

Date: 19 May 2014

GHAZI AL ALI ARCHITECT**Unit 2H, Redmyre Rd****Strathfield 2135**

Dear Ghazi,

RE: 175-177 Cleveland St Redfern

Structural Report

This report describes the concept structural design of the proposed mixed use student accommodation & residential building at 175-177 Cleveland St Redfern as well as addressing the DGR's (Director General's Requirements) applicable to the structural design & construction of the building at the above site.

Description of Structure:

The excavation will be retained by a system of reinforced concrete soldier piles founded on rock at about 2500 centres with shotcrete walls and temporary anchors. The basement slab will be a concrete slab on ground.

Suspended floors will be of reinforced & post tensioned construction bearing on conventional reinforced concrete columns, walls or AFS walls.

Transfer walls, slabs, and beams will be required at Lower Ground and Ground floor levels where columns do not align. The Architect has allowed for adequate storey heights to allow for these transfer elements.

The entire structure has been conceptually designed and sketches at A3 size and 1:200 scale are attached for reference.

Allowance for lightweight non load bearing walls has been made in the design. Party walls will be of hebel and stud construction which will provide both the required fire rating and acoustic requirements that the BCA requires.

Director Generals Requirements;

The following issues have been addressed in the structural design and are to be addressed by the builder in their construction procedures.

European & Aboriginal Heritage. The significance of any buried items that may be of any heritage significance can be assessed by an Archaeological dig at the completion of demolition of existing buildings on the site just prior to construction of perimeter retention walls and bulk excavation for the basement. Access to the site by a registered Heritage Archaeologist will be provided for this purpose and the excavation will only proceed once their assessment is completed.

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Trading as Waterman AHW Pty Ltd
ACN 100 904 738 | ABN 11 100 904 738



Noise

The excavation of the lower basement is likely to be in shale or sandstone rock and noise will be unavoidable. The noise, however, will be minimized by the adoption of rock cutting saws instead of rock breakers where practical. Noise levels will be monitored by the builder.

Construction Procedure:

1. Construct piling to perimeter basement wall at the conclusion of the Archeological assessment.
2. Excavate basement installing temporary anchors and shotcreting the perimeter walls as excavation proceeds in stages down to bulk excavation level.
3. Detailed excavation of pad footings on rock for internal columns, walls and lift pits.
4. Construct walls columns and suspended Lower & Ground Floor levels.
5. De-stress temporary retention wall anchors.
6. Construct suspended floors in conventional manner up to roof level. Material to the site would be loaded from trucks to the upper floors by a tower crane.
7. Internal fit out of non loadbearing walls can commence.

There would most likely be a screen system to the perimeter of the floor plates which provides safety to the workers and the ability to build the façade to enclose the structure

Confidence in the structure.

We have thoroughly sketched and studied the building in terms of architecture, strength and serviceability. We have arranged the vertical elements to carry the gravity loads. Some transfer beams have been necessary to support the upper levels.

