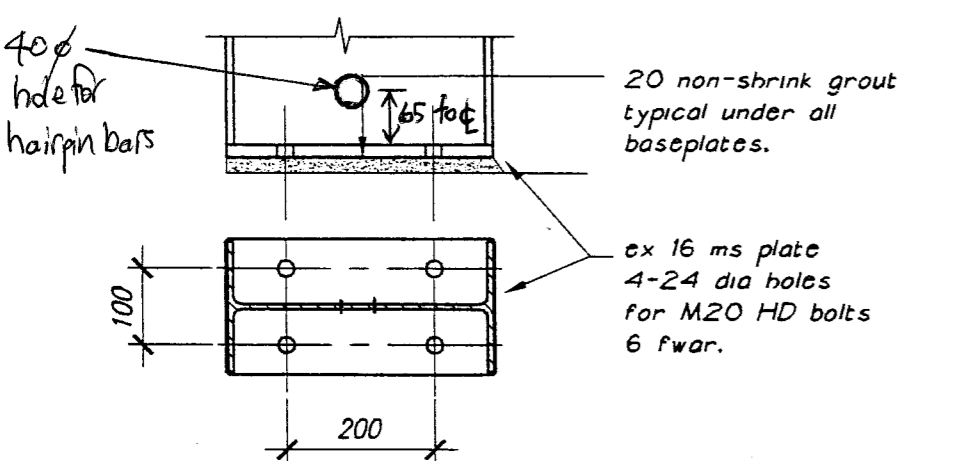
Use H5 details for Parapet to Roof connections



