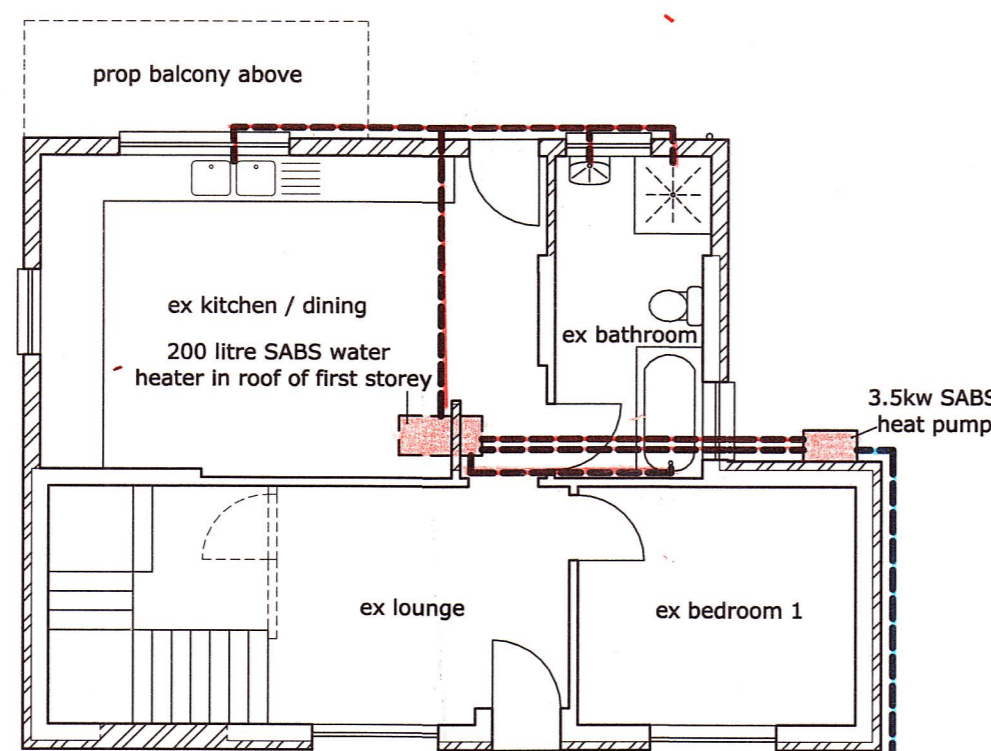
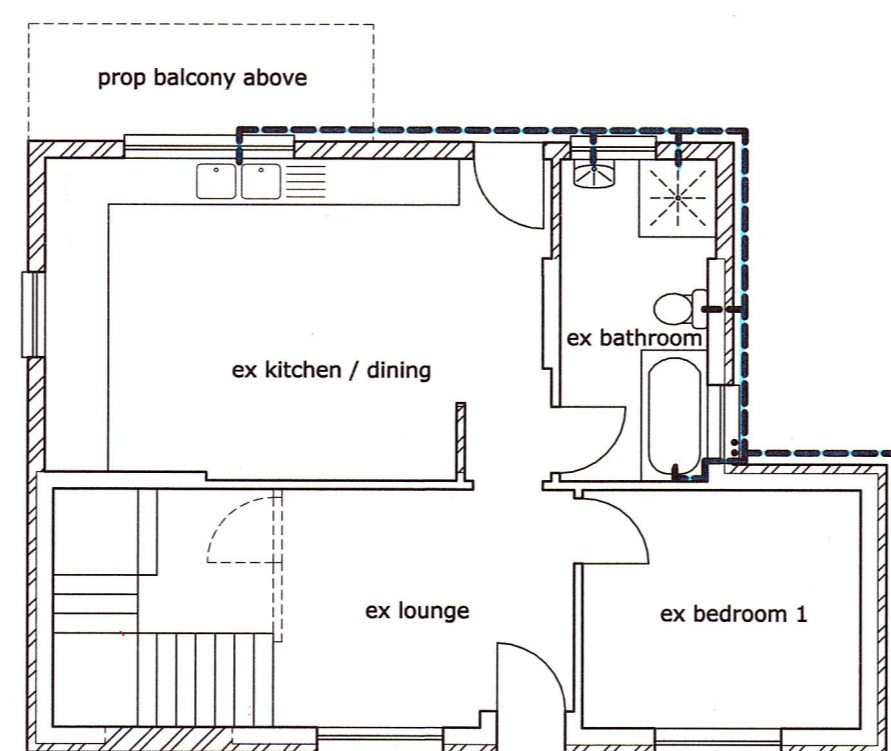


