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LOCAL DEVELOPMENT II PROGRAM (LD II)

**TECHNICAL ASSISTANCE PROJECT NO. 263 – 0182
UNDER CONTRACT NO. 263 – 0182 – C – 00 – 3001 – 00**

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SOCIAL PLANNING, ANALYSIS AND ADMINISTRATION CONSULTANTS (SPAAC)

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CONSULTING OFFICE

[TRANSLATION]

COST ANALYSIS REPORT

1991/1992

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1. INTRODUCTION

There are many essential and important items that must be taken into consideration in a study of construction projects. One of the most important being the study of up-to-date local cost data.

In 1988/1989, a cost analysis study was undertaken by district engineering and planning and follow up departments of each governorate in association with Wilbur Smith Associates Consulting Office. This study has now been updated through the efforts of these same participants.

The tables and data of this report are based on 54 contracts for construction of schools, clinics, youth facilities and WC's plus 10 contracts for utilities, from all the urban governorates.

Teams from each of the urban governorates collected recent project contract cost data. These costs were analyzed to yield such composite costs as: cost per square meter of a standard classroom without foundation, cost per square meter of a youth center and cost per square meter of a health clinic or a children's library cost per square meter for paving local streets. This type of cost data is of most value to planners and engineers.

Comparison of reports from different years will furnish a valid basis for calculating the percentage of inflation in the construction industry.

2. DATA COLLECTION & ANALYSIS METHODS

- 2.1 Recent contract cost data from all of the six urban governorates were collected for the construction of:**
- a. classrooms
 - b. clinics
 - c. youth facilities
 - d. public W.C.s
 - e. street pavement
 - f. street lighting
- 2.2 Data was classified according to governorate and type of project.**
- 2.3 Cost figures were broken out to reflect the separate costs for foundation, superstructure, and finishing work per square meter of the building land area.**
- 2.4 The average cost of foundation work per square meter of the land area (footprint), in Table 1, was calculated for the common types of foundations (isolated, raft, or deep), taking into consideration the number of the building floors.**

Table 1

**AVERAGE FOUNDATION COST,
L.E/M² OF THE TOTAL BUILDING (GROUND FLOOR) AREA**

1. Cairo Governorate				
No. of Floors	1	2	3	4
Foundation Type				
. Isolated				
. Raft	90	117	140	150
. Deep	-	287	287	287
	-	-	-	-
2. Alexandria Governorate				
No. of Floors	1	2	3	4
Foundation Type				
. Isolated				
. Raft	180	180	180	-
. Deep	-	-	-	-
	-	195	195	-
3. Giza Governorate				
No. of Floors	1	2	3	4
Foundation Type				
. Isolated				
. Raft	156	156	156	-
. Deep	-	-	-	-
	-	-	-	-
4. Suez Governorate				
No. of Floors	1	2	3	4
Foundation Type				
. Isolated				
. Raft	130	130	140	150
. Deep	-	-	-	-
	-	-	-	-

- 2.5 The average cost of superstructure and finishing work, in Table 2, was calculated per square meter for various types of facilities (school, clinic, youth center, and W.C.)

Table 2
SUPERSTRUCTURE & FINISHING COSTS
FOR DIFFERENT FACILITY TYPES

(Average Cost LE/m²)

Type of Facility	Superstructure	Finishing	Total
<i>Cairo Govern.</i>			
Schools	76	78	154
Clinics	96	*200	296
W.C.	130	263	393
Youth	97	*185	282
<i>Alex. Govern.</i>			
Schools	77	98	175
Clinics	109	*180	289
W.C.	-	-	-
Youth	-	-	-
<i>Giza Govern.</i>			
Schools	76	94	170
Clinics	-	-	-
W.C.	-	-	-
Youth	-	-	-
<i>Suez Govern.</i>			
Schools	119	159	278
Clinics	89	*215	304
W.C.	80	282	362
Youth	95	*175	270

W.C.'s are included

- o Average cost for superstructure/m² and finishing works/m² are functions of the type of facilities (schools, clinics, hospitals, ...). Thus, as a result of the different space and equipment needs of these facilities, the unit prices vary considerably from building type to building type.
- o As a basic definition, "superstructure" includes only the concrete skeleton and brick work (excluding foundation work).
- o Finishing works include all other items to finish the superstructure (facade, doors, windows, painting, plastering, mechanical & electrical appurtenances including wiring, pipe, fixtures ... etc).
- o The total of these two components represents the unit cost/m² for superstructure excluding foundation cost.

