

# BUSHFIRE HAZARD ASSESSMENT

**307-321 Cranebrook Rd, Cranebrook NSW**

PREPARED FOR: Maryann Bastac

OUR REFERENCE: REP-164414B

ISSUE DATE: 13<sup>th</sup> March 2015



**CONTROLLED DOCUMENT**

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## Executive summary.

EnviroTech Pty. Ltd. was engaged by Mrs Maryann Bastac, to conduct a Bushfire Hazard Assessment at 307-321 Cranebrook Rd, Cranebrook NSW (hereafter referred to as the site) to address the restraints and requirements in the context of potential bushfire risk. The report is to accompany a development application for the construction of a single storey residential house and shed.

The site is situated on Cranebrook Rd approximately 5 km north of Penrith. The area is rural residential with the surrounding areas made up of a mixture of large predominantly cleared blocks and forested vegetation surrounding the site. The site is currently vacant and vegetation is present across the entire site however past land use practices have resulted in the clearing of the understorey across most of the site. The site is approximately 2.1 hectares in size.

The site is identified as bushfire prone land as per the Penrith Bushfire prone land map (see figure 3. Below). As such the following report addresses the requirements of section 79BA of the *Environmental Planning and Assessment Act 1979* and the planning provisions of *Planning for Bushfire Protection (PBP) 2006*.

On site topography slopes up from a creekline / stormwater channel running along the eastern border towards the west. The vegetation consists of forested vegetation with a predominantly cleared understorey.

To the north of the site is a cleared grassland area sloping upwards towards a commercial nursery.

The property to the east consists of an occupied residential block with vegetation across the site most suitable to woodlands. The effective slope is upslope.

The block to the south is a predominantly cleared residential block.

To the west of the site is forested vegetation with an effective upslope from the proposed dwelling.

The land is identified as Bushfire prone land, containing predominantly Bushfire prone land – category 1 vegetation over the entire site (see Figure 3).

The proposal is for the construction of a single storey residential dwelling and associated shed. The approximate dimensions of the house will be 19 m by 32 m. Refer to Appendix I for plans and design.

The assessment in line with Appendix 2 of PBP and Method 1 of AS3959 determined that the building is to be constructed to BAL29 for the eastern, southern and western exterior and BAL 19 on the northern exterior. APZs of between 25 m and 32 m have been allocated and are to be created and maintained in accordance with Appendix 3 of PBP 2006.

The proposed development is capable of meeting the requirements of Planning for bushfire Protection 2006 with regards to Asset protection zones, siting and design, construction standards, access requirements, water and utility services and landscaping and as such is suitable for approval on the basis of Bushfire.

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# 1. Introduction

## 1.1 Background

EnviroTech Pty. Ltd. was engaged by Mrs Maryann Bastac, to conduct a Bushfire Hazard Assessment at 307-321 Cranebrook Rd, Cranebrook NSW (hereafter referred to as the site) to address the restraints and requirements in the context of potential bushfire risk. The report is to accompany a development application for the construction of a single storey residential house and shed.

The site is situated on Cranebrook Rd approximately 5 km north of Penrith. The area is rural residential with the surrounding areas made up of a mixture of large predominantly cleared blocks and forested vegetation surrounding the site. The site is currently vacant and vegetation is present across the entire site however past land use practices have resulted in the clearing of the understorey across most of the site.

A site inspection was carried out on the Wednesday the 3<sup>rd</sup> of December 2014 which involved a walkover inspection of the site and surrounding areas. Vegetation was assessed out to 140m in each direction from the proposed development and slope assessed to 100m. The findings have been summarised below.

The site is identified as bushfire prone land as per the Penrith Bushfire prone land map (see figure 3. Below). As such the following report addresses the requirements of section 79BA of the *Environmental Planning and Assessment Act 1979* and the planning provisions of *Planning for Bushfire Protection (PBP) 2006*.

Site design, bushfire risks and the APZ requirements have been assessed against the requirements of PBP 2006, in particular 4.3

## 1.2 Objectives

The objectives of the Bushfire Hazard Assessment were to:

- Assess the site and surrounds as per Appendix 3 of Planning for Bushfire Protection 2006 & Method 1 of Australian Standard 3959;
- Review the proposal in the context of the requirements outlined within PBP 2006;
- Provide recommendations in regards to building requirements and standards; and

- Give recommendations on preferred locations of dwellings, necessary APZs and any necessary alterations to current plans to satisfy the requirements of PBP 2006.

### **1.3 Scope of Works**

The scope of works included the following:

- Assess the site against Planning for Bushfire Protection 2006;
- Address the requirements of section 79B of the Environmental Planning and Assessment Act 1979;
- Provide advice on any necessary Asset Protection Zones as per PBP 2006.

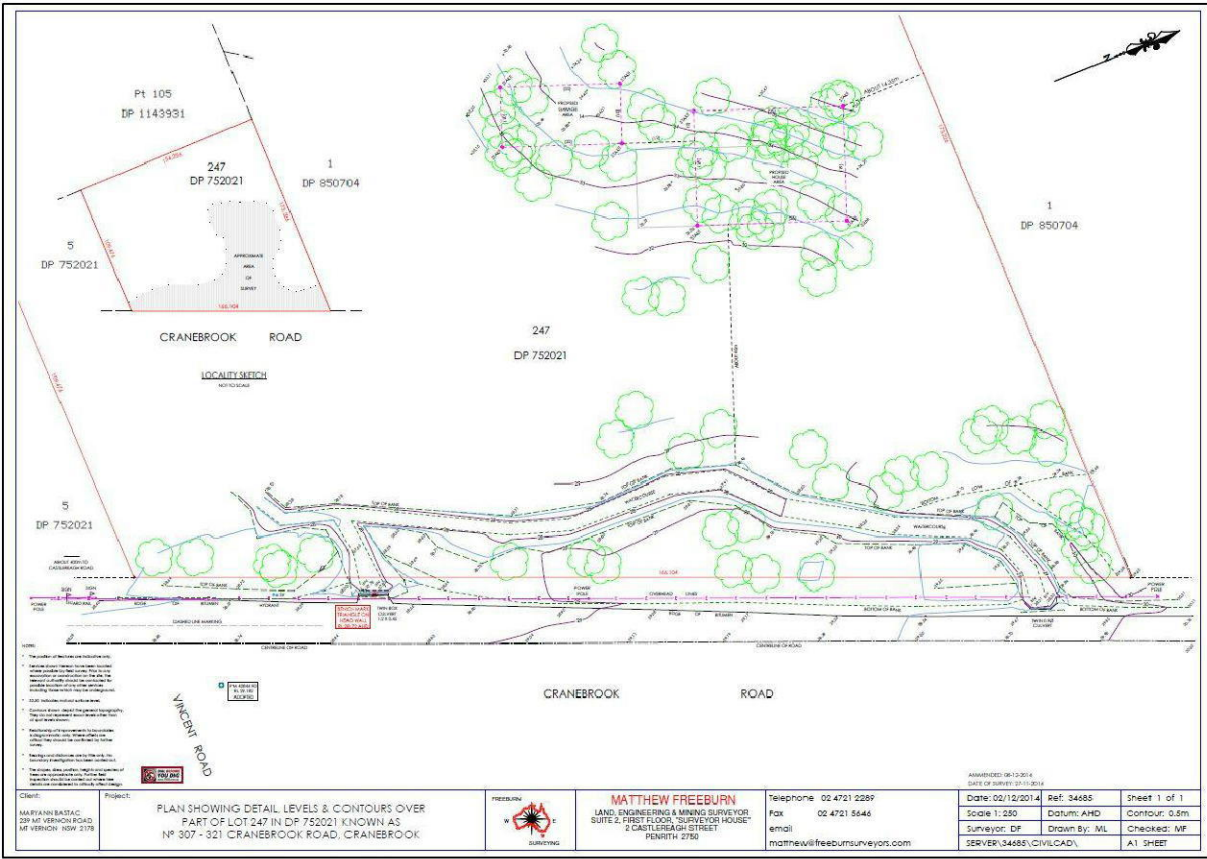
### **1.4 Legislative Requirements**

- *Section 79BA Environmental Planning and Assessment (EPA) Act 1979*
- *Planning for Bushfire Protection 2006*
- *Australian Standard 3959 – Construction of buildings in bushfire prone areas*

