XAVIER
KNIGHT

26th April 2023

Attn: Andreas Brohl
Sr Development Manager

ROCHE GROUP PTY LIMITED
365 New South Head Road, Double Bay NSW 2028
Post: P.O. Box 325, Double Bay NSW 1360

STRUCTURAL ENGINEERING REPORT

SUBJECT PREMISES: 469-483 Balmain Road, Lilyfield
REF: 221004-230330-01

Xavier Knight Consulting Engineers are the appointed structural engineers on the subject project.

We are writing to provide our method statement for the partial demolition of the corner blocks located at the intersection of Cecily Street and Balmain Road. Please refer to drawing reference A-DA010-Rev 01, which was prepared by M/s. Chrofi Architects.

Whilst we acknowledge that the design parameters may change during construction and design development however it would ultimately still achieve the aim of retaining the existing character buildings.

Our method statement has been designed to maintain the elevations of these blocks while allowing for the safe progression of new construction. We have outlined clear steps for progressive retaining and demolishing to ensure that the work remains under control with the appointed builder. Our approach has been guided by industry best practices and takes into consideration the unique site conditions of the project.

As part of our method statement, we have included a safety in design register that identifies potential risks and mitigation measures. We understand that the safety of workers, occupants, and visitors is of paramount importance, and we have taken all necessary steps to ensure that the work is carried out safely.

In summary, the work staging has been broken down into double-storey tenancies and a single-storey warehouse. We have identified the blocks that need to be retained on the master layout and have provided a clear methodology for the work to be carried out in a safe and efficient manner. See figure below.

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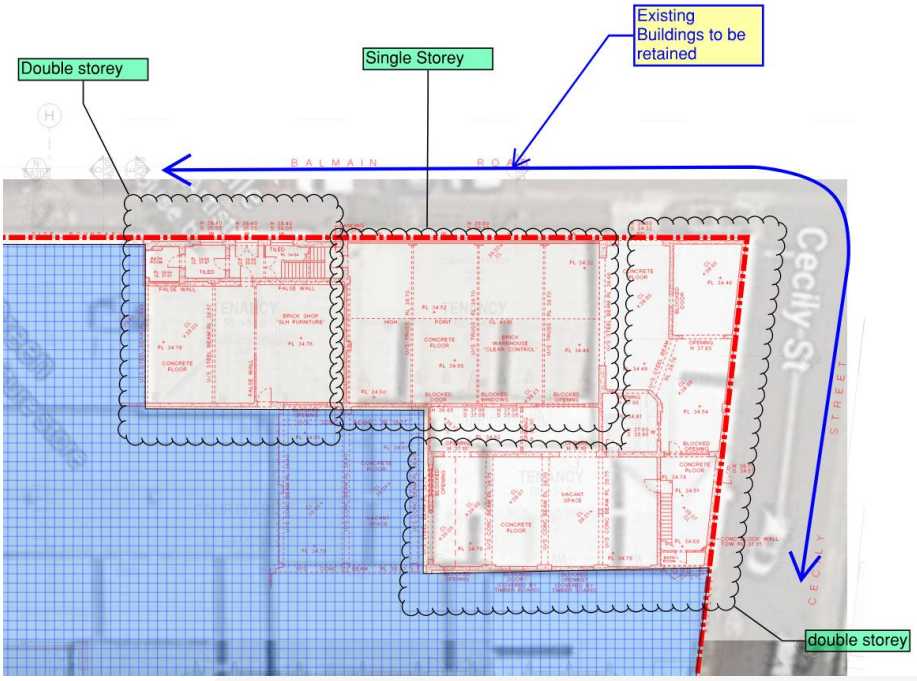
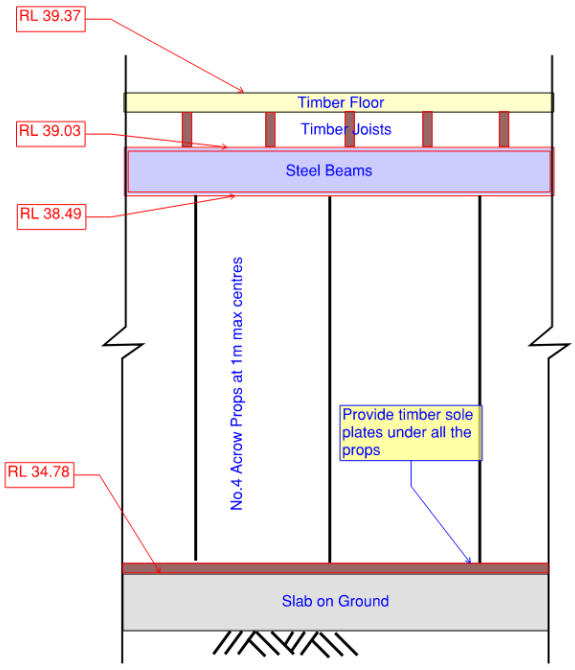
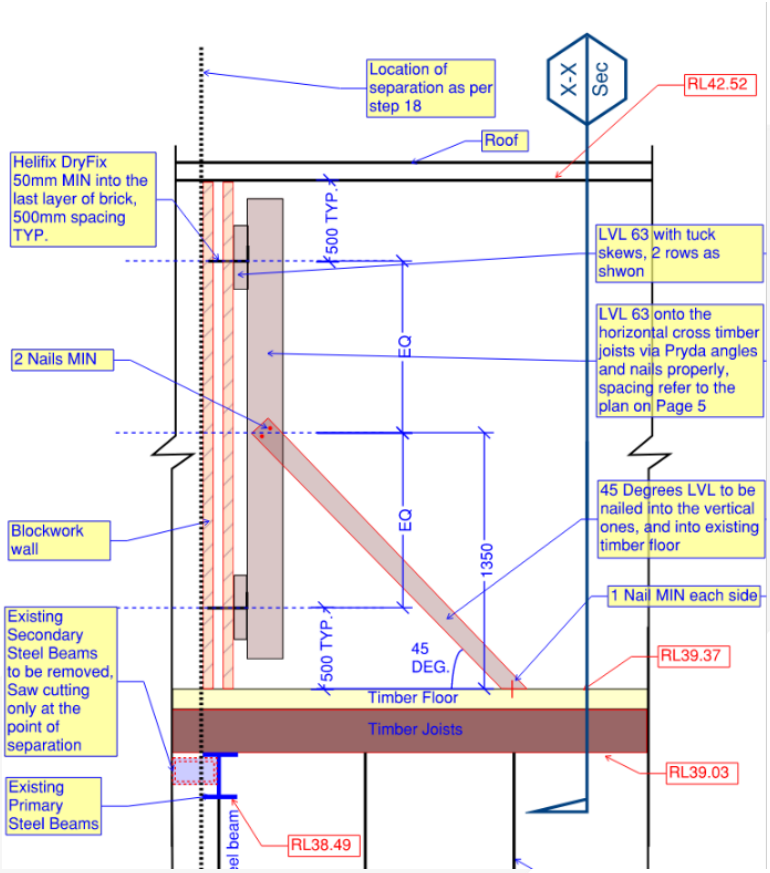


During Stage 1 of the work, the suspended floor above ground level will be propped vertically to the ground, by means of providing Accrow props or equivalent, followed by internally retaining the brick façade at level 1 by means of providing LVL sections and dry fix anchors. This is to ensure that the demolition of the western and southern structures does not affect the tenancy.

