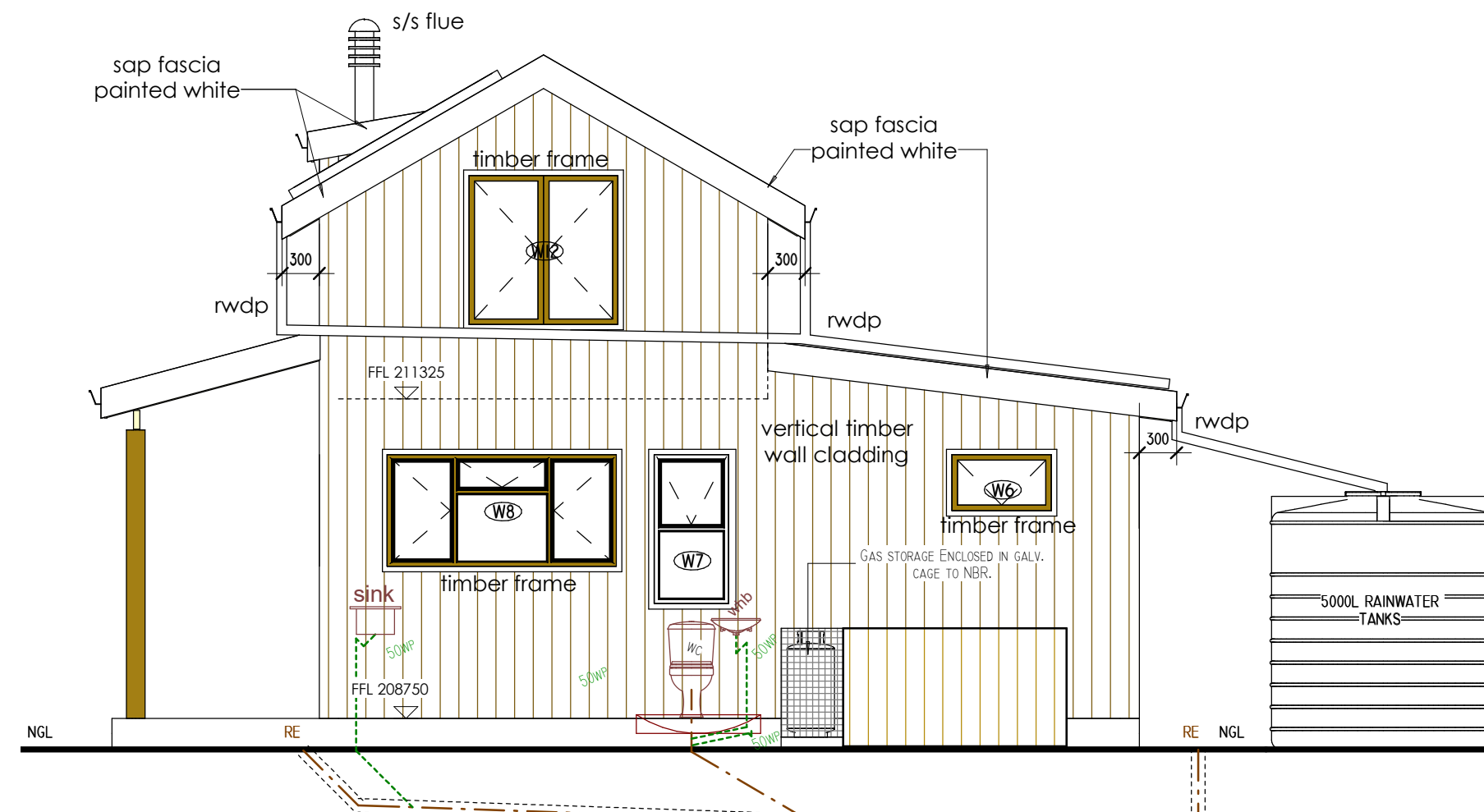
