DIVISION 4.
Pavement Widening and Shoulders

DIVISION 5.
Granular Pavement

DIVISION 6.
Asphalt Pavement

CONSTRUCTION COST ESTIMATE WORKSHEET

PROJECT : .... FLYOVER

NORTH JAVA CORRIDOR FLYOVER PROJECT

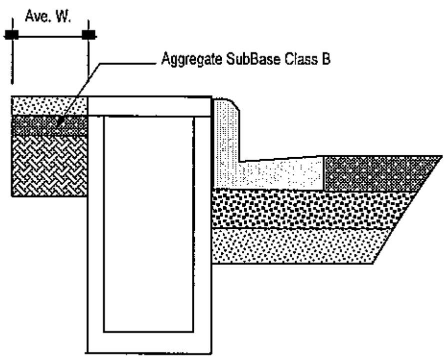
KATAHIRA AND ENGINEERS INTERNATIONAL

GEBANG FLYOVER

Item No.	Description	Unit	Main Road / Flyover	Right Service Road	Left Service Road	Total
	Division 4 - PAVEMENT WIDENING AND SHOULDERS					
4.2.1	Aggregate SubBase Class B	cum.	24.05	36.41	44.79	105.26
	Division 5 - GRANULAR PAVEMENT					
5.1.1	Aggregate SubBase Class A	cum.	1,336.40	1,425.44	620.37	3,382.22
5.1.2	Aggregate SubBase Class B	cum.	1,848.69	1,961.73	670.91	4,481.33
	Division 6 - ASPHALT PAVEMENT					
6.1.1	Prime Coat	Lit.	4,595.47	3,091.56	1,318.20	9,005.23
6.1.2	Tact Coat	Lit.	9,862.49	3,706.87	4,135.37	17,704.73
6.3.5	Asphalt Concrete Wearing Course (AC-WC)	tonne	1,177.56	425.32	768.33	2,371.21
6.3.6	Asphalt Concrete Binder Course (AC-BC)	tonne	911.47	423.34	176.26	1,511.06
6.3.7	Asphalt Concrete Base (AC-Base)	tonne	1,036.68	699.37	278.68	2,014.74

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of
PROJECT : .... FLYOVER		
NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO :	ESTIMATOR :	CHECKED BY :

SKETCH DRAWING



Section of Aggregate Subbase Class B Left

CALCULATION

Gebang Flyover - Contract Package 2

REMARKS

Item No. 4.2.1 - Aggregate SubBase Class B

Location : At Shoulder

Note: See Detailed Construction Layout Plan

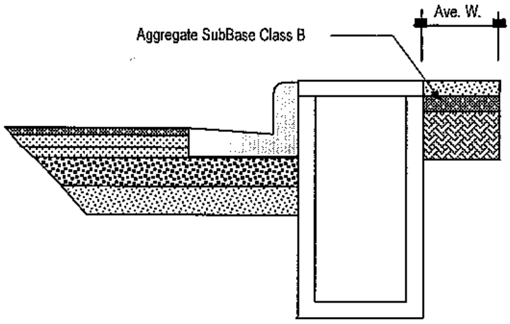
Dwg. # GRD-024 - GRD-030 for reference.

At Left Service Road

Length	Ave. Width	Thickness	Volume
(m)	(m)	(m)	(m^3)
24.337	0.403	0.100	0.981
33.233	0.402	0.100	1.336
40.814	0.403	0.100	1.645
57.451	1.302	0.100	7.480
102.328	1.302	0.100	13.323
445.095	0.450	0.100	20.029
		Total Volume =	44.79 cum

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
PROJECT : .... FLYOVER			
NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	ESTIMATOR :	CHECKED BY :	

SKETCH DRAWING



Section of Aggregate Subbase Class B Right

CALCULATION

Gebang Flyover - Contract Package 2

REMARKS

Item No. 4.2.1 - Aggregate SubBase Class B — Location : At Shoulder

Note: See Detailed Construction Layout Plan

Dwg. # GRD-024 - GRD-030 for reference.

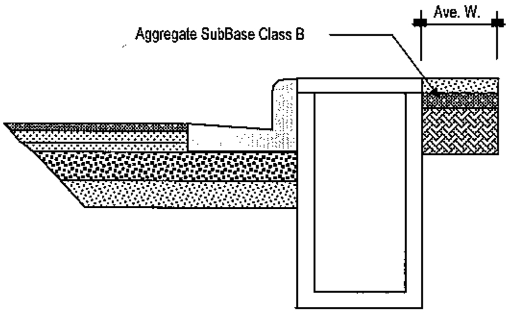
A. Approach A

At Right Side

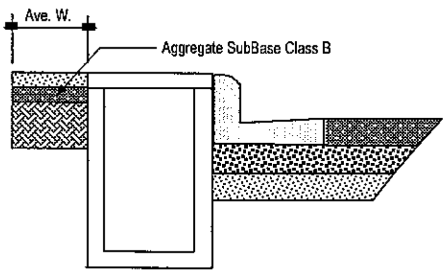
Length (m)	Ave. Width (m)	Thickness (m)	Volume (m^3)
32.000	0.402	0.100	1.286
112.578	0.403	0.100	4.537
45.904	0.403	0.100	1.850
54.162	1.135	0.100	6.147
156.607	0.626	0.100	9.804
165.607	0.513	0.100	8.496
106.545	0.403	0.100	4.294
		Total Volume =	**36.41 cum**