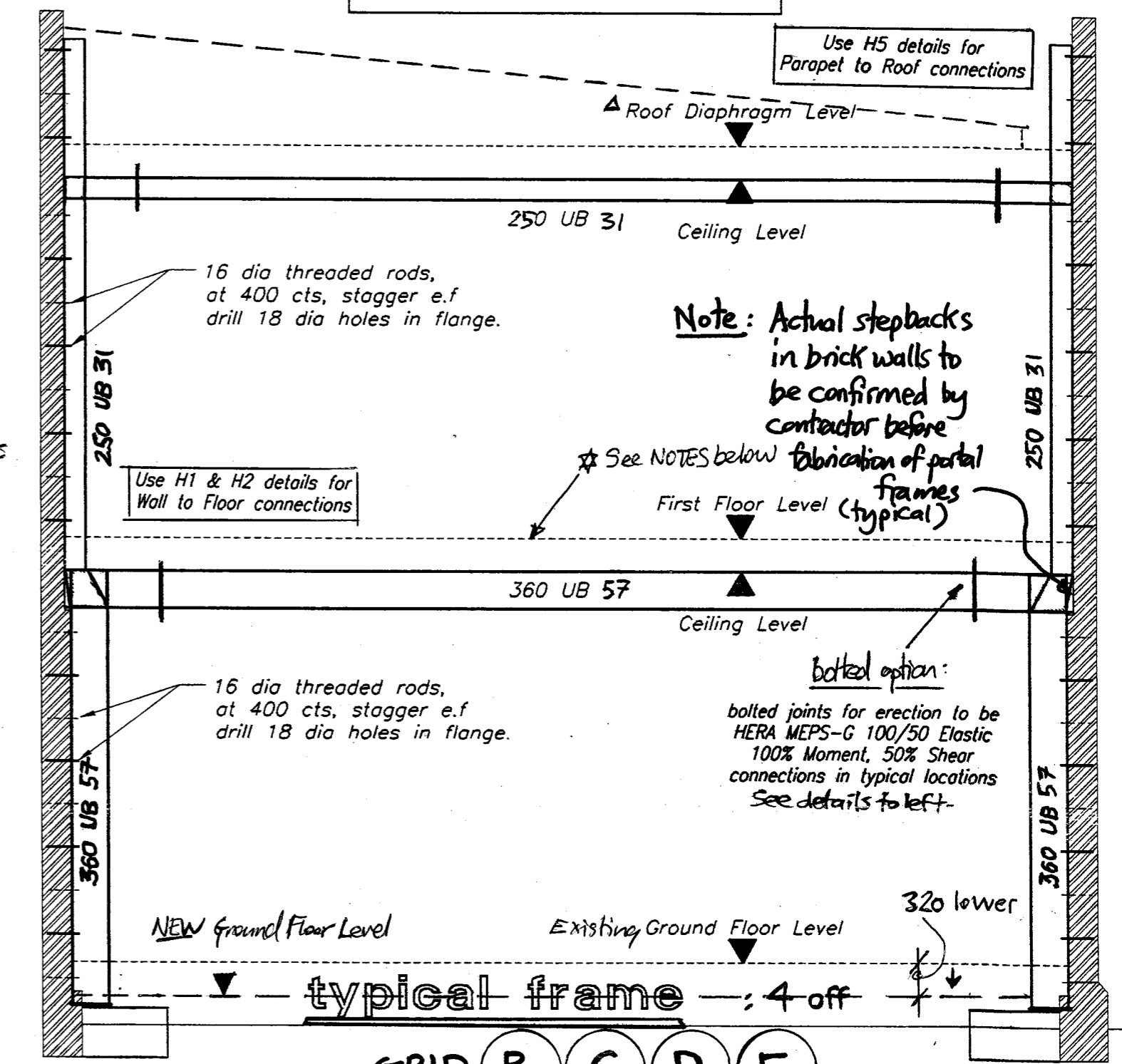
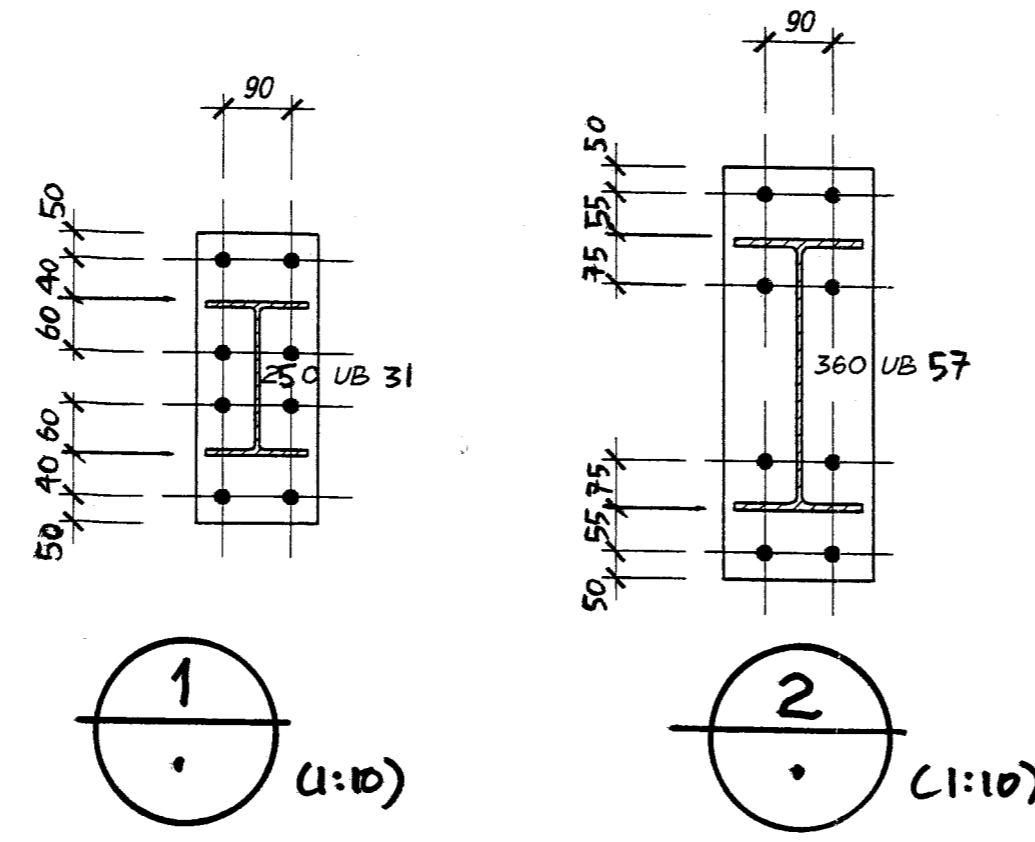
typical frame joint 1:10