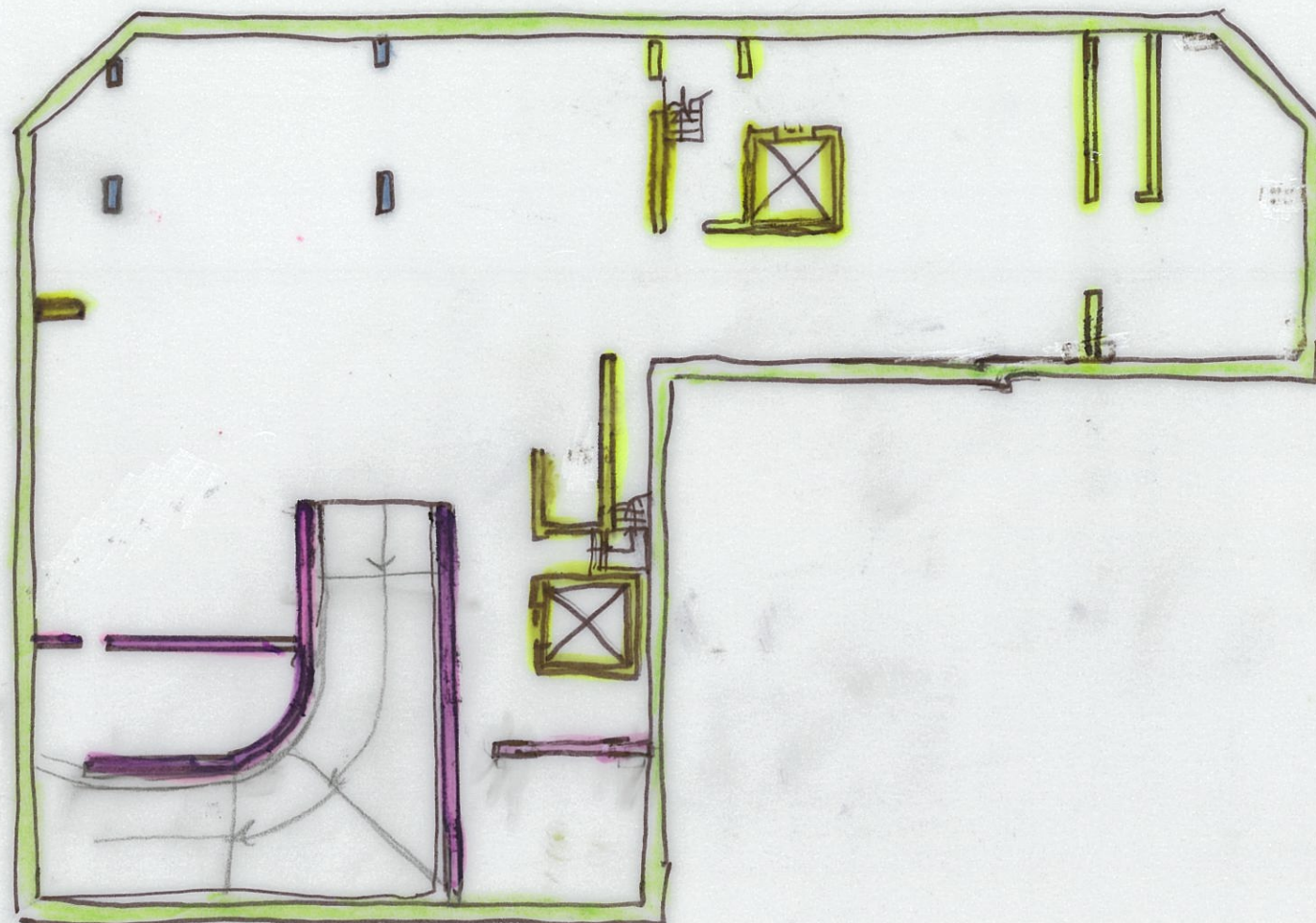
The building will be designed in accordance with the Australian Standards, the BCA and good building practice.