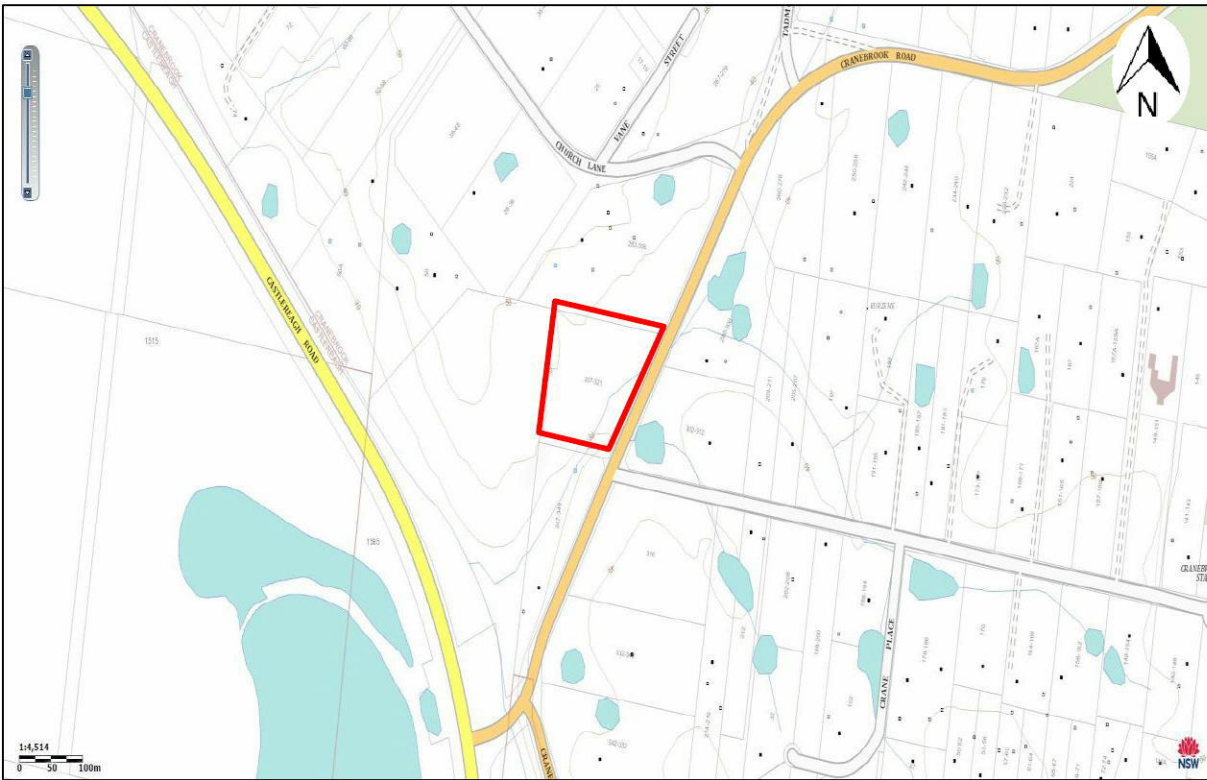
### **1.5 Context of report**

This report is to be read in its entirety and should not be review in individual section to provide any level of information independently. Each section of the report relates to the rest of the document and as such is to be read in conjunction, including its appendices and attachments.

Figures 1, 2, 3 and 4 below provide a concept plan of the subdivision and details of the surrounding area of the site, location of the site in relation to surrounding land and topography, the bushfire prone land, and the aerial map of the site respectively.



**Figure 1.** Potential lot layout at 307-321 Cranebrook Rd, Cranebrook NSW



**Figure 2.** Topographic map of area and surrounds (Accessed maps.six.nsw.gov.au, accessed on the 05.12.14)





**Figure 3.** Penrith LGA Bush Fire Prone Land map



**Figure 4.** Aerial photograph of the site and lines indicating 140 m distance from the boundary of the site (accessed via [www.NearMap.com](http://www.NearMap.com) on the 3.12.2014)

## **2.0 Site Description**

### **2.1 Existing site description**

The site is identified as Lot 247 of Deposited Plan 752021. The site consists of a predominantly vegetated block sloping up to the west. The site is approximately 2.1 hectares in size.

On site topography slopes up from a creekline / stormwater channel running along the eastern border towards the west. The vegetation consists of forested vegetation with a predominantly cleared understorey.

### **2.2 Surrounding properties**

To the north of the site is a cleared grassland area sloping upwards towards a commercial nursery.

The property to the east consists of an occupied residential block with vegetation across the site most suitable to woodlands. The effective slope is upslope.

The block to the north is a predominantly cleared residential block.

To the west of the site is forested vegetation with an effective upslope from the proposed dwelling.

The land is identified as Bushfire prone land, containing predominantly Bushfire prone land – category 1 vegetation over the entire site (see Figure 3).

### **2.2 Vegetation description and slope**

**North** – To the north of the site there is managed residential properties and grassland. The slope is considered up slope

**East** - To the east of the site is managed grassland. A small portion of woodland is present at the bottom of the site which abuts the south-eastern corner of the property. The vegetation is consistent with woodland. The slope is 0-5 degrees downslope.

**South** - Vegetation immediately adjacent the southern boundary of the site is considered woodland due the lack of any mid-storey, the managed grassland present and the sparse nature of the spread of trees occurring. This vegetation is considered upslope of the proposal (refer to figure 5 for detailed aerial overview). Approximately 35m south of the site vegetation structure changes and an area of younger more dense eucalyptus trees which have been identified as having the potential to establish a forest vegetation structure and as such this has been classified as forest.

**West** – The predominant vegetation to the west is considered grassland and is up slope of the site.



**Figure 5. Vegetation to the north with an effective upslope**



**Figure 6. Vegetation to the east, forested area with an effective downslope of 0-5°.**



**Figure 7. Vegetation to the south with an effective downslope of 0-5°**



**Figure 8. Vegetation to the west with an effective upslope**

## 2.3 The proposal

The proposal is for the construction of a single storey residential dwelling and associated shed. The approximate dimensions of the house will be 19 m by 32 m. Refer to Appendix I for plans and design.

## 3. Survey methodology

This survey has been carried out in accordance with the methodology of AS3959-2009 and Appendix 3 of Planning for bushfire protection 2006 and those of Appendix 2 for the determination of the relevant Asset protection zones.

A brief outline of the relevant steps from Appendix 3 (PBP 2006) has been listed below:

### Assessment of Bushfire Hazard

**Step 1: Determine vegetation** formation types and sub-formations around the building, as follows:

- (i) Identify all the vegetation types within 140 metres of the site using Keith (2004);
- (ii) Classify the vegetation formations as set out in Table A2.1 in Appendix 2; and
- (iii) Convert Keith to Specht classifications using Table A3.5.1 below. *The BCA (2010) uses Specht vegetation classifications while PBP uses Keith.*

**Step 2: Determine the distance** between each vegetation formation identified (from the edge of the foliage cover) and the proposal.

**Step 3: Determine the effective slope** of the ground for each vegetation group (see Appendix 2) using the classes provided below. Slopes are classified as follows:

- (i) Upslope is considered to be 0°.
- (ii) Greater than 0° but not greater than 5° downslope.
- (iii) Greater than 5° but not greater than 10° downslope.
- (iv) Greater than 10° but not greater than 15° downslope.
- (v) Greater than 15° but not greater than 20° downslope.

**Step 4: Determine the relevant FDI** for the council area in which the development is to take place from Table 2.3 in Appendix 2.

**Step 5: Match the relevant FDI, appropriate vegetation, distance and effective slope classes** to determine the bush fire attack levels using the relevant tables of AS3959-2009 as indicated below as well as the required APZ within PBP 2006 – Appendix 2:

- FDI 100 -Table A2.4.2
- FDI 80 - Table A2.4.3
- FDI 50 - Table A2.4.4

## 4. Bushfire hazard assessment

**Table 1. BAL Assessment to North**

Aspect	North
Assessed by	Evan Webb
Local Government Area	Penrith City Council
Forest Danger Index – (FDI)	100
Vegetation class	Forest
Slope	Upslope
Separation from vegetation hazard	0m
Current BAL	BAL FZ
Proposed APZ	14.5 & then cleared from > 100m
Appendix 2 APZ requirement	20 m
Minimum distance required for BAL 29	25 m
BAL requirement	BAL 19

**Table 2. BAL Assessment to East**

Aspect	East
Assessed by	Evan Webb
Local Government Area	Penrith City Council
Forest Danger Index – (FDI)	100
Vegetation class	Forest
Slope	0-5° downslope
Separation from vegetation hazard	0 m
Current BAL	BAL FZ
Proposed APZ	32 m (22 m IPA, 10 m OPA)
Appendix 2 APZ requirement	25 m
Minimum distance required for BAL 29	32 m
Proposed BAL	BAL 29

**Table 3. BAL Assessment to South**

Aspect	South
Assessed by	Evan Webb
Local Government Area	Penrith City Council
Forest Danger Index – (FDI)	100
Vegetation class	Forest
Slope	0-5° downslope
Separation from vegetation hazard	0 m
Current BAL	BAL FZ
Proposed APZ	32 m (22 m IPA, 10 m OPA)
Appendix 2 APZ requirement	25 m
Minimum distance required for BAL 29	32 m
Proposed BAL	BAL 29

**Table 4. BAL Assessment to West**

Aspect	West
Assessed by	Evan Webb
Local Government Area	Penrith City Council
Forest Danger Index – (FDI)	100
Vegetation class	Forest
Slope	upslope
Separation from vegetation hazard	0 m
Current BAL	BAL FZ
Proposed APZ	25 m (15 m IPA, 10 m OPA)
Appendix 2 APZ requirement	20
Minimum distance required for BAL 29	25
Proposed BAL	MAX BAL 29

Figure 9 below details the proposed clearances for building envelopes in regard to the vegetation type and slope to achieve a Bushfire Attack Level of BAL29. Table 5 below summarises the required building construction level.