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
PROJECT : .... FLYOVER			
NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	ESTIMATOR :	CHECKED BY :	

SKETCH DRAWING	CALCULATION	REMARKS
	Gebang Flyover - Contract Package 2	



Section of Aggregate Subbase Class B Right



Section of Aggregate Subbase Class B Left

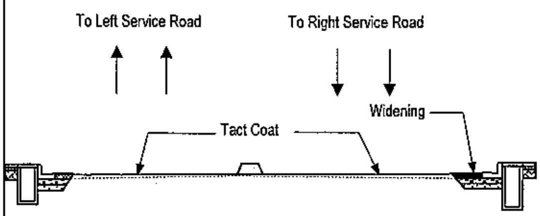
Item No. 4.2.1 - Aggregate SubBase Class B — Location : At Shoulder

Note: See Detailed Construction Layout Plan
Dwg. # GRD-024 - GRD-030 for reference.

A. Approach A			
At Right Side			
Length	**Ave. Width**	**Thickness**	**Volume**
(m)	**(m)**	**(m)**	**(m^3)**
38.433	1.301	0.100	5.000
14.000	0.801	0.100	1.121
87.080	0.401	0.100	3.492
		Sub-Total =	**9.61 cum**
At Left Side			
Length	**Ave. Width**	**Thickness**	**Volume**
(m)	**(m)**	**(m)**	**(m^3)**
24.277	0.000	0.100	0.000
52.587	0.400	0.100	2.103
28.000	0.401	0.100	1.123
		Sub-Total =	**3.23 cum**
A. Approach B			
At Right Side			
Length	**Ave. Width**	**Thickness**	**Volume**
(m)	**(m)**	**(m)**	**(m^3)**
52.000	0.403	0.100	2.096
76.987	0.628	0.100	4.835
		Sub-Total =	**6.93 cum**
At Left Side			
Length	**Ave. Width**	**Thickness**	**Volume**
(m)	**(m)**	**(m)**	**(m^3)**
73.000	0.403	0.100	2.942
33.303	0.403	0.100	1.342
		Sub-Total =	**4.284 cum**
Total Volume =	**24.054**	**cum.**	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
PROJECT : .... FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	ESTIMATOR :	CHECKED BY :	

SKETCH DRAWING	CALCULATION Gebang Flyover - Contract Package 2	REMARKS



Sectionof Road Widening

Item No. 6.1.2 - Tact Coat					Pavement Overlay Bound to Tangerang
Note: See Detailed Construction Layout Plan					
Dwg. # GRD-024 - GRD-030 for reference.					
Input Data :					
Area from AutoCad					
Area =	6,832.44	sqm.			
Area to be deducted from Auto Cad Area :					
Ave. Width =	1.15	m			
Total Length =	1,040.00	m			
Area =	1,198.08	sqm.			
Total Area =	**5,634.36**	**sqm.**			
Volume =	5,634.36	x	0.5	**= 2,817.18 lit.**	
	sqm.		lit/sqm.		

CONSTRUCTION COST ESTIMATE WORKSHEET

Date Prepared

Sheet : of

PROJECT : .... FLYOVER

NORTH JAVA CORRIDOR FLYOVER PROJECT

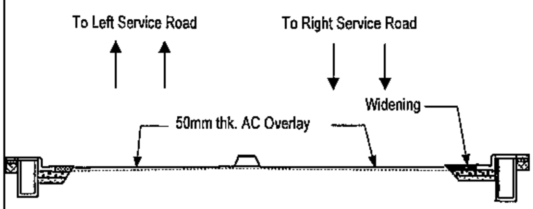
KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO :

ESTIMATOR :

CHECKED BY :

SKETCH DRAWING



Section of Road Widening

CALCULATION

Gebang Flyover - Contract Package 2

REMARKS

Item No. 6.3.5 - Asphalt Concrete Wearing Course (AC - WC) — Pavement Overlay

Note: See Detailed Construction Layout Plan

Dwg. # GRD-024 - GRD-030 for reference.

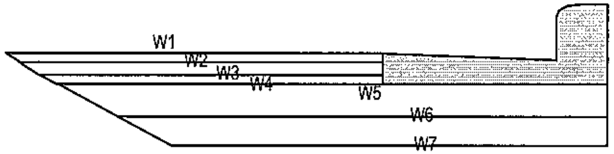
At Left Service Road

Input Data :

Area from AutoCad		
Area =	6,832.44	sqm.
Area to be deducted from Auto Cad Area :		
Ave. Width =	1.152	m
Total Length =	1,040.00	m
Area =	1,198.08	sqm.
Total Area =	**5,634.36**	**sqm.**
thickness =	0.05 m	

Wt = (5,634.36 x 0.050 x 2.30) = 647.95 Ton

PROJECT : ....FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT
KATAHIRA AND ENGINEERS INTERNATIONAL



Note:

