"GROWTH MODEL EPPING - A METHOD OF MEASUREMENT AND ANALYSIS OF INDUSTRIAL GROWTH"

by ROY HORRELL

A Thesis submitted to the Department of Urban and Regional Planning and the Graduate Council of the University of Cape Town in partial fulfilment of the requirements for the Degree of Master of Urban and Regional Planning.

13TH OCTOBER, 1972

APPROVED FOR THE DEPARTMENT OF URBAN AND REGIONAL PLANNING

.....

APPROVED FOR THE GRADUATE COUNCIL

.....

13th October, 1972.

PREFACE

1. There is a tendency not to examine more critically, more effectively, more rationally, more timeously and with sufficient regularity those resources which are immediately available to us and thereby, by other, sometimes marginal extraneous extension, waste is created.

2. Waste is a word of wide connotation and in its simplest meaning relates to unwanted residues, garbage or scrap which specialists in this contemporary world are skilled at converting into useful products, and even extending the land platform !

3. Waste can also imply failure to use up resources, so that land not fully and effectively occupied or utilised becomes, so far as its untapped optimum capacity is concerned, waste land.

4. Waste can also imply a failure to use stores of knowledge, even though it has been painstakingly collected and recorded for posterity, and the incorporate posterity may eventually commit it to Category 2 above, without too much intervention by the specialists !

THIS THESIS, WRITTEN IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF URBAN AND REGIONAL PLANNING IS ALSO IN SOME HUMILITY DEDICATED TO THOSE MANY VALUATION OFFICERS, VALUERS AND VALUATION ASSISTANTS WITH AND TO WHOM THE WRITER HAS OVER MANY YEARS BEEN ASSOCIATED AND INDEBTED, AND WHO ARE, IN THE MAIN, PRIMARILY RESPONSIBLE FOR THOSE PRICELESS RECORDS OF THE URBAN FORM AND ITS EVER CHANGING CONTINUUM CONTAINED IN VALUATION ROLLS AND RECORDS.

FOREWORD

This study, which commenced in 1971, is of a comparatively modern industrial township notionally conceived some 25 years ago on ground which, during the War Years, had been 'beneficially occupied' and, in other respects, laid to waste as an Artillary Range.

The Range had other strategic advantages in that its necessarily extended shape and position over the epicentres of the minor eruptions that had occurred are of considerable centrallity for industriallists and the labour pools on which they would draw. Pinelands Garden City is on the West boundary and Langa Location on the South boundary of that portion of the Range which became known as Epping Industria No. 1. The predominantly Coloured Areas of Matroosfontein and Elsie's Rivier lay immediately to the East and North-East respectively and the other old established Coloured Area of Athlone, which has since grown enormously, was not far distant to the South. Goodwood, Parow and Bellville lie to the North and North-East. Cape Town City Centre lies approximately 10 kilometres to the West - See Location Plan No. 1.

Being part of the Cape Flats it was flat in contour and therefore eminently suited for industrial development.

The promoters and planners of the Epping Industrial Scheme were Cape Town City Council and its confidence was such that it paid for the whole railway network from Maitland Station, but industriallists were tardy both in their initial support for this new industrial area and also, as is still evident today, in utilising more fully the railway facilities available. These facilities are, of course, heavily counterbalanced or complemented today by the excellent freeway system giving access to the Epping Industrial Township and also available through the sagacious foresight of the Cape Town City Council and its professional advisors.

If something is promoted or planned at considerable cost one needs to know how successful the venture has been and approximately how long it will be before the facilities offered are optimised to an acceptable level, in order to justify the investment.

In selecting the Title "Growth Model Epping - a Method of Measurement and Analysis of Industrial Growth", the fundamental media for examination is the Valuation Roll and the hypothesis on which this thesis is based, therefore is :-

"THAT THE VALUATION ROLL OF A LOCAL AUTHORITY NORMALLY CONTAINS THE BASIC INFORMATION FOR THE CONSTRUCTION OF AN URBAN GROWTH MODEL"

ACKNOWLEDGEMENTS

1. to Jose Cotta appointed as thesis supervisor - for the stimulating discussions with him.

2. and to his successor, Dave Dewar, for his interest in the proposition of this thesis.

3. to Ray McCarthy and Stig Winberg for their help in undertaking the tedious collection of valuation record data from various Provincial Administration and Municipal Offices, from the collation of which the writer was able to prepare that vital Consolidated Valuation Roll Appendix 'A'.

4. to Ernest Erlangsen, Owen Burnell, Abel Van Zyl, and Nick Pienaar of the Provincial Valuation Office for assistance in unravelling queries.

5. to Dave Wright and John Panos of the Municipal Valuation and Records Office, for similar assistance.

6. to Avril Morris for her ready grasp of the intricacies of this thesis and translating it from a difficult hand draft into legible type script in such a competent and efficient manner.

7. to Tony Ringer and Geoff Bates of Quickprint Services (Pty) Ltd, who honour their undertaking !

8. to Christina my wife for her solace and month's absence during the most critical part of its preparation !

9. and in no small measure, the Department of Urban and Regional Planning, University of Cape Town for stimulating in me a desire for positive Urban Research and assisting, by its course of training, in the attainment of that objective.

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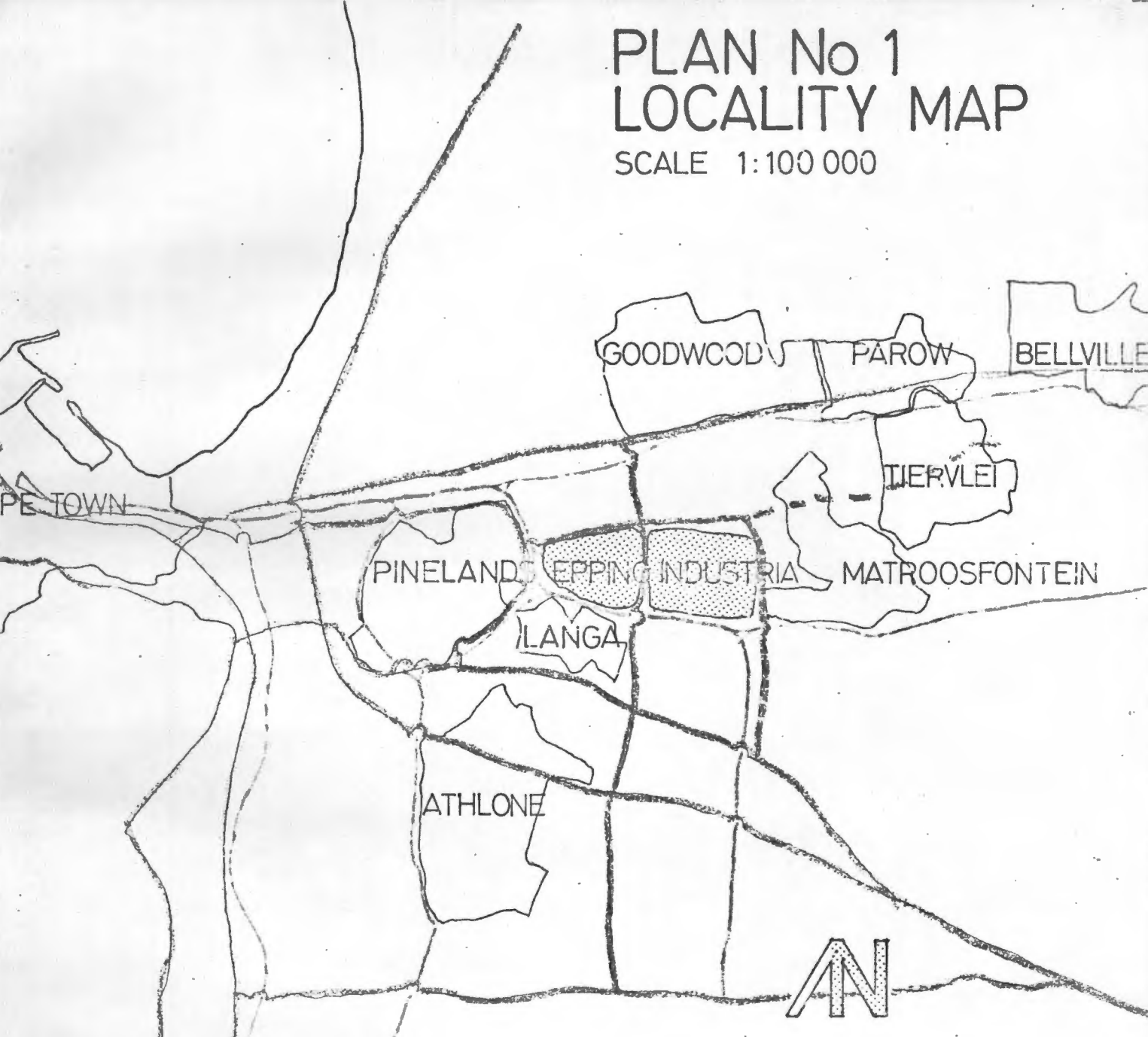
(CONTD)

PLAN No 1
LOCALITY MAP

SCALE 1:100 000



GROWTH MODEL EPPING INDUSTRIA

A METHOD OF MEASUREMENT AND ANALYSIS OF INDUSTRIAL GROWTH

THESIS 1972

U C T DEPARTMENT OF URBAN AND REGIONAL PLANNING

STUDENT: R K HORRELL

MUNICIPALITY: CAPE TOWN
MUNISIPALITEIT: KAAPSTAD

PREV. PROP. REF. EV25A 13
VOR. EIEND. VERW.

PROP. REF. ET26 B15
EIEND. VERW.

INSPECT. DATE
INSPEK. DATUM 26-4-1968

general VALUATION 19 66

ACCOUNT No.
REKENING Nr. 1120/16
PREV. PAGE
VOR. BLADSY 7327

WARD 9 PREV. WARD
WYK VORIGE WYK
PAGE No.
BLADSY Nr. 58

OWNER/EIENAAR Name and Address/Naam en Adres	DEED DESCRIPTION: AKBEBESKRYWING:
Mr./Mrs./Miss Mnr./Mev./Mej. Spindle Rok (Pty) Ltd (A)	erf 32519

SITUATION Gunners Circle & Hawkins Ave.
LIGGING: Map No./Kaart Nr. 35

A SITE—TERREIN: Extent/Grootte:

99,386 SQ. FT.

R 19,880

A Value/Waarde

B BUILDINGS—GEBOUE:

Item No.	Description Beskrywing	Sq. Ft. Vk. Vt.	Gross Value Bruto Waarde	Less/Min. Dep.	Net Value Netto Waarde
1,3,4,5	Workshop, Offices S/S	37,558	112674		
	Shelter	1254	1881		
			114,555		114550
	Sprinkler System				5580
8	Wood Store	2619	6547		
		395	592		
			7139		7140
2	Carport	277	277	5%	260
					127,530

B Value, all Buildings Waarde, alle Geboue: 127530

TOTAL: A & B TOTAAL: 147,410

COURT DECISION:
HOFBESLISSING:

REMARKS: (Apportionments, etc.)

OPMERKINGS: (Toedelings, ens.)

THE MUNICIPAL VALUATION CERTIFICATE

DESCRIPTION

For a fee of 50 cents, a copy of the Municipal Valuation Certificate for any property within the Municipal Area of Cape Town can be obtained from the Provincial Valuation Officer's Records.

AN HISTORIC RECORD HAS BEEN PURCHASED.

It will contain certain salient information viz.

1. Municipal Reference No. for its exact location on one of the large scale maps available.

2. the erf or erven numbers of the property

3. the name of the owner of the property, which is not important so far as this Model is concerned, unless he be in 'beneficial occupation' of the property owned.

4. the extent or area of the site

5. the value attached to the site

6. the outline description of the improvements or buildings and their extent

7. the value attached to the improvements or buildings, which together with that of item 5, will give the aggregate valuation assessment on which rates are paid.

8. In the top left hand corner will be seen the date of valuation and in this instance the last date of a General Valuation was 1966.

The valuation assessment may well deviate from the market or replacement value figures, but they are relative to a tone of value established at the date of valuation and, although this separate concept of land and buildings is sometimes difficult to assimilate or comprehend, the separateness of land from buildings assists this particular GROWTH MODEL considerably.

Once land has been sold or allocated in an urban area, it normally implies that a development is envisaged and the local authority will keenly anticipate increases to the Rates Revenue Account, especially if it has provided, from loan sources, serviced land at a subsidised level.

The Municipal Valuation Certificate (contd)...

THE MUNICIPAL VALUATION CERTIFICATE

(CONTD)

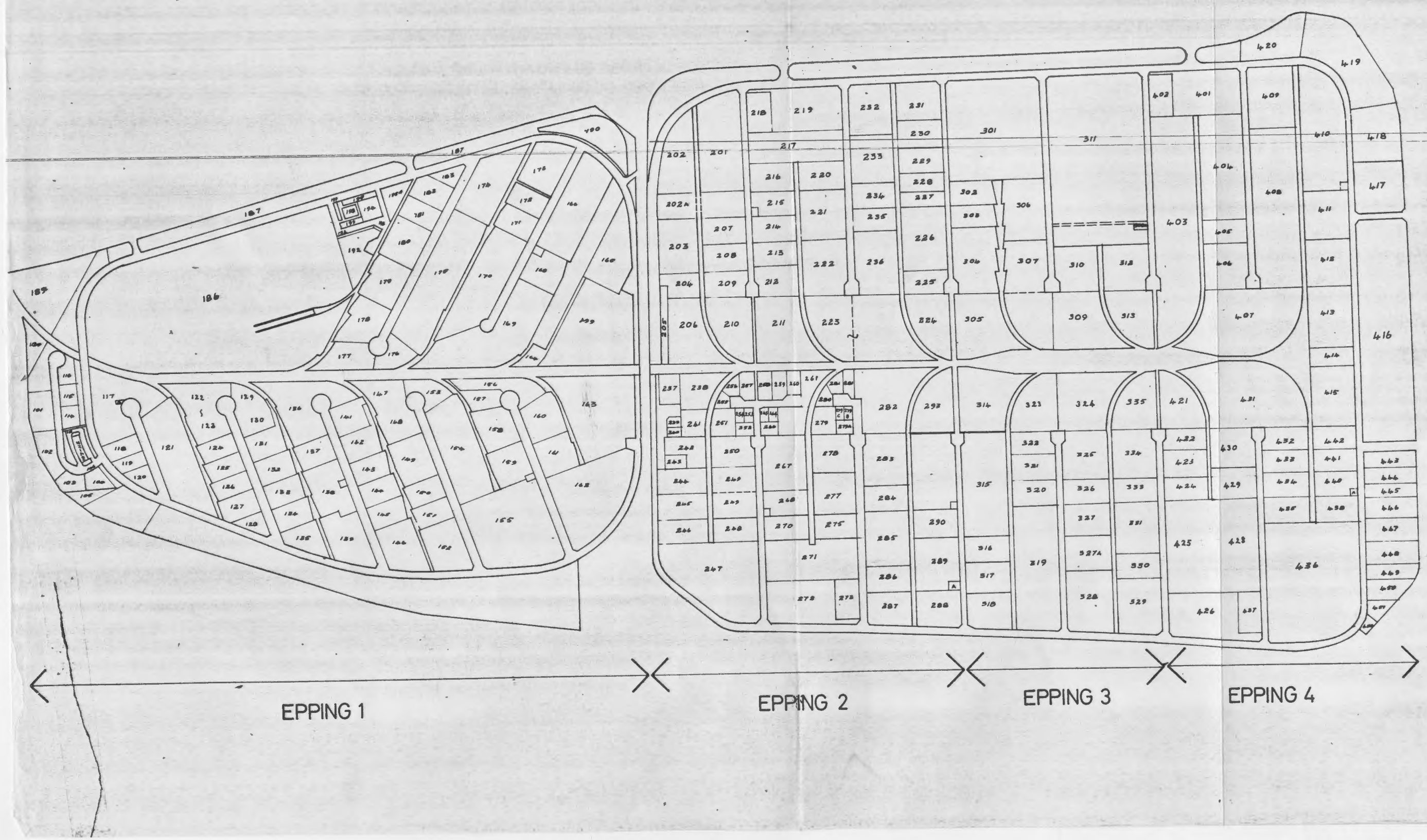
Of as much importance to the Growth Model is item 4 - the extent or area of the site, which, coupled to item 6, the description of the improvements or buildings and their extent, enable the examiner of the Valuation Certificate to create and record a basic picture of the site and the limits which the land and improvements prescribe for the use which may be contained thereon.

As each alteration or amendment to a physical structure takes place, or if the land is subdivided into more than one erf, or consolidation of land and/or improvements takes place with other land, so this becomes the subject of an 'Interim Assessment' and the Valuation Roll is adjusted (which takes cognisance of contraction in or expansion of use facilities).

As there are thousands of properties in a City of the size of Cape Town, with general growth, there are hundreds of Interim Assessments continuously being made quite apart from updating the Valuation Roll under a Revaluation Directive. There is therefore, a veritable mine of information on the urban structure in a Valuation Records Office and this thesis is directed towards channelling that information into a role other than for the levying of a local tax burden.

The collation of these certificates into a Consolidated Valuation Roll for any sector of the Urban form will, unless and when a renewal scheme such as District 6 is under way, normally imply growth. The Consolidated Valuation Roll for Epping Appendix 'A' at the end of this thesis, confirms this general principle and is the basic information on which the Model relies for the ordering of an analytical process.

PLAN No 2
REFERENCE MAP



GROWTH MODEL
EPPING INDUSTRIA

A METHOD OF MEASUREMENT AND ANALYSIS OF INDUSTRIAL GROWTH

THESIS 1972
U.C.T. DEPARTMENT OF URBAN AND REGIONAL PLANNING
STUDENT: R K HORRELL

INTRODUCTION TO THE METHOD OF ASSESSMENT

(CONTD)

The bulk factor of 1,0 equivalent to a coverage of 100 % is logically appropriate to this first stage of the analysis, and represents the normal relationship of the size of a building to the actual site area viz. columns 4 on both the Series 1 Tables 1 - 15 and Series 2 Tables 1 - 24 following. An extension of the concept, however, assumes that the level of bulk equivalent/coverage factor is normally less than 100 % for plots of a particular size or specific industries so that at 70 % for example, a new standard of the value of 1,0 is established against which the occupancy or utilisation rate on the lower standard is again tested and this process is repeated at 60 % and 50 % as further tests of comparative utilisation in each instance seeking to ascertain whether 'mode characteristics' around the factor of 1,0 or parity exist at particular standards or levels.

The following two series of tables illustrate the technique adopted. The first series grouped or graded the plots according to size and the method of analysis is demonstrated, but not extended in complete summaries relative to all the groupings of Series 1 - 15 as it was deemed expedient to extract the basic figures in order to group them in their Industrial Use categories under Series 2.1 - 24 Tables. The space utilisation by specific industries could then be analysed and assessed prior to transfer to the final Series of Growth Model Tables Series 3. 1-24, only one of which for Food Processing Tables Series 3.4. is in fact, in its 'longevity' demonstrated in the Model.

INTRODUCTION TO THE METHOD OF ASSESSMENT

Growth in an organised society must imply in the control of land use the limitation of the extent of that use. Whereas in Epping the possibilities of development are infinite providing that parking and unloading facilities are adequate and building regulations complied with, obviously a standard level of measurement for the Assessment of Growth must be adopted.

The factors which tend to influence single storey industrial development preference, which is predominant in Epping, are as follows :-

- The lower cost of single storey designed structure.
- The comparative speed and efficiency of erection.
- The facility with which industrial process flow circulation can be organised on one level, whereas this can be seriously impaired when two or more levels are involved (excluding of course vertical process plants).
- The costliness and handling capacity of lifts and ramps.
- The time losses of floor interchange.
- The loss of control by works supervisors.
- The size and weight of some modern processing machinery, would make the cost of their installation above ground floor level prohibitive, as the super-imposed loads would be excessive, etc.
- The consideration of labour extensive operations in relation to the machine age.
- Lofted warehousing normally requires a single storey activity with fork lifts, good access, etc.
- If land use is extensive i.e. building contractors, it is usually associated with single storey development.
- The improvement of vehicular flow, goods handling, railways, etc.
- If land is cheap the tendency is to develop laterally and not vertically i.e. as land becomes more costly the intensity with which it is used normally increases by multi-storey or multi-coverage development.

Whilst there is undoubtedly some double and limited multi-storey development in Epping, the analysis adopts what is termed in this thesis a bulk equivalent/coverage factor to establish a level of comparison. This assumes that whatever the bulk it is diffused over the site so that a standard or 'norm' of assessment is common in all instances, and becomes the first stage analysis criteria.

contd/...

INTRODUCTION TO THE METHOD OF ASSESSMENT

Growth in an organised society must imply in the control of land use the limitation of the extent of that use. Whereas in Epping the possibilities of development are infinite providing that parking and unloading facilities are adequate and building regulations complied with, obviously a standard level of measurement for the Assessment of Growth must be adopted.

In this instance, where on site vehicular circulation is generally important, it seemed relevant as is borne out by the analysis to adopt what is termed in this thesis a bulk equivalent/coverage factor to establish a level of comparison. The bulk factor of 1,0 equivalent to a coverage of 100 % is logically appropriate to the first stage of the analysis, and this will represent the normal relationship of the size of a building to the actual site area viz. columns 4 on both the Series 1 Tables 1 - 15 and Series 2 Tables 1 -24 following. An extension of the concept, however, assumes that the level of bulk equivalent/coverage factor is normally less than 100 % for plots of a particular size or specific industries so that at 70 % for example, a new standard of the value of 1,0 is established against which the occupancy or utilisation rate on the lower standard is again tested and this process is repeated at 60 % and 50 % as further tests of comparative utilisation in each instance seeking to ascertain whether 'mode characteristics' around the factor of 1,0 or parity exist at particular standards or levels.