**Table 5.** Summary of BAL levels once proposed Asset Protection Zones have been incorporated.

Compass Direction	Proposed Bushfire Attack Level
North	BAL 19
East	BAL 29
South	BAL 29
West	BAL 29



Figure 9. Approximate proposed APZ zone.

## 5. Planning controls for infill Development

PBP 2006 outlines a set of minimum standards for the provision of adequate bushfire protection measures for residential and rural residential subdivisions. These are outlined below and indicate how compliance is to be achieved for the proposed development.

### 5.1 Specification and requirements for Bush Fire Protection Measures for Infill Development

The aim of PBP in relation to infill development is to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities.

#### 5.1.1 Asset Protection Zone requirements

The primary purpose of an APZ is to ensure that a progressive reduction of bushfire fuels occurs between the bushfire hazard and any habitable structures.

In accordance with *Planning for Bushfire Protection (2006)*, Forest vegetation, a minimum for 20 and 25 m respectively for upslope and 0-5° downslope have been included within the proposal.

The following addresses the requirements for an Asset Protection Zone (APZ) to be established for the proposed residential development. The APZs are to be established from the building footprint. The IPA is critical to providing defensible space and managing heat intensities at the building surface. For forest and wood land two APZs exist, Inner protection zone (IPA) and Outer protection zone (OPA).



An IPA should provide a tree canopy cover of less than 15% and should be located greater than 2 metres from any part of the roofline of a dwelling. Garden beds of flammable shrubs are not to be located under trees and should be no closer than 10 metres from an exposed window or door. Trees should have lower limbs removed up to a height of 2 metres above the ground.

An OPA should provide a tree canopy cover of less than 30% and should have an understorey managed to treat all shrubs and grasses on an annual basis in advance of the fire season.

The proposal is capable of achieving the APZ requirements with the proposed Bushfire attack level for the east south and west being BAL 29 and BAL 19 to the north. The shed will be included within the APZ and will have a distance greater than 10m from the proposed dwelling. The APZ to the north will rely on the cleared and managed lands on the adjacent property for the proposed BAL, this land does not have the capacity to regenerate to bushland and is considered highly likely to continue in a cleared state in perpetuity.

APZs are to be constructed as per the requirements of PBP 2006, and the *Standards for Asset Protection Zones* documentation (RFS 2005).

### **5.1.2 Siting and Design**

The building should be designed such that potential accumulation of debris and exposure from bushfire attack is minimized. This requires the minimization of re-entrant corners, the use of gutters and gutter guards and designing building in accordance with figure 4.7 of PBP 2006. The house meets the design principle set out in PBP.

### **5.1.3 Construction standards**

The required construction standards have been outlined above and require BAL 29 for the eastern, southern and western exteriors, and BAL 19 on the northern exterior. The APZ have been increased above the requirements of Appendix 2 (PBP 2006) to achieve this construction level.

The building is to be designed and constructed in accordance with Australian Standard 3959 – Construction of Building in Bushfire Prone Areas, specifically *Section 3 – Construction General and Section 7, Section 6 Construction for Bushfire Attack Level 19 (BAL-19)* and *Section 6 Construction for Bushfire Attack Level 29 (BAL-29)*.

### **5.1.4 Access**

To be designed in accordance with section 4.1.3 for property access roads PBP 2006.

### **5.1.5 Water and utility services**

#### **Water**

The land has direct access to reticulated water and therefore does not require additional water solely for the purpose of firefighting. As per the BASIX requirements a tank of at least 5000L will be present for the purposes of storing rainwater. All above ground water and gas service pipes external to the building are to be metal, including and up to any taps.

#### **Gas**

Installation and maintenance to be in accordance with Australian Standard AS/NZS 1596:2002. Metal piping to be used.

Existing power lines are above ground as is normal in the area

### **5.1.6 – Landscaping requirements**

Landscaping of each individual property is to adhere to the requirements of Appendix 5 of *Planning for bushfire Protection 2006* in both landscape design and maintenance. At least 1m clearance of all vegetation with the exception of maintained grasses is to be maintained around all buildings.

## **Conclusion & Recommendations**

The proposed development is capable of meeting the requirements of Planning for bushfire Protection 2006 with regards to Asset protection zones, siting and design, construction standards, access requirements, water and utility services and landscaping and as such is suitable for approval on the basis of Bushfire.

The building is to be constructed to BAL29 for the eastern, southern and western exterior and BAL 19 on the northern exterior. APZs are to be maintained in perpetuity.

The following recommendations are to be prescribed as compliance requirements to ensure that the design provides the most suitable outcome:

1. The addition of access roads including driveways are to be two-wheel drive and accessible in all
2. All above ground water and gas service pipes external to the building are metal, including and up to any taps.
3. All gas services will be reticulated using metal piping.
4. APZs are to be constructed in accordance with Appendix 3 – APZ IPA requirements
5. Each individual property is to adhere to the requirements of Appendix 5 for both Landscape design and maintenance.
6. At least 1m clearance of all vegetation with the exception of maintained grasses is to be maintained around all buildings.

## **References**

Environmental Planning and Assessment act 1979. <http://www.legislation.nsw.gov.au/>

Keith D. A. (2004) 'Ocean shores to desert dunes: The native vegetation of New South Wales and the ACT.' (Department of Environment and Heritage (NSW))

National Parks and Wildlife Act 1974. <http://www.legislation.nsw.gov.au/>

NSW RFS, 2005. Standards for Asset Protection Zones (RFS 2005).

NSW RFS, 2006. Planning for Bushfire Protection 2006.

Rural fires Act 1997. <http://www.legislation.nsw.gov.au/>

Rural Fires regulation 2008. <http://www.legislation.nsw.gov.au/>

Standards Australia (2009) AS3959 – 2009 Building in Bushfire Prone areas. Standards Australia, GPO Box 476, Sydney, NSW 2001.

Threatened Species Conservation Act 1995. <http://www.legislation.nsw.gov.au/>

## **Appendix I – House plans and site design**

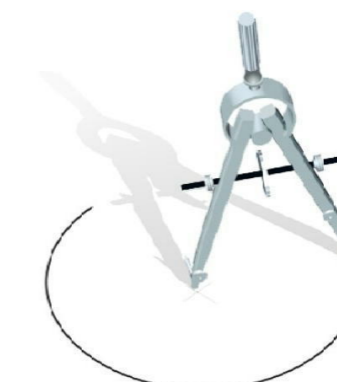
Bastac

307-321 Cranebrook Road  
**CRANEBROOK**

Lot 247

DP 752021

Amendments				
Issue	Changes	Date	Signed/Requested date of request	Drawing Number
A	sketch	17-9-14	t.w.	14313
B	working drawing	7-11-14	s.g.	14313-1
C	changes as per email 12-12-14	15-12-14	s.g.	14313-2
D	house moved on site plan	15-12-14	s.g.	14313-3
E	house moved on site plan	17-12-14	s.g.	14313-4
F	changes as per email dated 28-1-15	28-1-15	t.w.	14313-5
G	Roof over l'dry and roof to alfresco altered	5.2.15	BS	14313-6
H	study window increased	12.2.15	BS	14313-7



**ccurate**

design and drafting

ph: 02 4647 2552  
info@accuratedesign.com.au

Construction to be in accordance with BCA and other relevant Australian Standards

