								I	_	l .				
CLIENT				truction					erhang+.:					
STAND				ains x 10					•	ofwindow	to lowest	point o	ofshadii	ng
Floor A	Area	236	m2	C=	1.2	Max=	283.2	H=He	eight of wir	idow+G				
Sheet I	No	1	m2	shgc =	0.15	Max=	35.4	Clima	te Zone 2	Glass Type				
15% Pe	ermissa	ble	35.4		Sue Kem	p Pr(Arch	n) Draug	ht SA	CAP D0104					
Win	Width	Depth	Area	Tab6C	Tab6Cshg	U Value	shgc	Р	G	Н	P/H	Orient	Tab C2	Act shgc
W1	2.4	1.8	4.32	7.9	0.81	34.13	3.499	0.71	0.3	2.1	0.3381	NE	0.63	2.2045
W2.	0.9	1.8	1.62	7.9	0.81	12.8	1.312	2	0.3	2.1	0.95238	NE	0.33	0.43303
W3	0.3	1.5	0.45	7.9	0.81	3.555	0.365	0.71	0.3	1.8	0.39444	NW	0.62	0.22599
W4	0.3	1.5	0.45	7.9	0.81	3.555	0.365	0.71	0.3	1.8	0.39444	NW	0.62	0.22599
W5	0.3	1.5	0.45	7.9	0.81	3.555	0.365	0.71	0.3	1.8	0.39444	NW	0.62	0.22599
W6	1.2	0.9	1.08	7.9	0.81	8.532	0.875	0.71	0.3	1.2	0.59167	SE	0.47	0.41116
W7	0.9	0.9	0.81	7.9	0.81	6.399	0.656	0.71	0.3	1.2	0.59167	SE	0.47	0.30837
ws	0.9	0.9	0.81	7.9	0.81	6.399	0.656	0.71	0.3	1.2	0.59167	SE	0.47	0.30837
W9	0.6	0.9	0.54	7.9	0.81	4.266	0.437	0.71	0.3	1.2	0.59167	SE	0.47	0.20558
W10	0.6	0.9	0.54	7.9	0.81	4.266	0.437	0.71	0.3	1.2	0.59167	SE	0.47	0.20558
W11	1.8	1.5	2.7	7.9	0.81	21.33	2.187	0.71	0.3	1.8	0.39444	SE	0.47	1.02789
W12	1.2	0.9	1.08	7.9	0.81	8.532	0.875	0.71	0.3	1.2	0.59167	SE	0.47	0.41116
W13	1.2	0.9	1.08	7.9	0.81	8.532	0.875	0.71	0.3	1.2	0.59167	SE	0.47	0.41116
W14	0.6	1.5	0.9	7.9	0.81	7.11	0.729	0.71	0.3	1.8	0.39444	SE	0.57	0.41553
W15	2.4	1.5	3.6	7.9	0.81	28.44	2.916	0.71	0.3	1.8	0.39444	NW	0.62	1.80792
W16	1.8	1.5	2.7	7.9	0.81	21.33	2.187	0.71	0.3	1.8	0.39444	NW	0.62	1.35594
W17	1.8	1.5	2.7	7.9	0.81	21.33	2.187	0.71	0.3	1.8	0.39444	NW	0.62	1.35594
W18	2.4	2.1	5.04	7.9	0.81	39.82	4.082	0.71	0.3	2.4	0.29583	SW	0.69	2.81686
W19	2.1	1.8	3.78	7.9	0.81	29.86	3.062	0.71	0.3	2.1	0.3381	NW	0.67	2.05141
			34.7			273.7	28.07							16.4083
Fenestration complys with					Permissable C		283.2	Permissable shgc		35.4				
SANS 10400-XA:2011 A		Actual Fe	nestration	15%		Actua	IC	273.735	Actual sh	gc		16.4083		

## HOT WATER SERVICES

4.5.2.1 A minimum of 50% by volume of the annual average hot water heating requirement shall be provided by means other than electrical resistance heating, including but not limited to solar heating, heating, heat pumps, heat recovery from other systems or processes 4.5.2.2 The solar water heating systems shall comply with SANS 1307 and SANS 10106, based on the thermal performance determined in accordance with the provisions of SANS 6211-1 and SANS 6211-2. The installation thereof shall comply with SANS 10254 4.5.2.3 Hot water usage should be minimised and the system maintained in accordance with the requirements given in SANS 10252-1 4.5.2.4 All exposed pipes to and from the hot water cylinders and central heating systems shall be

insulated with pipe insulation material with an R-value in accordance with table 13 4.5.2.5 Insulation shall:

a) Be protected against the effects of the weather b) be able to withstand the temperatures within the piping c) achieve the minumum total R-value given in table 13