Yours Sincerely,

Waterman AHW Pty Ltd

Steven Marshall BE. MEng. Sc. MIEAust. CPEng

Associate Director

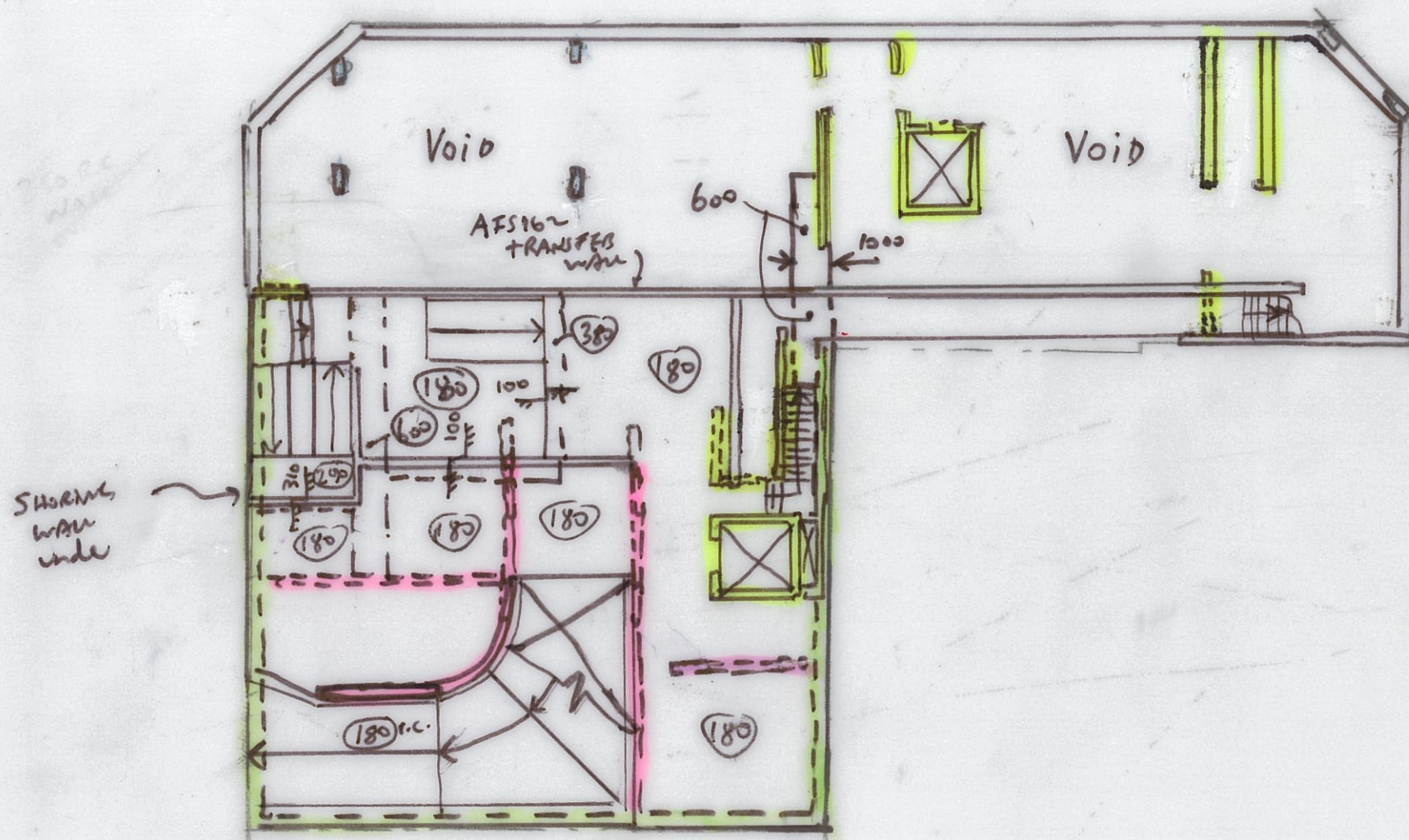


LEGEND (TYPICAL ALL DRAWINGS)