AC - WC = Asphalt Concrete Wearing Course
AC - BC = Asphalt Concrete Binder Course
AC - Base = Asphalt Concrete Base
SBC - Type A = Sub-Base Course (Agg. Class A)
SBC - Type B = Sub-Base Course (Agg. Class B)

	Thickness
AC - WC	0.040
AC - BC	0.060
AC - Base	0.100
SBC (Type -A)	0.400
SBC (Type -B)	0.550

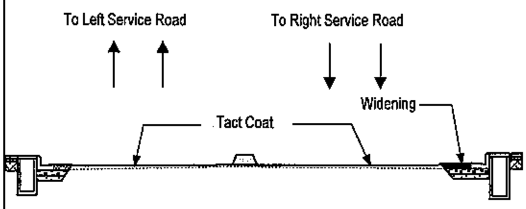
Gebang Flyover (At Left Service Road)

STATION	DISTANCE	AC - WC		AC - BC		AC - Base		SBC (Type A)		SBC (Type B)		Tonne	Volume		PAVEMENT			
		width		width		width		width		width		AC -Base	SBC (Type A)	SBC (Type B)	Prime Coat Liters	Tack Coat Liters	AC - BC Tonne	AC - WC Tonne
		W1	W2	W2	W3	W3	w4	w5	w6	w6	w7							
00 + 148.00		1.166	1.124	1.124	1.062	1.062	0.958	1.662	1.253	1.253	0.700							
00 + 160.00	12.00	1.173	1.132	1.132	1.069	1.069	0.965	1.669	1.257	1.257	0.700	2.80	7.01	6.45	14.03	14.03	1.82	1.27
00 + 180.00	20.00	1.173	1.132	1.132	1.069	1.069	0.965	1.669	1.257	1.257	0.700	4.68	11.70	10.76	23.46	23.46	3.04	2.12
00 + 200.00	20.00	1.173	1.132	1.132	1.069	1.069	0.965	1.669	1.257	1.257	0.700	4.68	11.70	10.76	23.46	23.46	3.04	2.12
00 + 220.00	20.00	1.173	1.132	1.132	1.069	1.069	0.965	1.669	1.257	1.257	0.700	4.68	11.70	10.76	23.46	23.46	3.04	2.12
00 + 240.00	20.00	1.173	1.132	1.132	1.069	1.069	0.965	1.669	1.257	1.257	0.700	4.68	11.70	10.76	23.46	23.46	3.04	2.12
00 + 260.00	20.00	1.173	1.132	1.132	1.069	1.069	0.965	1.819	1.390	1.390	0.876	4.68	12.27	11.61	23.46	23.46	3.04	2.12
00 + 280.00	20.00	1.173	1.132	1.132	1.069	1.069	0.965	1.819	1.469	1.469	0.812	4.68	12.99	12.50	23.46	23.46	3.04	2.12
00 + 300.00	20.00	1.173	1.132	1.132	1.069	1.069	0.965	1.819	1.431	1.431	0.834	4.68	13.08	12.50	23.46	23.46	3.04	2.12
00 + 320.00	20.00	1.173	1.132	1.132	1.069	1.069	0.965	1.819	1.409	1.409	0.854	4.68	12.96	12.45	23.46	23.46	3.04	2.12
00 + 340.00	20.00	1.173	1.132	1.132	1.069	1.069	0.965	1.819	1.330	1.330	1.193	4.68	12.75	13.16	23.46	23.46	3.04	2.12
00 + 360.00	20.00	1.173	1.132	1.132	1.069	1.069	0.965	1.819	1.323	1.323	1.250	4.68	12.58	14.01	23.46	23.46	3.04	2.12
00 + 380.00	20.00	1.147	1.107	1.107	1.047	1.047	0.948	1.797	1.366	1.366	0.917	4.63	12.61	13.35	23.20	23.20	3.00	2.10
00 + 400.00	20.00	1.130	1.091	1.091	1.033	1.033	0.937	1.783	1.820	1.820	0.769	4.56	13.53	13.40	22.77	22.77	2.95	2.06
00 + 420.00	20.00	-	-	-	-	-	-	-	-	-	-	2.27	7.21	7.12	11.30	11.30	1.47	1.02
00 + 440.00	20.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
00 + 460.00	20.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
00 + 480.00	20.00	1.137	1.098	1.098	1.039	1.039	0.941	1.639	1.249	1.249	0.700	2.28	5.78	5.36	11.37	11.37	1.47	1.03
00 + 500.00	20.00	1.129	1.090	1.090	1.030	1.030	0.936	1.634	1.241	1.241	0.700	4.54	11.53	10.70	22.66	22.66	2.94	2.05

Gebang Flyover (At Left Service Road)