2.6 For each individual construction item, the prevailing local prices were recorded (reinforced concrete, bricks, toilet fixtures ... etc); see Table 3.

Table 3
AVERAGE COST PER CONSTRUCTION ITEM

1. Cairo

CONSTRUCTION ITEM	UNITS OF MEASUR.	AVERAGE COST L. E.	
		88/89	91/92
<u>Earth Works:</u>			
1. Excavation in normal soils	M3	3.7	5.0
2. Disposal of surplus materials to public dump areas	M3	3.3	5.0
3. Backfilling using the excavated materials	M3	2.8	3
4. Backfilling using fine sand	M3	3.8	5
5. Backfilling using pit run gravel	M3	10	12
<u>Concrete Works:</u>			
6. Plain concrete	M3	46	70
7. Reinforced concrete for foundations	M3	190	250
8. Reinforced concrete for superstructures	M3	190	270
<u>Damp-Proofing:</u>			
9. Insulation of foundations or walls by applying bituminous painting	M2	1.8	2.5
10. Roof insulation, installation of bituminous coated burlap layers	M2	3	4
<u>Masonry:</u>			
11. Cement hollow blocks	M2	8.5	10
12. Cement hollow blocks	M3	63	80
13. Cement blocks	M2	9	12
14. Cement blocks	M3	75	75
<u>Finishing Works:</u>			
15. Plain concrete flooring	M2	5	5
16. Plain concrete sloped for storm water drain.	M2	5	5
17. Mosaic tiles	M2	8.3	9
18. Cement tiles	M2	6.3	6.5
19. Mosaic stairs	L.M.	13.3	15
20. Cement baseboards	L.M.	0.2	0.4

Table 3 Cont.
 AVERAGE COST PER CONSTRUCTION ITEM

1. Cairo

CONSTRUCTION ITEM	UNITS OF MEASUR.	AVERAGE COST L.E.	
		88/89	91/92
21. Plastering works for walls (interior)	M2	3.9	4.5
22. Exterior plastering for facades including cement texture	M2	6.3	7
23. Oil painting for walls including putty and prime coat	M2	3.8	4
24. Whitewash for exterior walls	M2	1	1.25
<u>Plumbing Works:</u>			
25. Oriental Type vitreous China water closets, complete with all fittings	1 Unit	212	212
26. Vitreous China Western Type water closets, complete with all fittings	1 Unit	209	209
27. Vitreous China lavatory, complete with all fittings	1 Unit	75	125
28. Enameled iron lavatory, complete with all fittings	1 Unit	100	150
29. Vitreous China urinals, complete with all fittings	1 Unit	95	100
30. Enameled iron urinal, complete with all fittings	1 Unit	160	175
31. Floor drain made of cast iron, complete with all fittings	1 Unit	25	40
32. Galvanized steel pipes complete with all fittings:			
a. d = 1/2 inch size	L.M.	3.9	8
b. d = 1 inch size	L.M.	8	10
c. d = 1.5 inch size	L.M.	13	14
33. Cast iron pipes:			
a. d = 2 inch vent stack	L.M.	11	11
b. d = 3 inch waste stack	L.M.	15	17
c. d = 4 inch soil stack	L.M.	18	22
34. Vitrified clay pipes, house sewer complete including concrete bedding:			
a. d = 5 inches	L.M.	15	15
b. d = 6 inches	L.M.	18	18
35. Inspection chambers made of cement blocks: size 0.6 X 0.6 m	Unit	110	110
36. Glazed tiles for walls	m2	25	25
<u>Carpentry Work:</u>			
37. Wooden doors (2.2 X 1.0 m)	Unit	130	140
38. Wooden doors (2.2 X 0.8 m)	Unit	100	120
39. Wooden windows (glass is included) for schools (2.85 X 1.2 m)	Unit	180	200

Table 3 Cont. '

AVERAGE COST PER CONSTRUCTION ITEM

1. Cairo

CONSTRUCTION ITEM	UNITS OF MEASUR.	AVERAGE COST L. E.	
		88/89	91/92
<u>Electrical Installations:</u>			
40. Installation of an electrical circuit for an outlet to include wiring, 13 mm conduits, switch and outlet.	Unit	20	25
41. Incandescent light unit to include lamp & metal reflector	Unit	12	25
42. Fluorescent lighting unit, 2 lamps (120 cm) complete with all fittings	Unit	46.5	75
43. Electrical main panel (one switch)	Unit	75	100
a. 4 lines	Unit	119	150
b. 10 lines	Unit		
44. Construction of masonry fence: concrete skeleton wall with brick panels, cement plastering, and texture; total height is 2.5 m.	L.M.	150	-

Table 3 Cont.