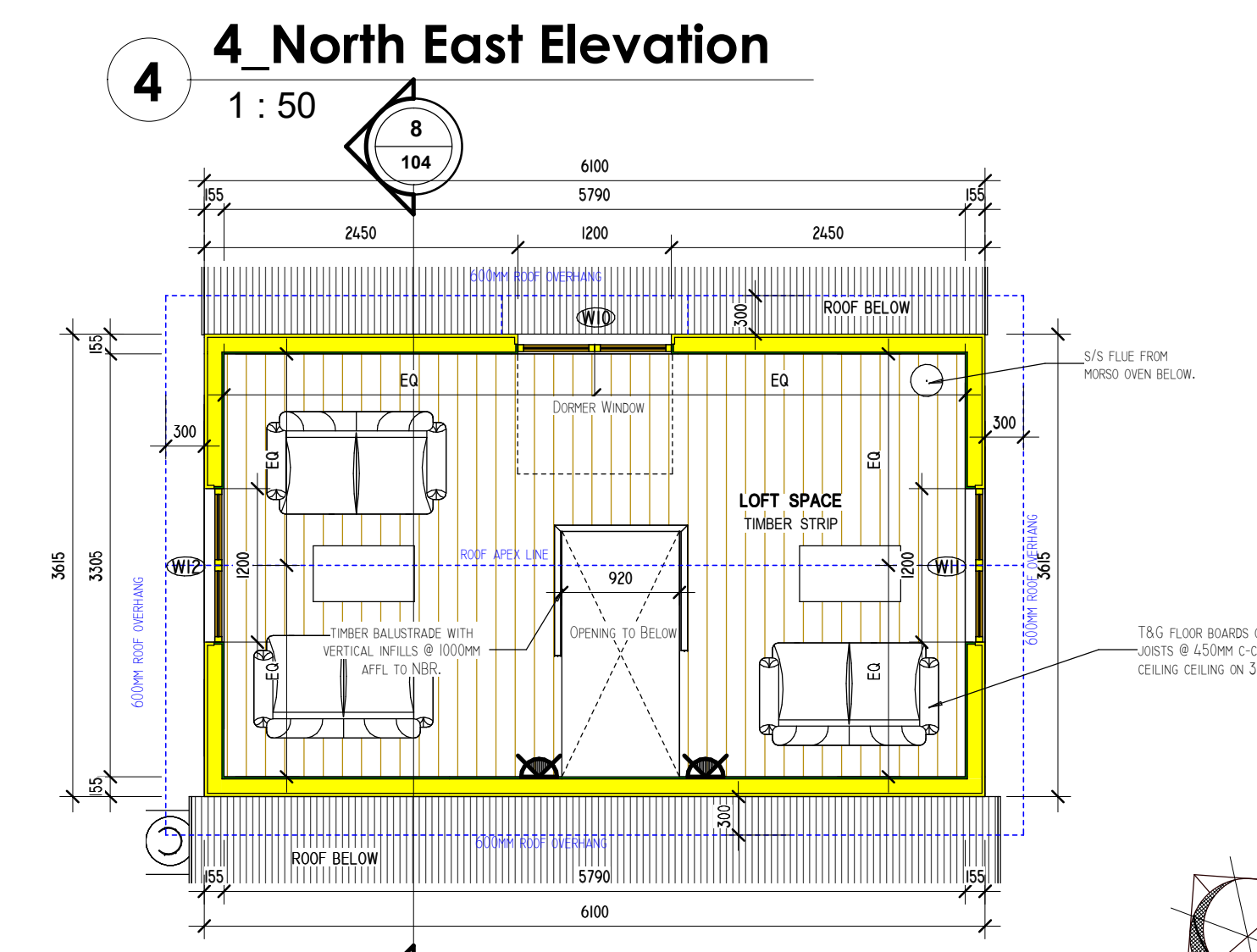


