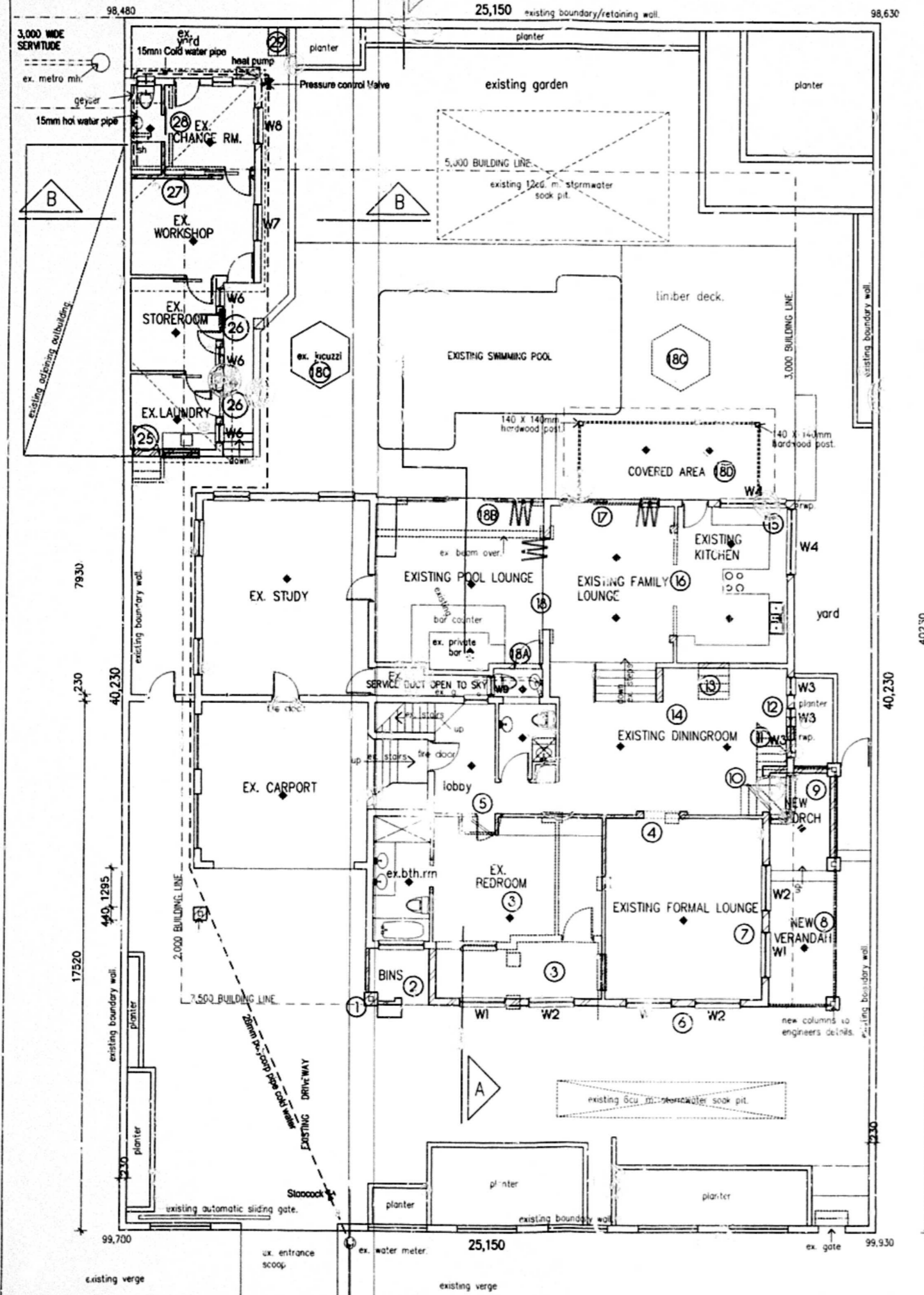


 4mm MONOLITHIC ANNEALED GLASS 1100 x 1200 W1	 4mm MONOLITHIC ANNEALED GLASS 1500 x 1200 W2	 6mm TOUGHENED SAFETY GLASS 1800 x 1800 W3	 4mm MONOLITHIC ANNEALED GLASS 2200 x 900 W4	 4mm MONOLITHIC ANNEALED GLASS 600 x 600 W5 HIGH LEVEL WINDOWS - SEE ELEVATIONS.	 4mm MONOLITHIC ANNEALED GLASS 600 x 1200 W6	 4mm MONOLITHIC ANNEALED GLASS 1200 x 1200 W7	 4mm MONOLITHIC ANNEALED GLASS 1200 x 1200 W8	 6mm TOUGHENED SAFETY GLASS 600 x 600 W9
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WINDOW GLAZING SCHEDULE SC1: 50