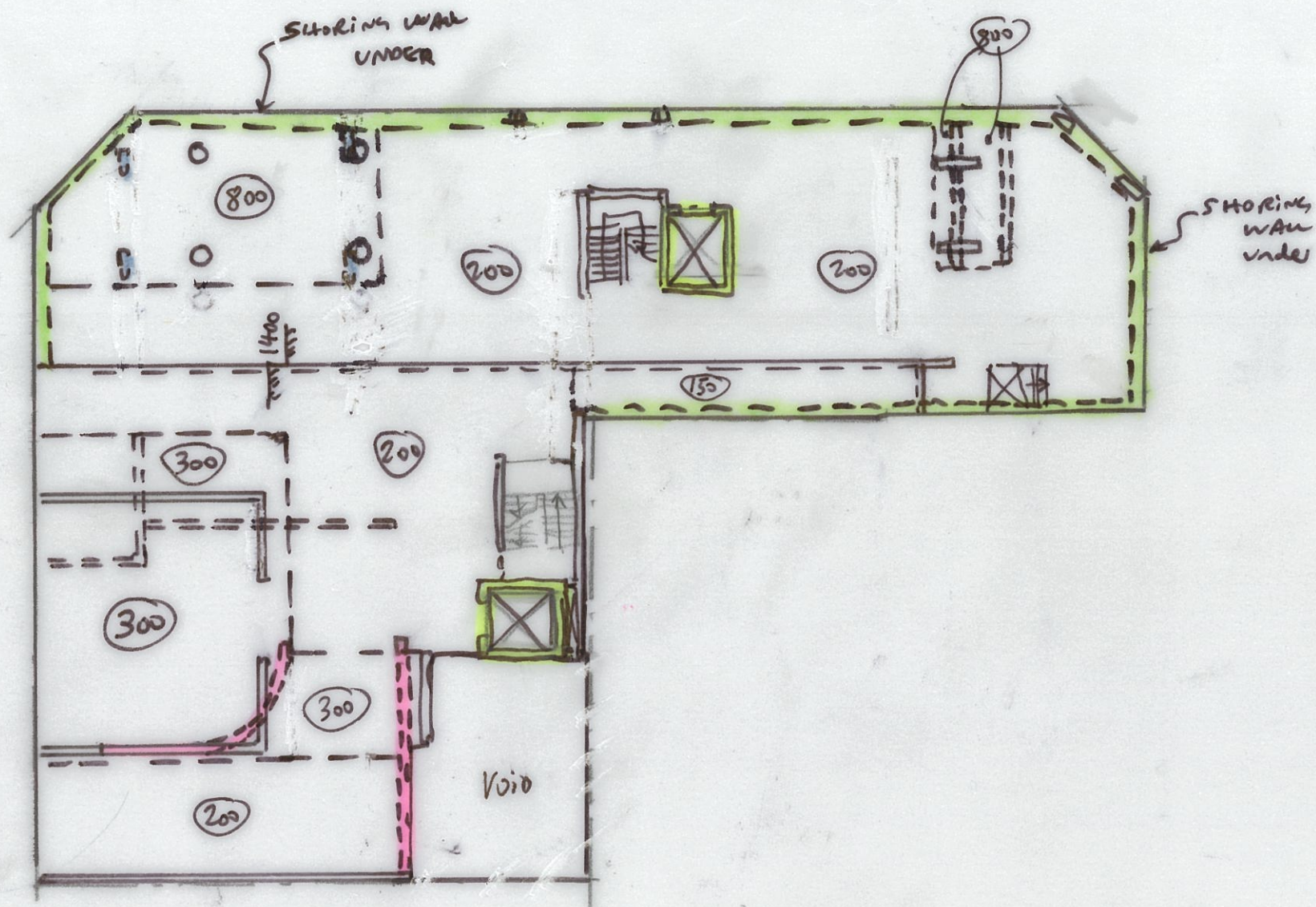
- R.C. COLUMNS
- 200 AFS WALLS
- 162 AFS WALLS
- Retention Wall

