



Massey University

Department of Finance Banking
and Property



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A MODEL FOR VALUING SUBDIVISION DEVELOPMENT LAND

Eleventh Annual Conference.

Pacific-Rim Real Estate Society (PRRES)
Conference

University of Melbourne, Australia, January 2005



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METHODOLOGY

- DISCOUNTED CASHFLOW AND
HYPOTHETICAL SUBDIVISION
(Hyposub) BUDGET FORMULA
METHODOLOGY



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Abstract Pt.1

- *The total return required to compensate an investor for undertaking land development involves risk/return trade-off analysis. The problem is that in the absence of a volume of comparable sales, existing methods-- particularly the hypothetical subdivisional budget formula method or hyposub-- concentrate on the determination of residual land value, utilising subjectively derived single figure profit and risk and/or discount rates.*



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Abstract Pt. 2

- *The investor/developer determines price based on expected return, both total and equity; the financier is interested in risk exposure during the subdivision process; the valuer assesses residual value*



Abstract Pt. 3

- *The authors identified the need for a model that compares the results of the hyposub method with Discounted Cash Flow (DCF) analysis and addresses the risk/return tradeoff. The authors postulate that a comparative hyposub/DCF model that allows for sensitivity analysis should provide more useful results for investors, valuers and financiers.*



Abstract Pt. 4

- *The hyposub is the traditional shortcut method used by valuers. DCF should better reflect the perceived risk exposure at various stages of the development process. Sensitivity analysis assists risk assessment and focuses attention back on the risk adjusted return being the driving determinant of land value.*
- *The model has been built on a standard excel framework for ease of use. No comparable models have been identified in New Zealand, Australia or the Asian region..*



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KEYWORDS

- Discounted Cash Flow, land development, subdivision, valuation subdivision model, hypothetical subdivisional budget formula, hyposub, risk/return trade-off, sensitivity analysis.



MODEL REQUIREMENT

- Identification of a need for a model for Valuers Financiers and Investors.
- Multiple requirements of Valuers, Financiers, Investors and Students
- Unsatisfactory individual time consuming non standardised existing models
- Static 'Hyposub' model
- Poor presentation of existing model outputs
- Requirement for alternate levels of sophistication
- Sensitivity analysis
- Risk Return capabilities
- Relative ease of operation
- Graph presentation
- Capability of further development



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TARGET END USERS

- Valuers (Appraisers) of Real Estate
- Financiers both prime lenders and mezzanine financiers
- Students of property at undergraduate and post graduate levels
- Land developers/Investors
- Surveying Engineers



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OPERATION FRAMEWORK

- Designed for excel users
- Visual
- Video capabilities
- Audio support
- Tutorial Workbook
- Development of CD rom training program



PRESENTATION TO PRRES

- The PRRES presentation will be in excel, and include
- Video clips
- Excel demonstration of model to date
- Invite suggestions of modifications and improvements to existing model



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B133							
	A	B	C	D	E	F	
124							
125							
126							
127							
128							
			Per Year	Per Month			
129	Escalation Rate (Per Annum Compound) for Sales		10.00%	0.7974%			
130	Escalation Rate (Per Annum Compound) for Costs		100.00%	5.9463%			
131							
132							
133				Totals	1	2	3
134	Revenue			Jan 04	Feb 04	Mar 04	
135							
136	Section Type 1	Number of Sales	30.00	0	0	0	
137	Section Type 1	GST excl	\$ 263,637.86	\$ -	\$ -	\$ -	\$
138							
139	Total Income						
140							
141	Total Number of Units Sold		7.00	-	-	-	
142	Gross Sales	GST excl	\$ 625,070.50	\$ -	\$ -	\$ -	\$
143							
144	Cost of Sales	3.800%	\$ 31,016.80	\$ -	\$ -	\$ -	\$
145	Before Net Income Costs						
146							
147							
148							
149							
150							
151	Before Net Income Cost Per Site						
152							
153	Legal Costs	Per Site	\$ 5,250.00	\$ -	\$ -	\$ -	\$
154							
155	Total Before Net Income Cost per Site		\$ 5,250.00	\$ -	\$ -	\$ -	\$
156							
157	Net Sales Income		\$ 588,803.70	\$ -	\$ -	\$ -	\$
158							
159	After Net Income Costs per Site						
160							
161	Marketing Costs	Per Site	\$ 5,250.00	\$ -	\$ -	\$ -	\$
162							