leg/wall connection 1:10



baseplate 1:10



Note: Actual stepbacks in brick walls to be confirmed by contractor before fabrication of portal frames (typical)

* See NOTES below

bolted option:
bolted joints for erection to be HERA MEPS-G 100/50 Elastic 100% Moment, 50% Shear connections in typical locations See details to left.

NOTES:
Use Draft Guidelines for Assessing and Strengthening Earthquake Risk Buildings 10 February 1995 for details H1 - H5 noted
Provide 20mm dry pack mortar bed between brickwork and steel frame members

NOTES: * First Floor to be a structural floor diaphragm to the requirements of NZS 3604:1999. Epoxy PLYFLOOR CD 15mm flooring (with joists at 450ers max) fixed to above mentioned requirements would suffice.

CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE

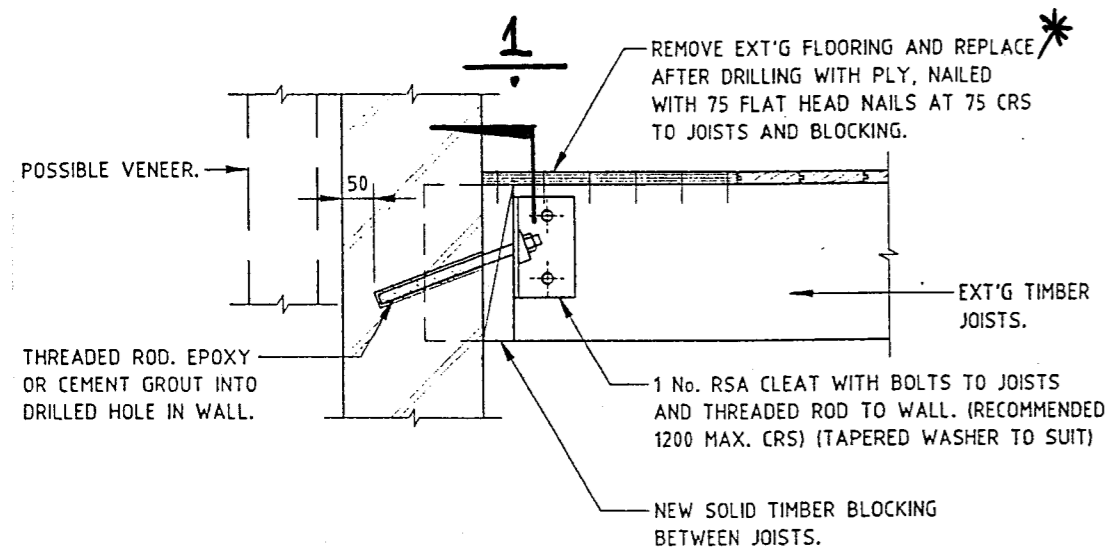
SCALE	DATE	ISSUE	REV	TITLE	DRN	CHK	SHEET	REV
1:50	29/11/04	CONSENT	A	STEELWORK	drn	ATW	S3	B
	22/09/05	CONSTRUCTION	B	TYPICAL FRAME	ckd			
A2 size				DETAILS	add			

1:100
1:10
m
mm
1:20
m
mm
1:50
m
mm
Drawn with AutoCAD R13

EXCERPTS FROM "DRAFT GUIDELINES FOR ASSESSING AND STRENGTHENING EARTHQUAKE RISK BUILDINGS" (10 FEB 1995) CALLED UP ON S3B.