Basement

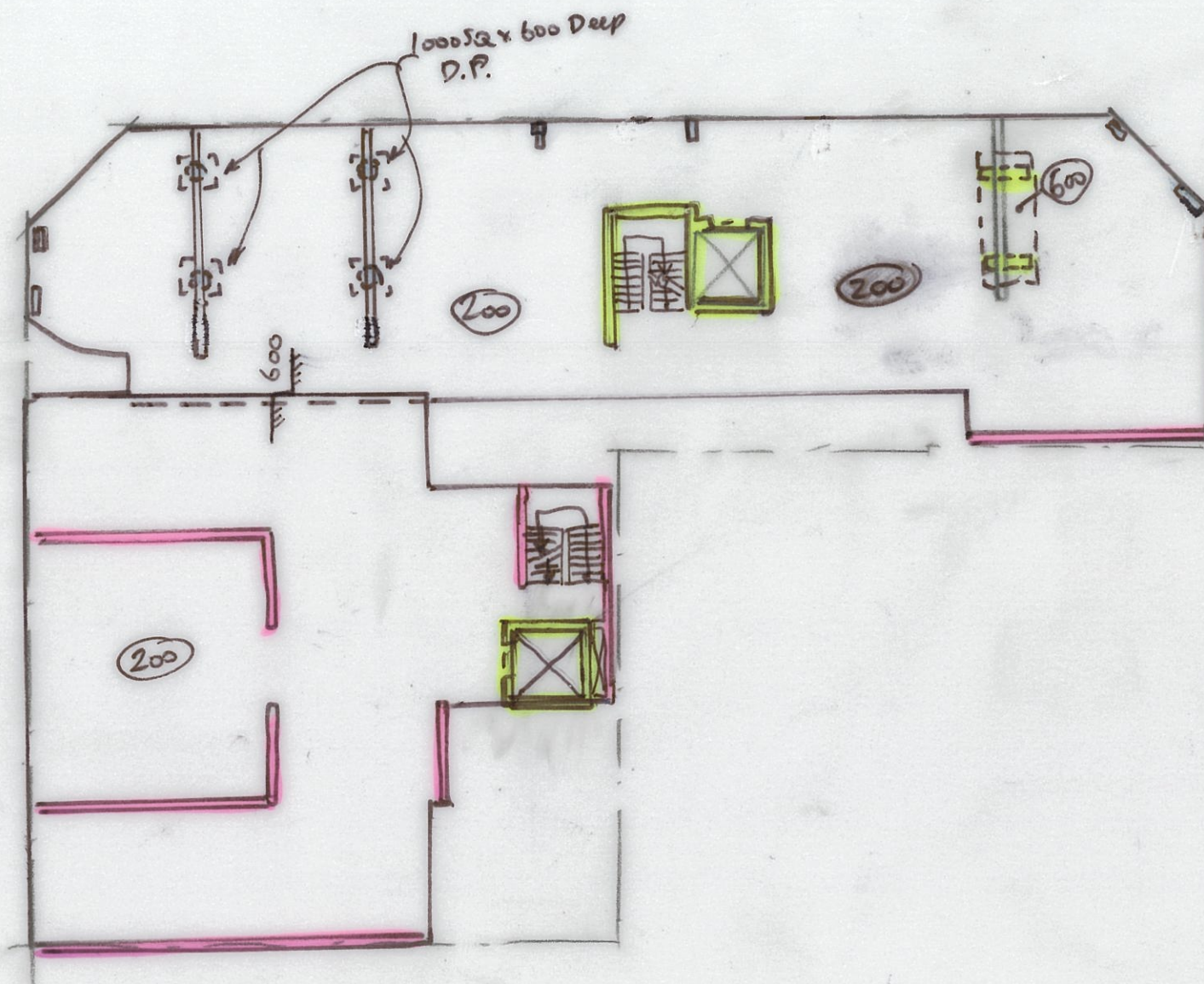
Waterman AHW Consulting Engineers		Project 175-177 CLEVELAND ST	Title BASEMENT PLAN	Date 19/5/14	Design SM	Scale 1:200 @A3
Waterman AHW Pty Ltd Level 4 10 Help Street Chatswood NSW 2067, Australia		Tel 02 9411 9900 Fax 02 9415 1717 Email: cmanager@wahw.com.au Internet: www.wahw.com.au ABN 11 100 904 738 ACN 100 904 738		Job Number	Sketch Number SK01	Rev A