20mm tolerance has been allowed for behind frame on the lower part of slab

Quick release hinges to be fitted to WC door

3 star showerheads, >4.5 but <=6L/min  
3 star taps and toilets

All frames are to be built to lower part of slab

Granite guard termite barrier gas instant hws 5 stars

Note - All Dimensions to be verified on site before commencement of work

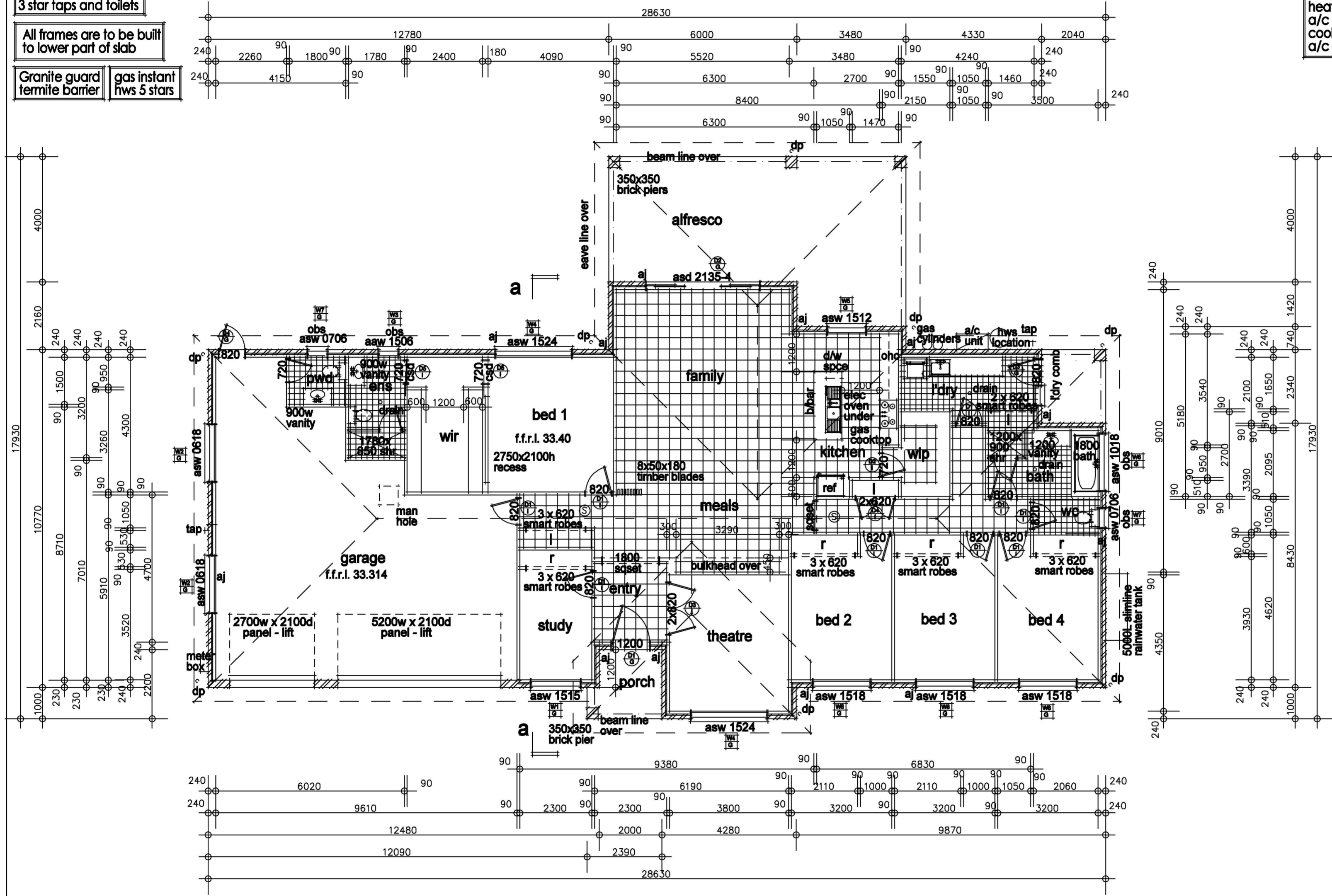
R2.0 insulation to walls  
R3.0 insulation to ceilings

Weather stripping to all external doors

heating - 3 phase  
a/c eer 3.0 - 3.5  
cooling - 3 phase  
a/c eer 2.5 - 3.0

NOTES:

1. Levels shown are approx only and should be verified on site
2. Figured dimensions are to be taken in preference to scaling
3. All measurements are in mm unless otherwise stated
4. Window sizes are nominal only. Final window sizes by builder.
5. Dimensions are to be verified on site by builder before commencement of work.



**floor areas :**

living	: 241.62m
garage	: 79.37m
alfresco	: 47.63m
porch	: 4.79m
<b>total</b>	<b>: 373.41m</b>

Floor Plan  
Scale 1:100

Issue	Amendment	Date
	Approval from client	Date

Client:  
**Bastac**

Job:  
Proposed B/V  
Residence

**307-321 Cranebrook Road  
Cranebrook**

Drawing:  
**Floor Plan**

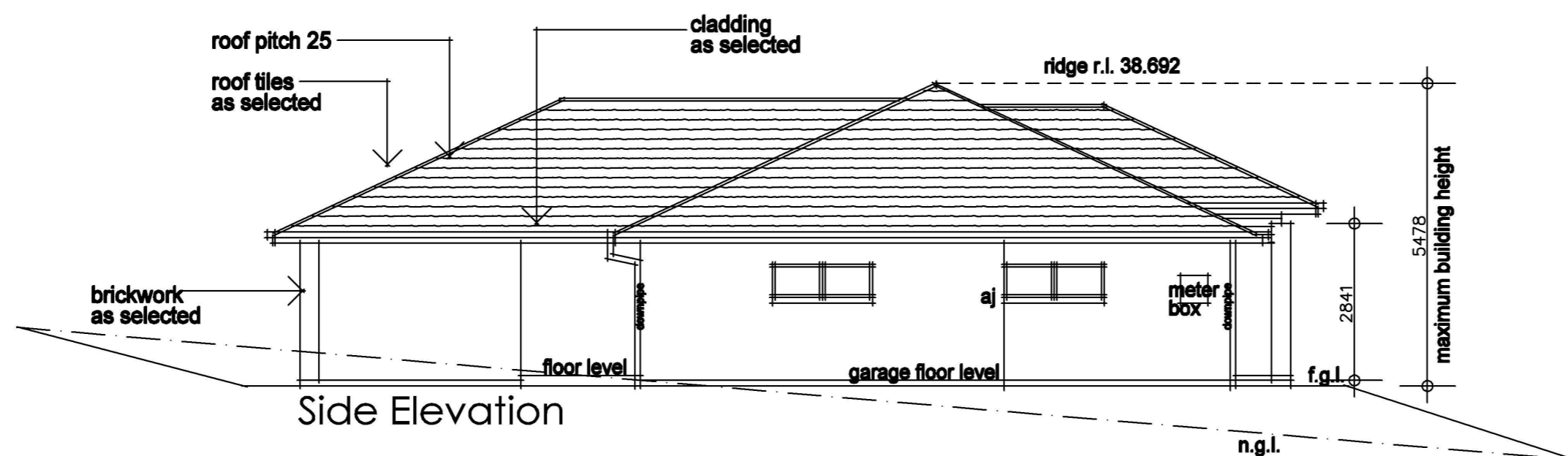
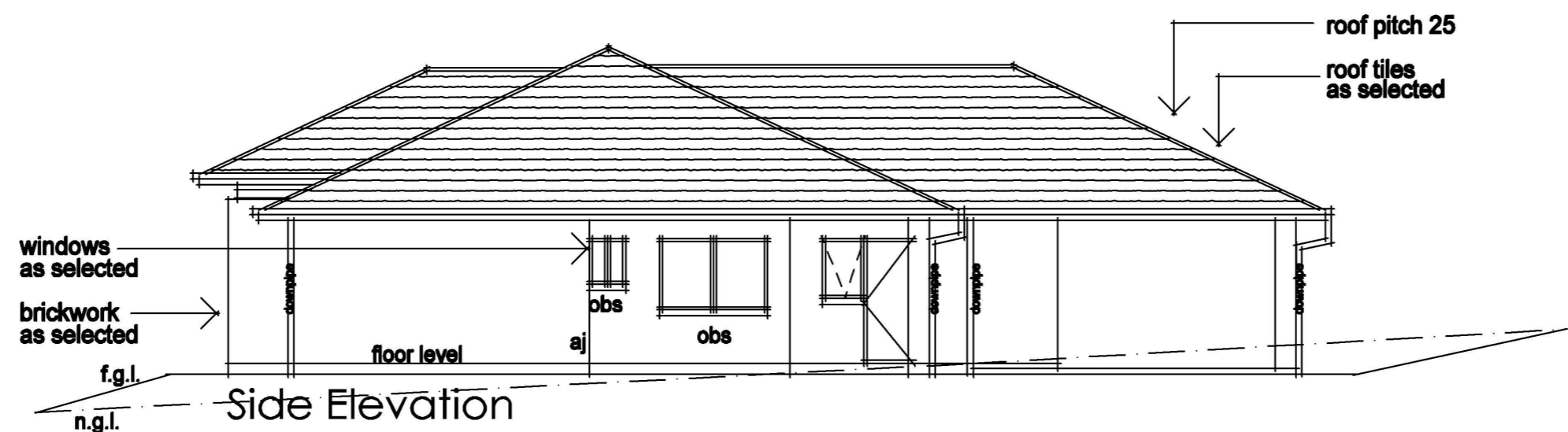
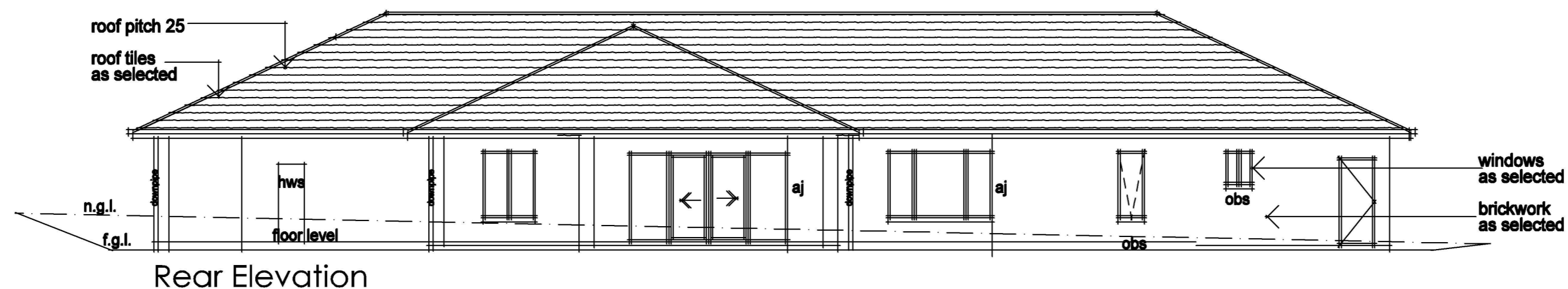
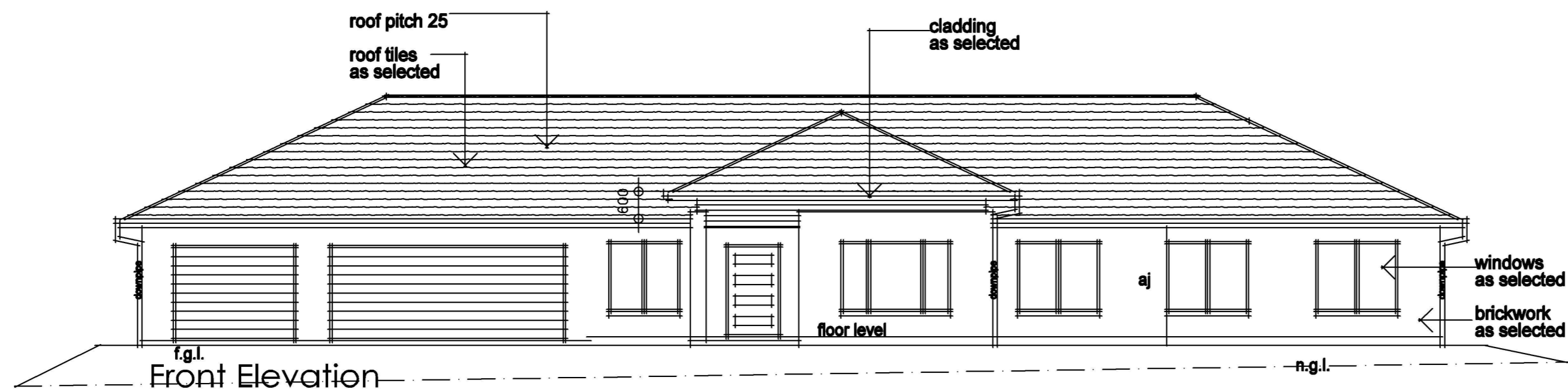
Scale: 1:100 Date: 12.2.15