Figure below shows propping of L1



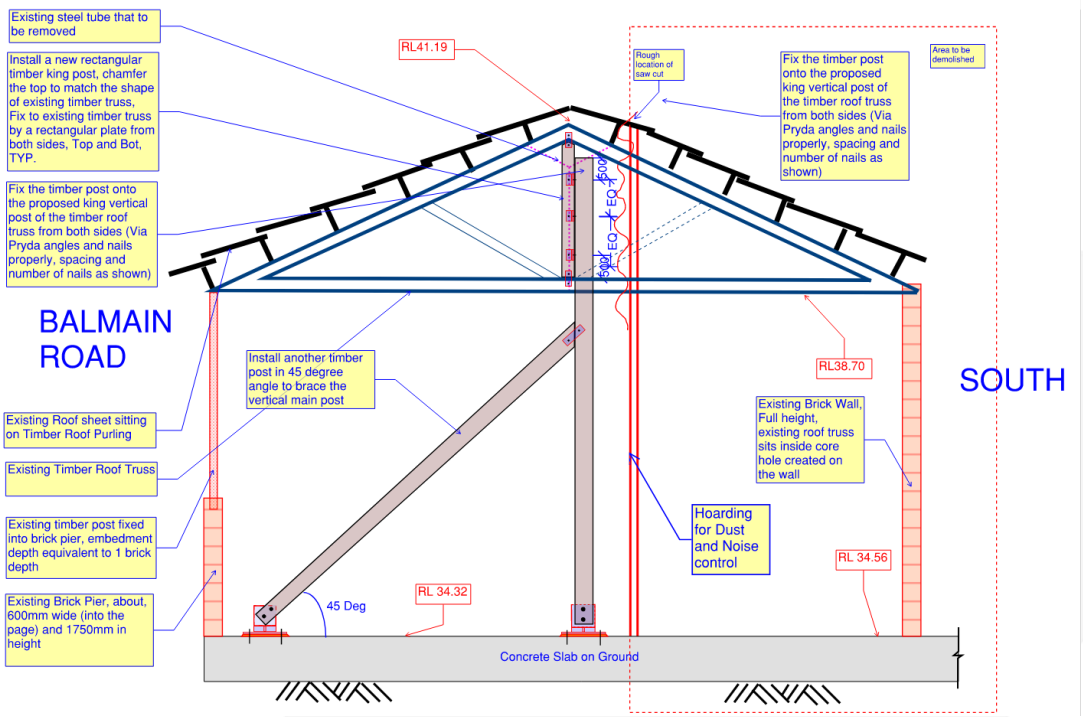
The following figure shows the proposed method to retain the brick façade:



This stage has been carefully planned to minimize disruption and ensure that the work progresses smoothly, and the concept is subject to development should the appointed builder wishes to propose an alternative material scheme or a temporary load path.

Stage 2 of the work pertains to the single-storey warehouse, which will be partially demolished (while maintaining the façade along Balmain Road) to make way for the permanent columns of the new construction.
We have provided a detailed methodology to maintain the stability of the roof and remaining parts of the warehouse while ensuring that the work progresses safely. Similar to stage 1, we have shown the load path and staging, as well as the materials we preferred to use, however the appointed builder may suggest alternative materials or load path.

Figure below shows the proposed method by providing central support to have roof truss popped at mid span before it is cut towards the south. The central support is lapping with the truss element to replace the original support. We have provided racking timber element to maintain lateral stability against wind loads and uplifting.



We recognize that the appointed builder must familiarize themselves with the site conditions and conduct appropriate risk assessments. However, we are confident that our method statement provides clear guidance and direction for the work to be carried out safely and efficiently.

Please refer to the detailed drawings / method statement attached to this letter.

As a qualified and competent individual listed in the National Professional Engineers Register (NPER), I certify that the design and performance of the design is sound as detailed in the attached drawings

Xavier Knight Pty Ltd possesses Indemnity Insurance to the satisfaction of the principal.
Signed for and on behalf of Xavier Knight Pty Ltd:

Rabee Kafina
2023.04.26
12:11:15+10'00'

Rabee Kafina

PROJECT DIRECTOR
BSc MSc (Struct) MIEAust CPEng NER

Current Site Conditions

230321-221004-De
230303-221004-TL01
mo-TL-Rev 3

Rev	Description	Eng	Draft	Date

Client: ROCHE GROUP

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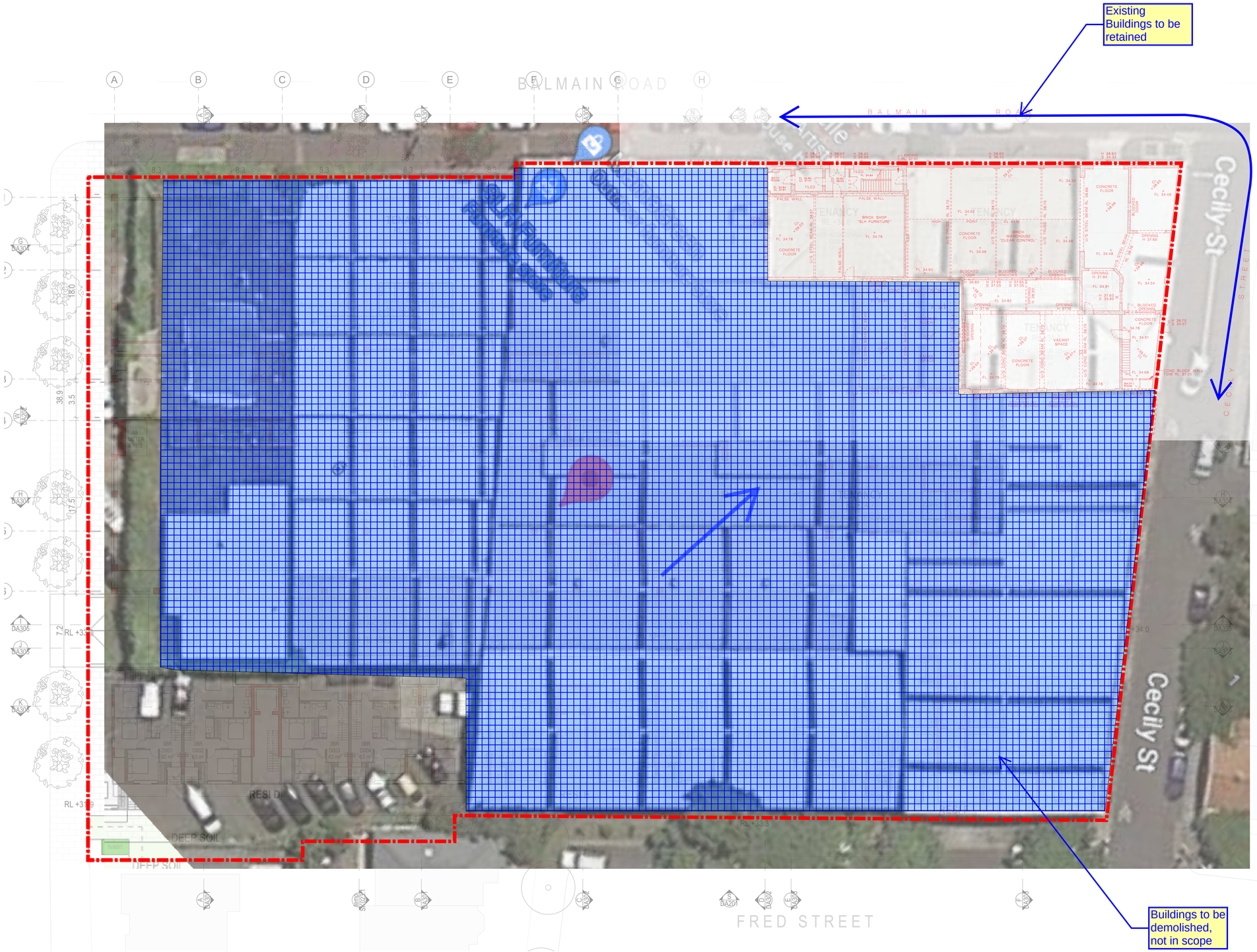
Project: 469-483 Balmain Road, Lilyfield