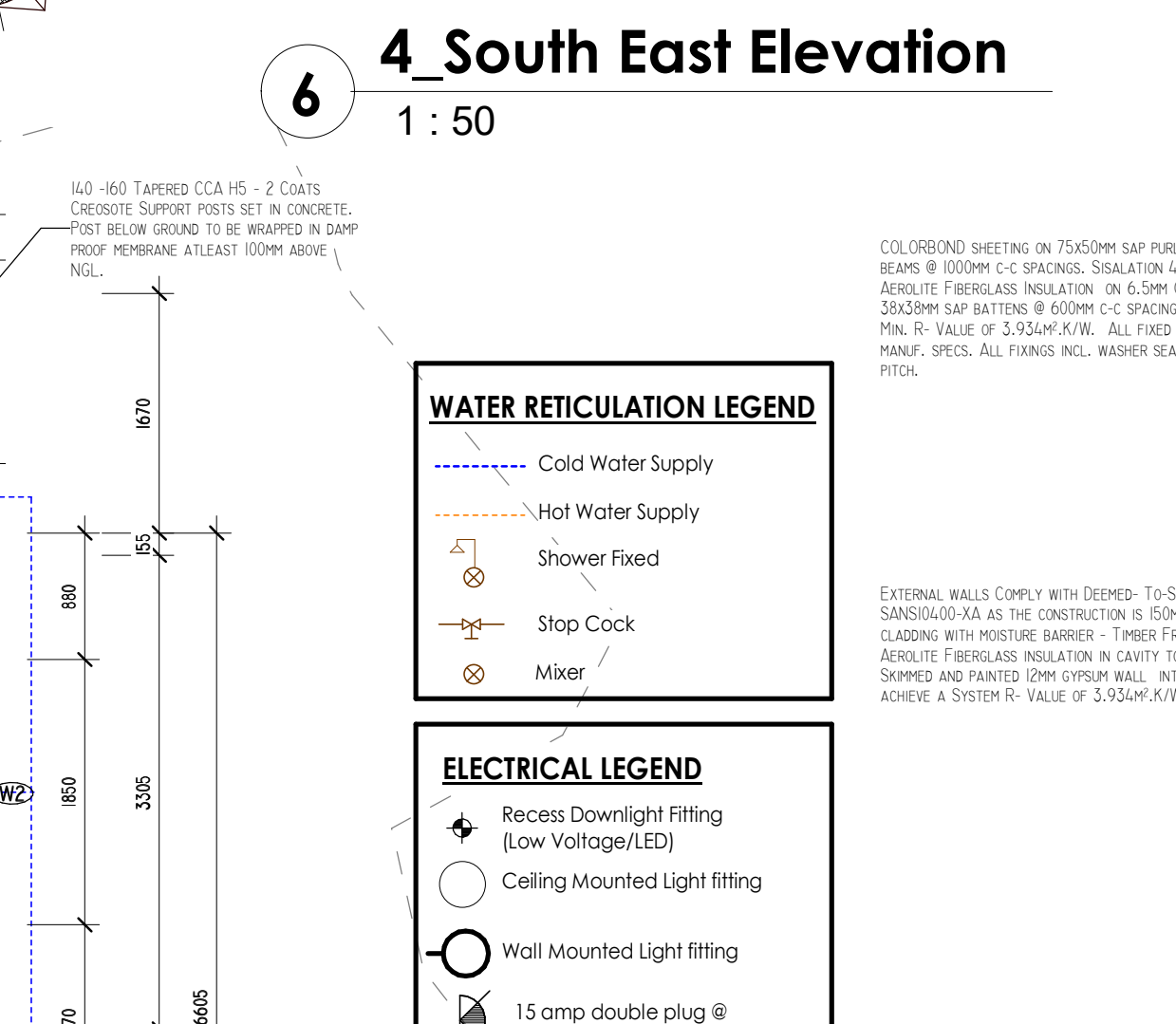
4 North West Elevation  
1 : 50



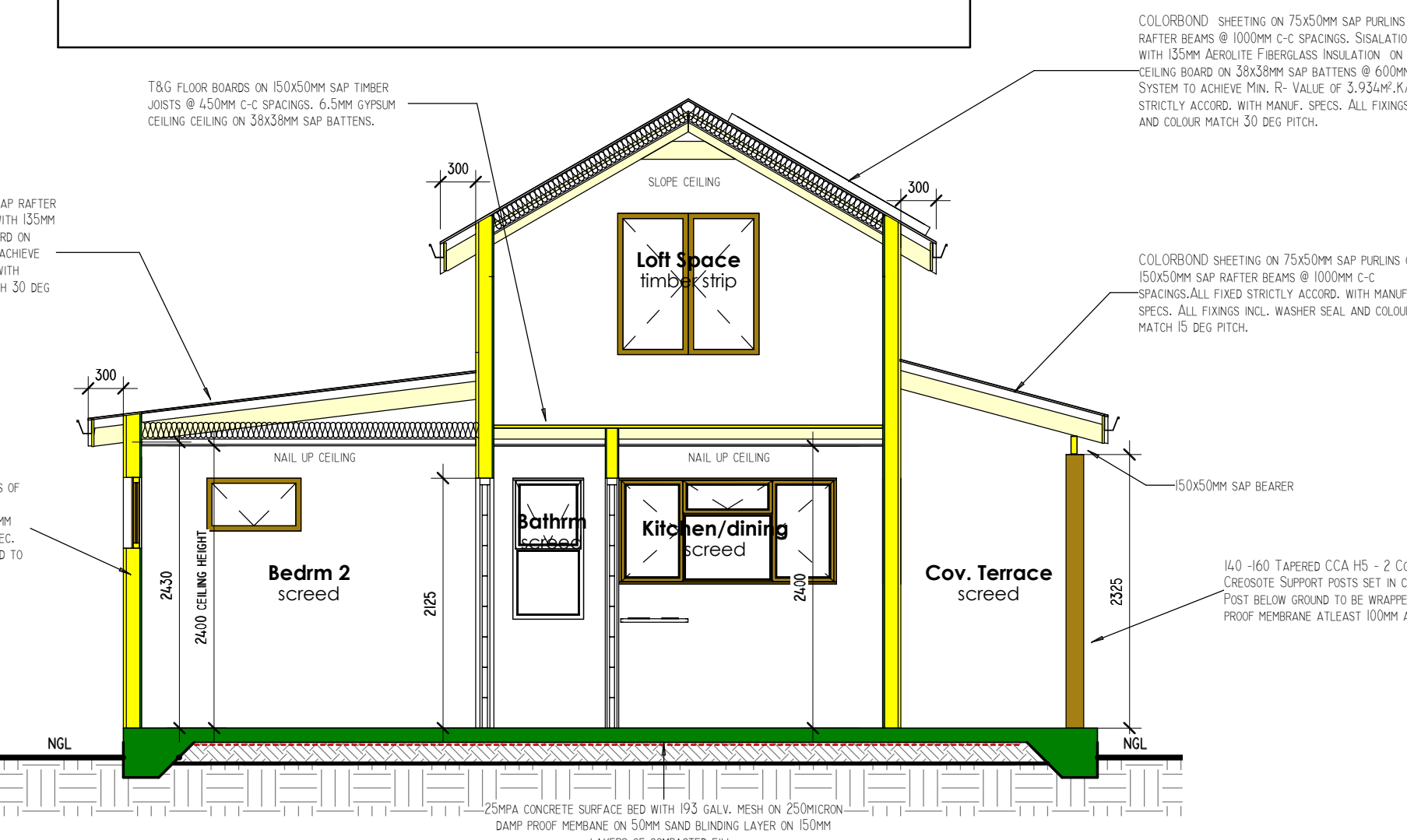
