AN INVESTIGATION INTO THE POSSIBILITY OF ESTABLISHING A BUILDING INDEX FOR BOTSWANA

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Without cost information, project planning is difficult for clients just as pricing of tenders is difficult for construction firms. No agency or organisation in Botswana has endeavoured to collect, compile and analyse construction data with a view to establish a cost/price database and a subsequent building index. This paper reports an investigation into the possibility of establishing a building index and a related cost database of building items. It is based on previous studies in Botswana, which indicated that no such information exists anywhere in the public domain and many firms have a tough time during the planning of projects and pricing of project tenders. By producing a price database of common building and a building index the study shows the possibility of establishing a fully-fledged data bank for both items. Recommendations are made on how to improve the current situation and the results of the study.

1 INTRODUCTION

The gathering, analysis and use of cost or price information are a very important aspect of all sectors of the construction industry including its clients. Without data, clients cannot plan for projects nor decide on a competitive bid. Contractors cannot also successfully tender for jobs, just as budgeting and cost control may become a nightmare for them.

The above situation prompted this study. A contractor who had just started a construction firm wanted cost information to tender for a construction job. The entrepreneur approached the authors for the possibility of providing or locating possible sources of data in order to price his tender. No organisation in the country, including the Central Statistical Organisation (CSO) had such data. The older firms would not divulge their cost information, as the new firm was a competitor. The entrepreneur was left stranded with no cost data! Similarly, many clients of the, face similar difficulties when they are planning for their projects.

This background story is a classical case of a situation whereby if a firm does not have data, its survival, let alone success, is in jeopardy. A firm without information is like a car that has no lights cruising on a dark road. Information and for that matter, cost information, is a crucial ingredient in making key decisions, such as, pricing and costing.

Therefore, this study was a response to an information gap experienced by both clients and contractors in establishing building prices However, before discussing the results of the study, distinguishing the terms, cost and price data and consequently building index, is important.

2 BUILDING PRICES AND INDICES

2.1 Building Costs and Prices

Building costs (or factor costs) are incurred by contractors in the course of offering their services and may include labour, materials, plant and overheads.

Building prices are prices offered to clients by a contractors to erect building structures. The prices inevitably include building costs (as defined above) and a profit for the contractor. They also, take into account other conditions like [1], [2]

(i) market conditions prevalent at the time of the tender, in terms of whether it is boom or bust,
(ii) type of project,
(iii) location of project, particularly in relation to accessibility of resources and the topology of the site,
(iv) intensity of competition on the project,
(v) project duration in relation to the need to cater for inflation,
(vi) the need to cater for up-front cashflow and the desire to front load the first payments
(vii) type of client, in case of a large client, the prices may be bloated.
(viii) size and hence the value of the project-normally large projects have thin profit margins as compared to smaller projects

The data used in this study is based on building prices and not on building costs. The reason for the choice is explained later in the methodology section.

2.2 Building Index

A building index (BI) measures the price movement of building elements over time. The building elements are a group of related products, which economists may call 'a basket of goods' [3]. The basket of goods concept is used to define inflation or the cost of living index by measuring the price movements of commonly consumed household goods - the basket of consumer goods. Like the retail price index (RPI), which measures price movements of commonly consumed household goods, the BI measures price movements of commonly used building elements.

2.3 Types of Indices

There are basically three broad types of indices related to construction namely output, cost and price indices.

Output indices are used to deflate value-added construction output from current prices to constant prices (based on a base year). They are used in official statistics to provide information on the changes on the construction sector's output, in real terms [4].

Building cost and price indices refer to indices constructed out of building costs and prices as already defined above. Both are a convenient way of representing times series to demonstrate relative, proportional changes from the base [5].

The output indices are useful to the macro economic studies while the cost and price indices are more relevant to the construction industry as discussed below.

2.4 Use of Building Indices

A building price index is useful to many stakeholders in the construction industry including contractors, consultants (architects, quantity surveyors and consulting engineers), planners in government departments and other clients. Some of the uses of indices are [6]:

i) Cost planning - a client who wishes to pursue a project similar to one already constructed may use indices to estimate the likely future price per square metre (or some other cost planning unit). It is the index that will link the past and the future prices or expenditures in terms of time.
ii) Establishing the price level of individual tenders,
iii) Pricing- BoQ's may be priced using indices to adjust rates of individual items due to difference in time,
iv) Variation of price clauses - where there is a contractual allowance to vary the prices, then indices become a handy tool in adjusting the prices.
v) Related to above, the indices allow the client to adjust cashflow projections in order to plan for periodic payments,
vi) Forecasting in general as in (i) and (iv) above.
vii) Contractors may use indices to calculate the time value of money on staggered progressive payments.
viii) For those starting a construction business without historic data, indices may be the first 'data stop over'. However, some adjustment has to be done to skim off the profit element on the rates derived from the BI. This, of course, is due to the fact that costs are normally less than building prices. However, care must be taken as Fleming [4] noted that building costs rise faster than building prices in periods of depressions and vice versa .

3 DEVELOPING A BUIDLING INDEX

Before a building index is developed there are few considerations that need to be made which include the use for which the index is being developed, choice of the base year, choice of items and choice of weights. Also, the choice has to be made as to the most suitable method of constructing an index, between Laspeyres and Paache index

3.1 Factors considered in developing an index

The purpose for which the index is developed is clearly seen from what was described as building costs and prices. One measures the movement of costs to the contractor while the other measures the price the client has to pay for the services of the contractor. (However, the words are normally used interchangeably mainly to refer to the fact that the price offered by the contractor is a cost to the client).

The base year should be as near as possible to current year so that index maintains its relevancy. Secondly, the period from which the index is constructed, should be relatively stable such that there is no extraordinary fluctuation of prices or activity to distort the index.

The basket of items should be based on how frequently items are used in building projects. A group of 30 to 50 items may be an adequate number to constitute a basket of items [2],[3]. Another way of deciding on the number of items is to use Pareto's principle (20/80) where 20 items that constitute 80% of the total value of a bill are selected.

Just using 'frequency of use' without weighting the items to show their relative importance in terms of expenditure level (quantity times price) would give a distorted result. Therefore, the choice of, and inclusion of weights is equally important in the construction of an index.

3.2 Forms of Indices

Building indices can be arrived at in a variety of ways but there are two common ways namely, using Laspeyres' or Paasche's method.

Laspeyres weighted aggregate index involves using weights based on the base period as given in Equation 1

$$Laspeyres = \frac{\sum X_{it} W_{io}}{\sum X_{io} W_{io}} \text{ ....Equation 1}$$

where subscripts $_{i=1..n}$, is the number of items in the basket, $_o$ and $_t$ represent the base period and the current period under review, respectively. X_{io} and X_{it}, denote a set of prices for different building items at the base period and the subsequent periods, respectively. W_{io} denotes a set of weights appropriate to each selected item in the base period. $\sum XW$ is the expenditure on a particular item.

Paasche weighted aggregate index involves using weights appropriate to the current period as given in Equation 2.

$$Paasche = \frac{\sum X_{it} W_{it}}{\sum X_{io} W_{it}} \text{ ....Equation 2}$$

where subscripts $_{i,\ o,\ t}$, X_{io} and X_{it} carry the same meaning as in Equation 1. W_{it} denotes a set of weights appropriate to each selected item in the period under review.

While a full discussion of the theory of Laspeyres and Paasche indices may be found in a number of textbooks, such as those by Ashworth, Fleming and Fellows [1],[4],[5], there is one important observation to make on the two methods.

Paasche's index requires calculating new weights every year, which is laborious. However, it may be an advantage in that should there be new materials, designs or methods of construction or a change in weights of items, the change would be incorporated in the index. Laspeyres index may be easy to manage in that weights are calculated once, in the base year, but may not reflect contemporary changes in the building process.

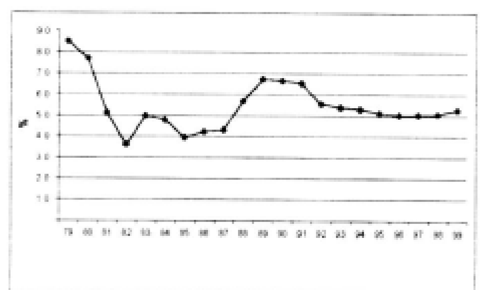
This study is however, centred on Laspeyres method to construct a building index.

4 METHODOLOGY

A number of decisions were made relating to the period of study, number of BOQ's and the number of building items to include in the study.

4.1 Period of study

The period of study was taken as 1995-99. The reason being, firstly, that the period saw the construction industry in Botswana stabilise from the 1987-92 boom and the 1992-94 bust. The graph in Figure 1 shows the construction GDP ratio for the last two decades. It illustrates the performance of the construction industry between 1979 and 1999. The graph also shows that the GDP ratio stabilised around the 5.0% mark during the study period of 1995-99. Therefore, the indices obtained during this period were not unduly influenced by extreme cycles in the construction industry.



(Source: [7])

Figure 1 Construction Sector's GDP ratio

Another reason for taking the 1995-99 period is the completeness of the data from the BoQ's. It was difficult to find BoQ's with complete data for years before 1995. Furthermore, recent data is more relevant to the practical use of a building index than past data.

4.2 Bills of Quantities and Building Items

In order to get reasonably consistent BoQ's over the period of study, the Department of Architecture and Building Services (DABS) was taken as the source of data. DABS is a Government department charged with the overseeing of the design and supervision of public sector building projects (in form of schools, police and prison facilities, courts clinics, hospitals and other social buildings - military and local authority projects are not are not the jurisdiction of DABS). The other point considered was that the government is the biggest client of the construction industry providing over 80% by value of the construction jobs. Therefore, its weight in the prices needs to be recognised. The down side, is that sometimes contractors may under price projects in order to get government projects or may overprice having the perception that the government is a 'rich' client. Whichever view may distort the prices artificially.

BoQ's of winning tenders were scrutinised at DABS. It is assumed that the winning tenders represented the 'correct' prices of items at the time. However, the 'correct price', may be distorted by the government's 2.5% preference scheme. The price preference scheme is a preferential policy used in the evaluation of tenders for public building projects. It is aimed at favouring citizen contractors, with a strategic aim of increasing their capacity and experience in construction business. It presupposes that a citizen contractor's tender price may be accepted even if it is 2.5% above the lowest foreign contactor's tender [8], [9]. Inevitably, this will increase the prices.

In each of study of study it was found out that the BoQ's ranged from 10 to 24. In order to standardise the data for each year, only 10 (ten) BoQ's were selected and 30 (thirty) building items were considered. The list of the 30 items is given in Table 1 (presented after the references). The list is made of up of a typical list of building items such as, earth works, concrete, reinforcement, brickwork, plastering, sundries to brickwork, painting, water proofing, skirting, formwork, expansion joints, carpentry and joinery and metal work. The approach of using Pareto's (20/80) principle was not used, as it is more appropriate if Paasche's method were to be used [10].

It is also important to note that the list mentioned above did not include preliminaries, which may vary in extent from project to project.

5 RESULTS

Rates and quantities were compiled for the 30 selected items from the 10 BoQ's for the years 1995-99. The data appears in Table 2 (Item 1 -30). Two indices were then calculated (those of individual selected items and an overall building index) as follows.

5.1 Price Database and the Index of items

The individual indices are arrived at, purposely, in two steps, which is equivalent to using Equation 1. Firstly, the prices from each bill are multiplied by the respective quantity to obtain the expenditure of each item in the bill. The weighted average price (w. a. p) is obtained using the formula in Equation 3.

$$w.a.p \quad \frac{\sum WX}{\sum W} \quad \text{.................... Equation 3}$$

W is the quantity of the item in the bill and provides the weighting and X is the price of the item in the bill. $\sum WX$ is sum of the expenditure and $\sum W$ is the sum of the weights. Therefore, in 1995, the weighted average price for Item 1 was P7.96 This computation appears in Table 2. All other items are calculated similarly and for all the years, 1995-99. The compilation is presented in Table 3, which constitutes the study's price database.