STATION	DISTANCE	AC - WC width		AC - BC width		AC - Base width		SBC (Type A) width		SBC (Type B) width		Tonne	Volume		PAVEMENT			
		W1	W2	W2	W3	W3	w4	w5	w6	w6	w7	AC -Base	SBC (Type A)	SBC (Type B)	Prime Coat Liters	Tack Coat Liters	AC - BC Tonne	AC - WC Tonne
00 + 520.00	20.00	1.587	1.548	1.548	1.490	1.490	1.377	2.077	1.687	1.687	1.152	5.56	13.28	13.15	27.16	27.16	3.56	2.46
00 + 540.00	20.00	3.335	3.255	3.255	3.137	3.137	2.928	3.827	3.529	3.529	2.967	10.27	22.24	25.67	49.22	49.22	6.51	4.47
00 + 560.00	20.00	4.790	4.710	4.710	4.590	4.590	4.386	5.433	4.988	4.988	4.426	17.30	35.55	43.75	81.25	81.25	10.83	7.40
00 + 580.00	20.00	5.037	4.958	4.958	4.839	4.839	4.651	5.697	5.269	5.269	4.707	21.24	42.77	53.32	98.27	98.27	13.18	8.97
00 + 600.00	20.00	5.447	5.367	5.367	5.206	5.206	5.046	6.004	5.650	5.650	5.088	22.70	45.24	56.96	104.84	104.84	14.06	9.57
00 + 620.00	20.00	5.231	5.150	5.150	5.030	5.030	4.876	5.609	3.075	3.075	3.667	23.18	40.68	48.07	106.78	106.78	14.32	9.75
00 + 640.00	20.00	3.082	2.997	2.997	2.870	2.870	2.670	3.370	2.526	2.526	1.415	17.76	29.16	29.38	83.13	83.13	11.07	7.57
00 + 660.00	20.00	1.500	1.459	1.459	1.398	1.398	1.324	2.028	1.622	1.622	1.622	9.50	19.09	19.76	45.82	45.82	6.02	4.16
00 + 680.00	20.00	1.695	1.654	1.654	1.592	1.592	1.526	2.232	1.824	1.824	1.262	6.72	15.41	17.41	31.95	31.95	4.21	2.90
00 + 700.00	20.00	1.779	1.739	1.739	1.677	1.677	1.592	2.298	1.890	1.890	1.329	7.35	16.49	17.34	34.74	34.74	4.60	3.16
00 + 720.00	20.00	1.545	1.508	1.508	1.445	1.445	1.337	2.043	1.643	1.643	1.073	6.96	15.75	16.32	33.24	33.24	4.39	3.02
00 + 740.00	20.00	1.462	1.420	1.420	1.358	1.358	1.260	1.966	1.557	1.557	0.996	6.21	14.42	14.49	30.07	30.07	3.95	2.73
00 + 760.00	20.00	1.454	1.412	1.412	1.350	1.350	1.255	2.107	2.167	2.167	2.124	6.01	15.59	18.82	29.16	29.16	3.82	2.64
00 + 780.00	20.00	1.500	1.458	1.458	1.395	1.395	1.312	2.014	1.601	1.601	1.008	6.11	15.78	18.98	29.54	29.54	3.87	2.68
00 + 800.00	20.00	1.748	1.706	1.706	1.644	1.644	1.543	2.250	1.840	1.840	1.277	6.78	15.41	15.75	32.48	32.48	4.28	2.95
00 + 820.00	20.00	1.829	1.787	1.787	1.725	1.725	1.621	2.325	1.916	1.916	1.355	7.51	16.66	17.57	35.77	35.77	4.73	3.25
00 + 840.00	20.00	1.838	1.796	1.796	1.734	1.734	1.634	2.334	1.925	1.925	1.634	7.72	17.00	18.78	36.67	36.67	4.86	3.34
00 + 860.00	20.00	1.671	1.629	1.629	1.567	1.567	1.467	2.167	1.758	1.758	1.197	7.36	16.37	17.91	35.09	35.09	4.64	3.19
00 + 880.00	20.00	1.462	1.420	1.420	1.758	1.758	1.254	1.958	1.550	1.550	0.988	6.95	14.87	15.11	31.33	31.33	4.40	2.84
00 + 900.00	20.00	0.174	1.132	1.132	1.070	1.070	0.946	1.646	1.262	1.262	0.700	5.78	12.83	12.38	16.36	16.36	3.71	1.93
00 + 908.00	8.00	1.174	1.132	1.132	1.070	1.070	0.966	1.670	1.268	1.268	0.700	1.86	4.68	4.32	5.39	5.39	1.22	0.66
										TOTAL		278.68	620.37	670.91	1,318.20	1,318.20	176.26	120.38

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
PROJECT : .... FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	ESTIMATOR :	CHECKED BY :	
SKETCH DRAWING	CALCULATION Gebang Flyover - Contract Package 2		REMARKS



Section of Road Widening

Item No. 6.1.2 - Tact Coat — Pavement Overlay

Note: See Detailed Construction Layout Plan

Dwg. # GRD-024 - GRD-030 for reference.

