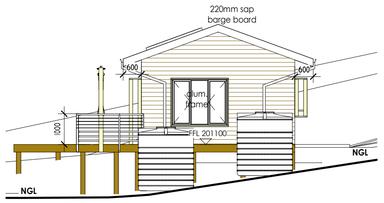
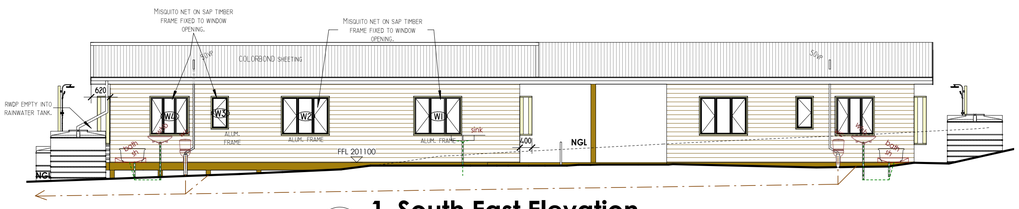
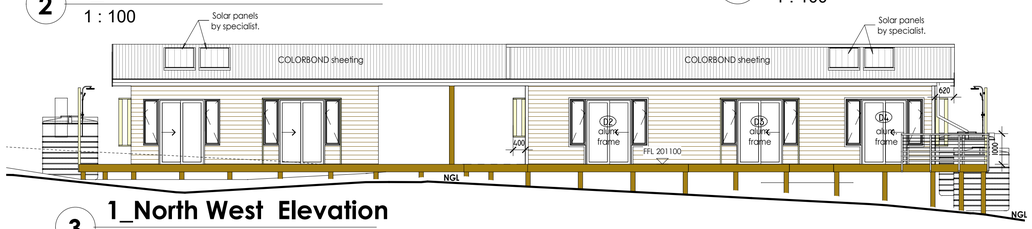


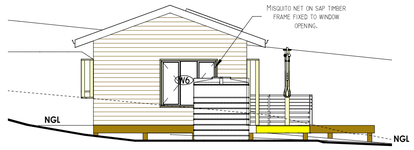
2 1_South West Elevation
1 : 100



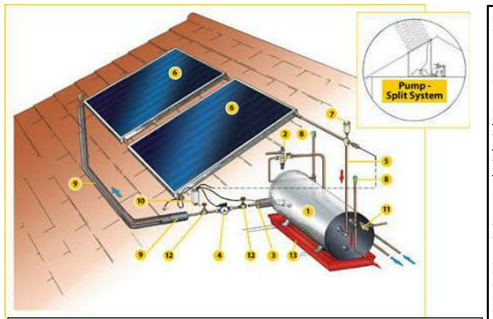
5 1_South East Elevation
1 : 100



3 1_North West Elevation
1 : 100



4 1_North East Elevation
1 : 100



SOLAR GEYSER - 50% HOT WATER PROVIDED OTHER THAN ELECTRICAL RESISTANCE
KWIKSTARMAXXL DIRECT PUMP CIRCULATION SPLIT SOLAR WATER HEATING SYSTEM WITH TWO 2000 X 1000 X 80MM HIGH FLAT SOLAR 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 1560MM LONG WITH 22MM COPPER PIPE AND OPERATING AT 4.0MPA WITH 4.0MPA KWIKIT MULTI PRESSURE CONTROL AND EXPANSION RELIEF VALVE (CODE: KHNS-2A1), ELECTRICAL CIRCULATING PUMP, AUTO VENT VALVE, DIFFERENTIAL THERMOSTAT, 22MM DRAINCOCK AND 22MM INSULATED PIPE WORK INCLUDING TWO KWIKIT VACUUM BREAKERS (CODE: KHNL-200CK) INSTALLED ON HOT AND COLD WATER SUPPLY. GEYSER TO BE INSTALLED HORIZONTALLY IN BELOW FLOOR SPACE ALL IN ACCORDANCE WITH SANS 10254:2004 AND SANS 10106:2006, CONNECTED TO SINGLE PHASE ELECTRICAL POWER SUPPLY WITH ISOLATOR IM AWAY FROM CONNECTION ON GEYSER.