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EPPING 1 - GROUPED FREQUENCY INDUSTRIAL PLOT SIZES

Class	Plot Size Range	Plot Reference No.	f
1	0 - 999	106, 113, 116 A, 138 A, 159 A, 167, S/D 170, 193, 197	9
2	1 000 - 4 999	103, 104, 107/112, 114, 115, 116, 119, 128, 159 B, 183, 194, 195, 195 A, 198	14
3	5 000 - 9 999	101, 102, 118, 120, 121 A, 124, 125, 126 127, 131, 132, 133, 134, 135, 137, 143, 144, 145, 150, 151, 153, 157, 171, 172, 181, 182	27
4	10 000 - 14 999	129/130, 142, 156, 158, 159, 160, 161, 168, 177, 192	10
5	15 000 - 19 999	138, 139, 140 A, 146, 149, 152, 165 A, 173, 178, 179, 180	11
6	20 000 - 24 999	147/148, 164, 165	3
7	25 000 - 29 999	117, 122, 174	3
8	30 000 - 34 999	136, 164 A, R/E 170	3
9	35 000 - 39 999	121, 154, 166	3
10	40 000 - 44 999	Nil	0
11	45 000 - 49 999	162, 163, 199	3
12	50 000 - 54 999	175	1
13	55 000 - 59 999	155	1
14	60 000 - 99 999	169	1
15	100 000 Plus	186	1

2/...

EPPING 2 - GROUPED FREQUENCY INDUSTRIAL PLOT SIZES

Class	Plot Size Range	Plot Reference No.	f
1	0 - 999	214 A, 253, 264, 265, 269, 279 A	
2	1 000 - 4 999	237, 239, 240, 241, 243, 251, 252, 255, 256, 257, 258, 259, 260, 266, 281, 289 A	14
3	5 000 - 9 999	204, 207, 208, 209, 212, 213, 214, 215, 216, 218, 220, 225, 227, 228, 229, 230, 238, 242, 244, 245, 246, 248, 250, 270, 273, 275, 278, 279, 284, 286, 290, 291	3
4	10 000 - 14 999	231, 235, 236, 287, 288	5
5	15 000 - 19 999	202 A, 203, 210, 217, 221, 222, 224, 226, 232, 233, 249, 276/277, 283, 285, 289, 293	16
6	20 000 - 24 999	202, 271, 274	3
7	25 000 - 29 999	211, 219, 223, 267/268, 272, 280, 282, 292	8
8	30 000 - 34 999	201	1
9	35 000 - 39 999	Nil	0
10	40 000 - 44 999	Nil	0
11	45 000 - 49 999	247	1
12	50 000 - 54 999	Nil	0
13	55 000 - 59 999	Nil	0
14	60 000 - 99 999	Nil	0
15	100 000 Plus	Nil	0

3/...

EPPING 3 - GROUPED FREQUENCY INDUSTRIAL PLOT SIZES

Class	Plot Size Range	Plot Reference No.	f
1	0 - 999	308 A, 332	2
2	1 000 - 4 999	331	1
3	5 000 - 9 999	302, 303, 317, 320, 321, 322, 323, 326, 330, 333	9
4	10 000 - 14 999	316, 327, 334	3
5	15 000 - 19 999	304, 306, 310, 312, 313, 325, 329, 335	8
6	20 000 - 24 999	314, 318, 328	3
7	25 000 - 29 999	305, 309	2
8	30 000 - 34 999	307, 315	2
9	35 000 - 39 999	319	1
10	40 000 - 44 999	Nil	0
11	45 000 - 49 999	Nil	0
12	50 000 - 54 999	Nil	0
13	55 000 - 59 999	Nil	0
14	60 000 - 99 999	301	1
15	100 000 Plus	311	1

4/...

EPPING 4 - GROUPED FREQUENCY INDUSTRIAL PLOT SIZES

Class	Plot Size Range	Plot Reference No.	f
1	0 - 999	453, 454	2
2	1 000 - 4 999	448, 449, 450, 451	4
3	5 000 - 9 999	402, 405, 406, 423, 427 (POS), 429, 432, 434, 435, 438, 439, 441, 442, 443 444, 445, 446, 447	18
4	10 000 - 14 999	411, 412, 415, 417, 430, 433	6
5	15 000 - 19 999	413, 418	2
6	20 000 - 24 999	409, 420	2
7	25 000 - 29 999	401 (POS), 426 (POS)	2
8	30 000 - 34 999	404, 419	2
9	35 000 - 39 999	Nil	0
10	40 000 - 44 999	410	1
11	45 000 - 49 999	407, 408	2
12	50 000 - 54 999	Nil	0
13	55 000 - 59 999	425/428	1
14	60 000 - 99 999	403, 416, 436/437	3
15	100 000 Plus	Nil	0

TABLES SERIES 1. 1 : 15

PLOT UTILISATION ANALYSIS

ACCORDING TO

GROUPED FREQUENCIES OF SIZE

Form of check on Series 1 Tables prior to 'Use Allocation' under Series 2 Tables

Class 2: 10 000 - 14 999 m^2

Typical 'basic scan' to establish a reasonable 'bulk equivalent' factor (all uses).

The scan of 'bulk equivalent/coverage factors' reveals that these plots have been developed to a 60% factor :- i.e. mean is closest to 1.

Epping 1	-	mean of 10	-	0,992
Epping 2	-	mean of 11	-	1,063
Epping 3	-	1 only	-	0,82
Epping 4	-	mean of 3	-	0,896

As it will be seen that a 70% factor also gives a reasonable result, the probability is that between 60% and 70%, i.e. 65%, would be appropriate.

Class 2: 1 000 - 4 999 m^2

	Total Area	65%	Existing	Developable
Epping 1	46 187	30 021	18 261	11 760
Epping 2	42 709	27 760	21 230	6 530
Epping 3	1 748	1 136	860	276
Epping 4	14 944	9 714	7 043	2 671
	105 588	68 631	47 394	21 237

---oOo---

TABLES

Series 1 : 1

PLOT UTILISATION ANALYSIS

EPPING 1 : Class 1 : 0 - 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
106	367	-	-	Undeveloped	-	-	-
113	335	88	0,263	Substation	0,376	0,438	0,53
116 A	362	72	0,199	Substation	0,284	0,332	0,4
117 A	302	-	-		-	-	-
138 A	454	85	0,187	Substation	0,267	0,312	0,374
159 A	483	±90	0,187	Substation	0,267	0,312	0,374
167	483	72	0,149	Substation	0,212	0,248	0,298
S/D 170	446	-	-	Undeveloped	-	-	-
193	225	-	-	Undeveloped	-	-	-
197	713	713	1,0	Shops	1,428	1,667	2,00
	4 170		1,985		2,834	3,309	3,678
		Mean 5 No.	0,331		0,472	0,515	0,613

Summary Undeveloped

106	367
117 A	302
S/D 170	446
193	225
	1 340m^2

say at bulk equiv/coverage factor 50 % = 670 m^2

2/...

EPPING 2 : Class 1 : 0 - 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
214 A	238	77	0,324	Substation	0,463	0,54	0,648
253	907	-		Undeveloped	-	-	-
264	927	628	0,678	Fan Works	0,968	1,13	1,356
265	907	± 400	0,441	Clothing Mfr	0,63	0,735	0,882
269	±520	76	0,146	Substation	0,209	0,243	0,292
			1,589		2,27	2,648	3,178
		Mean 4 No.	0,397		0,568	0,662	0,794

Summary Undeveloped

253 907m^2 say at 'bulk equiv/coverage factor' 50 % = 454 m^2

EPPING 3 : Class 1 : 0 - 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
332	254	98	0,386	Substation	0,55	0,643	0,772
308 A	± 740	96	0,129	Substation	0,184	0,215	0,258
			0,515		0,734	0,858	1,030
		Mean No. 2	0,258		0,367	0,429	0,515

3/...

EPPING 4 : Class 1 : 0 - 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60%	50 %
453	± 248	-		Undeveloped			
454	± 347	-		Undeveloped			
Undeveloped 595 m^2 say at 'bulk equivalent/coverage factor 50% = 298 m^2							

4/....

TABLES

Series 1 : 2

EPPING 1 : Class 2 : 1 000 - 4 999 m^2

Ref. No.	Site Area m^2	Bldgs Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
103	4 520	654	0,145	N. C. S. Plastics	0,207	0,242	0,29
104	4 248	3 175	0,747	Sheet Metal Works	1,067	1,245	1,494
114	3 580	2 690	0,75	Tool Mfcr.	1,07	1,25	1,5
107/112	1 942	±2 640	1,359	D/S Commercial	1,94	2,265	2,718
115	3 664	2 046	0,558	Food Processing	0,797	0,93	1,116
116	3 975	1 854	0,446	Metal Merchants	0,665	0,777	0,932
119	4 047	2 150	0,531	Vacant	0,758	0,885	1,062
128	4 047	706	0,175	Shops, Service Stn	0,25	0,292	0,35
*159 B	4 078	-	-	Undeveloped	-	-	-
183	4 047	889	0,22	Service Stn.	0,314	0,367	0,44
194	1 457	1 457	1,0	Shops, P. O. Etc.	1,428	1,667	2,00
*195	4 560	-	-	Undeveloped	-	-	-
*198	2 022	-	-	Undeveloped	-	-	-
	46 187	18 261	5,931		8,496	9,92	11,902
		Mean 10 No.	0,593		0,850	0,992	1,19

Summary Undeveloped

*159 B	4 078
*195	4 560
*198	2 022
	11 660 m^2

say at 'bulk equivalent/coverage factor' of 65% = 7 580 m^2

5/...

EPPING 2 : Class 2 : 1 000 - 4 999 m^2

Ref. No.	Site Area m^2	Bldgs Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
237	4 516	Not Recorded		Under const.	-	-	-
239	1 051	470	0,477	Engineering	0,639	0,745	0,894
240	±1 300	Not Recorded		Engineering			
241	4 249	2 787	0,656	Vacant	0,937	1,093	1,312
243	2 139	-	-		-	-	-
251	4 669	3 352	0,718	Air Cleaners	1,025	1,196	1,436
252	1 893	1 688	0,892	Piping	1,274	1,486	1,784
255	2 112	-	-		-	-	-
256	2 582	±1 010	0,391	Tyre Re-treads	0,559	0,652	0,782
257	2 990	2 120	0,709	Plastics	1,013	1,182	1,418
258	3 069	2 127	0,693	Food Mfcr	0,99	1,155	1,386
259	2 593	1 940	0,748	Void	1,069	1,247	1,496
260	2 989	2 131	0,713	Plastics	1,019	1,188	1,426
261	2 648	-	-	Undeveloped			
266	1 938	± 700	0,361	Plastics/D C	0,516	0,602	0,722
281	2 615	-	-	Undeveloped	-	-	-
289 A	1 943	-	-		-	-	-
290	±8 500	Not Recorded		Plastics			
		19 135	6,350		9,041	10,863	12,656
	47 997	Mean 10 No.	0,636		0,904	1,086	1,265

Summary Undeveloped

261	2 648
281	2 615
289 A	1 943
	7 206 m^2

say at 'bulk equivalent/coverage factor' 65 % = 4 684 m^2

Add for 237, 240,243,255 : 5 706

6/...

EPPING 3 : Class 2 : 1 000 - 4 999 m^2

Ref. No.	Site Area m^2	Bldgs Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
331	1 748	860	0,492	Chemicals and Dyes	0,703	0,82	0,98

EPPING 4 : Class 2 : 1 000 - 4 999 m^2

Ref. No.	Site Area m^2	Bldgs Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
448	±4 500	5 100	1,133	Travel Goods Revelation cases	1,619	1,888	2,26
449	4 047	630	0,156	Furniture Mfcr.	0,223	0,26	0,312
450	±2 350	-	-	Undeveloped	-	-	-
451	4 047	1 313	0,324	Transport Removals	0,463	0,54	0,648
	14 944	7 043	1,613		2,305	2,688	3,22
		Mean 3 No.	0,537		0,768	0,896	1,073

Summary Undeveloped

450 2 350 say at 'bulk equivalent/coverage factor' 65 % = 1 528 m^2

7/...

Series 1 : 3

EPPING 1 : Class 3 : 5 000 - 9 999 m^2

Ref. No.	Site Area m^2	Bldgs Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
101	9 488	7 018	0,739	Stainless Steel Mfcr	1,056	1,23	1,478
102	8 610	3 710	0,431	Food Prods.	0,616	0,718	0,862
118	5 742	722	0,126	Equipt. Merchants	0,18	0,21	0,252
120	5 036	1 496	0,297	Reconstructed Steel	0,424	0,495	0,594
121 A	5 103	-	-	-	-	-	-
124	6 785	2 015	0,296	Biscuit Mfcr	0,423	0,493	0,592
125	6 785	5 816	0,857	Packaging	1,224	1,428	1,714
126	6 785	4 866	0,717	Scrap dealers	1,024	1,195	1,434
127	9 042	3 862	0,427	Toy Mfcr	0,61	0,712	0,854
131	9 970	2 926	0,293	Packaging	0,419	0,488	0,586
132	8 616	1 001	0,116	Packaging	0,166	0,277	0,232
133	8 616	2 149	0,249	Reinforced Steel	0,356	0,415	0,498
134	8 616	5 017	0,582	Packaging	0,831	0,97	1,164
135	9 852	3 911	0,397	Warehouse (chemicals)	0,567	0,66	0,794
137	8 690	7 469	0,859	Packaging	1,227	1,43	1,718
143	9 837	3 800	0,386	Contractors Yard	0,551	0,643	0,772
144	8 007	1 743	0,218	Lime Works	0,311	0,363	0,436
145	8 007	4 035	0,504	Govt Stores	0,72	0,84	1,008
150	7 732	1 571	0,203	Chemical Services	0,29	0,338	0,406
151	7 732	991	0,128	Metal Works	0,182	0,213	0,256
153	8 058	1 801	0,441	Shop fitters and display	0,63	0,735	0,882
	174 209	69 049	8,502		12,144	14,245	17,004

Epping 1 (contd).. 8/...

EPPING 1 : Class 3 (Contd) : 5 000 - 9 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
	174 209	69 049	8,502		12,144	14,245	17,004
171	8 543	6 898	0,807	Engineering	1,153	1,345	1,614
172	8 543	9 505	1,113	Food Processing	1,59	1,855	2,226
176	7 148	1 845	0,258	Andcon (Partitions)	0,368	0,43	0,516
181	7 811	5 140	0,658	Food Merchants	0,94	1,097	1,316
182	8 527	4 210	0,493	Transport/ Removals	0,704	0,822	0,986
	214 781	95 596	11,831		16,899	19,794	23,662
		Mean 26 No.	0,455		0,65	0,761	0,910

Summary Undeveloped

121 A 5 103 say at 'bulk equivalent' coverage factor 65 % = 3 317 m^2

9/...

EPPING 2 : Class 3 : 5000 - 9999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
204	9 112	1 045	0,115	Motor W/Shop	0,164	0,192	0,23
207	8 223	4 246	0,516	Stationery Mfr & Equip. Warehouse	0,737	0,86	1,032
208	8 223	2 886	0,351	Hides &Skins	0,501	0,585	0,702
209	9 903	±2 170	0,219	Heating Ventilating Eng.	0,313	0,365	0,438
212))	9 993	7 180	0,719	) Food Warehouse	1,027	1,198	1,438
213))	8 225	-	-	) Pharmaceuticals	-	-	-
214	8 225	710	0,086	Not Recorded	0,123	0,143	0,172
215	8 234	±3 325	0,399	Vacant	0,57	0,665	0,798
216	8 561	3 464	0,404	Printing Wks	0,577	0,673	0,808
218	6 959	860	0,124	Service Stn	0,177	0,207	0,248
220	8 561	1 089	0,127	Engineering	0,181	0,212	0,25
225	7 912	1 961	0,247	Foods Etc.	0,352	0,412	0,494
227	7 042	2 310	0,328	Insulation	0,469	0,547	0,656
228	7 280	1 923	0,328	Stationery Mfcr.	0,469	0,547	0,656
229	8,107	1 487	0,183	Food Processing	0,261	0,305	0,366
230	8 107	3 266	0,403	P. G. Hardware and Vencers	0,576	0,672	0,806
238	8 737	-	-		-	-	-
242	6 765	492	0,073	African Brewery	0,104	0,122	0,146
244	8 296	2 973	0,358	Food Processing	0,511	0,597	0,716
245	8 393	1 866	0,227	Gas Suppliers	0,317	0,37	0,444
246	7 448	5 576	0,748	Printing Wk Metal Rolling	1,068	1,247	1,496
248	6 547	3 038	0,464	Bldg Contractor	0,663	0,773	0,928
	178 913	51 867	6,414		9,16	10,692	12,824

Epping 2 (contd)10/....

EPPING 2 : Class 3 (Contd) : 5 000 - 9 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
	178 913	51 867	6,414		9,16	10,692	12,824
250	8 622	2 739	0,318	Engine Mfcr.	0,454	0,53	0,636
270	9 186	6 561	0,714	Warehousing	1,02	1,19	1,428
273	6 959	±2 811	0,404	Commercial	0,577	0,673	0,808
275	9 186	1 984	0,216	Bldg. Contr.	0,308	0,36	0,432
278	8 617	2 410	0,28	Road Surfacing	0,4	0,467	0,56
279	5 380	Not Recorded		Plastics	-	-	-
284	8 116	3 223	0,397	Air Conditioners	0,567	0,662	0,794
286	8 106	2 192	0,270	Waxo Polish Products	0,385	0,45	0,54
290	±8 900	Not Recorded			-	-	-
291	7 838	2 470	0,315		0,45	0,525	0,63
	±254 443	76 257	9,328		13,32	15,549	18,652
		Mean 28 No.	0,333		0,476	0,555	0,666

Summary Undeveloped

213	8 255
238	8 737
	17 092 m^2 say at 'bulk equivalent/coverage factor' 65 % = 11 110 m^2

11/...

EPPING 3 : Class 3 : 5000 - 9999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
302	8 094	1 240	0,153	See 301	0,218	0,26	0,306
303	8 397	4 747	0,565	Agric.Equip.	0,807	0,942	1,13
317	±7 900	Not Recorded					
320	8 096	4 101	0,507	Not Recorded	0,724	0,845	1,014
321	8 936	683	0,076	Bldrs Contractors	0,108	0,127	0,152
322	8 927	1 782	0,2	Neon Signs	0,285	0,333	0,4
323	8 927	11 662	1,31	Shoe Mfcr.	1,871	2,18	2,62
326	8 351	± 826	0,102	Chemicals	0,146	0,17	0,204
330	8 094	2 041	0,252	Vinegar Wks (Food Processing)	0,36	0,42	0,504
333	8 094	3 856	0,476	Warehousing (Pep Stores Etc)	0,68	0,793	0,952
	83 816	30 938	3,641		5,199	6,07	7,282
		Mean 9 No.	0,405		0,578	0,674	0,865

12/...

EPPING 4 : Class 3 : 5000 - 9999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
402	6 959	-	-	Undeveloped	-	-	-
405	8 094	U/C	-	Vehicle Bodies	-	-	-
406	9 309	-	-	Undeveloped	-	-	-
423	8 093	1 903	0,235	Transport/Removals	0,336	0,392	0,47
427	6 941	-		Undeveloped	-	-	-
429	8 094	±1 616	0,2	Warehouse - Car parts	0,285	0,333	0,4
432	8 094	2 364	0,325	Builders	0,46	0,542	0,65
434	8 094	±2 830	0,35	Plastics	0,5	0,583	0,7
435	7 538	1 641	0,218	Joinery & Fitting	0,311	0,363	0,436
438	8 095	± 500	0,062	Bldg. Suppliers Mfcrs.	0,088	0,103	0,124
439	8 094	915	0,113	Bldrs. Heavy Equipment, Cranes, etc.	0,161	0,188	0,226
441	8 094	Not Recorded		Chemicals	-	-	-
442	9 410	1 668	0,117	Flooring Mfr.	0,167	0,195	0,234
443	8 075	Not Recorded		Transport Yrd	-	-	-
444	7 729	5 813	0,752	Pharmaceuticals	1,07	1,253	1,504
445	7 730	1 415	0,183	Sheet Metal Abrasives etc.	0,261	0,305	0,366
446	8 094	±2 500 I/C	0,309	Button Mfcr.	0,441	0,515	0,618
447	8 094	±1 240 I/C	0,153	Joinery, Veneers	0,219	0,255	0,306
	144 631	24 405	3,017		4,299	5,027	6,034
		Mean 12 No.	0,251		0,358	0,419	0,502

Summary Undeveloped

402	6 959
405	8 094
406	9 309
427	6 941
	31 303 m^2

say at 65 % factor = 20,347 m^2

13/...

Series 1 : 4

EPPING 1 : Class 4 : 10 000 - 14999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
129/130	13 165	1 810	0,133	Builders Scaffolds & Plant	0,19	0,222	0,266
142	11 532	±1 600	0,139	Road Surfacing	0,198	0,232	0,278
156	12 980	3 541	0,27	Bus Depot	0,386	0,45	0,54
158	14 163	4 342	0,306	Fur Processing	0,437	0,51	0,612
159	13 016	12 610	0,968	Steel Prds.	1,383	1,613	1,936
160	14 144	6 690	0,472	Cosmetics Mfr	0,674	0,787	0,944
161	12 309	3 580	0,29	Bottling Soft Drinks	0,414	0,483	0,58
164	10 591	-	-	Undeveloped	-	-	-
168	12 357	±7 300	0,591	Food Industry	0,844	0,985	1,182
177	13 048	6 490	0,497	Paper Mills	0,71	0,828	0,994
	127 755	47 963	3,666		5,236	6,11	7,332
		Mean 9 No.	0,407		0,582	0,678	0,815

Summary Undeveloped

164 10 591 say at 65 % 'bulk equiv/coverage' factor = 6 884 m^2

14/...

EPPING 2 : Class 4 : 10000 - 14999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60%	50 %
231	12 166	8 133	0,669	Metal Works	0,956	1,115	1,338
235	12 565)	-	-	Undeveloped	-	-	-
236	13 483)	16 199	0,756	Packaging	1,08	1,26	1,512
287	11 583	6 232	0,538	Clothing Mfr	6,768	0,897	1,076
288	12 391	-	-	Undeveloped	-	-	-
	62 188	30 564	1,963		2,804	3,272	3,926
		Mean 3 No.	0,654		0,934	1,091	1,309

Summary Undeveloped

235 12 565
288 12 391

24 956 say at 65 % 'bulk equiv/coverage' factor = 16 220 m^2

EPPING 3 : Class 4 : 10000 - 14999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
316	12 432	±7 035	0,566	Textile Mfcr.	0,809	0,943	1,132
327	12 138	±3 655	0,301	Clothing Mfcr	0,43	0,502	0,602
334	10 326	2 963	0,287	Engineering Mfrs & Suppliers	0,41	0,478	0,574
	34 896	13 653	1,154		1,649	1,923	2,308
		Mean 3 No.	0,385		0,550	0,641	0,769

EPPING 4 : Class 4 : 10 000 - 14 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
411	12 193	±2 200	0,180	Timber Yard	0,257	0,3	0,36
412	14 835	3 958	0,267	Woodworking Joinery etc.	0,38	0,445	0,534
415	10 245	-	-	Undeveloped	-	-	-
417	12 370	Not Recorded		Tyre Suppliers	-	-	-
430	14 488	10 169	0,7	Furniture Mfr.	1,0	1,17	1,4
	64 131	16 327	1,147		1,637	1,915	2,294
		Mean 3 No.	0,38		0,55	0,64	0,76

Summary Undeveloped

415 10 245 at 'bulk equivalent/coverage' factor of 65 % = 6 660 m^2

16/...