R-Value	
Glazed pipe insulation	= 1.0
Vertical walls	= 0.1
R-Values (Roofs)	
Roof tiles	= 0.45
Ceiling Gyproc	= 0.08
Roof insulation - 100mm thick	= 2.17
Thermal blanket insulation	= 2.17
Total Roof R-Value	= 2.74

Legend	
	- Round recessed fitting with 12w screw type barb
	- Hot water pipe
	- Cold water pipe
	- Heat Pump
	- Pressure control Valve
	- Water Meter
	- Stopcock



GROUND FLOOR PLAN / SITE PLAN

Water Notes:

- 150L High pressure geyser
- Pressure control valve to be 350mm above geyser.
- Copper to be used, stroke 0 externally with 350mm center holder bars.
- Internal use to be stroke 2 copper.
- Cold water from geyser to have direct connection with pressure control valve than to geyser to achieve even pressure in service line or to tank.
- All copper used to have a min. R Value of 1

Hot water Usage calculations:

From 6am to 6pm hot water supply will be by heat pump
 From 7pm till 5am next day hot water supply will be geyser by electricity
 Average = 2 person per Bedroom
 usage of 8 persons = 40L each x 8 = 320L per day
 240L x 365 days per year
 87 600L per year
 50% Heat pump = 43 800 per year
 50% by electricity = 43 800 per year } As per SANS 10 252

R Value of pipe insulation = 1.0
 Heat pump to have a constant temperature of 55° as per sans 10 252

Fenestration - Outbuilding

Net Area = 40.72
 Glazing = 5.04
 15 % of net area = 6.108
 Therefore Glazing is less 15% of net area

Fenestration - Ground Storey - Dwelling

Net Area = 173.68
 Glazing = 22.32
 15 % of net area = 26.052
 Therefore Glazing is less 15% of net area

Energy Demand - Ground Storey Dwelling

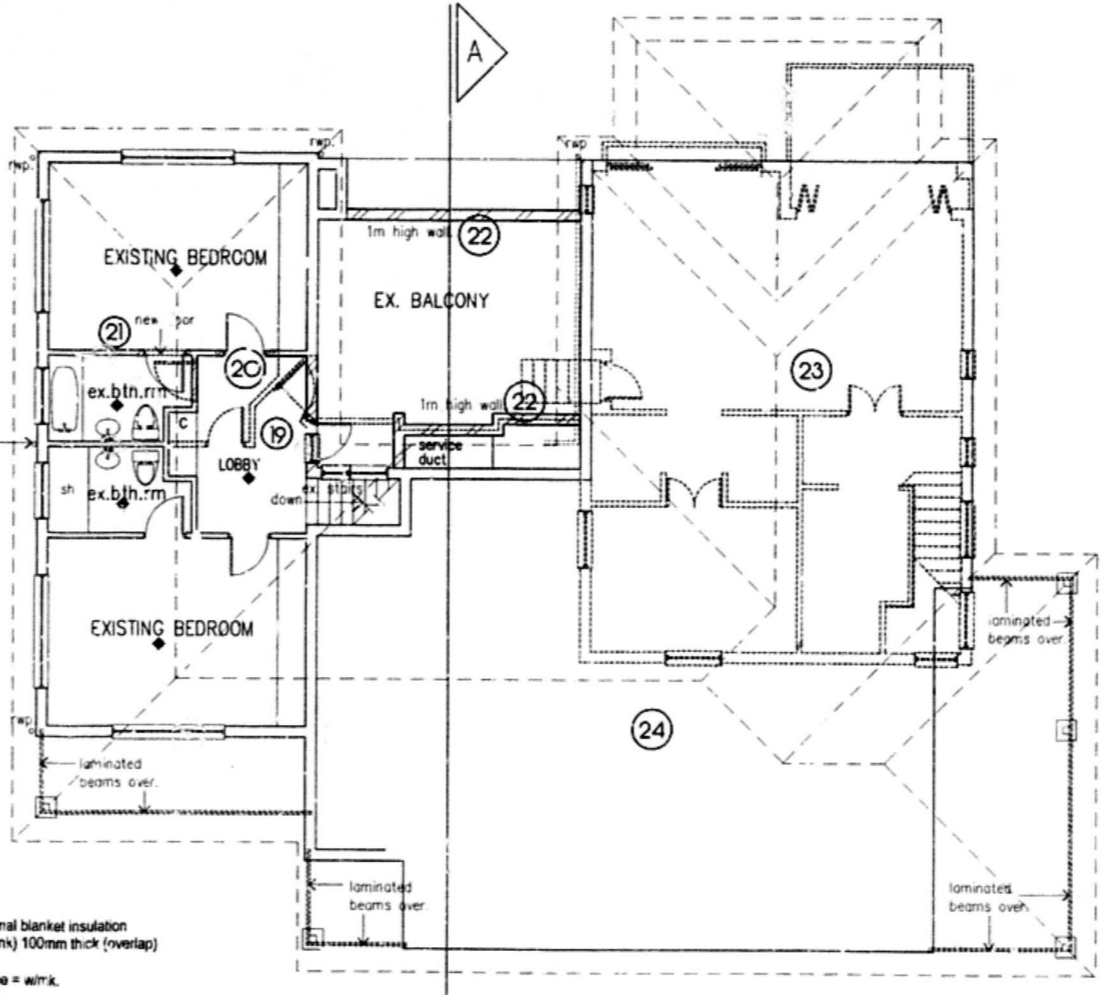
5 Wsqm Allowed
 5 Wsqm x 136.59 sqm = 682.95 wh/sqm a - Allowed
 lights = 20 x 12w = 240w
 or 240w / 136.59sqm
 = 0.71
Energy Consumption
 Allow 5 kWh/sqm a
 Assume lights are on from 17.00 - 22.00
 each day/year, 7 days a week
 52 weeks x 7 days x 5h
 = 1820 h a
 Lamp = 240w or 1820h a
 = 436.800 kWh a - Achieved