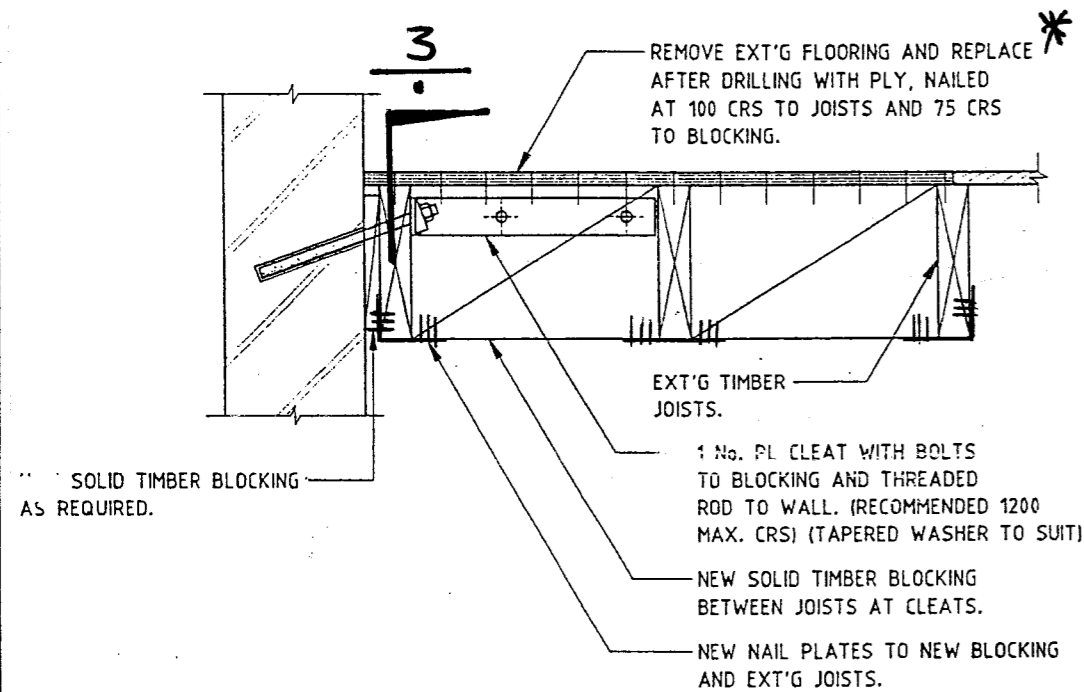
H1 WALL TO FLOOR CONNECTION

(FLOOR JOISTS PERPENDICULAR TO WALL)



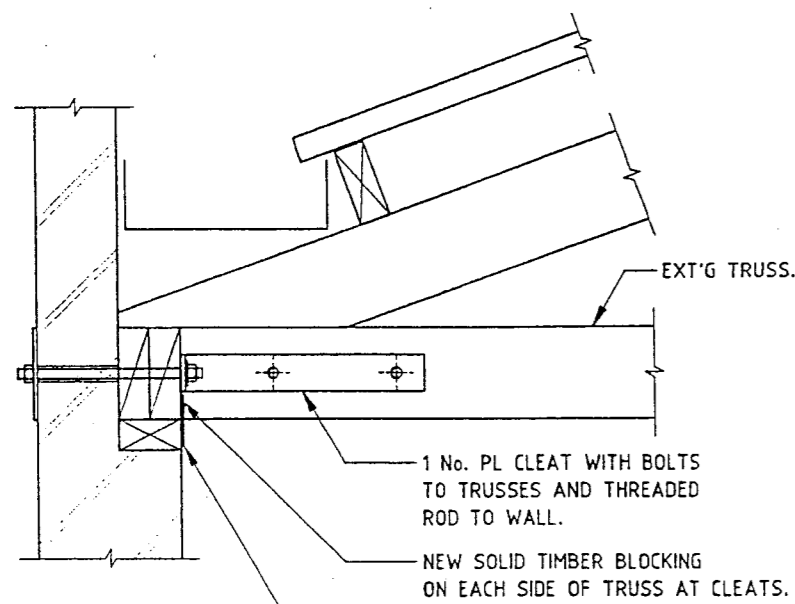
H2 WALL TO FLOOR CONNECTION

(FLOOR JOISTS PARALLEL TO WALL)