Drawing No: 14313-7 Sheet: 1 ISSUE: H

House Name

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design and drafting  
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Narellan NSW 2567  
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Fax : 0246472553  
Email: info@accuratedesign.com.au

☿- Smoke Detectors



- NOTES:
1. Levels shown are approx only and should be verified on site
  2. Figured dimensions are to be taken in preference to scaling
  3. All measurements are in mm unless otherwise stated
  4. Window sizes are nominal only. Final window sizes by builder.
  5. Dimensions are to be verified on site by builder before commencement of work.

Issue	Amendment	Date
	Approval from client	Date

Client:  
**Bastac**

Job:  
Proposed B/V  
Residence  
**307-321 Cranebrook Road  
Cranebrook**

Drawing:  
**Elevations**

Scale: <b>1:100</b>	Date: <b>12.2.15</b>
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Drawing No: <b>14313-7</b>	Sheet: <b>2</b>	ISSUE: <b>H</b>
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House Name

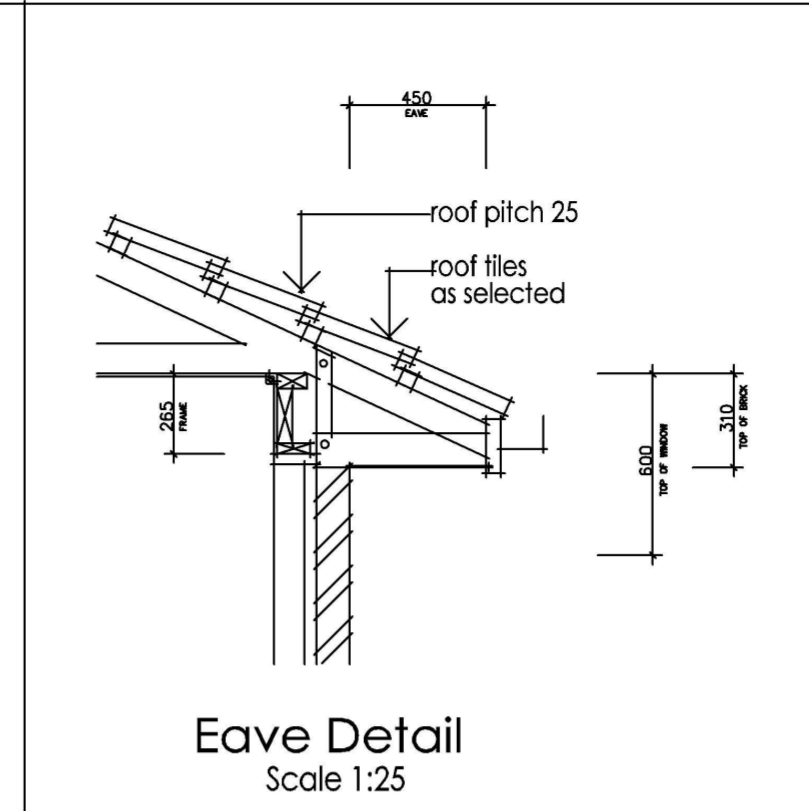
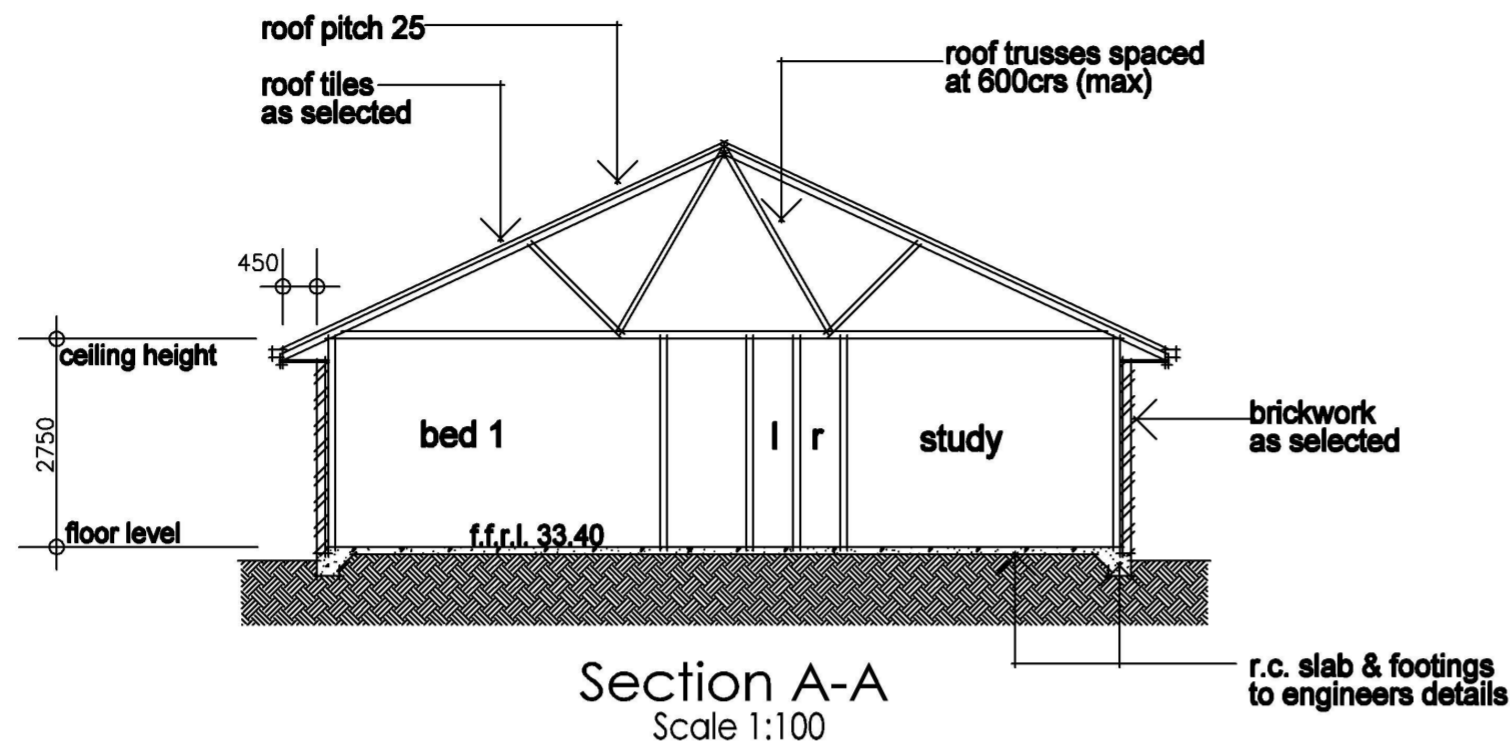
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Construction to be in accordance with BCA and other relevant Australian Standards

Granite guard fence barrier

Note - All Dimensions to be verified on site before commencement of work

R2.0 insulation to walls  
R3.0 insulation to ceilings



- NOTES:
1. Levels shown are approx only and should be verified on site
  2. Figured dimensions are to be taken in preference to scaling
  3. All measurements are in mm unless otherwise stated
  4. Window sizes are nominal only. Final window sizes by builder.
  5. Dimensions are to be verified on site by builder before commencement of work.