Series 1 : 5

EPPING 1 : Class 5 : 15000 - 19999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
138	17 671	10 688	0,604	Plastics	0,863	1,007	1,208
139	19 368	10 075	0,52	Furniture Mfr	0,743	0,867	1,04
140 A	17 163	-	-	Undeveloped (Alsation Club)	-	-	-
146	17 800	7 668	0,432	Shopfitters	0,617	0,72	0,864
149	15 649	5 180	0,33	Window Mfcrs	0,471	0,55	0,66
152	17 916	8 655	0,483	Packaging	0,69	0,805	0,966
165 A	18 993	2 110	0,111	C.C.C. Fire Station	0,158	0,185	0,222
173	18 134	5 825	0,321	Agricultural Equip. Etc.	0,458	0,535	0,642
178	16 170	3 772	0,233	Food Processing	0,333	0,388	0,466
179	15 801	3 135	0,198	Oil Depot	0,283	0,33	0,396
180	15 801	5 600	0,354	Road Surfacing Depot	0,506	0,59	0,708
	190 366	62 078	3,586		5,122	5,977	7,172
		Mean 10 No.	0,359		0,512	0,598	0,717

Summary Undeveloped

140 A 17 163 say at 'bulk coverage' factor 60 % = 10 300 m^2

17/...

EPPING 2 : Class 5 : 15000 - 19999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
202 A	16 702	4 180	0,25	Hides & Skins	0,357	0,417	0,5
203	16 181	5 430	0,33	Cold Storage	0,471	0,55	0,66
206	±18 000	Not Recorded			-	-	-
210	18 807	2 905	0,158	Alcan (Aluminium Product)	0,226	0,263	0,316
217	19 329	6 783	0,351	Timber Yard	0,501	0,585	0,702
221	16 990	3 846	0,226	Bldg Contrtrs	0,323	0,377	0,452
222	18 417	2 512	0,136	Civil Enginrg Contractors	0,194	0,227	0,272
224	18 851	7 493	0,398	Furniture Mfr	0,567	0,663	0,796
226	18 890	2 174	0,115	Vacant	0,164	0,192	0,23
232	16 333	1 806	0,111	Metal Foundry	0,158	0,185	0,222
233	16 056	7 679	0,478	Textile Prntrs	0,683	0,797	0,956
249	17 209	10 592	0,616	Soft Goods Warehouse & Metal Mchnts	0,88	1,027	1,232
276/7	17 277	5 509	0,319	Bldg Contr & Paper Mfrs.	0,456	0,532	0,638
283	18 070	Not Recorded		Clothing Mfr.	-	-	-
285	17 276	5 181	0,3	Airflex : Furniture Mfr.	0,428	0,5	0,6
289	17 728	-	-	Undeveloped	-	-	-
293	18 799	3 257	0,173	Food Processing	0,247	0,288	0,346
	±300 915	69 347	3,961		5,655	6,605	0,922
		Mean 14 No.	0,283		0,404	0,472	0,565

Summary Undeveloped

206	±18 000
283	18 070
289	17 728
	53 798 say at 60 % bulk coverage factor = 32,280 m^2

EPPING 3 : Class 5 : 15000 - 19999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
304	18 615	4 747	0,259	Furniture Mfr.	0,364	0,425	0,510
306	19 902	4 885	0,246	Power Trans-former	0,351	0,41	0,492
310	18 862	4 649	0,249	Steel Furn.	0,356	0,415	0,498
312	18 882	Not Recorded		Electrical Sw/Bds. etc.	-	-	-
313	16 449	-	-	Undeveloped	-	-	-
325	17 903	2 431	0,136	Bldg Contrctr	0,194	0,227	0,272
329	16 187	±4 950	0,306	Wella (Perfumery)	0,437	0,51	0,612
335	18 020	± 1440	0,08	Glass Mchnts	0,114	0,133	0,16
	144 370	23 102	1,272		1,816	2,12	2,544
		Mean 6 No.	0,212		0,303	0,353	0,424

Summary Undeveloped

312 18 882

313 16 449

35 331 say at 'bulk coverage' factor of 60 % = 21 200 m^2

19/...

EPPING 4 : Class 5 : 15 000 - 19 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
413	19 770	-	-	Undeveloped	-	-	-
418	16 157	±6 690	0,41	Clothing Mfcr.	0,586	0,683	0,82
		1 No.	0,41		0,586	0,683	0,82

Summary Undeveloped

413 19 770 at bulk equivalent/coverage factor of 60 % = 11 860 m^2

20/...

Series 1 : 6

EPPING 1 : Class 6 : 20 000 - 24 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
147/8	23 060	8 322	0,361	Food Confectioners	0,516	0,62	0,722
165	20 594	7 440	0,361	Vacant	0,516	0,62	0,722
164	22 434	-	-	Undeveloped	-	-	-
		15 762	0,722		1,032	1,24	1,444
		Mean 2 No.	0,361		0,516	0,62	0,722

Summary Undeveloped

164 22 434 say at 60 % 'bulk equivalent/coverage' factor = 13 460 m^2

EPPING 2 : Class 6 : 20 000 - 24 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
202	24 855	-	-	Undeveloped	-	-	-
271/4	24 176	3 981	0,165	Structural Engineers	0,236	0,275	0,33
	49 031	3 981	0,165		0,236	0,275	0,33
		Mean 1 No.	0,165		0,236	0,275	0,33

Summary Undeveloped

202 24 855 say at 60 % 'bulk equiv/coverage' factor = 14 910 m^2

EPPING 3 : Class 6 : 20000 - 24999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
314	24 953	3 290	0,132	Roof Tile Mfr	0,188	0,22	0,264
318	20 321	8 057	0,398	Fishing Nets	0,568	0,663	0,796
328	20 324	6 563	0,324	Clothing Mfr	0,463	0,54	0,648
	65 598	17 910	0,854		1,219	1,423	1,708
		Mean 3 No.	0,285		0,407	0,475	0,57

EPPING 4 : Class 6 : 20000 - 24999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
409	24 281	±5140	0,212	Motor Works	0,303	0,353	0,414
420	20 060	±3 020	0,212	Printing & Diesel Agents	0,303	0,353	0,414
		8 160	0,424		0,606	0,706	0,828
		Mean 2 No.	0,212		0,303	0,353	0,414

22/...

Series 1 : 7

EPPING 1 : Class 7 : 25 000 - 29 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
117	29 327	9 481	0,323	Motor Works	0,46	0,538	0,646
122	27 737	11 209	0,404	Pharma-ceuticals	0,577	0,673	0,808
174	26 886	8 910	0,298	Wire Works Nails, etc.	0,426	0,497	0,596
	83 950	29 600	1,025		1,463	1,708	2,05
		Mean 3 No.	0,341		0,487	0,569	0,683

EPPING 2 : Class 7 : 25 000 - 29 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
211	26 836	-	-	Undeveloped	-	-	-
219	26 413	-	-	Undeveloped	-	-	-
223	27 883	±10 284	0,369	Packaging ($\frac{1}{2}$ site only)	0,527	0,615	0,738
267/8	25 840	± 3 030	0,117	Paint Mfcr. (part undev.)	0,167	0,195	0,234
272	25 143	-	-	Undeveloped	-	-	-
282	25 572	6 059	0,237	Structural Steel	0,339	0,395	0,474
292	26 252	4 094	0, 154	Vacant	0,22	0,257	0,308
	183 939	23 287	0,877		1,253	1,462	1,754
		Mean 4 No.	0, 219		0,313	0,365	0,438

Summary Undeveloped

211	26 836
219	26 413
272	25 143
	78 392

say at 60 % 'bulk equiv/coverage'factor = 47 035 m^2

EPPING 3 : Class 7 : 25 000 - 29 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
305	25 890	5 457	0,211	Machine Tool Equip. Etc.	0,301	0,352	0,422
309	25 175	±8 470	0,336	Flooring Mfr.	0,48	0,56	0,672
	51 065	13 927	0,547		0,781	0,912	1,094
		Mean 2 No.	0,547		0,390	0,456	0,547

EPPING 4 : Class 7 : 25 000 - 29 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
401	26 412	-	-	Undeveloped			
426	27 392	-	-	Undeveloped			
	53 804 m^2	say at 60 % 'bulk equiv/coverage' factor = 32 280 m^2					

24/...

Series 1 : 8

EPPING 1 : Class 8 : 30 000 - 34 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
164 A	33 640	-	-	Undeveloped	-	-	-
R/E 170	30 034	See	169	Food Products	-	-	-
136	34 358	6 188	0,192	Metal Foundry	0,27	0,32	0,384
Summary Undeveloped 164 A 33 640 say 'bulk equiv/coverage' factor of 50 % = 16 820 m^2							

EPPING 2 : Class 8 : 30 000 - 34 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
201	33 268	24 300	0,73	Goods Warehouse	1,043	1,217	1,46

EPPING 3 : Class 8 : 30 000 - 34 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
307	32 200	14 549	0,452	Plastics & Freight W/house	0,646	0,753	0,904
315	32 422	7 302	0,225	Bottling Soft Drinks	0,32	0,375	0,45

EPPING 4 : Class 8 : 30 000 - 34 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
404	32 375	±1 400	0,043	Bldg Contr.	0,061	0,072	0,086
419	32 378	Under Constr.		Motor Works	-	-	-
Summary Undeveloped 419 32 378 say 'bulk coverage factor' of 50 % = 16 190 m^2							

25/...

EPPING 1 : Class 9 : 35 000 - 39 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
121	38 564	7 900	0,205	Gas Mfcr & Supply	0,293	0,342	0,41
154	35 461	61 697	1,74	Mills/Silos	2,486	2,9	3,48
166	36 191	39 919	1,103	Wool Mchnts	1,57	1,838	2,206
	110 216	109 516	3,048		4,349	5,08	6,096
		Mean 3 No.	1,016		1,45	1,69	2,03

EPPING 2 : Class 9 : 35 000 - 39 999 m^2

N I L

EPPING 3 : Class 9 : 35 000 - 39 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
319	39 778	±6 100	0,153	Packaging	0,219	0,255	0,306

EPPING 4 : Class 9 : 35 000 - 39 999 m^2

N I L

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EPPING : Class 10 : 40 000 - 44 999 m^2

Ref. No.	Site Area m^2	Bldgs Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage 70 %	60 %	50 %
				EPPING 1 : NIL			
				EPPING 2 : NIL			
				EPPING 3 : NIL			
				EPPING 4 :			
410	41 741	±6 000	0,144	Vacant	0,200	0,24	0,288

27/...

EPPING 1 : Class 11 : 45 000 - 49 999 m^2

Ref. No.	Site Area m^2	Bldgs Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
162	48 000	17 544	0,366	Cotton Mills	0,523	0,61	0,732
163	48 068	23 045	0,48	Structural Steel	0,685	0,8	0,96
199	48 572	5 547	0,144	Bldg & Civil Engineering Contractors	0,162	0,19	0,228
	144 640	46 136	0,99				
		Mean 3 No.	0,33		0,47	0,55	0,66

EPPING 2 : Class 11 : 45 000 - 49 999 m^2

Ref. No.	Site Area m^2	Bldgs Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
247	49 186	15 593	0,317	Bldrs Merchants; Timber Yard	0,453	0,528	0,634

EPPING 3 : Class 11 : 45 000 - 49 999 m^2

N I L

EPPING 4 : Class 11 : 45 000 - 49 999 m^2

Ref. No.	Site Area m^2	Bldgs Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
431	47 151			Undeveloped			
407	47 151			Undeveloped			
408	49 641	±19 530	0,393	Metal Contnrs (Packaging)	0,561	0,655	0,786

EPPING 1 : Class 12 : 50 000 - 54 999 m^2

Ref. No.	Site Area m^2	Bldgs Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
175	50 299	12 100	0,241	Metal Contain. (Packaging)	0,344	0,401	0,481
	EPPING 2, 3, 4 : NIL						

EPPING 1 : Class 13 : 55 000 - 59 999 m^2

Ref. No.	Site Area m^2	Bldgs Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
155	58 700	27 950	0,476	Bldrs. Mchnts Timber Yard	0,68	0,79	0,82

EPPING 4 : Class 13 : 55 000 - 59 999 m^2

Ref. No.	Site Area m^2	Bldgs Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
425/ 428	59 070	14 059	0,238	Printing Wks Stationers Plastic Film	0,34	0,397	0,476

29/...

EPPING 1 : Class 14 : 60 000 - 99 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
169	99 845	10 320	0,103	Food Products Cold Storage	0,147	0,172	0,206

EPPING 2 : Class 14 : 60 000 - 99 999 m^2

N I L

EPPING 3 : Class 14 : 60 000 - 99 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
301	76 527	24 523	0,32	Printing & Packaging	0,457	0,533	0,64

EPPING 4 : Class 14 : 60 000 - 99 999 m^2

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
403	82 878	29 534	0,356	Glass Works Shop Fitting Etc.	0,508	0,593	0,712
416	84 373	-	-	Undeveloped	-	-	-
436/ 437	76 665	10 669	0,145	Warehouse Printers	0,207	0,242	0,29

Summary Undeveloped

416 84 373 say at 50 % 'bulk equiv/coverage' factor = 42 186 m^2

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EPPING 1 : Class 15 : 100 000 m^2 +

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
186	316 134	83 890	0,265	Market	0,378	0,441	0,53

EPPING 2 : Class 15 : 100 000 m^2 +

N I L

EPPING 3 : Class 15 : 100 000 m^2 +

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
311	113 334	26 425	0,233	Winery	0,333	0,388	0,466

EPPING 4 : Class 15 : 100 000 m^2 +

N I L

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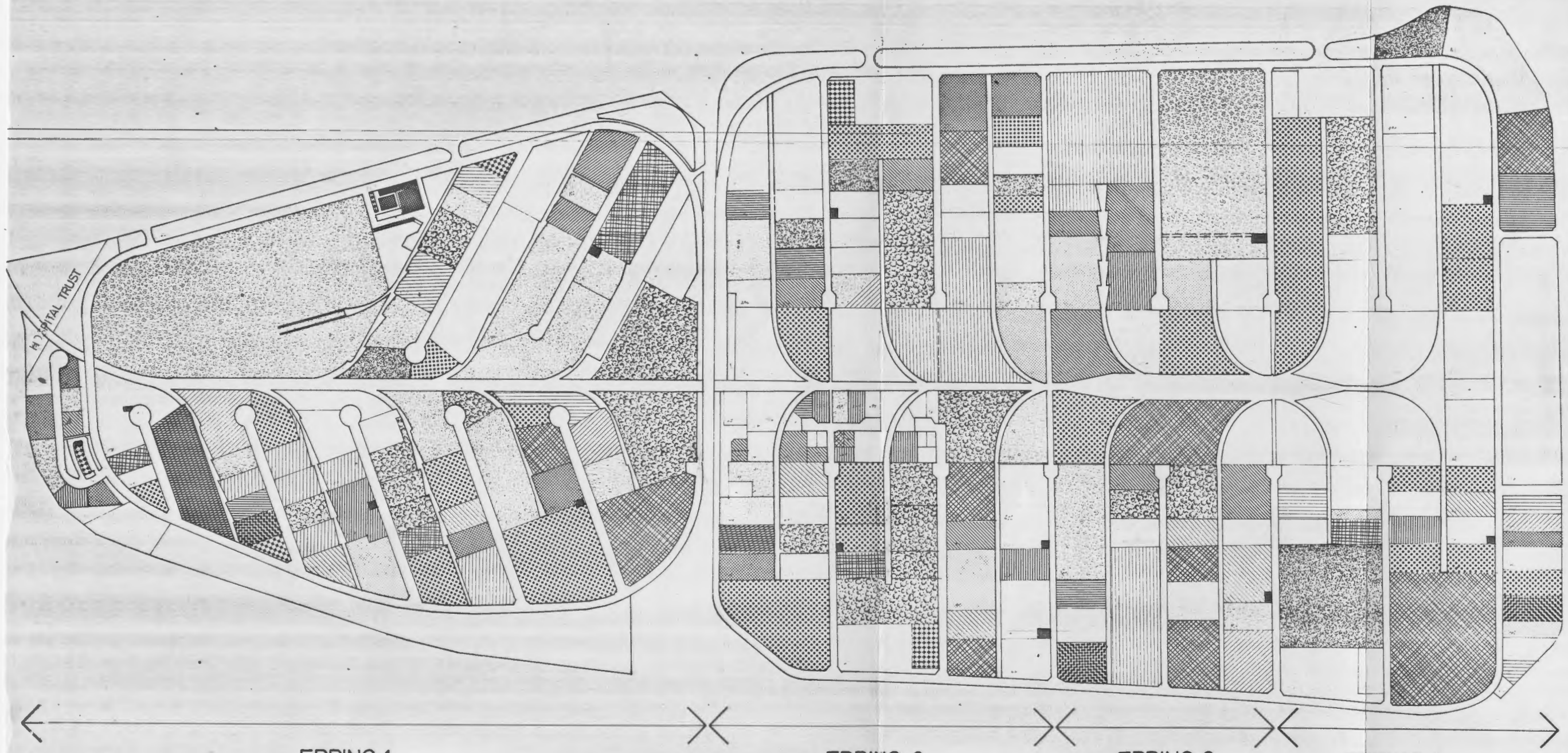

PLAN No. 3
SITE UTILIZATION

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GROWTH MODEL
EPPING INDUSTRIA

A METHOD OF MEASUREMENT AND ANALYSIS OF INDUSTRIAL GROWTH

THESIS 1972

U.C.T. DEPARTMENT OF URBAN AND REGIONAL PLANNING
STUDENT: R K HORRELL

TABLES SERIES 2. 1 - 24

SPACE UTILISATION BY INDUSTRY

Series 2 : 1

PACKAGING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60%	50 %	
125	6 785	5 816	0,857	1,224	1,428	1,714	
131	9 970	2 926	0,293	0,419	0,488	0,586	
132	8 616	1 001	0,116	0,166	0,277	0,232	
134	8 616	5 017	0,582	0,831	0,97	1,164	
137	8 690	7 469	0,859	1,227	1,43	1,718	
236	13 483	16 199	0,756	1,08	1,26	1,512	
152	17 916	8 655	0,483	0,69	0,805	0,966	
223	27 883	±10 284	0,369	0,527	0,615	0,738	
319	39 778	± 6 100	0,153	0,219	0,255	0,306	
408	49 641	±19 530	0,893	0,561	0,655	0,786	
175	50 209	12 100	0,241	0,344	0,401	0,481	
301	76 527	24 523	0,32	0,457	0,533	0,64	Converted winery
302	8 094	1 240	0,153	0,218	0,26	0,306	
	326 208	120 860	5,575	7,964	9,29	11,15	
		Mean 13 No.	0,428	0,61	0,71	0,856	

Comments

1. Larger sites and conversion 301 limited site utilisation.

2. Whereas the mean in the 70 % bulk equivalent factor is 0,61 and in the 60 % factor 0,71. If 0,8 is the lower limit of a 'mode characteristic', then 4 readings out of 13 exceed 0,8 in the 70 % factor (averaging $\frac{4,362}{4} = 1,09$), suggesting that this level of utilisation is appropriate.

3. On the basis of a 70 % factor the total bulk equivalent on the aggregate sites area 326 208 m^2.

Therefore Recommended Area	=	228 345 m^2
Existing Buildings	=	120 860 m^2
		107 485 m^2

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Series 2 : 2

PLASTICS : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
103	4 520	654	0,145	0,207	0,242	0,29	
257	2 990	2 120	0,709	1,013	1,182	1,418	
260	2 989	2 131	0,713	1,019	1,188	1,426	
266	1 938	± 700	0,361	0,516	0,602	0,722	
279	5 380	Not Recorded		-	-	-	
434	8 094	±2 830	0,35	0,5	0,583	0,7	
138	17 671	10 668	0,604	0,863	1,007	1,208	
307	32 200	14 549	0,452	0,646	0,753	0,904	
290	±8 500	Not Recorded		-	-	-	
	84 282	33 652	3,33	4,799			
		Mean 7 No.	0,476	0,68	0,79	0,95	

Comments

1. 3 No. readings out of 7 No. are in excess of 0,85 in the 70 % factor category, suggesting that this level should be obtained on efficient development.

2. Total area 84 282 m^2 and 70 % = ± 59 000 m^2.
Existing recorded equals 33 652 m^2 suggesting further bulk of ± 25 000 m^2 available.

33/...

Series 2 : 3

TEXTILES / CLOTHING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
265	907	± 400	0,441	0,63	0,735	0,882	
323	8 927	11 662	1,31	1,871	2,18	2,62	Shoes
446	8 094	±2 500	0,39	0,441	0,515	0,618	
158	14 163	4 342	0,306	0,437	0,51	0,612	Furs
287	11 583	6 232	0,538	0,768	0,897	1,076	
316	12 432	±7 035	0,566	0,809	0,943	1,132	
327	12 138	±3 655	0,301	0,43	0,502	0,602	
233	16 056	7 679	0,478	0,683	0,797	0,956	
283	18 070	Not Recorded		-	-	-	
418	16 187	±6 690	0,41	0,586	0,683	0,82	
328	20 324	6 563	0,324	0,463	0,54	0,648	
162	48 000	17 544	0,366	0,523	0,61	0,732	
	186 881	74 302	5,349				
		Mean 11 No.	0,486	0,69	0,81	0,96	

Comments

1. Scan of 'mode characteristics' suggests level of ± 65%.

2. On the basis of a 65 % factor the total 'bulk equivalent' on aggregate site area of 186 881 m^2 should be 121,472 m^2.