4 South West Elevation  
1 : 50



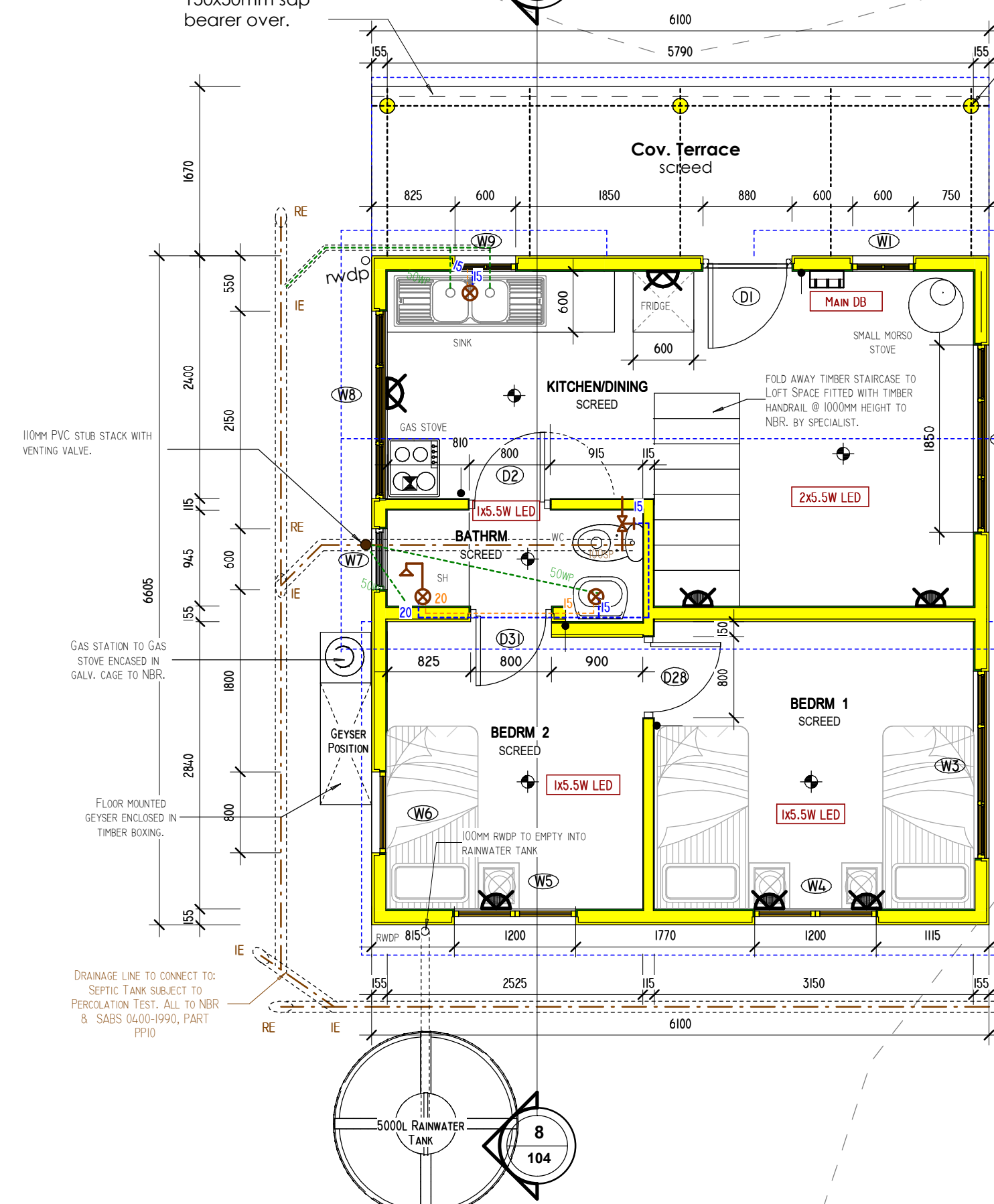
4 Top Floor Plan Labour Cottage 2  
1 : 50