Dividing the respective weighted average price for each year by the base prices for each item, individual indices of the selected items are obtained. The resulting indices appear in Table 4.

Although, the reasons for the differential movements of indices are beyond the scope of this paper, it may be noted:

i) Item 30 has the lowest index reaching 149.19 indicating that the item's price changed on average by 49% in the five years.

ii) Item 12 has highest index reaching 261.24%, with the item's average price changing by an average of 161% in the five years.

iii) As a group, Items 7-12 (reinforcement) have the highest indices and these are mainly imported items.

5.2 Building index

From the data already compiled, a building index is constructed by finding the weights of the individual items in base year of 1995, after which they are multiplied by individual indices.

The latter is already available in Table 4. The former is constructed in two stages. Firstly, the total annual value of the quantities of each item in the ten bills is compiled from Table 2. Secondly, the annual sum of the expenditures of all the items is calculated and is given in Table 5. The total expenditure on the 30 items in 1995 is P6 107 594.19. Next, the weights are calculated by simply dividing the value of each item by the total annual expenditure. For Item 1, for example, whose total expenditure in 1995 is P28 211.52 has a weight of 0.462%. The rest of the items are calculated similarly and appear in Table 5.

From the weights and the individual indices calculated earlier (Table 4 and 5), the BI is calculated using a similar formula to that given in Equation 1 but modified as:

$$B.I = \frac{\sum WI}{\sum W} \quad \text{................ Equation 4}$$

W is the weight of the individual item in the base year, I is the individual indices of the item over the years, 1995-99. Therefore, $\sum WI$ is sum of the product of weights and the indices and $\sum W$ is the sum of the weights of the base year.

The overall BI for the years 1995-99, is calculated, to the nearest whole number, and appears in Table 6 and reproduced in Table 7, below. The base year, 1995, is given Index 100.

Table 7 Building Index

Year	'95	'96	'97	'98	'99
Interval	1	2	3	4	5
BI	100	113	135	146	165

5.3 Forecasting Using the BI

One of the possible uses of a BI is to forecast the future movement of building prices. A forecasting model may be obtained using a statistical technique of a time series. As name implies, the BI is modelled as a function of time. Various models are possible, including linear ($y= a+bx$), power ($y=ab^x$), exponential ($y=ae^x$), logarithmic ($y=a+b\log_e x$) and polynomial ($y=a+bx+cx^2$), where y is the BI, x is the time interval from the base year, *a*, *b* and *c* are constants.

MS Excel software was used to plot a scatter graph using results in Table 7. However, in order to model a logarithmic and power function, a small adjustment had to be made to avoid log of zero, which is infinity. The base year, 1995, had to be assigned interval 1 instead of 0.

After plotting the scatter graph, trend lines, were fitted. The best model is the one, which gives the highest coefficient of determination (R^2). The coefficient of determination, determines the proportion of variation explained by the line. The complement probability or percentage is due to random or residual factors. Should two models have the approximately the same R^2 value, a simpler model is selected [11].

The results are as follows (see also Figure 2):

i) Linear: $y=82.626+16.411x$ and $R^2=0.9909$
ii) Logarithmic: $93.951+39.59\log_e x$ and $R^2 = 0.9317$
iii) Exponential: $y=88.785.0e^{0.1265x}$ and
iv) $R^2=0.9874$
v) Polynomial: $y=83.657+15.527x+0.1473x^2$ and $R^2=0.991$
vi) Power: $y=96.442x^{0.3102}$ and $R^2= 0.959$

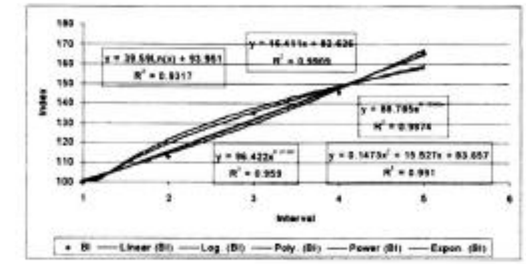


Figure 2 BI Models

The polynomial model has the highest R^2 value, of 0.991, followed by linear, exponential, power and logarithmic with R^2 values of 0.9909, 0.9874, 0.959 and 0.9317, respectively. Despite the accuracy of the polynomial model as judged by its R^2 value, the linear model was chosen because of its simplicity. The model is given in Equation 5 and the resultant linear model is illustrated in Figure 3.

$$BI= 82.626+ 16.411x \quad \text{.................... Equation 5}$$

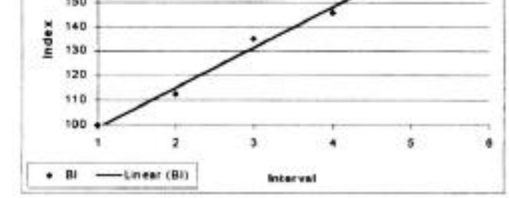


Figure 3 Linear model of BI

Substituting 6 for x in Equation 5, we obtain the 2000 index as 181. The same could be done for subsequent intervals representing future periods.

5.4 Accuracy of the BI

Apart form the factors already mentioned, such as the appropriateness of the choice of the base period, selection of weights and selection of items, there are other factors that may affect the accuracy of a building index. The first being the unique nature of construction jobs. No two construction jobs are the same, whereas the index has a basic premise that prices on similar items, on similar projects, should be the same. If they are not, then they are separated by time for which the index is the link. New construction jobs, for which indices are supposed to be applied, vary considerably in location, size, design, client, specification, site conditions, complexity and methods of construction [12], [13], [14]. Furthermore, there was no differentiation between single storeyed and multi-storeyed buildings during the compilation of the price data from the BoQ's

6 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study has underscored the need for price data and the associated indices as way of aiding various stakeholders of the construction industry.
Both sets of information are necessary, in order to enhance the performance of stakeholders in the construction industry. However, this study has provided a starting point in providing price data of selected items (Table 3) and a building index (Table 7).

6.2 Recommendations

Several issues arose during the study that could not be solved given the scope of the study. The following aspects could be investigated further:

(i) To strengthen validity and reliability of the price data and the building index the study needs to be carried out on a wider scale to include parastatal organisations, particularly Botswana Housing Corporation (BHC), local authorities and private sector clients.

(ii) The value of the index would be significantly improved if it is updated at least three times a year.

(iii) To attain (i) and (ii) above more resources (human, finance and time) need to be made available.

(iv) Most firms, which have price data, consider the information sensitive and hence may not be willing to participate in the study. It will be important to bring them on board by educating them on the importance of such information to their firms and the industry as a whole.

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Table 1: LIST OF SELECTED ITEM FROM THE BILLS OF QUANTITIES

ITEM	Item No.	Item Description
Earth Works	1	Excavate in earth not exceeding 2 m deep for trenches and holes
	2	Risk of collapse to the vertical sides of excavations for trenches and holes exceeding 1.5 m deep from the ground level
Concrete	3	Provide cube moulds and cast a set of three 150X150X150 mm concrete test cubes
	4	50mm thick surface blinding underfootings and bases
	5	Vibrated reinforced concrete (class 30/20) cast against excavated
	6	Vibratgd reinforced concrete (class 30/20) in thickening
Reinforcement	7	Welded square mesh fabric reinforcement , ref 193 laid in concrete surface bed or apron slab with minimum of 300 laps
	8	8 mm diameter plain mild steel bar reinforcement
	9	10 mm diameter plain mild steel bar reinforcement
	10	10 mm high tensile steel bar reinforcement
	11	12 mm diameter plain mild steel bar reinforcement
	12	20 mm high tensile steel bar reinforcement
Brickwork	13	Piers (brick work in concrete or burnt clay bricks having a minimum compressive strength of 10 Mpa)
	14	Half brick wall (brick work in concrete or burnt clay bricks having a minimum compressive strength of 10 Mpa)
Plastering	15	One brick wall
	16	15 mm thick one coat plaster with steel trowled finish walls
	17	Cement and sand (1:3) steel trowled smooth 40 mm thick floors and landings
Sundries to brick work	18	Steel wire brick reinforcing fabric 75 mm wide built in horizontally
Painting	19	Prepare and apply one coat of alkali resisting primer and two coats of acrylic PVA emulsion paint on soffit and beams
	20	Prepare and apply one coat of acrylic filler coat and two coats of acrylic PVA emulsion paint on walls
Water Proofing	21	375 microns thick polyethylene emboses damp proof course
	22	375 microns thick polyethylene emboses damp proof sheeting
Skirting	23	19 X 75 mm angle rounded skirting secured to walls
Formwork	24	Formwork including propping not exceeding 3.5m high to sides of strip footing not exceeding 300 mm high
	25	Formwork including propping not exceeding 3.5m high to sides of walls and beams including soft over openings
Expansion Joints	26	12mm thick soft board in expansion joint 150 mm high between brickwork and concrete
	27	12mm thick soft board joint 230 mm wide between brickwork and concrete
Capentery and Joinery	28	43 mm thick semi-solid core flush door 813 x 2032 mm with exterior quality masonite both sides
Metal Work	29	Double rebated pressed steel door linings in half brick wall to suit 43 mm thick doors - 813 x 2032mm high
	30	Double rebated pressed steel door linings in half brick wall to suit 43 mm thick doors - 813 x 2032mm high with fixed fanlight over

Table 2 Quantities and Price Data for Selected Items (1-30)

(The authors are grateful to DABS for allowing them access to their records.)

Table 2 Item 1

Bill No	1995 Rate (x) (P)	1995 Qty (W) m3	XW	1996 Rate (x) (P)	1996 Qty (W) m3	XW	1997 Rate (x) (P)	1997 Qty (W) m3	XW	1998 Rate (x) (P)	1998 Qty (W) m3	XW	1999 Rate (x) (P)	1999 Qty (W) m3	XW
1	8.57	131	1,122.67	10.00	120	1,200.00	9.50	656	6,232.00	11.22	783	8,785.26	12.97	340	4,409.80
2	7.57	410	3,103.70	9.00	315	2,835.00	13.71	3096	42,446.16	10.22	679	6,939.38	11.97	56	670.32
3	13.95	27	376.65	15.38	391	6,013.58	15.00	171	2,565.00	16.60	789	13,097.40	18.35	978	17,946.30
4	7.07	320	2,262.40	8.50	115	977.50	8.15	278	2,265.70	9.72	900	8,748.00	11.47	1210	13,878.70
5	6.36	175	1,113.00	7.79	100	779.00	7.20	581	4,183.20	10.15	532	5,399.80	10.76	927	9,974.52
6	8.59	320	2,748.80	10.02	320	3,206.40	10.25	726	7,441.50	11.24	897	10,082.28	12.99	849	11,028.51
7	9.72	713	6,930.36	11.15	410	4,571.50	11.03	957	10,555.71	13.37	542	7,246.54	14.12	770	10,872.40
8	7.27	810	5,888.70	8.70	95	826.50	7.15	275	1,966.25	9.92	665	6,596.80	11.67	573	6,677.24
9	7.25	510	3,697.50	8.68	102	885.36	9.20	1028	9,457.60	11.70	900	10,530.00	11.65	997	11,615.05
10	7.62	127	967.74	9.05	98	886.90	9.78	996	9,740.88	10.27	1055	10,834.85	12.02	1883	22,633.66
Total		3,543	28,211.53		2066	22,381.74		8760	96,854.00		7741	88,260.31		8502	109,704.50
Weighted Average			7.96			10.74			11.05			11.40			12.78