Therefore Recommended Area	=	121,472
Existing bulk	=	74,302
Efficiency shortfall	=	47,170 m^2

34/...

Series 2 : 4

FOOD PROCESSING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
115	3 664	2 046	0,558	0,797	0,93	1,116	
258	3 069	2 127	0,693	0,99	1,155	1,386	
102	8 610	3 710	0,431	0,616	0,718	0,862	
124	6 785	2 015	0,296	0,423	0,493	0,592	
172	8 543	9 505	1,113	1,59	1,855	2,226	
181	7 811	5 140	0,658	0,94	1,097	1,316	
212	9 993	7 180	0,719	1,027	1,198	1,438	Pt. Pharmaceutcl.
225	7 912	1 961	0,247	0,352	0,412	0,494	
229	8 107	1 487	0,183	0,261	0,305	0,366	
242	6 765	492	0,073	0,104	0,122	0,146	African Brewery
244	8 296	2 973	0,358	0,511	0,597	0,716	
330	8 094	2 041	0,252	0,36	0,42	0,504	
161	12 309	3 580	0,29	0,414	0,483	0,58	
168	12 357	±7 300	0,59	0,844	0,985	1,182	W. Prov. Dairies
178	16 170	3 772	0,233	0,333	0,388	0,466	
203	16 181	5 430	0,33	0,471	0,55	0,66	Epping Cold Strge
293	18 799	3 257	0,173	0,247	0,288	0,346	
147/8	23 060	8 322	0,361	0,516	0,62	0,722	
R/E 170	30 034	-	-	-	-	-	See 169. Dairies I. C. S. etc.
315	32 442	7 302	0,225	0,32	0,375	0,45	
154	35 461	61 697	1,74	2,486	2,9	3,48	
	284 442	141 337	9,532	13,6	15,89	19,06	

35/....

Series 2 : 4

FOOD PROCESSING : SPACE UTILISATION BY INDUSTRY (CONTD)

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
	284 442	141 337	~~9,592~~ 0,49	13,6	15,89	19,06	
169	99 845	10 320	0,103	0,147	0,172	0,206	Cold Storage (Dairies etc)
311	113 334	26 425	0,233	0,333	0,338	0,466	Winery
186	316 134	83 890	0,265	0,378	0,441	0,53	Market
	813 755	261 972 Mean 24	10,133 0,422	14,458 0,60	16,89 0,70	20,26 0,84	

Comments

1. Imperial Cold Storage and Dairy Products generally undeveloped site - large areas allocated.

2. Adopting a minimum of 0,9 as the lower limit to establish a 'mode characteristic' the 60 % factor with 7 readings @ 0,9 or above (averaging $\frac{10.12}{7}$ = 1,446) would appear to be appropriate to this industry, bearing in mind :

   (a) extensive transport flows, parking, loading, unloading etc.

   (b) stock holding areas etc.

3. On the basis of a 60 % bulk equivalent/coverage factor, the total bulk equivalent on the aggregate sites area 813, 755 m^2 should be 488, 253 m^2.

Recommended area	488, 253
Existing buildings	261, 972
Developable	226, 281 m^2

36/....

Series 2 : 5

METAL WORKS : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
104	4 248	3 175	0,747	1,067	1,245	1,494	
116	3 975	1 854	0,446	0,665	0,777	0,932	
101	9 488	7 018	0,739	1,056	1,23	1,478	
151	7 732	991	0,128	0,182	0,213	0,256	
246	7 448	5 576	0,748	1,068	1,247	1,496	
445	7 730	1 415	0,183	0,261	0,305	0,366	
159	13 016	12 610	0,968	1,383	1,613	1,936	
231	12 166	8 133	0,669	0,956	1,115	1,338	
232	16 333	1 806	0,111	0,158	0,185	0,222	
	82 136	42 578	4,739	6,77	0,79	9,478	
		Mean 9 No.	0,527	0,753	0,878	1,054	

Comments

1. Scan of 'mode characteristics' indicates that at 70 % bulk 4 No. exceed 1 and 1 No. is at 0,956 out of 9 readings and confirms acceptance of this factor.

2. On the basis of a 70 % factor the total bulk equivalent on aggregate site areas 82 136 should be 57 495 m^2.

Therefore	Recommended Area	=	57,495
	Existing bulk	=	42,578
	Efficiency shortfall	=	14,917 m^2

37/...

Series 2 : 6

FURNITURE MFCR : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
449	4 047	630	0,156	0,223	0,26	0,312	
430	14 488	10 169	0,7	1,0	1,17	1,4	
139	19 368	10 075	0,52	0,743	0,867	1,04	
224	18 851	7 493	0,398	0,567	0,663	0,796	
285	17 276	5 181	0,3	0,428	0,5	0,6	
304	18 615	4 747	0,255	0,364	0,425	0,510	
310	18 862	4 649	0,249	0,356	0,415	0,498	
	111 507	42 944	2,578	3,683	4,297	5,156	
		Mean 7 No.	0,368	0,526	0,613	0,736	

Comments

1. Actual bulk equivalent indicates poor site utilisation, or with exception of 430 plots are too large.

2. 70 % factor ought to be appropriate which would reflect on aggregate site area 111 507 m^2 a building area of 78 054 m^2.

Therefore Recommended Area	=	78,054
Existing bulk	=	42,944
Efficiency shortfall	=	35,110 m^2

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Series 2 : 7

BUILDING & CIVIL ENGINEERING : SPACE UTILISATION BY INDUSTRY
CONTRACTORS

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
133	8 616	2 149	0,249	0,356	0,415	0,498	
143	9 837	3 800	0,386	0,551	0,643	0,772	
144	8 007	1 743	0,218	0,311	0,363	0,436	
153	8 058	1 801	0,236	0,337	0,393	0,472	
248	6 547	3 038	0,464	0,663	0,773	0,928	
275	9 186	1 984	0,216	0,308	0,36	0,432	
278	8 617	2 410	0,28	0,4	0,467	0,56	
321	8 936	683	0,076	0,108	0,127	0,152	
439	8 094	915	0,113	0,161	0,188	0,226	
142	11 532	±1 600	0,139	0,198	0,232	0,278	
180	15 801	5 600	0,354	0,506	0,59	0,708	
221	16 990	3 846	0,226	0,323	0,377	0,452	
222	18 417	2 512	0,136	0,194	0,277	0,272	
276/7	17 277	5 509	0,319	0,456	0,532	0,638	(Incl. other use)
325	17 903	2 431	0,136	0,194	0,227	0,272	
271/4	24 176	3 981	0,165	0,236	0,275	0,33	
282	25 572	6 059	0,237	0,339	0,395	0,474	
404	32 375	±1 400	0,043	0,061	0,072	0,086	
	255 941	51 461	3,993	5,704	6,655	7,984	

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Series 2 : 7

BUILDING & CIVIL ENGINEERING : SPACE UTILISATION BY INDUSTRY
CONTRACTORS

(CONTD)

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
	255 941	51 461	3,993	5,704	6,655	7,986	
163	48 068	23 045	0,48	0,685	0,8	0,96	
199	48 572	5 547	0,144	0,162	0,19	0,228	
	352 581	80 053	4,617	6,551	7,655	9,174	
		Mean 20 No.	0,231	0,33	0,385	0,462	

Comments

1. Consistently low space utilisation by buildings, all requiring large storage yards ± 3 times the building area.

2. The third,largest user of land in Epping in terms of total aggregate land set aside, save that with low capital investment in buildings, contractors tend to move on elsewhere (to cheaper land) when the land use could be developed more intensively.

3. A 40 % bulk equivalent factor on aggregate site area 352,581 m^2 is suggested reflecting 141,032 m^2 as target figure, assuming no change in user.

i.e.	Recommended Area	=	141,032
	Existing bulk	=	80,053
	Shortfall	=	60,980 m^2

40/...

Series 2 : 8

BUILDERS SUPPLIERS/MERCHANTS : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
120	5 036	1 496	0,297	0,424	0,495	0,594	
157	7 100	3 130	0,441	0,63	0,735	0,882	
176	7 148	1 845	0,258	0,368	0,43	0,516	
227	7 042	2 310	0,328	0,469	0,547	0,656	
230	8 107	3 266	0,403	0,576	0,672	0,806	
432	8 094	2 364	0,325	0,46	0,542	0,65	
435	7 538	1 641	0,218	0,311	0,363	0,436	
438	8 095	± 500	0,062	0,088	0,103	0,124	
447	8 094	±1 240	0,153	0,219	0,255	0,306	
129/30	13 615	1 810	0,133	0,19	0,222	0,266	
411	12 193	±2 200	0,180	0,257	0,3	0,36	
412	14 835	3 958	0,267	0,38	0,445	0,534	
146	17 800	7 668	0,432	0,617	0,72	0,864	
149	15 649	5 180	0,33	0,471	0,55	0,66	
210	18 807	2 905	0,158	0,226	0,263	0,316	
217	19 329	6 783	0,351	0,051	0,585	0,702	
314	24 953	3 290	0,132	0,188	0,22	0,264	
267/8	25 840	±3 036	0,117	0,167	0,195	0,234	
174	26 886	8 910	0,298	0,426	0,497	0,596	
309	25 175	±8 470	0,336	0,48	0,56	0,672	
	280 976	72 002	5,219	7,456	8,698	10,438	

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Series 2 : 8

BUILDERS SUPPLIERS/MERCHANTS : SPACE UTILISATION BY INDUSTRY

(CONTD)

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
c/d	280 976	72 002	5,219	7,456	8,698	10,438	
247	49 186	15 593	0,317	0,453	0,528	0,634	
155	58 700	27 950	0,476	0,68	0,79	0,82	
403	82 878	29 534	0,356	0,508	0,593	0,712	
	471 740	145 079	6,368	9,10	10,61	12,73	
		Mean 23 No.	0,277	0,396	0,46	0,554	
N. B:							
442	9 410	1 668	0,117	) omitted from above schedule			
335	18 020	1 440	0,08	)			

Comments:

1. Spatial needs close to those of building contractors and civil engineers, perhaps slightly more buildings for merchant suppliers.

2. Second largest user of land in Epping, again low capital investment in buildings.

3. A 45 % 'bulk equivalent factor' is suggested; an aggregate site area 471,740 m^2 reflects a target figure of 212,283 m^2.

Deduct existing bulk equiv.	145,079
Efficiency shortfall	67,200 m^2
Add for 442 and 335	9 240
	76,440 m^2

Series 2 : 9

HEAVY ENGINEERING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
171	8 543	6 898	0,807	1,153	1,345	1,614	
439	8 094	915	0,113	0,161	0,188	0,226	Possibly Series 2.8
173	18 134	5 825	0,321	0,458	0,535	0,642	Agricultural
136	34 358	6 188	0,192	0,27	0,32	0,384	
	69 129	19 826	1,433	2,042	2,388	2,866	
		Mean 3 No.	0,358	0,5	0,59	0,716	

Comments

1. There is an overlap with Series 2 : 8 and possibly also 2 : 7, both being allied activities.

2. It is probable that a 50 % factor would be appropriate - and on aggregate area 69,129 m^2 a figure of 34,565 m^2 is reflected.

Efficiency target figure is therefore	34,565 m^2
Deduct existing bulk	19,826
Shortfall	24 740 m^2

43/...

Series 2 : 10

LIGHT ENGINEERING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
264	927	628	0,678	0,968	1,13	1,356	
114	3 580	2 690	0,75	1,07	1,25	1,5	
239	1 051	± 470	0,477	0,639	0,745	0,894	
240	±1 300	Not Recorded		-	-	-	Delete from cast
251	4 669	3 352	0,718	1,025	1,196	1,436	
252	1 893	1 688	0,892	1,274	1,486	1,784	
209	9 903	±2 170	0,219	0,313	0,365	0,438	
220	8 561	1 089	0,127	0,181	0,212	0,25	
284	8 116	3 223	0,397	0,567	0,662	0,794	
303	8 397	4 747	0,565	0,807	0,942	1,13	
322	8 927	1 782	0,2	0,285	0,333	0,4	
334	10 326	2 963	0,287	0,41	0,478	0,574	
312		Not Recorded		-	-	-	Delete from cast
306	18 862	4 649	0,249	0,356	0,415	0,498	
305	25 890	5 457	0,211	0,301	0,352	0,422	
	112 402	34 908	5,77	8,196	9,167	11,54	
		Mean 13 No.	0,444	0,63	0,74	0,888	

Comments

1. Generally intensive and specialised use of land.

2. There are 13 No. sets of development readings, 3 No. of which at 70 % factor reflect an efficiency 'mode characteristic' at this level exceeding 1.0 and 1 No. reading at 0,807 for reference 303.

   Therefore an aggregate area 112,402 m^2, 70% represents 78,681

   Deduct existing bulk 34 908

   Efficiency shortfall 43 770 m^2

44/...

Series 2 : 11

CHEMICALS : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
331	1 748	860	0,492	0,703	0,82	0,98	
135	8 690	7 469	0,859	1,227	1,43	1,718	
150	7 732	1 571	0,203	0,29	0,338	0,406	
250	8 622	2 739	0,318	0,454	0,53	0,636	
286	8 106	2 192	0,270	0,385	0,45	0,54	Could be under Series 2 : 8
326	8 351	± 826	0,102	0,146	0,17	0,204	
441		Not Recorded					Delete from cast
	43 249	15 657	2,244	3,205	3,74	4,48	
		Mean 6 No.	0,374	0,53	0,623	0,748	

Comments

1. A target efficiency say 60 % factor is suggested and on this basis an optimum figure on aggregate of 43,249 m^2 reflects 25,949 m^2

Deduct existing bulk	15,657
Efficiency shortfall say	10,290 m^2

45/...

Series 2 : 12

PHARMACEUTICALS : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
212	9 993						) Recorded elsewhere. Delete from cast.) Dual activity.
213	8 255						
444	7 729	5 813	0,752	1,07	1,253	1,504	
160	14 144	6 690	0,472	0,674	0,787	0,944	
329	16 187	±4 950	0,306	0,437	0,51	0,612	
122	27 737	11 209	0,404	0,577	0,673	0,808	
	65 797	28 662	1,934	2,758	3,223	3,868	
		Mean 4 No.	0,484	0,691	0,807	0,968	

Comments

1. Between 60 and 70 % factor would appear to be appropriate and on aggregate area 65,797 m^2 a figure of 42,768 m^2 is reflected.

Recommended bulk utilisation	42,768 m^2
Deduct existing bulk	28,662
Efficiency shortfall	14,106 m^2

46/..

Series 2 : 13

COMMERCIAL : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m2	Bldg Area m2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
197	713	± 713	1,00	1,428	1,667	2,00	
107/ 112	1 942	±2 640	1 359	1,94	2,265	2,718	
128	4 047	706	0,175	0,25	0,292	0,35	Shops, service station
183	4 047	889	0,2	0,314	0,367	0,44	Service station
194	1 457	1 457	1,0	1,428	1,667	2,00	Shops, Bank & G.P.O.
218	6 959	860	0,124	0,177	0,207	0,248	Service Station
	19 165	7 265					
N. B. 273	6 959	± 2 811	0,404	0,577	0,673	0,808	ommitted

Comments

1. Service stations with 'big driveways' reduce bulk figure considerably and no strong threshold for vertical development i. e. more than one flow.

2. 3 sets of readings exceed a factor of 1 in all bulk equivalent categories, suggesting that the efficient aim be at least 70 %.

70 % of aggregate 19,165 m^2	=	13,415
Deduct existing bulk		7,265
Efficiency shortfall		6,150 m^2
Add		2 060
		8 210 m^2

47/...

Series 2 : 14

TRANSPORT SERVICES : SPACE UTILISATION BY INDUSTRY
REMOVERS

Ref. No.	Site Area m2	Bldg Area m2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
182	8 527	4 210	0,493	0,704	0,822	0,986	
423	8 093	1 903	0,235	0,336	0,392	0,47	(Pt. only at prsnt)
443	8 075	Not Recorded		-	-	-	
156	12 980	3 541	0,27	0,386	0,45	0,54	Bus depot
179	15 801	3 135	0,198	0,283	0,33	0,396	Oil depot could be another series
	53 476	12 789	1,196	1,709	1,993	2,392	
		Mean 4 No.	0,299	0,427	0,498	0,598	
N. B. 451	4 047	1 313	0,324	0,463	0,454	0,648	Omitted from cast

Comments

1. Large parking areas required (not necessarily covered).

2. No specific recommendation as to improvement in utilisation save that Ref. No. 443 is only partly developed.

3. National assessment
buildings for pallet storage.

40 % of 53 476 equals	21 390 m^2
Deduct existing bulk	12 790
	8 600 m^2
Efficiency shortfall	+ 400
	9 000 m^2

48/...

Series 2 : 15

SALVAGE & ANCILLARY : SPACE UTILISATION BY INDUSTRY ACTIVITIES

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage 70 %	60 %	50 %	Remarks
256	2 582	±1 010	0,391	0,559	0,652	0,782	Tyre retreads
126	6 785	4 866	0,717	1,024	1,195	1,434	
208	8 223	2 886	0,351	0,501	0,585	0,702	Hides & skins
417	12 370	Not Recorded		Under Construction			Delete from cast
202 A	16 702	4 180	0,25	0,357	0,417	0,5	Hides & skins
316	Reprocessing fibres etc.			included under series 2 : 3			
	34 292	12 942	1,709	2,441	2,848	3,418	
		Mean 4 No.	0,427	0,61	0,712	0,854	

Comments

1. These are activities all of which require yardage
   (a) for storing waste materials,
   (b) hides and skins need curing frames, and
   (c) vehicular movement and parking.

2. A 50 % factor is appropriate on aggregate area 34 292 m^2.

34 292 m^2 50 %	=	17 146 m^2
Deduct existing		12 942
		4 204 m^2
	say	4 200 m^2

49/...

Series 2 : 16

PRINTING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
207	8 223	4 246	0,516	0,737	0,86	1,032	
216	8 561	3 464	0,404	0,577	0,673	0,808	
228	7 280	1 923	0,328	0,469	0,547	0,656	
246	Part only recorded under series 2 : 5						
420	20 060	±3 020	0,212	0,303	0,353	0,414	
177	13 048	6 490	0,497	0,71	0,828	0,994	
425/428	59 070	14 059	0,238	0,34	0,397	0,476	
436/7	76 665	10 669	0,145	0,207	0,242	0,29	
	192 907	43 871	2,34	3,343	3,90	4,68	
		Mean 7 No.	0,334	0,477	0,557	0,668	

Comments

1. A 50 % factor is an analysis closer to parity with 3 No. out of 7 readings close to 1.

2. Sites in some instances only part developed, and suggest 60 % as appropriate factor.

60 % of 192 907 m^2	=	115 744
Deduct existing bulk		43 871
Efficiency shortfall	=	71 870 m^2

50/...

Series 2 : 17

LIGHT MANUFACTURY : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
448	±4 500	5 100	1,133	1,619	1,888	2,26	Revelation Cases
127	9 042	3 862	0,427	0,61	0,712	0,854	Toys
118	5 742	722	0,126	0,18	0,21	0,252	Equipt etc.
318	20 321	8 057	0,398	0,568	0,663	0,796	Fishing Nets
	39 515	17 741	2,084	2,977	3,47	4,168	
		Mean 4 No.	0,521	0,74	0,86	1,04	

Comments

1. Adapt 70 % as factor on aggregate area

39 515 represents	27 660 m^2
Deduct existing bulk	17 740
Efficiency shortfall	9 920 m^2

51/...

Series 2 : 18

SPECIAL MANUFACTURY : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
121	38 564	7 900	0,205	0,293	0,342	0,41	Gas Mfcrs
245	8 393	1 866	0,222	0,317	0,37	0,44	Gas Mfcrs
	46 957	9 766	0,427	0,61	0,712	0,85	
		Mean 2 No.	0,214	0,306	6,357	0,428	

Comments

1. Perhaps excessive circulation areas around plant installation.

2. A 50 % factor probably appropriate and

50 % of 46 957	=	23 478 m^2
Deduct existing		9 766
Available	=	13 710 m^2

52/...

Series 2 : 19

MOTOR INDUSTRY : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m2	Bldg Area m2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
204	9 112	1 045	0,115	0,164	0,192	0,23	Old vehicles
405	8 094	Not Recorded		Under construction			Delete from cast
409	24 281	±5 140	0,212	0,303	0,353	0,414	
117	29 327	9 481	0,323	0,46	0,538	0,646	
419	32 378	Under constr.					Delete from cast
	70 814	15 666	0,65	0,927	1,083	1,3	
		Mean 3 No.	0,317	0,453	0,528	0,634	

Comments

1. A need for large parking areas, good vehicluar circulation.
   Probable factor of say 45 % of 70 814 m^2 reflects a figure of 31 866 m^2
   Deduct existing bulk 15 666 m^2
   16 200 m^2

53/...

Series 2 : 20

WAREHOUSING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
118	5 742	722	0,126	0,18	0,21	0,252	
145	8 007	4 035	0,504	0,72	0,84	1,008	Govt Stores
270	9 186	6 561	0,714	1,02	1,19	1,428	
333	8 094	3 856	0,476	0,68	0,793	0,952	
429	8 094	±1 616	0,2	0,285	0,333	0,4	
166	36 191	39 919	1,103	1,57	1,838	2,206	Wool merchants
	75 314	56 709					

Comments

1. Space utilisation should be high in this category and recommend a factor of 80 %.

2. Most factories are also warehousing their own products and there are, of course, considerable stocks of goods continuously held as a result.

3. 80 % of aggregate 75 314 = 60 250
   Deduct existing bulk = 56 710
   Efficiency shortfall = 3 540 m^2

Series 2 : 21

MUNICIPAL (DEVELOPED)

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
113	335	88	0,263	0,376	0,438	0,53	Sub-station
116 A	362	72	0,199	0,284	0,332	0,4	"
138 A	454	85	0,187	0,267	0,312	0,374	"
159 A	483	±90	0,187	0,267	0,312	0,374	"
269	±520	76	0,146	0,209	0,243	0,292	"
214 A	238	77	0,324	0,463	0,54	0,648	"
332	254	98	0,386	0,55	0,643	0,772	"
308 A	±740	96	0,129	0,184	0,215	0,258	"
165 A	18 993	2 110	0,111	0,158	0,185	0,222	Fire Station
	22 279	2 792	1,932	2,76	3,22	3,864	
		Mean 9 No.	0,21	0,3	0,35	0,42	

Comments

1. Sub-station sites, even though small, would not appear to have a high 'bulk equivalent factor' and less than 50 % appears to be appropriate.