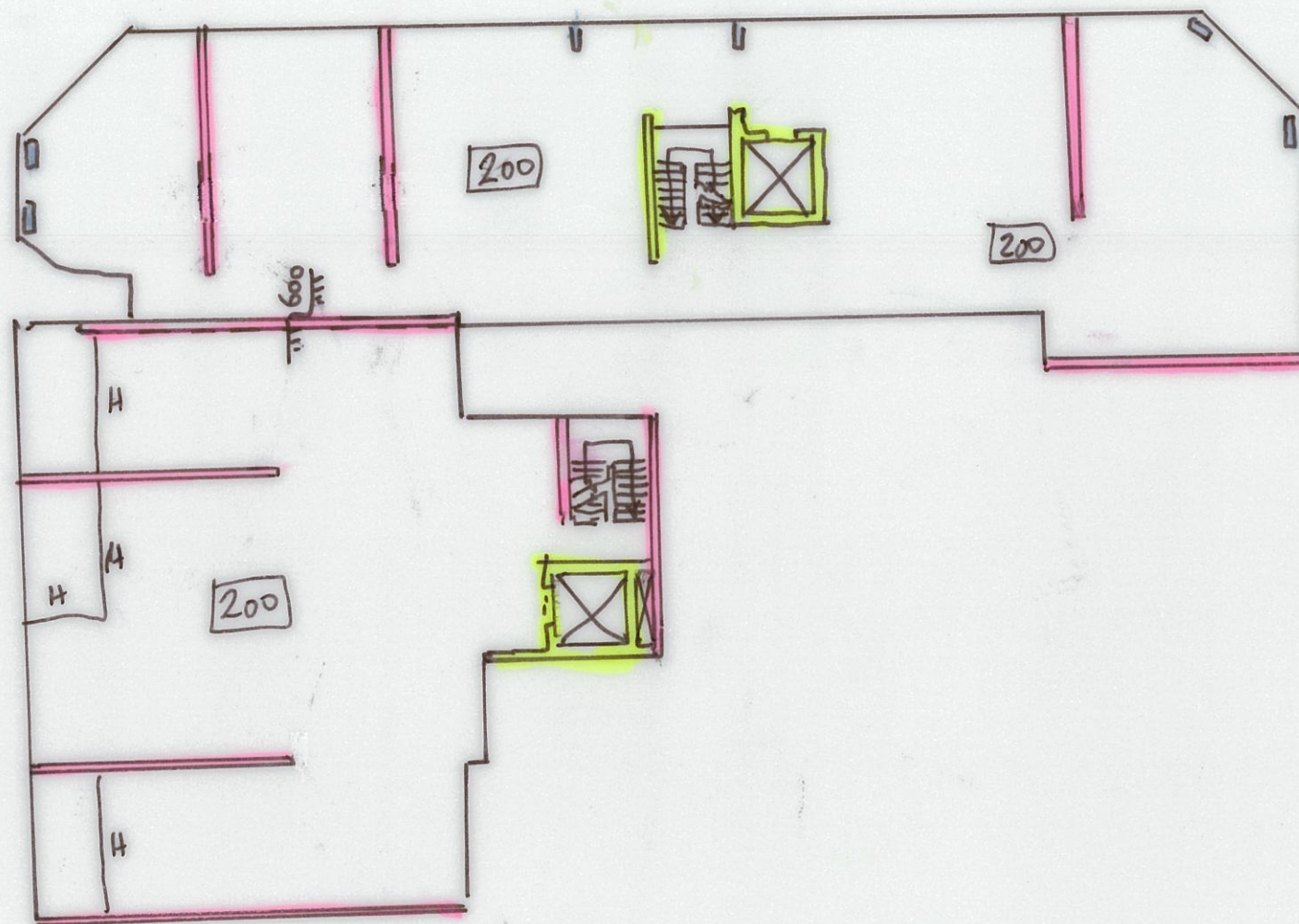
Waterman AHW Consulting Engineers Waterman AHW Pty Ltd Level 4 10 Help Street Chatswood NSW 2067, Australia	Project 175-177 CLEVELAND ST.	Title LOWER GROUND PLAN	Date 19.5.14	Design SM	Scale 1:200 @A3
			Job Number	Sketch Number SK02	Rev A