Table 2 Item 2

Bill No	1995 Rate (x) (P)	1995 Qty (W) m2	XW	1996 Rate (x) (P)	1996 Qty (W) m2	XW	1997 Rate (x) (P)	1997 Qty (W) m2	XW	1998 Rate (x) (P)	1998 Qty (W) m2	XW	1999 Rate (x) (P)	1999 Qty (W) m2	XW
1	0.36	102	36.72	0.50	241	120.50	0.63	244	153.72	0.95	4063	3,859.85	1.56	4162	6,492.72
2	1.02	97	98.94	1.16	622	721.52	1.29	5724	7,383.96	1.61	729	1,173.69	1.89	379	716.31
3	1.06	210	222.60	1.20	300	360.00	1.33	80	106.40	1.65	641	1,057.65	1.60	457	731.20
4	1.56	86	134.16	1.70	225	382.50	1.83	73	133.59	2.15	92	197.80	2.05	561	1,150.05
5	0.96	58	55.68	1.15	195	224.25	1.23	95	116.85	1.55	103	159.65	1.30	778	1,213.68
6	0.91	72	65.52	1.05	105	110.25	1.18	310	365.80	2.80	254	711.20	2.11	625	1,318.75
7	0.61	63	38.43	0.75	215	161.25	0.88	457	402.16	1.97	105	206.85	1.81	103	186.43
8	1.01	103	104.03	1.15	308	354.20	1.28	98	125.44	1.60	87	139.20	1.88	21	39.48
9	0.46	51	23.46	0.60	217	130.20	0.73	617	450.41	1.65	96	158.40	1.66	78	129.48
10	0.37	78	28.86	0.51	318	162.18	0.64	85	54.40	0.96	123	118.08	1.57	192	301.44
Total		920	808.40		2756	2,728.10		7783	9,291.73		6293	7,782.37		7336	12,279.54
Weighted			0.88			0.99			1.19			1.24			1.67

Table 2 Item 3

Bill No	1995 Rate (x) (P)	1995 Qty (W) Sets	XW	1996 Rate (x) (P)	1996 Qty (W) Sets	XW	1997 Rate (x) (P)	1997 Qty (W) Sets	XW	1998 Rate (x) (P)	1998 Qty (W) Sets	XW	1999 Rate (x) Sets	1999 Qty (W) m2	XW
1	30.71	10	307.10	33.33	2	66.66	42.98	15	644.70	42.32	20	846.40	49.65	15	744.75
2	34.63	6	207.78	37.25	2	74.50	40.10	15	601.50	42.35	12	508.20	49.89	17	848.13
3	34.11	4	136.44	36.73	10	367.30	43.80	30	1,314.00	51.96	8	415.68	48.97	12	587.64
4	31.93	8	255.44	34.55	11	380.05	35.72	15	535.80	45.90	15	688.50	51.45	6	308.70
5	32.48	15	487.20	35.10	2	70.20	45.70	20	914.00	45.60	10	456.00	47.90	15	718.50
6	33.53	12	402.36	36.15	4	144.60	45.40	10	454.00	49.70	9	447.30	45.70	20	914.00
7	33.58	14	470.12	36.20	3	108.60	43.57	15	653.55	43.89	12	526.68	53.55	15	803.25
8	30.48	15	457.20	33.10	5	165.50	43.67	12	524.04	47.68	15	715.20	48.88	12	586.56
9	31.08	10	310.80	33.70	2	67.40	45.87	9	412.83	46.85	9	421.65	52.76	6	316.56
10	31.53	15	472.95	34.15	3	102.45	39.67	15	595.05	53.64	12	643.68	48.98	15	734.70
Total		109	3,507.39		44	1,547.26		156	6,649.47		122	5,669.29		133	6,562.91
Weighted Average			32.18			35.17			42.62			46.47			49.35

Table 2 Item 4

Bill No	1995 Rate (x) (P)	1995 Qty (W) m3	XW	1996 Rate (x) (P)	1996 Qty (W) m3	XW	1997 Rate (x) (P)	1997 Qty (W) m3	XW	1998 Rate (x) (P)	1998 Qty (W) m3	XW	1999 Rate (x) (P)	1999 Qty (W) m3	XW
1	231.55	102	23,618.10	275.89	2	551.78	345.90	27	9,339.30	315.34	210	66,221.40	327.96	90	29,516.40
2	191.40	75	14,355.00	194.58	6	1,167.48	298.79	170	50,794.30	330.43	578	190,988.54	376.32	40	15,052.80
3	316.13	89	28,135.57	319.58	19	6,072.02	299.50	21	6,289.50	268.67	102	27,404.34	345.78	90	31,120.20
4	189.55	275	52,126.25	298.80	7	2,091.60	229.51	482	110,623.82	300.00	112	33,600.00	330.65	98	32,403.70
5	180.95	581	105,131.95	250.35	15	3,755.25	297.45	557	165,679.65	310.35	87	27,000.45	379.90	225	85,477.50
6	175.90	102	17,941.80	179.35	14	2,510.90	360.55	810	292,045.50	332.54	98	32,588.92	354.78	375	133,042.50
7	306.65	928	284,571.20	310.10	3	930.30	296.90	785	233,066.50	345.89	315	108,955.35	329.45	410	135,074.50
8	175.75	687	120,740.25	290.54	7	2,033.78	212.03	52	11,025.56	320.35	789	252,756.15	354.87	573	203,340.51
9	236.55	99	23,418.45	268.90	8	2,151.20	320.67	600	195,608.70	325.90	512	166,860.80	395.75	131	51,843.25
10	231.65	184	42,623.60	279.61	5	1,398.05	310.15	515	159,727.25	313.02	458	143,363.16	367.89	87	32,006.43
Total		3,122	712,662.17		86	22,662.38		4029	1,234,200.08		3261	1,049,739.11		2119	748,879.59
Weighted Average			228.27			243.52			306.33			321.91			353.41

Table 2 Item 5

BBI No	1995 Rate (x) (P)	1995 Qty (W) m3	1995 XW	1996 Rate (x) (P)	1996 Qty (W) m3	1996 XW	1997 Rate (x) (P)	1997 Qty (W) m3	1997 XW	1998 Rate (x) (P)	1998 Qty (W) m3	1998 XW	1999 Rate (x) (P)	1999 Qty (W) m3	1999 XW
1	221.60	321	71,133.60	250.00	275	68,750.00	-	0	-	343.46	729	250,382.34	377.96	1280	483,788.80
2	193.19	451	87,128.69	221.59	598	132,510.82	321.31	895	287,571.45	315.05	1231	387,826.55	349.55	978	341,859.90
3	269.80	525	141,645.00	298.20	907	270,467.40	295.10	304	89,102.40	391.66	592	231,862.72	426.16	756	322,176.96
4	193.10	1,325	255,857.50	221.50	100	22,150.00	360.71	127	46,855.17	314.96	2921	919,998.16	349.46	1350	471,771.00
5	161.35	2,002	323,024.70	190.75	1130	215,547.50	293.01	1027	300,921.27	284.21	892	253,515.32	318.71	2178	694,150.38
6	171.60	978	167,824.80	200.00	987	197,400.00	262.26	986	258,588.36	293.46	754	221,268.84	327.96	854	280,077.84
7	191.70	780	149,526.00	220.10	1575	346,657.50	271.51	196	53,215.96	313.56	999	313,246.44	348.06	602	209,532.12
8	181.75	855	155,396.25	210.15	1448	304,297.20	291.61	902	263,032.22	303.61	354	107,477.94	338.11	996	336,757.56
9	193.20	208	40,185.60	221.60	908	201,212.80	271.66	314	85,301.24	315.06	292	91,997.52	349.56	1257	439,396.92
10	223.10	1,358	302,969.80	251.50	1100	276,650.00	293.11	978	286,661.58	344.96	573	198,302.00	379.46	1488	534,279.68
Total		8,803	1,696,691.84		9028	2,035,643.22		5729	1,671,527.65		9330	2,975,927.83		11659	4,113,791.16
Weighted Average			192.74			225.48			291.77			318.64			352.84

Table 2 Item 6

BBI No	1995 Rate (x) (P)	1995 Qty (W) m3	1995 XW	1996 Rate (x) (P)	1996 Qty (W) m3	1996 XW	1997 Rate (x) (P)	1997 Qty (W) m3	1997 XW	1998 Rate (x) (P)	1998 Qty (W) m3	1998 XW	1999 Rate (x) (P)	1999 Qty (W) m3	1999 XW
1	230.93	913	210,839.09	245.31	921	225,930.51	255.40	154	39,331.60	269.05	1310	352,455.50	318.20	727	231,331.40
2	-	-	-	212.41	856	181,822.96	-	0	-	274.00	476	130,424.00	-	0	-
3	198.03	1,254	248,329.62	231.50	1025	237,287.50	260.35	168	43,738.80	-	0	-	323.15	597	192,920.55
4	217.12	870	188,894.40	293.56	877	257,452.12	274.00	947	259,478.00	287.65	591	170,001.15	336.80	1230	414,264.00
5	260.77	634	165,328.18	-	0	-	-	0	-	319.15	782	249,575.30	368.30	988	363,880.40
6	279.18	541	151,036.38	-	0	-	305.50	889	271,589.50	-	0	-	324.11	745	241,461.95
7	-	-	-	212.31	601	127,598.31	261.31	754	197,027.74	274.96	699	192,197.04	-	0	-
8	197.93	351	69,473.43	-	0	-	223.54	673	150,889.50	237.19	998	236,715.62	286.34	667	190,988.78
9	200.83	1,542	309,679.86	215.21	600	129,126.00	295.70	704	208,172.80	309.35	2001	619,009.35	358.50	901	323,008.50
10	-	-	-	275.15	497	136,749.55	398.97	857	341,917.29	412.62	775	319,780.50	461.77	1100	507,947.00
Total		6,105	1,343,580.96		5377	1,295,966.95		5148	1,512,145.23		7632	2,270,158.46		6955	2,465,802.58
Weighted Average			220.08			241.02			293.73			297.45			354.54

Table 2 Item 7

BBI No	1995 Rate (x) (P)	1995 Qty (W) m2	1995 XW	1996 Rate (x) (P)	1996 Qty (W) m3	1996 XW	1997 Rate (x) (P)	1997 Qty (W) m2	1997 XW	1998 Rate (x) (P)	1998 Qty (W) m2	1998 XW	1999 Rate (x) (P)	1999 Qty (W) m2	1999 XW
1	13.97	125	1,746.25	10.00	120	1,200.00	18.87	655	12,359.85	20.77	5584	115,979.68	23.92	251	6,003.92
2	11.16	89	993.24	9.00	315	2,835.00	18.06	951	17,175.06	19.96	396	7,904.16	23.11	102	2,357.22
3	-	0	-	15.38	391	6,013.58	17.66	448	7,911.68	19.56	281	5,496.36	22.71	59	1,339.89
4	12.78	51	650.78	8.50	115	977.50	-	0	-	13.81	402	5,551.62	16.96	67	1,136.32
5	7.01	781	5,474.81	7.79	100	779.00	11.91	61	726.51	-	0	-	18.71	69	1,290.99
6	8.76	680	5,956.80	10.02	320	3,206.40	13.66	150	2,049.00	15.56	98	1,524.88	22.96	102	2,341.92
7	13.01	775	10,082.75	11.15	410	4,571.50	17.91	98	1,755.18	19.81	157	3,110.17	-	0	-
8	18.15	49	889.35	8.70	95	826.50	23.05	102	2,351.10	-	0	-	28.10	550	15,455.00
9			-	8.68	102	885.36	-	0	-	24.85	398	9,890.10	-	0	-
10	12.76	65	829.40	9.05	98	886.90	17.66	77	1,359.82	19.56	355	6,943.80	22.71	498	11,309.58
Total		2615	26,623.36		2066	22,181.74		2542	45,688.23		7671	156,440.77		1698	41,234.84
Weighted Average			10.18			10.74			17.97			20.39			24.28