Issue	Amendment	Date
	Approval from client	Date

Client:  
**Bastac**

Job:  
Proposed B/V Residence

**307-321 Cranebrook Road  
Cranebrook**

Drawing:  
**Section A-A & Site Plan**

Scale:  
1:100, 1:500

Date:  
12.2.15

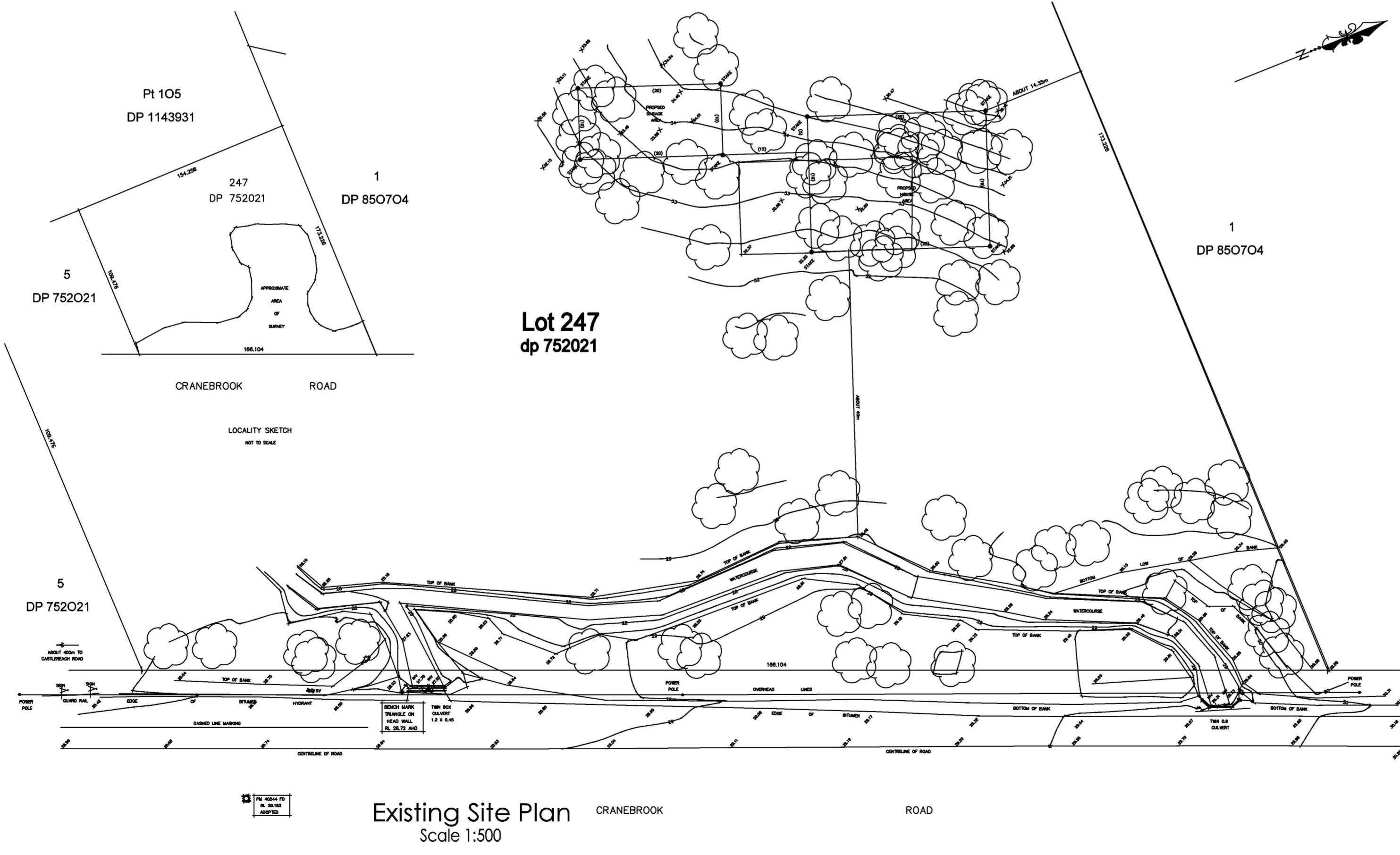
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14313-7

Sheet:  
**3**

ISSUE:  
**H**

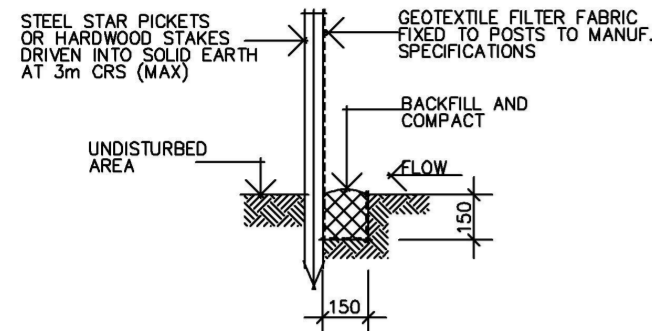
House Name

**accurate**  
design and drafting  
Office : 1a/10 Exchange Parade  
Narellan NSW 2567  
**Phone: 0246472552**  
Fax : 0246472553  
Email: info@accuratedesign.com.au  
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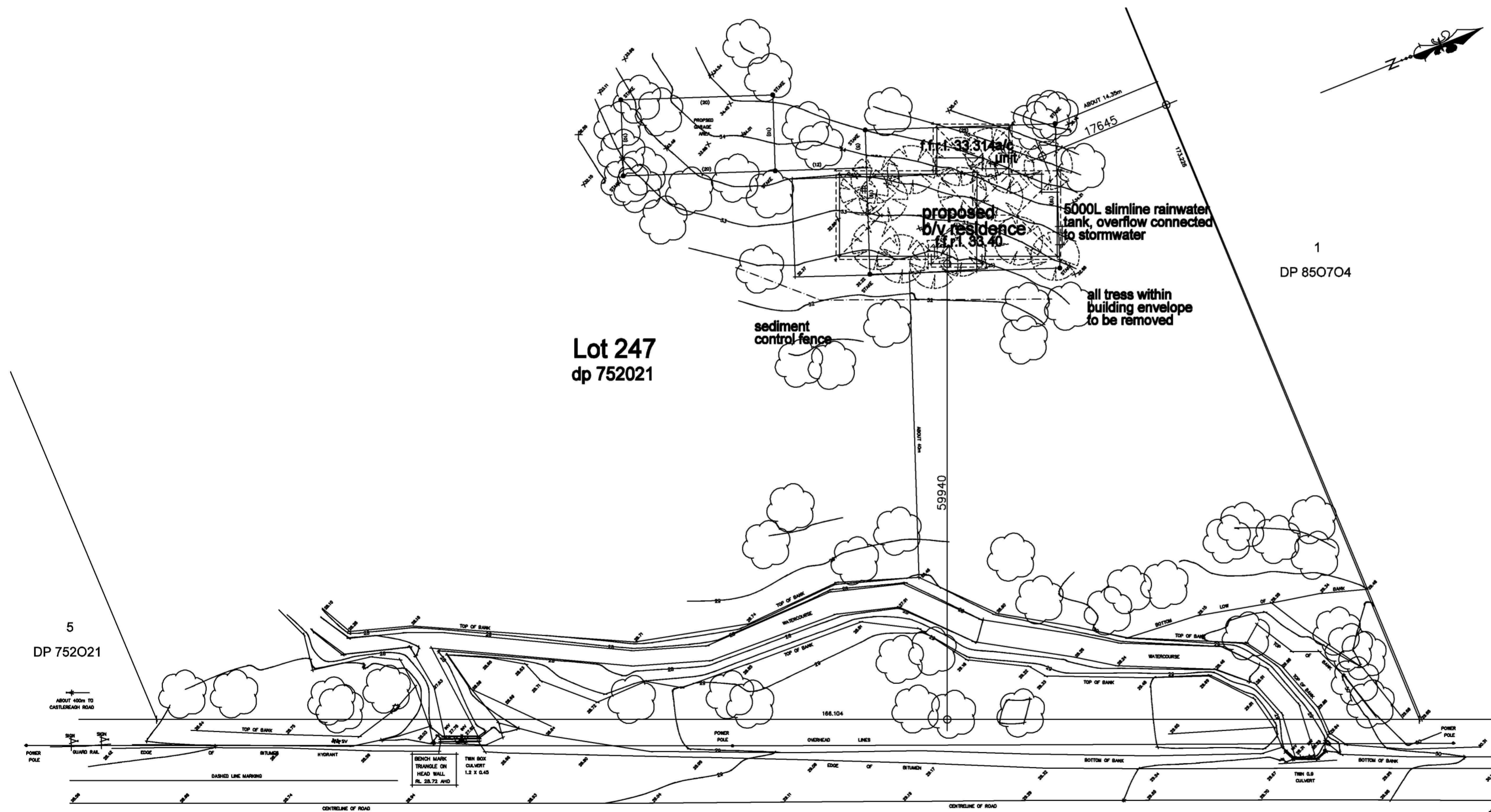
Existing Site Plan  
Scale 1:500