2. As a fire station often includes the training area for personnel one must presume that this area is required.

3. No bulk efficiency calculation should be applied in this instance.

55/...

Series 2 : 22

REAL ESTATE : SPACE AVAILABLE FOR UTILISATION

VARIABLE

Ref. No.	Site Area m^2	Bldg Area m^2	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
119	4 047	2 150	0,531	0,758	0,885	1,062	
241	4 249	2 787	0,656	0,937	1,093	1,317	
259	2 593	1 940	0,748	1,069	1,247	1,496	
214	8 255	710	0,086	0,123	0,143	0,172	Possibly occupied
215	8 234	±3 325	0,399	0,57	0,665	0,798	
226	18 890	2 174	0,115	0,164	0,192	0,23	
165	20 594	7 440	0,361	0,516	0,62	0,722	
292	26 252	4 094	0,154	0,22	0,257	0,308	
410	41 741	±6 000	0,144	0,206	0,24	0,288	
	134 855	30 620	3,194	4,563	5,323	6,388	
		Mean 9 No.	0,355	0,507	0,592	0,71	

Comments

1. This category is best classified on survey; 410 and 226 are under-developed.

2. However, at a factor of 60 %, one third of the total number approximate 1 and for the purposes of calculation this would represent :

60 % of 134 855 m^2	=	80 913 m^2
Deduct existing bulk		30 629 m^2
Efficiency shortfall	=	50 290 m^2

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Series 2 : 23

UNDEVELOPED : SPACE UTILISATION BY INDUSTRY

Collection from Series	Ref. No.	Site Area m^2	Efficiency Rating	Available Development	Remarks
1.1	106	367			
	117 A	302			
	S/D				
	170	446			
	193	225			
	253	907			
	453	± 248			
	454	± 347			
		2 482	50 %	1 240	
1.2	195	4 560			
	198	2 022			
	255	2 112			
	261	2 648	-	-	P. O. S.
	281	2 615			
	289 A	1 943			
	450	2 350			
		18 250	70 %	12 775	
1.3	121 A	5 103			
	213	8 255			
	238	8 737			
	290	±8 900			
	402	6 959	-	-	P. O. S.
	405	8 094			
	406	9 309			
	427	6 941			
		62 298	65 %	40 495	
1.4	164	10 591			
	235	12 565			
	288	12 391			
	415	10 245	-	-	P. O. S.
		45 792	65 %	29 765	

Collection from Series	Ref. No.	Site Area m^2	Efficiency Rating	Available Development	Remarks
				c/d 84 275	
1.5	140 A	17 163			
	206	±18 000			
	283	18 070			
	289	17 728			
	312	18 882			
	313	16 449			
	413	19 770	-	-	P. O. S.
		126 062	60 %	75 637	
1.6	164	22 434			
	202	24 855			
		47 289	60 %	28 373	
1.7	211	26 836			
	219	26 413			
	272	25 143			
	401	26 412	-	-	P. O. S.
	426	27 392			
		132 196	60 %	79 315	
1.8	164 A	33 640			
	419	32 378			
		66 018	50 %	33 010	
1.11	407	47 151	50 %		
	431	47 151		47 150	
		94 302			
1.14	416	84 373	60 %	50 620	
		Total :		398 380 m^2	

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Series 2 : 24

PUBLIC OPEN SPACE

Collection from Scrutiny	Ref. No.	Site Area m^2	Efficiency Rating	Available Development	Remarks
-	192	10 421	55 %	5 730	Irregular (shape)
	195	4 560	80 %	3 650	
	195 A	4 255	55 %	2 340	Triangular shape
	196	1 735	-	-	
	198	2 022	-	-	
35/ET 24	A 12	22 434	30 %	6 730	Hospital reserve Irregular
35/ET 26	B 35	17 164)	30 %	46 150	Future unknown
35/ET 26	B 32	136 674)			
				64 600	

Comments

1. One questions the validity of certain areas designated under this category and an assumption has been made that some additional land could be made available for development viz. 2 : 23.

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SERIES 2.1 - 24 : SPACE UTILISATION BY INDUSTRY

Series No.	Industry	Efficiency Rating	Actual Bulk	Efficiency Shortfall	Relative %	
					Actual	E.S.
2.1	Packaging	70 %	120 860	107 485	10,81	12,3
2.2	Plastics	70 %	33 652	25 000	3,01	2,86
2.3	Textiles/ Clothing	65 %	74 302	47 170	6,65	5,40
2.4	Food Processing	60 %	261 972	226 280	23,43	25,91
2.5	Metal Works	70 %	42 578	14 915	3,81	1,71
2.6	Furniture Mfr	70 %	42 944	35 110	3,84	4,02
2.7	Building & Civil Engineerg Contractors	40 %	80 053	60 980	7,16	6,98
2.8	Builders Suppliers/ Merchants	45 %	148 187	76 440	13,26	8,75
2.9	Heavy Engrng	50 %	19 826	24 740	1,77	2,83
2.10	Light Engrng	70 %	34 908	43 770	3,12	5,01
2.11	Chemicals	60 %	15 657	10 290	1,4	1,17
2.12	Pharmactcls	65 %	28 662	14 110	2,56	1,61
2.13	Commercial	70 %	10 076	8 210	0,9	0,9
2.14	Transport Services & Removers	40 %	14 102	9 000	1,26	1,03
	TOTALS		927 779	703 500m^2	82,98	80,48

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SERIES 2.1 - 24 : SPACE UTILISATION BY INDUSTRY (CONTD)

Series No.	Industry	Efficiency Rating	Actual Bulk	Efficiency Shortfall	Relative %	
					Actual	E.S.
		c/d	927 779	703 500	82,98	80,48
2.15	Salvage & Ancillary Activities	50 %	12 942	4 200	1,16	0,48
2.16	Printing	60 %	43 871	71 870	3,92	8,23
2.17	Light Mnfry	70 %	17 741	9 920	1,59	1,14
2.18	Special Mfry	50 %	9 766	13 710	0,87	1,57
2.19	Motor Industry	45 %	15 666	16 200	1,4	1,86
2.20	Warehousing	80 %	56 709	3 540	5,07	0,4
2.21	Municipal (Developed)	50 %	2 792	-	0,25	-
2.22	Real Estate Variable	60 %	30 620	50 290	2,74	5,76
					99,98	99,92
2.23	Undeveloped	Various	-	398 380		
2.24	Public Open Space	Various	-	64 600		
	TOTAL :		1 117 886	1 336 210 m^2		

Comments

1. These summarised figures are revealing in that it becomes apparent that on the basis of an hypothesis relative to efficient land use, Epping Industrial Township would appear to be less than half developed, some 25 years after its notional inception and 21 years after the first sales are recorded in Epping 1.

   Even with the latter sales in Epping 2, 3, and 4, many of the 'efficiency shortfall' characteristics are still evident and are worthy of study for corrective adjustment.

Comments (contd) 61/....

SERIES 2.1 - 24 : SPACE UTILISATION BY INDUSTRY

COMMENTS (CONTD)

2. As the test of the efficiency of land utilisation must be based on land which has been actually allocated or sold for development, Series 2 : 23 'undeveloped land' and 2:24 public open space should be deducted from the efficiency shortfall calculations :-

Actual 'bulk developed' remains at			1,117,886 m^2
Efficiency shortfall		1,336,210	
Deduct 2 : 23	= 398,380		
Deduct 2 : 24	= 64,600	462,980	873,230
	Adjusted Difference :		244,656 m^2

The Relative percentage columns are based on the adjusted figures.

3. Some qualification of allocation is, of course, necessary, but it would seem to be relative that allocation of industrial land, if efficient utilisation is envisaged, should be based on a 'complete scheme concept', with phased purchasing if appropriate, geared to reasonable market levels.

4. Inefficient land utilisation has a marked adverse effect on the rates revenue anticipated.

5. Considerable capital grants for land purchase, development, services etc. have been made from Municipal Funds and unless the services available are fully utilised there are additional losses to both Capital and Revenue Accounts.

6. If there is no control over the resale price of undeveloped - residual land acquired from a Local Authority then this can have various effects :-

   (i) the price will be determined by the market - sometimes at a speculatively high level and the antithesis of what was intended by the sponsory local authority to foster INDUSTRIAL DEVELOPMENT in that particular area.

   (ii) the corollary of high land cost to Industry is that it is sometimes obliged to move elsewhere to cheaper land and sustained growth on serviced land is considerably retarded.

   (iii) the efficiency of land utilisation in both conservation and industrial extension is considerably undermined.

7. As so much hinges on industrial expansion to support population increases, it is vital that land which is strategically located and serviced be effectively occupied.

GROWTH CONCEPTS AND EVALUATION

Despite the fact that there is a market in Industrial Property, because of the high cost of establishing a plant - and the land and improvements are only the platform and shell housing the activities carried thereon - as a general rule industry will tend not to displace itself from any location unless :-

1. Its raw material sources have changed.
2. The demands for productivity have outgrown the capacity of the site and buildings.
3. The industrial buildings and plant are obsolescent and outmoded.
4. The market distribution area has changed or extended.
5. Changes in the location of labour pools.
6. Changes in the transportation network.
7. The price realisable on the sale of the existing property and/or residual land is attractive enough to warrant a move to cheaper land or a developed location elsewhere.

The last category implies a trading or marketing concept which, even if speculative, can sometimes mean response and support of industrial growth.

It is worth, however, examining the Consolidated Valuation Roll for therein will be found 'prima facie' evidence of the changes which may have taken place as reflected by the INTERIM and GENERAL VALUATION ROLL entires, most of which are related to the physical development of land.

It is submitted that with the highly sophisticated forms of data storage available, accurate physical growth checks can be made for the purposes of growth evaluation.

The method and procedure in this thesis, is by no means, a refined model but represents an extension to this specific investigation of a planning problem through independent research.

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GROWTH CONCEPTS AND EVALUATION

(CONTD)

The preparation of Tables Series 3. 1 - 24 represent, in fact, the fourth stage in the process of analysis;

the first being (1) The preparation of Appendix 'A' - the Consolidated Valuation Roll.

the second being (2) The grouping of industrial plots into size categories, noting the user, and analysing the scale of utilisation.

the third stage being (3) The extraction of data from the second stage manifested by Tables Series 1 - 15, in order to formulate the second series of Tables 2. 1 - 24, which comprise the analysis of Space Utilisation by various types of Industry, a Summary and qualifying commentary.

The critique adopted in the fourth stage is still related to the Efficiency of Land Utilisation or a 'Floor Space Index', but in this instance the Consolidated Valuation Roll Appendix 'A' is re-examined in the context of Series 2. 1 - 24 Tables and from their joint consideration, a growth rate or cessation of growth rate will be discernable based on rateable value increases linked to 'space utilisation' extension or termination. Time and cost forecasts are also established Columns 12 and 13 in the final stages of the Growth Model Analysis Series 3. 1 - 24.

As the main thematic analysis is associated with floor space utilisation, a seemingly singular and basic element, each entry in a valuation roll does nevertheless represent the summation of entrepreneurial and professional decision culminating in that 'entry' and its importance should not be quietly forgotten, however unrelated to current tones of value the valuation figures may appear to be.

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TABLES SERIES 3.4

OCTOBER 1972.

GROWTH MODEL:FOOD PROCESSING : TYPICAL ANALYSIS FOR SERIES 3. 1 - 24

EFFICIENCY STANDARD BULK EQUIVALENT 60 %

1	2			3	4	5	6	7	8	9		10		11		12	13	14
Ref. No.	Year			No. of Years	Completed Developing Tapering Static	Site Area	Recommended Bulk	Actual Bulk	Efficiency Standard Shortfall	Rateable Value		% Adjust.		Adjusted Value		Time Forecast Completion Bulk	Indexed Cost Estimate	Remarks
	Purchase	First Asst.	Last Asst.							Land	Imp^s	Land	Imp^s	Land	Imp^s			
115	1964	1965	1969	4	Developing	3 664	2 198	2 046	152	7 390	68 740	600	25	44 340	85 925	1	6 380	
258	1969	1970	1971	1	Completed	3 069	1 841	2 127	Nil	6 190	71 700	600	25	37 140	89 625	Complete	Nil	
102	1964	1966	1971	5	Tapering	8 610	5 166	3 710	1 996	17 370	157 940	600	25	104 220	197 425	2	78 890	
124	1951	1951	1956	5	Static	6 785	4 071	2 015	2 056	13 690	62 400	550	25	75 290	78 000	2 + 5	96 740	
172	1956	1964	1971	7	Complete	8 543	5 126	9 505	Nil	17 230	191 290	500	25	86 150	239 110	Complete	Nil	
181	1956	1965	1966	1	Complete	7 811	4 686	5 140	Nil	15 760	194 600	500	25	78 800	243 250	Complete	Nil	
212	1968	1970	1971	1	Complete	9 993	6 000	7 180	Nil	20 160	102 250	500	25	100 800	127 810	Complete	Nil	
225	1966	1967	1969	2	Static	7 912	4 747	1 961	2 786	16 010	39 300	500	25	80 050	49 125	3 + 3	80 800	
229	1966	1968	1971	3	Tapering	8 107	4 864	1 487	3 377	16 030	52 550	500	25	80 150	65 690	3 + 7	190 400	
242	1966	1968	1969	1	Static	6 765	4 060	492	3 568	13 650	21 250	550	25	75 075	26 560	3 + 7	246 800	
244	1965	1967	1970	3	Tapering	8 296	4 978	2 973	2 005	16 740	120 010	500	25	83 700	150 000	3 + 2	115 120	
330	1967	1969	1970	2	Static	8 094	4 856	2 041	2 815	16 330	63 590	500	25	81 650	79 500	3 + 3	127 000	
161	1951	1956	1966	10	Static	12 309	7 385	3 580	3 805	24 820	115 440	450	25	111 690	144 300	3 + 10	205 500	
168	1971	1971	1971	1	Static	12 357	7 414	$\pm$7 300	Nil	24 920	281 100	450	25	112 140	351 375	Complete	Nil	
178	1966	1966	1970	4	Tapering	16 170	9 702	3 772	5 930	32 620	148 490	450	25	146 790	185 610	3 + 7	372 420	
203	1965	1969	1971	3	Static	16 181	9 708	5 430	4 278	32 660	343 690	450	25	146 970	429 610	3 + 3	391 800	
293	1968	1969	1971	2	Tapering	18 799	11 279	3 257	8 022	37 920	81 990	450	25	170 640	102 490	3 + 5	307 000	
147/8	Check	1962	1971	9	Tapering	23 060	13 836	8 322	5 144	46 520	307 420	450	25	208 120	384 275	3 + 6	303 150	
315	1966	1969	1972	3	Static	32 422	19 450	7 302	12 150	65 410	252 730	400	30	261 640	335 000	3 + 5	738 730	
154	1952	1963	1971	8	Completed	35 461	21 277	61 697	Nil	71 540	1 159 840	400	35	89 430	1 565 780	Complete	Nil	
169	1955	1962	1971	9	Developing	99 845	59 910	10 320	49 590	201 430	463 210	300	25	604 290	579 010	$\frac{38}{2}$ = 19	4 320 000	Accelerate completion
311	1955	1962	1971	9	Developing	113 334	68 000	26 425	41 575	114 320	1 179 940	300	25	342 960	1 474 925	14	2 612 500	Faster growth rate
186	C.C.C	1964	1968	4	Static	316 134	158 067	83 890	74 180	637 800	2 520 040	250	25	1 594 500	3 150 000	3 + 4	3 500 000	Lowered bulk to 50 %
					Totals	813 755	438 621	261 972	223 429	1 466 470	7 999 420			4 716 355	10 134 195		13 693 230	

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Column 2 comprises three readings on a time scale :-

(a) the first is the year of purchase or acquisition

(b) the second and third the years of first and last interim of general valuation assessment.

Column 3 By a simple deduction the number of years over which physical development has taken place can be ascertained, but the time lag between purchase and first assessment should also be examined when developing a more refined model.

Column 4 It is important to assess the characteristics of development as reflected by the valuation roll entries and other inquiry, including survey. Development tends to occur with a main phase and then a series of smaller additions or improvements, in other words a tapering off and this process will tend to become stative if the demand for the product has not materially changed and remains in equilibrium or in fact there is diminished demand and a lower equilibrium results. Other factors such as availability of labour, the cost of loan capital, management etc. all influence this factor.

Columns 6, 7 and 8 A desirable bulk equivalent factor having been previously determined, in Series 2.4 tables, the deduction of actual bulk from recommended bulk will not agree necessarily with column 8 figure in Efficiency Standard Shortfall, when a development has already exceeded the recommended bulk. In this instance Ref. No's 258, 172, 181 and 315 already exceed the standard level recommended and, in addition, it is thought expedient to reduce Ref. No. 186 (Epping Market) from bulk factor 0,6 (60 %), to bulk factor 0,5 (50 %) owing to the extensive circulation areas, which would still however, present perimeter development possibilities.

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Columns 9, 10 and 11

Because rateable values are restricted to a level or tone of value at a particular date, there is a tendency for values to lag, sometimes well behind replacement cost and market values, if the cost index is rising sharply from inflation or other reasons. Under the Valuation Ordinance applicable in the Cape Province land is valued separately from improvements or buildings etc. and it is therefore expedient, if a forecast is to be made, to adjust the Valuation Roll figures to the date of scrutiny. The adjustment percentages expressed in column 10 and the resultant figures in column 11 do not purport to be accurate, but merely demonstrate the technique of arriving at an adjusted value. Column 11 figures may also indicate very positively to the Local Authority the need for updating the Valuations Roll. There has been a 10 year interval between General Valuations in Cape Town, 1956 to 1966, and even the 1966 Valuation Roll was not effective until 1969. There are sometimes good reasons for the lagging in the production of Valuation Rolls,for considerable property referencing, by measurement and recording is involved, but the basic information patiently prepared by Valuation Officers and their Assistants, often under considerable pressure from Town Clerks and City Treasurers, is generally speaking first class and provides the neglected platform for the launching of this Planning Model.

Column 12

results from a scrutiny of columns 3, 4, 7 and 8. Column 4 will indicate one of four characteristics :-

(a) completion in terms of the 'bulk equivalent factor'

(b) development is still taking place without marked taper.

(c) taper is clearly evident

(d) growth is static

Column 3, derived from subtracting the year of first assessment from the year of last assessment, will indicate the period of time to develop the actual bulk under column 7 and from this an average annual rate of 'bulk development' can be calculated which, if divided into the 'Efficiency Standard Shortfall' figure under Column 8 will give a time scale for completion.

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If development has tapered markedly or is static, the probability is that renewed development will be retarded and an estimate is that a figure of at least two years plus an additional year to promote the scheme would be realistic. In Column 12 therefore, if two figures are given, the first represents the reactivation of development and the second the time scale for completion.

Some refinement of the model in respect of time scale and taper is perhaps desirable, but clearly the subject of more detailed examination.

Column 13 — Indexed Cost Estimate, in this instance where land has been allocated, applies to building developments only and is derived from dividing the actual bulk under Column 7 into the 'adjusted improvement value' under Column 11 to obtain a cost per square metre and then multiplying this figure by the 'Efficiency Standard Shortfall' figure to give an up-to-date cost. As the completion of development, in terms of the model, is spread over a number of years a cost index, if appropriate, must be applied, averaged over the 'Time Forecast' as defined in the preceding column 12.

To simplify the model, columns 9, 10 and 11 could be eliminated, providing accurate building costs for each type of development are known. Their inclusion, however, is of particular advantage to Local Authorities as well as the Economic Planner.

Column 14 — Specific adjustments to the analysis should be noted.

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AGGLOMERATION

Series		No.	% Total No.	% Actual Space Utilisation
2.1	- Packaging	13	6,1	- 10,81
2.2	- Plastics	9	4,2	- 3,01
2.3	- Textiles/Clothing	12	5,7	- 6.65
2.4	- Food Processing	24	11,3	- 23,43
2.5	- Metal Works	9	4,2	- 3,81
2.6	- Furniture Mfcr.	7	3,3	- 3,84
2.7	- Building & Civil Engineering Contractor	20	9,4	- 7,16
2.8	- Building Suppliers/ Merchants	25	11,8	- 13,26
2.9	- Heavy Engineering	4	1,9	- 1,77
2.10	- Light Engineering	15	7,1	- 3,12
2.11	- Chemicals	7	3,3	- 1,4
2.12	- Pharmaceuticals	6	2,8	- 2,56
2.13	- Commercial	7	3,3	- 0,9
2.14	- Transport Services	6	2,8	- 1,26
2.15	- Salvage & Ancillary Activities	5	2,4	- 1,16
2.16	- Printing	8	3,8	- 3,92
2.17	- Light Mfcr.	4	1,9	- 1,59
2.18	- Special Mfcr.	2	0,9	- 0,87
2.19	- Motor Industry	5	2,4	- 1,4
2.20	- Warehouses	6	2,8	- 5,07
2.21	- Municipal Development	9	4,2	- 0,25
2.22	- Real Estate Variable	9	4,2	- 2,74
	TOTAL	212	99,8 %	99,98 %

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POPULATION /AGGLOMERATION

The existing scope of the thesis simply did not permit further extension into the Population and Agglomeration characteristics save with the following brief comments.

Population

Had the time been available the Actual Bulk and Efficiency Shortfall relative to the assessed standards would have been measured against labour employed in the various industrial user categories in Epping to ascertain whether there were standard rates of labour occupancy, which could be extended in the Growth Model. The method would not be difficult to evolve and the results could prove of considerable interest.

Agglomeration

The proximity by centrallity and the excellence of distribution from Epping to so many parts in Metropolitan Cape Town will tend to attract industries and of these summarised in Tables Series 2. 1 - 24, the percentages of the current total distribution, both in relation to the total number and the proportion of space utilised are summarised and compared in Table 4; Page 68 preceding.

There are some interesting cluster formations of similar type industries in Epping, and Plan No. 3 should also be examined.