At Rigth Service Road

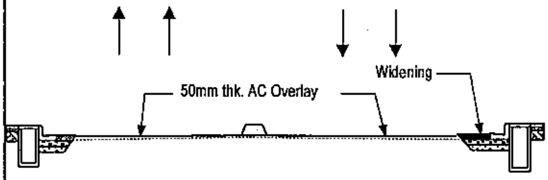
Input Data :

Area from AutoCad		
Area =	1,821.13	sqm.
Area to be deducted from Auto Cad Area :		
Ave. Width =	1.18	m
Total Length =	500.00	m
Area =	590.50	sqm.
Total Area =	**1,230.63**	**sqm.**

Volume =	1,230.63	x	0.5	**= 615.31 lit.**
	sqm.		lit/sqm.	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of
PROJECT : .... FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO :	ESTIMATOR :	CHECKED BY :

SKETCH DRAWING	CALCULATION Gebang Flyover - Contract Package 2	REMARKS



Section of Road Widening

Item No. 6.3.5 - Asphalt Concrete Wearing Course (AC - WC) — Pavement Overlay

Note: See Detailed Construction Layout Plan

Dwg. # GRD-024 - GRD-030 for reference.

At Rigth Service Road

Input Data :

Area from AutoCad

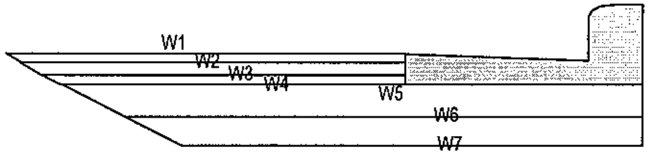
Area =	1,821.13	sqm.

Area to be deducted from Auto Cad Area :

Ave. Width =	1.18	m
Total Length =	500.00	m
Area =	590.50	sqm.
Total Area =	**1,230.63**	**sqm.**
thickness =	0.05 m	

Wt = (1,230.63 x 0.050 x 2.30) **= 141.52 Ton**

PROJECT : ....FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT
KATAHIRA AND ENGINEERS INTERNATIONAL



Note:

AC - WC = Asphalt Concrete Wearing Course
AC - BC = Asphalt Concrete Binder Course
AC - Base = Asphalt Concrete Base
SBC - Type A = Sub-Base Course (Agg. Class A)
SBC - Type B = Sub-Base Course (Agg. Class B)

	Thickness
AC - WC	0.040
AC - BC	0.060
AC - Base	0.100
SBC (Type -A)	0.400
SBC (Type -B)	0.550

Gebang Flyover (At Right Service Road)

STATION	DISTANCE	AC - WC width		AC - BC width		AC - Base width		SBC (Type A) width		SBC (Type B) width		Tonne	Volume		PAVEMENT			
		W1	W2	W2	W3	W3	w4	w5	w6	w6	w7	AC -Base	SBC (Type A)	SBC (Type B)	Prime Coat Liters	Tack Coat Liters	AC - BC Tonne	AC - WC Tonne
00 + 148.00		7.670	7.628	7.628	7.566	7.566	7.468	8.168	7.763	7.763	7.202							
00 + 160.00	12.00	5.000	5.000	5.000	5.000	5.000	5.000	6.020	6.300	6.300	6.300	17.27	33.90	45.48	76.02	76.02	10.43	6.98
00 + 180.00	20.00	5.000	5.000	5.000	5.000	5.000	5.000	6.020	6.300	6.300	6.300	23.00	49.28	69.30	100.00	100.00	13.80	9.20
00 + 200.00	20.00	6.100	6.100	6.100	6.100	6.100	6.100	6.420	6.747	6.747	6.643	25.53	50.97	71.47	111.00	111.00	15.32	10.21
00 + 220.00	20.00	6.100	6.100	6.100	6.100	6.100	6.100	6.420	6.747	6.747	6.643	28.06	52.67	73.65	122.00	122.00	16.84	11.22
00 + 240.00	20.00	6.100	6.100	6.100	6.100	6.100	6.100	6.420	6.747	6.747	6.643	28.06	52.67	73.65	122.00	122.00	16.84	11.22
00 + 260.00	20.00	6.100	6.100	6.100	6.100	6.100	6.100	6.420	6.747	6.747	6.643	28.06	52.67	73.65	122.00	122.00	16.84	11.22
00 + 280.00	20.00	6.100	6.100	6.100	6.100	6.100	6.100	6.420	6.747	6.747	6.643	28.06	52.67	73.65	122.00	122.00	16.84	11.22
00 + 300.00	20.00	6.100	6.100	6.100	6.100	6.100	6.100	6.420	6.747	6.747	6.643	28.06	52.67	73.65	122.00	122.00	16.84	11.22
00 + 320.00	20.00	5.500	5.500	5.500	5.500	5.500	5.500	5.820	6.157	6.157	6.696	26.68	50.29	72.17	116.00	116.00	16.01	10.67
00 + 340.00	20.00	5.000	5.000	5.000	5.000	5.000	5.000	6.020	6.343	6.343	6.896	24.15	48.68	71.75	105.00	105.00	14.49	9.66
00 + 360.00	20.00	4.948	4.907	4.907	4.844	4.844	4.744	5.444	5.022	5.022	4.475	22.53	45.66	62.52	99.48	99.48	13.63	9.13
00 + 380.00	20.00	4.957	4.916	4.916	4.853	4.853	4.753	5.603	5.616	5.616	5.616	22.07	43.37	57.00	99.05	99.05	13.47	9.07
00 + 400.00	20.00	1.174	1.132	1.132	1.070	1.070	0.966	1.820	1.833	1.833	1.833	13.39	29.74	40.97	61.31	61.31	8.26	5.60
00 + 420.00	20.00	1.174	1.132	1.132	1.070	1.070	0.966	1.820	1.833	1.833	1.833	4.68	14.61	20.16	23.48	23.48	3.04	2.12
00 + 440.00	20.00	-	-	-	-	-	-	-	-	-	-	2.34	7.31	10.08	11.74	11.74	1.52	1.06
00 + 460.00	20.00	1.174	1.132	1.132	1.070	1.070	0.966	1.820	1.833	1.833	1.833	2.34	7.31	10.08	11.74	11.74	1.52	1.06
00 + 480.00	20.00	1.149	1.109	1.109	1.049	1.049	0.950	1.799	1.833	1.833	1.833	4.64	14.57	20.16	23.23	23.23	3.01	2.10