Occupancy	- H3
Occupancy Times	- 24 hrs per day 7 days a week
Building Nett area	- 107.50m²
Building Total area	- 107.50m²
Climatic Zone	- Zone 4

Main Axis Building Orientation - North

Concrete slab on ground
See floor Construction Note

External Wall construction
See wall construction Note

Fenestration Calculations

Nett floor area	- 107.50m²
Fenestration area to floor	- 26.83m²
Fenestration percentage	- 25.0%
Max Conductance allow	**- 150.50**
Max Solar Heat Gain	**- 13.98**

Achieved Aggregate Conductance / Solar Heat Gain
Calculated Conductance - 117.04
Calculated Solar Heat Gain - 12.98
Conductance / Solar Heat Gain Available
Calculated Conductance - 33.46
Calculated Solar Heat Gain - 0.99

Roof construction
Minimum Total R-value required: 3.7m²K/W

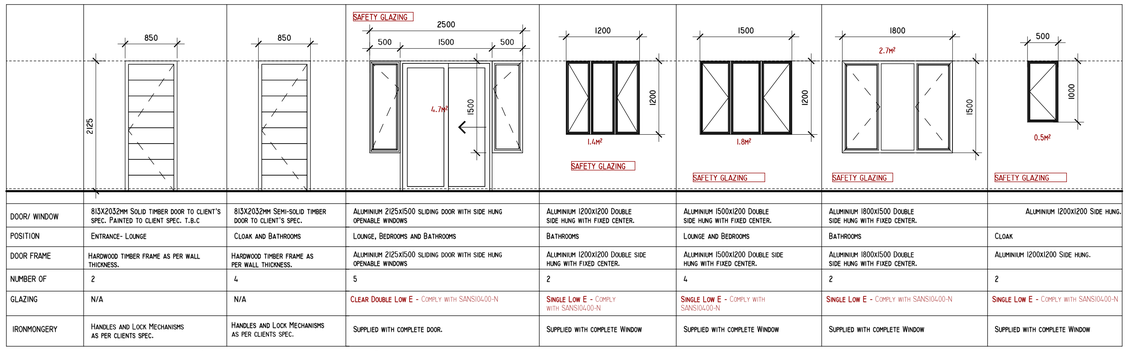
Basic roof assembly	- Metal sheeting - Ventilated - Pitch 20° degrees with 6.5mm Gypsum Horizontal ceiling.
Roof covering	- 0.03 m²K/W
Ceiling	- 0.06 m²K/W
Required insulation	**- 3.5 m²K/W**

Sisalation 405 Reflective Foil Laminate used under roof sheeting - 1.26 R-value
120mm ISOTHERM used between trusses above ceiling - 2.3 R-value
TOTAL R VALUE- 3.56
COMPLIES TO SANS204 REQUIREMENTS.

Air filtration & Leakage
Max permissible openable glazing - 2.0 L/sm²
Max permissible fixed glazing - 0.31 L/sm²
Max permissible doors - 5.0 L/sm²

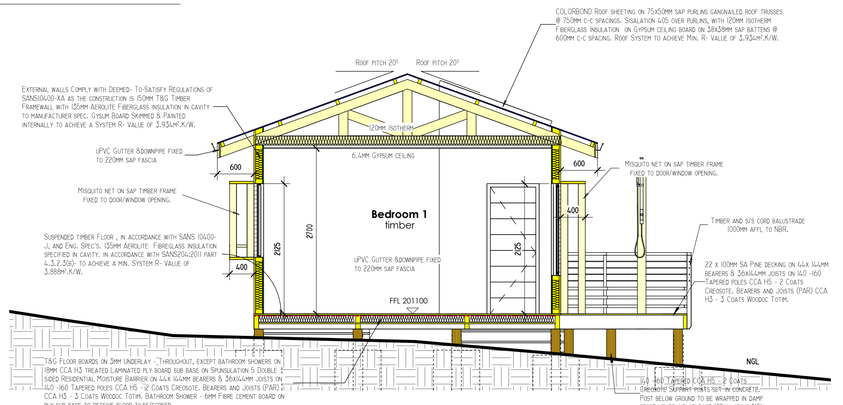
External doors - Habitable Room - Door seal required
Roof, walls and floor to be constructed to
minimise air leakage in conditional space