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B170 Interest Only						
	A	B	C	D	E	F
67						
68	Costs	Escalation Rate				
69	<input type="button" value="Add"/> <input type="button" value="Remove"/>	Yes				
70	Costs	Total Cost	Allocated	Remaining		
71						
72	Consultants	\$ 20,000.00	\$ 20,269.91	-\$ 269.91		
73	Construction Costs	\$ 3,500,000.00	\$ -	\$ 3,500,000.00		
74	Power Telecom Gas Lights	\$ 1,500,000.00	\$ -	\$ 1,500,000.00		
75	Landscaping	\$ 1,000,000.00	\$ -	\$ 1,000,000.00		
76	Management	\$ 40,000.00	\$ 36,814.58	\$ 3,185.42		
77						
78		\$6,060,000.00	\$57,084.49			
79						
80	Cost Allocation	<input type="button" value="Add"/> <input type="button" value="Remove"/>				
81			<u>Start Period</u>	<u>End Period</u>	<u>Periods</u>	<u>Per Period</u>
82						
83	Consultants		Jan 04	May 04	5	\$ 4,000.00
84	Management		Jan 04	Sep 04	9	\$ 4,000.00
85						
86						
87	Sections					
88	<input type="button" value="Add"/> <input type="button" value="Remove"/>	Detail	Escalation Rate		GST Inc	
89	<i>Total Number of Units</i>	34	Yes		Yes	
90	Income	Units	Income Allocated	Allocated	Remaining	
91						
92	Section Type 1	30	\$ 2,850,000.00	30	0	



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A181		A	B	C	D	E	F	
104	Section Type 2		Feb 04	Feb 04	1	1	\$105,000.00	
105	Section Type 2		Apr 04	Apr 04	1	1	\$115,000.00	
106	Section Type 2		Apr 04	Apr 04	1	1	\$125,000.00	
108								
109	Finance							
110		<input type="button" value="Add"/>	<input type="button" value="Remove"/>	<i>Detail</i>				
111	Type 1		\$5,000,000.00	9.00%	12	\$5,469,034.49	23	
112			\$5,000,000.00		12	\$5,469,034.49		
113								
114								
115								
116	Loan Allocation	<input type="button" value="Add"/>	<input type="button" value="Remove"/>					
117				<u>Start Period</u>	<u>End Period</u>	<u>Periods</u>	<u>Principal Only</u>	
118								
119	Type 1	Principal Only	Aug 04	Sep 04	2	\$25,000.00	:	
120	Type 1	Interest Only	Jan 04	Sep 06	33	\$14,213.17	:	
121								
122								
123								
124								
125								
126								
127								
128								
129								
130	Escalation Rate (Per Annum Compound) for Sales	Per Year	2.00%	Per Month	0.1652%	<input type="button" value="Left"/> <input type="button" value="Right"/>		
131	Escalation Rate (Per Annum Compound) for Costs	Per Year	5.50%	Per Month	0.4472%	<input type="button" value="Left"/> <input type="button" value="Right"/>		
132								
133								
134								
					Totals	1	2	3
						Jan 04	Feb 04	Mar 04



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B83		1/01/2004		A	B	C	D	E	F
80	Cost Allocation		<input type="button" value="Add"/>	<input type="button" value="Remove"/>					
81									
82					<u>Start Period</u>	<u>End Period</u>	<u>Periods</u>	<u>Per Period</u>	
83	Consultants	Jan 04		Jun 04	6	\$	4,000.00		
84	Management	Jan 04		Apr 04	4	\$	4,000.00		
85	Landscaping	Feb 04		Sep 04	8	\$	25,000.00		
86	Landscaping	Aug 04		Aug 05	13	\$	30,000.00		
87	Landscaping	Jan 04		Jan 04	1	\$	30,000.00		
88	Marketing	Jan 04		Aug 05	20	\$	2,500.00		
89	Marketing	Jan 04		Jan 04	1	\$	10,000.00		
90	Power Telecom Gas Lights	Jan 04		May 04	5	\$	12,500.00		
91	Construction Costs	Jun 04		Oct 04	5	\$	17,500.00		
92	Construction Costs	Jun 04		Aug 04	3	\$	26,000.00		
93	Power Telecom Gas Lights	Jan 04		Jul 04	7	\$	550,000.00		
94	Construction Costs	Jan 04		Jul 04	7	\$	550,000.00		
174	Total After Net Income Cost Per Site				\$ -	\$ -	\$ -	\$ -	\$ -
176	After Net Income Costs								
178	Consultants				\$ 24,000.00	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00	\$
179	Construction Costs				\$ 4,015,500.00	\$ 550,000.00	\$ 550,000.00	\$ 550,000.00	\$
180	Power Telecom Gas Lights				\$ 3,912,500.00	\$ 562,500.00	\$ 562,500.00	\$ 562,500.00	\$
181	Landscaping				\$ 620,000.00	\$ 30,000.00	\$ 25,000.00	\$ 25,000.00	\$
182	Management				\$ 16,000.00	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00	\$
183	Marketing				\$ 60,000.00	\$ 12,500.00	\$ 2,500.00	\$ 2,500.00	\$
185	Total After Net Income Costs				\$ 8,648,000.00	\$ 1,163,000.00	\$ 1,148,000.00	\$ 1,148,000.00	\$
186	Total Loan								
188	Type 1			Interest Only	\$ 281,420.69	\$ 8,527.90	\$ 8,527.90	\$ 8,527.90	\$