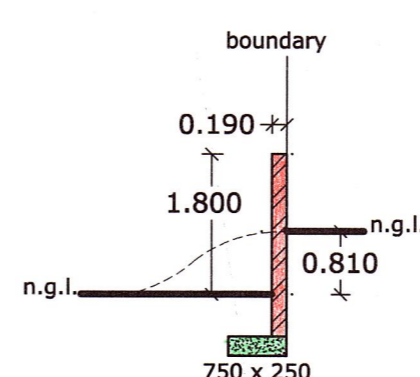
Energy Consumption Layout
Ground Storey Floor Plan



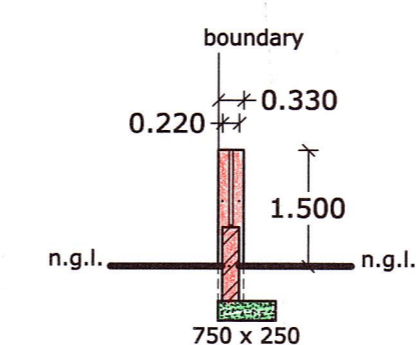
Hot Water Reticulation
Ground Storey Floor Plan



Cold Water Reticulation
Ground Storey Floor Plan

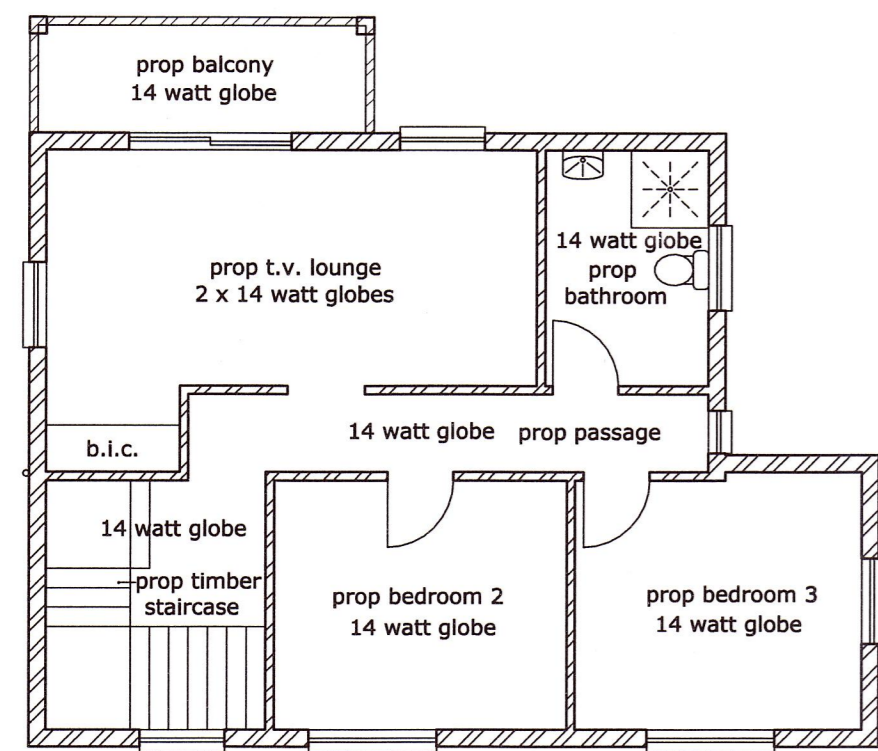


Section C - C
1:100

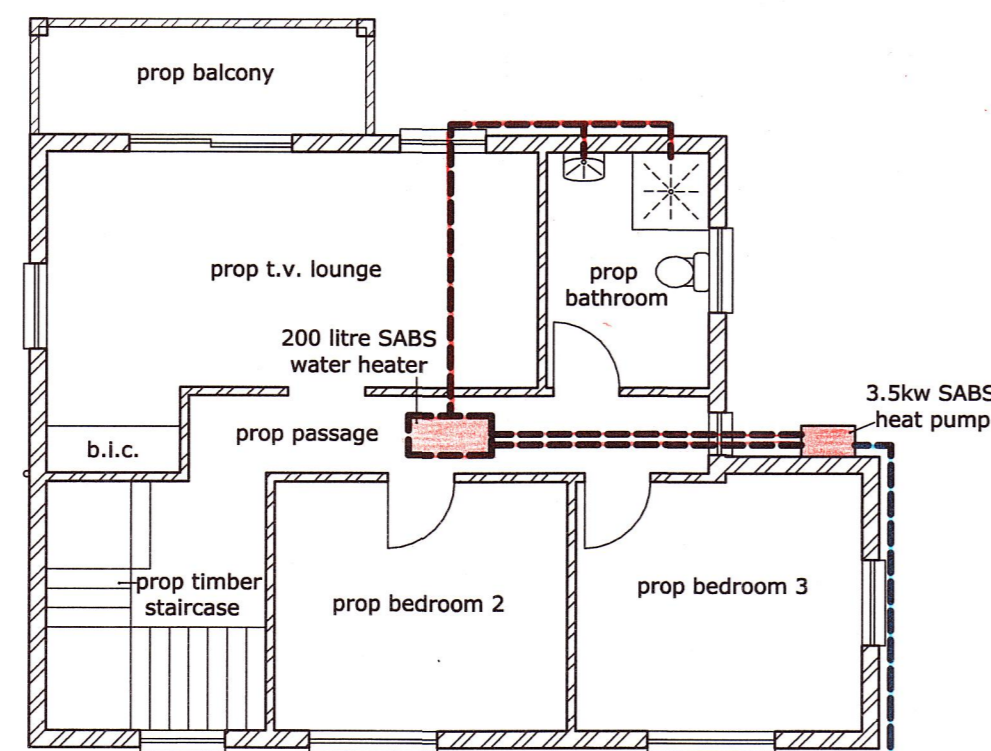


Section B - B
1:100

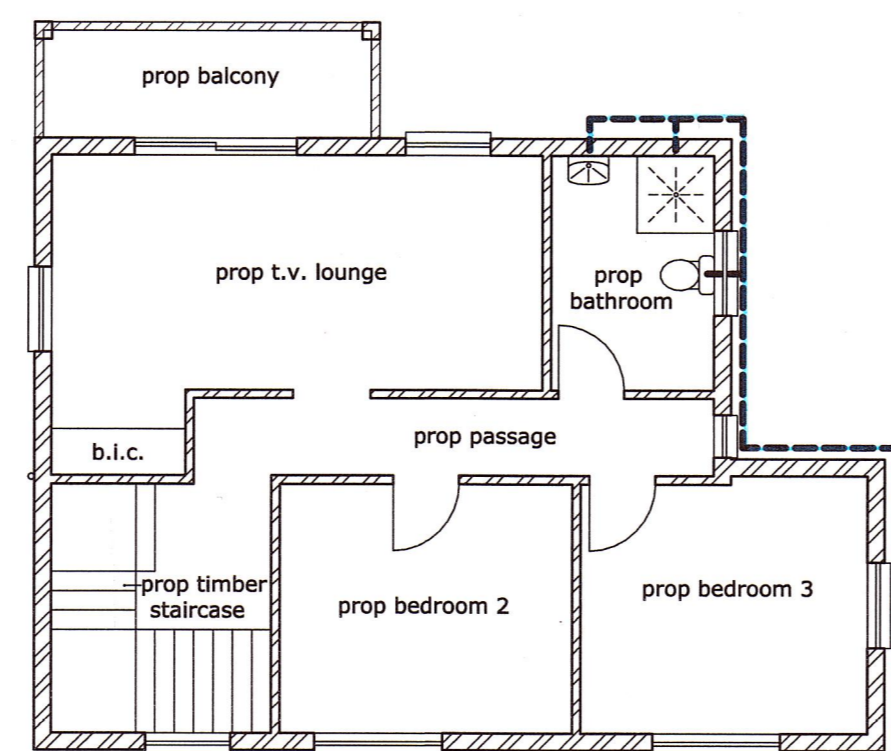
Schedule of Areas	
Site Area :	755 square metres
Ex Dwelling :	60.08 square metres
Prop Ground Floor Adds :	19.43 square metres
Prop First Floor Adds :	79.51 square metres
Prop Balcony :	6.84 square metres
Total New Area :	105.78 square metres
Ex Coverage :	60.08 square metres
Which Represents :	7.96 %
Prop Coverage :	26.27 square metres
