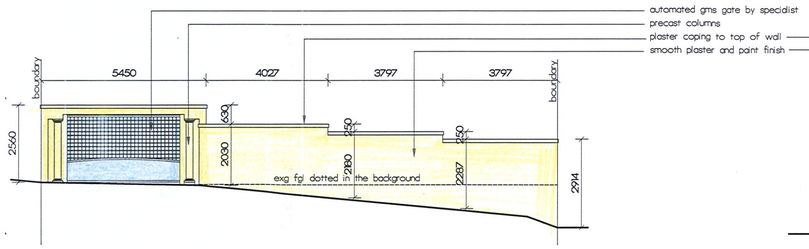
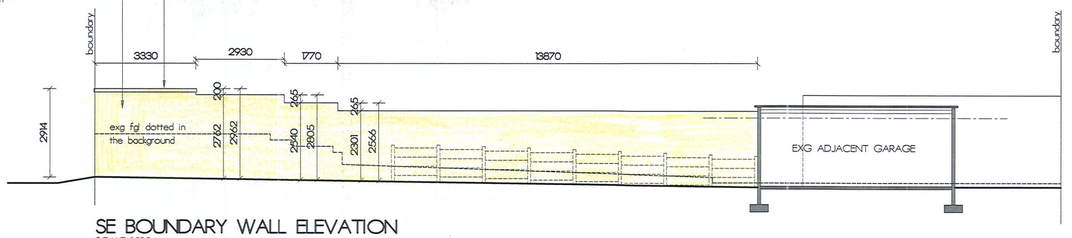
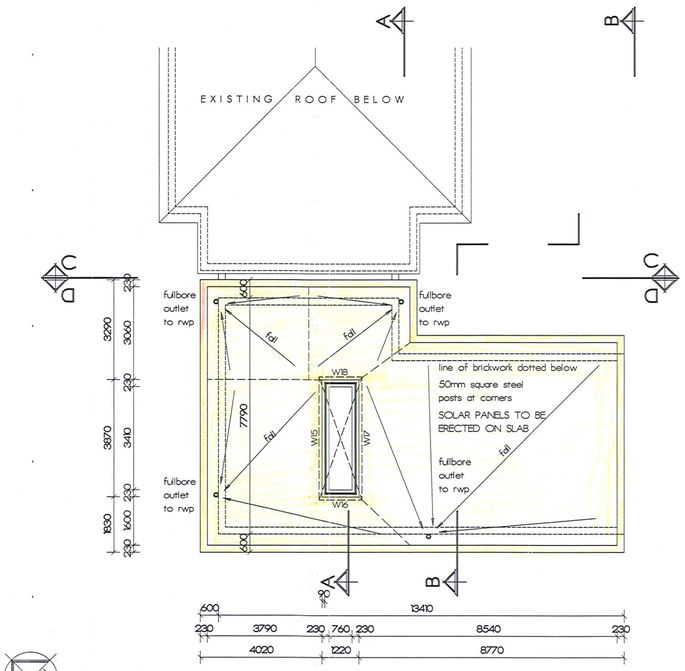