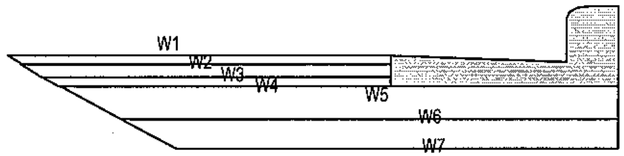
Gebang Flyover (At Right Service Road)

STATION	DISTANCE	AC - WC width W1	AC - WC width W2	AC - BC width W2	AC - BC width W3	AC - Base width W3	AC - Base width w4	SBC (Type A) width w5	SBC (Type A) width w6	SBC (Type B) width w6	SBC (Type B) width w7	Tonne AC -Base	Volume SBC (Type A)	Volume SBC (Type B)	PAVEMENT Prime Coat Liters	PAVEMENT Tack Coat Liters	PAVEMENT AC - BC Tonne	PAVEMENT AC - WC Tonne
00 + 500.00	20.00	1.174	1.132	1.132	1.069	1.069	0.965	1.669	1.244	1.244	0.700	4.64	13.09	15.43	23.23	23.23	3.01	2.10
00 + 520.00	20.00	1.710	1.669	1.669	1.608	1.608	1.523	2.227	1.804	1.804	1.257	5.94	13.89	13.76	28.84	28.84	3.78	2.62
00 + 540.00	20.00	1.888	1.846	1.846	1.784	1.784	1.685	2.389	1.981	1.981	1.419	7.59	16.80	17.77	35.98	35.98	4.77	3.27
00 + 560.00	20.00	2.452	2.410	2.410	2.348	2.348	2.248	2.948	2.525	2.525	1.978	9.27	19.69	21.73	43.40	43.40	5.79	3.95
00 + 580.00	20.00	2.497	2.456	2.456	2.393	2.393	2.293	2.993	2.573	2.573	2.026	10.67	22.08	25.03	49.49	49.49	6.63	4.51
00 + 600.00	20.00	2.369	2.328	2.328	2.268	2.268	2.168	2.868	2.494	2.494	1.934	10.49	21.86	24.82	48.66	48.66	6.52	4.44
00 + 620.00	20.00	3.640	3.598	3.598	3.536	3.536	3.432	4.456	4.474	4.474	4.474	13.11	28.58	36.78	60.09	60.09	8.09	5.49
00 + 640.00	20.00	2.321	2.281	2.281	2.217	2.217	2.113	2.817	2.409	2.409	1.847	12.99	28.31	36.31	59.61	59.61	8.03	5.45
00 + 660.00	20.00	2.433	2.391	2.391	2.329	2.329	2.225	2.929	2.520	2.520	1.959	10.22	21.35	24.02	47.54	47.54	6.36	4.34
00 + 680.00	20.00	4.109	4.068	4.068	4.005	4.005	3.901	4.605	4.197	4.197	3.636	14.33	28.50	33.86	65.42	65.42	8.83	5.98
00 + 700.00	20.00	5.000	5.000	5.000	5.000	5.000	5.000	6.047	6.200	6.200	6.200	20.59	42.10	55.64	91.09	91.09	12.47	8.36
00 + 720.00	20.00	5.000	5.000	5.000	5.000	5.000	5.000	5.000	6.276	6.276	6.179	23.00	47.05	68.35	100.00	100.00	13.80	9.20
00 + 740.00	20.00	5.000	5.000	5.000	5.000	5.000	5.000	5.000	6.276	6.276	6.179	23.00	45.10	68.50	100.00	100.00	13.80	9.20
00 + 760.00	20.00	5.000	5.000	5.000	5.000	5.000	5.000	5.000	6.276	6.276	6.179	23.00	45.10	68.50	100.00	100.00	13.80	9.20
00 + 780.00	20.00	5.000	5.000	5.000	5.000	5.000	5.000	5.000	6.276	6.276	6.179	23.00	45.10	68.50	100.00	100.00	13.80	9.20
00 + 800.00	20.00	7.000	7.000	7.000	7.000	7.000	7.000	7.347	7.608	7.608	7.522	27.60	52.46	75.86	120.00	120.00	16.56	11.04
00 + 820.00	20.00	5.000	5.000	5.000	5.000	5.000	5.000	6.047	6.384	6.384	6.923	27.60	54.77	78.20	120.00	120.00	16.56	11.04
00 + 840.00	20.00	5.000	5.000	5.000	5.000	5.000	5.000	6.047	6.330	6.330	6.242	23.00	49.62	71.17	100.00	100.00	13.80	9.20
00 + 860.00	20.00	5.000	5.000	5.000	5.000	5.000	5.000	6.047	6.330	6.330	6.242	23.00	49.51	69.15	100.00	100.00	13.80	9.20
00 + 880.00	20.00	5.000	5.000	5.000	5.000	5.000	5.000	6.047	6.330	6.330	6.242	23.00	49.51	69.15	100.00	100.00	13.80	9.20
00 + 900.00	20.00	5.000	5.000	5.000	5.000	5.000	5.000	6.047	6.330	6.330	6.242	23.00	49.51	69.15	100.00	100.00	13.80	9.20
00 + 908.00	8.00	7.540	7.499	7.499	7.436	7.436	7.336	8.036	7.628	7.628	7.667	11.40	22.43	30.65	50.16	50.16	6.88	4.61
TOTAL												699.37	1,425.44	1,961.73	3,091.56	3,091.56	423.34	283.80