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B112		1/02/2004					
	A	B	C	D	E	F	
100	Income	<u>Units</u>	<u>Income Allocated</u>	<u>Allocated</u>	<u>Remaining</u>		
101							
102	Section Type 1	30	\$ 1,900,000.00	19	11		
103	Section Type 2	10	\$ 520,000.00	5	5		
104							
105			\$ 2,420,000.00	34			
106		<input type="button" value="Add"/>	<input type="button" value="Remove"/>				
107		<u>Start Period</u>	<u>End Period</u>	<u>Periods</u>	<u>Units Sold Per Period</u>	<u>GST Inc Price</u>	<u>GST</u>
108							
109							
110	Section Type 1	Jun 04	Dec 05	19	1	\$100,000.00	
111	Section Type 2	Feb 04	Feb 04	1	1	\$100,000.00	
112	Section Type 2	Feb 04	Feb 04	1	4	\$105,000.00	
113							
114							
115	Finance						
116		<input type="button" value="Add"/>	<input type="button" value="Remove"/>	<i>Detail</i>			
142							
143				1	2	3	
144				<i>Totals</i>	Jan 04	Feb 04	Mar 04
145	Revenue						
146	Section Type 1	Number of Sales	19.00	0	0	0	
147	Section Type 1	GST excl	\$ 275,446.26	\$ -	\$ -	\$ -	\$
148	Section Type 2	Number of Sales	5.00	0	5	0	
149	Section Type 2	GST excl	\$ 461,299.55	\$ -	\$ 461,299.55	\$ -	\$
151	Total Income						
153	Total Number of Units Sold		24.00	-	5.00	-	
154	Gross Sales	GST excl	\$ 2,305,706.75	\$ -	\$ 461,299.55	\$ -	\$
155	Cost of Sales		\$ 67,607.90	\$ -	\$ 14,002.00	\$ -	\$



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		A	B	C	D	E	F
114							
115	Finance						
116		<input type="button" value="Add"/>	<input type="button" value="Remove"/>	<i>Detail</i>			
117							
118	Type 1		\$3,000,000.00	9.00%	33	\$3,838,911.18	1
119	Type 2		\$2,500,000.00	12.50%	18	\$3,012,652.44	18
120							
121			\$5,500,000.00		51	\$6,851,563.61	
122							
123	Loan Allocation	<input type="button" value="Add"/>	<input type="button" value="Remove"/>				
124				<u>Start Period</u>	<u>End Period</u>	<u>Periods</u>	<u>Principal Only</u>
125							
126	Type 1	Principal Only	Jan 10	Jan 10	1	\$250,000.00	:
127	Type 1	Interest Only	Jan 04	Sep 06	33	\$25,421.55	:
128	Type 2	Interest Only	Sep 04	Feb 06	18	\$28,480.69	:
129	Type 2	Principal Only	Sep 04	Feb 06	18	\$138,888.89	:
130							
131							
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182							
183							
184							
185							
186	Total After Net Income Costs		\$ 8,614,400.00	\$ 1,156,600.00	\$ 1,141,600.00	\$ 1,141,600.00	\$
187	Total Loan						
188							
189	Type 1	Interest Only	\$ 838,911.18	\$ 25,421.55	\$ 25,421.55	\$ 25,421.55	\$
190	Type 1	Principal Only	\$ 250,000.00	\$ -	\$ -	\$ -	\$
191	Type 2	Interest Only	\$ 512,652.44	\$ -	\$ -	\$ -	\$
192	Type 2		\$ -	\$ -	\$ -	\$ -	\$
193							
194	TOTAL		\$ 1,601,563.61	\$ 25,421.55	\$ 25,421.55	\$ 25,421.55	\$
195							
196							
197	Net Cash Flow including Loan		-\$5,500,000	-\$1,182,022	-\$709,610	-\$1,167,022	
198	Net Cash Flow Full Equity			-\$1,156,600	-\$684,189	-\$1,141,600	
199							
200							