Table 2 Item 8

BBI No	1995 Rate (x) (P)	1995 Qty (W) kg	1995 XW	1996 Rate (x) (P)	1996 Qty (W) Kg	1996 XW	1997 Rate (x) (P)	1997 Qty (W) Kg	1997 XW	1998 Rate (x) (P)	1998 Qty (W) Kg	1998 XW	1999 Rate (x) (P)	1999 Qty (W) kg	1999 XW
1	2.13	97	206.61	3.35	357	1,195.95	3.20	6249	19,996.80	3.20	6249	19,996.80	2.80	11280	31,584.00
2	1.77	56	99.12	2.85	600	1,710.00	3.00	529	1,587.00	3.00	529	1,587.00	3.80	500	1,900.00
3	-	0	-	2.95	1519	4,481.05	3.20	146	467.20	3.20	146	467.20	4.96	651	3,228.96
4	1.72	80	137.60	-	0	-	2.75	209	574.75	2.75	209	574.75	5.15	402	2,070.30
5	1.47	77	113.19	2.90	917	2,659.30	-	0	-	-	0	-	2.14	597	1,277.58
6	2.57	69	177.33	3.10	826	2,560.60	3.00	356	1,068.00	3.00	356	1,068.00	6.90	926	6,389.40
7	1.75	70	122.50	3.00	990	2,970.00	-	0	-	-	0	-	7.00	215	1,478.44
8	1.46	89	129.94	2.80	550	1,540.00	3.10	98	333.20	3.10	98	333.20	3.41	557	1,899.37
9	2.31	65	150.80	-	0	-	3.40	76	231.80	3.40	76	231.80	2.92	255	744.60
10	-	0	-	3.12	925	2,886.00	3.05	124	-	3.05	124	-			-
Total		603	1,137.09		6684	20,002.90		7787	24,258.75		7787	24,258.75		15381	50,772.65
Weighted Average			1.89			2.99			3.12			3.12			3.30

Table 2 Item 9

BBI No	1995 Rate (x) (P)	1995 Qty (W) kg	1995 XW	1996 Rate (x) (P)	1996 Qty (W) kg	1996 XW	1997 Rate (x) (P)	1997 Qty (W) Kg	1997 XW	1998 Rate (x) (P)	1998 Qty (W) kg	1998 XW	1999 Rate (x) (P)	1999 Qty (W) kg	1999 XW
1	2.22	141	313.02	3.00	210	630	-	0	-	5.65	958	5,477.54	4.31	475	1,952.25
2	1.82	621	1,130.22	2.60	90	234	3.05	75	228.75	5.01	760	3,807.60	3.49	541	1,872.09
3	2.12	59	125.08	2.90	89	258.1	4.45	81	358.85	4.08	678	2,766.24	-	0	-
4	0.97	246	238.62	1.75	70	122.5	3.30	285	717.50	-	0	-	4.56	205	934.80
5	2.27	392	889.84	-	0	0	4.10	330	1,353.00	4.68	550	2,574.00	5.36	94	505.68
6	1.97	200	394.00	3.05	35	106.75	2.98	570	1,698.60	3.56	413	1,470.28	4.04	71	286.84
7	-	0	-	2.75	47	129.25	3.90	695	2,722.20	5.18	519	2,215.75	4.96	122	610.08
8	2.20	330	726.00	2.98	191	569.18	4.65	1350	6,277.50	-	0	-	5.71	82	468.22
9	-	0	-	-	0	0	4.75	752	3,572.00	5.25	799	4,178.77	-	0	-
10	2.22	193	428.46	3.00	205	615	3.00	440	1,320.00	5.35	1021	5,461.85	2.81	79	458.99
Total		2182	4,245.24		937	2664.78		4501	18,248.36		5698	26,031.10		1174	7,088.95
Weighted Average			1.95			2.84			4.05			4.57			4.51

Table 2 Item 10

BBI No	1995 Rate (x) (P)	1995 Qty (W) kg	1995 XW	1996 Rate (x) (P)	1996 Qty (W) kg	1996 XW	1997 Rate (x) (P)	1997 Qty (W) Kg	1997 XW	1998 Rate (x) (P)	1998 Qty (W) kg	1998 XW	1999 Rate (x) (P)	1999 Qty (W) kg	1999 XW
1	2.28	97	221.16	3	210	630	4.14	90	372.60	4.75	9577	45,490.75	-	0	-
2	2.18	152	331.36	2.9	100	290	4.04	6072	24,530.88	4.65	2521	11,722.65	5.35	1200	6,420.00
3	2.03	374	759.22	2.75	108	297	3.89	71	276.19	4.50	650	2,925.00	5.25	956	5,019.00
4	2.38	551	1,311.38	3.1	98	303.8	4.24	55	233.20	4.85	1721	8,346.85	5.10	881	4,493.10
5	1.49	671	999.53	2.15	107	230.05	3.29		-	3.90	523	2,039.70	5.45	752	4,098.40
6	-	0	-	1.98	215	425.7	3.65	102	372.30	3.73	634	2,364.82	4.50	619	2,785.50
7	1.26	122	153.72	2.75	98	269.5	3.12	459	1,432.08	-	0	-	4.33	550	2,381.50
8	2.03	92	186.76	0	0	0	3.89	627	2,439.03	4.50	98	441.00	-	0	-
9	2.17	510	1,106.70	2.75	72	198	4.03	215	866.45	4.64	144	668.16	-	0	-
10	2.03	113	229.39	2.89	102	294.78	3.89		-	4.50	259	1,165.50	5.10	295	1,504.50
Total		2682	5,259.22		1110	2938.83		7691	30,322.73		16127	75,164.43		5255	26,702.00
Weighted Average			1.96			2.65			3.97			4.66			5.08

Table 2 Item 11

BBI No	1995 Rate (x) (P)	1995 Qty (W) kg	1995 XW	1996 Rate (x) (P)	1996 Qty (W) kg	1996 XW	1997 Rate (x) (P)	1997 Qty (W) kg	1997 XW	1998 Rate (x) (P)	1998 Qty (W) kg	1998 XW	1999 Rate (x) (P)	1999 Qty (W) kg	1999 XW
1	2.47	712	1,758.64	3.00	100	300.00			-	5.10	152	775.20	4.66	570	2,656.20
2	2.42	564	1,364.88	2.95	76	224.20	2.76	81	223.56	4.54	927	4,208.58	5.51	967	5,328.17
3	1.27	245	311.15	3.05	210	640.50	3.61	70	252.70	-	0	-	5.82	1250	7,275.00
4	1.37	330	452.10	3.00	98	294.00	3.92	127	497.84	4.85	850	4,122.50	-	0	-
5	2.27	415	942.05	2.95	103	303.85	4.98	259	1,289.82	5.91	958	5,661.78	6.88	958	6,591.04
6	-	0	-	3.20	75	240.00	3.65	387	1,412.55	4.58	205	938.90	5.55	262	1,454.10
7	2.67	982	2,621.94	3.05	230	701.50	3.75	492	1,845.00	4.68	1575	7,371.00	5.65	764	4,316.60
8	2.07	421	871.47	3.00	520	1,560.00	3.95	250	987.50	4.88	2610	12,736.80	5.85	656	3,837.60
9	-	0	-	2.95	99	292.05	4.08	1254	5,116.32	5.05	910	4,595.50	5.98	798	4,772.04
10	2.17	673	1,460.41	2.90	107	310.30	4.57	927	4,236.39	5.65	778	4,395.70	6.47	699	4,522.53
Total		4342	9782.64		1618	4,866.40		3847	15,861.68		8965	44,805.96		6924	40,753.28
Weighted Average			2.25			3.01			4.12			5.00			5.89

Table 2 Item 12

Bill No	1995 Rate (x) (P)	1995 Qty (W) kg	XW	1996 Rate (x) (P)	1996 Qty (W) kg	XW	1997 Rate (x) (P)	1997 Qty (W) kg	XW	1998 Rate (x) (P)	1998 Qty (W) kg	XW	1999 Rate (x) (P)	1999 Qty (W) kg	XW
1	2.45	958	2,347.10	3.00	456	1,368.00	4.15	973	4,037.95	5.18	153	792.54	5.00	975	4,875.00
2	2.40	1260	3,024.00	2.95	100	295.00	3.06	92	281.54	4.08	752	3,068.16	5.21	1188	6,189.48
3	1.25	705	881.25	3.10	56	173.60	3.90	169	659.10	3.93	897	3,525.21	5.06	928	4,695.68
4	1.35	874	1,179.90	3.00	432	1,296.00	4.10	927	3,800.70	4.95	528	2,613.60	5.95	1320	7,854.00
5	2.34	925	2,164.50	3.60	76	273.60	3.60	846	3,045.60	4.25	1320	5,583.60	5.36	758	4,062.88
6	2.90	2526	7,325.40	3.45	500	1,725.00	-	0	-	5.25	973	5,088.75	5.85	692	4,048.20
7	2.25	1215	2,733.75	3.90	590	2,301.00	4.20	764	3,208.80	-	0	-	5.90	859	5,068.10
8	2.60	678	1,762.80	4.10	100	410.00	-	0	-	4.80	847	4,065.60	-	0	-
9	2.15	792	1,702.80	3.20	806	2,579.20	4.25	829	3,523.25	-	0	-	-	0	-
10	1.35	859	1,204.65	2.90	35	101.50	3.95	747	2,950.65	5.00	990	4,950.00	5.10	1425	7,267.50
Total		10892	24,416.15		3151	10,522.90		5347	21,507.39		6460	29,687.50		8143	44,060.84
Weighted Average			2.24			3.34			4.02			4.60			5.41

Table 2 Item 13

Bill No	1995 Rate (x) (P)	1995 Qty (W) m3	XW	1996 Rate (x) (P)	1996 Qty (W) m3	XW	1997 Rate (x) (P)	1997 Qty (W) m3	XW	1998 Rate (x) (P)	1998 Qty (W) m3	XW	1999 Rate (x) (P)	1999 Qty (W) m3	XW
1	442.32	3	1,326.96	468.72	7	3,281.04	-	0	-	596.34	8	4,770.72	530.00	7	3,710.00
2	258.11	2	516.22	284.51	15	4,267.65	513.21	5	2,566.05	-	-	-	565.00	4	2,260.00
3	379.21	4	1,516.84	-	0	-	329.00	2	658.00	412.13	4	1,648.52	590.00	5	2,950.00
4	-	0	-	405.61	5	2,028.05	450.10	7	3,150.70	533.23	2	1,066.46	558.41	4	2,237.64
5	-	0	-	381.01	4	1,524.04	-	0	-	-	0	-	-	0	-
6	354.61	3	1,063.83	-	0	-	-	0	-	-	0	-	-	0	-
7	-	-	-	-	0	-	425.50	8	3,404.00	508.63	4	2,034.52	610.20	9	5,491.80
8	271.26	4	1,085.04	297.66	2	595.32	342.15	7	2,395.05	425.28	-	-	-	0	-
9	-	0	-	367.50	6	2,205.00	-	0	-	-	0	-	595.00	7	4,165.00
10	-	0	-	-	0	-	-	0	-	495.12	4	1,980.48	-	-	-
Total		16	5,508.89		39	13,901.10		29	12,173.80		22	11,500.70		36	20,814.44
Weighted Average			344.31			356.44			419.79			522.76			578.18

Table 2 Item 14

Bill No	1995 Rate (x) (P)	1995 Qty (W) m2	XW	1996 Rate (x) (P)	1996 Qty (W) m2	XW	1997 Rate (x) (P)	1997 Qty (W) m2	XW	1998 Rate (x) (P)	1998 Qty (W) m2	XW	1999 Rate (x) (P)	1999 Qty (W) m2	XW
1	36.22	159	5,758.98	4.00	148	592.00	43.71	1350	59,008.50	45.31	1120	50,747.20	54.38	2122	115,394.36
2	35.28	628	22,155.84	39.06	150	5,859.00	42.77	671	28,698.67	44.37	985	43,704.45	53.44	44	2,351.36
3	38.92	367	14,283.64	42.70	475	20,282.50	46.47	558	25,930.82	48.01	1270	60,972.70	57.08	187	10,673.96
4	32.02	989	31,667.78	35.80	709	25,382.20	39.51	2355	93,046.05	41.11	2058	84,604.38	50.18	2553	128,109.54
5	30.22	1125	33,997.50	34.00	108	3,672.00	37.71	892	33,637.32	47.45	4569	216,799.05	48.38	978	47,315.64
6	34.32	2567	88,099.44	38.10	901	34,328.10	41.81	745	31,148.45	43.41	980	42,541.80	52.48	665	34,899.20
7	38.97	974	37,956.78	42.75	1020	43,605.00	46.46	924	42,929.04	48.06	744	35,756.64	57.13	3002	171,504.26
8	36.22	2254	81,639.88	40.00	700	28,000.00	43.71	1703	74,438.13	45.31	800	36,248.00	54.38	765	41,600.70
9	34.22	1987	67,995.14	38.00	620	23,560.00	41.71	1641	68,446.11	43.31	1522	65,917.82	52.38	849	44,470.62
10	33.72	2500	84,300.00	37.50	800	30,000.00	41.21	2349	96,802.29	42.81	1709	73,162.29	51.88	65	3,372.20
Total		13550	467,854.98		5630	215,280.80		13188	554,083.38		15757	710,459.33		11230	599,691.84
Weighted Average			34.53			38.24			42.01			45.09			53.40