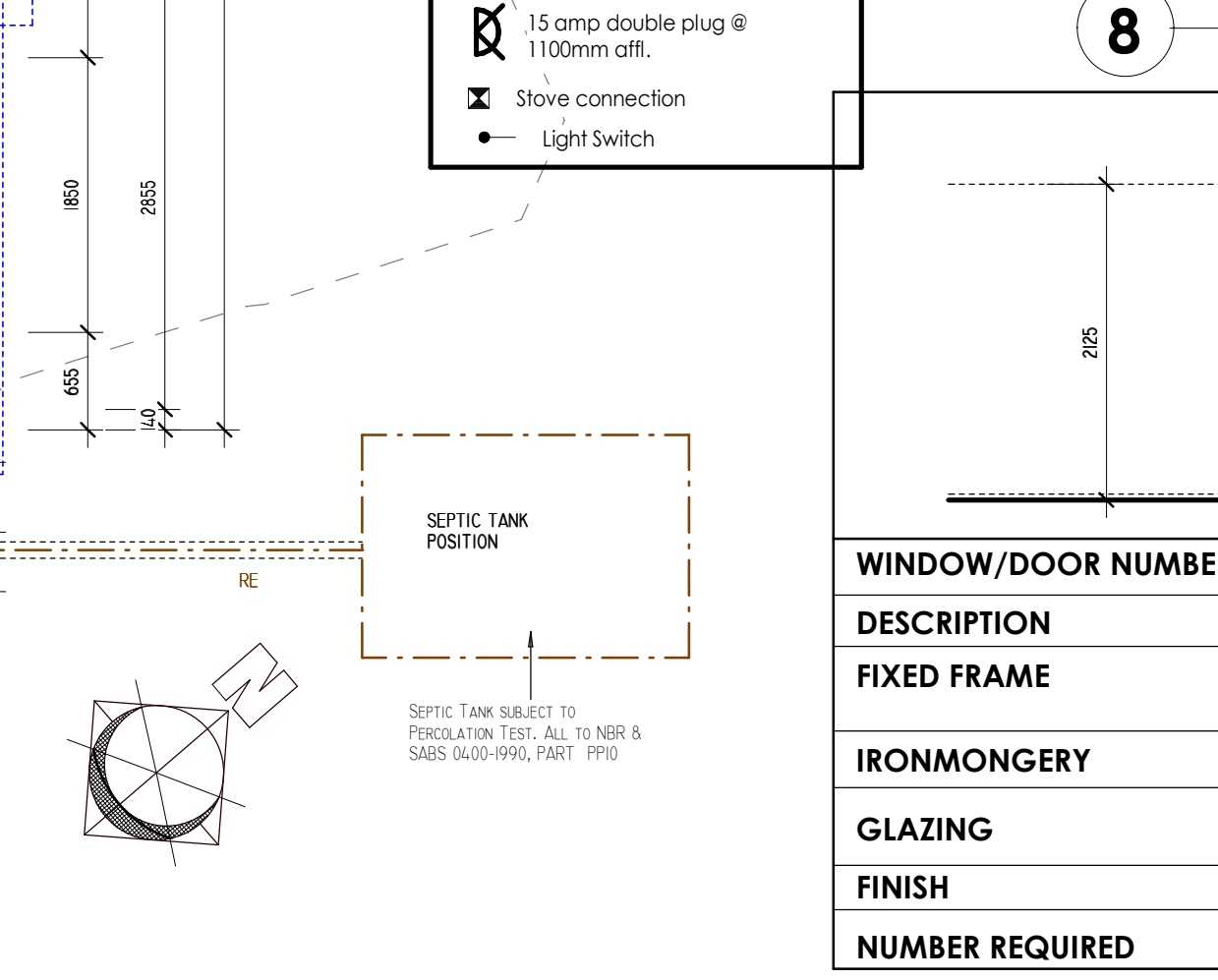
4 South East Elevation  
1 : 50



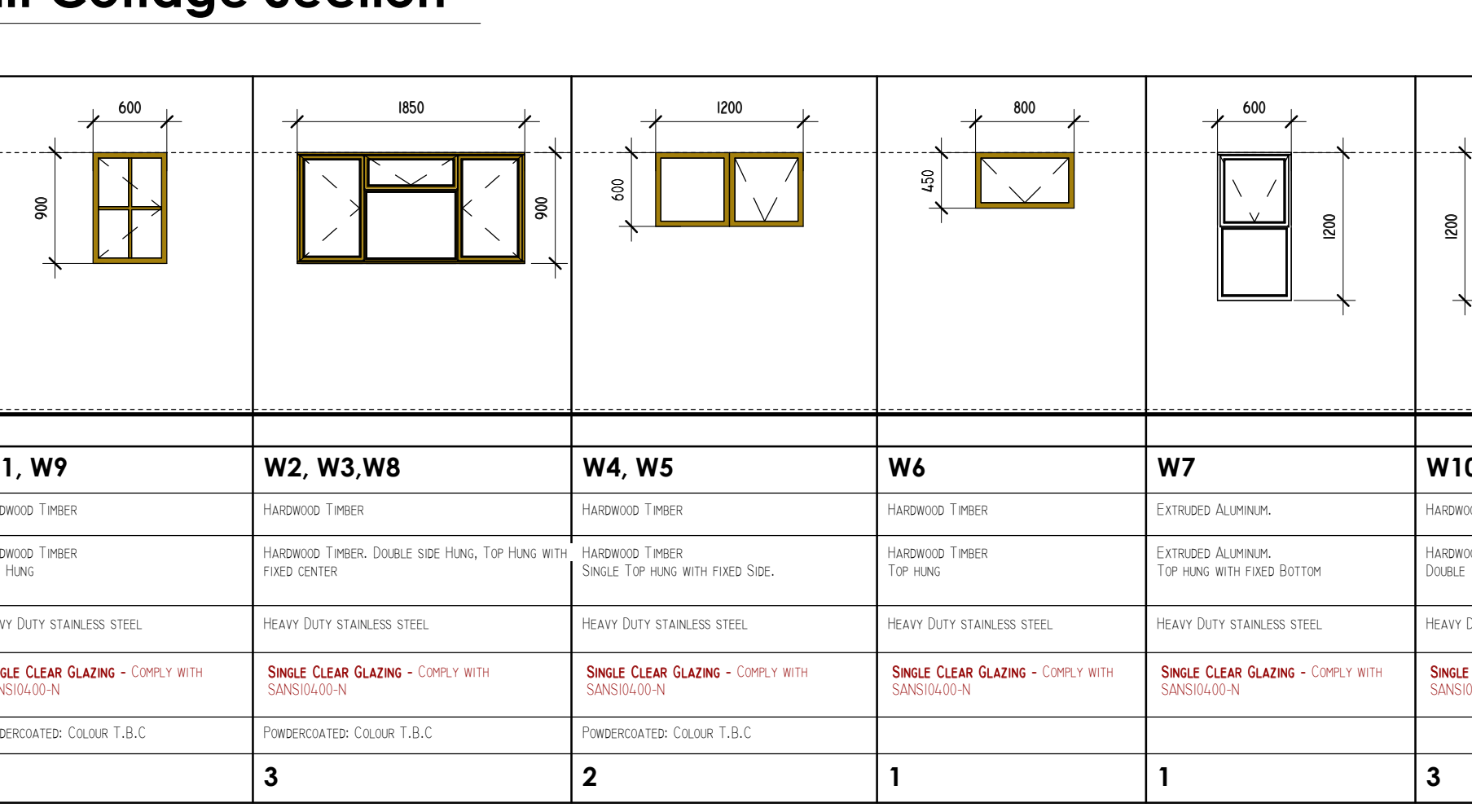
4 Staff Cottage Section  
1 : 50



4 Floor Plan Labour Cottage 1  
1 : 50



4 North East Elevation  
1 : 50



4 South West Elevation  
1 : 50

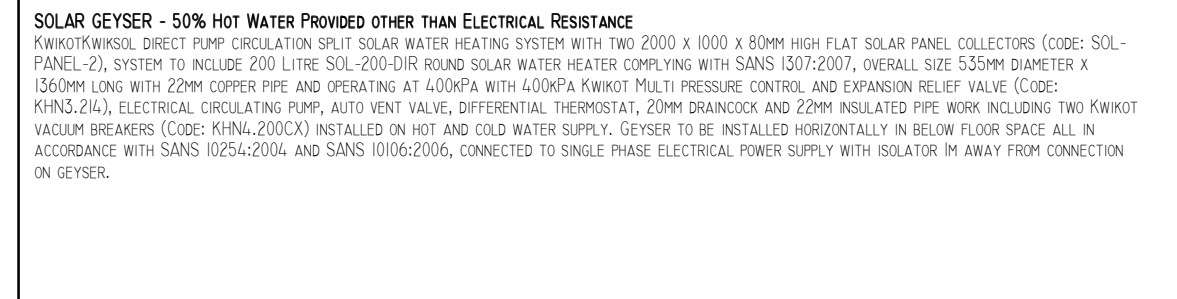
**NOTE: ROOF CONSTRUCTION**  
Roof Structure to Eng. spec.  
COLORBOND sheeting, Sialation 405 over purlins, with 120mm Isotherm Insulation on Gypsum ceiling, Roof System to achieve Min. R-Value of 3.934m<sup>2</sup>/K/W.

**NOTE: SUSPENDED FLOOR CONSTRUCTION**  
Suspended timber floor, in accordance with SANS 10400-J, and Eng. Spec's. 135mm Aerolite Fibreglass insulation specified in cavity, in accordance with SANS204:2011 part 4.3.2.3(b)- to achieve a min. System R-Value of 3.888m<sup>2</sup>/K/W.

**NOTE: GLAZING**  
Glazing to be Single Clear Laminated Comply with SANS10400-N

**NOTE: WALL CONSTRUCTION**  
External walls Comply with Deemed-To-Satisfy Regulations of SANS10400-XA as the construction is 155mm T&G timber framework with 135mm Aerolite Fibreglass insulation in cavity to manufacturer spec. Gypsum Board Skimmed & Painted internally to achieve a System R-Value of 3.934m<sup>2</sup>/K/W.