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Principal Only						
	A	B	C	D	E	F
97	Sections					
98	<input type="button" value="Add"/>	<input type="button" value="Remove"/>	Detail	Escalation Rate	GST Inc	
99	<i>Total Number of Units</i>	34	No	Yes		
100	Income	<u>Units</u>	<u>Income Allocated</u>	<u>Allocated</u>	<u>Remaining</u>	
102	Section Type 1	30	\$ 1,900,000.00	19	11	
103	Section Type 2	10	\$ 545,000.00	5	5	
104						
105			\$ 2,445,000.00	24		
137						
138		Per Year	Per Month			
139	Escalation Rate (Per Annum Compound) for Sales	0.00%	0.0000%	<input type="button" value="←"/>	<input type="button" value="→"/>	
140	Escalation Rate (Per Annum Compound) for Costs	0.00%	0.0000%	<input type="button" value="←"/>	<input type="button" value="→"/>	
141						
142						
143			Totals	1	2	3
144				Jan 04	Feb 04	Mar 04
145	Revenue					
146	Section Type 1	Number of Sales	19.00	0	0	0
147	Section Type 1	GST excl	\$ 262,500.00	\$ -	\$ -	\$ -
148	Section Type 2	Number of Sales	5.00	0	5	0
149	Section Type 2	GST excl	\$ 476,875.00	\$ -	\$ 476,875.00	\$ -
151	Total Income					
153	Total Number of Units Sold		24.00	-	5.00	-
154	Gross Sales	GST excl	\$ 2,139,375.00	\$ -	\$ 476,875.00	\$ -
156	Cost of Sales	<input type="button" value="←"/> 3.100% <input type="button" value="→"/>	\$ 98,328.71	\$ -	\$ 15,713.89	\$ -
157	Before Net Income Costs					



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Yes						
	A	B	C	D	E	F
				1	2	3
				Jan 04	Feb 04	Mar 04
142						
143				Totals		
144	Revenue					
145						
146	Section Type 1	Number of Sales	19.00	0	0	0
147	Section Type 1	GST excl	\$ 274,111.55	\$ -	\$ -	\$ -
148	Section Type 2	Number of Sales	5.00	0	5	0
149	Section Type 2	GST excl	\$ 482,807.31	\$ -	\$ 482,807.31	\$ -
151	Total Income					
153	Total Number of Units Sold		24.00	-	5.00	-
154	Gross Sales	GST excl	\$ 2,307,880.08	\$ -	\$ 482,807.31	\$ -
156	Cost of Sales	3.100%	\$ 98,328.71	\$ -	\$ 15,713.89	\$ -
157	Before Net Income Costs					
159			\$ -	\$ -		
161	Total Before Net Income Cost		\$ -	\$ -	\$ -	\$ -
163	Before Net Income Cost Per Site					
165	Legal Costs	Per Site	\$ 18,000.00	\$ -	\$ 3,750.00	\$ -
167	Total Before Net Income Cost per Site		\$ 18,000.00	\$ -	\$ 3,750.00	\$ -
168						
169	Net Sales Income		\$ 2,191,551.37	\$ -	\$ 463,343.43	\$ -
170						
171	After Net Income Costs per Site					
173	Marketing Costs	Per Site	\$ 18,000.00	\$ -	\$ 3,750.00	\$ -
175	Total After Net Income Cost Per Site		\$ -	\$ -	\$ -	\$ -
177	After Net Income Costs					
179	Consultants		\$ 6,400.00	\$ 1,600.00	\$ 1,600.00	\$ 1,600.00
180	Construction Costs		\$ 4,015,500.00	\$ 550,000.00	\$ 550,000.00	\$ 550,000.00