CONCLUSION

This thesis is dated, but is not, in fact, a complete historic statement, for if the writer chides in the analysis of the present position as reflected by and deducted from the history of the Valuation Roll, he was most certainly not in possession of all the facts and the enormous problems which faced Cape Town City Council and its professional officers in promoting the Epping Industrial Townships 1, 2, 3 and 4. It is a statement at a point of time close to the present observable position, but already out of date, for cellular growth and changes in the urban form has gone on unabated during its preparation and the probability is that the views expressed would have to be adjusted to take cognisance of these changes.

It was written in the knowledge that the Valuation Roll of any urban settlement is the most valuable document that a Local Authority can possess, not merely because of its financial merit or advantage to the owners, but also because it accurately and faithfully records all the urban real estate assets, land and improvements thereon in that settlement.

In conclusion it is respectively submitted :

(1) "That the Valuation Roll of a Local Authority normally contains the basic information for the construction of an Urban Growth Model"

AND MOREOVER

(2) That such a Growth Model is not limited as in the context of this thesis to - "a Method of Measurement and Analysis of Industrial Growth", but can, by simple adaption, be amended to meet forms of assessment of Urban Growth and even for the assessment of Urban Renewal Programmes.

APPENDIX "A" EPPING 1

CONSOLIDATED VALUATION ROLL

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
101	35/ET 26 A 5	9 488	3.12.63	17 706	1-87		Herjane Investments (Pty)	1964	3 400				
consol	"							1964	168 750	)	9 640	78 530	
	"							1966	124 265	) 7 018		54 990	
								1967	36 340	)	9 450	36 340	
								1968	800	34		800	
							Reval	1969		7 052	19 140	247 770	+ 45 %
								1971		254		13 660	
102	35/ET 26 A 3	8 610	12. 6.69	16 608	1-87		Zwaaf Amsterdam (S. A) Pty	1964	16 608		8 930		
consol							Milner Products	1966		)		44 010	
32 & 30								1967		) 2 659		35 620	
								1968				300	
							Reval	1969		2 659	17 370	112 640	+ 41 %
								1969	46 665			10 390	
								1970		± 1 051		31 050	
								1971				3 860	
103	35/ET 26 A 2	4 520	29. 5.64	8 655	1-91		Lupini Bros. (Pty) Ltd.	1964	6 500		9 120	12 060	
			25. 8.67	39 300	8-69		Tanker Services Cape	1967				100	
							Reval	1969		534	9 120	15 780	
								1969	17 505	± 120		1 890	
								1971				100	

2/....

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPS	COST OF IMPS	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
104	35/ET 26 A1	4 248	24. 4. 64	7 927	1-87		Maitsheet (Pty) Ltd.	1963			8 570		
								1964		2 670		68 180	
								1966				280	
							Reval.	1969		2 670	8 570	99 870	+ 46 %
								1969				1 780	
								1970	24 060	505		11 000	
								1971				5 480	
105	35/ET 26 A19	10 374					Public Place				20 930		
106	35/ET 26 A19	367					Public Place				740		
107	35/ET 26 A10 - 15	317	14. 9. 66	)			Epping Industrial Centre (Pty) Ltd.	1971	129 000	1 386	640	44 400	
108	11	317		)				1971		1 244	640	98 000	
109	12	337		) 6 862	3-53			1972	1 000	±2 630	680		
110	13	337		)							680		
111	14	317		)							640		
112	15	317		)							640		
113	35/ET 26 A17	335					Public - Sub-Station	1965		88	680	4 250	
								1966			680	6 130	
							Reval.	do.					

3/....

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
114	35/ET 26 A9	3 580	24. 6.63	6 680	1-87		Acme-Leighton Tool Co.	1963			7 220		
								1964	60 000	)		20 000	
								1965		) 1 494		25 200	
								1965		)		480	
								1968		155		5 020	
										1 768			
							Reval.	1969		89	7 220	57 790	+ 14 %
								1969		155		6 690	
								1969		16		880	
								1970		305)		8 200	
								1971		357)		9 620	
115	35/ET 26 A 8	3 664	4. 4.64	6 837	1-87		Barnett & Foster S. A. (Pty)	1963			7 390		
							Naarden	1965		1 338		46 640	
								1968	1 250	300		10 450	
							Reval.	1969		1 638	7 390	68 740	+ 20 %
								1969		408		11 460	
								1971	1 930				
116	35/ET 26 A7	3 975	23. 6.64	7 418	1-87		Eric Marsden Properties	1963			8 020		
								1965		163)		21 800	
								1966	12 425	167 330)		22 150	
								1966		362		9 750	
								1967		50		1 080	
			24. 9.69	86 622			Fry's Metal Ltd. Reval.	1969		1 854	8 020	70 730	+ 29 %
116 A	35/ET 26 B 1	362					Cape Town City Council	1956			600	3 120	
							S. S.	1966		72	610	4 820	

4/...

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
117	35/ET 26 B 2	29 327	5. 57	35 036	1-19		Leyland Albion (Africa) Ltd.	1956		3 088	23 410	99 930	
								1961	55 000	1 594		38 710	
												60 880	
												64 150	
												82 830	
								1965	57 120		59 170	147 200	
								1966		226		17 220	
								1966		1 534		25 680	
							Reval.	1969		6 542	59 170	232 360	+ 22 %
								1971		2 939		71 480	
118	35/ET 26 B 3	5 742	26. 1. 52	8 154	1-48		Matthew Hall (Pty) Ltd.	1952			6 950		
								1953				12 480	
			17. 2. 62	28 000			Samuel Osborne, S. A. (Pty) Ltd	1962		722	11 580	24 210	
							Reval.	1969		722	11 580	27 660	+ 14 %
119	35/ET 26 B 4	4 047	8. 9. 49	5 200			C. Rutherford & Son	1951				16 900	
			11. 51				Reval.	1956		1 501	8 160	34 160	
								1963				5 410	
								1965		224		3 130	
								1967		196		2 110	
								1968		24		1 520	
							Reval.	1969		2 150	8 160	58 210	+ 26 %
120	35/ET 26 B 5	5 036	13. 12. 47	6 346			Lupini Bros.			± 606	6 100	18 400	
			Trn. 1951							± 624		18 930	
							Reval.	1956		1 230	10 160	33 180	
								1961		88		3 780	
							Reval.	1969			10 160	48 970	+ 25 %
								1970				100	
								1969		178		197	

5/...

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
121	35/ET 26 B 6	38 564		49 554	1-28		African Oxygen & Acetylene	1956		4 705	77 800	169 930	
								1960		± 697		25 170	
								1962	8 600	± 23		840	
								1963/4		± 195		7 030	
								1965		± 270		10 810	
								1966/7		± 412		16 540	
								1968	64 420	± 380		17 120	
							Reval.	1969		6 682	77 800	276 980	+ 12 %
								1969		± 733		31 570	
								1970				10 150	
								1971		± 485		10 740	
121 A	35/ET 26 B 7	5 103					C. C. C.	1956			3 580		
								1966			10 290		
122	35/ET 26 B 8	10 312	6. 10. 52	15 290	1-48		Peterson Ltd.	1956		4 064	20 810	154 000	
								1961-4		140		6 770	
								1967	)	210		10 000	
		27 737	16. 10. 67	274 807	9-91		Industrele Persele	1968	)	1 988)		100 150	
							Milnerton (Edms).	1968	)	)	27 080	80 070	
							Consol	1967	175 885)	2 338			
							Reval.	1969		6 402	47 890	482 480	
								1969		4 249		59 530	
								1970		35		1 540	
								1971		289		11 760	
								1971		234		9 120	
123	35/ET 26 B 9 See above						do. do.	1962				1 870	
								1967	42 585			14 290	
								1965				200	
								1966				850	

6/...

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPS	COST OF IMPS	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
124	35/ET 26 B10	6 785	-.10.51	9 930	1-38		Pyott Ltd.	1949			8 210	-	
								1951				16 690	
							Reval.	1956		1 841	13 690	52 730	
								1967		5		220	
							Reval.	1969		2 015	13 690	62 400	+ 17 %
125	35/ET 26 B11	6 785	26. 6.65	13 414	1-98		Moulded Packaging (Pty).	1961	62 500	570		5 530	
							Reval.	1956	)	2 934	13 690	104 790	
								1964	)251 015	)		24 950	
								1965	)	) 2 312		8 230	
								1966	)	)		500	
							Reval.	1969		5 816	13 690	199 160	+ 44 %
126	35/ET 26 B12	6 785	28. 3.51	8 384	1-24		Herbert Wilfred Taylor	1956		4 861	13 690	125 850	
								1963		12		1 810	
								1964		4 854		190	
								1969		4 866	13 690	154 980	+ 21 %
127	35/ET 26 B13	9 042	14.12.50	11 172	1-24		Salrose (Pty) Ltd.	1951			5 475	27 590	
							Reval.	1956		3 499	18 240	100 310	
								1965				3 990	
			23. 7.68	170 000			Reval.	1969		3 499	18 240	120 340	+ 15 %
								1969		363		10450	
								1971				600	

7/..

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
128	35/ET 26 B 14	4 047	14. 12. 53	6 000	1-48		Gunners Circle Shopping Centre	1956		345	8 160	9 620	
								1966	)			13 390	
								1967	) 23 300	395		1 490	
							Reval.	1969	)	706	20 410	34 010	+ 38 %
129)	35/ET 26 B 20	5 522					G. K. R. Mills Contractors Services Ltd.				11 140)		
130)		8 093	16. 4. 64	16 000	1-97						16 217)		
		13 615						1965				45 220	
								1965				3 760	
								1967/8				1 200	
								1968				200	
												840	
								1969		1 754	27 470	59 650	+ 16 %
								1969	2 880	24		1 420	
								1971		32		1 940	
131	35/ET 26 B 19	9 970	29. 4. 64	19 712	1-98		Moulded Packaging (Pty) Ltd.				20 223		
								1969-71	41 200	1 982			
								1966				50 930	
							Reval.	1969		1 982	20 120	62 400	+ 23 %
								1970				23 320	
								1970		944		3 090	
132	35/ET 26 B 18	8 616	24. 10. 51	10 646	1-24		Moulded Packaging (Pty).	1956		1 001	17 380	28 020	
								1969		1 001	17 380	32 760	+ 17 %
								1969	1 000			400	
			8. 9. 66	6 125			do. do.						

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPS	COST OF IMPS	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
133	35/ET 26 B17	8 616	6.12.53	12 776	1-48		G.K.N. Twisteel (Pty) Ltd.	1956		1 218	17 380	24 520	
											17 380	38 610	
								1965		10	41	410	
								1965		707		9 510	
									4 790	75		3 020	
								1969		2 149	17 380	72 450	
134	35/ET 26 B16	8 616	- 11.51	16 182	1-83		Papersacks (S.A.) Ltd.	1956		4 746	17 380	142 230	
								1961				80	
								1963		) 91		260	
								1965	5 660	) 180		680	
							Reval.	1969		5 017	17 380	180 400	+ 26 %
135	35/ET 26 B15	9 852	21. 1.60	19 478	1-98		Spindle Row (Pty) Ltd.	1960			19 880		
								1961	)	1 544		54 400	
								1963	)71 505	2 367		7 190	
								1965	)			30 120	
								1965				100	
							Reval.	1969		3 911	19 880	127 530	
								1970	3 800			6 120	
136	35/ET 26 B22	34 358	9.53	13 588	1-24		Gearing Foundry Ltd.	1963-6	39 700				
								1964		660		10 080	
								1965		110		2 020	
												480	
							Reval.	1956	±	4 000	22 190	115 260	
								1967		411		27 330	
								1967	)	757		17 040	
								1968	) 58 690	250		2 840	
								1968	)			1 200	
									)				
							Reval.	1969	)	6 188	53 090	208 180	
								1969		± 410		14 100	
								1970				2 470	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
137	35/ET 26 B 24	8 690	18. 9. 71	10 738	1-24		Pactrite Industries (Pty).	1956		7 326	17 530	181 260	
								1961				120	
								1965				200	
								1966	1 270			17 260	
								1969		7 469	17 530	253 380	+ 27 %
138	35/ET 26 B 25	17 671	11. 7. 58	40 000	2-28		Colprop Pty. Ltd.	1964	64 615	5 443	35 660	185 990	
			1. 8. 64	175 000									
			8. 2. 69	248 000			Reval.	1969	)	6 503	35 660	227 000	+ 22 %
								1970	) 213 587	3 147		110 000	
								1970	)	738		25 780	
								1971	)	200		7 500	
138 A		454					Cape Town City Council	1966			920	5 700	
								1956		85	970	3 690	
139	ET 26 B 27	19 368	25. 8. 58	180 000	1-98		Solomon Stone's Props.	1956		5 176	39 070	148 360	
								1960	)	2 140		61 390	
								1961	)	1 190		34 170	
								1963	) 2 872	710		20 330	
								1964	)	404		4 440	
								1965	)	73		2 590	
								1966	)	35		830	
								1967	)	336		3 340	
							Reval.	1969	) 32 415	10 075	39 070	293 180	+ 6 %
								1970	)			180	
								1971	)				
140 A	ET 26 B 35	17 613					C. C. C. to W. P. Alsation Club	1966		77	34 630	3 010	
140 B		15 251					Cape Town City Council	1961			310 360		

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
141	35/EV 26 A1	18 632					Gearing Foundry Cape Town City Council Consolidated 136 Ref.				13 270		
142	35/EV 26 A2	11 532	4. 8. 64	22 798	1-97		Vailit Road Products (Pty).	1954			23 260	-	
								1966		1 612		26 300	
								1966				12 140	
							Reval.	1969		1 344	23 260	58 970	+ 53 %
								1969				1 600	
								1971		138		6 210	
143	35/EV 26 A3	9 837	13. 1. 53	14 586	1-48		Lewis Construction	1956			18 750	45 170	
								1960				33 060	
								1961		60		2 620	
								1963	7 320			810	
								1965				4 760	
							Reval.	1969	17 240	3 650	19 850	109 670	
								1969		150		730	
144	35/EV 26 A4	8 007	3. 5. 57	15 823	1-98		Cape Lime (W. P.)	1960±			16 150	560	
			18. 12. 63	24 500	3-06			63-65	57 630				
								1964		1 569		38 270	
								1966		174		7 510	
								1968	)			100	
							Reval.	1969	)111 750	1 743	16 150	64 400	+ 40 %
								1969	)			32 330	
								1970				33 360	
145	35/EV 26 A5	8 007	10. 12. 59	120 000			Union Government Reval.	1956		4 035	16 150	109 820	
							Reval.	1966			16 150	131 090	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
146	35/EV 26 A 6	17 800	31.10.52	26 386	1-48		Michaels Fig Props. Ltd.	1956		2 104	35 900	147 650	
								1963	)	50		3 530	
								1964	) 79 540	-		100	
								1964	)	614		43 000	
								1965		2 768		34 190	
								1966				150	
								1967				800	
								1968				120	
								1968				230	
							Reval.	1969		7 688	35 900	267 660	+ 17 %
								1969	) 5 300			3 100	
								1971	)				
147	35/EV 26 A 11-12-13	23 060					E. Sharp S. A. (Pty) Ltd.	1969	143 630	5 580	46 520	226 920	
								1969				1 870	
								1970		2 371		59 380	
	Consol.							1970				10 700	
								1971		230		2 160	
								1971		41		6 390	
148	35/EV 26										20 730	159 730	
								1956		± 50		1 870	
								1960					
								1962				660	
								1963		±50		1 050	
								1965				160	
149	35/EV 26 A 10	15 649	24.11.50	19 490	1-25		Richards & Barlow Ltd.			4 361	31 570	110 800	
								1961	12 645	76		2 330	
								1962				2 030	
								1969	35 821	4 478	34 570	142 680	+ 24 %
								1971		469		13 240	
										233		6 260	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
150	35/EV 26 A 9	7 732	28. 11. 67	85 000	10-99		Butchers, Brokers & Distrib. Ltd.	1956			15 610	38 950	
								1960	22 000			7 360	
								1964				660	
			25. 5. 68	50 000	6-47		Chema Holdings Reval.	1969		1 324	15 610	43 650	
								1969	)	181		11 990	
								1969	)23 250	66		850	
								1971	)			940	
151	35/EV 26 A 8	7 732	17. 10. 52	11 854	1-53		African Detinning Works (Pty) Ltd.	1956		846	15 610	29 140	
												4 380	
								1961		37		990	
								1962				1 590	
								1966		13		500	
							Reval.	1969		991	15 610	37 300	+ 2 %
152	35/EV 26 A 7	17 916	8. 12. 51	22 170	1-24		African Containers Co. (Pty) Ltd.			5 188	36 140	205 100	
								1956			36 140	162 210	
								1960				3 060	
								1961				1 960	
								1962				140	
								1964		2 159		37 750	
								1966				750	
							Reval.	1969	)	8 247	36 140	279 760	
									)55 760				
								1971	)	408		41 390	
153	35/EV 26 A 15	8 058	4. 6. 65	12 142	1-51		Brice Bros (Pty) Ltd.	1965			16 260	-	
								1966	)	1 245		17 940	
									)	295		7 940	
									)				
							Reval.	1969	) 20 250		16 260	68 310	
									)				
								1970	)	1 801		2 990	
								1970	)			5 250	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
	35/EV 26 A14	-					City Council Reval.	1969			15 360		
154	35/EV 26 A16	35 461	30.10.52	43 814	1-23		De Boren Ko-operative	1956		10 433	71 540	663 100	
								1963		220		18 840	
								1963				1 880	
								1967		3 178		100 000	
								1967				9 210	
								1968				60 000	
								1968		2 598		63 200	
							Reval.	1969		59 989	71 540	1 103 310	+ 20 %
								1969		546	23 510	23 510	
								1971	309 670	367	15 800	15 200	
								1971		795		17 220	
155	35/EV 26 A17	58 700	28.11.51	75 006	1-28		Arderne Scott Timbers	1956			118 430	382 160	
								1960	7 080			4 340	
								1961				940	
								1962				5 530	
								1963				1 560	
								1963				6 850	
								1965		182		4 510	
								1967	)			13 000	
								1967	)22 625	589		12 650	
								1968	)	975		2 820	
								1969				1 830	
							Reval.	1969		27 950	118 430	670 110	+ 53 %
156	35/EV 26 A22	12 980	19. 7.65	18 192	1-40		Crown Warehousing (Pty) Ltd.	1956			26 186		
								1966	)			53 130	
								1967	) 40 680	3 215		40 350	
								1968	)			400	
								1968	)			3 000	
							Reval.	1969		3 541	26 190	130 070	+ 34 %
								1969				2 960	
								1969				200	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
157	35/EV 26 A21	7 100	23.11.64	14 036	1-98		C. M. Abrams	1966		3 130		84 140	
							Reval.	1969		3 130	14 320	112 340	
158	35/EV 26 A20	14 163	30.10.51	17 500	1-24		Thorer Fur Processing	1956	46 210	2 410	28 570	70 630	
								1960				180	
								1964		1 565		47 950	
								1965				410	
								1967	)			630	
								1968	)	38		530	
									)				
							Reval.	1969	) 72 250	4 200	28 570	160 780	+ 34 %
									)				
								1971	)	142		1 530	
159	35/EV 26 A19 A35	13 016	30. 9.52	16 468	1-27		Western Steel Products	1956			26 260	159 200	
								1960	20 400			1 010	
								1961				14 650	
								1961				16 760	
								1965				21 350	
								1966				1 850	
								1967				3 820	
								1967				2 580	
								1968				4 930	
							Reval.	1969		9 520	26 260	288 370	+ 28 %
								1969	140 465			620	
								1969		)		29 270	
								1970		) 3 090		77 170	
159 A	35/EV 26 A18	483					Sub-Station Reval.	1969		say 90	970	5 960	
159 B	35/EV 26 A23	4 078					Cape Town City Council			-	8 230	-	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
160	35/EV 26 A18	14 114	- 3.59	27 902	1-98		Yardley of London	1956			28 500		
								1961		4 150		193 560	
								1962	113 000				
							Reval.	1969			28 470	224 820	+ 16 %
								1969				30 000	
								1969		2 540		64 610	
161	35/EV 26 A25	12 309	10. 9.51	13 000	1-22		Bashew Bros (Pty) Ltd.	1956		2 798	24 820	72 900	
								1960				430	
								1966				9 610	
							Reval.	1969		3 580	24 820	115 440	+ 39 %
162	35/EV 26 A26	48 000					S. B. H. Cotton Mills (Pty) Ltd.	61/3	360 190	6 383	52 970	179 610	
								1962		700			
								1966				80 000	
							Reval.	1969		17 100	96 840	782 530	
								1969	513 000	444		12 000	
								1969				7 080	
								1970				230	
								1971				1 500	
162 A	35/EV 26 A27	2 905					Railway Reserve C. C. C.						
							Reval.	1969			5 860		

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPS	COST OF IMPS	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
163	35/EV 26 A28	48 068					Cape Steel Construction	1960			96 980		
								1965				152 210	
								1965		17 100		148 000	
								1966				70 620	
								1966		51		1 280	
								1966		1 665		18 610	
								1967	)			15 000	
								1968	)	1 025		8 050	
							Reval.	1969	) 195 805	21 600	96 980	599 370	+ 45 %
								1969	)			11 530	
								1970	)	1 445		25 040	
								1971					
164	35/EW 24 A12	22 434					Cape Town City Council	1966		-	45 260	-	
164 A	35/EW 24 A13	33 640					Cape Town City Council						
							Reval.	1969		-	67 820	-	
165	35/EW 24 A15	20 594	28. 4. 65	40 712	1-98		Chespen Properties (Pty) Ltd.	1956			41 550		
								1966		6 580		140 020	
							Reval.	1969		6 580	41 550	195 450	+ 40 %
								1970		860		13 940	
								1971	39 835				
165 A	35/EW 24 A16	18 993					C. C. C. Fire Station	1966		2 110	38 320	132 940	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
199	35/EW 24 A19	48 572					Must Holdings Ltd.				97 988		
								1966		3 350		246 670	
								1967		205		6 180	
								1968		820		18 100	
								1968		151		6 300	
							Reval.	1969		4 525	97 990	321 940	+ 16 %
								1969		150		8 310	
								1969				1 600	
								1970		775		20 810	
								1971		97		1 250	
166	35/EW 24 A9	36 191	2. 5.55	71 548	1-98		Boersaamwerk Beperk	1956/9		34 690	73 020	946 120	
								1960				340	
								1963				1 090	
								1968	179 450	224		24 010	
							Reval.	1969		3 850	73 020	1 166040	+ 20 %
								1969		415		11 070	
								1970	)117 800			60 000	
								1971	) 2 600	1 240		278 810	
								1971				25 660	
167	35/EW 24 A11	483	1971			)	Sub-Station Reval.	1969		172	970	4 790	
						)	Transferred to W.P.						
						)	Milk Products						
168	35/EW 24 A11 & 20	12 357				)	W.P. Milk Products	1971		± 6 160	24 920	232 000	
						)		1971		± 1 140		49 100	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
169	35/EW 24 A4)	99 845	25. 7.55	86 102	1-15		Imperial Cold Storage						
	Consol. A5)							1962	3 000	410		2 520	
	" A10							1964	5 000	100		3 750	
								1965	4 340	inc.		100	
								1967	11 940	525		10 000	
								1968		8 250	201 430	395 130	
								1968		315		13 030	
								1969		295		10 730	
								1970		592		10 440	
								1970				5 500	
								1971		163		3 060	
								1971		705		25 320	
170	35/EW 24 A5	37 698	- 7.55				Imperial Cold Storage				A.V.		
	A21	446	25.11.64	880			C.C.C.				970		
		12 873	4. 6.67	24 462	1-95		Western Province Milk Products (Pty) Ltd.				A.V. 23 950		
171	35/EW 24 A6	8 543	6.11.67	65 000	7-61		Transcape Properties (Pty) Ltd.	1956			17 275		
								1962				20 030	
								1963	1 120			120	
								1965				1 000	
								1967		672			
								1968		5 661		70 000	
							Reval.	1969		6 333	17 230	181 280	
								1969		565			

19/...