Sheet Subject: Method Statement

Scale at B1	Engineer	Approved By
NTS	TL	RK

Job No	Drawing No	Revision
221004	221004-D-01	0



230321-221004-De
230303-221004-TL01
mo-TL-Rev 3

Rev	Description	Eng	Draft	Date

Client

ROCHE GROUP

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Project

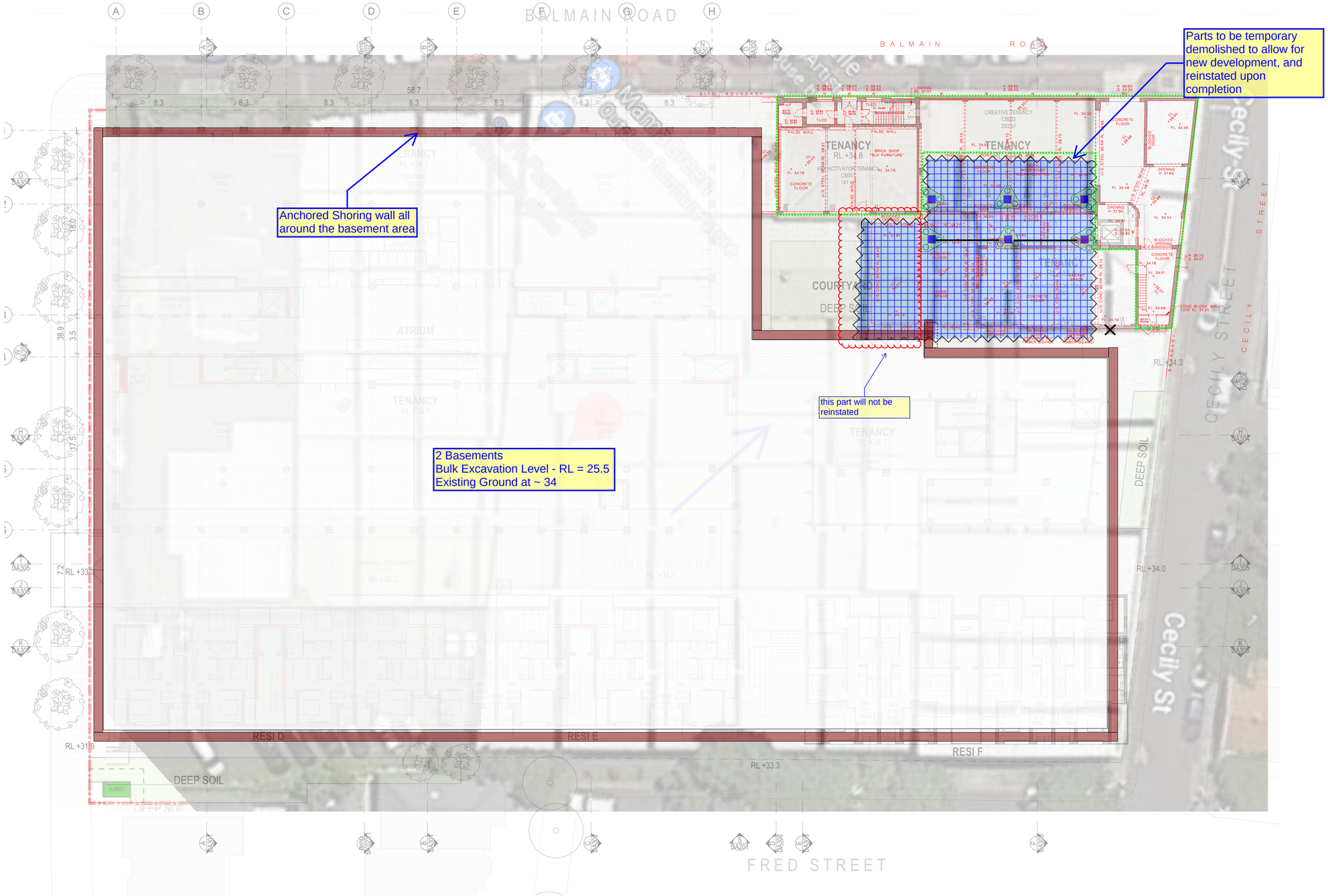
469-483 Balmain Road, Lilyfield

Sheet Subject

Method Statement

Scale at B1	Engineer	Approved By
NTS	TL	RK

Job No	Drawing No	Revision
221004	221004-D-02	0



Rev	Description	Eng	Draft	Date
	230321-221004-Demo-TL-Rev 3			

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Scale at B1	Engineer	Approved By
NTS	TL	RK