Which Represents :	3.47 %
Total Coverage :	86.35 square metres
Which Represents :	11.43 %
Ex F.A.R. :	60.08 square metres
Which Represents :	0.0796
Prop F.A.R. :	98.94 square metres
Which Represents :	0.1310
Total F.A.R. :	159.02 square metres
Which Represents :	0.2106



Energy Consumption Layout
First Storey Floor Plan



Hot Water Reticulation
First Storey Floor Plan



Cold Water Reticulation
First Storey Floor Plan

- List of Alterations**
- Internal door and wall to ex lounge to be removed in order to accommodate proposed staircase.
 - Ex window to be removed in size in order to accommodate proposed staircase.
 - Ex sewer manhole to be repositioned in order to accommodate proposed additions to ex dwelling.
 - Ex plaster and paint external walls to be provided with facebrick skin to match the proposed additions which are to be facebrick.



Fitting Description	new r.e.3	new m.h.	new r.e.2	new r.e.1
Ground Level	+1.90	+1.90	+1.90	+1.90
Invert Level	1.35	1.10	1.23	1.35
Depth	0.55	0.80	0.67	0.55
Gradient	1 in 9	1 in 34.31	1 in 34.83	
Distance	2250	4460	4180	
Materials	100mm SABS PVC 791			

Energy Efficiency Calculations in terms of SANS 10400 X-XA-204

Dwelling - Nett Floor Area - First Floor : 70.52 sq. metres

Area of Windows is 22.39% of the Nett Floor Area

Maximum Conductance = Nett Floor Area x Conductance Value = 70.52 x 1.4 = 98.73 Maximum Conductance
Maximum Solar Heat Gain = Nett Floor Area x Solar Heat Gain Value = 70.52 x 0.11 = 7.76 Maximum Solar Heat Gain Permitted