PROJECT : ....FLYOVER

NORTH JAVA CORRIDOR FLYOVER PROJECT

KATAHIRA AND ENGINEERS INTERNATIONAL



Note:

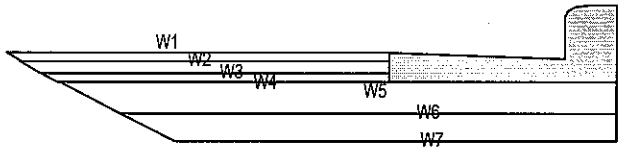
AC - WC = Asphalt Concrete Wearing Course
AC - BC = Asphalt Concrete Binder Course
AC - Base = Asphalt Concrete Base
SBC - Type A = Sub-Base Course (Agg. Class A)
SBC - Type B = Sub-Base Course (Agg. Class B)

	Thickness
AC - WC	0.040
AC - BC	0.060
AC - Base	0.100
SBC (Type -A)	0.400
SBC (Type -B)	0.550

Gebang Flyover (At Left Service Road)

STATION	DISTANCE	AC - WC width		AC - BC width		AC - Base width		SBC (Type A) width		SBC (Type B) width		Tonne	Volume		PAVEMENT			
		W1	W2	W2	W3	W3	w4	w5	w6	w6	w7	AC -Base	SBC (Type A)	SBC (Type B)	Prime Coat Liters	Tack Coat Liters	AC - BC Tonne	AC - WC Tonne
00 + 000.00		-	-	-	-	-				-								
00 + 020.00	20.00	1.093	1.057	1.057	1.003	1.003	0.943	1.648	1.240	1.240	0.700	2.24	5.78	5.34	10.93	10.93	1.42	0.99
00 + 040.00	20.00	1.102	1.064	1.064	1.011	1.011	0.910	1.610	1.229	1.229	0.700	4.45	11.45	10.64	21.95	21.95	2.85	1.99
00 + 060.00	20.00	1.119	1.080	1.080	1.023	1.023	0.927	1.627	1.224	1.224	0.700	4.45	11.38	10.60	22.21	22.21	2.88	2.01
00 + 080.00	20.00	1.579	1.539	1.539	1.480	1.480	1.433	2.137	1.688	1.688	1.147	5.59	13.35	13.09	26.98	26.98	3.53	2.45
00 + 100.00	20.00	1.802	1.763	1.763	1.704	1.704	1.663	2.363	1.913	1.913	1.373	7.22	16.20	16.83	33.81	33.81	4.48	3.07
00 + 120.00	20.00	1.489	1.449	1.449	1.388	1.388	1.317	2.017	1.607	1.607	1.045	6.98	15.80	16.33	32.91	32.91	4.35	2.99
00 + 140.00	20.00	1.166	1.124	1.124	1.062	1.062	0.958	1.662	1.253	1.253	0.700	5.43	13.08	12.66	26.55	26.55	3.47	2.40
00 + 148.00	8.00	1.173	1.132	1.132	1.069	1.069	0.965	1.669	1.257	1.257	0.700	1.86	4.67	4.30	9.36	9.36	1.21	0.85
00 + 908.00		0.174	1.132	1.132	1.070	1.070	0.946	1.646	1.262	1.262	0.700							
00 + 920.00	12.00	1.174	1.132	1.132	1.070	1.070	0.966	1.670	1.268	1.268	0.700	2.80	7.02	6.48	8.09	8.09	1.82	1.00
00 + 940.00	20.00	1.165	1.124	1.124	1.063	1.063	0.946	1.646	1.268	1.268	0.700	4.65	11.70	10.82	23.39	23.39	3.03	2.11
00 + 960.00	20.00	1.171	1.132	1.132	1.070	1.070	0.966	1.670	1.259	1.259	1.259	4.65	11.69	12.34	23.36	23.36	3.03	2.11
00 + 980.00	20.00	1.171	1.132	1.132	1.070	1.070	0.966	1.670	1.259	1.259	1.259	4.68	11.72	13.85	23.42	23.42	3.04	2.12
01 + 000.00	20.00	1.171	1.132	1.132	1.070	1.070	0.966	1.670	1.259	1.259	1.259	4.68	11.72	13.85	23.42	23.42	3.04	2.12
01 + 020.00	20.00	1.171	1.132	1.132	1.070	1.070	0.966	1.670	1.259	1.259	1.259	4.68	11.72	13.85	23.42	23.42	3.04	2.12
01 + 040.00	20.00	1.912	1.870	1.870	1.808	1.808	1.704	2.788	2.824	2.824	2.824	6.38	17.08	22.46	30.83	30.83	4.06	2.80
01 + 060.00	20.00	-	-	-	-	-	-	-	-	-	-	4.04	11.22	15.53	19.12	19.12	2.54	1.74
									TOTAL			74.80	185.57	198.97	359.74	359.74	47.78	32.86