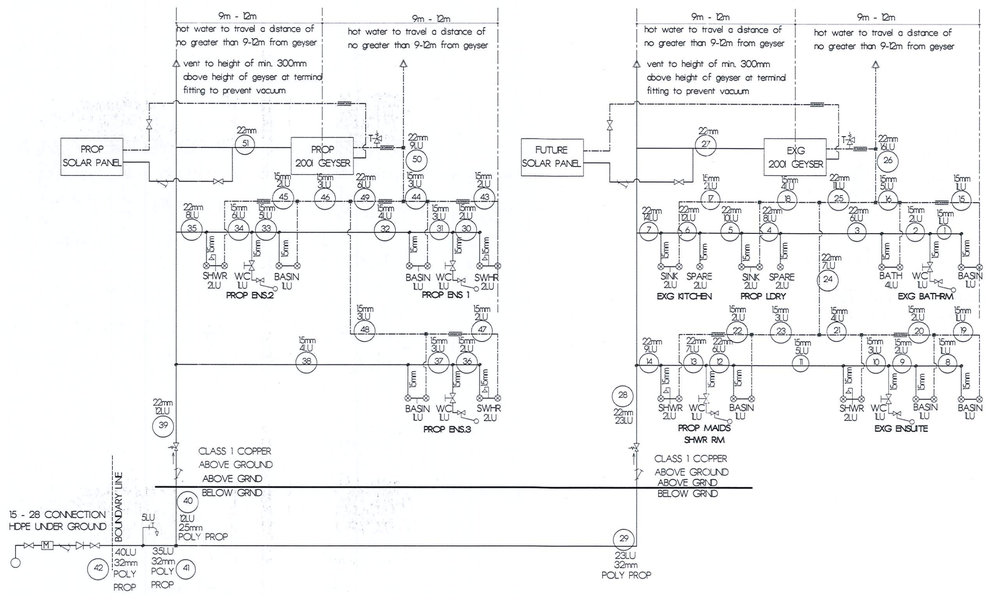
SW BOUNDARY WALL ELEVATION
SCALE 1:100



SE BOUNDARY WALL ELEVATION
SCALE 1:100



ROOF PLAN
SCALE 1:100



ALL WATER RETICULATION & DRAINAGE TO BE INSTALLED ON SITE AS PER SANS 10252:2012

SCHEMATIC WATER RETICULATION SYSTEM
NTS

FENESTRATION CALCULATIONS:

ZONE	NET FLOOR AREA - GROUND STOREY	TOTAL GLAZED AREA	%AGE OF AREA OF GLAZING TO FLOOR AREA	CONDUCTIVITY VALUE OF FRAME - U-value	MAX. SOLAR HEAT GAIN CO-EFFICIENT (SHGC value)
5H	43.45msq	4.29msq	9.9%	>20% therefore, ANY SOLUTION	>20% therefore, ANY SOLUTION

ZONE	NET FLOOR AREA - GROUND STOREY	TOTAL GLAZED AREA	%AGE OF AREA OF GLAZING TO FLOOR AREA	CONDUCTIVITY VALUE OF FRAME - U-value	MAX. SOLAR HEAT GAIN CO-EFFICIENT (SHGC value)
5H	81.29msq	9.70msq	11.93%	>20% therefore, ANY SOLUTION	>20% therefore, ANY SOLUTION

ORIENTATION	WINDOW NO.	WINDOW AREA
NW	W01	1.89msq
NW	W02	1.08msq
NW	W03	1.32msq
TOTAL AREA - GROUND STOREY WINDOWS		4.29msq

ORIENTATION	WINDOW NO.	WINDOW AREA
NW	W07	0.41msq
NW	W08	1.26msq
NW	W09	1.26msq
NE	W11	2.16msq
NE	W12	0.41msq
NE	W13	2.16msq
NW	W15	1.62msq
NE	W18	0.42msq
TOTAL AREA - FIRST STOREY WINDOWS		9.70msq

ROOF ASSEMBLY CALCULATIONS

ZONE	DIRECTION OF HEAT FLOW	MIN. TOTAL 'R' VALUE REQD
5H	DOWNWARD	2.7msq.K/W

'R' VALUE OF PROPOSED ROOF ASSEMBLY	
OUTDOOR AIR FILM (7m/s)	0.03msq.K/W
WATERPROOFING MEMBRANE - RUBBER SYNTHETIC	0.03msq.K/W
150mm SOLID CONCRETE SLAB	0.28msq.K/W
80mm CEILING INSULATION - FIBREGLASS BOARD	2.35msq.K/W
9.0mm RHINOBOARD CEILING	0.06msq.K/W
INDOOR AIR FILM (STILL)	0.16msq.K/W
TOTAL	2.9msq.K/W

HOT WATER DEMAND

OCCUPANCY	OCCUPANCY TYPE	NO. OF BEDRMS	NO. OF PEOPLE	TOTAL HOT WATER DEMAND/CAPITA/DAY	TOTAL HOT WATER DEMAND
H4	MEDIUM TO HIGH RENTAL	3	6	115L PER CAPITA PER DAY	6 x 115L/d = 690L/DAY +20% water loss = 828L/DAY 50% x 1.04L/DAY = 414L/DAY

SOLAR HEAT INPUT REQD H = (V x C x delta T) / n	AREA OF SOLAR COLLECTORS REQD. A = H / S (winter solar radation)
H = (0.414 x 4.18kJ/L x 40°) / 0.56 = 123 608.571 kJ/DAY	A = 123 608.571 kJ / 1100kJ = 1.14msq

STORAGE VOLUME/ CAPITA/DAY @60°	SIZE OF STORAGE TANK
40L PER CAPITA	6 x 40L/d = 240L/DAY +20% water loss = 288L/DAY MIN. TANK SIZE = 300L