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			Job Number	Sketch Number SK03	Rev A

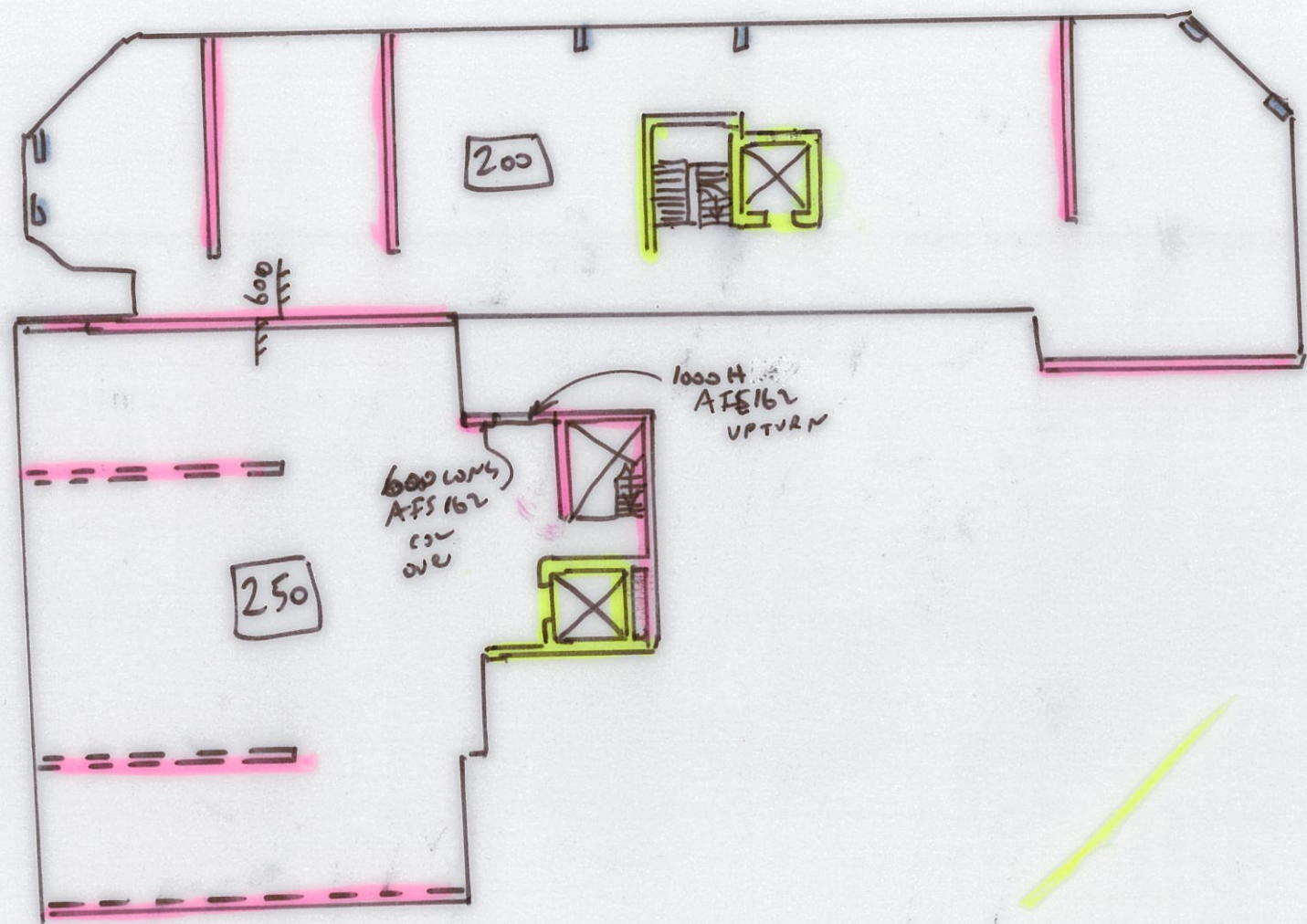


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			Job Number	Sketch Number SK04	Rev A