Services
Lighting and power
Max. energy demand - 538W
Max. energy consumption per Annum - 538kWh
Total lamp energy demand - 39W
Total energy demand - 0.36W/m²
Total energy consumption - Lights - 84.08kWh or 0.78kWm²
Available annual energy consumption - Lights - 453.42kWh
Hot water service
Type of accommodation - Dwelling house, low rental: 80-115L/capita/day
Assumed Hot water consumption - 115L
No. of persons per day - 2
Assumed daily Hot water consumption - 230L
Assumed Annual Hot water consumption - 83.72kL
50% of Annual Hot Water consumption - 41.86kL
(minimum volume of hot water provided by means other than electrical resitance
Daily Hot water consumption, to be provided by means other than electrical resistance heating - 115L **(SOLAR PANEL WATER HEATING)**



DOOR/ WINDOW	813X2032MM SOLID TIMBER DOOR TO CLIENT'S SPEC. PAINTED TO CLIENT SPEC. T.B.C	813X2032MM SEMI-SOLID TIMBER DOOR TO CLIENT'S SPEC.	ALUMINIUM 2125X1500 SLIDING DOOR WITH SIDE HUNG OPENABLE WINDOWS	ALUMINIUM 1200X1200 DOUBLE SIDE HUNG WITH FIXED CENTER.	ALUMINIUM 1500X1200 DOUBLE SIDE HUNG WITH FIXED CENTER.	ALUMINIUM 1800X1500 DOUBLE SIDE HUNG WITH FIXED CENTER.	ALUMINIUM 1200X1200 SIDE HUNG.
POSITION	ENTRANCE- LOUNGE	CLOAK AND BATHROOMS	LOUNGE, BEDROOMS AND BATHROOMS	BATHROOMS	LOUNGE AND BEDROOMS	BATHROOMS	CLOAK
DOOR FRAME	HARDWOOD TIMBER FRAME AS PER WALL THICKNESS.	HARDWOOD TIMBER FRAME AS PER WALL THICKNESS.	ALUMINIUM 2125X1500 SLIDING DOOR WITH SIDE HUNG OPENABLE WINDOWS	ALUMINIUM 1200X1200 DOUBLE SIDE HUNG WITH FIXED CENTER.	ALUMINIUM 1500X1200 DOUBLE SIDE HUNG WITH FIXED CENTER.	ALUMINIUM 1800X1500 DOUBLE SIDE HUNG WITH FIXED CENTER.	ALUMINIUM 1200X1200 SIDE HUNG.
NUMBER OF	2	4	5	2	4	2	2
GLAZING	N/A	N/A	CLEAR DOUBLE LOW E - COMPLY WITH SANS10400-N	SINGLE LOW E - COMPLY WITH SANS10400-N	SINGLE LOW E - COMPLY WITH SANS10400-N	SINGLE LOW E - COMPLY WITH SANS10400-N	SINGLE LOW E - COMPLY WITH SANS10400-N
IRONMONGERY	HANDLES AND LOCK MECHANISMS AS PER CLIENTS SPEC.	HANDLES AND LOCK MECHANISMS AS PER CLIENTS SPEC.	SUPPLIED WITH COMPLETE DOOR.	SUPPLIED WITH COMPLETE WINDOW	SUPPLIED WITH COMPLETE WINDOW	SUPPLIED WITH COMPLETE WINDOW	SUPPLIED WITH COMPLETE WINDOW