**SOIL EROSION AND SEDIMENT CONTROL**  
 1. SILTATION FENCING IS TO BE PLACED AS SHOWN ON THE SITE PLAN SO AS TO PREVENT SILT RUN OFF TO ANY ADJOINING PROPERTY OR TO THE STREET. THIS MEASURE IS TO BE PLACED PRIOR TO ANY EXCAVATION WORK BEGINS AND IS TO BE REMOVED ONLY WHEN THE SITE'S SURFACE HAS BEEN STABILIZED, I.E. PAVED, LANDSCAPED OR TURFED.  
 2. 40mm CRUSHED ROCK AGGREGATE IS TO BE PLACED AS AN ACCESS DRIVEWAY TO THE SITE AND MUST BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION

**Typical Silt Fence**  
 Scale 1:20



**Site Plan**  
 Scale 1:500

Rainwater tank to collect 250sqm of roof runoff  
 Rainwater tank connected to wc, l'dry and garden tap

- NOTES:**
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Issue	Amendment	Date
	Approval from client	Date

Client:  
**Bastac**

Job:  
 Proposed B/V Residence  
**307-321 Cranebrook Road  
 Cranebrook**

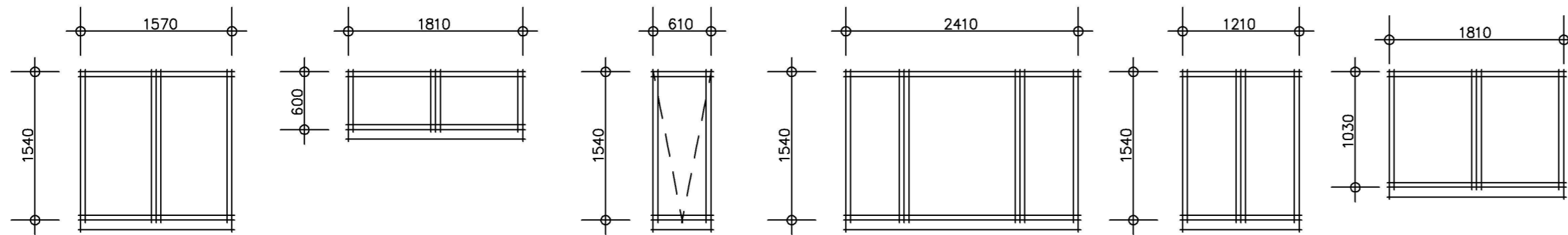
Drawing:  
**Site Plan**

Scale: 1:500  
 Date: 12.2.15

Drawing No: 14313-7  
 Sheet: 4  
 ISSUE: H

House Name

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**W1** study clear  
G alumin sliding  
quantity x 1

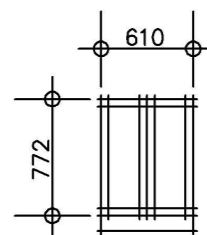
**W2** garage clear  
G alumin sliding  
quantity x 2

**W3** ens obs  
G alumin awning  
quantity x 1

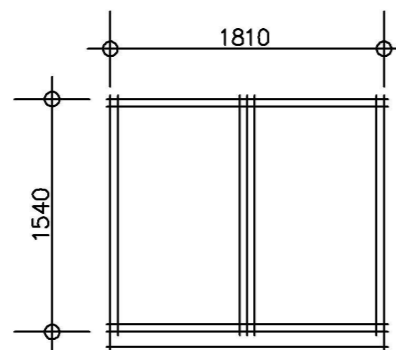
**W4** bed 1, theatre clear  
G alumin sliding  
quantity x 2

**W5** kitchen clear  
G alumin sliding  
quantity x 1

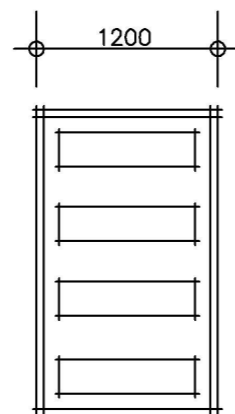
**W6** bath obs  
G alumin sliding  
quantity x 1



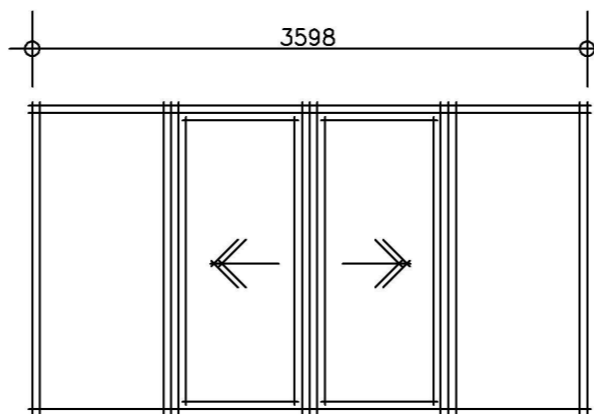
**W7** wc, pwd obs  
G alumin sliding  
quantity x 2



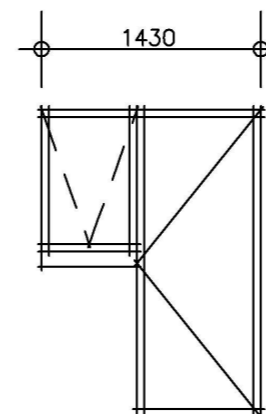
**W8** bed 2, 3, 4 clear  
G alumin sliding  
quantity x 3



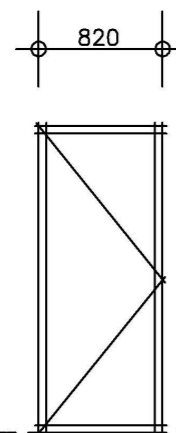
**D1** front entry  
G swinging door  
quantity x 1



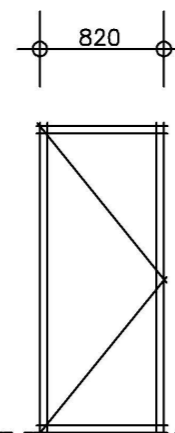
**D2** family clear  
G alumin sliding  
quantity x 1



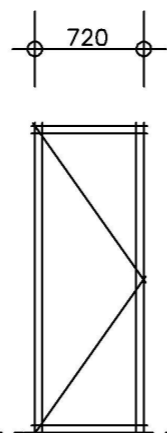
**D3** l'dry  
G l'dry comb  
quantity x 1



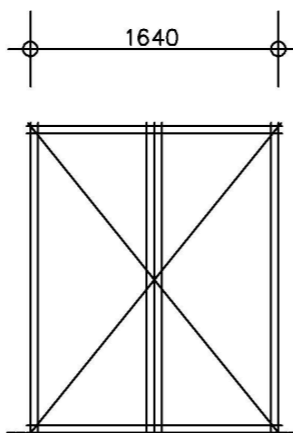
**D4** garage  
G swinging door  
quantity x 1



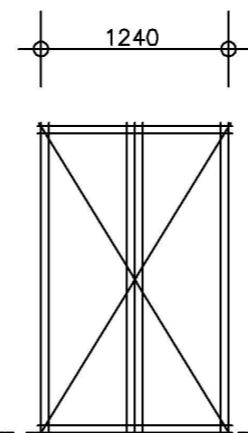
**D1** garage, bed 1, study,  
bed 2, 3, 4, l'dry, wc, bath  
I swinging door  
quantity x 9



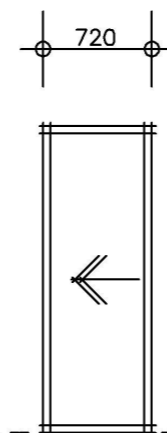
**D2** wip  
I swinging door  
quantity x 1



**D3** theatre  
I swinging door  
quantity x 1



**D4** linen  
I swinging door  
quantity x 1



**D5** bed 1, ens  
I cavity sliding  
quantity x 2

Door & Window Schedule  
Scale 1:50

- NOTES:
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Issue	Amendment	Date
	Approval from client	Date