Job No	Drawing No	Revision
221004	221004-D-03	0

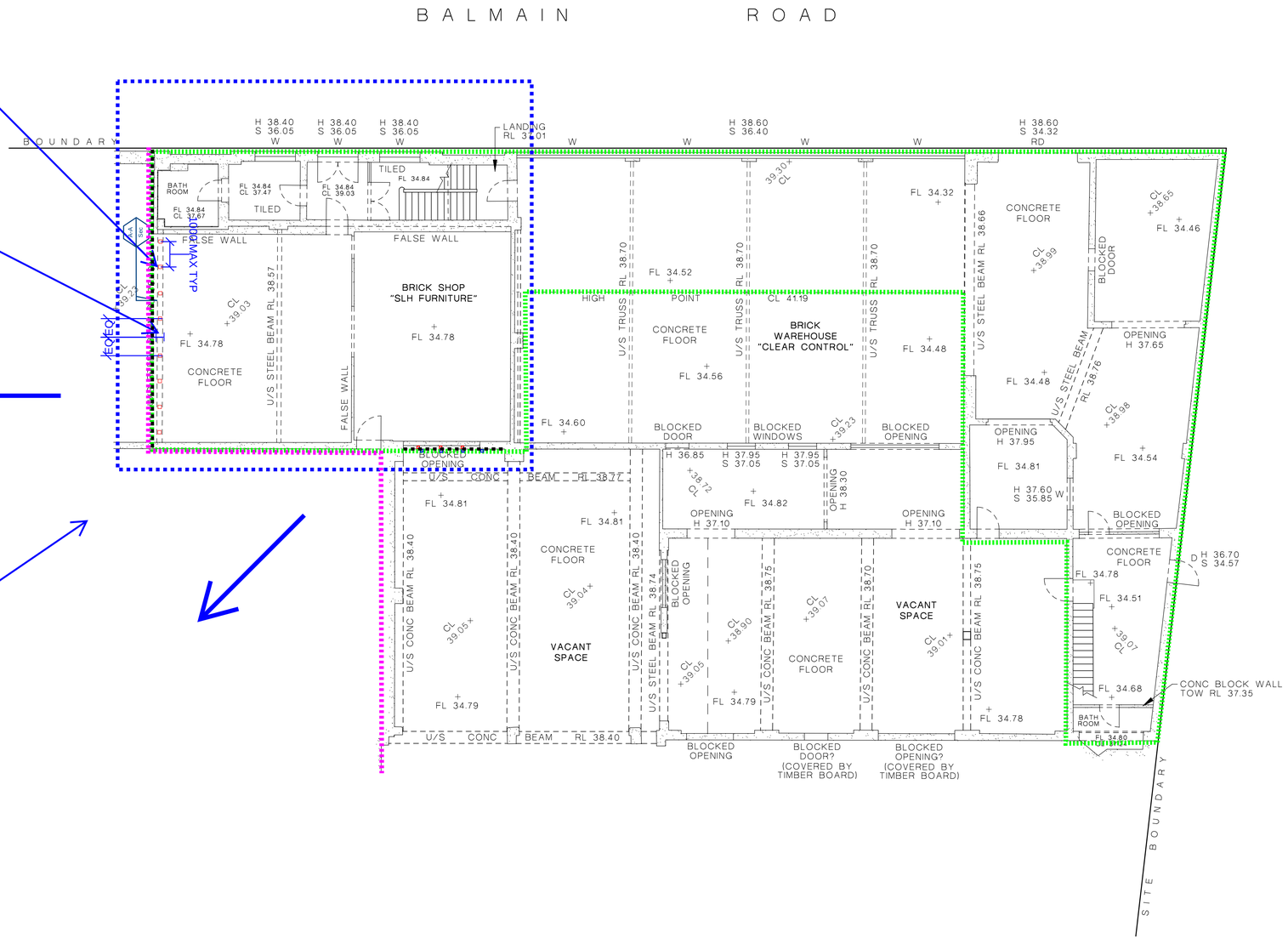
STAGE 1 - KEY ACTIVATOR TENANCY CB001

1. Prop the steel beam with temporary props (Acrow Prop as per section A-A)

2. Install Steel Column (UC) mid span of this beam as a permanent support

Then go to L1

PROGRESS



11. Part of existing building (Outside the pink dash area, in the direction of the blue arrow) to be demolished permanently here after completing all steps beforehand

Demolition to be completed in the order of:
-Roof Truss
-Vertical elements
-slab on grade, saw cut at the point where intersect with the building that will be retained

Then Move to Stage 2

PROGRESS

GROUND FLOOR

230321-221004-Demo-TL-Rev 3

Rev	Description	Eng	Draft	Date

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Scale at B1	Engineer	Approved By
NTS	TL	RK
Job No	**Drawing No**	**Revision**
221004	221004-D-04	0

STAGE 1 - KEY ACTIVATOR TENANCY CB001

3. Install two rows of LVL 63 with tuck screws at
----L1 Celling RL - 500mm
----L1 Floor RL + 500mm

4. Install Helifix DryFix
These are to penetrate through LVL and 2 brick layers
50mm inside the last brick layer,have 500mm spacing TYP

5. 45 degrees LVL to be nailed into the vertical ones, and into existing timber slab on L1

Spacing as shown

PROGRESS

6. Install two rows of LVL 63 with tuck screws at
----L1 Celling RL - 500mm
----L1 Floor RL + 500mm

7. Install Helifix DryFix
These are to penetrate through LVL and 2 brick layers
50mm inside the last brick layer,have 500mm spacing TYP

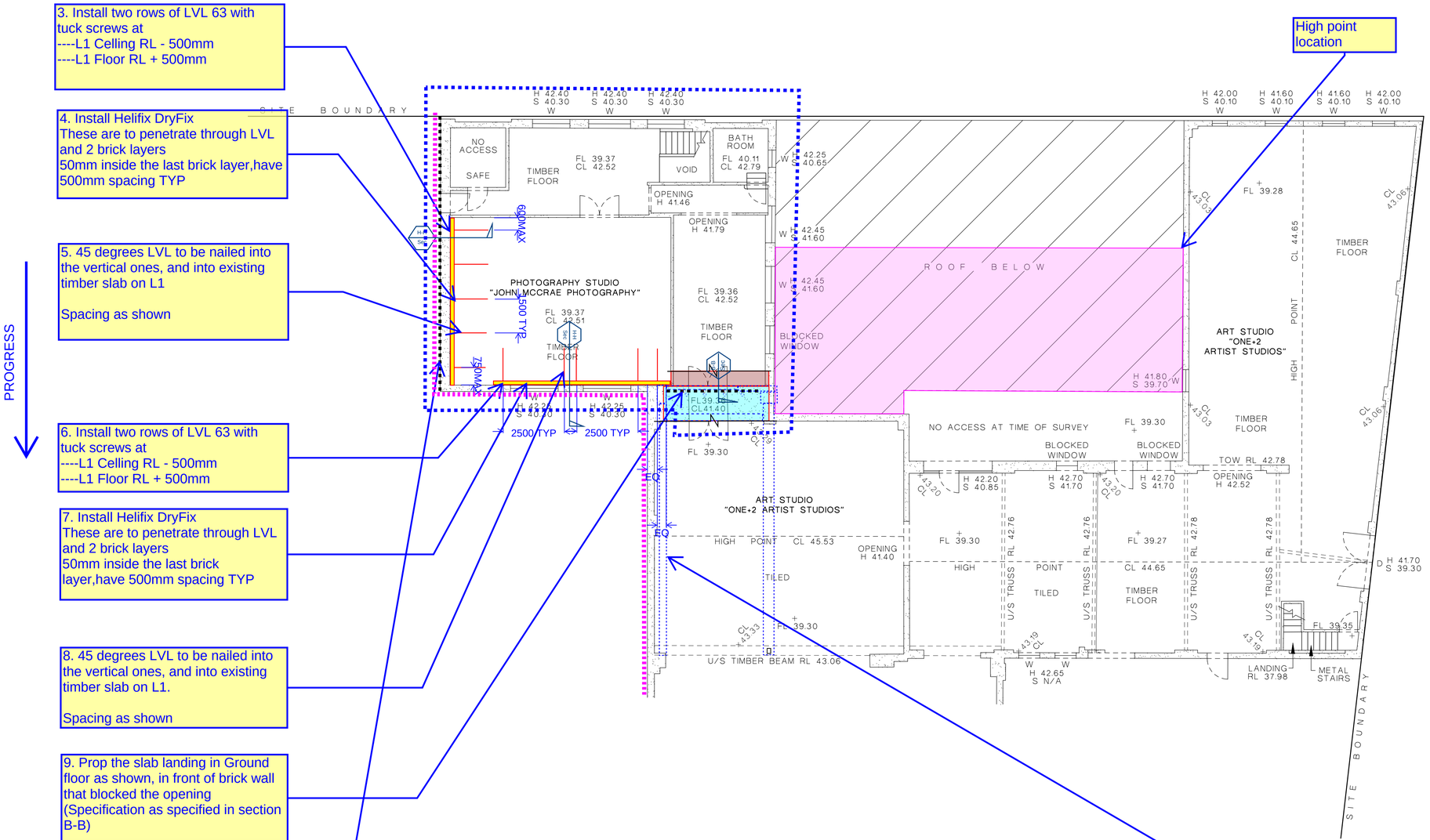
8. 45 degrees LVL to be nailed into the vertical ones, and into existing timber slab on L1.

Spacing as shown

9. Prop the slab landing in Ground floor as shown, in front of brick wall that blocked the opening
(Specification as specified in section B-B)

10. Remove the connection between the demolishing building and retain building (Timber flooring system) along the external face of L1 brick wall (As highlighted in black dash line)

Go back to Ground floor



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	230321-221004-Demo-TL-Rev 3			

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Job No	Drawing No	Revision
221004	221004-D-05	0

PROGRESS

STAGE 2

12. Install Acrow No.4 temporary props at the highlighted location to support existing timber box-out section at the end here

13. Remove the existing steel tube under the high point of existing truss

14. Install timber posts at the location highlighted in brown and red as per section C-C

Brown Square show here denotes the introduced king posts that fix onto existing timber trusses

15. Install timber (Solid Rectangular) and steel (EA) fly braces at the location highlighted in blue, extend to the mid span of purling, as per section D-D, E-E and G-G

15a. Box out sections is continuous at this region as highlighted in red, based on site photo, fly braces **will not** connect onto it as per section G-G

16. Install Steel UC at the highlighted location, connected with existing steel beam

For Base connection, stiffener plate to be installed on four sides to take the friction drag caused by wind on the Roof

17. Remove the existing Roof sheeting and trusses in the area in the order of:

-Roof sheeting and Purling
-Saw cut the timber truss at the location highlighted as