TABLE $13 - MINIMUM R - V$	ALUE OF PIPE INSULATION					
Internal diameter of pipe	Minimum R— value <sup>a</sup>					
≤ 80mm > 80mm	1.00 1.50					
<sup>a</sup> Determined with a hot surface temperature of 60 and an ambient temperature of 15 C						

Hot water vessels and tanks shall be insulated with a material achieving a mimimum R - value of 2.0NOTE: to achieve this value, insulation in addition to the manufacture's installed insulation

may be required 4.5.2.7 Insulation on vessels, tanks and piping containing cooling water shall be protected by a

vapour barrier on the outside of the insulation 4.5.2.8 The piping insulation requirements do not apply to space heating

a) Located within the space being heated where the piping is to provide the heating to that space or b) encased within a concrete floor slab or masonary These pipes shall comply with SANS 10252-1

4.5.2.9 Piping to be insulated includes all flow and return piping, cold water supply piping within 1m of the connection to the heating or cooling system and pressure relief piping within 1m of the connection to the heating or cooling system. Where possible, lengths of pipe runs should be

Buildings with conc slab on ground shall have insulation Climatic Zone 2 installed around the verticle edge of it's perimeter a) have an R-Value of not less than 1.0 b) resist water absorption in order to retain it's thermal insulation properties and

c) be continuous fron the adjacent finished ground level: 1) To a depth of not less than 300mm OR 2) For the full length of the vertical edge

of the conc slab on the ground

Care should be taken to ensure that any required termite arrangement system is not compromised by slab edge insulation

15mm Plaster Conc slab 1

Extruded polystrene — Iso Board or Expanded polystrene are recommended or any other similar insulation with an R-Value of 1.0 - 300mm deep

ROOF ASSEMBLY CALCULATIONS Min Thermal Resistance 3.2

Direction : Up					
	Total required resistance R=(m² K/W)				
R Value of roof assembly	0.4				
Minimum value of added thermal resistance for required insulation	2.8				

A combination of sisalation and 40mm Lambdaboard achieve an R-Value of greater than 2.8 The design complies with the minimum requirements of SANS 10400-XA: 2011

4.4.3.4.1 A seal to restrict air flow shall be fitted to each edge of an external door and other such 2. Bulk insulation under the waterproofing on openint that : a) Serves as a conditioned space or

b) serves as a habitable room in climatic zones 1, 2, 4 and 6 4.4.3.4.2 The seal may be a foam or rubber compressible strip or a fibrous seal 4.4.3.4.3 External swing doors shall be fitted witha draught protection device to the bottom edge on each leaf

CONCRETE ROOF CALCULATION Climatic Zone 2

Oli Fidelo Zorio -	
Direction : Up	
	Total required resistance R=(m²K/W)
Total R—Value is a combination of roof assembly and insulation	3.2
R value for conc roof, screed water proofing & plastered ceiling	0.4
Minimum value of added thermal resistance for required insulation	2.8

2

Scale 1 : 50

1000

gas facility is by authorised persons only

All building work to comply with SANS 0400

All electrical work to comply with SANS 0108

registered installer in accordance with

regulations of SANS 10087

No drains withing 2m & electrical equipment within 5m

Gas installation & pipeline to be installed by

No registrations needed by local authority

of gas installation

Scale 1 : 50

Provide shut off

\_valve outside cage

1 × 9kg Dry Powder Fire Extinguisher in waterproof

PLAN VIEW : GAS MANIFOLD LAYOUT

All safety distances to be checked on site and must be in compliance with SANS 10087, Part 1 Standards

Area around gas cage to be kept clear of all combustable materials

All warning and safety notices to be displayed as per SANS 1186 It is to be ensured that the gas cage is lockable and access to the

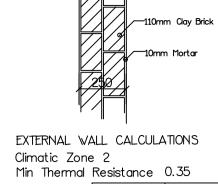
This installation is subject to local authority approval All mandatory fire equipment to be present and maintained

Housing

To achieve the thermal resistivity of 2.8 one of the following is recommended

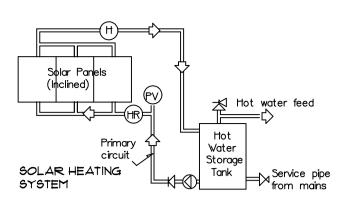
1. Isoboard ceiling with an R Value of at least 2.8 with a 30-100mm airspace

top of the slab with an R-Value of 2.8 Min. The design complies with the minimum requirements of SANS 10400-XA: 2011 if one of the conditions are met.