AVERAGE COST PER CONSTRUCTION ITEM

2. Alexandria

CONSTRUCTION ITEM	UNITS OF MEASUR.	AVERAGE COST L. E.	
		88/89	91/92
<u>Earth Works:</u>			
1. Excavation in normal soils	M3	-	5
2. Disposal of surplus materials to public dump areas	M3	5.5	5.5
3. Backfilling using the excavated materials	M3	-	1.5
4. Backfilling using fine sand	M3	-	4
5. Backfilling using pit run gravel	M3	-	-
<u>Concrete Works:</u>			
6. Plain concrete	M3	50	55
7. Reinforced concrete for foundations	M3	200	230
8. Reinforced concrete for superstructures	M3	200	230
Damp-Proofing			
9. Insulation of foundations or walls by applying bituminous painting	M2	-	2
10. Roof insulation, installation of bituminous coated burlap layers	M2	-	4.5

Table 3 Cont.

AVERAGE COST PER CONSTRUCTION ITEM

2. Alexandria

CONSTRUCTION ITEM	UNITS OF MEASUR.	AVERAGE COST L.E.	
		88/89	91/92
<u>Masonry:</u>			
11. Cement hollow blocks	M2	7.8	10
12. Cement hollow blocks	M3	57	65
13. Cement blocks	M2	12	12
14. Cement blocks	M3	-	-
<u>Finishing Works:</u>			
15. Plain concrete flooring	M2	-	5
16. Plain concrete sloped for storm water drain.	M2	-	-
17. Mosaic tiles	M2	9	10.5
18. Cement tiles	M2	10.4	10.5
19. Mosaic stairs	L.M.	-	10
20. Cement baseboards	L.M.	2.5	-
21. Plastering works for walls (interior)	M2	3.20	3.5
22. Exterior plastering for facades including cement texture	M2	-	6.5
23. Oil painting for walls including putty and prime coat	M2	3.6	4.25
24. Whitewash for exterior walls	M2	1	1
<u>Plumbing Works:</u>			
25. Oriental Type vitreous China water closets, complete with all fittings	1 Unit	180	250
26. Vitreous China Western Type water closets, complete with all fittings	1 Unit	182	225
27. Vitreous China lavatory, complete with all fittings	1 Unit	65	100
28. Enameled iron lavatory, complete with all fittings	1 Unit	65	130
29. Vitreous China urinals, complete with all fittings	1 Unit	85	100
30. Enameled iron urinal, complete with all fittings	1 Unit	-	100
31. Floor drain made of cast iron, complete with all fittings	1 Unit	21	30
32. Galvanized steel pipes complete with all fittings:			
a. d = 1/2 inch size	L.M.	5	6
b. d = 1 inch size	L.M.	7	8
c. d = 1.5 inch size	L.M.	-	10

Table 3 Cont.
 AVERAGE COST PER CONSTRUCTION ITEM
 2. Alexandria

CONSTRUCTION ITEM	UNITS OF MEASUR.	AVERAGE COST ¹ L.E.	
		88/89	91/92
33. Cast iron pipes:			
a. d = 2 inch vent stack	L.M.	-	-
b. d = 3 inch waste stack	L.M.	12	16
c. d = 4 inch soil stack	L.M.	-	20
34. Vitrified clay pipes, house sewer complete including concrete bedding:			
a. d = 5 inches	L.M.	-	22
b. d = 6 inches	L.M.	-	25
35. Inspection chambers made of cement blocks: size 0.6 X 0.6 m	Unit	70	140
36. Glazed tiles for walls	m ²	25	30
<u>Carpentry Work:</u>			
37. Wooden doors (2.2 X 1.0 m)	Unit	-	180
38. Wooden doors (2.2 X 0.8 m)	Unit	-	150
39. Wooden windows (glass is included) for schools (2.85 X 1.2 m)	Unit	-	-
<u>Electrical Installations:</u>			
40. Installation of an electrical circuit for an outlet to include wiring, 13 mm conduits, switch and outlet.	Unit	-	30
41. Incandescent light unit to include lamp & metal reflector	Unit	-	-
42. Fluorescent lighting unit, 2 lamps (120 cm) complete with all fittings	Unit	-	85
43. Electrical main panel (one switch)			
a. 4 lines	Unit	-	150
b. 10 lines	Unit	-	200
44. Construction of masonry fence: concrete skeleton wall with brick panels, cement plastering, and texture; total height is 2.5 m.	L.M.	-	-