-Remove Truss
-Remove all the vertical elements in the area

17a The blockwork Nib and the box-out beam here must be retained to carry the load from above level

18. Remove the connection between the demolishing building and retain building, in the order of:

- Timber flooring system
- Concrete slab (Saw-cutting only)

Area of Timber Flooring is highlighted in brown

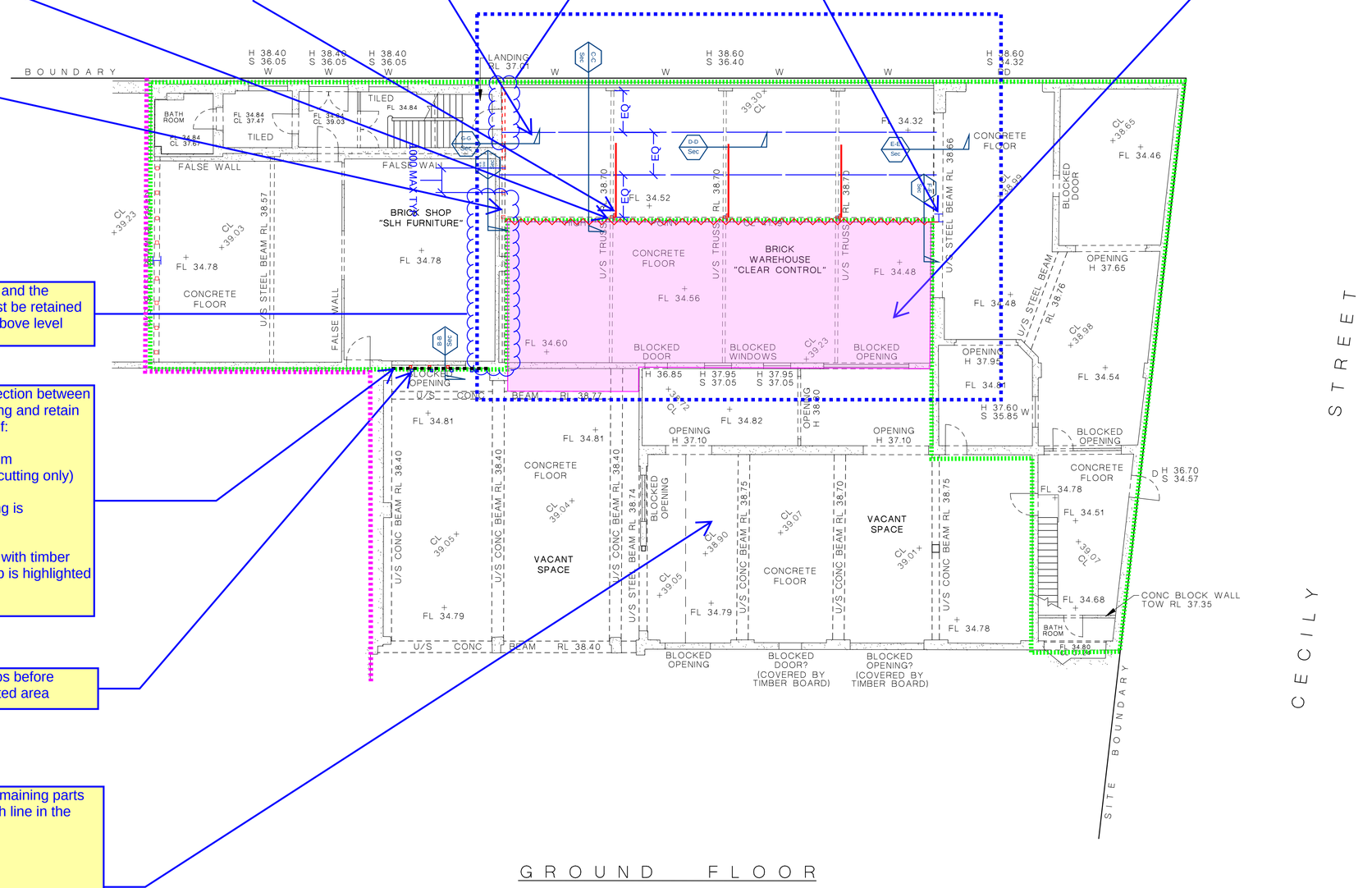
Area of Concrete slab with timber flooring covered on top is highlighted in Blue

19. Remove blue props before demolish the designated area

20.Demolish all the remaining parts outside the green dash line in the order of

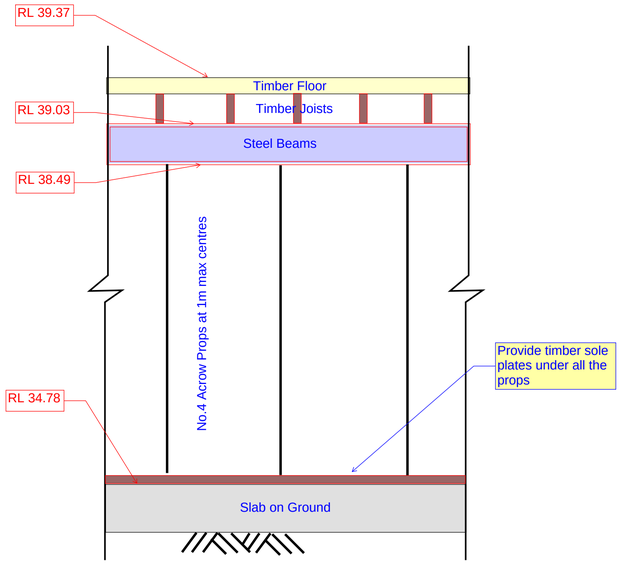
-Roof
-L1 vertical elements
-L1 timber roof
-Steel beam under L1 slab
-Ground floor vertical element
-Ground floor slab on grade, saw cut at the point where intersect with the building that will be retained