Table 2 Item 15

Bill No	1995 Rate (x) (P)	1995 Qty (W) m2	XW	1996 Rate (x) (P)	1996 Qty (W) m2	XW	1997 Rate (x) (P)	1997 Qty (W) m2	XW	1998 Rate (x) (P)	1998 Qty (W) m2	XW	1999 Rate (x) (P)	1999 Qty (W) m2	XW
1	75.16	2054	154,378.64	80.00	167	13,360.00	90.68	680	61,662.40	94.31	5306	500,408.86	109.71	8980	985,195.80
2	71.10	197	14,006.70	75.94	412	31,287.28	86.62	700	60,634.00	90.25	2410	217,502.50	105.65	471	49,761.15
3	79.16	1251	99,029.16	84.00	902	75,768.00	94.68	1180	111,722.40	98.31	978	96,147.18	113.71	749	85,168.79
4	65.56	987	64,707.72	70.40	610	42,944.00	81.08	892	72,323.36	95.89	1215	116,506.35	100.11	1350	135,148.50
5	57.91	726	42,042.66	62.75	920	57,730.00	73.43	987	72,475.41	96.05	1711	164,341.55	92.46	2127	196,662.42
6	67.46	1760	118,966.90	81.25	1100	89,375.00	82.08	2548	211,433.04	96.05	764	73,382.20	102.01	948	96,705.48
7	76.41	2540	194,081.40	80.00	1320	105,600.00	91.93	997	91,654.21	95.56	1298	124,036.88	110.96	667	74,010.32
8	75.16	1334	100,263.44	70.21	410	28,786.10	90.68	889	80,614.52	94.31	2021	190,600.51	109.71	2742	300,824.82
9	65.37	2453	160,352.61	71.58	120	8,589.60	80.89	1020	82,507.80	96.53	1902	183,600.06	99.92	1367	136,590.64
10	66.74	2902	193,679.48	-	0	-	82.26	992	81,601.92	95.90	1800	172,620.00	101.29	989	100,175.81
Total		16209	1,141,608.71		5961	453,439.98		10885	926,629.06		19405	1,839,146.09		20390	2,160,243.73
Weighted Average			70.43			76.07			85.13			94.78			105.95

Table 2 Item 16

Bill No	1995 Rate (x) (P)	1995 Qty (W) m2	XW	1996 Rate (x) (P)	1996 Qty (W) m2	XW	1997 Rate (x) (P)	1997 Qty (W) m2	XW	1998 Rate (x) (P)	1998 Qty (W) m2	XW	1999 Rate (x) (P)	1999 Qty (W) m2	XW
1	7.92	740	5,860.80	9.00	476	4,284.00	9.65	396	3,821.40	10.36	691	7,158.76	12.23	974	11,912.02
2	7.63	1534	11,704.42	8.71	713	6,210.23	9.36	470	4,399.20	11.23	2450	27,513.50	13.10	780	10,218.00
3	6.82	2310	15,754.20	7.90	815	6,438.50	8.55	856	7,318.80	9.63	3172	30,546.36	11.50	849	9,763.50
4	7.77	973	7,373.73	8.40	920	8,142.00	9.50	798	7,581.00	12.01	193	2,319.90	13.89	1250	17,362.50
5	8.02	612	4,908.24	9.10	675	6,142.50	9.75	2517	24,540.75	12.88	948	12,210.24	14.75	1463	21,579.25
6	9.67	1220	11,797.40	10.75	889	9,556.75	11.40	898	10,237.20	11.23	892	10,017.16	13.10	962	12,602.20
7	8.81	9815	86,470.15	9.89	720	7,120.80	10.54	2410	25,401.40	10.98	1849	20,302.02	12.85	2403	30,878.55
8	6.42	1982	12,724.44	7.50	815	6,112.50	8.15	1926	15,696.90	10.30	2205	22,711.50	11.90	1924	22,895.60
9	8.02	794	6,367.88	9.10	918	8,353.80	9.75	234	2,281.50	10.84	982	10,644.88	12.71	885	11,248.35
10	7.15	1400	10,010.00	8.23	510	4,197.30	8.88	980	8,702.40	11.13	764	8,503.32	13.00	960	12,480.00
Total		21382	173,173.20		7451	66,558.38		11485	109,980.55		14146	151,927.60		12450	160,939.97
Weighted Average			8.10			8.93			9.58			10.74			12.93

Table 2 Item 17

Bill No	1995 Rate (x) (P)	1995 Qty (W) m2	XW	1996 Rate (x) (P)	1996 Qty (W) m2	XW	1997 Rate (x) (P)	1997 Qty (W) m2	XW	1998 Rate (x) (P)	1998 Qty (W) m2	XW	1999 Rate (x) (P)	1999 Qty (W) m2	XW
1	7.65	1341	10,258.65	9.00	84	756.00	10.70	932	9,972.40	12.47	972	12,120.84	13.34	1243	16,581.62
2	6.57	970	6,372.90	14.69	343	5,038.67	9.62	410	3,944.20	11.39	1241	14,134.99	12.36	2375	29,355.00
3	7.67	1500	11,505.00	10.10	420	4,242.00	10.72	68	728.96	12.49	902	11,265.98	13.46	5467	73,585.82
4	8.52	2342	19,953.84	8.15	1520	12,388.00	11.57	789	9,128.73	13.34	2490	33,216.60	14.31	6724	96,220.44
5	7.01	982	6,883.82	7.78	1451	11,288.78	10.06	997	10,029.82	11.83	849	10,043.67	12.80	189	2,419.20
6	6.56	2040	13,382.40	8.23	987	8,123.01	9.61	1245	11,964.45	11.38	990	11,266.20	12.35	249	3,075.15
7	6.93	3458	23,963.94	9.74	987	9,613.38	9.98	2780	27,744.40	11.75	1478	17,366.50	12.72	378	4,808.16
8	8.88	999	8,871.12	8.89	892	7,929.88	11.93	3457	41,242.01	13.70	2745	37,606.50	14.67	1489	21,843.63
9	13.47	1239	16,689.45	7.79	2312	18,010.48	16.52	985	16,272.20	18.29	3692	67,526.68	19.26	2005	38,577.78
10	7.78	2487	19,348.86	8.87	986	8,745.82	10.83	1029	11,144.07	12.60	2130	26,838.00	13.57	976	13,244.32
Total		17354	137,175.98		9982	86,136.02		12692	142,171.24		17489	241,383.96		21093	299,711.12
Weighted Average			7.90			8.63			11.20			13.80			14.21

Table 2 Item 18

Bill No	1995 Rate (x) (P)	1995 Qty (W) m	XW	1996 Rate (x) (P)	1996 Qty (W) m	XW	1997 Rate (x) (P)	1997 Qty (W) m	XW	1998 Rate (x) (P)	1998 Qty (W) m	XW	1999 Rate (x) (P)	1999 Qty (W) m	XW
1	0.29	629	182.41	0.34	45	15.30	0.30	235	70.50	0.36	2122	763.92	0.45	11894	5,362.30
2	0.13	978	127.14	0.24	26	6.24	0.30	198	59.40	0.39	1923	749.97	0.50	345	172.50
3	0.19	1579	300.01	0.27	71	19.17	0.37	2908	1,075.96	0.38	945	359.10	0.39	2467	962.13
4	0.14	2428	339.92	0.25	89	22.25	0.26	1258	327.08	0.41	880	360.80	0.43	3120	1,341.60
5	0.27	978	264.06	0.30	23	6.90	0.36	974	350.64	0.42	992	416.64	0.42	978	410.76
6	0.18	2714	488.52	0.29	30	8.70	0.34	988	335.92	0.40	1840	736.00	0.40	3421	1,368.40
7	0.30	3120	936.00	0.28	51	14.28	0.29	300	87.00	0.38	2467	937.46	0.38	2203	837.14
8	0.31	2430	753.61	0.35	77	26.95	0.32	1978	632.96	0.39	3079	1,200.81	0.41	1345	551.45
9	0.10	1322	132.20	0.29	80	23.20	0.25	457	114.25	0.39	4325	1,686.75	0.43	2429	1,044.47
10	0.11	4003	440.33	0.22	56	12.32	0.33	996	328.68	0.43	198	85.14	0.43	3732	1,604.76
Total		20182	3,964.20		548	155.31		10292	3,382.39		18771	7,296.59		31734	13,555.51
Weighted Average			0.20			0.28			0.33			0.39			0.43

Table 2 Item 19

BBI No	1995 Rate (x) (P)	1995 Qty (W) m2	1995 XW	1996 Rate (x) (P)	1996 Qty (W) m2	1996 XW	1997 Rate (x) (P)	1997 Qty (W) m2	1997 XW	1998 Rate (x) (P)	1998 Qty (W) m2	1998 XW	1999 Rate (x) (P)	1999 Qty (W) m2	1999 XW
1	5.92	3472	20,554.24	6.47	3720	24,068.40	7.20	3520	25,344.00	8.07	3521	28,414.47	8.77	3450	30,256.50
2	5.27	2008	10,582.16	5.82	2910	16,936.20	6.55	4630	30,326.50	7.42	2642	19,603.64	8.12	6021	48,890.52
3	6.22	1956	12,166.32	6.77	2415	16,349.55	7.41	2133	16,075.95	8.48	1968	16,688.64	9.18	5672	52,068.96
4	-	-	-	-			7.50	1927	14,452.50			-	9.07	2461	22,321.27
5	-	-	-	7.33	4152	30,434.16	8.10	2005	16,240.50	8.37	2045	17,116.65			
6	6.78	3758	25,479.24	5.52	1020	5,630.40	6.25	3177	19,856.25			-			
7	-			-			8.15	2050	16,707.50	9.02	3720	33,554.40	9.72	5623	54,655.56
8	4.97	4025	20,004.25	7.42	1252	9,289.84	6.70	1594	10,679.80			-	9.62	2311	22,231.82
9	-			-			-		-	7.92	5675	44,946.00	10.27		
10	5.77	2134	12,313.18	6.32	1698	10,731.36	7.05	4276	30,145.80	7.57	4520	34,216.40			
Total		17353	101,099.39		17167	113,439.91		25292	179,832.70		24091	194,540.20		25538	230,424.63
Weighted Average			5.83			6.61			7.11			8.08			9.02