Table 3 Cont.
 AVERAGE COST PER CONSTRUCTION ITEM

3. Giza

CONSTRUCTION ITEM	UNITS OF MEASUR.	AVERAGE COST L.E.	
		88/89	91/92
<u>Earth Works:</u>			
1. Excavation in normal soils	M3	3.7	3.75
2. Disposal of surplus materials to public dump areas	M3	3.3	3.5
3. Backfilling using the excavated materials	M3	2.8	2.8
4. Backfilling using fine sand	M3	3.8	5
5. Backfilling using pit run gravel	M3	10	11
<u>Concrete Works:</u>			
6. Plain concrete	M3	46	60
7. Reinforced concrete for foundations	M3	190	265
8. Reinforced concrete for superstructures	M3	190	273
Damp-Proofing			
9. Insulation of foundations or walls by applying bituminous painting	M2	1.8	-
10. Roof insulation, installation of bituminous coated burlap layers	M2	3	4.5
<u>Masonry:</u>			
11. Cement hollow blocks	M2	8.5	10
12. Cement hollow blocks	M3	63	65
13. Cement blocks	M2	9	11
14. Cement blocks	M3	75	80
<u>Finishing Works:</u>			
15. Plain concrete flooring	M2	5	7.5
16. Plain concrete sloped for storm water drain.	M2	5	6
17. Mosaic tiles	M2	8.3	9.8
18. Cement tiles	M2	6.3	8
19. Mosaic stairs	L.M.	13.3	13
20. Cement baseboards	L.M.	0.2	1.2
21. Plastering works for walls (interior)	M2	3.9	3.9
22. Exterior plastering for facades including cement texture	M2	6.3	7
23. Oil painting for walls including putty and prime coat	M2	3.8	4
24. Whitewash for exterior walls	M2	1	1.25

Table 3 Cont.

AVERAGE COST PER CONSTRUCTION ITEM

3. Giza

CONSTRUCTION ITEM	UNITS OF MEASUR.	AVERAGE COST L.E.	
		88/89	91/92
<u>Plumbing Works:</u>			
25. Oriental Type vitreous China water closets, complete with all fittings	1 Unit	212	200
26. Vitreous China Western Type water closets, complete with all fittings	1 Unit	209	220
27. Vitreous China lavatory, complete with all fittings	1 Unit	75	95
28. Enameled iron lavatory, complete with all fittings	1 Unit	100	-
29. Vitreous China urinals, complete with all fittings	1 Unit	95	95
30. Enameled iron urinal, complete with all fittings	1 Unit	160	-
31. Floor drain made of cast iron, complete with all fittings	1 Unit	25	30
32. Galvanized steel pipes complete with all fittings:			
a. d = 1/2 inch size	L.M.	3.9	6
b. d = 1 inch size	L.M.	8	8
c. d = 1.5 inch size	L.M.	13	12
33. Cast iron pipes:			
a. d = 2 inch vent stack	L.M.	11	-
b. d = 3 inch waste stack	L.M.	15	-
c. d = 4 inch soil stack	L.M.	18	25
34. Vitrified clay pipes, house sewer complete including concrete bedding:			
a. d = 5 inches	L.M.	15	25
b. d = 6 inches	L.M.	18	-
35. Inspection chambers made of cement blocks: size 0.6 X 0.6 m	Unit	110	120
36. Glazed tiles for walls	m ²	25	30
<u>Carpentry Work:</u>			
37. Wooden doors (2.2 X 1.0 m)	Unit	130	-
38. Wooden doors (2.2 X 0.8 m)	Unit	100	-
39. Wooden windows (glass is included) for schools (2.85 X 1.2 m)	Unit	180	-
<u>Electrical Installations:</u>			
40. Installation of an electrical circuit for an outlet to include wiring, 13 mm conduits, switch and outlet.	Unit	20	20
41. Incandescent light unit to include lamp & metal reflector	Unit	12	15

Table 3 Cont.