PROGRESS

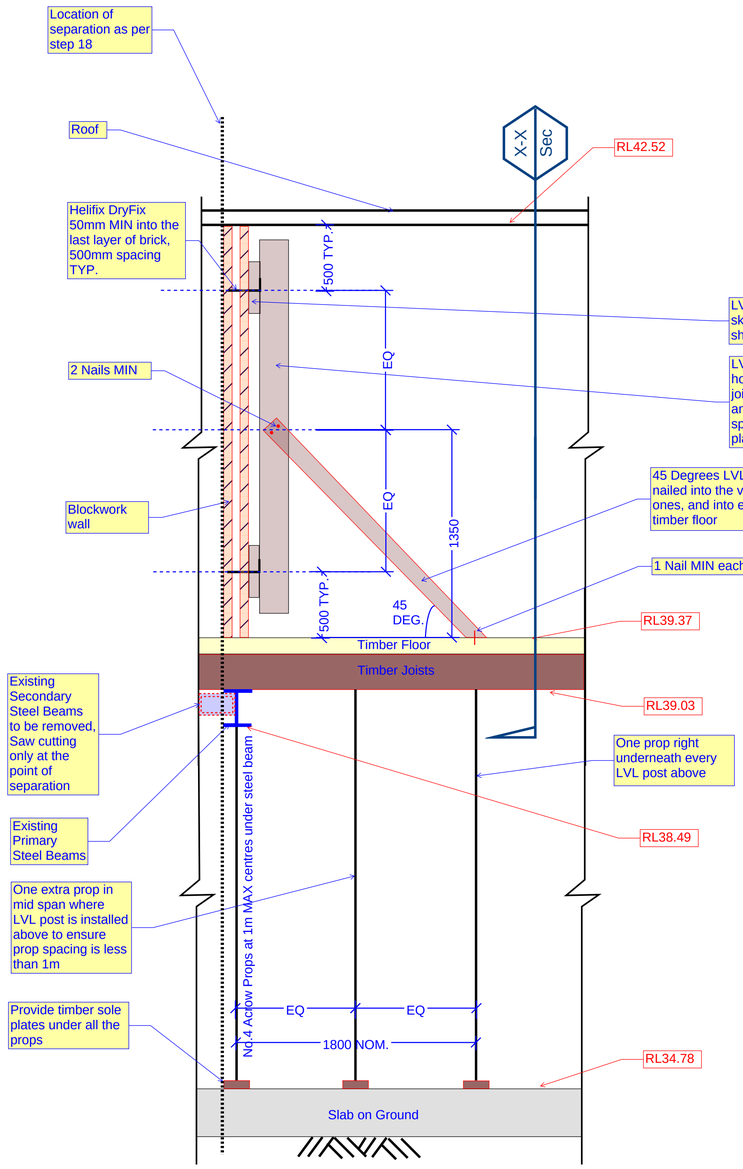


GROUND FLOOR

230321-221004-Demo-TL-Rev 3		Client: ROCHE GROUP	XAVIER KNIGHT	Project: 469-483 Balmain Road, Lilyfield	Scale at B1: NTS; Engineer: TL; Approved By: RK
Rev	Description Eng Draft Date		T : 02 8810 5800 E : info@xavierknight.com.au A : Level 7, 210 Clarence Street, Sydney NSW 2000 xavierknight.com.au	Sheet Subject: Method Statement	Job No: 221004; Drawing No: 221004-D-06; Revision: 0



Section A-A
NOT TO SCALE



Section H-H
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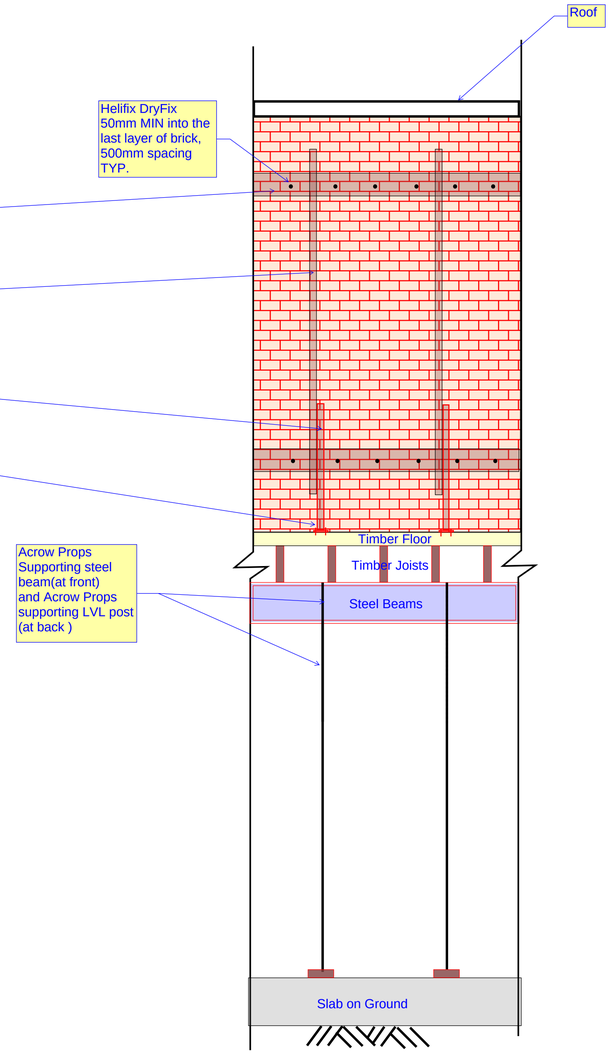

Section X-X
NOT TO SCALE

230321-221004-Demo-TL-Rev 3				
Rev	Description	Eng	Draft	Date

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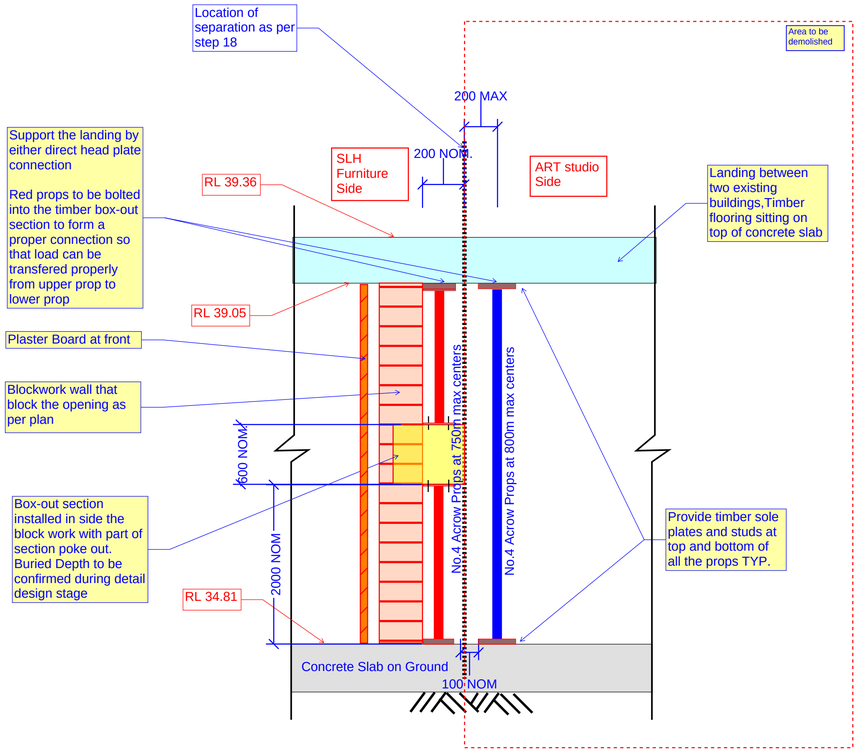
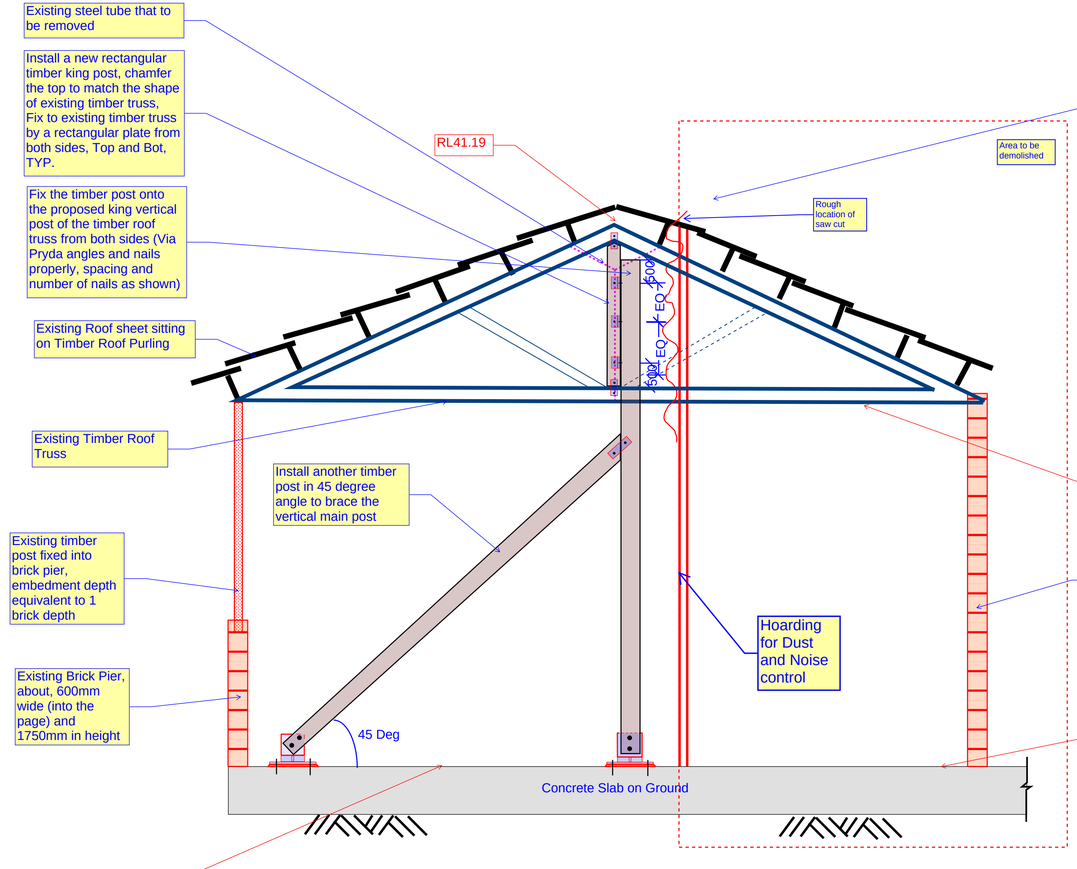
Project: 469-483 Balmain Road, Lilyfield