Description	Sector	Width	Height	SHGC	Conductance	P (projection)	H (height)	Solar Exp. Factor	Glass Type	Frame	Area - m ²	Result SHG	Result Conductance	Thickness & Specifications
Window 1	North West	1.10m	1.20m	0.66	5.73	0.91	1.49	0.38	Single Low E	Aluminium	1.32 m ²	0.33	7.56	4mm monolithic annealed glass
Window 2	North West	1.65m	1.20m	0.66	5.73	0.91	1.49	0.38	Single Low E	Aluminium	1.98 m ²	0.50	11.35	4mm monolithic annealed glass
Window 3	North West	1.65m	1.20m	0.66	5.73	0.91	1.49	0.38	Single Low E	Aluminium	1.98 m ²	0.50	11.35	4mm monolithic annealed glass
Window 6	South West	1.10m	1.20m	0.66	5.73	0.91	1.49	0.60	Single Low E	Aluminium	1.32 m ²	0.52	7.56	4mm monolithic annealed glass
Window 7	South West	0.55m	0.90m	0.66	5.73	0.91	1.19	0.54	Single Low E	Aluminium	0.49 m ²	0.17	2.81	4mm monolithic annealed glass
Window 8	South West	1.10m	0.90m	0.66	5.73	0.91	1.19	0.54	Single Low E	Aluminium	0.99 m ²	0.35	5.67	4mm toughened safety glass
Window 10	South East	1.10m	0.90m	0.66	5.73	0.91	1.19	0.50	Single Low E	Aluminium	0.99 m ²	0.33	5.67	4mm monolithic annealed glass
Window 13	North East	1.10m	2.10m	0.66	5.73	0.91	2.39	0.45	Single Low E	Aluminium	2.31 m ²	0.69	13.24	5mm toughened safety glass
Sliding Door 1	South East	2.10m	2.10m	0.66	5.73	2.41	2.39	0.41	Single Low E	Aluminium	4.41 m ²	1.19	25.27	5mm toughened safety glass
Total :											15.79 m ²	4.58 - pass	90.48 - pass	

Energy Efficiency Calculations in terms of SANS 10400 X-XA-204

Dwelling - Nett Floor Area - Ground Floor : 68.92 sq. metres

Area of Windows is 12.54% of the Nett Floor Area Therefore the minimum energy performance for the ground floor is deemed to be satisfied.

Description	Sector	Width	Height	Glass Type	Frame	Area - m ²	Thickness & Specifications
Window 4	North West	1.63m	1.24m	Single Clear	Aluminium	2.02 m ²	4mm monolithic annealed glass
Window 5	North West	1.63m	1.24m	Single Clear	Aluminium	2.02 m ²	4mm monolithic annealed glass
Window 9	South West	1.00m	0.64m	Single Clear	Aluminium	0.64 m ²	6mm toughened safety glass
Window 11	South East	1.10m	0.90m	Single Clear	Aluminium	0.99 m ²	6mm toughened safety glass
Window 12	South East	2.20m	0.90m	Single Clear	Aluminium	1.98 m ²	4mm monolithic annealed glass
Window 14	North East	1.10m	0.90m	Single Clear	Aluminium	0.99 m ²	4mm monolithic annealed glass
Total :						8.64 m ²	

Sewer Section
1:100

Energy Demand

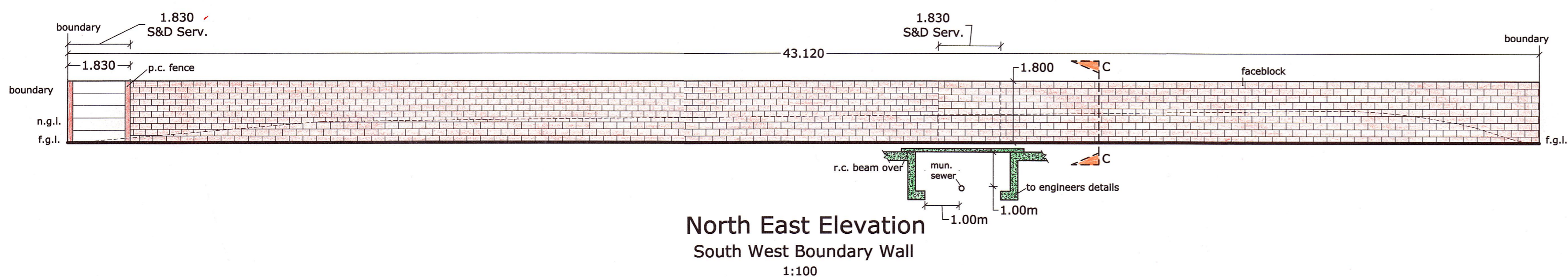
Total Area of Dwelling (incl. balcony) : 165.86 square metres
 Energy Demand - 5 watt per square metres x 165.86 square metres
Maximum Total Demand = 829 watts