H3 WALL TO ROOF CONNECTION

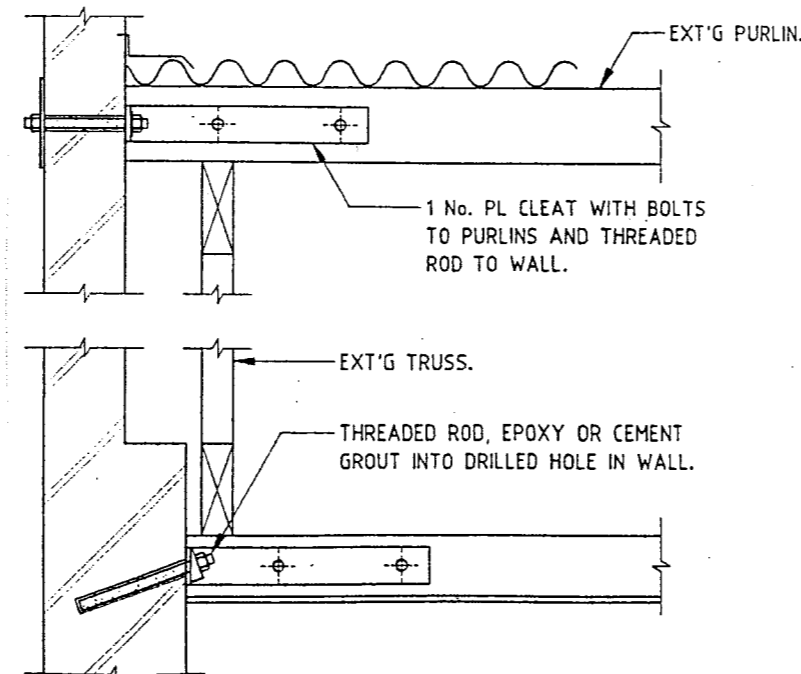
(TRUSSES PERPENDICULAR TO WALL)



NOTE :-
1: ADDITIONAL SECONDARY (TRANSOM) MEMBERS TYPICALLY REQUIRED TO RESTRAIN BRICKWORK BETWEEN TRUSSES.