Sheet Subject: Method Statement

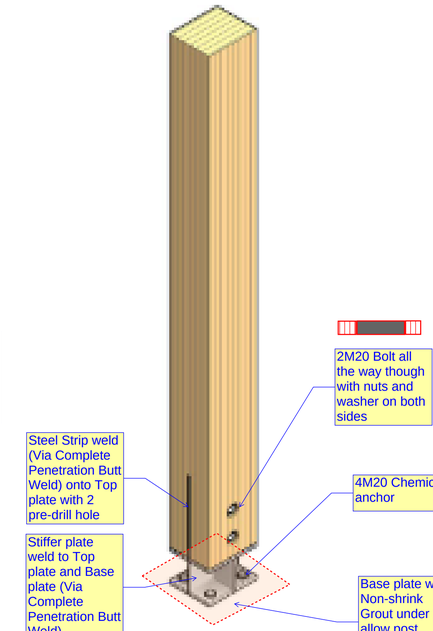
Scale at B1	Engineer	Approved By
NTS	TL	RK
Job No	**Drawing No**	**Revision**
221004	221004-D-07	0



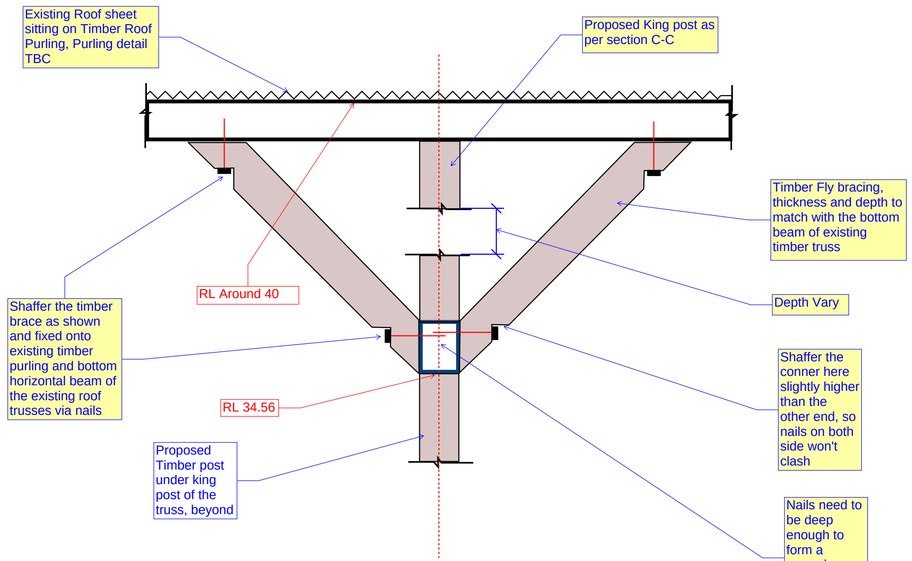
Section B-B
NOT TO SCALE



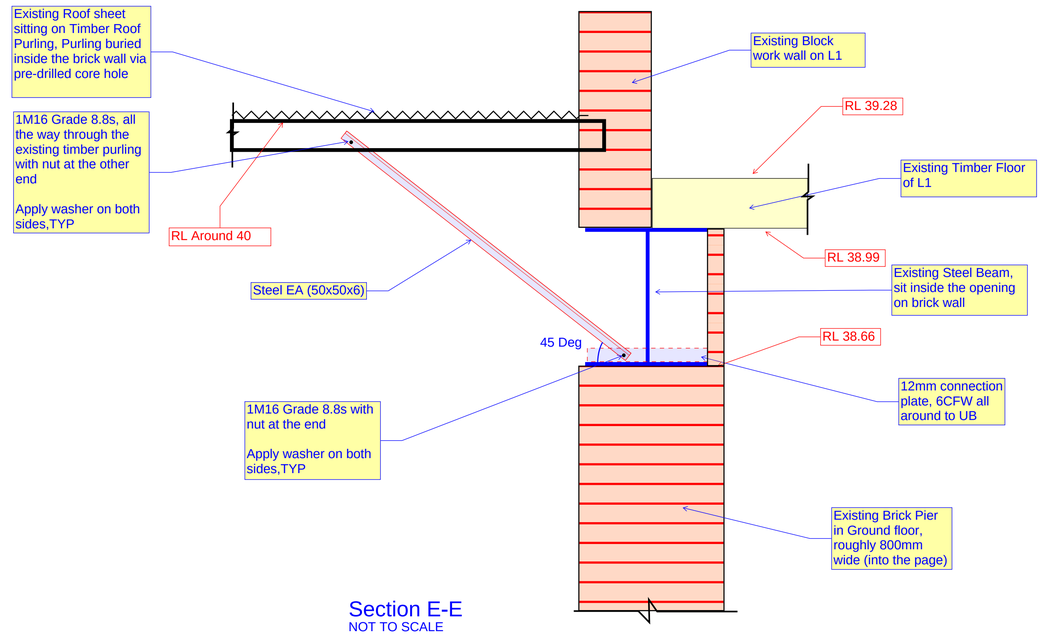
Section C-C
NOT TO SCALE



3D view of the Timber Post Base conection
NOT TO SCALE



Section D-D
NOT TO SCALE

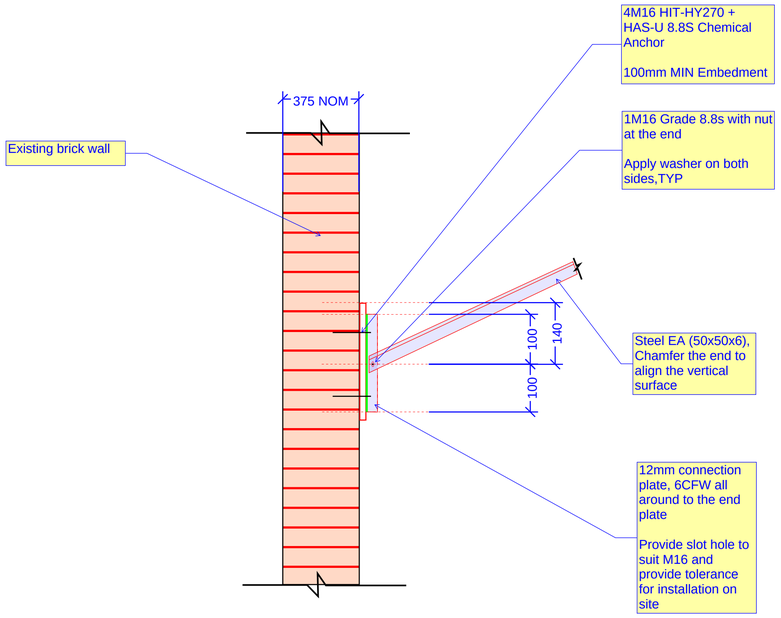


Section E-E
NOT TO SCALE

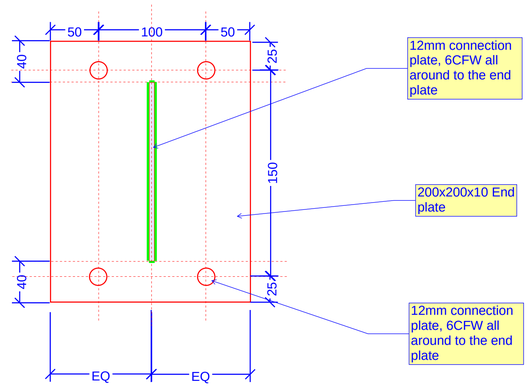
230321-221004-Demo-TL-Rev 3		Client: ROCHE GROUP	XAVIER KNIGHT	Project: 469-483 Balmain Road, Lilyfield
Rev / Description / Eng / Draft / Date			T : 02 8810 5800 E : info@xavierknight.com.au A : Level 7, 210 Clarence Street, Sydney NSW 2000 xavierknight.com.au	Sheet Subject: Method Statement

Scale at B1	Engineer	Approved By
NTS	TL	RK

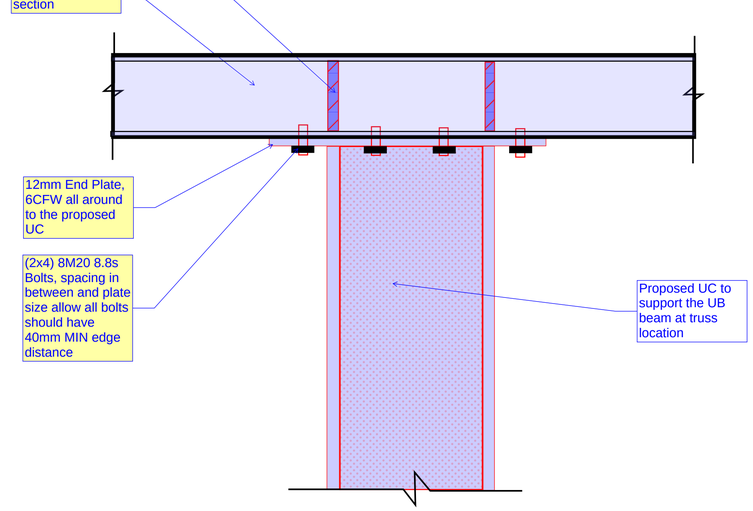
Job No	Drawing No	Revision
221004	221004-D-08	0



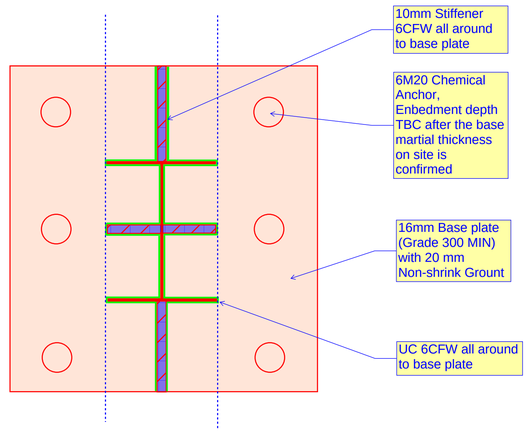
Section G-G
NOT TO SCALE



EA Base Plate Connection
NOT TO SCALE



Section F-F
NOT TO SCALE



UC Column Base Plate Connection
NOT TO SCALE

230321-221004-Demo-TL-Rev 3	Client: ROCHE GROUP	Project: 469-483 Balmain Road, Lilyfield	Scale at B1: NTS
Rev / Description / Eng / Draft / Date	XAVIER KNIGHT	Sheet Subject: Method Statement	Engineer: TL
	T : 02 8810 5800 E : info@xavierknight.com.au A : Level 7, 210 Clarence Street, Sydney NSW 2000 xavierknight.com.au		Approved By: RK
			Job No: 221004 / Drawing No: 221004-D-09 / Revision: 0

XK Safety in Design Register

Project Name: 469-483 Balmain Road, Lilyfield

PROJECT # 221004

Overview:

Safe design is about the integration of control measures early in the design process of structures to eliminate or, if this is not reasonably practicable, minimise risks to health and safety throughout the life of the structure being designed.

This register provides a record of identification, risk assessment and management of hazards. It provides the required content for a SiD Report that is issued to the client if required based on the characteristics of hazards, ie. Engineering design components of the subject structure(s) that we have been engaged to provide and that meet the following criteria:

a) Those components that are unusual or unique to this type of structure; and

b) Any residual risks that we are aware of which may present significant health and safety risks to those carrying out construction work.

As designers, we have legal obligations under the Work Health and Safety Act. If you are not aware of these responsibilities, please refer to XK's Safety in Design Manual and the NSW SafeWork's Code of Practice "Safe Design of Structures".

Last updated: DD.MM.YYYY **Updated By:** Name **SAFETY REPORT Required:** NO