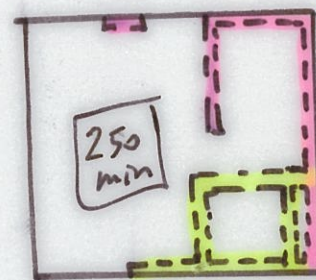
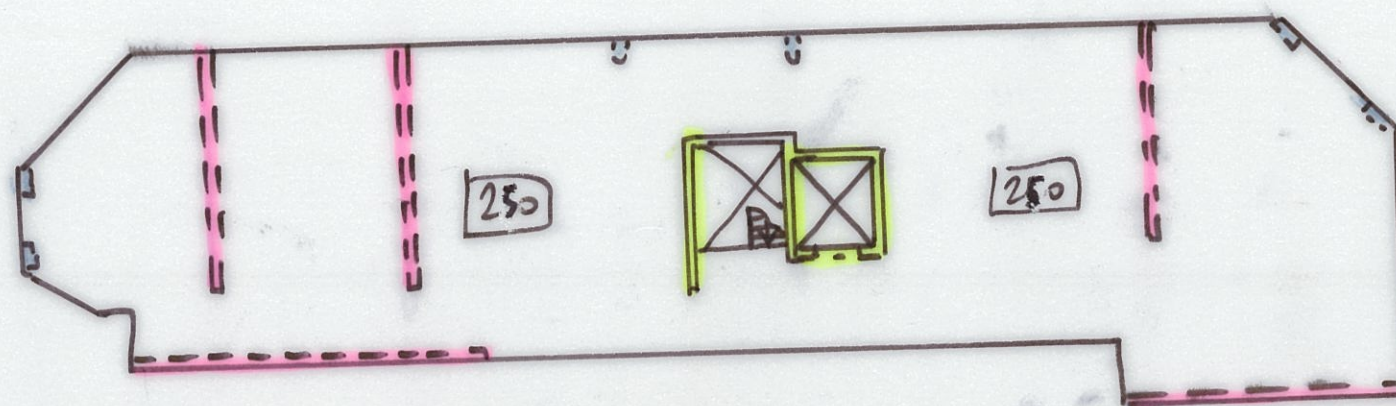


Level 2 & 3

Waterman AHW Consulting Engineers Waterman AHW Pty Ltd Level 4 10 Help Street Chatswood NSW 2067, Australia	Project 175-177 CLEVELAND ST	Title LEVELS 2 & 3 PLAN	Date 19.5.14	Design SM	Scale 1:200 @ A3
			Job Number	Sketch Number SK05	Rev A



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		175-177 CLEVELAND ST.	LEVEL 4 PLAN		19.5.14	SM	1:200 @A3
		Job Number	Sketch Number	Rev			
			SK06	A			



↑ PT SLAB.

← R.C LIP.

LS ROOF

 Waterman AHW Consulting Engineers	Project 175-177 CLEVELAND ST.	Title LEVEL 5 ROOF PLAN	Date 19.5.14	Design SM	Scale 1:200 @ A3
Waterman AHW Pty Ltd Level 4 10 Help Street Chatswood NSW 2067, Australia	Tel 02 9411 9900 Fax 02 9415 1717 Email: cmanager@wahw.com.au Internet: www.wahw.com.au ABN 11 100 904 738 ACN 100 904 738		Job Number	Sketch Number SK07	Rev A