AVERAGE COST PER CONSTRUCTION ITEM

3. Giza

CONSTRUCTION ITEM	UNITS OF MEASUR.	AVERAGE COST L.E.	
		88/89	91/92
42. Fluorescent lighting unit, 2 lamps (120 cm) complete with all fittings	Unit	46.5	60
43. Electrical main panel (one switch)	Unit	75	100
a. 4 lines	Unit	119	160
b. 10 lines	Unit		
44. Construction of masonry fence: concrete skeleton wall with brick panels, cement plastering, and texture; total height is 2.5 m.	L.M.	150	-

Table 3 Cont.

AVERAGE COST PER CONSTRUCTION ITEM

4. Suez

CONSTRUCTION ITEM	UNITS OF MEASUR.	AVERAGE COST L.E.	
		88/89	91/92
<u>Earth Works:</u>			
1. Excavation in normal soils	M3	5.0	5.0
2. Disposal of surplus materials to public dump areas	M3	-	-
3. Backfilling using the excavated materials	M3	2.5	2.5
4. Backfilling using fine sand	M3	5.0	5.0
5. Backfilling using pit run gravel	M3	7.5	9.0
<u>Concrete Works:</u>			
6. Plain concrete	M3	70	70
7. Reinforced concrete for foundations	M3	230	230
8. Reinforced concrete for superstructures	M3	238	245
Damp-Proofing			
9. Insulation of foundations or walls by applying bituminous painting	M2	2.0	2.0
10. Roof insulation, installation of bituminous coated burlap layers	M2	5	5
<u>Masonry:</u>			
11. Cement hollow blocks	M2	9	9
12. Cement hollow blocks	M3	75	75
13. Cement blocks	M2	11	11
14. Cement blocks	M3	78	78

Table 3 Cont.

AVERAGE COST PER CONSTRUCTION ITEM

4. Suez

CONSTRUCTION ITEM	UNITS OF MEASUR.	AVERAGE COST L. E.	
		88/89	91/92
<u>Finishing Works:</u>			
15. Plain concrete flooring	M2	-	-
16. Plain concrete sloped for storm water drain.	M2	8	8
17. Mosaic tiles	M2	15	15
18. Cement tiles	M2	7	8
19. Mosaic stairs	L.M.	14	14
20. Cement baseboards	L.M.	3	3
21. Plastering works for walls (interior)	M2	4	4.5
22. Exterior plastering for facades including cement texture	M2	9	9
23. Oil painting for walls including putty and prime coat	M2	4.5	4.5
24. Whitewash for exterior walls	M2	-	1.5
<u>Plumbing Works:</u>			
25. Oriental Type vitreous China water closets, complete with all fittings	1 Unit	250	250
26. Vitreous China Western Type water closets, complete with all fittings	1 Unit	230	230
27. Vitreous China lavatory, complete with all fittings	1 Unit	105	105
28. Enamelled iron lavatory, complete with all fittings	1 Unit	170	170
29. Vitreous China urinals, complete with all fittings	1 Unit	60	100
30. Enamelled iron urinal, complete with all fittings	1 Unit	170	170
31. Floor drain made of cast iron, complete with all fittings	1 Unit	35	33
32. Galvanized steel pipes complete with all fittings:			
a. d = 1/2 inch size	L.M.	8	8
b. d = 1 inch size	L.M.	15	15
c. d = 1.5 inch size	L.M.	18	18
33. Cast iron pipes:			
a. d = 2 inch vent stack	L.M.	-	25
b. d = 3 inch waste stack	L.M.	-	25
c. d = 4 inch soil stack	L.M.	17	32
34. Vitrified clay pipes, house sewer complete including concrete bedding:			
a. d = 5 inches	L.M.	-	16
b. d = 6 inches	L.M.	-	-
35. Inspection chambers made of cement blocks: size 0.6 X 0.6 m	Unit	120	120
36. Glazed tiles for walls	m2	35	35