Table 2 Item 20

BBI No	1995 Rate (x) (P)	1995 Qty (W) m2	1995 XW	1996 Rate (x) (P)	1996 Qty (W) m2	1996 XW	1997 Rate (x) (P)	1997 Qty (W) m2	1997 XW	1998 Rate (x) (P)	1998 Qty (W) m2	1998 XW	1999 Rate (x) (P)	1999 Qty (W) m2	1999 XW
1	6.20	3241	20,094.20	6.75	2472	16,686.00	7.48	2529	18,916.92	8.35	5025	41,958.75	9.05	6217	56,263.85
2	5.55	5620	31,191.00	6.10	3625	22,112.50	6.83	3610	24,656.30	7.70	3472	26,734.40			-
3	-		-	7.05	4230	29,821.50	7.89	4755	37,516.95	8.76	2563	22,451.88	8.40	5375	45,150.00
4	6.56	4175	27,337.50	7.61	7349	55,925.89			-	8.65	4748	41,069.65	9.46	4640	43,894.40
5	7.06	3947	27,865.82	-			8.38	2092	17,530.96			-	9.35	3217	30,078.95
6	5.25	2882	15,130.50	-			8.43	1998	16,843.14			-			
7	-			5.80	4628	26,842.40			-	9.30	2036	18,934.80	10.00	1275	12,750.00
8	6.05	3940	23,837.00	7.70	5305	40,848.50			-	8.20	3123	25,608.60	9.90	2437	24,126.30
9	-						7.33	2815	20,633.95						
10	6.21	2005	12,451.05	6.60	2456	16,209.60	6.98	3074	21,456.52	7.85	3274	25,700.90	10.55	2987	31,512.85
Total		25810	157,707.07		30085	208,507.39		20073	157,554.74		24234	202,398.98		26148	243,778.35
Weighted Average			6.11			6.93			7.85			8.35			9.32

Table 2 Item 21

BBI No	1995 Rate (x) (P)	1995 Qty (W) m2	1995 XW	1996 Rate (x) (P)	1996 Qty (W) m2	1996 XW	1997 Rate (x) (P)	1997 Qty (W) m2	1997 XW	1998 Rate (x) (P)	1998 Qty (W) m2	1998 XW	1999 Rate (x) (P)	1999 Qty (W) m2	1999 XW
1	1.56	59	92.04	3.25	40	130.00	4.24	114	483.36	4.67	376	1,755.92	5.73	121	693.33
2	5.01	65	325.65	3.15	47	148.05	3.22	100	322.00	3.96	451	1,785.96	6.12	73	446.76
3	2.21	36	79.56	3.75	41	153.75	3.56	200	712.00	5.05	213	1,075.65	-	0	-
4	1.47	72	105.84	2.90	52	150.80	-	0	-	4.91	78	382.98	4.90	64	313.60
5	2.21	41	90.61	3.15	53	166.95	3.96	98	388.08	4.33	55	238.15	5.64	20	112.80
6	1.81	27	48.87	2.98	41	122.18	3.22	72	231.84	-	0	-	-	0	-
7	1.47	94	138.18	3.35	75	251.25	4.56	65	296.40	5.55	101	560.55	6.38	35	223.30
8	-	0	-	3.05	102	311.10	-	0	-	5.14	225	1,156.50	4.89	77	376.53
9	2.49	33	82.17	-	0	-	6.76	42	283.92	-	0	-	5.64	31	174.84
10	-	0	-	-	0	-	3.31	90	297.90	4.42	64	282.88	5.98	44	263.12
Total		427	962.92		451	1,434.08		781	3,015.50		1580	7,222.93		485	2,604.28
Weighted Average			2.26			3.18			3.86			4.65			5.40

Table 2 Item 22

BBI No	1995 Rate (x) (P)	1995 Qty (W) m2	1995 XW	1996 Rate (x) (P)	1996 Qty (W) m2	1996 XW	1997 Rate (x) (P)	1997 Qty (W) m2	1997 XW	1998 Rate (x) (P)	1998 Qty (W) m2	1998 XW	1999 Rate (x) (P)	1999 Qty (W) m2	1999 XW
1	2.48	72	178.56	1.48	105	155.40	2.50	128	320.00	2.10	81	170.10	2.45	100	245.00
2	2.03	45	91.35	1.87	91	170.17	1.45	79	114.55	2.05	201	412.05			-
3	3.04	54	164.16	1.65	62	102.30	2.73	53	144.69	-	0	-	2.83	410	1,160.30
4	-	0	-	1.90	41	77.90	1.80	78	140.40	2.00	88	176.00	4.02	89	357.78
5	0.83	60	49.80	2.05	50	102.50	1.90	42	79.80	1.90	57	108.30	2.65	41	108.65
6	-	122	-	1.64	92	150.88	1.96	105	205.80	2.25	185	416.25	-	0	-
7	3.68	0	-	2.29	83	190.07	1.54	200	308.00	1.89	108	204.12	2.98	57	169.86
8	0.84	201	168.84	1.46	227	331.42	1.64	45	73.80	-	0	-	2.30	159	365.70
9	2.06	49	100.94	1.34	271	363.14	1.76	53	93.28	1.94	43	83.42	2.43	278	675.54
10	-	78	-	-	0	-	1.80	40	72.00	2.45	100	245.00	2.20	235	517.00
Total		681	755.65		1022	1,643.78		823	1,592.32		863	1,815.24		1369	3,599.83
Weighted Average			1.11			1.60			1.89			2.10			2.63

Table 2 Item 23

BBI No	1995 Rate (x) (P)	1995 Qty (W) m	1995 XW	1996 Rate (x) (P)	1996 Qty (W) m	1996 XW	1997 Rate (x) (P)	1997 Qty (W) m	1997 XW	1998 Rate (x) (P)	1998 Qty (W) m	1998 XW	1999 Rate (x) (P)	1999 Qty (W) m	1999 XW
1	6.74	100	674.00	-	0	-	9.36	215	2,012.40	10.35	325	3,363.75	11.18	521	5,824.78
2	5.89	52	304.20	8.16	205	1,672.80	8.46	190	1,607.40	9.39	261	2,450.79	9.99	678	6,773.24
3	5.03	91	457.73	7.20	102	734.40	7.66	522	3,998.52	-	0	-	11.57	347	4,014.79
4	-	0	-	6.40	98	627.20	-	0	-	10.17	322	3,274.74	-	0	-
5	6.62	73	483.26	8.20	220	1,804.00	9.24	79	729.96	8.59	410	3,521.90	-	0	-
6	6.94	107	718.20	7.98	190	1,516.20	9.46	321	3,036.66	10.17	109	[illegible]	11.79	492	5,821.88
7	-	0	-	6.40	225	1,440.00	7.66	100	766.00	-	0	-	9.97	400	3,986.80
8	5.04	121	609.84	7.20	318	2,289.60	-	0	-	8.59	158	1,357.22	10.79	365	3,938.35
9	5.84	69	402.96	8.10	410	3,321.00	8.46	242	2,047.32	-	0	-	-	0	-
10	6.80	70	476.00	-	0	-	9.42	101	951.42	9.78	102	997.56	11.75	100	1,175.00
Total		681	4,126.19		1768	13,405.20		1770	15,149.68		1678	15,962.96		2841	30,714.64
Weighted Average			6.06			7.58			8.56			9.51			10.81

Table 2 Item 24

BBI No	1995 Rate (x) (P)	1995 Qty (W) m	1995 XW	1996 Rate (x) (P)	1996 Qty (W) m	1996 XW	1997 Rate (x) (P)	1997 Qty (W) m	1997 XW	1998 Rate (x) (P)	1998 Qty (W) m	1998 XW	1999 Rate (x) (P)	1999 Qty (W) m	1999 XW
1	5.60	6	33.60	12.00	8	96.00	-	0	-	8.17	15	122.55	11.73	27	367.71
2	6.55	9	58.95	6.78	8	54.24	7.45	11	81.95	9.32	35	326.20	9.51	41	389.91
3	-	0	-	7.70	16	123.20	8.40	27	226.80	9.12	41	373.92	10.43	82	855.26
4	6.75	8	54.00	6.50	9	58.50	8.60	15	129.00	-	0	-			-
5	7.15	12	85.80	8.20	15	123.00	9.00	18	162.00	9.72	17	165.24	9.23	108	996.84
6	-	0	-	-	0	-	-	0	-	9.32	12	111.84	10.94	92	1,006.48
7	5.45	11	59.95	7.80	20	156.00	7.30	10	73.00	9.12	50	456.00			-
8	6.65	20	133.00	7.60	25	190.00	8.50	16	136.00	-	0	-	10.35	53	548.55
9	5.73	21	120.33	-	0	-	7.58	17	128.86	8.30	48	398.40	10.52	27	284.04
10	-	19	-	6.65	40	266.00	12.80	20	256.00	13.52	27	365.04	9.38	78	731.64
Total		106	545.63		141	1,066.94		134	1,193.61		245	2,319.19		508	5,210.43
Weighted Average			5.15			7.57			8.91			9.47			10.26

Table 2 Item 25

BBI No	1995 Rate (x) (P)	1995 Qty (W) m2	1995 XW	1996 Rate (x) (P)	1996 Qty (W) m2	1996 XW	1997 Rate (x) (P)	1997 Qty (W) m2	1997 XW	1998 Rate (x) (P)	1998 Qty (W) m2	1998 XW	1999 Rate (x) (P)	1999 Qty (W) m2	1999 XW
1	37.56	105	3,943.80	47.42	289	13,704.38	-	0	-	69.05	498	34,386.90	89.56	595	53,288.20
2	-	0	-	46.67	345	16,101.15	-	0	-	76.89	625	48,056.25	92.40	602	55,624.80
3	33.17	98	3,250.66			-	50.36	312	15,712.32	-	0	-	87.00	320	27,840.00
4	46.06	251	11,561.06	40.19	200	8,038.00	49.61	420	20,836.20	69.98	1000	69,980.00	-	0	-
5	36.69	80	2,935.20			-	68.45	100	6,845.00	-	0	-	86.85	457	39,690.45
6	-	0	-	49.56	172	8,524.32	52.50	350	18,375.00	56.78	502	28,503.56	87.56	629	55,075.24
7	43.17	90	3,885.30	36.67	110	4,033.70	-	0	-	68.79	587	40,379.73	-	0	-
8	40.10	318	12,751.80			-	48.46	242	11,727.32	68.90	200	13,780.00	91.50	300	27,450.00
9	-	0	-	41.06	98	4,023.88	47.90	239	11,448.10	69.55	100	6,955.00	-	0	-
10	43.92	127	5,577.84			-	-	0	-	-	0	-	93.55	112	10,477.60
Total		1069	43,905.66		1214	54,425.45		1663	82,943.94		3512	242,041.44		3015	269,446.29
Weighted Average			41.07			44.85			49.88			68.92			89.37

Table 2 Item 26

Bill No	1995 Rate (x) (P)	1995 Qty (W) m	1995 XW	1996 Rate (x) (P)	1996 Qty (W) m	1996 XW	1997 Rate (x) (P)	1997 Qty (W) m	1997 XW	1998 Rate (x) (P)	1998 Qty (W) m	1998 XW	1999 Rate (x) (P)	1999 Qty (W) m	1999 XW
1	2.62	20	52.40	6.00	21	126.00	4.45	29	129.05	7.21	35	252.35	6.01	20	120.20
2	4.27	19	81.13	5.20	4	20.80	6.10	25	152.50	6.42	40	256.80	7.66	17	130.22
3	-	0	-	4.20	6	25.20	4.22	11	46.42	5.41	22	119.02	-	0	-
4	2.39	15	35.85	5.10	17	86.70	-	0	-	6.30	19	119.70	5.78	94	543.32
5	3.42	8	27.36	4.90	8	39.20	5.25	42	220.50	-	0	-	6.81	37	251.97
6	3.62	11	39.82	3.87	19	73.53	5.44	10	54.40	6.11	20	122.20	7.00	42	294.00
7	-	0	-			-	-	0	-	5.08	18	91.44	6.11	59	360.49
8	2.72	7	19.04	3.75	10	37.50	4.55	27	122.85	-	0	-	-	0	-
9	3.41	10	34.10		12	-	5.56	40	222.40	6.96	22	153.12	7.96	128	1,018.38
10	3.73	6	22.38	4.10		-	6.35	31	196.85	5.31	16	84.96	7.12	69	491.28
Total		96	312.08		97	428.93		215	1,144.97		192	1,199.59		467	3,211.87
Weighted Average			3.25			4.42			5.33			6.25			6.88