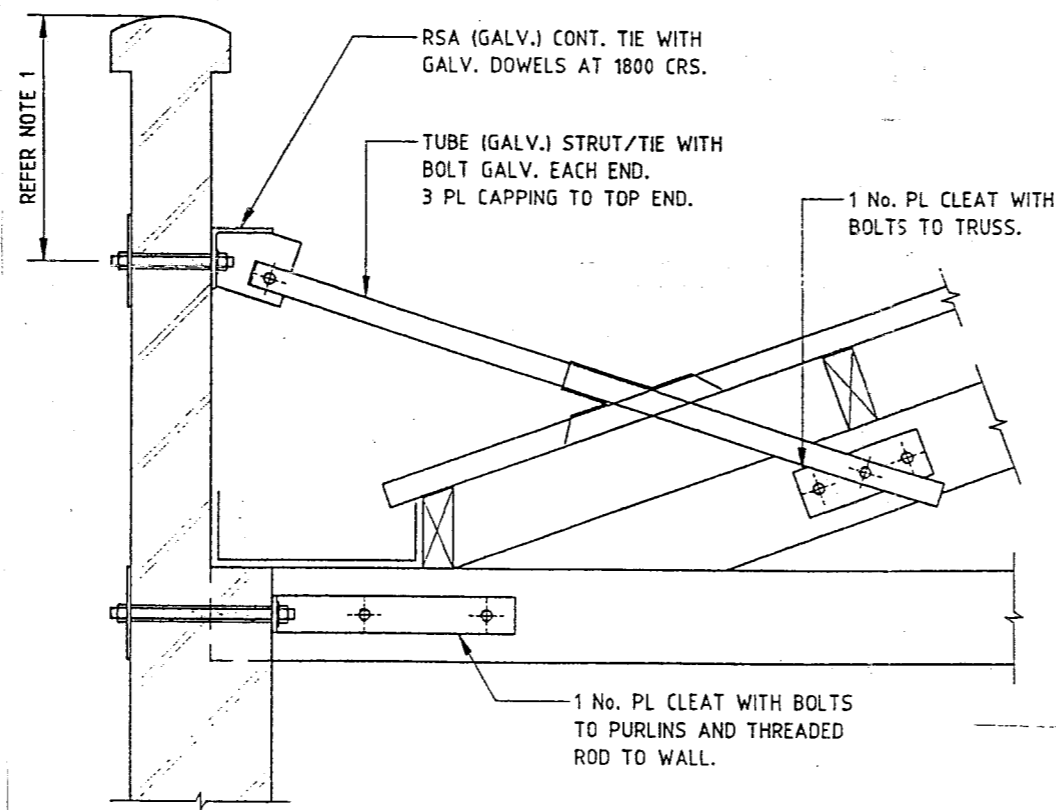
H4 WALL TO ROOF CONNECTION

(TRUSSES PARALLEL TO WALL)



H5 PARAPET RESTRAINT

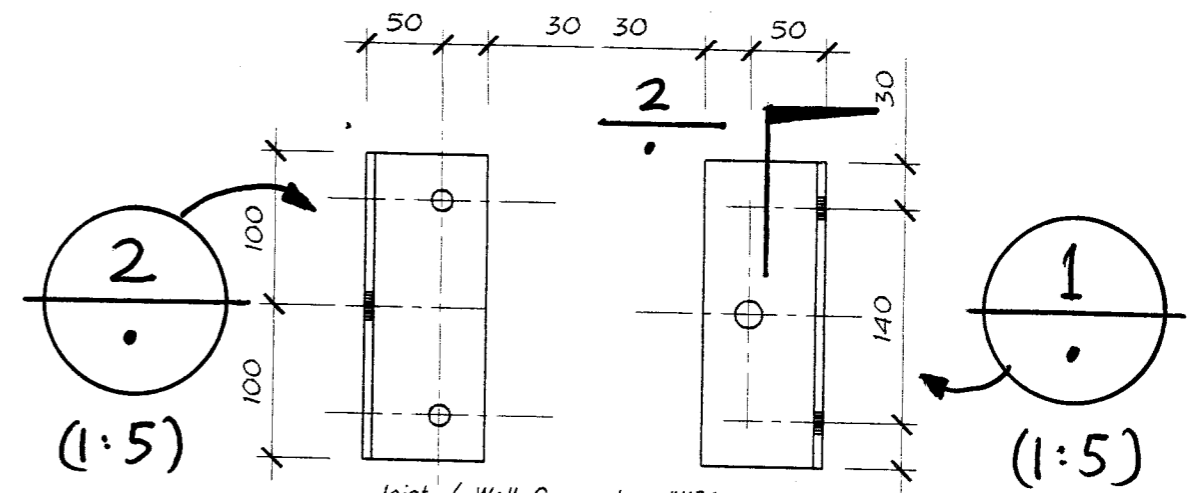
(TRUSSES PERPENDICULAR TO WALL)