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
172	35/EW 24 A7	8 543					Compressed Yeast (Pty) Ltd.	1956			17 275		
								1964	)			80 000	
								1965	)119 050	2 220		26 690	
								1966	)	104		2 410	
								1966		412		9 950	
								1967				500	
								1968	)			4 000	
									)				
							Reval.	1969	) 27 895	27 895	17 230	170 690	+ 38 %
									)				
								1969	)	155		20 050	
								1969				150	
								1971				400	
173	35/EW 24 A8	18 314	19. 4.53	32 206	1-76		Massey Ferguson S. A. Ltd.	1956		3 189	36 950	79 130	
								1962				1 500	
								1964		89		1 430	
								1966		1 342		23 180	
							Reval.	1969	1 970	5 780	36 950	202 090	+ 92%
								1970				580	
								1971		45		630	
174	35/EW 24 A1	26 886	27. 7.55	53 816	2-00		Premier Wire & Steel Co. Ltd.	62/64	20 240	7 537	54 240	188 790	
								1963				9 110	
								1963				560	
								1964				2 620	
								1965		330		2 540	
								1966		286		1 220	
								1967		255		2 780	
								1968		60		320	
							Reval.	1969		8 850	54 240	251 330	+ 21 %
								1969		60		520	
								1971	1 200				

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
175	35/EW 24 A2	50 299	19.11.53	52 554	1-04		Metal Box S. A. Ltd.				(34 430		
								1960		4 705	(67 040	163 550	
								1962		480		12 340	
								1965		1 485		43 560	
								1965				400	
								1966				250	
								1968				109 000	
							Reval.	1969		6 670	101 480	301 700	- 8 %
								1969		3 780		128 800	
								1969				2 760	
								1970		125		3 420	
								1971		1 525		39 810	
176	35/ET 24 A10	7 148	31.10.66	14 132	1-98		Mag Industrial (Pty) Ltd.	1960			14 425	-	
								1969	145 000	1 845		40 000	
								1969				17 470	
												12 000	
177	35/ET 24 A14	13 048	12.11.65	24 668	1-89		Manlak Investments (Pty) Ltd.				26 325		
								1966	)	3 140	88 320		
							Reval.	1969	) 137 930		26 320	107 940	+ 22 %
								1970	)	3 140		20 000	inc.
								1970	)			52 400	inc.
								1971		3 350		27 790	
178	35/ET 24 A9	16 170	Jan. 66	167 400	9-09		Glenton & Mitchell	1961			32 620	-	
								1966	)			55 000	inc.
								1967	) 38 090			28 910	inc.
								1967	)			14 240	
								1968		3 400	32 620	148 490	+ 35 %
								1969				3 500	
								1970		372		6 370	

21/...

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
179	35/ET 24 A 8	15 801	18. 8. 61	31 232	1-98		Mobil Oil (S. A) (Pty) Ltd.	1961			31 880		
								1963				46 540	
								1963				2 220	
								1964		78		9 810	
								1968		158		4 460	
							Reval.	1969		3 060	31 870	108 290	+ 72 %
								1969	14 250	75		1 170	
								1971				220	
180	35/ET 24 A 7	15 801	16. 4. 64	31 231	1-98		Bitroid Ltd.	1961			31 880		
								1965				600	
								1965			2 540	70 000	
								1967				150	
								1968		1 300		36 950	
							Reval.	1969		2 330	31 870	94 330	
								1969		1 760		41 630	
181	35/ET 24 A 6	7 811	22. 12. 70	285 000	36-49		S. Wainstein Prop. Invests.	1961			15 760	-	
							Cape (Pty) Ltd.	1965		)		53 700	
							Boersake (K. P) Sentraal	1965		)		57 180	
							Ko-op Bpk.	1966		4 260)		32 440	
							Reval.	1969		5 140	15 760	194 600	+ 35 %
182	35/ET 24 A 5	8 527	29. 6. 62	70 000	8-20		Rotocraft S. A. (Pty) Ltd.	1961		)	17 200	-	
								1961		) 2 605		65 630	
								1964		)		30 000	
								1965		1 605		7 490	
							Reval.	1969		4 210	17 200	153 090	+ 48 %

22/...

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
183	35/ET 24 A 4	4 047					Shell S. A. Ltd.	1965 1965 1966 1969		30 150 709 889	 8 160 20 410	600 1 610 29 820 48 420	+ 33 %
186	35/ET 24 A 1	316 134					Cape Town City Council (Epping Market) Reval.	1964 1965/6 1968 1969	)	1 390 82 500	637 800	450 114 370 2 520 040	
187	35/ET 24 A 15	29 740					Cape Town City Council Open Space				60 000		
188	35/ET 24 A 12	22 434					Cape Town City Council	1966/9			45 260		
189	35/ET 24 A 13	48 894					Hospital Trust Vacant				100 660		
	35/ET 24 A 18						C. C. C. G. V.	1966			570		
	/ET 24 A 20										540		
191	/ET 24 A 26						C. C. C. G. V.	1966			8 580		
192	/ET 24 A 28	10 421					C. C. C. G. V. Vacant	1966			21 020		

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
193	/ET 24 A27	225					C. C. C. (Sub-Station Site)	1966		-	450	-	
194	35/ET 24 A19	1 457					C. C. C.	1966		± 1 457	540		(See 197 below)
195	35/ET 24 A24	4 560					C. C. C.	1966			9 200		
196	35/ET 24 A25	1 735					C. C. C. Public Space Parking	1966			3 500		
197	35/ET 24 A16	713	27.10.66	7 665			C. C. C. Gunners Circle Bldgs. (Pty) Ltd. Eppindust Shops Etc.	1966 1970 1970 1971		) ±713))	320	 10 000 60 000 39 510	)) 197 and) 194
198	35/ET 24 A29						C. C. C.	1966			4 250		

Epping 2 ... 24/....

APPENDIX "A" EPPING 2

CONSOLIDATED VALUATION ROLL

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
201	36/EX 25 A106	74 823	21. 7.65	147 197	1-98		W.G.A. Ltd.	1966			150 950		
								1967	)			15 000	
								1968	)			235 000	
								1968	)			320 140	
									)908 840	24 300			
							Reval.	1969	)		150 950	667 430	+ 17 %
									)				
		33 268	15.10.71	1 165 215			Southern Life & Colonial Mutual	1971	)				
202	36/EX 25 A105	24 855	28. 9.70	476 369			Schus Properties (Epping) (Pty) Ltd.				50 142		
202 A	36/EX 25 A3	16 702					B.S.B. (Hides & Skins)			± 4 180			
203	36/EX 25 A5 Consol. with A9 (now all 5)	16 181	12.11.65	32 650	1-98		Epping Cold Storage (Pty)	1966			32 660		
								1969	)			60 000	
								1970	)	2 800		119 080	
								1971	)235 635			65 640	
								1971	)	2 540		98 970	
204	36/EX 25 A7	9 112	12. 9.68	27 018	2-97		Risray Investments (Pty) Ltd.	1966			18 380	-	
								1969		1 045		31 510	
205	Deleted												
206							Not Recorded.						
207	36/EX 25 A4	8 223	1. 6.66	16 256	1-98								
			27. 9.68	27 080	3-29		Brantel Investments (Pty)	1966			16 590		
								1969		)		106 150	
								1970		4 200)		23 530	
								1971	1 150	46		1 920	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
208	36/EX 25 A2	8 223	1. 6.66	16 250	1-98		Protem Investments	1966			16 260		
								1967		1 790)		32 000	
								1967		)		17 350	
								1968				200	
							Reval.	1969		1 790	16 590	57 930	+ 17 %
								1970	38 840	196		2 200	
								1971		900		27 430	
209	36/EX 25 A6	9 903	4. 7.66	19 579	1-98		Tyrol (Pty) Ltd.	69-70	168 095				
								1966			19 050		
								1966			19 980		
								1970		)		40 010	
								1970		± 2 100)		42 830	
								1971		± 70		2 890	
210	36/EX 25 A8	18 807	30. 3.69	55 749	2-97		Acosa (Pty) Ltd.	1966			37 930		
								1970		)		18 410	
								1970	23 650	2 500)		66 480	
								1971		465		7 890	
211	36/EX 25 A72	26 836	20. 6.68	79 635	2-97		Not recorded.	1966		-	54 180	-	
212	36/EX 25 A67	9 993	31. 1.68	29 634	2-97		Gestra Epping (Pty) Ltd.	1966			20 160		
								1970	)	)		10 000	
								1971	) 323 480	7 180)		131 000	
								1971	)	)		77 250	
213	36/EX 25 A71	8 255	23. 1.68	24 480	2-97		Harmont Investments (Pty) Ltd.	1966					
								1970	86 475	-	16 660	-	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M.V. BLDGS
214	36/EX 25 A17	8 255	14. 7.66	16 320	1-98		Gerald Bags Investments (Pty) Ltd.	1966			16 380		
								1967				16 000	
								1967	32 270			14 190	
							Reval.	1969		710	16 650	38 640	+ 25 %
								1971					
214 A	36/EX 25 A15	238					C. C. C. Sub-Station	1966		77	480	5 380	
215	36/EX 25 A66	8 324	16.11.67	24 682	2-97		M. A. N. Diesel Props (Pty) Ltd.				16 790		
								1969	) 176 250	± 3 325		120 000	
								1969	)			23 070	
216	36/EX 25 A14	8 561					Sharian Investments (Pty) Ltd.	1966			17 272		
								1968				36 050	
								1968	54 375	1 976		55 460	
							Reval.	1969		1 976	17 270	69 850	+ 26 %
								1970		1 488		11 000	
								1971				28 790	
217	36/EX 25 A13	19 829	9. 7.65	39 200	1-98		Copelowitz Props (Pty).	1966			40 050		
								1966	22 595			31 550	
							Reval.	1969		2 868	40 000	45 700	+ 45 %
								1969		182		8 880	
								1970		3 500		37 510	
								1970		233		5 750	
218	36/EX 25 A12	6 959	10. 6.68	35 500	5-10		Epton (Pty) Ltd.	1966			14 040		
							Reval.	1969			14 040		
								1970	53 600	± 240		10 300	
								1971		± 620		26 690	

27/...

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
219	36/EX 25 A11	26 413					Public Place C.C.C.	1966			53 290	-	
							do.	1969		-	53 290	-	
220	36/EX 25 A16	8 561	29.10.65	16 925	1-98		Acrow Engineering	1966			16 930		
							W.A. De Viger	1968	)			15 550	
			31. 7.70	68 884				1969	) 46 140	56	17 270	3 000	
								1969	)	987	17 270	37 710	+ 103 %
								1971		46		2 940	
221	36/EX 25 A18	16 990	26.10.66	33 588	1-95		Workshop Investments (Pty) Ltd.	1966			33 590		
								1968	)			15 000	
								1968	)			55 260	
							Reval.	1969	)156175	2 596	34 280	101 660	+ 45 %
								1969	)	745		10 440	
								1970	)	402		1 450	
								1970		77		3 070	
								1971		26		660	
222	36/EX 25 A19	18 417	7. 9.66	36 409	1-98		Norbury Investments (Pty) Ltd.	1966			36 410		
								1968	42 150			43 000	
								1969			37 160	20 000	
								1969		1 983		56 240	
										436			
								1970		50		12 470	
								1970		30		1 190	
								1971		13		180	
223	36/EX 25 A73	27 382	24. 6.61	54 165			Malleco. (Pty) Ltd.	1966			24 000	-	
								1969	387 440		54 140	200 000 inc.	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
224	36/EX 25 A68	18 851	1969				Frikkie Neethling Beleggings				38 030	-	
								1970	425 325	7 493		212 610	
								1970				61 510	
225	36/EX 25 A22	7 912	7. 6.66	15 693	1-98		Miraxneve Investments (Pty) Ltd.	1966			15 695	-	
								1967	47 740			24 410	
								1967				7 880	
							Reval.	1969		1 961	16 010	39 300	
226	36/EX 25 A28	18 890	11.10.66	37 344	1-98		Coteasi (Pty) Ltd.	1967/9	91 500				
							Reval.	1969		2 174	38 110	75 380	
								1970				500	
								1971				730	
227	36/EX 25 A29	7 042	7.11.66	13 922	1-98		Felber Investments (Pty) Ltd.	1969			14 210		
								1967		1 372		41 350	
								1971	34 200	938		23 910	
228	36/EX 25 A25	7 281	7. 9.66	14 393	1-98		Pacor (Pty) Ltd.	1966			14 395		
								67/8	113 280			55 580	
							Reval.			1 923	14 690	67 880	
229	36/EX 25 A30	8 107	16. 6.66	16 000	1-97		Janpak Investments	1966			16 033	-	
								1968	)				
								1969	)	1 463		52 240	
								1970	)426 250			100	
								1970	)	24		210	
								1971	)				

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
230	36/EX 25 A25	8 107	22. 2.66	16 027	1-97		Baymar Investments (Pty) Ltd.	1966	)		16 355	-	
								1967	)	)		25 000	
								1968	)100 275	) 1 834		14 480	
								1968	)	149		5 600	
							Reval.	1969			16 360	50 350	+ 12 %
								1969		365		13 630	
								1970				2 000	
								1971		918		22 700	
231	36/EX 25 A24	12 166	15. 9.65	24 050	1-98		Critall-Hope					1 000	
			9. 9.68	24 545			Renco Industries (Pty) Ltd.						
								1969	)	1 489	24 545	55 750	
			6.10.69	200 000			Prehol Properties (Pty)	1970	)162 270	6 644		201 460	
								1971				10	
232	36/EX 25 A21	16 333	29. 7.65	32 368	1-98	1-	Durban Falkirk Iron Co.	1966	)		32 270		
								1967	)137 050	)		96 650	
							Reval.	1969	)	) 1 678	32 930	115 650	+ 20 %
								1970		128		1 370	
233	36/EX 25 A83	16 196	23. 4.69	48 025	2-99		Evelyn Haddon			7 679	34 700	226 070	
							The Legal & General						
234	36/EX 25 A70						Consol. 235						
235	36/EX 25 A94	12 565					Rigid Containers (Pty) Ltd.				26 290		
236	36/EX 25 A26	13 483	3.11.66	26 655	1-98		Rigid Containers (Pty) Ltd.	1966			26 660		
								1968	)			159 170	
							Reval.	1969	)399 450	8 633	27 200	268 440	+ 69 %
								1971	)	1 566		45 520	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
237	36/EX 25 A 84	4 816	31. 3. 69	47 827	9-94		Rutherford (Pty) Ltd.				9 100	-	
238	36/EX 25 A 87	8 737	31. 3. 69	95 465	10-93		Co - Ep Fish Investments				17 730	-	
239	36/EX 25 A 85	1 051								470	2 120	19 000	
240	36/EX 25 A 86						No Entry.						
241	36/EX 25 A 74	4 249	31. 3. 69	47 574	11-20		Typhoon Manufacturers (Pty) Ltd.				8 570		
								1970		2 787		60 000	
								1970				34 410	
242	36/EX 25 A 38	6 765	20. 7. 66	13 372			Nucleus Products (Pty) Ltd.	1966			13 640		
								1968				3 000	
								1968		492		13 490	
								1969	1 820		13 650	21 250	
243	36/EX 25 A 39	2 139					C. C. C.				4 310		
244	36/EX 25 A 33	8 296	31. 8. 65	16 400	1-98		Caperalo Investments (Pty) Ltd.	1966			16 400		
								1966	140 685	)		45 000	
								1967		) 2 966		48 260	
							Reval.	1969			16 740	119 300	+ 28 %
										7		710	
245	36/EX 25 A 35	8 393	21. 2. 66	16 592	1-98		Union Liquid Air	1966			16 590		
								1967		)		16 800	
								1967		) 1 750		36 840	
										1 519)			
							Reval.	1969		234)	16 930	66 930	+ 25 %
								1969		113		2 800	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
246	36/EX 25 A37	7 448	6.12.65	14 824	1-98		Ribbons & Tapes (Pty) Ltd.	1966	)		15 026		
								1967(2)	)	1 781		53 680	
								1968	)154 515			180	
								1968	)	1 010		22 990	
							Reval.	1969	)	2 792	15 030	93 390	+ 22 %
								1969		946		38 160	
								1970		1 838		21 950	
247	36/EX 25 A34	49 186	29. 9.65	97 235	1-98		Fedcape Properties (Pty) Ltd.	1966			97 250		
								1967	467 460	15 023		345 860	
								1968		94		4 480	
								1968		339		9 630	
							Reval.	1969		15 386	99 230	457 450	+ 27 %
								1969		207		12 350	
248	36/EX 25 A36	6 547	11. 5.66	12 944			L. & H. Glaser Dev. Co.	1966	)		13 210	-	
								1968	)			25 000	
								1968	) 52 035	2 295		32 320	
							Reval.	1969	)		13 210	40 000	
								1969(1)	)	743		28 680	
249	36/EX 25 A32 & 40	17 209	1966				Henep (Pty) Ltd.	1966			17 360		
								1966	122 760			19 000	
								1967(1)		1 518		25 680	
								1968(2)				35 020	
							Reval.	1969		1 518	34 720	62 420	
								1969(1)		1 115		35 560	
								1971			34 720	97 980	
								1971		7 959		288 830	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
250	36/EX 25 A64	8 622	12. 3.68				Packprop (Pty) Ltd.				17 390	-	
								1969		2 080)		50 000	
								1969		)		41 750	
								1970		71		2 280	
								1971		588		30 060	
251	36/EX 25 A78	4 669	31. 3.69	55 264	1-80		McDucar Cabines (Pty)	1971(2)	151 390	3 352		79 350	
252	36/EX 25 A82	1 893	31. 3.69	19 320	10-19		Jadvan Properties				3 830	-	
								1970	82 740	1 688		9 000	
								1971				46 700	
253	36/EX 25 A69	907					Not Recorded				1 803		
254							Not Recorded						
255	36/EX A25101	2 112	6. 2.70	27 266	12-91		G. T. S. Holdings (Pty) Ltd.				4 260	-	
256	36/EX A25 98	2 582	17. 7.70	36 148	14-00		Ten-Up Properties (Pty).	1971	71 450		5 210	48 890	
257	36/EX A25 80	2 990	31. 3.69	31 841	10-65		Shutterite (Pty) Ltd.	1969(2)			6 030		
								1970		)		10 000	
								1971		)		43 600	
								1971(2)		)		17 670	
258	36/EX A25 92	3 069	31. 3.69	31 787	10-36		Windowcraft (Pty) Ltd.	1969			6 190		
								1970		)		2 000	
								1971		) 2 127		36 300	
								1971		)		33 400	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
259	36/EX 25 A 79	2 593					Castcon Products (Pty) Ltd.	1970 1971 1971		1 940	AV.5 230	65 670 1 000 18 100 46 570	
260	36/EX 25 A 90	2 989					Simplified Joinery (Pty) Ltd.	1971		2 131		77 830	
261							Undeveloped.						
262							Not Recorded.						
263							Not Recorded.						
264	36/EX 25 A 95	927	17. 7.70	13 997	15-10		Centrifugal Investments (Pty) Ltd.	1969 1971		628	1 870	19 650	
265	36/EX 25 A 97	907	6. 3.70	10 065	11-10		Jefs Properties (Pty).	1971	28 490	± 400	AV.1 830	17 540	
266	36/EX 25 A 91	1 938	6. 3.70	20 527	10-59		Chanarin Investments (Pty) Ltd.	1969 1971	115 770	D/S ± 700	3 910	29 000	
267	36/EX 25 A 50	17 630	6. 5.66	34 851	1-98		Julep Investments	1966			34 870		
	Consol.		1. 2.71	195 620		11-09	Packer Ave Props. (Pty) Ltd.				35 570		
268	36/EX 25 A 46	8 209					Packer Avenue Props. (Pty).	1966			16 299		
	Consol.	25 840						1968 1968(2)		2 890		15 000 66 930	
							Reval.	1969		2 890	16 560	87 090	+ 6 %
								1970		Consol.	52 130	5 580	
								1970				1 660	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
269	36/EX 25 A 43						C.C.C. Sub-Station			76	480	5 350	
270	36/EX 25 A 49	9 186	11. 8.69	18 159	1-98		F.R. Waring (Pty) Ltd.				18 530		
								1969(2)	19 639	6 561		70 000	
								1970(1)				121 900	
271	36/EX 25 A 44	24 176	25. 8.66	47 794	1-98		Federated Contractors & Engineers	1966			48 770		
								1967				10 000	
								1967				2 000	
								1968		994		6 390	
274	Incorporated						Reval.	1969			48 780	14 590	
								1969(1)		1 599		24 690	
								1971		503)		86 990	
								1971(2)		935)		3 100	
272	36/EX 25 A 42	25 143					C.C.C. Public Place	1966		-	50 730	-	
273	36/EX 25 A 41	6 959	10. 6.68	21 750	3-13		Rayheld Centre (Pty) Ltd.				14 040	-	
								1969	168 525	2 811		20 000	
								1970				122 790	
								1971				1 010	
274							See 271						
275	36/EX 25 A 47	9 186	4.10.66	15 160	1-98		Joseph Rubbi (Pty) Ltd.	1966			18 160		
											18 530		
								1969	17 845	) 1 343		41 810	
								1970		)		29 120	
								1970		366		6 800	
								1971		245		790	
								1971		30		160	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
276	36/EX 25 A 48	8 638	25. 8. 66	17 078	1-98		Noursepp Props (Pty) Ltd.	1966			17 080		
277	36/EX 25 A 45	8 638	25. 3. 66	17 078	1-98		Noursepp Props (Pty) Ltd.	1966			17 080		
								1968	4 295	1 440		4 000	
								1968(2)				44 810	
							Consol.	1969		1 440	34 860	63 310	
								1969	37 265	31		870	
								1970		4 038		119 990	
278	36/EX 25 A 65	8 617	25. 8. 66	17 035	1-98		Tar Industries (Pty) Ltd.	1969			17 380		
								1970	122 880			71 170	
								1971				32 560	
279	36/EX 25 A 103	5 380	17. 7. 70	29 050	10-00		Xactics (Pty) Ltd.			-	5 860	-	
280	36/EX 25 A 75	2 905	8. 3. 71	31 776	12-00		Seamich (Pty) Ltd.				57 210		
281	36/EX 25 A 76	2 615	6. 2. 70	36 607	12-00		Willie Krause			-	5 270	-	
282	36/EX 25 A 59	25 572	23. 8. 67	75 832	2-97		Transcape Steels	1966			155 230		
								1970	361 400	893		3 000	
								1971		5 166		143 810	
283	36/EX 25 A 60	18 070	6. 2. 69	53 583	2-97		Wolpe Fashions Holdings				36 460	-	
284	36/EX 25 A 54	8 116	25. 8. 66	16 025	0-20		Baltimore Aircool Props.	1966			16 030		
								1968(1)	37 025	1 774		36 790	
							Reval.	1969			16 350	52 320	
								1971		) 1 449		21 400	
								1971		)		17 590	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
285	36/EX 25 A 55	17 276	1. 6. 66	34 152	1-98		Sholem Props. (Pty) Ltd.	1966	190 200		34 850	-	
								1969		3 802		128 500	
								1970		1 379		17 000	
								1971				330	
286	36/EX 25 A 57	8 106	29. 7. 65	16 025	1-98		Prefco (Pty) Ltd.	1966			16 350		
								1969		)		19 000	
								1970		) 2 158		46 440	
								1971		34		730	
287	36/EX 25 A 56	11 583	5. 12. 66	22 899	1-98		Atbar Properties (Pty) Ltd.				23 370	-	
								1970	)	2 701		91 060	
								1970	) 292 160			51 000	
								1971	)	5 531		124 500	
288	36/EX 25 A 61	12 391					Not Recorded						
289		17 728					Not Recorded						
289 A		1 943											
290													
291	EX 25 A 53	7 838	17. 3. 66	15 495	1-98		Bond Brick Properties	1966			15 810		
								1967(1)	33 001	2 457)		40 000	
								1967(2)		)		33 380	
							Reval.	1969		2 470	15 810	88 470	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
292	36/EX 25 A 52	26 252	4. 4. 66	51 896	1-98		Purcell Yallop & Everett	1966			52 950		
								1967(1)		) 2 890		26 000	
								1967(2)		)		44 790	
							Reval.	1969	96 460		52 960	76 500	
								1971		1 204		32 390	
293	36/EX 25 A 58	18 799	1. 8. 68	55 744	2-97		John Church Holdings	1968/71	93 045				
								1969(1)		) 3 257		30 000	
								1969		)		51 460	
								1971(2)				530	