0.03 Plaster 230 Brickwork 0.7 0.33 Internal Plaster 0.6 15 0.03 260 Total 0.39

Min R-Value required 0.35 R - Value achieved 0.39 The design complies with the minimum requirements of SANS 10400—XA for external walls



Daily Domestic Water Usage As per SANS 10252-1: 2004 (Table 2)

L/	Day/Perso
Car washing/garden use	3 – 6
Drinkink, food preparation, cooking	18 – 22
Laundry	10 - 15
Personal washing, bathing	20 - 30
Washing dishes	8 - 12
WC flushing	32 – 40

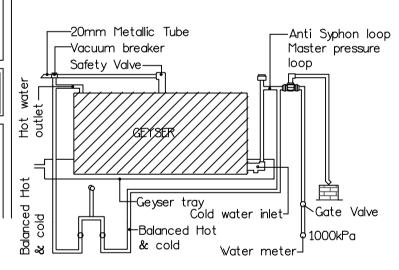
Calculated on Table 12 of SANS 204: 2011

14 - Dwelling	houses Amnt	Calc	Total W	att
<del>+</del>	8	x 22	176	V
•	49	× 11	539	W
	2	x 19	38	W
_		Total	753	W

Permissable 270 m2 x 5 Watt/m2 1350 W Actual Watt/me usage 2.78

	Annual Consumption permissable 1.350 x 1820	2457.00 kW
	Actual Consumption  0.753 × 1820	1370.46 k₩

The design complies with the requirements of SANS 10400 - XA: 2011 for energy consumption



Provide geyser blanket Water pipes to be insulated for 1m from geyser Water pipes longer than 6m to be fully lagged 200L Geyser to comply with SANS 10254 All work to comply with SANS 0254

HOT WATER CALCULATIONS

Housing

.\_\_\_\_ Hot water distribution

---- Cold water distribution

Final layout subject to registered plumber

Geysers to comply with SANS—10254 Wood to compy with SANS—10163

Dry walls to comply with SANS-082

All sliding/Folding Doors to be marked

RC lintels over all window & door openings Provide DPC at Min 150mm above NGL

recommendation

Specialist to install Gas fire

> Estimated daily demand 1035L Storeage tank Capacity 200L x 2 (1 Electrical , 1 Solar) Type of Building: Residential (H4) Estimated number of inhabitants 9 Assumed daily hot water use (115L/ person/day) Assumed annual hot water use (person/115L/365) = 377775LAll hot water pipes must be insulated with thermal insulation with a resistance

of min 1 (As per SANS 204.(4.5.2)) Design complies with SANS 10400-XA & SANS 10252-1: 2004

> Any deviation from the approved plan and specification will be the responsibility of the Owner. Owner's Signature Proposed New House STD 770 SIX FOUNTAINS x 10 Davydov Construction

Sheet No Scale : Date November 2021 3/3 As shown

> Sue Kemp Design Pr(Arch)Draught SACAP Reg.No. D0104

P.O.Box 1956 Rooihuiskraal 0154 Tel 012 661 7881 Cell 084 491 0434 suekempdesign@gmail.com

Flourescent light Track with Spots Telephone Point  $\triangleright$ TV Point Double Vall Plug Stove Connection Underfloor Heating DB Board (G) Geyser Position  $\sim$ Door Bell 0 Light Switch Dimmer switch ΦD V\$X Security sensor light Č Garage door plug point (I)Intercom Ceiling fan & light

ELECTRICAL SCHEDULE

Ceiling Mounted Fitting

Recessed Downlighter

Wall Mounted Fitting

 $\bowtie$ 

Mandatory warning sign appropriately

Metal mesh fencing

FRONT ELEVATION OF GAS MANIFOLD CAGE

\_Mandatory warning sign appropriately

displayed as per SANS 10087 standards

-100mm Concrete floor

displayed as per SANS 10087 standards

48kg LPG Cylinder

6 First stage regulator

Low Pressure Regulator

3 Vapour Hoses

5 Shut off Valve

7 Pressure Gauge

48kg LPG Cylinder Valve

4 15mm Copper Class 1 Vapour Gas Pipeline

8 Second Stage Regulator (Required)

Tread light to stairs All electrical points to be confirmed by Owner before construction begins

All switches and cover plates to to be of the "Schnieder" range All electrical work to be carried out by registered electrician and to be certified by local authority before occupation

Climate Zone 2 Energy Efficiency Calculations. As per SANS 10400-XA

No electrical point to be Closer than 200mm from all

no electrical points above stove

sides of gas stoves and

XX-1.