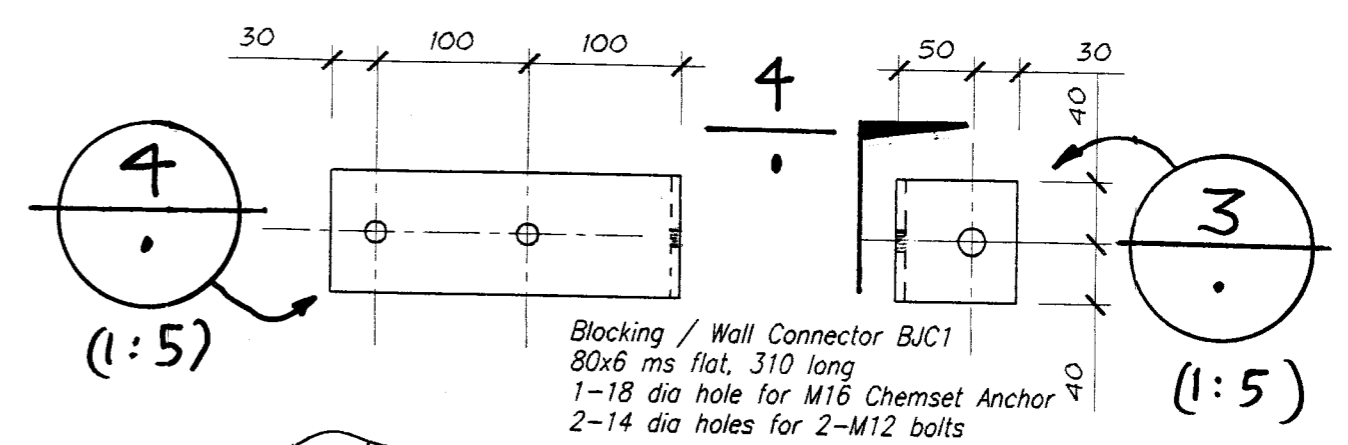
NOTES :-
1: MAX. HEIGHT = 1.5 x THICKNESS FOR ZONE FACTOR $Z \geq 0.8$
= 2.5 x THICKNESS FOR ZONE FACTOR $Z \leq 0.8$

NOTES: ENGINEER TO CONFIRM CLEAT PLATE & BOLT SIZES FOR THE ABOVE DETAILS AT TIME OF OPENING UP THE EXISTING STRUCTURE AT TIME OF CONSTRUCTION