**NOTE: HOT WATER SUPPLY**  
**Kitchen and Bathroom**  
Hot water supply to be by means of SOLAR WATER HEATING with Co-efficient of Performance (COP) of 2.5 at 50°C. Total Population of 6 persons at consumption of 115l per person per day. The Water Heater systems to comply with SANS1307, SANS10106 and SANS10251-1.



**SOLAR GEYSER - 50% HOT WATER PROVIDED OTHER THAN ELECTRICAL RESISTANCE**  
KWHOTWATERSOL DIRECT PUMP CIRCULATION SPLIT SOLAR WATER HEATING SYSTEM WITH TWO 2000 X 1000 X 80MM HIGH FLAT PANEL COLLECTORS (CODE: SOL-PANEL-2), SYSTEM TO INCLUDE 200 LITRE SOL-200-DIR-ROUND SOLAR WATER HEATER COMPLYING WITH SANS 1307:2007, OVERALL SIZE 535MM DIAMETER X 1500MM LONG WITH 22MM COPPER PIPE AND OPERATING AT 40MPa WITH 40MPa RANKED TIGHT PRESSURE CONTROL AND EXPANSION RELIEF VALVE (CODE: KIN2,Z14), ELECTRICAL CIRCULATING PUMP, AUTO VALVE, DIFFERENTIAL THERMOSTAT, 22MM DRANCOCK AND 22MM INSULATED PIPE WORK INCLUDING TWO KWHOT VACUUM BREAKERS (CODE: KINVL2002) INSTALLED IN HOT AND COLD WATER SUPPLY. GEYSER TO BE INSTALLED HORIZONTALLY IN BELOW FLOOR SPACE ALL IN ACCORDANCE WITH SANS 10254:2004 AND SANS 10005:2006, CONNECTED TO SINGLE PHASE ELECTRICAL POWER SUPPLY WITH ISOLATOR 1M AWAY FROM CONNECTION TO GEYSER.

COLORBOND SHEETING ON 75x50MM SAP PURLINS ON 150x50MM SAP Rafter BEAMS @ 1000MM C-C SPACINGS. SIALATION 405 OVER PURLINS, WITH 150MM AEROLITE FIBERGLASS INSULATION ON 6.5MM GYPSUM CEILING BOARD ON 50x50MM SAP BATTENS @ 600MM C-C SPACING. ROOF SYSTEM TO ACHIEVE MIN. R-VALUE OF 3.934M<sup>2</sup>/K/W. ALL FIXED STRICTLY ACCORD. WITH MANUF. SPECS. ALL FIXINGS INCL. WASHER SEAL AND COLOUR MATCH 30 DEG PITCH.

COLORBOND SHEETING ON 75x50MM SAP PURLINS ON 150x50MM SAP Rafter BEAMS @ 1000MM C-C SPACINGS. SIALATION 405 OVER PURLINS, WITH 150MM AEROLITE FIBERGLASS INSULATION ON 6.5MM GYPSUM CEILING BOARD ON 50x50MM SAP BATTENS @ 600MM C-C SPACING. ROOF SYSTEM TO ACHIEVE MIN. R-VALUE OF 3.934M<sup>2</sup>/K/W. ALL FIXED STRICTLY ACCORD. WITH MANUF. SPECS. ALL FIXINGS INCL. WASHER SEAL AND COLOUR MATCH 15 DEG PITCH.

EXTERNAL WALLS COMPLY WITH DEEMED-TO-SATISFY REGULATIONS OF SANS10400-XA AS THE CONSTRUCTION IS 150MM VERTICAL TIMBER CLADDING WITH INSULITE BARRER - 135MM FIBERGLASS INSULATION IN CAVITY TO MANUFACTURER SPEC. SKIMMED AND PAINTED 12MM GYPSUM WALL INTERNALLY & CLADDED TO ACHIEVE A SYSTEM R-VALUE OF 3.934M<sup>2</sup>/K/W.

150x50mm sap bearer over.  
150mm PVC STUB STACK WITH VENTING VALVE.  
GAS STATION TO GAS STOVE ENCASED IN GALV. CASE TO NER.  
FLOOR MOUNTED GEYSER ENCLOSED IN TIMBER BOXING.  
DRAINAGE LINE TO CONNECT TO: SEPTIC TANK SUBJECT TO PERCOLATION TEST. ALL TO NER & SABS 0400-1990, PART 1710.