Table 2 Item 27

Bill No	1995 Rate (x) (P)	1995 Qty (W) m	1995 XW	1996 Rate (x) (P)	1996 Qty (W) m	1996 XW	1997 Rate (x) (P)	1997 Qty (W) m	1997 XW	1998 Rate (x) (P)	1998 Qty (W) m	1998 XW	1999 Rate (x) (P)	1999 Qty (W) m	1999 XW
1	2.65	41	108.65			-	4.50	58	261.00	7.25	98	710.50	6.25	63	393.75
2	4.30	32	137.60			-	6.45	49	316.05	6.50	65	422.50	7.78	121	941.38
3	3.66	25	91.50	4.25	40	170.00	4.29	31	132.99	5.62	66	370.92	5.84	87	508.08
4	2.95	17	50.15	5.37	35	187.95	-		-	6.41	71	455.11	-	0	-
5	-	0	-	5.10	19	96.90	-		-	-	0	-	7.86	94	738.84
6	3.48	10	34.80	3.87	49	189.63	-		-	-	0	-	7.22	100	722.00
7	2.81	19	53.39	4.58	58	265.64	4.38	20	87.60	5.96	43	256.28	6.23	54	336.42
8	-	0	-	5.78	20	115.60	4.58	29	132.82	-	0	-	7.92	32	253.44
9	-	0	-	4.20	65	273.00	5.60	35	196.00	-	0	-	-	0	-
10	3.45	28	96.60	6.25	23	143.75	6.50	42	273.00	5.47	58	317.26	7.23	44	318.12
Total		172	572.69		309	1,442.47		264	1,209.46		401	2,532.57		595	4,212.05
Weighted Average			3.33			4.67			5.30			6.32			7.08

Table 2 Item 28

Bill No	1995 Rate (x) (P)	1995 Qty (W) No.	1995 XW	1996 Rate (x) (P)	1996 Qty (W) No.	1996 XW	1997 Rate (x) (P)	1997 Qty (W) No.	1997 XW	1998 Rate (x) (P)	1998 Qty (W) No.	1998 XW	1999 Rate (x) (P)	1999 Qty (W) No.	1999 XW
1	174.84	2	349.68	180.00	3	540.00	200.98	6	1,205.88	212.69	10	2,126.90	239.70	11	2,636.70
2	153.84	4	615.36	178.00	5	890.00	179.98	4	719.92	216.67	4	866.68	245.46	6	1,472.76
3	175.64	3	526.92	168.00	7	1,176.00	178.77	10	1,787.70	236.00	6	1,416.00	254.67	8	2,037.36
4	-	0	-	172.50	8	1,380.00	183.27	12	2,199.24	224.56	7	1,571.92	310.46	7	2,173.22
5	166.63	6	999.78	182.00	4	728.00	192.77	8	1,542.16	225.00	5	1,125.00	-	0	-
6	157.13	4	628.52	191.00	8	1,528.00	-	0	-	215.50	11	2,370.50	246.43	10	2,464.30
7	152.63	8	1,221.04	169.21	6	1,015.26	201.77	18	3,631.86	-	0	-	238.56	7	1,669.92
8	-	0	-	190.21	8	1,521.68	188.77	9	1,698.93	-	0	-	246.00	4	984.00
9	-	0	-			-	-	0	-	216.80	8	1,734.40	-	0	-
10	164.63	6	987.78			-	190.77	7	1,335.39	275.86	9	2,482.74	229.60	6	1,377.60
Total		33	5,329.08		49	8,778.94		74	14,121.08		60	13,694.14		59	14,815.88
Weighted Average			161.49			179.16			190.83			228.24			251.12

Table 2 Item 29

Bill No	1995 Rate (x) (P)	1995 Qty (W) No.	1995 XW	1996 Rate (x) (P)	1996 Qty (W) No.	1996 XW	1997 Rate (x) (P)	1997 Qty (W) No.	1997 XW	1998 Rate (x) (P)	1998 Qty (W) No.	1998 XW	1999 Rate (x) (P)	1999 Qty (W) No.	1999 XW
1	134.82	2	269.64	148.43	3	445.29	200.98	6	1,205.88	183.65	10	1,836.50	215.87	11	2,374.57
2	135.80	4	543.20	146.56	5	732.80	179.98	4	719.92	179.53	10	1,795.30	210.43	6	1,262.58
3	128.07	3	384.21	167.87	7	1,175.09	178.77	10	1,787.70	184.34	6	1,106.04	205.00	8	1,640.00
4	-	0	-	146.50	8	1,172.00	183.27	12	2,199.24	190.55	7	1,333.85	214.76	7	1,503.32
5	129.82	6	778.92	146.45	4	585.80	192.77	8	1,542.16	182.96	5	914.80	-	0	-
6	131.78	4	527.12	145.45	8	1,163.60	-	0	-	193.31	11	2,126.41	216.70	10	2,167.00
7	134.07	8	1,072.56	140.75	6	844.50	201.77	18	3,631.86	-	0	-	220.34	7	1,542.38
8	130.74	2	261.48	158.75	8	1,270.00	188.77	9	1,698.93	-	0	-	215.75	4	863.00
9	-	0	-	-	0	-	-	0	-	185.00	8	1,480.00	-	0	-
10	138.07	6	828.42	-	0	-	190.77	7	1,335.39	194.63	9	1,751.67	216.80	6	1,300.80
Total		35	4,665.55		49	7,389.08		74	14,121.08		66	12,344.57		59	12,653.65
Weighted Average			133.30			150.80			190.83			187.04			214.47

Table 2 Item 30

Bill No	1995 Rate (x) (P)	1995 Qty (W) No.	1995 XW	1996 Rate (x) (P)	1996 Qty (W) No.	1996 XW	1997 Rate (x) (P)	1997 Qty (W) No.	1997 XW	1998 Rate (x) (P)	1998 Qty (W) No.	1998 XW	1999 Rate (x) (P)	1999 Qty (W) No.	1999 XW
1	130.31	1	130.31	-	0	-	-	0	-	189.65	2	379.30	198.54	5	992.70
2	-	0	-	159.50	7	1,116.50	176.67	2	353.34	-	0	-	209.80	3	629.40
3	135.52	2	271.04	-	0	-	174.90	1	174.90	191.54	3	574.62	-	0	-
4	-	0	-	154.34	8	1,234.72	-	0	-	-	0	-	200.00	6	1,200.00
5	142.06	3	426.18	-	0	-	176.98	3	530.94	195.45	1	195.45	-	0	-
6	125.31	1	125.31	157.35	4	629.40	178.75	2	357.50	-	0	-	210.00	2	420.00
7	-	0	-	-	0	-	-	0	-	189.43	4	757.72	208.83	5	1,044.15
8	154.81	2	309.62	149.78	3	449.34	178.94	1	178.94	-	0	-	-	0	-
9	-	0	-	-	0	-	-	0	-	192.33	2	384.66	226.98	6	1,361.88
10	138.70	1	138.70	135.00	5	675.00	187.95	3	563.85			-		0	-
Total		10	1,482.16		27	4,104.96		12	2,159.47		11	2,291.75		27	5,648.13
Weighted Average			148.22			152.04			179.96			190.98			209.19

Table 3 : WEIGHTED AVERAGE PRICE OF SELECTED ITEMS (1995-99)

Item No.	Item Description	Units	1995 (P)	1996 (P)	1997 (P)	1998 (P)	1999 (P)
1	Excavate in earth not exceeding 2 m deep for trenches and holes	m^3	7.96	10.74	11.05	11.40	12.78
2	Risk of collapse 1.5 m deep from the gorund level	m^3	0.88	0.99	1.19	1.24	1.67
3	Provide cube moulds and cast a set of three150X150X150 mm concrete test cubes	sets	32.18	35.17	42.62	46.47	49.35
4	50mm thick surface blinding underfootings and bases	m^2	228.27	263.52	306.33	321.91	353.41
5	Vibrated reinforced concrete (class 30/20) cast against excavated	m^3	192.74	225.48	291.77	318.66	352.84
6	Vibrated reinforced concrete (class 30/20) in thickening	m^2	220.08	241.02	293.73	297.45	354.54
7	Welded square mesh fabric reinforcement, laid in concrete surface bed or apron slab with min.of 300 laps	m^2	10.18	13.55	17.97	20.39	24.28
8	8 mm diameter plain mild steel bar reinforcement	Kg	1.89	2.21	2.99	3.12	3.30
9	10 mm diameter plain mild steel bar reinforcement	Kg	1.95	2.84	4.05	4.57	4.81
10	10 mm high tensile steel bar reinforcement	Kg	1.96	2.65	3.97	4.66	5.08
11	12 mm diameter plain mild steel bar reinforcement	Kg	2.25	3.01	4.12	5.00	5.89
12	20 mm high tensile steel bar reinforcement	Kg	2.24	3.34	4.02	4.60	5.41
13	Piers (brick work in concrete or burnt clay bricks having a minimum compressive strength of 10 Mpa)	m^3	344.31	356.44	419.79	522.76	578.18
14	Half brick wall (brick work in concrete or burnt clay bricks having a mini. compressive strength - 10 Mpa)	m^2	34.53	38.23	42.01	45.09	53.40
15	One brick wall	m^2	70.43	76.07	85.13	94.78	105.95
16	15 mm thick one coat plaster with steel troweled finish walls	m^2	8.10	8.93	9.58	10.74	12.93
17	Cement and sand (1:3) steel trowled smooth 40 mm thick floors and landings	m^2	7.90	8.63	11.20	13.80	14.21
18	Steel wire brick reinforcing fabric 75 mm wide built in horizontally	m	0.20	0.28	0.33	0.39	0.43
19	Prepare and apply one coat of alkali resisting primer and two coats of acrylic PVA emulsion paint on soffit and l	m^2	5.83	6.61	7.11	8.08	9.02
20	Prepare and apply one coat of acrylic filler coat and two coats of acrylic PVA emulsion paint on walls	m^2	6.11	6.93	7.55	8.35	9.32
21	375 microns thick polyethylene embosses damp proof course	m^2	2.26	3.18	3.86	4.63	5.60
22	375 microns thick polyethylene embosses damp proof sheeting	m^2	1.11	1.61	1.89	2.10	2.63
23	19 X 75 mm angle rounded skirting secured to walls	m	6.06	7.58	8.56	9.53	10.81
24	Formwork including propping not exceeding 3.5m high to sides of strip footing not exceeding 300 mm high	m	5.15	7.57	8.91	9.47	10.26
25	Formwork including propping not exceeding 3.5m high to sides of walls and beams including soft over openings	m^2	41.07	44.83	49.88	68.92	89.37
26	12mm thick soft board in expansion joint 150 mm high between brickwork and concrete	m	3.25	4.42	5.33	6.25	6.88
27	12mm thick soft board joint 230 mm wide between brickwork and concrete	m	3.33	4.67	5.30	6.32	7.08
28	43 mm thick semi-solid core flush door: 813 x 2032 mm with exterior quality masonite both sides	No.	161.49	179.16	190.83	228.24	251.12
29	Double rebated pressed steel door linings in half brick wall to suit 43 mm thick doors - 813 x 2032mm high	No.	133.30	150.80	166.14	187.04	214.47
30	Double rebated pressed steel door linings in half brick wall to suit 43 mm thick doors - 813 x 2032mm high with	No.	140.22	152.04	179.96	190.98	209.19

Table 4: INDIVIDUAL INDICES FOR THE SELECTED ITEMS (1995-99)