1_Door/Window Schedule _Managers Cottage
1 : 50



6 1_CROSS SECTION
1 : 50

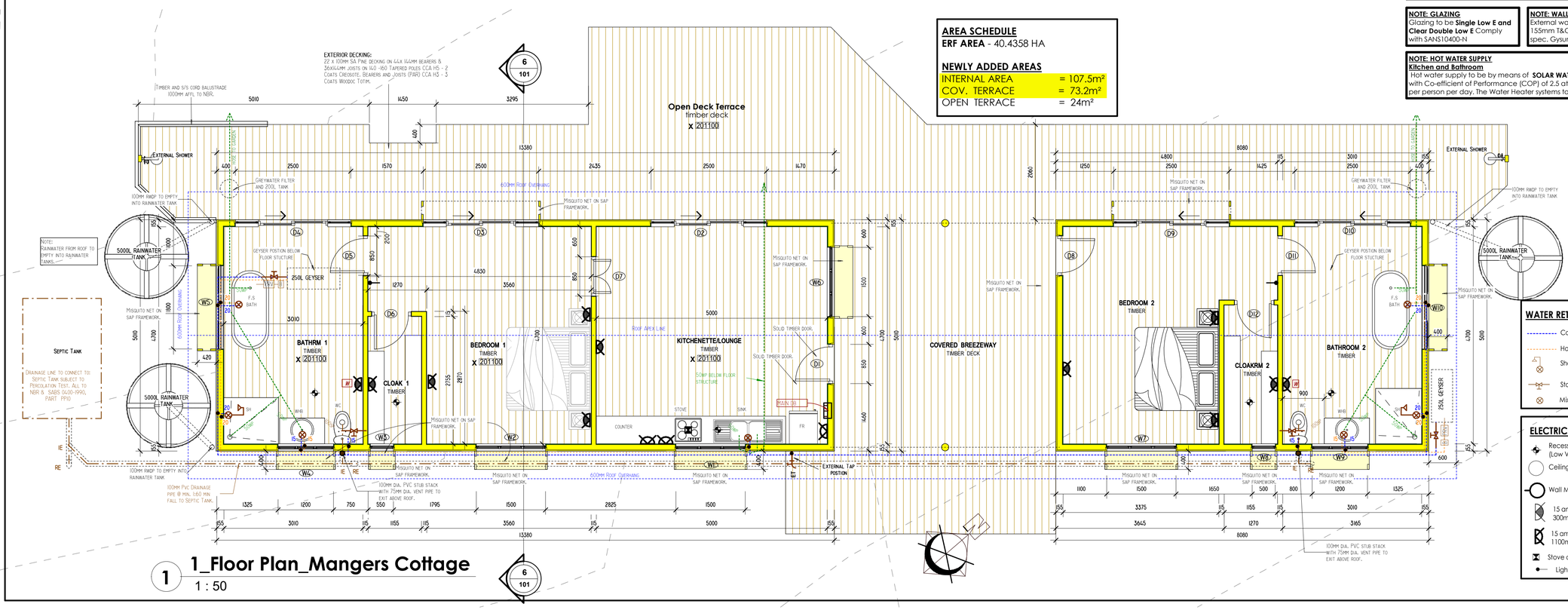
NOTE: ROOF CONSTRUCTION
Roof Structure to Eng. spec
COLORBOND sheeting, Sisalation 405 over purlins, with 120mm Isotherm Insulation on Gypsum ceiling. Roof System to achieve Min. R- Value of 3.934m².K/W.

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 3.888m².K/W.

NOTE: GLAZING
Glazing to be **Single Low E and Clear Double Low E** 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 Framewall with 135mm Aerolite Fiberglass insulation in cavity to manufacturer spec. Gysum Board Skimmed & Painted internally to achieve a System R- Value of 3.934m².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



1_Floor Plan_Mangers Cottage
1 : 50

WATER RETICULATION LEGEND
- Cold Water Supply
- Hot Water Supply
- Shower Fixed
- Stop Cock
- Mixer

ELECTRICAL LEGEND
- Recess Downlight Fitting (Low Voltage/LED)
- Ceiling Mounted Light fitting
- Wall Mounted Light fitting
- 15 amp double plug @ 300mm affl.
- 15 amp double plug @ 1100mm affl.
- Stove connection
- Light Switch

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

DRAWING TITLE
LABOUR COTTAGE 1

DRAWING. NO.	REV. NO.
101	
DATE: 01/27/18	SCALE: As indicated

CLIENT
TENIQUA TRUST

SIGNATURE

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DESIGNER
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Prof. Architectural Technologist

SIGNATURE

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Architecture
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Client Ref: LILA

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