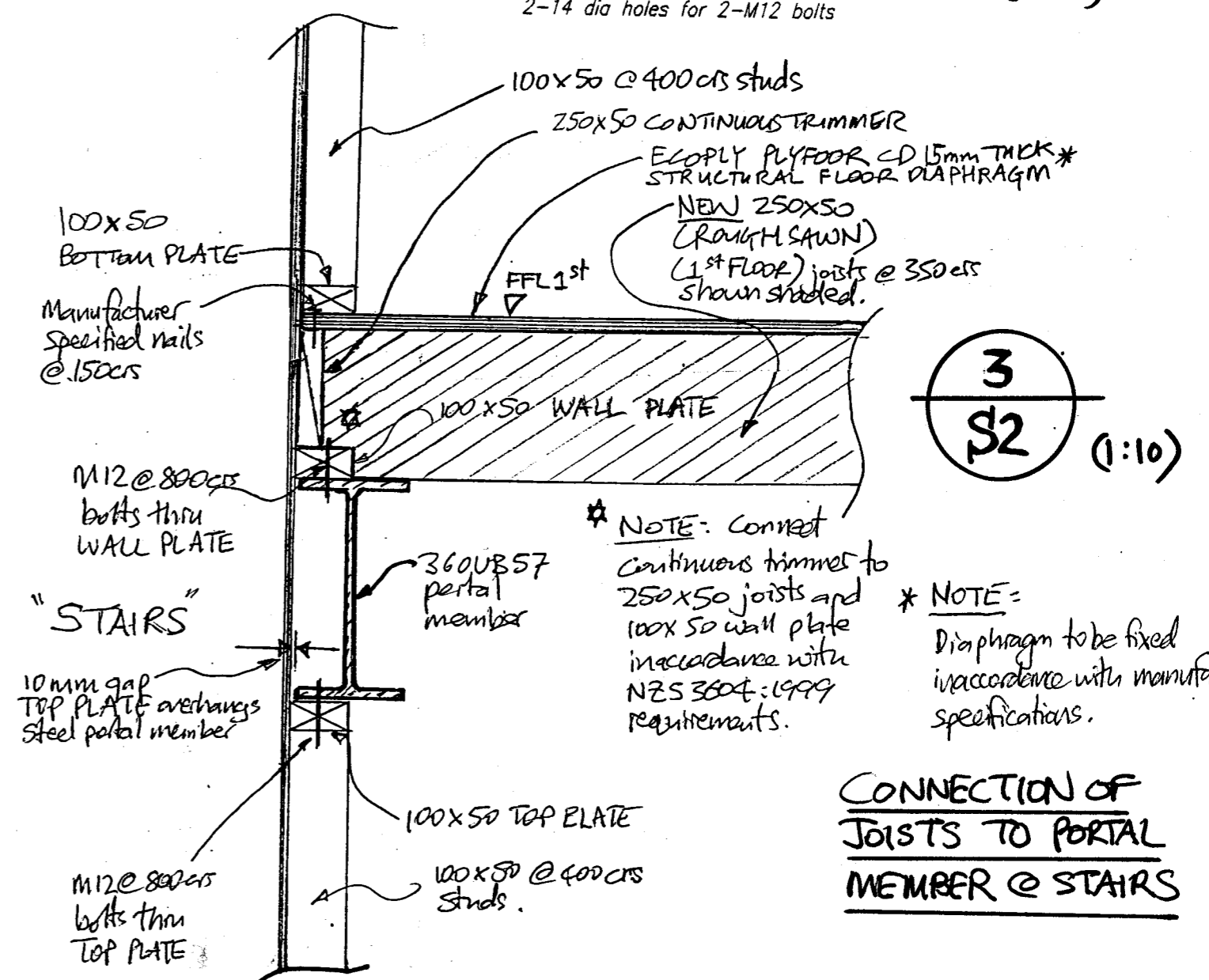
* In this specific instance the entire existing floor is eventually going to be removed and replaced with PLYFLOOR CD 15mm thick structural floor diaphragm. First remove sections of floor to allow sections of wall to floor connections H1 & H2 to be completed and replace with 1200 x 2400 long sheets of PLYFLOOR. Then once all H1 & H2 connections are established (with appropriate nailing of PLYFLOOR sheets to trimmers and joists) the rest of the existing floor can be removed, in sections, and replaced with ECOPLY PLYFLOOR structural floor diaphragm.



Joist / Wall Connector JWC1
80x80x6 ms angle, 200 long
1-18 dia hole for M16 Chemset Anchor
2-14 dia holes for 2-M12 bolts



Blocking / Wall Connector BJC1
80x6 ms flat, 310 long
1-18 dia hole for M16 Chemset Anchor
2-14 dia holes for 2-M12 bolts



NOTE: Connect continuous trimmer to 250x50 joists and 100x50 wall plate in accordance with NZS 3604:1999 requirements.

NOTE: Diaphragm to be fixed in accordance with manufacturer specifications.

CONNECTION OF JOISTS TO PORTAL MEMBER @ STAIRS

Drawn with AutoCAD R13

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ALTERATIONS to 194 HEREFORD STREET
CHRISTCHURCH

Scale	Date	Issue	By	Title	Drawn	Checked	Sheet	Rev.
1:50	29/11/04	CONSENT	A	STEELWORK	drn	TH	S4 B	
1:10	22/04/05	CONSTRUCTION	B	MODIFIED FRAMES	ckd	ASH		
A2 size				DETAILS	rod	me	2808	

CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE