Sample Client 1 Buffalo Beach Rd Whitianga Coromandel Peninsula



Dear Client,

RE: Proposed Dwelling - H1 Thermal Compliance Calculation Report

The attached report has been developed following a thermal simulation of the proposed new house. The calculations were performed using the AccuRateNZ software version 1.3.1.

The data output from the building thermal simulation shows a pass for H1 compliance with the Energy Efficiency requirements of the New Zealand Building Code.

The proposed building passes with a Building Performance Index (BPI) of 0.51

H1 PASS $\sqrt{}$

The report highlights some key information, of particular value it shows room by room computation of heating appliance sizing on page 13 of the report, with total heating source output of only 4.4kW is recommended.

We see that annual predicted heating bill for this very efficient house is only \$133 when using direct electric heating devices. This annual heating cost will reduce to only \$44 if a heat pump is installed. In this case due to the installation cost of a heat pump at \$2500.00 the payback will be 28 years, given a heat pump useful life of 12-15 years we do not recommend a heat pump is used in this case. Using direct electric heating devices an annual carbon footprint for space heating is 224kg.

The building has been analysed with the following selections:

Ceiling insulation:	R3.2 Fibreglass Batts.
Windows:	Aluminium frame double clear glazing 12mm air gap
Floor:	Concrete on grade, with 50mm Thick EPS polystyrene
Walls:	R1.8 Fibreglass Batts to all external timber framed walls.

The simulation is based on the current location and design drawings as received by email on the 8th April 2010 dated 16 September 2009.

Note we simulated the building with R2.6 wall insulation and found annual heating cost dropped by \$17 per annum, given the cost increase of 9 bails as opposed to 5 bails an extra \$400 will take 23 years to payback the insulation increase.

Calculations will change if the building is reduced in size, materials of construction are altered, a change in shape, aspect to the sun or physical address/location change.

Please do not hesitate to call to discuss this report where necessary.

Yours faithfully,

Craig Schipper CPEng No. 184886

Doc Ref: H1 Template

Craig Schipper Chartered Professional Engineer PO Box 33917, Takapuna 0740 Phone: 09 488 7731 Mobile: 0274 827527 craig@h1reports.net.nz Encl: 13 Page Simulation Report 1 Temp Graph

			Accu	Rate	NZ V1.	3.1.0			
New Zealand Home Energy Rating Scheme									
				Project	Details				
Project N	ame: Start	er Home -	Nikau Ho	use					
File Name	e: C:\Progra	am Files\/		IZ\Projects	Starter H	ome 1200			
Dwangs R	3.2 Ceiling	R1.8 Wa	all.PRO	<u> </u>	01				
Place Nar	ne: Glen Ir	nes (Auc	kland City)	Climate 2	cone: AK			
Design O	ption: Bas	e Design				4			
Descriptio		ber trame	ed building	With thern	nal concre	te slad.			
	Butterfly	pitched r	OOT WITH CE	entral Inter	nal gutter.				
	Hall roo	IS SKIIIO	i other hai	n timber tru	iss frame.				
Dete: 12/08/	2010		T :-	ma: 0:11:					
Date: 13/08/	2010			Client	Dotails		P	age: 1	
Client Name		of Building a	and Housing	Ollent	Details				
Phone:		Fa	and nousing ax:		Ema	ail:			
Postal Addr	ess:	I							
Site Addres	S: 								
Council sub	mitted to (if i	known by a	ssessor):Au	CKIANG CITY					
				Assesso	r Details				
Assessor Na	ame:Craig Sc	hipper				ļ	Assessor No	.90073	
Phone:09 48	87733	Fa	ax: 09 488773	32	Ema	ail:craig@h1	reports.co.nz		
Assessmen Project Cod	e:F08027	2010					ime:9:41:		
Assessor Si	gnature:								
		~					C *		
Heet	ling	Cooling (ALCULAI				<u>3</u> " Emorrary	11-	
<u>пеа</u>	.0	Cooling (<u>sensible)</u> .6	6	(iatent)	34	Energy 4.7	MJ/m ²	annum
* These energy r	equirements have	been calculated	d using a standar	d set of occupant	behaviours and	so do not necess	arily represent th	le usage pattern d	or lifestyle
of the intended o	ccupants. They she settings used for	ould be used so r the simulation	olely for the purpo are shown in the	oses of rating the building data rer	building. They short.	hould not be used	d to infer actual e	nergy consumptic	n or
llee	lin ei		EA-ADJU						-14-0
23	.ing .3	Cooling (<u>sensible)</u> 5	5	9	3	<u>⊏nergy</u> 3.8	MJ/m ²	annum
Total	floor area (ex	cluding zones o	of type Garage, B	asement/Worksh	op/Storage, Roo	fspace and Sub-f	floor)	9	0.6 m ²
				Devilation					
				Building	g Rating				
		**	$\star\star$	$\star\star$	*	8 STA	ARS		
		Α	rea-adjust	ted star ba	and score	threshol	ds		
1 Star	2 Stars	3 Stars	4 Stars	5 Stars	6 Stars	7 Stars	8 Stars	9 Stars	10 Stars
409	256	186	139	104	77	53	34	16	1
B	uildina Pe	rformand	e Index (BPI) for N	ew Zealar	nd Buildin	g Code C	ompliance	<u>}*</u>
	BPI			BPI target (maximum)				
	0.51			1.5	55			PASS	
* The current bu	ilding design com	lies with the ins	sulation requirem	ents of Clause H	1 of the NZBC be	cause its Buildin	g Performance Ir	idex (BPI) does n	ot exceed 1.55.

	AccuRate	NZ V1.3.1.0									
New Zealand Home Energy Rating Scheme											
	Project Details										
Project Name: Starte	r Home - Nikau House										
File Name: C:\Program	m Files\AccuRateNZ\Proie	cts\Starter Home 1200									
Dwangs R3.2 Ceiling	R1.8 Wall.PRO										
Place Name: Glen Inr	nes (Auckland City)	Climate Zone: AK									
Design Option: Base	Design										
Description1 ight time	per framed building with the	armal concrete slab									
Ruttorfly	oitched roof with central int	ernal outter									
Half roof	is skillion other half timber	truss frame									
Tiali 1001		liuss hame.									
Data: 40/00/0040	T ime: 0:44:		Derrer 0								
Date: 13/08/2010		at Dataila	Page: 2								
Client Name: Department of	Building and Housing	Email:									
Postal Address:	Γαλ.	Elliali.									
Site Address:											
Council submitted to (if ki	nown by assessor):Auckland Cit	У									
	٨٥٥٥٩	sor Dotails									
Accessor Name: Craig Sah	ASSES		00072								
Phone:09 4887733	Fax: 09 4887732	Email:craid@h1reports.cou	NO.90073								
Assessment Date:13/08/20)10	Time:9:41:									
Project Code:F08027											
Assessor Signature:											
	Space H	ating Dataila									
Tatal Annual O											
Total Annual Space Heatin	ig CO_Emissions (Kg)	133									
Total Annual Shortfall of S	Space Heating Energy (MJ)	2172									
Description	Annual Energy Use (MJ)	Annual Annual CO Heating Cost Emissions ² Output (\$) (Kg) (kW)	COP Fuel Type								
	Total Electricity Natural Gas	LPG Coal Wood Po	ellet Oil Shortfall								
Annual Energy Use (MJ) Annual Heating Cost (\$) Annual CO_Emissions (Kg) Peak Demand Shortfall(kW)	0 0 133 0 0 224 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 2172 0 0 133 0 0 224 4.4								
	Room He	eating Rating									
	,	🕇 📩 1 ½ STAI	RS								

			A	ccuR	ate N	Z V1.	.3.1.0)			
	New Zealand Home Energy Rating Scheme										
Droico	t Names Clartes				Project	Details					
Projec	t Name: Starter	n Filor			e Droiooto\	Stortor L	Jama 12	00			
	B R 2 Coiling				FIUJECIS	Starter		00			
Place	Name: Glen Inn		uckland	City)	(limate	7 000' A	K			
Client	Name: Departn	nent o	f Ruildin	a and F		Jiiiiate		\			
Site Ar	ddress		Dullulli	g and i	lousing						
Design	Ontion: Base	Desig	n								
Date: 1	13/08/2010	Desig		Time	• 9.41.				Page.	3	
Bute.	10/00/2010								i ugo.	0	
			(Construc	tion detail	s: Externa	I Walls				
Descript	tion: Plywood Wall				1						
Total R ((up) (m².K/W): 1.88	8			T	Total U (up	o) (W/m².K): 0.53			
Fyternal	(down) (m².ĸ/w): 1 L colour: Medium	.88		I	Internal co	otal U (dd	own) (vv/m tium	*.K): 0.53		Δrea: 100	9 m ²
External	absorptance (%):	50			Internal al	bsorptanc	e (%): 50			Alea. 100.9 m	
Layer I	Material					•				Thickness (mm)	
1 1	Timber (softwoods:	e.g. pin	e @ 20%	mc)							12
2 1	Bulk insulation: R1.8	3									<u>58</u>
Bridge mater		Bridged	Stud depth	Stud width	Stud spacing	Flange width	Dwang depth	Dwang width	Dwang spacing	Flange width	Fraction 1
Timber (softw	oods: e.g. pine @ 12% mc)	layer 2	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	0.0923
	× · · · ·	1		Conotr		aila: Wind					
Descript	tion: WERS14A	AI	IGU clear	Constr	uction det		lows				
System	U-value (NFRC): 3	.89			SHGC (NF	RC): 0.69				Area: 27.2	2 m²
Frame ty	ype: Custom				Frame col	our: Mediu	um				
Frame fr	raction (%): 80				Frame abs	sorptance	(%): 50			Thickne	
Layer I	Viateriai Glass									піскпе	<u>ss (mm)</u> 4
2 0	Glazing air gap (ger	neric)									12
3 (Glass										4
				0	41		- 111				
Descript	tion: Concrete slab	(suspe	nded or or	onstruc	/ plain / 50	mm EPS-	eiiings Sunder sla	ah			
Total R	(up) (m ² .K/W): 1.57	(000000		r ground)	T	fotal U (up) (W/m².K): 0.64			
Total R	(down) (m².K/W): 1	.57			Т	fotal U (do	wn) (W/m	² .K): 0.64			
Top colo	our: Not Specified	<u> </u>			Bottom co	olour: Not	Specified	0		Area: 90.6	i m²
l op abs	orptance (%): Not	Specifie	d		Bottom at	osorptance	e (%): Not	Specified		Thickno	se (mm)
	Concrete structural									THICKIE	<u>55 (1111)</u> 100
2 F	Polystyrene expand	ed class	s S (k = 0.	041)							50
3 5	Sand (building - dry))									50
Decemina	Hana Cailing halaw		audata d h		inte DO O						
Total R	(un) (m ² K/W): 2.84	attic / in	isulated b	etween jo		fotal II (un) (W/m² K)· 0 35			
Total R	(down) (m².K/W): 2	2.84			T	fotal U (do	wn) (W/m	² .K): 0.35			
Top cold	our: Medium				Bottom co	olour: Med	lium	•		Area: 47.6	b m²
Top absorptance (%): 50 Bottom absorptance (%): 50											
Layer Material Thickness (mm						sorplance	e (10). 50		1	TI-1-1	`
	orptance (%): 50 Material Bulk insulation: P3 (2			Bottom at	sorptance	e (70). 30			Thickne	ss (mm)
Layer M 1 E 2 F	orptance (%): 50 Material Bulk insulation: R3.2 Plasterboard (Gypsi	2 um)			Bottom at	sorptance	e (70). 50			Thickne	ss (mm) 102
Layer I 1 E 2 F Bridge mater	orptance (%): 50 Material Bulk insulation: R3.2 Plasterboard (Gypsu ial 1	2 um) Bridged	Joist depth	Joist width	Joist spacing	Flange width	Dwang depth	Dwang width	Dwang spacing	Thickne Flange width	SS (MM) 102 10 Fraction 1

		A	ccuR	ate N	Z V1	.3.1.0)			
New Zealand Home Energy Rating Scheme										
				Project	Details					
Project Name: Starte	r Hom	e - Nika	u House	Э						
File Name: C:\Progra	m Files	s\AccuR	ateNZ\	Proiects\	Starter F	lome 12	00			
Dwangs R3 2 Ceiling	R1 8	Nall PR	0							
Place Name: Glen In		uckland		(limato	Zono: Al	K			
Client Name: Departer					Jiiiiate					
Cite A data and	nent o		ig and F	lousing						
Site Address:	<u> </u>									
Design Option: Base	Desig	n								
Date: 13/08/2010			Time	: 9:41:				Page:	4	
<u>.</u>										
			Construc	tion detai	ls: Interna	l Walls				
Description: Timber frame	/ uninsu	llated		-) //Al/ma2 1/				
Total R (up) (m ² .K/W): 0.4.	3			ן ד	otal U (up) (W/m².ĸ): 2.31 2 K): 2.21			
First colour: Medium	J.43			l ∣ I ast coloi	r. Medium) (VV/III)	- .n): 2.31		Aroa: 47 0	m ²
First absorptance (%): 50				Last abso	rotance (%	' ሬ): 50				
Layer Material					iptunee (/	0 /1 00			Thickne	ss (mm)
1 Particleboard										8
2 Air gap vertical >66	mm (90) nominal)	unventila	ted non-re	flective (0.	9/0.9; E =	0.82)			90
3 Particleboard										8
Bridge material 1	Bridged	Stud depth	Stud width	Stud spacing	Flange width	Dwang depth	Dwang width	Dwang spacing	Flange width	Fraction 1
Timber (softwoods: e.g. pine @ 12% mc)	2	(1111)	(1111)			(1111)	(1111)		(1111)	0.0923
			Cons	truction d	etails: Ro	ofs				
Description: Skillion roof /	profiled	metal / ins	sulated R	3.2						
Total R (up) (m ² .K/W): 2.9	5			1	otal U (up) (W/m².K): 0.34			
Total R (down) (m ² .K/W): 2	2.97			Г	otal U (do	wn) (W/m	².K): 0.34			
External colour: Not Speci	fied			Internal co	olour: Not	Specified			Area: 43.0	m²
External absorptance (%)	Not Sp	ecified		Internal al	osorptanc	e (%): Not	Specified		Thiskns	~ ~ <i>(mm)</i>
1 Motal cladding									Thickne	ss (mm) 2
2 Air gap 45° 17-30 n	nm (20 r	ominal) u	nventilate	d non-refle	ective (0.9/	$0.9 \cdot F = 0.1$	82)			20
3 Bulk insulation: R3.	2					0.0, 2 0.				102
4 Plasterboard (Gyps	um)									10
Bridge material 1	Bridged	Rafter depth	Rafter width	Rafter spacing	Flange width	Dwang depth	Dwang width	Dwang spacing	Flange width	Fraction 1
Timber (softwoods: e.g. pine @ 12% mc)	layer 3	(mm) 140	(mm) 45	(mm) 600	(mm) 0	(mm) 140	(mm) 45	(mm) 900	(mm) 0	0.1212
Description: Dest shows a	tio / pro	filed mete	1							
Total P (up) (m ² K/W): 0.17	$\frac{100}{2}$	med meta	I	T	otal II (ur	$\sqrt{M/m^2}$ K)· 8 33			
Total R (down) (m ² .K/W):	<u>.</u>).12			1	otal U (do	wn) (W/m	² .K): 8.33			
External colour: Medium				Internal co	blour: Med	lium	11.91 0.00		Area: 51.0	m²
External absorptance (%)	50			Internal al	osorptanc	e (%): 50		I		
Layer Material									Thickne	ss (mm)
1 Metal cladding	1	1		1	1	1	1		1	2
Bridge material 1	Bridged	Rafter depth	Rafter width	Rafter spacing	Flange width	Dwang depth	Dwang width	Dwang spacing	Flange width	Fraction 1
	laver	(mm)	(mm)	(mm)	(mm)	(mm)	(()))))))	(mm)	(mm)	

	/1.3.1.0										
	New Zealand Home Energy										
	Rating Sche	eme									
	Project Deta	ils									
Project Name: Starter	Home - Nikau House										
File Name: C:\Program	n Files\AccuRateNZ\Projects\Start	ter Home 1200									
Dwangs R3.2 Ceiling	R1.8 Wall.PRO										
Place Name: Glen Inn	es (Auckland City) Clima	ate Zone: AK									
Client Name: Departm	nent of Building and Housing										
Site Address:											
Design Option: Base	Design										
Date: 13/08/2010	Time: 9:41:	Page: 5									

Habitable zones											
Name	Туре	Volume (m³)	Floor height (m)	Ceiling height above floor (m)	Heated	Cooled					
Living	Open-plan Living/Kitchen	114.0	0.2	2.9	Y	Y					
Bed 1	Bedroom	34.0	0.2	2.4	Y	Y					
Bed 2	Bedroom	15.3	0.2	2.4	Y	Y					
Bed 3	Bedroom	31.9	0.2	2.4	Y	Y					
Bathroom	Bathroom	12.8	0.2	2.4	Y	Y					
Hall	Other (day & night usage)	20.4	0.2	2.4	Ý	Y					

Habitable zones (continued)								
Name	Number of recessed downlights	Ceiling fans	Туре					
Living	0	0	-					
Bed 1	0	0	-					
Bed 2	0	0	-					
Bed 3	0	0	-					
Bathroom	0	0	-					
Hall	0	0	-					
		•						

Roofspace zones									
Name	Volume	Roof underlay	Roof surface	Openness					
	(m³)								
Attic	44.0	Present	Continuous	Standard					

AccuRate NZ V1.3.1.0										
New Zealand Home Energy Rating Scheme										
	Project Details									
Project Name: Starte	r Home - Nikau House									
File Name: C:\Program	m Files\AccuRateNZ\Project	s\Starter Home 1200								
Dwangs R3.2 Ceiling	R1.8 Wall.PRO									
Place Name: Glen Inr	nes (Auckland City)	Climate Zone: AK								
Client Name: Departr	nent of Building and Housing									
Site Address:										
Design Option: Base	Design									
Date: 13/08/2010	Time: 9:41:		Page: 6							
	Living: Externa	walls main data								

	Living. External Walls Main data										
Wall	Construction	Azi	L	н	Area	Area	Fixed shade	Opening	Opening		
		(deg.)	(m)	(m)	(gross)	(net)		(m²)	Туре		
					(m²)	(m²)					
1	Plywood Wall	270	4.21	2.65	11.16	10.20	East,West 1	0.00	Controlled		
2	Plywood Wall	0	10.22	2.95	30.15	10.90	North	0.00	Controlled		
3	Plywood Wall	90	4.21	2.65	11.16	9.66	East,West 1	0.00	Controlled		

Living: Windows in walls											
Wall	Window Name	Туре	Construction	Azi.	н	w	Area				
				(deg.)	(m)	(m)	(m²)				
1	West Living Window	Awning	WERS14A AI IGU clear	270	1.20	0.80	0.96				
2	Sliding doors	Sliding	WERS14A AI IGU clear	0	2.55	4.95	12.62				
2	Living Openable	Awning	WERS14A AI IGU clear	0	1.30	0.49	0.64				
2	Kitchen Openable	Awning	WERS14A AI IGU clear	0	1.30	0.49	0.64				
2	Living Casement	Casement	WERS14A AI IGU clear	0	2.06	1.30	2.68				
2	Kitchen Casement	Casement	WERS14A AI IGU clear	0	2.06	1.30	2.68				
3	Kitchen Casement	Casement	WERS14A AI IGU clear	90	0.50	3.00	1.50				

		Living: Windows	s in walls (continue	ed)			
Wall	Window Name	Indoor covering	Outdoor covering	Fixed shade	нн	но	Opening
					(m)	(m)	(%)
1	West Living Window	Roller blinds	None		2.05	0.00	90
2	Sliding doors	Roller blinds	None		2.65	0.00	70
2	Living Openable	Roller blinds	None		2.65	0.00	60
2	Kitchen Openable	Roller blinds	None		2.65	0.00	60
2	Living Casement	Roller blinds	None		2.06	0.00	0
2	Kitchen Casement	Roller blinds	None		2.06	0.00	0
3	Kitchen Casement	None	None		2.65	0.00	90

	Living: Internal walls										
Wall	Construction	(m)	H (m)	Area (gross) (m²)	Area (net) (m²)	Adjacent Zone	Opening (m²)	Opening Type			
1	Timber frame / uninsulated	4.80	2.40	11.52	11.5	Bed 1	0.00	Controlled			
2	Timber frame / uninsulated	2.80	2.40	6.72	6.7	Bed 3	0.00	Controlled			

			Liv	ing: Floors					
Floor	Construction	Area (gross) (m²)	Area (net) (m²)	Unc	ler the floor	Edge Ins. Thick.	Edge Ins. Depth	Opening (m²)	Opening Type
1	Concrete slab (suspended or on ground) / plai	43.0	43.0		Ground	25 mm	0.3	0.00	Controlled
			Liv	ing: Roofs					
Roof	Construction			Area (gross) (m²)	Area (net) (m²)	Azi (deg.)	Pitch (deg.)		Exposure
1	Skillion roof / profiled metal / insulate	d R3.2		43.00	43.00	0	8		Normal

			Accul	Rate	e NZ	Z V1	.3.1	.0				
. .	(NI	· • • •		Pro	ect D	etalis						
Proje	ct Name: Star	ter Home - N	likau Hou	se								
File N	lame: C:\Progr	ram Files\Ac	cuRateNZ	Z\Proj	ects\S	tarter l	Home	1200				
Dwan	gs R3.2 Ceiling	g R1.8 Wall.	.PRO									
Place	Name: Glen I	nnes (Auckla	and City)		CI	imate	Zone:	: AK				
Client	t Name: Depai	rtment of Bui	ilding and	Hous	sing							
Site A	Address:		0									
Desig	in Option: Bas	se Design										
Date:	13/08/2010	50 2 00.g.i	Tim	16. 0.4	11·				P	ade.	7	
Dute.	10/00/2010		• • •	101 0	T I .					uge.		
			Bed 1	1 · Exte	rnal wa	lls mair	n data					
Wall	Const	ruction	Azi	L	Н	Area	Area	Fixed	shade	Ор	ening	Opening
1			(dog)	(m)	(m)	(groce)	(not)				m ²)	Type
		- 1347-11	(deg.)	(m)	(m)	(gross) (m²)	(net) (m²)		0. // 0	(m²)	Туре
1 2	Plywo Plywo	od Wall od Wall	(deg.) 90 180	(m) 4.21 0.93	(m) 2.40 2.40	(gross) (m²) 10.10 2.24	(net) (m ²) 9.18 2.24	East,Wes	t,South 2	(m²)	Type Controlled Controlled
1 2 3	Plywo Plywo Plywo	od Wall od Wall od Wall	(deg.) 90 180 0	(m) 4.21 0.93 0.81	(m) 2.40 2.40 2.40	(gross) (m ²) 10.10 2.24 1.94	(net) (m ²) 9.18 2.24 1.02	East,West Carr East,W	t,South 2 port /est 1		(m²)	Type Controlled Controlled Controlled
1 2 3	Piywo Piywo Piywo	od Wall od Wall od Wall	(deg.) 90 180 0 B	(m) 4.21 0.93 0.81 ed 1: V	(m) 2.40 2.40 2.40 Vindow	(gross) (m ²) 10.10 2.24 1.94 s in wal	(net) (m ²) 9.18 2.24 1.02	East,Wes Carp East,W	t,South 2 port /est 1		(m²) 0.00 0.00 0.00	Type Controlled Controlled Controlled
1 2 3 Wall	Plywo Plywo Plywo Plywo Window Name	od Wali od Wali od Wali Type	(deg.) 90 180 0 B	(m) 4.21 0.93 0.81 ed 1: V	(m) 2.40 2.40 2.40 Vindow Constru	(gross) (m ²) 10.10 2.24 1.94 S in wal	(net) (m ²) 9.18 2.24 1.02	East,Wes Carr East,W	t,South 2 bort /est 1 Azi. (deg.)	((((((((((((()))))))))))))	(m²) 0.00 0.00 0.00 0.00 0.00 (m)	Type Controlled Controlled Controlled Area (m ²)
1 2 3 Wall 1 3	Plywo Plywo Plywo Window Name Bed West Bed West Bed North Casement	od Wall od Wall od Wall Od Wall Type Awning Awning	(deg.) 90 180 0 B	(m) 4.21 0.93 0.81 ed 1: V	(m) 2.40 2.40 2.40 Vindow Constru- S14A IS14A	(gross) (m ²) 10.10 2.24 1.94 S in wal iction	(net) (m ²) 9.18 2.24 1.02	East,Wes Carp East,W	Azi. (deg.) 0	() () () () () () () () () () () () () (w²) w 0.00 0.00 0.00 0.00 0.00 0.00 w (m 5 0.88 5 0.88	Type Controlled Controlled Controlled Controlled (m²) (m²) 0 0.92 0 0.93
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1 Wall 1 Wall 1 Wall 1	Window Name South Awning Window Window Name Construction South Awning Window Construction Constr	d Wall Type Awning Vame Window Construction frame / uninsulated frame / uninsulated	Azi (deg.) 180 Bed 2: V Indoor cc Non	L (m) 2.62 ed 2: W Wer Window vering e Bed 2: (m) 1.94 2.45	H (m) 2.40 /indow Constru- S14A /s in w. (m) 2.40 2.40 2.40 2.5 Fic	Area (gross) (m ²) 6.29 s in wall ction Al IGU clea all is (COD itidoor cover None al walls Area (gross) (m ²) 4.66 5.88	Area (net) (m ²) 5.37 IS ntinuec ing Area (net) (m ²) 2.5.9	None None Azi (deg 180 Fixed shade Adjacent Zone Hall Bed 3	.) (()) 1 HH (m) 2.00	Opening (m²) W 0.00 0 H W m) (m) .15 0.80 (m) (m) S 0.00 Opening (m²) (m²) 2.00 0.00	Opening Type Controlled Area (m ²) 0 0.92 Opening (%) 90 Opening Type Controlled Controlled
1 1 Wall 1 Wall 1 Wall 1 Floor	Window Name South Awning Window Window Name South Awning Window Constru	Awning Awning Awning Awning Construction Frame / uninsulated Frame	Azi (deg.) 180 Bed 2: V Indoor cc Non	L (m) 2.62 ed 2: W WER Window vering e Bed 2: (m) 1.94 2.45 Bet área (ref)	H (m) 2.40 /indow Constru- S14A /s in w: /s in w	Area (gross) (m²) 6.29 S in wal Ction Al IGU clea alls (COD atdoor cover None Al walls Area (gross) (m²) 4.66 5.88 OOTS Under	Area (net) (m ²) 5.37 Is nr Area (net) (m ²) 2.7 5.9 the floor	None Azi (deg Iso Azi (deg Iso Adjacent Zone Hall Bed 3 Edge Iso	.) (()) 1 HH (m) 2.06 Edge Ins	Opening (m²) W 0.00 Image: mail of the second sec	Opening Type Controlled Area (m ³) 0 0.92 Opening (%) 90 Opening Type Controlled Controlled
1 Wall 1 Wall 1 Wall 1 Floor 1 1 1 1 1 1 1 1 1	Constru Constru Constru Constru Constru Constru Constru Constru Constru		Azi (deg.) 180 Bed 2: V Indoor co Non	L (m) 2.62 ed 2: W WER Window vering e Bed 2: L (m) 1.94 2.45 Bed Area (net) (m?) 6.4	H (m) 2.40 /indow Constru- S14A // S in W: // N // Constru- S14A // Constru- Const	Area (gross) (m ²) 6.29 S in wall Ction Al IGU clea all S (COD Itdoor cover None Area (gross) (m ²) 4.66 5.68 Under	Area (net) (m²) 5.37 IS ar Area (net) (m²) 2.7 5.9 the floor	Azi None Azi (deg 180 Fixed shade Adjacent Zone Hall Bed 3 Edge Ins. Thick 25 mm. 25 mm.	.) (()) 1 HH (m) 2.06 Edge Ins. Depth 0.3	Opening (m²) W 0.00 Image: mail of the second sec	Opening Type Controlled (m ²) 0 <
1 Wall 1 Wall 1 Wall 1 Fioor 1 1 1 1 1 1 1 1 1	Constru Concrete slab (suspende	d Wall	Azi (deg.) 180 Bed 2: V Indoor co Non Area (gross) (m²) 6.4	L (m) 2.62 ed 2: W WER Window vering e Bed 2: L (m) 1.94 2.45 Bed Area (net) (m ²) 6.	H (indow Constru- S14A // S in W: // Out //	Area (gross) (m ²) 6.29 S in wall ction Al IGU clea all GU clea all GU clea all walls Area (gross) (m ²) 4.66 5.88 OOTS Under	Area (net) (m²) 5.37 IS IS Area (net) (m²) 2.7 5.9 the floor	Fixed shade None Azi (deg 180 Kernel (deg 180	.) (()) ()) 1 HH (m) (2.00 Edge ins. Depth 0.3	Opening (m²) W 0.00 Image: constraint of the second seco	Controlled Controlled Controlled Controlled Copening (%) 90 Copening Type Controlled Controlled Controlled Controlled Controlled
1 1 Wall 1 Wall 1 Wall 1 Floor 1 Ceiling	Constru Concrete slab (suspende Constru Concrete slab (suspende Constru Concrete slab (suspende Constru Constru Concrete slab (suspende Constru Const	d Wall Type Awning Name Window Construction frame / uninsulated frame / uninsulated ction ed or on ground) / plai struction	Azi (deg.) 180 Bed 2: V Indoor co Non Area (gross) (m²) 6.4	L (m) 2.62 ed 2: W WER Window vering e Bed 2: L (m) 1.94 2.45 E Bed Area (net) (m ²) 6 Bed Area (net) (m ²) 6 Bed Area (net) (m ²)	H (m) 2.40 /indow Constru- S14A //S in W/ S14A //S in W/ Constru- S14A //S in W/ Constru- Constru- S14A //S in W/ Constru- S14A //S in W/ Constru- S14A //S in W/ Constru- S14A //S in W/ Constru- S14A //S in W/ Constru- Constr	Area (gross) (m ²) 6.29 s in wall ction Al IGU clea alls (cor tidoor cover None al walls Area (gross) (m ²) 4.66 5.88 OOTS Under	Area (net) (m ²) 5.37 IS ntinued ing Area (net) (m ²) 2.7 5.9 the floor	Fixed shade None Azi (deg 186 Kernel (deg 186	.) (()) 1 HH (m) 2.06 Edge Ins. Depth 0.3	Opening (m²) W 0.00 Image: Constraint of the second seco	Controlled Controlled Controlled Copening (%) 90 Copening (%) 90 Controlled Controlled Controlled Controlled Controlled Copening Type Controlled Controlled Copening Copening Controlled Copening Controlled Copening Controlled Copening Controlled Copening Controlled Copening Controlled Copening Copening Controlled Copening Copening Copening Controlled Copening
1 1 Wall 1 Wall 1 Wall 1 Celling	Concrete slab (suspende	d Wall Type Awning Wame Window Construction frame / uninsulated frame / uninsulated cotion ed or on ground) / plai struction	Azi (deg.) 180 Bed 2: V Indoor cc Non Area (gross) (m²) 6.4	L (m) 2.62 ed 2: W WER Window vering e Bed 2: L (m) 1.94 2.45 Bed 2.45 Bed 2.45 Bed 2.45 Bed 2.45 C (net) (m) 1.94 2.45	H (m) 2.40 /indow S14A // S in W S14A // S in W // O // C // C // C // C // C // C // C	Area (gross) (m ²) 6.29 s in wall ction Al IGU clea alls (COT Iddoor cover None al walls Area (gross) (m ²) 4.66 5.88 OOTS Under	Area (net) (m²) 5.37 IS ntinuec ing (net) 2.7 5.9 the floor ound	Adjacent Zone Adjacent Zone Adjacent Zone Adjacent Zone Edge Ins. Thick. 25 mm bove the ceiling		Opening (m²) W 0.00 (m) H W m) (m) (m) (m) 0 (m) 6 0.00 Opening (m²) (m²) 2.00 0.00 Opening (m²) 0.00 Opening (m²) 0.00	Opening Type Controlled (m²) 0 0.92 Opening (%) 90 Opening (%) 90 Opening Type Controlled Controlled Controlled Opening Type Controlled Opening Type Opening Type

New Zealand Home Energy Rating Scheme Project Details Project Name: Starter Home - Nikau House File Name: C:\Program Files\AccuRateNZ\Projects\Starter Home 1200 Dwangs R3.2 Ceiling R1.8 Wall.PRO Place Name: Glen Innes (Auckland City) Climate Zone: AK Client Name: Department of Building and Housing Site Address:
Project Details Project Name: Starter Home - Nikau House File Name: C:\Program Files\AccuRateNZ\Projects\Starter Home 1200 Dwangs R3.2 Ceiling R1.8 Wall.PRO Place Name: Glen Innes (Auckland City) Climate Zone: AK Client Name: Department of Building and Housing Site Address:
Project Name: Starter Home - Nikau House File Name: C:\Program Files\AccuRateNZ\Projects\Starter Home 1200 Dwangs R3.2 Ceiling R1.8 Wall.PRO Place Name: Glen Innes (Auckland City) Client Name: Department of Building and Housing Site Address:
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Dwangs R3.2 Ceiling R1.8 Wall.PRO Place Name: Glen Innes (Auckland City) Climate Zone: AK Client Name: Department of Building and Housing Site Address:
Place Name: Glen Innes (Auckland City) Climate Zone: AK Client Name: Department of Building and Housing Site Address:
Client Name: Department of Building and Housing Site Address:
Site Address:
Design Option: Base Design
Date: 13/08/2010 Time: 9:41 Page: 9
Bed 3: External walls main data
Wall Construction Azi L H Area Fixed shade Opening Opening Opening Construction Image: Construlit
(iteg) (itel) (i
1 Flywood Wall 100 2.93 2.40 7.03 7.03 Note 0.00 Controlled 2 Plywood Wall 270 4.21 2.40 10.10 9.18 East, West, South 2 0.00 Controlled
Bed 3: Windows in walls
Control of the second
2 West Writing Aming West Writing 210 1.13 0.80 0.32 3 North Awning Awning WERS14A Al IGU clear 0 1.16 0.80 0.93
Bed 3: Windows in walls (continued)
Wall Window Name Indoor covering Outdoor covering Fixed shade HH HO Opening (m) (m) (m) (%)
2 West Awning Roller blinds None 2.05 0.00 90 2 Neth Awning Paller blinds None 2.05 0.00 90
3 Noter Awrining Koner binnos Note
Bed 3: Internal walls
(m) (gross) (net) (m²) Type
(m) (m) (gross) (net) (m²) Type 1 Timber frame / uninsulated 2.80 2.40 6.72 6.7 Living 0.00 Controlled 2 Timber frame / uninsulated 2.46 6.72 6.7 Living 0.00 Controlled
(m) (m) (gross) (net) (m²) Type 1 Timber frame / uninsulated 2.80 2.40 6.72 6.7 Living 0.00 Controlled 2 Timber frame / uninsulated 2.45 2.40 5.88 5.9 Bed 2 0.00 Controlled
(m) (m) (gross) (net) (m ³) Type 1 Timber frame / uninsulated 2.80 2.40 6.72 6.7 Living 0.00 Controlled 2 Timber frame / uninsulated 2.45 2.40 5.88 5.9 Bed 2 0.00 Controlled
(m) (m) (gross) (net) (m³) Type 1 Timber frame / uninsulated 2.80 2.40 6.72 6.7 Living 0.00 Controlled 2 Timber frame / uninsulated 2.45 2.40 5.88 5.9 Bed 2 0.00 Controlled Bed 3: Floors Floor Edge (gross) (net) (m²) Under the floor Edge (m²) (m²) Opening (m²) Opening Type
(m) (m) (gross) (net) (m ²) (m ³) Type 1 Timber frame / uninsulated 2.80 2.40 6.72 6.7 Living 0.00 Controlled 2 Timber frame / uninsulated 2.45 2.40 5.88 5.9 Bed 2 0.00 Controlled Bed 3: Floors Floor Area (gross) (m ²) Under the floor Edge Ins. Thick. Depth Opening (m ²) Opening Type 1 Concrete slab (suspended or on ground) / plai 13.3 13.3 Ground 25 mm 0.3 0.00 Controlled
(m) (m) (gross) (net) (m ²) (m ²) Type 1 Timber frame / uninsulated 2.80 2.40 6.72 6.7 Living 0.00 Controlled 2 Timber frame / uninsulated 2.45 2.40 5.88 5.9 Bed 2 0.00 Controlled Bed 3: Floors Floor Construction Area (gross) (net) Under the floor Edge Ins. Ins. Thick. Opening (m ²) Opening Type 1 Concrete slab (suspended or on ground) / plai 13.3 13.3 Ground 25 mm 0.3 0.00 Controlled
(m) (m) (gross) (net) 1 Timber frame / uninsulated 2.80 2.40 6.72 6.7 Living 0.00 Controlled 2 Timber frame / uninsulated 2.45 2.40 5.88 5.9 Bed 2 0.00 Controlled 1 Construction Area (gross) (net) (m²) Ins. Ins. Ins. Ins. Ins. Opening (m²) Opening Type 1 Concrete slab (suspended or on ground) / plai 13.3 13.3 Ground 25 mm 0.3 0.00 Controlled Bed 3: Ceilings Construction Area (m²) Area (met) Ground 25 mm 0.3 0.00 Controlled Controlled 3: Ceilings

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		New Zealand Home Energy Rating Scheme Project Details										
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Proje	ct name: Sta	rter Home - IN		ouse				4000				
FILE	ame: C:\Prog	gram Files Acc		NZ\Pro	Jects\S	tarter	Home	1200				
Dwan	gs R3.2 Ceilir	ng R1.8 Wall.	PRO									
Place	Name: Glen	Innes (Auckla	and City	y)	C	limate	Zone:	AK				
Clien	t Name: Depa	artment of Buil	lding a	nd Hou	sing							
Site A	Address:											
Desig	in Option: Ba	ise Design										
Date:	13/08/2010	•	Т	ime: 9	:41:					Page	: 10	
										- J -	-	
			Bath	room: E	xternal	walls ma	ain data	1				
Wall	Con	struction	Δ7i		Н	Area	Area	Fix	od obodo			
			(deg.)) (m)	(m)	(gross)	(net)		eu silaue		Opening (m ²)	Opening Type
1	Plys	rood Wall	(deg.)) (m)	(m)	(gross) (m²) 4.10	(net) (m²)				Opening (m²)	Opening Type Controlled
1 2	Plyw Plyw	rood Wall rood Wall	(deg.)) (m) 1.71 0.45	(m) 2.40 2.40	(gross) (m ²) 4.10 1.08	(net) (m ²) 3.18 1.08	(Carport Carport		Opening (m²) 0.00 0.00	Opening Type Controlled Controlled
1 2	Plyw Plyw	rood Wall rood Wall	(deg.)) (m) 1.71 0.45 Bathroon	(m) 2.40 2.40	(gross) (m ²) 4.10 1.08	(net) (m ²) 3.18 1.08		Carport Carport		Opening (m²) 0.00 0.00	Opening Type Controlled Controlled
1 2 Wall	Plyw Plyw Window Name	rood Wall rood Wall Type	(deg.)) (m) 1.71 0.45 Bathroon	(m) 2.40 2.40 1: Wind (Constr	(gross) (m ²) 4.10 1.08	(net) (m ²) 3.18 1.08		Carport Carport Carport Azi (deg		Opening (m²) 0.00 0.00 H W (m) (m	Opening Type Controlled Controlled
1 2 Wall 1	Window Name South Awning	rood Wali rood Wali Type Awning	(deg.) 180 270) (m) 1.71 0.45 Bathroon	(m) 2.40 2.40 1: Windo Constr	(gross) (m²) 4.10 1.08	(net) (m ²) 3.18 1.08 /alls		Carport Carport Carport Azi (deg	· . .)	Opening (m²) 0.00 0.00 0.00 0.00 0.10 0.00 1.15	Controlled Controlled Controlled
1 2 Wall 1	Plyw Plyw Window Name South Awning	rood Wall cood Wall Type Awning	(deg.) 180 270 E Bathro) (m) <u>1.71</u> 0.45 Bathroon WE	(m) 2.40 2.40 1: Windo Constr RS14A dows in	(gross) (m ²) 4.10 1.08 Ows in w auction Al IGU cle walls (c	(net) (m ²) 3.18 1.08 /alls	ed)	Carport Carport Azi (deg 186	· .)	Opening (m²) V 0.00 0.00 0.00 (m) (m) (m) 1.15 0.8	Controlled Controlled Controlled / Area)) (m ²) 30 0.92
1 2 Wall 1 Wall	Plyw Plyw Window Name South Awning Window	rood Wall Crood Wall Type Awning w Name	(deg.) 180 270 E Bathro Indoc) (m) 1.71 0.45 Bathroon WE Om: Wint or covering	(m) 2.40 2.40 1: Wind Constr RS14A dows in 0	(gross) (m²) 4.10 1.08 Ows in M ALIGU cle Walls (cutdoor cove	(net) (m²) 3.18 1.08 /alls ar continue	ed) Fixed	Carport Carport Azi (deg 180 shade	-) -) 	Opening (m²) (m²) 0.00 0.00 H W (m) (m 1.15 0.8 H HO (m)	Opening Type Controlled Controlled / Area)) (m³) 00 0.92
1 2 Wall 1 Wall 1	Plyw Plyw Window Name South Awning Windo South South	rood Wall Type Awning w Name Awning	Bathroo) (m) 1.71 0.45 3athroon WE or covering None	(m) 2.40 2.40 1: Windo Constr RS14A dows in 0	(gross) (m ²) 4.10 1.08 DWS IN W uction Al IGU cle Walls (c utdoor cove	(net) (m²) 3.18 1.08 /alls ar continue	ed) Fixed	Carport Carport Azi (deg 180 Shade	HF (m 2.0	Opening (m²) M 0.00 0.00 H M (m) (m) 1.15 0.6 0.00 0.00	Opening Type Controlled Controlled // Area 1) (m ²) 30 0.92 Opening (%) 90
1 2 Wall 1 Wall 1	Plyw Plyw Window Name South Awning Windo South	rood Wall Type Awning Whame Awning	Bathroo) (m) 1.71 0.45 3athroon WE or covering None Bathroo	(m) 2.40 2.40 Constr RS14A dows in 0 0 0 0 0 0 0	(gross) (m ²) 4.10 1.08 Dws in w action Al IGU cle walls (c utdoor cove None rnal wa	(net) (m ²) 3.18 1.08 /alls	ed) Fixed	Carport Carport Azi (deg shade	.)) HH (m 2.0	Opening (m²) M 0.00 0.00 1.15 0.8 H HO H HO H HO H HO H HO	Opening Type Controlled Controlled //
1 2 Wall 1 Wall 1 Wall	Plyw Plyw Window Name South Awning Windo South	rood Wall rood Wall Type Awning w Name Awning Construction	(deg.) 1800 270 E Bathro Indoc) (m) 1.71 0.45 3athroon We or covering None Bathroo	(m) 2.40 2.40 2.40 Constr (RS14A dows in 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	(gross) (m ²) 4.10 1.08 DWS in V action Al IGU cle Walls (c utdoor cove None rnal Wal Area (gross)	(net) (m ²) 3.18 1.08 /alls ar continue ring	ed) Fixed	Carport Carport (deg 180 shade	Hi (m 2.0	Opening (m²) M 0.00 0.00 H M (m) (m H HO H HO (m) (m) H HO (m) (m)	Opening Type Controlled Controlled / Area (m²) 0 0.92 Opening (%) 90 Opening Type 0
1 2 Wall 1 Wall Wall	Plyw Plyw Window Name South Awning Windo South	rood Wall rood Wall Type Awning Wame Awning Construction	(deg.) 180 270 Bathro Indoc) (m) 1.71 0.45 Bathroon We or covering None Bathroo (m)	(m) 2.40 2.40 1: Windd Constr RS14A dows in 0 0 0 0 0 0 0 0 0 0 0 0 0	(gross) (m ²) 4.10 1.08 DWS in W action Al IGU cle Walls (c utdoor cove None rnal Wal Area (gross) (m ²)	(net) (m ²) 3.18 1.08 /alls ar continue ring Ils Area (net) (m ²)	ed) Fixed	Carport Carport Carport (deg 18c shade jacent Zone		Opening (m²) V 0.00 0.00 H V(m) H HO H HO M (m) (m) (m) General (m) General (m) M HO M <	Opening Type Controlled Controlled / Area (m²) 0 0.92 Opening (%) 90 Opening Type Opening Controlled
1 2 Wall 1 1 Wall 1 2	Plyw Plyw Window Name South Awning Windo South Tim Tim Tim	rood Wall rood Wall Type Awning WName Awning Construction ber frame / uninsulated ber frame / uninsulated	(deg.) 180 270 Bathro Indoc) (m) 1.71 0.45 Bathroon We or covering None Bathroo (m) 5.00 2.60	(m) 2.40 2.40 1: Windd Constr RS14A dows in 0 0 0 0 0 0 0 0 0 0 0 0 0	(gross) (m ²) 4.10 1.08 DWS in W action Al IGU cle Walls (c utdoor cove None rnal Wal Area (gross) (m ²) 12.00 6.24	(net) (m ²) 3.18 1.08 /alls ar continue (net) (m ²) 12.0 4.2	ed) Fixed	Carport Carport Carport (deg (deg 18c shade jacent Zone Bed 1 Hall	.)) HH (m 2.0	Opening (m²) V 0.00 0.00 0.00 0.00 H HO (m) (m) H HO (m) (m) M HO (m) (m) Gopening (m²) (m²) 0.00 2.00	Opening Type Controlled Controlled (m²) (m²) 30 0.92 Opening (%) 90 Opening (%) Controlled Controlled
1 2 Wall 1 1 Wall 1 2	Vindow Name South Awning Windo South Tim	rood Wall rood Wall Type Awning WName Awning Construction Der frame / uninsulated ber frame / uninsulated	(deg.) 180 270 Bathro Indoc) (m) 1.71 0.45 Bathroom We or covering None Bathroo (m) 5.00 2.60	(m) 2.40 2.40 1: Windc Constr RS14A dows in 0 0 0 0 0 0 0 0 0 0 0 0 0	(gross) (m ²) 4.10 1.08 westin watching Al IGU de walls (cutdoor cove None rnal wat Area (gross) (m ²) 6.24	(net) (m ²) 3.18 1.08 /alls ar continue (net) (m ²) 12.0	ed) Fixed	Carport Carport Carport Azi (deg 180 Shade Jacent Zone Bed 1 Hall	.)) HH (m 2.0	Opening (m²) V 0.00 0.00 0.00 0.00 H M M (m) (m) (m) 0.00 0.00 Opening (m²) 0.00 0.00 2.00	Opening Type Controlled Controlled /
1 2 3 4 1 1 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4	Vindow Name South Awning Window South Tim Tim Cons	rood Wall rood Wall Type Awning Wame Awning Construction ber frame / uninsulated ber frame / uninsulated struction	(deg.) 180 270 E Bathro Indoc) (m) 1.71 0.45 Bathroon WE Oom: Winto or covering None Bathroo (m) 5.00 2.60 Bath Parea	im im 2.40 2.40 1: Windc Constr ic State Im ic Mindc Im	(gross) (m ²) 4.10 1.08 weight of the second secon	(net) (m ²) 3.18 1.08 /alls ar continue (net) (m ²) 1.08 /alls Area (net) (m ²) 4.2 	ed) Fixed	Carport Carport Carport (deg 180 shade Jacent Zone Bed 1 Hall Edge		Opening (m²) W 0.00 0.00 0.00 0.00 H W (m) (m) 1.15 0.8 H HO (m) (m) (m) (m) (m²) 0.00 2.00 2.00	Opening Type Controlled Controlled (m ²) 0.92 Opening (%) 90 Opening Type Controlled Controlled
1 2 3 4 1 1 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4	Plyw Plyw Window Name South Awning Windo South Tim Tim Cons	rood Wall rood Wall Type Awning Wame Awning Construction ber frame / uninsulated ber frame / uninsulated itruction	Bathro Indoc) (m) 1.71 0.45 3athroon WE 000: Wint or covering None Bathroo L (m) 5.00 2.60 Bati Bat Ss) (net) (m)	(m) 2.40 2.40 1: Windd Constr RS14A dows in 0 0 0 0 0 0 0 0 0 0 0 0 0	(gross) (m ²) 4.10 1.08 westin v attion Al IGU cle walls (c utdoor cove mnal wal Gross) (m ²) 6.24 Floors Under	(net) (m ²) 3.18 1.08 /alls ar continue (net) (m ²) 4.2 the floor	ed) Fixed	Carport Carport (deg 180 shade Ijacent Zone Bed 1 Hall Edge Ins. Thick.		Opening (m²) W 0.00 0.00 H W M (m) H HO M (m)	Opening Type Controlled Controlled (m ²) 0.92 Opening (%) 90 Opening Type Controlled Controlled
1 2 Wall 1 1 Wall 1 2 Floor 1	Plyw Plyw Window Name South Awning Windo South South Tim Conse Concrete slab (suspe	rood Wall rood Wall Type Awning Wame Awning Construction ber frame / uninsulated ber frame / uninsulated itruction nded or on ground) / plai	Bathro Indoc) (m) 1.71 0.45 3athroon WE 000: Wind or covering None Bathrood (m) 5.00 2.60 Batl 8a Area s) (net) 7) (m ²) 3 5.3	(m) 2.40 2.40 1: Windd Constru- RS14A dows in 0 0 0 0 0 0 0 0 0 0 0 0 0	(gross) (m ²) 4.10 1.08 wws in v attion Al IGU cle walls (c utdoor cove walls (c utdoor cove for a star (m ²) 6.24 Floors Under	(net) (m ²) 3.18 1.08 /alls ar continue (net) (ed) Fixed	Carport Carport (deg (deg 180 shade Bed 1 Hall Edge Ins. Thick. 25 mm		Opening (m²) W 0.00 0.00 0.00 0.00 H W M (m) 1.15 0.8 H HO M (m) (m) (m) 6 0.00 Opening (m²) 0.00 2.00 0	Opening Type Controlled Controlled (m ²) 0.92 Opening (%) 90 Opening Type Controlled Controlled
1 2 Wall 1 1 Wall 1 2 Floor 1	Plyw Plyw Window Name South Awning Windo South Tim Tim Cons Concrete slab (suspe		(deg.) 180 270 Bathro Indoc (group (group (gro) (m) 1.71 0.45 3athroon WE 007: Wind or covering None Bathroo 2.60 2.60 2.60 Bath 2.60 2.60 0.2.60 2.60 2.60 8athroid	(m) 2.40 2.40 1: Windd Constru- RS14A dows in Pom: Inte H (m) 2.40 2.40 A Pom: Inte H (m) 2.40 A Pom: Inte H (m) 2.40 Pom: Inte H (m) 2.40 Pom: Inte H (m) 2.40 Pom: Inte H (m) 2.40 Pom: Inte Pom:	(gross) (m ²) 4.10 1.08 westin v action Al IGU cle walls (c utdoor cove walls (c utdoor cove rnal wal (gross) (m ²) 6.24 Floors Under Gi ceilings	(net) (m ²) 3.18 1.08 //alls ar Continue ring Area (net) (m ²) 12.0 4.2 the floor	ed) Fixed	Carport Carport Carport Azi (deg (deg 186 Shade Jacent Zone Bed 1 Hall Edge Ins. Thick. 25 mm		Opening (m²) W 0.00 0.00 0.00 0.00 H W M (m) 1.15 0.8 H HO (m) (m) 6 0.00 Opening (m²) 0.00 2.00 0.00	Opening Type Controlled Controlled (m ²) 0 0.92 Opening (%) 90 Opening Type Controlled Controlled
1 2 Wall 1 1 Wall 1 1 2 Floor 1 1 Ceiling	Plyw Plyw Window Name South Awning Windo South South Tim Cons Concrete slab (suspe		(deg.) 180 270 Bathro Indoc (gro (gro (gro (gro (gro) (m) 1.71 0.45 3athroon WE 000: Wind or covering None Bathroo 2.60 Bath 2.60 Bath 2.60 Bath 3 5.3 Bath Area (gross)	(m) 2.40 2.40 1: Windc Constr RS14A dows in 0 0 0 0 0 0 0 0 0 0 0 0 0	(gross) (m ²) 4.10 1.08 westin v atticon Al IGU de walls (c utdoor cove None rnal wal (gross) (gross) (12.00 6.24 Floors Under Gi eillings	(net) (m ²) 3.18 1.08 /alls ar Continue ring Area (net) (net) (net) (net) (net) (net) ring Area (net) (net) (net) (net) Area (net) (net) Area (net) (ed) Fixed	Carport Carport Carport (deg (deg (acent Shade Ijacent Zone Bed 1 Hall Hall Edge Ins. Thick. 25 mm	Edge Ins. Depth 0.3	Opening (m²) M 0.00 0.00 0.00 0.00 H M M (m) I.15 0.6 M (m)	Opening Type Controlled Controlled (m ³) 0 0.92 Opening (%) 90 Opening Type Controlled Controlled

		A	ccul	Rate	e NZ	Z V1	.3.1	0			
		Ne	ew Ze R	ealar Latin	nd H g Sc	ome chem	Enei e	Эу			
				Pro	ject D	etails					
Proje	ct Name: Starter	Home - Nika	au Hou	se							
File N	ame: C:\Progran	n Files∖Accu	RateNZ	Z\Proj	ects\S	Starter H	-lome '	1200			
Dwan	gs R3.2 Ceiling	R1.8 Wall.PF	20								
Place	Name: Glen Inn	es (Auckland	d City)			limate	Zone:	AK			
Client	t Name: Departm	nent of Buildi	ng and	Hous	sing						
Site A	ddress:		-0								
Desia	n Option: Base	Design									
Date:	13/08/2010		Tim	16. 0.4	41·				Page	• 11	
			Hall	Exter	nal wal	ls main	data				
Wall	Constructi	ion	Azi (deg.)	L (m)	H (m)	Area (gross) (m²)	Area (net) (m²)	Fixed shade		Opening (m²)	Opening Type
	Plywood W	all	180	1.50	2.40	3.60	1.60	Carport		2.00	Controlled
		-1		Hall:	Interna	l walls					
waii	Con	struction		(m)	(m)	Area (gross) (m²)	Area (net) (m²)	Adjacent Zone		(m²)	Type
1	Timber fra Timber fra	me / uninsulated me / uninsulated		2.60	2.40	6.24 4.66	4.2	Bathroom Bed 2		2.00	Controlled Controlled
				н.		.					
Floor	Constructio	on	Area	Area	ail: F10	Under	the floor	Edge	Edge	Opening	Opening
			(gross) (m²)	(net) (m²)				Ins. Thick.	Ins. Depth	(m²)	Туре
1	Concrete slab (suspended o	or on ground) / plai	8.5	8.5		Gr	ound	25 mm	0.3	0.00	Controlled
				Ha	II: Ceili	ings					
Ceiling	Constru	uction	Ai (gro	rea oss) n²)	Area (net) (m²)		Ab	ove the ceiling		Opening (m²)	Opening Type
1	Ceiling below attic / ins	sulated between joist	8	.5	8.5			Attic		0.00	Controlled

	AccuRate	NZ V1.3.1.0								
New Zealand Home Energy Rating Scheme										
	Projec	t Details								
Project Name: Starte	r Home - Nikau House									
File Name: C:\Program	m Files\AccuRateNZ\Project	s\Starter Home 1200								
Dwangs R3.2 Ceiling	R1.8 Wall.PRO									
Place Name: Glen Inr	nes (Auckland City)	Climate Zone: AK								
Client Name: Departr	nent of Building and Housing	7								
Site Address:	~	•								
Design Option: Base	Design									
Date: 13/08/2010	Time: 9:41:		Page: 12							
	Attic:	Floors								

Floor	Construction	Area	Area	Under the floor	Edge	Edge	Opening	Opening
		(gross)	(net)		Ins.	Ins.	(m²)	Туре
		(m ²)	(m²)		Thick.	Depth		
1	Ceiling below attic / insulated between joist	14.1	14.1	Bed 1	None	0.0	0.00	Controlled
2	Ceiling below attic / insulated between joist	5.3	5.3	Bathroom	None	0.0	0.00	Controlled
3	Ceiling below attic / insulated between joist	6.4	6.4	Bed 2	None	0.0	0.00	Controlled
4	Ceiling below attic / insulated between joist	13.3	13.3	Bed 3	None	0.0	0.00	Controlled
5	Ceiling below attic / insulated between joist	8.5	8.5	Hall	None	0.0	0.00	Controlled
			At	ttic: Roofs				
Roo	f Construction			Area (gross) Area (net)	Azi	Pitch		Exposure

Roof above attic / profiled metal

(m²)

(m²)

(deg.)

(deg.)

1

		Ac	cuRa	ate	NZ	ZV	1.3	8.1.0)			
			-				_					
		Nev	v Zeal	land	d Ho	om	еE	ner	ју			
			Ra	ting	50	ne	me					
			P	Proje	ect De	etai	S					
Project Name: Start	er Home	- Nikau	ı House									
File Name: C:\Progr	am Files\	AccuRa	ateNZ\P	rojeo	cts\St	tarte	r Ho	me 12	200			
Dwangs R3.2 Ceiling	g R1.8 W	all.PR	C									
Place Name: Glen Ir	nnes (Aud	kland (City)		Cli	ima	te Zo	one: A	λK			
Client Name: Depar	tment of I	Building	g and H	ousir	ng							
Site Address:												
Design Option: Bas	e Design											
Date: 13/08/2010			Time:	9:41	1:					Pa	age: 13	
				hadin	on Cab							
		-	Eave	naum	ig sch	ieme	5		Othe	r fixed shadir	ng	
Name			Projection (m)	Offs (m	et)	Proje (m	ction	Offset (m)		Mor	thly blocking f	actors
North			1.90	0.1	0	0.0	0	0.00	10	0,100,100,100	,100,100,100,1	0,100,100,100,100
East, West 1 East, West South	n 2		0.10	0.0	0	0.0	0	0.00	10	0,100,100,100	0,100,100,100,100,1	0,100,100,100,100,100 0,100,100,100,100
Carport			0.00	0.0	0	5.5	0	0.00	10	0,100,100,100	,100,100,100,1	00,100,100,100,100
				Vei	ntilatio	on						
Footprint: Vertical dimension (m)	on	FOOL	tprint: norizont	ai dimen	ision			Azimuti	(degrees)	ed facade		Insect screens
9.5			12.2						0			N
				Inf	iltratio	on		1				
Description					Blowe Door result ac/h@50	er • fi t 0Pa	Open replaces	Metal flues	Passive window vents	Specific leakage openings (m²)	Fraction of old window replaced	Site exposure
Post-1960, Simple design, <120 m ² , airtig	ht window joinery				-		0	0	Yes	0.0000	-	Sheltered
				Spac	e Hea	ting						
Description			Annı Energy (MJ	ual Use)	An Heatir (nual ng Co: (\$)	st E	Annual C Emission (Kg)	0 s ² 0	Max Dutput (kW)	COP	Fuel Type
Description									Zones	heated by	this heater	
[]	Total	Electrici	ty Natura	al Gas	LP	G	Co	oal	Wood	Pelle	t Oi	Shortfall
Annual Energy Use (MJ)		0	0)	0)		2	0	0	0	2172
Annual Heating Cost (\$)	133	0	0))		<u>,</u>	0	0	0	133
Peak Demand Shortfall(kW)	224	0		,	. 0		<u> </u>		0		0	4.4
		Hoati	ing Shortfall	in Zon	ae (dua	to une	lareizad	1 hostors	`			
2	Zones	neau	g onornall		Peak S	Shortfa	11		, Annual E	nergy		
Living					(k 2	2.8			onsumption 1555	on (MJ)' ;	Em	ssions (kg)' 160
Bed 1					0).4			7			1
Bed 2					0).2		_	5			1
Bathroom					0).ə).4			<u> </u>			4 50
Hall					0				0.1		1	0

0.0

Hall Attic ¹ Assuming shortfall is met using electric resistive type heaters. Living Room Temp and Outdoor Temp July