<b>AREA SCHEDULE</b>	
ERF AREA - 40.4358 HA	
<b>NEWLY ADDED AREAS</b>	
Ground Floor	
INTERNAL AREA	= 40m <sup>2</sup>
COV. TERRACE	= 10m <sup>2</sup>
Loft Space	
INTERNAL AREA	= 22m <sup>2</sup>
<b>TOTAL NEW AREA</b>	<b>= 62m<sup>2</sup></b>
<b>TOTAL NEW COVERAGE</b>	<b>= 50m<sup>2</sup></b>

<b>ENERGY EFFICIENCY IN BUILDING</b>	
Occupancy	- H3
Occupancy Times	- 24 hrs per day
	- 7 days a week
Building Nelt area	- 62m <sup>2</sup>
Building Total area	- 62m <sup>2</sup>
Climatic Zone	- Zone 4

Main Axis Building Orientation - North	
<b>Suspended Timber Floor on ground</b>	
See floor Construction Note	
<b>External Wall construction</b>	
See wall construction Note	
<b>Fenestration Calculations</b>	
Ground floor	
Nelt floor area	- 40.0m <sup>2</sup>
Fenestration area to floor	- 8.6m <sup>2</sup>
Fenestration percentage	- 21.5%
<b>Max Conductance allow</b>	<b>- 56.0</b>
<b>Max Solar Heat Gain</b>	<b>- 5.2</b>

<b>Achieved Aggregate Conductance / Solar Heat Gain</b>	
Calculated Conductance	- 48.13
Calculated Solar Heat Gain	- 4.33
<b>Conductance / Solar Heat Gain Available</b>	
Calculated Conductance	- 7.87
Calculated Solar Heat Gain	- 0.87

<b>First Floor</b>	
Nelt floor area	- 22m <sup>2</sup>
Fenestration area to floor	- 4.32m <sup>2</sup>
Fenestration percentage	- 19.6%
<b>Max Conductance allow</b>	<b>- 30.8</b>
<b>Max Solar Heat Gain</b>	<b>- 2.86</b>

<b>Achieved Aggregate Conductance / Solar Heat Gain</b>	
Calculated Conductance	- 24.19
Calculated Solar Heat Gain	- 2.38
<b>Conductance / Solar Heat Gain Available</b>	
Calculated Conductance	- 6.61
Calculated Solar Heat Gain	- 0.48

<b>Roof construction</b>	
<b>Minimum Total R-value required: 3.7m<sup>2</sup>/K/W</b>	
Basic roof assembly	- Metal sheeting
	- Ventilated
	- Pitch 30° degrees with 6.5mm Gypsum Horizontal ceiling.
	- Pitch 15° degrees with 6.5mm Gypsum Sloped ceiling.
Roof covering	- 0.03 m <sup>2</sup> /K/W
Ceiling	- 0.05 m <sup>2</sup> /K/W
<b>Required insulation</b>	<b>- 3.35 m<sup>2</sup>/K/W</b>

Sialation 405 Reflective Foil Laminate used under roof sheeting	- 1.26 R-value
120mm ISOTHERM used between Rafter/Trusses above ceiling	- 2.3 R-value
<b>TOTAL R VALUE-</b>	<b>3.56</b>

COMPLIES TO SANS204 REQUIREMENTS.

<b>Air filtration &amp; Leakage</b>	
Max permissible openable glazing	- 2.0 L/sm <sup>2</sup>
Max permissible fixed glazing	- 0.31 L/sm <sup>2</sup>
Max permissible doors	- 5.0 L/sm <sup>2</sup>

External doors - Habitable Room - Door seal required  
Roof, walls and floor to be constructed to minimise air leakage in conditional space

<b>Services</b>	
<b>Lighting and power</b>	
<b>Max. energy demand - 310W</b>	
<b>Max. energy consumption per Annum - 310 kWh</b>	
<b>Total lamp energy demand - 28W</b>	
<b>Total energy demand - 0.44W/m<sup>2</sup></b>	
<b>Total energy consumption - Lights - 60.06kWh or 0.97kWh/m<sup>2</sup></b>	
<b>Available annual energy consumption - Lights - 249.94kWh</b>	
<b>Hot water service</b>	
Type of accommodation - Dwelling house, low rental: 80-115L/capita/day	
Assumed Hot water consumption - 115L	
No. of persons per day - 3	
Assumed daily Hot water consumption - 345 L	
Assumed Annual Hot water consumption - 125.58kL	
50% of Annual Hot water consumption - 62.97kL	
(minimum volume of hot water provided by means other than electrical resistance	
Daily Hot water consumption, to be provided by means other than electrical resistance heating - 172L	

PROJECT NAME  
**PROPOSED NEW ADDITIONS  
FOR TENIQUA TRUST ON  
PORTION 70 OF 203  
ELANDSKRAAL, SEDGEFIELD**

DRAWING TITLE <b>LABOUR COTTAGE 2</b>	
DRAWING. NO. <b>104</b>	REV. NO.
DATE 01/28/18	SCALE As indicated
CLIENT <b>TENIQUA TRUST</b>	
SIGNATURE DAVID N. GORFINKELE (PLS0974) <b>AFRICA SURVEY</b> +27 82 4559805 • dave@afriasurvey.com	
DESIGNER <b>Dale Faba</b> Prof. Architectural Technologist	
DALE FABA SACAP NO. PAT 24740250 32713 (SAIA) 195 Swarthout Crescent, New Horizon, Plettenberg Bay Contact no. 076 946 8358 Email: dalef@live.co.za	
<b>Architecture</b> NDIP(NMMU), N.CERT. (PE COLLEGES)	

Client Ref: Lolla