2 x 36 watt fluorescent tube = 72 watts
 13 x 14 watt energy saving globe = 182 watt
Total Actual Demand = 254 watts
 254 watts is less than 829 watts Therefore Energy Demand = Pass

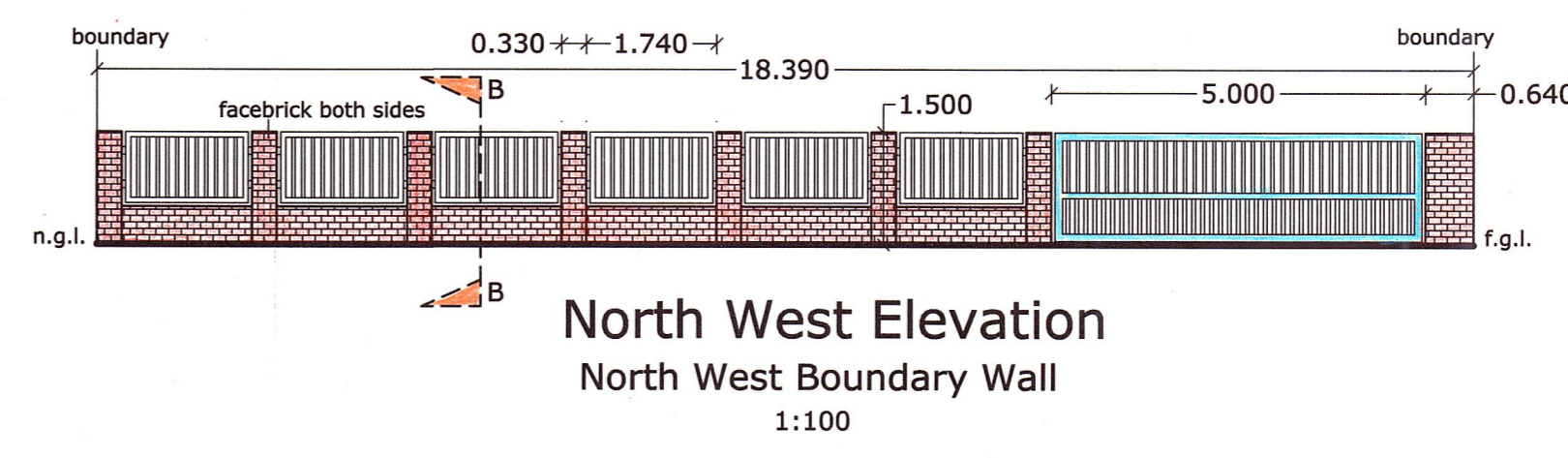
Energy Consumption

Total Area of Dwelling (incl balcony) : 165.86 square metres
 Energy Consumption : 5 kWh/sq. metre x 165.86
Maximum Total Consumption : 829 kWh/a. metre

Assume lights are on from 05.00 to 07.00 and between 17:00 and 22:00 hours for 80% of such time.
 52 (weeks) x 7 (days) x 7 (hours) = 2548 hours.
 2548 hours x 80% = 2038.4 hours per annum.
 Maximum permitted Energy Consumption = 165.86 square metres x 5kWh/m = 829kWh.a
 254 watts = 0.254Kw.
 0.254 x 2038 hours = 517.65kWh.a
 517.65 is less than 829 maximum Therefore Energy Consumption = Pass



North East Elevation
South West Boundary Wall
1:100



North West Elevation
North West Boundary Wall
1:100

Plan No : JAL - 2012-14

SITE CLASS DESIGNATION

The attention of the owner is drawn to the fact that deviations to this plan and / or specifications after formal approval is likely to invalidate such approval.

CLASSIFICATION H3

LITTLEFIELD & ASSOCIATES
Specialists in Residential Developments

Proposed Alterations and Additions to Existing Dwelling for Mr. S. Singh at 100 Nerina Road, Springfield. Portion 7 of Erf 306 of Springfield.