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A89 Management										
	A	B	C	D	E	F	G	H	I	
83	Consultants	Jan 04	Apr 04	4	\$	1,500.00				
84	Consultants	Jan 04	Apr 04	4	\$	100.00				
85	Landscaping	Feb 04	Sep 04	8	\$	25,000.00				
86	Landscaping	Aug 04	Aug 05	13	\$	30,000.00				
87	Landscaping	Jan 04	Jan 04	1	\$	30,000.00				
88	Marketing	Jan 04	Aug 05	20	\$	2,500.00				
89	Management	Jan 04	Jan 04	1	\$	10,000.00				
90	Power Telecom Gas Lights	Jan 04	May 04	5	\$	12,500.00				
91	Construction Costs	Jun 04	Oct 04	5	\$	17,500.00				
92	Construction Costs	Jun 04	Aug 04	3	\$	26,000.00				
93	Power Telecom Gas Lights	Jan 04	Jul 04	7	\$	550,000.00				
94	Construction Costs	Jan 04	Jul 04	7	\$	550,000.00				
206	Total Subdivision									
207	Single Stage Subdivision Date: 20-Dec-01									
208	Gross Realisation									
209	Income from Sections	Units	Ave Price							
210	Section Type 1	19	\$	100,000.00			\$1,900,000			
211	Section Type 2	5	\$	109,000.00			\$545,000			
212							\$2,445,000			
213							\$4,890,000			
214	Less G.S.T	GST Inc		12.50%			\$271,667			
215	Gross Realisation Excluding G.S.T							\$4,618,333		
216										
217	Less Selling Expenses		6%	Per Site			\$288,510			
218	Legal Costs		24.00	\$	750.00					
219			\$							
220							\$288,510			
221	Net Realisation							\$4,329,823		
222										
223	Less Profit & Risk		30.38%	on Outlay			\$1,008,969			
224										
225	Outlay							\$3,320,854		
226										
227	Less Costs									
228	Marketing Costs	24.00	sites @	\$	750.00	\$	18,000.00			
229	Consultants			\$	6,400.00	\$	6,400.00			
230	Construction Costs			\$	4,015,500.00	\$	4,015,500.00			
231	Power Telecom Gas Lights			\$	3,912,500.00	\$	3,912,500.00			
232	Landscaping			\$	620,000.00	\$	620,000.00			



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B214 fx =+E99									
	A	B	C	D	E	F	G	H	I
98	<input type="button" value="Add"/> <input type="button" value="Remove"/>	Detail	Escalation Rate	GST Inc					
99	<i>Total Number of Units</i>	34	Yes	Yes					
100	Income	Units	Income Allocated	Allocated	Remaining				
102	Section Type 1	30	\$ 1,900,000.00	19	11				
103	Section Type 2	10	\$ 545,000.00	5	5				
104									
105			\$ 2,445,000.00	24					
106	<input type="button" value="Add"/> <input type="button" value="Remove"/>								
107		Start Period	End Period	Periods	Units Sold Per Period	GST Inc Price	GST Exc Price		
109									
110	Section Type 1	Jun 04	Dec 05	19	1	\$100,000.00	\$87,500.00	\$1,900,000.00	Stage 4
111	Section Type 2	Feb 04	Feb 04	1	1	\$125,000.00	\$109,375.00	\$125,000.00	Stage 5
112	Section Type 2	Feb 04	Feb 04	1	4	\$105,000.00	\$91,875.00	\$20,000.00	Stage 4
113									
204									
205									
206	Total Subdivision								
207	Single Stage Subdivision Date: 20-Dec-01								
208	Gross Realisation								
209	Income from Sections	Units	Ave Price						
210	Section Type 1	19	\$	100,000.00			\$1,900,000		
211	Section Type 2	5	\$	109,000.00			\$545,000		
212							\$2,445,000		
213							\$4,890,000		
214	Less G.S.T	Yes			12.50%		\$271,667		
215	Gross Realisation Excluding G.S.T						\$4,618,333		
216									
217	Less Selling Expenses			6%	Per Site		\$288,510		
218	Legal Costs			24.00	\$ 750.00				
219			\$						
220							\$288,510		
221	Net Realisation						\$4,329,823		
222									
223	Less Profit & Risk			30.38%	on Outlay		\$1,008,969		
224									
225	Outlay						\$3,320,854		
226									
227	Less Costs								
228	Marketing Costs		24.00	sites @	\$ 750.00		\$ 18,000.00		