Table 3 Cont.
 AVERAGE COST PER CONSTRUCTION ITEM

4. Suez

CONSTRUCTION ITEM	UNITS OF MEASUR.	AVERAGE COST L.E.	
		88/89	91/92
<u>Carpentry Work:</u>			
37. Wooden doors (2.2 X 1.0 m)	Unit	180	180
38. Wooden doors (2.2 X 0.8 m)	Unit	150	150
39. Wooden windows (glass is included) for schools (2.85 X 1.2 m)	Unit	-	-
<u>Electrical Installations:</u>			
40. Installation of an electrical circuit for an outlet to include wiring, 13 mm conduits, switch and outlet.	Unit	22	25
41. Incandescent light unit to include lamp & metal reflector	Unit	-	-
42. Fluorescent lighting unit, 2 lamps (120 cm) complete with all fittings	Unit	60	60
43. Electrical main panel (one switch)			
a. 4 lines	Unit	-	100
b. 10 lines	Unit	-	-
44. Construction of masonry fence: concrete skeleton wall with brick panels, cement plastering, and texture; total height is 2.5 m.	L.M.	-	-

2.7 Utilities - Table 4 shows street pavement costs per square meter for the various pavement layers. Table 5 shows street lighting costs per complete unit.

Table 4

**UNIT COSTS: STREET PAVING
(Including Material, Equipment, and Labor)**

1. Cairo

Item Description	Unit	Average Cost (L.E.)	
		1989	1992
Roads			
1. Excavation to final grade and disposal of excess materials	m ³	3.0	4.0
2. Sand for filling	m ³	4.0	5.0
3. Bituminous wearing course (5 cm)	m ²	2.5	3.0
4. Bituminous binder course (5 cm)	m ²	2.1	3.5
5. Prime coat layer (M.C.O) at a rate of 1.5 kg/m ²	m ²	0.2	0.2
6. Tack coat layer (R.C.2) at a rate of 0.5 kg/m ²	m ²	0.15	0.15
7. 15 cm aggregate base (crushed stone)	m ²	3.0	3.0
8. Curbstone, size 15/12.5 x 30 x 50	l.m.	6.0	6.0
9. Sidewalks using asphalt-sand mix (mastic)	m ²	3.0	3.0
10 Dismantling and disposal of deteriorated curbstone	l.m.	3.0	3.0
11 Construction of stormwater catch basins (0.6 m x 0.6 m)	no.	265	265
12 Removal and disposal of existing asphalt or concrete pavement	m ³	8.5	15

Table 5

UNIT COSTS: STREET LIGHTING
1. Cairo

Item Description	Unit	Average Cost (L.E.)	
		1989	1992
<u>Street Lighting</u>			
A. <u>Lighting Brackets</u>			
1. Brackets to be fixed to existing walls	Per Unit	200	260
2. Installation cost to include cables, lighting panel, ducts and all other items	Per Unit	45	50
Total Cost Per Complete Lighting Unit	Per Unit	245	310

Table 5 Cont.

UNIT COSTS: STREET LIGHTING
2. Alexandria

Item Description	Unit	Average Cost (L.E.)	
		1989	1992
<u>Street Lighting</u>			
A. <u>Lighting Poles</u>			
1. Pole and fixtures	Per Pole	530	650
2. Installation cost to include cables, lighting panel, ducts and all other items	Per Pole	330	420
Total Cost Per Complete Lighting Unit	Per Pole	860	1070
B. <u>Lighting Brackets</u>			
1. Brackets to be fixed to existing walls	Per Unit	200	305
2. Installation cost to include cables, lighting panel, ducts and all other items	Per Unit	45	80
Total Cost Per Complete Lighting Unit	Per Unit	245	385

Table 5 Cont.

**UNIT COSTS: STREET LIGHTING
3. Giza**

Item Description	Unit	Average Cost (L.E.)	
		1989	1992
<u>Street Lighting</u>			
A. <u>Lighting Poles</u>			
1. Pole and fixtures	Per Pole	530	620
2. Installation cost to include cables, lighting panel, ducts and all other items	Per Pole	330	420
Total Cost Per Complete Lighting Unit	Per Pole	860	1040

3. UPDATING AND INFLATION RATES

1. This report is based on the calendar year 91/92 local market contracted prices.
2. As a minimum, updating of these report should be conducted every other year.
3. Any major change in the cost of construction items, such as rebar or cement prices, should be accounted for as they occur.
4. Through the comparison of several updated reports, a graph could be developed to illustrate the inflationary trends for each of the major construction items.