Hazard Type	Hazard Description	Nature of Hazard	Responsible Party	Initial Risk Assessment			Controls: Action taken (or required) to design out hazard or minimise the associated risks	Residual Risk Assessment		
				Likelihood *Select from drop down menu*	Consequence *Select from drop down menu*	Level of Risk *Auto populated*		Likelihood *Select from drop down menu*	Consequence *Select from drop down menu*	Level of Risk *Auto populated*
Demolition	Demolish section of structure that is not to be demolished, due to lack of understanding on scope of works	Typical	Others	Likely	Serious Consequence: Non-Permanent	*Unacceptable*	•A meeting with the principal contractor, demolition contractor and other relevant parties to be arranged prior to the beginning of demolition works and issues resolved. •Detailed method statement has been provided by XK clearing out the areas to be demolished with sections and details	Very Unlikely	Serious Consequence: Non-Permanent	*Acceptable*
Demolition	Overloading existing structure with construction loads	Typical	Others	Likely	Serious Consequence: Permanent or Lethal	*Unacceptable*	•Detailed method statement has been provided by XK clearing out the areas to be demolished with sections and details •The capacity of existing structures has been checked and we have issued advice advising if existing structures have enough capacity or not •Where the capacity of the existing structure was insufficient, solutions have been developed using temporary propping has been provided to avoid overloading	Very Unlikely	Serious Consequence: Permanent or Lethal	*Acceptable*
Demolition	Unplanned failure of entire or parts of the structure	Typical	Others	Likely	Serious Consequence: Non-Permanent	*Unacceptable*	•Demolition drawings or sketches including demolition extents; existing structure to be retained; proposed demolition sequence; advice regarding temporary propping and bracing; etc. have been issued •We have confirmed with the Client if the design of temporary propping and bracing was within our scope of works. Our level of advice and documentation reflected our scope of works.	Very Unlikely	Serious Consequence: Non-Permanent	*Acceptable*
Demolition	Demolition plans – unplanned failure of structure during demolition that causes injury or death	Typical	Others	Likely	Serious Consequence: Permanent or Lethal	*Unacceptable*	•Our scope of works regarding the demolition has been reviewed e.g. does our scope include a detailed methodology and/or plans showing stages of demolition •Our level of advice and documentation reflected our scope of works •Extra detail and care was taken for unusual areas or zones of high complexity	Very Unlikely	Serious Consequence: Permanent or Lethal	*Acceptable*