Energy Demand - first Storey Dwelling

5 Wsqm Allowed
 5 Wsqm x 77.59 sqm = 387.95 wh/sqm a - Allowed
 lights = 5 x 12w = 60w
 or 60w / 77.59sqm
 = 0.77
Energy Consumption
 Allow 5 kWh/sqm a
 Assume lights are on from 17.00 - 22.00
 each day/year, 7 days a week
 52 weeks x 7 days x 5h
 = 1820 h a
 Lamp = 60w or 1820h a
 = 109.200 kWh a - Achieved

Energy Demand - Outbuilding

5 Wsqm Allowed
 5 Wsqm x 50.41 sqm = 252.05 wh/sqm a - Allowed
 lights = 5 x 12w = 60w
 or 60w / 50.41sqm
 = 1.19
Energy Consumption
 Allow 5 kWh/sqm a
 Assume lights are on from 17.00 - 22.00
 each day/year, 7 days a week
 52 weeks x 7 days x 5h
 = 1820 h a
 Lamp = 60w or 1820h a
 = 109.200 kWh a - Achieved



FIRST FLOOR PLAN

Roofs

Insulation = 100mm thick thermal blanket insulation material = Aero Light (Think Pink) 100mm thick (overlap)
 Thermal conductivity = K Value = wh/mk
 Thermal conductivity = K Value
 Thickness of material = U Value
 $U = \frac{1}{R} = \frac{1}{0.040 \text{ wh/m}^2 \text{ K}} = 0.040 \text{ wh/m}^2 \text{ K}$
 $\frac{1}{0.040 \text{ wh/m}^2 \text{ K}} = 25 \text{ sqm}$

Roof zone 5 (c) - ventilated
 Requirement = 4.17 sqm kw
 Roof = 0.387 00 kw
 2.7 - 0.387 00 = 2.313
 2.313 / 25 = 0.09 = 100sqm
 Roof insulation to have a R Value of 2.17

DEVIATIONS TO APPROVED PLAN NO. 264/O1/09 ON BRF 2519 DURBAN NORTH AT NO. 102 ST. ANDREWS DRIVE FOR: MR. A. SCHOEMAN

OWNERS SIGNATURE _____

Jai Jeewanilal
 ARCHITECTURAL ENERGY EFFICIENCY CONSULTANTS
 360 Umbilo Road Durban 4001
 cell. 072 452 5140
 jai.arch@vodamail.com

mike patterson
 ARCHITECTURAL STUDIOS
 p.o. box 20577 Durban north 4016
 tel. 5644529 fax

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 author.

LAYOUT FOR 'XA' - FENESTRATION / ELECTRICAL LAYOUT/ ENERGY DEMAND AND CONSUMPTION AND HOT AND COLD WATER SUPPLY