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INCOME_ES... fx Yes

	A	B	C	D	E	F
1		1-Dec-04	01-Dec-06	24.00		
2	Stage 1	5-Dec-04	1-Apr-05	3.00		
3	Stage 2	1-Apr-05	1-Jan-06	8.00		
4	Stage 3	4-Dec-05	2-Dec-07	22.00		
5	Stage 4	1-Dec-07	1-Dec-07	-		
6	Stage 5	0-Jan-00	0-Jan-00	-		
7	Number of stages	4				
8						
9		Per Year	Per Month			
10	Escalation Rate (Per Annum Compound) for Sales	2.00%	0.1652%			
11	Escalation Rate (Per Annum Compound) for Costs	5.50%	0.4472%			
12	Number of Sites	34				
13		Per Site				
14	Cost of Sales	6.900%				
15	Analysis - Plus G.S.T (if any)	12.50%				
16						
17						
18	Go to Hypo sub					
19	Go to NPV					
20	Go to Graphs					
21						
22						
23	Before Net Income Costs					
24	Cost Per Sale	Escalation Rate				
25	<input type="button" value="Add"/> <input type="button" value="Remove"/>	No				
26	Costs	Total Cost				
27						
28						
29	Local Costs	21,000.00				

Input Sheet Scenario 1 Data Sheet Scenario 2 Data Sheet Scenario 3 Data Sheet



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G142		fx 4							
	A	B	C	D	E	F	G	H	I
135									
136									
137									
138									
139	Escalation Rate (Per Annum Compound) for S	Per Year	7.70%	Per Month	0.6281%				
140	Escalation Rate (Per Annum Compound) for C	Per Year	0.00%	Per Month	0.0000%				
141									
142									
143									
144									
145									
146	Section Type 1	Number of Sales	19.00	0	0	0	0	0	1
147	Section Type 1	GST excl	\$ 274,111.55	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 90,806.28
148	Section Type 2	Number of Sales	5.00	0	5	0	0	0	0
149	Section Type 2	GST excl	\$ 4,717,937.50	\$ -	\$ 4,717,337.50	\$ -	\$ -	\$ -	\$ -
150									
151	Total Income								
152	Total Number of Units Sold		24.00	-	5.00	-	-	-	1.00
153	Gross Sales	GST excl	\$ 6,542,410.27	\$ -	\$ 4,717,337.50	\$ -	\$ -	\$ -	\$ 90,806.28
154									
155	Cost of Sales	5.900%	\$ 551,660.31	\$ -	\$ 308,298.63	\$ -	\$ -	\$ -	\$ 7,281.75
156									
157	Before Net Income Costs								
158									
159	Total Before Net Income Cost		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
160									
161	Before Net Income Cost Per Site								
162									
163	Legal Costs	Per Site	\$ 18,000.00	\$ -	\$ 3,750.00	\$ -	\$ -	\$ -	\$ 750.00
164									
165	Total Before Net Income Cost per Site		\$ 18,000.00	\$ -	\$ 3,750.00	\$ -	\$ -	\$ -	\$ 750.00
166									
167	Net Sales Income		\$ 5,972,749.96	\$ -	\$ 4,405,288.87	\$ -	\$ -	\$ -	\$ 82,774.53
168									
169	After Net Income Costs per Site								
170									
171	Marketing Costs	Per Site	\$ 18,000.00	\$ -	\$ 3,750.00	\$ -	\$ -	\$ -	\$ 750.00
172									
173	Total After Net Income Cost Per Site		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
174									
175	After Net Income Costs								
176									
177	Consultants		\$ 2,400.00	\$ 600.00	\$ 600.00	\$ 600.00	\$ 600.00	\$ -	\$ -
178	Construction Costs		\$ 4,015,500.00	\$ 550,000.00	\$ 550,000.00	\$ 550,000.00	\$ 550,000.00	\$ 550,000.00	\$ 593,500.00
179	Power Telecom Gas Lights		\$ 3,912,500.00	\$ 562,500.00	\$ 562,500.00	\$ 562,500.00	\$ 562,500.00	\$ 562,500.00	\$ 550,000.00
180									
181									
182									



TESTING THE PRODUCT

- Test by Masters Students on land development projects in Auckland S1, 2005
- Tested by leading property Financiers S1 2005
- Model refinements and modification S2 2005
- Completion of programming and presentation S2 2005
- Available to market in 2005/2006



PRRES 'THE PROMISE' 2004

- Multi-period explicit discount rate models developed by Gamby and others are time consuming, non standardised and tedious.
- The Gamby principle of multi – period discounting has been adopted as a realistic determinant of probable market price
- Current valuation models do not include risk/return tradeoff features for financiers and developers.
- The need will be met in 2005 following modification to the model presented at PRRES January 2005