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APPENDIX "A" EPPING 3

CONSOLIDATED VALUATION ROLL

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER		DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
301	35/EZ 25 A 3-6	64 787	25. 7. 66	128 076	1-98		Dacres Ave. Props.		1967(1)			130 761	)	
		11 740	17. 7. 67	23 029	1-98		do. do.		1967(1)	31 975		23 707	)	
		76 527					(Sedgwicks)		1968		) 24 253		400 000	
									1968		)		592 000	
								Reval.	1969			154 390	1 281 657	+ 29 %
			29. 1. 72	1 725 000	22-25	6-67	Herzberg Mullne							
302	35/EZ A 2	8 094	18. 11. 66	15 999	1-98		Dacres Ave. Props.		1967(1)	15 650		16 000		
									1968				14 240	
								Reval.	1969		664	16 330	17 570	+ 23 %
									1970		)		3 700	
									1971		)		18 200	
									1971		) 576		4 380	
											1 240			
303	35/EZ 25 A 5	8 397	8. 11. 66	16 598	1-98		Ojowi (Pty) Ltd.		1967(1)			16 600		
									1967(2)		)		30 370	
									1968(2)		) 1 450		39 870	
								Reval.	1969		1 450	16 990	88 580	+ 26 %
									1969(2)	111 350	568		15 280	
									1971(1)		1 268		61 390	
									1971(2)		1 461		13 640	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
304	35/EZ 25 A7	18 615	14. 3.68	55 201	2-97		Eian Investments (Pty) Ltd. Reval.	1967 1969 1969(2) 1970	311 925	 6 695 199	36 800 37 560	 226 930 3 700	
305	EZ 25 A 66	25 890	29.12.66	51 131	1-97		N. T. C. Steel Ltd. Reval.	1967 1969 1969(1) 1969(2)	235 000	)) 5 457	51 190 52 230	 120 000 23 470	
306	EZ 25 A1	19 902		59 018	2-97		Power Engineers (Pty) Ltd.	1966 1969 1969(2) 1971(2)	249 500	 4 885	40 150	- 80 000 66 150 280	
307	36/EZ 25 A4	32 200	1967		1-98		Denhagen Investments (Pty). Reval.	1967 1969 1970 1971(1)		 14 549	63 660 64 960	 - 336 000 141 080	
308							Consolidated with above.						
308A	36/EZ 25 A11	± 740					C. C. C. Sub-Station	1969		96		6 720	
309	36/EZ 25 A16	25 175	2. 7.68	74 681		2-97	Kalley Properties	1970/1 1971 1971(2)	341 780		25 390 - -	- 81 200 70 610 62 170	))inc.)

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
310	36/EZ 25 A13	18 862	18.12.67	55 932		2-97	Sebson Investments (Pty) Ltd.	1967 1967 1970(1)	 173 925	 4 689	32 000 19 025	- 168 900	
311	36/EZ 25 A12	113 334	26. 4.66	224 408		0-20	Bofor Properties (Pty) Ltd.	 1969 1970 1970 1971 1971	 1 764 300	 26 425	114 320	 158 000 342 000 500 000 84 180 92 240 3 520	
312	36/EZ 25 A15	18 882	22. 2.68	55 990		2-97	Projecta (Pty) Ltd.	 1971	 486 200		19 050	- 7 000	
313	36/EZ 25 A15 See 403 Plate Glass 36/EZ 25 A22	16 449	18.10.68	48 477	2-95		Plate Glass Properties (See 403)	1966 1970 1970(2) 1971			16 590		
314	36/EZ 25 A37	24 953					Vereeniging Tiles Ltd.	1969 1969(1) 1969(2) 1971	 5 765		50 340	 10 000 89 270	
315	36/EZ A36	32 422	10. 8.66		1-78		Pepsi-Cola Bottling Co. (Pty) Ltd.	1969 1970 1970(2) 1971(2)	 312 630	)) 7 302	65 410	 120 000 132 610 120	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
316	36/EZ 25 A32	12 432	28.10.66	24 577		1-98	Texall Properties	67/71	345 595	± 7 035	25 080	276 390	
317													
318	36/EZ 25 A31	20 231	23. 6.66	89 994		1-98	Leesbak Investments (Pty)	1967 1967(1) 1967(2)		8 057	40 000 40 820	 30 000 157 080 274 800	
319	36/EZ 25 A33	39 778	19. 7.66	78 631		1-98	African Containers Co. Ltd.	1970 1971	335 745	± 6 100 Inc.	78 650 80 250	 67 000 195 650	
320	36/EZ 25 A35	8 096	18.11.66				Sevasti (Pty) Ltd. Reval.	1967 1969 1970 1970(2) 1971 1971(2)		))) 4 101)	16 000 16 330	 18 000 45 070 68 010 3 220	
321	36/EZ 25 A34	8 936	29.11.66	17 665	1-98		Brukel Investments (Pty). Reval.	1967 1968 1969 1969(1) 1969(2) 1971	3 680	667 16	17 670 18 030	10 090 15 000 5 000 9 820 720	+ 48 %

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
322	36/EZ 25 A 38	8 927					Bimax Investments (Pty) Ltd.	1969 1968 1969 1970	257 800	 1 782	18 080 18 010 	 55 060	
323	36/EZ 25 A 39	8 927	13. 8. 68	48 511	5-43	-	A. Barker & Son S. A.	1969 1970 1970(2) 1971(1) 1971(2)	407 300	)) 11 651) 11	33 000 	 200 000 165 000 57 000 360	
324	36/EZ 25 A 69	18 712	19.11.68	71 486			Not Recorded.	1971(1)			Agreed 48 630	8 000	
325	36/EZ 25 A 45	17 903	10.11.67	53 090			Skiliad Enterprises	 1969(1) 1969(2)	 106 230	 2 431	36 120 	 40 000 37 670	
326	36/EZ 25 A 46	8 351	1. 3.68	24 763	2-97		Isobar (Edms) Bpk.	 1971	 159 455	 710 ± 116	16 850 	 29 720 4 010 1 000	 inc. inc.
327	36/EZ 25 A 71	12 138	29. 6.67	60 875	2-97		Cadema Properties C. C. C.	1967 1970	 198 460	 	 16 850	 147 560	
328	36/EZ 25 A 41	20 234	29. 6.67	59 998	2-97		Venus Clothing Reval.	70/71 1967 1969 1970 1971(1)	367 980 	 6 563	 40 000 40 820 	 65 000 160 870	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
329	36/EZ 25 A 48	16 187	26.10.67	48 000	2-97		H. M. S. Distributors	1970 1966 1970 1971 1972	570 000	 ± 650 180 ± 3 360 ± 760 4 950	A.V. 38 660	 28 000 135 590 40 520	
330	36/EZ 25 A 44	8 094	28. 9.67	24 001	2-97		Arora Drinks & Foods (Pty)	1968 1969 1969(1) 1969(2) 1970	57 500	 1 984 57	16 330	 30 000 33 160 430	
331	36/EZ 25 A 43	1 748					Ault & Wiborg Co.	1969 1969(1) 1969(2) 1971(1)	41 508	 ± 140 ± 130 ± 20 ± 570 ± 860	A.V. 35 270	 6 000 5 660 1 150 22 820	
332	36/EZ 25 A 47						C. C. C. Sub-Station			98		6 870	
333	36/EZ 25 A 4	8 094	28. 9.67	24 000	2-97		Casma Mfcr. & Co.	1966 1970 1971(1)	288 940	 3 856	16 330	 90 000 69 960	
334	36/EZ 25 A 50	10 236	3. 4.67	53 090	5-19		Barlows Mfcr. Props.	 1970 1971(1)	145 110	 2 963	32 120 37 120	 50 000 65 910	
335	36/EZ 25 A 54	18 020	18.12.69	53 438	2-99		Berktatsil (Pty) Ltd.		-	± 1 440 incompl.	18 170	62 000 inc.	

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APPENDIX "A" EPPING 4

CONSOLIDATED VALUATION ROLL

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V. LAND	M. V. BLDGS	% INCREASE M. V. BLDGS
401	EAA 25 67	26 412					P.O.S.	1966			26 640		
402	EAA 25 A 61	6 959					C.C.C.	1966			7 020		
403	EZ 25 A 22 (See 313 36/EZ 25 A 22)	82 878	20.10.68	163 840	1-98		Plate Glass Properties	1970 1970 1971		6 466 13 520 9 548	A.V. 83 600	1 026 680	
404	EZ 25 A 23	32 375	23.12.65	64 800	1-98		Conlew Properties	1969 1971 1971		 ± 1 400	32 660 32 660	 8 790 7 600 59 990	
405	EZ 25 A 25	8 094	25. 6.69	24 000	2-97		Vehicle Body Building (Pty) Ltd.	1971(2)		± 230 incompl.	8 160	10 000	
406	EZ 25 A 24	9 309	9. 4.68	27 603	2-97		Laymond Investments				9 390		
407	36/EZ 25 A 21	47 151	1969		2-97		Frye Starck				45 660		

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
408	36/EAA25A2	49 641	3. 4.68	147 200			Metal Box Co. of S.A.	1969 1970(2) 1971(1) 1971(1) 1971(2)		± 19 530	50 070 100 270	 112 000 298 700 325 660 736 360 104 530	 inc. inc. inc. Total
409	36/EAA25A3	24 281					Hillman Investments	1971(2)		± 5 140	24 490 49 050 49 050	 115 000 221 320	 inc.
410	36/EAA25A7	41 741					Mewa Manufacturing						See 408
411	36/EAA25A5	±12 193	9.11.67	35 999			Cape Mountain Holdings				24 520	-	
412	36/EAA25A4	14 835	25.10.68	43 990			William De Vries (Pty). Vribuild Investments (Pty) Ltd.	1969 1971 1971(2)		42 603	14 950 29 940 29 940	 36 100 100 810	 inc.
413	36/EAA25A6	19 770					Lastonet (Pty) Ltd.				19 940 A.V.	-	
414							P.O.S. (Erf 101503) Public Place						

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
415	36/EAA25A	10 245					W.S. Thomas-Taylor						
416	36/EAA25A16 - 20	84 373					P.O.S.	1966			85 110		
417	36/EAA25A13	12 370	10. 6.68	36 680	2-97		Mastertreads				24 740	-	
418	36/EAA25A12	16 187	15.11.67	48 000	2-97		Maxmore Investments (Pty) Ltd.	1969 1971 1971(1) 1972(2)	 571 000 74 000 645 000	± 6 690	16 320 32 690 32 690	 20 000 87 590 250 870	
419	36/EAA25A14	32 378	24. 8.68	96 001	2-97		Stanley Porter	1969			43 910 A.V. 65 660	 -	
420	36/EAA25A11 Erf. 102571	20 060	29. 1.68	60 000			Gresmac Investments (Pty) Ltd.	 1971(1)	130 050		20 400 40 870	 102 000 inc.	
421	36/EAA25A54	18 022					Not Recorded.						
422	36/EA 25A72	±11 000					Not Recorded.						
423	36/EZ25A51	8 093	7. 5.68	24 000	2-97		Langman Investments (Pty) Ltd.	1969 1969(1) 1969(2)		1 903	8 160	 40 000 16 800	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
424	36/EAA 25 A 53	10 549	9. 4. 68	31 550	2-99		Not Recorded						
425 & 428	36/EZ 25 A 62	59 070	2. 11. 68	173 583	2-94		Dickinson Robinson (Pty).	1969 1970(2) 1971(1) 1971(2)		1 208 8 12 843	59 150	56 410 219 310 208 690	
426	36/EAA 25 A 64	27 392					P. O. S.						
427	36/EAA 25 A 63	6 941					P. O. S.						
429	36/EZ 25 A 65	8 094	16. 4. 68	23 999	2-97		Coastguard (Pty) Ltd.	1969 1971(2)		±1 616	8 160 65 290	69 590	inc.
430	36/EZ 25 A 68	14 488	25. 10. 68	42 961	2-97		Wonspec (Pty) Ltd.	1970(2) 1971(1)		10 169	14 610	80 500 273 590	
431	36/EZ 25 A 52	45 367					Vacant						
432	36/EAA 25 A 32	8 094	26. 9. 68	23 999	2-97		Ian Dickie Holdings (Pty).	1971 1971(2)	62 050	2 364	16 350	7 010 53 820	

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
433	36/EAA25A26	10 683	March '72	193 000			Hewett Ave. Props. (Pty). (Cerebos) Barlows (D.P. Sale)	1969 1971 1971		1 862	1 080 21 580	52 000 6 820	
434	36/EAA25A29	8 094	23. 8. 68	24 000	2-97		Myer Goldberg (Pty) Ltd.	1969 1971		±2 830	16 350	42 630 87 290	
435	36/EAA25A30	7 538	3. 9. 68	22 353	2-97		Halliday Properties (Pty) Ltd.	70/71 1969 1971 1971(1) 1971(2)	109 380	1 641	7 600 15 230	35 000 34 430	
436 & 437	36/EAA25A28	73 655	9.11.67	218 406	2-97		Herzberg Mullne			10 669	74 240 148 780	143 090 166 930	
438	36/EAA25A36	8 095					Gypsum Industries	1971(1)	62 655	± 500	8 160 16 350	20 000	
439	36/EAA25A41	8 094	12.12.67	24 000	2-97		S. A. Uitgerawins Maatskappy S. A. V. M.			915	16 350	23 000 5 610	
440							Not Recorded.						

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REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m^2	M.V. LAND	M.V. BLDGS	% INCREASE M.V. BLDGS
441	36/EEA25A40	8 094	12. 3.68	24 000	2-97		Ciba-Geigy (Pty) Ltd.						
442	36/EAA25A34	9 410	6. 5.68	27 905	2-97		Shell Reg. (Pty) Ltd.	1971	60 000	1 668	9 490 19 010	49 530	
443	36/EAA25A25	8 075	15.11.71	137 000			Randhof (Pty) Ltd.				16 440	-	
444	36/EAA25A22	7 729	20. 6.68	22 919	2-97		Corobin Properties	1969 1971 1971(1) 1971(2)	3 280	5 813	7 690 15 630	104 020 61 260 192 600	inc. inc.
445	36/EAA25A42 21 & 22	7 730	24. 7.68	22 927	2-97		Derkan Investments	1971	68 000	1 415 A.V.	7 800	38 060	
446	36/EAA25A39 Erf. 101358	±8 094					Matsambern (Pty) Ltd.			±2 500	16 350	100 000	
447	36/EAA25A33	8 094	26. 9.68				Universal Lighting	1969 1971(1)		±1 240	8 160 16 350	inc. 50 000	
448	36/EAA25A21	±4 500					B. H. J. Investments	1970 1971(1)		5 110		37 000 112 000	

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EPPING 4 (CONTD)

REF. NO.	MAP REFERENCE	AREA m^2	DATE PURCHASED	PURCHASE PRICE	RATE m^2	ADJ. RATE m^2	OWNER	DATE IMPs	COST OF IMPs	BLDGS ARE A m^2	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
449	36/EAA 25 A 24 Erf. 103619	4 047	18.10.62	12 000			Brenton Investments	1969 1971(1)	7 250	630	4 080 8 170	27 050	inc.
450	36/EAA 25 A 38	±4 047					Marita (Pty) Ltd.				8 170	-	
451	36/EAA 25 A 23	4 047	26. 9.68	11 999			Bernal Investments	1969 1971(1) 1971(1)	2 020	 1 313	4 080 8 170	 20 220 21 430	inc.
452							Vacant						
453	36/EAA 25 A 27	± 248					C. C. C.						
454	36/EAA 25 A 1	± 347					C. C. C.						

APPENDIX 'B'

SYNOPSIS OF THESIS

This is an entirely independent thesis, except for those to whom acknowledgement is due, for had it not been so, it would have defeated the objectives of the hypothesis "THAT THE VALUATION ROLL OF A LOCAL AUTHORITY NORMALLY CONTAINS THE BASIC INFORMATION FOR THE CONSTRUCTION OF AN URBAN GROWTH MODEL".

No authoritative references are therefore given or quoted except for references, after the preliminary introduction to the thesis, to an actual Municipal Valuation Certificate and the collated and Consolidated Valuation Roll Appendix 'A', which is derived from the skill of Valuation Officers and their Assistants acting with the Authority of the Provincial Administration.

It has long been of concern to me from professional practice in several countries that the excellent records of urban assets contained in Valuation Offices are continuously in use as 'reference libraries' to gain information about specific properties, but rarely, except when a new General or Interim Valuation Roll is being compiled, is the information available used collectively to examine the Urban Form.

A Valuation Roll is a statement of fact established at a point of time and whilst opinions as to whether the valuations therein are equitable or not may be settled by Valuation Courts or Assessment Committees, what a wonderful store of factual information is available to the Urban Planner, to the Land Economist and others concerned with the urban fabric. It could be said that REAL or FIXED PROPERTY comprising land and buildings is the PRIMARY UNIT of the urban structure and that all other relationships within the fixed fabric are SECONDARY and terminable. Even the fixed fabric changes its appearance with the passage of time, but the Valuation Roll makes constant adjustments to take cognisance of the changes - the basic information it contains is invaluable !

Clearly, as properties must be accurately referenced for Rating purposes, the valuation record will contain a description of the property, its general use and its size apart from the value attributed to it at a point of time. If size for both land and buildings is known, as the crudest element of examination, then one can determine to what extent land is being utilised. That Epping was selected as an area for examination for the purposes of this thesis, is frankly not of importance so far as conception of the Growth Model is concerned.

APPENDIX 'B'

SYNOPSIS OF THESIS

(CONTD)

Tables 1. 1 - 15 pages 1 - 30 and explanatory notes deal with plot utilisation in grouped size frequencies and the 'bulk equivalent/coverage factor' is a device to measure realistically how the industriallist plans space utilisation - given a 'fairly free hand' in this instance. By establishing a 'mode characteristic' of desirable utilisation, the amount of land 'wasted' can be accurately calculated.

As the likelihood is that particular industries would reflect different characteristics, the information tabled in Series 1. 1-15 was translated into 'USE TYPES' tabled in Series 2. 1 - 24 pages 31 - 58 inclusive, re-scanned and summarised with commentary on Pages 59 to 61. The patterns established were definitive and could therefore be transferred into the Growth Model - explanatory notes on Pages 62 - 67.

It is believed that the method of rational anticipation of spatial growth suggested concomitant with the investment growth, which must accompany it, is valid to the Model, WHICH IS SUBSTANTIALLY BASED ON FACT.

ROY HORRELL