Client:  
**Bastac**

Job:  
Proposed B/V  
Residence

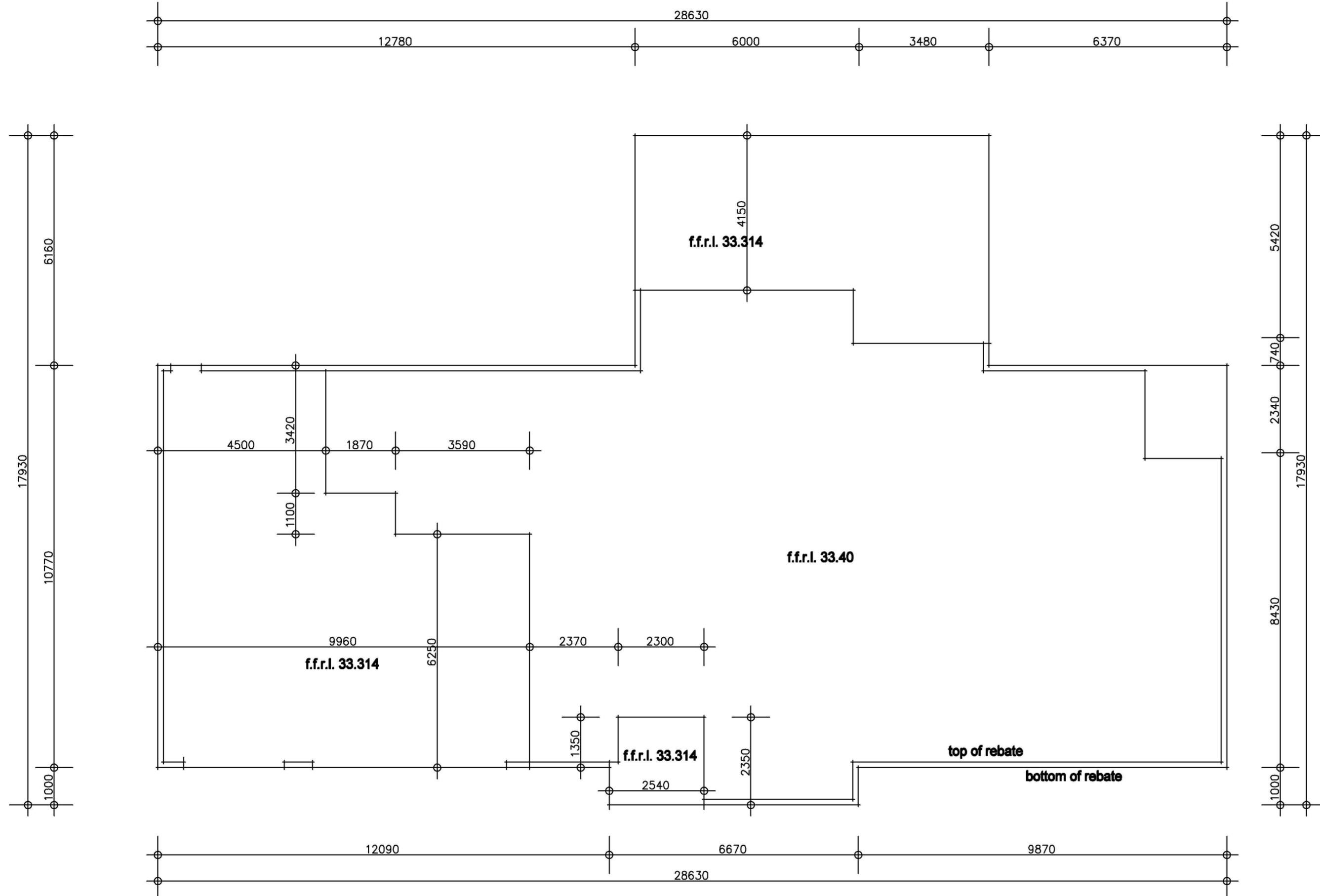
307-321 Cranebrook Road  
Cranebrook

Drawing:  
Door & Window Schedule

Scale: 1:50	Date: 12.2.15
Drawing No: 14313-7	Sheet: 5
	ISSUE: H

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Slab Detail  
Scale 1:100

All frames are to be built to lower part of slab

20mm tolerance has been allowed for behind frame on the lower part of slab

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	Approval from client	Date

Client:  
**Bastac**

Job:  
Proposed B/V Residence

**307-321 Cranebrook Road  
Cranebrook**

Drawing:  
**Slab Detail**

Scale: <b>1:100</b>	Date: <b>12.2.15</b>
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Drawing No: <b>14313-7</b>	Sheet: <b>6</b>	ISSUE: <b>H</b>
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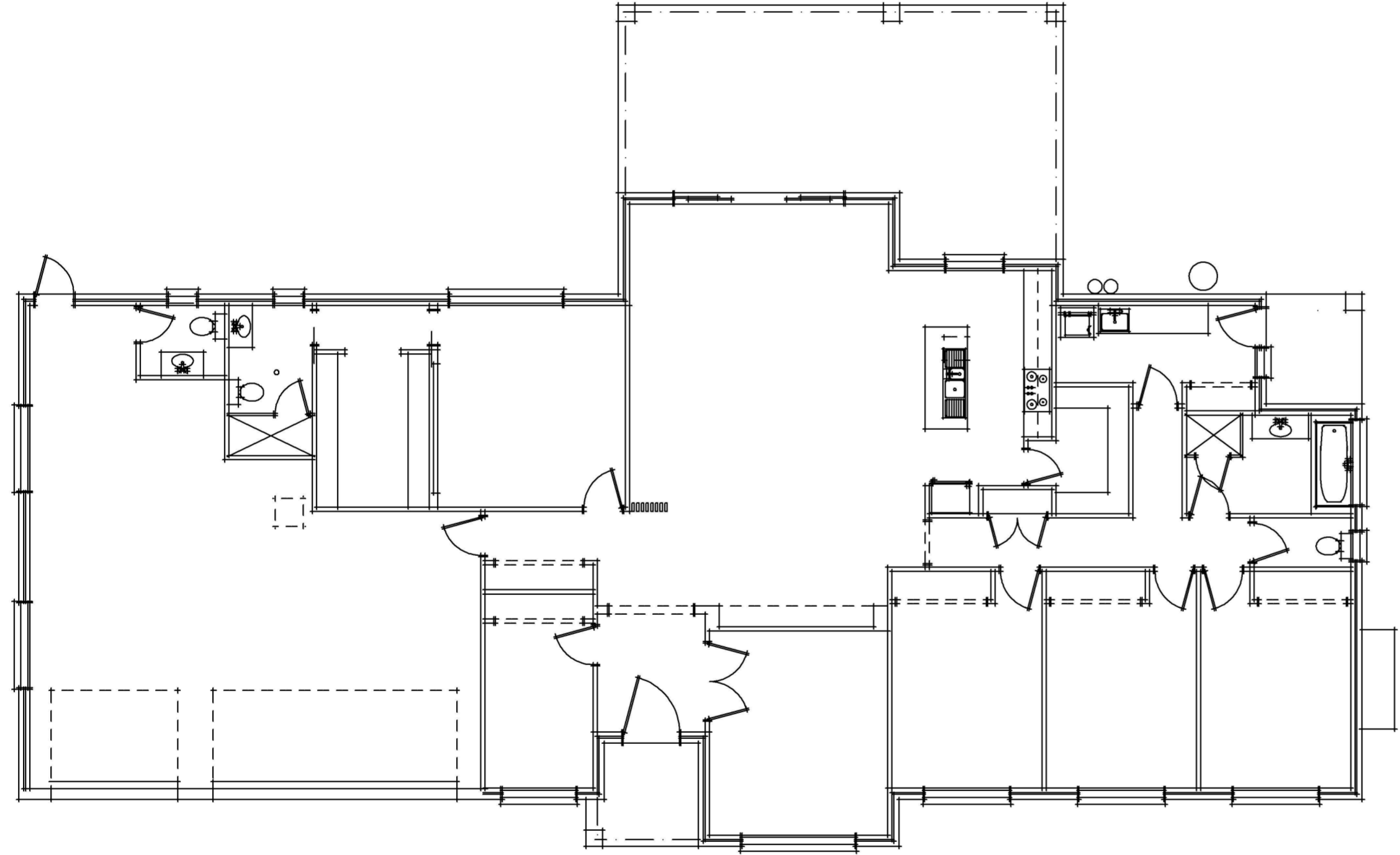
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Description	Symbol	Qty	Notes
Light Point	○		
Wall Light Point	○—		
Downlight	●		
20W Flouro	⎓		
Dimmer Switch	⊖		
2-Way	⊕		
3-Way	⊖		
Single G.P.O	△		
Double G.P.O.	△△		
Ext. Single G.P.O.	▲		
Ext. Double G.P.O.	▲▲		
T.V. Point	+TV		
Exhaust Fan	⊗		
2 in 1	⊕		
4 in 1	⊖		
Door Chime	⌒		
Smoke Alarm	Ⓢ		
Ceiling Fan	⊗		
Sensor Light	⊙		
Phone Point	+PH		
Gas Point	+GAS		

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Electrical Plan  
Scale 1:100

Issue	Amendment	Date
	Approval from client	Date

Client:  
**Bastac**

Job:  
Proposed B/V  
Residence

**307-321 Cranebrook Road  
Cranebrook**

Drawing:  
**Electrical Plan**

Scale: <b>1:100</b>	Date: <b>12.2.15</b>
Drawing No: <b>14313-7</b>	Sheet: <b>7</b>
	ISSUE: <b>H</b>

House Name



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