Item No.	Item Description	Units	1995	1996	1997	1998	1999
1	Excavate in earth not exceeding 2 m deep for trenches and holes	m^3	100.00	134.84	138.79	143.17	160.54
2	Risk of collapse 1.5 m deep from the gorund level	m^3	100.00	112.65	135.88	140.74	189.98
3	Provide cube moulds and cast a set of three150X150X150 mm concrete test cubes	sets	100.00	109.28	132.47	144.41	153.35
4	50mm thick surface blinding underfootings and bases	m^2	100.00	115.44	134.20	141.02	154.82
5	Vibrated reinforced concrete (class 30/20) cast against excavated	m^3	100.00	116.99	151.38	165.33	183.07
6	Vibrated reinforced concrete (class 30/20) in thickening	m^3	100.00	109.52	133.47	135.16	161.10
7	Welded square mesh fabric reinforcement, laid in concrete surface bed or apron slab with min of 300 laps	m^2	100.00	133.05	176.54	200.31	238.53
8	8 mm diameter plain mild steel bar reinforcement	Kg	100.00	117.04	158.70	165.20	175.05
9	10 mm diameter plain mild steel bar reinforcement	Kg	100.00	146.18	208.39	234.81	247.19
10	10 mm high tensile steel bar reinforcement	Kg	100.00	135.02	202.38	237.68	259.22
11	12 mm diameter plain mild steel bar reinforcement	Kg	100.00	133.49	183.00	221.83	261.24
12	20 mm high tensile steel bar reinforcement	Kg	100.00	148.98	179.44	205.01	241.32
13	Piers (brick work in concrete or burnt clay bricks having a minimum compressive strength of 10 Mpa)	m^3	100.00	103.52	121.92	151.83	167.93
14	Half brick wall (brick work in concrete or burnt clay bricks having a mini. compressive strength - 10 Mpa)	m^2	100.00	110.73	121.68	130.58	154.66
15	One brick wall	m^2	100.00	108.00	120.87	134.57	150.43
16	15 mm thick one coat plaster with steel troweled finish walls	m^2	100.00	110.29	118.24	132.61	159.61
17	Cement and sand (1:3) steel trowled smooth 40 mm thick floors and landings	m^2	100.00	109.17	141.71	174.61	179.76
18	Steel wire brick reinforcing fabric 75 mm wide built in horizontally	m	100.00	144.29	167.31	197.90	217.47
19	Prepare and apply one coat of alkali resisting primer and two coats of acrylic PVA emulsion paint on soffit and l	m^2	100.00	113.42	122.04	138.61	154.87
20	Prepare and apply one coat of acrylic filler coat and two coats of acrylic PVA emulsion paint on walls	m^2	100.00	113.47	123.53	136.68	152.58
21	375 microns thick polyethylene embosses damp proof course	m^2	100.00	141.00	171.22	205.32	248.35
22	375 microns thick polyethylene embosses damp proof sheeting	m^2	100.00	145.33	170.44	190.06	237.61
23	19 X 75 mm angle rounded skirting secured to walls	m	100.00	125.14	141.26	157.20	178.43
24	Formwork including propping not exceeding 3.5m high to sides of strip footing not exceeding 300 mm high	m	100.00	147.00	173.05	183.90	199.26
25	Formwork including propping not exceeding 3.5m high to sides of walls and beams including soft over openings	m^2	100.00	109.15	121.44	167.80	217.59
26	12mm thick soft board in expansion joint 150 mm high between brickwork and concrete	m	100.00	136.03	163.82	192.19	211.57
27	12mm thick soft board joint 230 mm wide between brickwork and concrete	m	100.00	140.20	159.21	189.68	212.61
28	43 mm thick semi-solid core flush door: 813 x 2032 mm with exterior quality masonite both sides	No.	100.00	110.94	118.17	141.33	155.50
29	Double rebated pressed steel door linings in half brick wall to suit 43 mm thick doors - 813 x 2032mm high	No.	100.00	113.13	124.64	140.31	160.89
30	Double rebated pressed steel door linings in half brick wall to suit 43 mm thick doors - 813 x 2032mm high with	No.	100.00	108.43	128.34	136.20	149.19

Table 5: ANNUAL EXPENDITURES ON ITEMS AND ASSOCIATED WEIGHTS

Item No.	Item Description	Units	1995 (P)	(%)
1	Excavate in earth not exceeding 2 m deep for trenches and holes	m^3	28,211.52	0.462
2	Risk of collapse 1.5 m deep from the ground level	m^3	808.40	0.013
3	Provide cube moulds and cast a set of three150X150X150 mm concre	sets	3,507.39	0.057
4	50mm thick surface blinding underfootings and bases	m^3	712,662.17	11.668
5	Vibrated reinforced concrete (class 30/20) cast against excavated	m^3	1,696,691.94	27.780
6	Vibrated reinforced concrete (class 30/20) in thickening	m^3	1,343,580.96	21.999
7	Welded square mesh fabric reinforcement, laid in concrete surface bed	m^2	26,623.36	0.436
8	8 mm diameter plain mild steel bar reinforcement	Kg	1,137.09	0.019
9	10 mm diameter plain mild steel bar reinforcement	Kg	4,245.24	0.070
10	10 mm high tensile steel bar reinforcement	Kg	5,259.22	0.086
11	12 mm diameter plain mild steel bar reinforcement	Kg	9,782.64	0.160
12	20 mm high tensile steel bar reinforcement	Kg	24,416.15	0.400
13	Piers (brick work in concrete or burnt clay bricks having a minimum co	m^3	5,508.89	0.090
14	Half brick wall (brick work in concrete or burnt clay bricks having a mi	m^2	467,854.98	7.660
15	One brick wall	m^2	1,141,608.71	18.692
16	15 mm thick one coat plaster with steel troweled finish walls	m^2	173,173.28	2.835
17	Cement and sand (1:3) steel trowled smooth: 40 mm thick floors and la	m^2	137,175.98	2.246
18	Steel wire brick reinforcing fabric 75 mm wide built in horizontally	m	3,964.20	0.065
19	Prepare and apply one coat of alkali resisting primer and two coats of a	m^2	101,099.39	1.655
20	Prepare and apply one coat of acrylic filler coat and two coats of acryli	m^2	157,707.07	2.582
21	375 microns thick polyethylene embosses damp proof course	m^2	962.92	0.016
22	375 microns thick polyethylene embosses damp proof sheeting	m^2	753.65	0.012
23	19 X 75 mm angle rounded skirting secured to walls	m	4,126.19	0.068
24	Formwork including propping not exceeding 3.5m high to sides of strip	m	545.63	0.009
25	Formwork including propping not exceeding 3.5m high to sides of wall	m^2	43,905.66	0.719
26	12mm thick soft board in expansion joint 150 mm high between brickw	m	312.08	0.005
27	12mm thick soft board joint 230 mm wide between brickwork and conc	m	572.69	0.009
28	43 mm thick semi-solid core flush door: 813 x 2032 mm with exterior c	No.	5,329.08	0.087
29	Double rebated pressed steel door linings in half brick wall to suit 43 m	No.	4,665.55	0.076
30	Double rebated pressed steel door linings in half brick wall to suit 43 m	No.	1,402.16	0.023
			6,107,594.19	**100.00**

Table 6: BUILDING INDEX (BI)

Item No.	Units	1995 Weight (W)	1995 Index (I)	1995 (WI)	1996 Weight (W)	1996 Index (I)	1996 (WI)	1997 Weight (W)	1997 Index (I)	1997 (WI)	1998 Weight (W)	1998 Index (I)	1998 (WI)	1999 Weight (W)	1999 Index (I)	1999 (WI)
1	m3	0.462	100.000	46.191	0.462	134.837	62.285	0.462	138.791	64.109	0.462	143.172	66.132	0.462	160.519	74.154
2	m2	0.013	100.000	1.324	0.013	112.655	1.491	0.013	135.881	1.790	0.013	140.739	1.863	0.013	189.977	2.515
3	sets	0.057	100.000	5.743	0.057	109.283	6.276	0.057	132.466	7.607	0.057	144.415	8.293	0.057	153.351	8.806
4	m3	11.668	100.000	1166.846	11.668	115.440	1347.006	11.668	134.195	1565.853	11.668	141.020	1645.483	11.668	154.821	1806.524
5	m3	27.780	100.000	2778.004	27.780	116.987	3249.905	27.780	151.378	4205.283	27.780	165.329	4592.853	27.780	183.066	5085.591
6	m3	21.999	100.000	2199.853	21.999	109.516	2409.181	21.999	133.468	2936.097	21.999	135.157	2973.263	21.999	161.095	3543.861
7	m2	0.436	100.000	43.591	0.436	133.049	57.997	0.436	176.538	76.954	0.436	200.312	87.317	0.436	238.526	103.973
8	Kg	0.019	100.000	1.862	0.019	117.045	2.179	0.019	158.701	2.955	0.019	165.204	3.076	0.019	175.052	3.259
9	Kg	0.070	100.000	6.951	0.070	146.175	10.160	0.070	208.386	14.484	0.070	234.813	16.321	0.070	247.193	17.182
10	Kg	0.086	100.000	8.611	0.086	135.017	11.626	0.086	202.385	17.427	0.086	237.682	20.467	0.086	259.221	22.322
11	Kg	0.160	100.000	16.017	0.160	133.494	21.382	0.160	183.004	29.312	0.160	221.829	35.531	0.160	261.240	41.843
12	Kg	0.400	100.000	39.977	0.400	148.976	59.556	0.400	179.435	71.732	0.400	205.008	81.956	0.400	241.319	96.472
13	m3	0.090	100.000	9.020	0.090	103.524	9.338	0.090	121.923	10.997	0.090	151.850	13.695	0.090	167.926	15.146
14	m2	7.660	100.000	766.022	7.660	110.726	848.182	7.660	121.682	932.109	7.660	130.584	1000.303	7.660	154.659	1184.723
15	m2	18.692	100.000	1869.165	18.692	108.004	2018.770	18.692	120.869	2259.246	18.692	134.568	2515.293	18.692	150.427	2811.717
16	m2	2.835	100.000	283.558	2.835	110.295	312.728	2.835	118.237	335.246	2.835	132.608	375.994	2.835	159.601	452.556
17	m2	2.246	100.000	224.599	2.246	109.166	245.187	2.246	141.711	318.281	2.246	174.610	392.172	2.246	179.757	403.733
18	m	0.065	100.000	6.491	0.065	144.287	9.365	0.065	167.314	10.860	0.065	197.898	12.845	0.065	217.470	14.115
19	m2	1.655	100.000	165.531	1.655	113.422	187.748	1.655	122.043	202.018	1.655	138.606	229.435	1.655	154.870	256.358
20	m2	2.582	100.000	258.215	2.582	113.468	292.992	2.582	123.533	318.981	2.582	136.685	352.940	2.582	152.577	393.977
21	m2	0.016	100.000	1.577	0.016	141.005	2.223	0.016	171.217	2.699	0.016	205.318	3.237	0.016	248.355	3.916
22	m2	0.012	100.000	1.234	0.012	145.335	1.793	0.012	170.435	2.103	0.012	190.064	2.345	0.012	237.605	2.932
23	m	0.068	100.000	6.756	0.068	125.138	8.454	0.068	141.263	9.543	0.068	157.204	10.620	0.068	178.432	12.055
24	m	0.009	100.000	0.893	0.009	147.004	1.313	0.009	173.047	1.546	0.009	183.898	1.643	0.009	199.259	1.780
25	m2	0.719	100.000	71.887	0.719	109.154	78.468	0.719	121.437	87.297	0.719	167.800	120.627	0.719	217.592	156.420
26	m	0.005	100.000	0.511	0.005	116.025	0.695	0.005	163.818	0.837	0.005	192.193	0.982	0.005	211.366	1.081
27	m	0.009	100.000	0.938	0.009	140.203	1.315	0.009	159.208	1.493	0.009	189.682	1.779	0.009	212.610	1.994
28	No	0.087	100.000	8.725	0.087	110.945	9.680	0.087	118.167	10.311	0.087	141.334	12.332	0.087	155.502	13.568
29	No	0.076	100.000	7.659	0.076	113.125	8.642	0.076	124.658	9.521	0.076	140.313	10.718	0.076	160.890	12.290
30	No	0.023	100.000	2.296	0.023	108.430	2.489	0.023	128.342	2.946	0.023	136.204	3.127	0.023	149.191	3.425
BI (Year Index)			100			113			135			146			165	
Time Interval			1			2			3			4			5	
Standard deviation			0			15			28			33			38	