ANNUAL ENERGY DEMAND & CONSUMPTION

TYPE OF LIGHT	WATTAGE/FITTING	NO. OF LIGHTS	TOTAL WATTS/ITEM	HRS USED/DAY	TOTAL DEMAND/DAY	TOTAL HRS/YEAR
LED DOWNLIGHTER	5W	9	45W	6hrs/day	270hrs	98280 Wh/msq
CEILING LIGHT	9W	5	45W	6hrs/day	270hrs	98280 Wh/msq
BI-PIN CHANDELIER	25W	1	25W	3hrs/day	75hrs	27300 Wh/msq
WALL LIGHT D/N	9W	1	9W	8hrs/day	72hrs	26208 Wh/msq
TOTAL ENERGY CONSUMPTION - GROUND STOREY			124W			250068 Wh/msq

TYPE OF LIGHT	WATTAGE/FITTING	NO. OF LIGHTS	TOTAL WATTS/ITEM	HRS USED/DAY	TOTAL DEMAND/DAY	TOTAL HRS/YEAR
LED DOWNLIGHTER	5W	27	135W	6hrs/day	810hrs	294840 Wh/msq
TOTAL ENERGY CONSUMPTION - FIRST STOREY			135W			294840 Wh/msq

STOREY	AREA	TOTAL WATTS/ ITEM	MAX. ANNUAL DEMAND/msq ALLOWED	ACTUAL ANNUAL DEMAND/msq	TOTAL KW/ HRS/YEAR	MAX. TOTAL KW/ HRS/YEAR/msq ALLOWED	ACTUAL TOTAL KW/ HRS/YEAR/msq
GROUND STOREY	43.45msq	124W	45VAmsq	28.54VAmsq	250.068kWh/msq	60kWh/msq/a	57.55kWh/msq/a
FIRST STOREY	81.29msq	135W	45VAmsq	16.61VAmsq	294.840kWh/msq	60kWh/msq/a	36.27kWh/msq/a

solar panel general notes

SOLAR PANELS ARE TO IDEALLY FACE NORTH AND BE ANGLED AT 10°+LATTITUDE LOCATION OF INSTALLATION

PANELS ARE TO BE FIXED TO MANUFACTURES SPECIFICATION & TO COMPLY WITH SANS 1307

SUPPLIER TO VERIFY THAT THE NUMBER OF PANELS PROVIDED WILL ADEQUATELY COVER THE NEEDS OF THE HOUSEHOLD AS PER SANS 10252-1:2012

INSTALLERS ARE TO ENSURE THAT THE PANELS ARE INSTALLED IN A MANNER THAT WILL ENSURE MAXIMUM EXPOSURE TO THE SUN ESPECIALLY BETWEEN 10.00am AND 14.00pm DAILY. SHADOWS CAST BY TREES AND/OR ADJACENT BUILDINGS DURING THESE PEAK HOURS SHOULD BE AVOIDED.

SOLAR PANELS ARE TO BE MAINTAINED AS PER MAUNFACTURE'S SPECIFICATIONS IN ORDER TO ENSURE MAXIMUM OUTPUT.

PART XA - insulation

Install 50mm thick non-combustible, lightweight glasswool geyser blanket around geyser. Seal edges with duct tape.

Apply 20mm 'snap-on-pipe' on incoming cold water pipes and insulate all outgoing hot water pipes to within 1.0m of plumbing fixtures.

provide 100mm thick flexible fibre glass blanket with overlaps of minimum 50mm over a wall member or to be tightly fitted against walls thickness of blanket to be maintained throughout

NAME	ADDRESS	TEL NO.	SIGNATURE
	5 ROSEANNE PLACE, ESSENWOOD	031 204 7489	
	15 NELSON ROAD, ESSENWOOD	0836591353	

client
S. RAMA & C. W. LEUNG

signature

project
PROPOSED ADDITIONS & ALTERATIONS TO EXISTING DWELLING

address
21 NELSON ROAD

cadastral description
PORTION 33 OF ERF 2125 DURBAN

metro acc. no. 83611550735

DESIGN & drawing TECHNOLOGY
PR.SNAT.ARCH.TECHNOLOGIST
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DURBAN, 4001
CELL:0832980646
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scale: AS SHOWN
sheet no.: 3/3
job no.: n21-22 wd02
date: 23.11.2021