PROJECT : ....FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT
KATAHIRA AND ENGINEERS INTERNATIONAL



Note:

AC - WC = Asphalt Concrete Wearing Course
AC - BC = Asphalt Concrete Binder Course
AC - Base = Asphalt Concrete Base
SBC - Type A = Sub-Base Course (Agg. Class A)
SBC - Type B = Sub-Base Course (Agg. Class B)

	Thickness
AC - WC	0.040
AC - BC	0.060
AC - Base	0.100
SBC (Type -A)	0.400
SBC (Type -B)	0.550

Gebang Flyover (Main Road Widening)

STATION	DISTANCE	AC - WC width		AC - BC width		AC - Base width		SBC (Type A) width		SBC (Type B) width		Tonne	Volume		PAVEMENT			
		W1	W2	W2	W3	W3	W4	W5	W6	W6	W7	AC-Base	SBC (Type A)	SBC (Type B)	Prime Coat Liters	Tack Coat Liters	AC - BC Tonne	AC - WC Tonne
00 + 000.00		-	-	-	-	-	-	-	-	-	-							
00 + 020.00	20.00	1.555	1.509	1.509	1.441	1.441	1.295	2.149	2.162	2.162	2.162	3.15	8.62	11.89	15.55	15.55	2.04	1.41
00 + 040.00	20.00	2.169	2.127	2.127	2.065	2.065	1.965	2.815	2.828	2.828	2.828	7.78	19.91	27.45	37.24	37.24	4.93	3.39
00 + 060.00	20.00	4.455	4.414	4.414	4.351	4.351	4.251	5.236	5.251	5.251	5.251	14.53	32.26	44.43	66.24	66.24	8.94	6.06
00 + 080.00	20.00	5.152	5.110	5.110	5.047	5.047	4.944	5.644	5.236	5.236	4.674	21.38	42.73	56.13	96.07	96.07	13.06	8.80
00 + 100.00	20.00	6.524	6.482	6.482	6.418	6.418	6.304	7.004	6.596	6.596	6.035	26.12	48.96	61.99	116.76	116.76	15.91	10.70
00 + 120.00	20.00	7.120	7.086	7.086	7.023	7.023	6.916	7.616	7.208	7.208	6.647	30.66	56.85	72.84	136.44	136.44	18.64	12.52
00 + 140.00	20.00	7.670	7.628	7.628	7.566	7.566	7.468	8.168	7.763	7.763	7.202	33.32	61.51	79.26	147.90	147.90	20.22	13.57
00 + 148.00	8.00	5.000	5.000	5.000	5.000	5.000	5.000	6.020	6.300	6.300	6.300	11.52	22.60	30.32	50.68	50.68	6.95	4.65
00 + 908.00		5.000	5.000	5.000	5.000	5.000	5.000	6.047	6.330	6.330	6.242							
00 + 920.00	12.00	7.540	7.499	7.499	7.436	7.436	7.336	8.036	7.628	7.628	7.667	17.09	33.65	45.98	75.24	75.24	10.32	6.91
00 + 940.00	20.00	6.591	6.550	6.550	6.487	6.487	6.388	7.088	6.680	6.680	6.119	31.79	58.86	77.26	141.31	70.66	19.30	12.96
00 + 960.00	20.00	6.113	6.071	6.071	6.009	6.009	5.904	6.877	6.893	6.893	6.893	28.51	55.08	73.11	127.04	127.04	17.33	11.65
00 + 980.00	20.00	4.607	4.565	4.565	4.503	4.503	4.408	5.108	4.705	4.705	4.139	23.95	47.17	62.23	107.20	107.20	14.59	9.82
01 + 000.00	20.00	3.489	3.448	3.448	3.386	3.386	3.296	3.996	3.588	3.588	3.027	17.93	34.79	42.51	80.96	80.96	10.97	7.41
01 + 020.00	20.00	2.334	2.293	2.293	2.230	2.230	2.129	2.829	2.421	2.421	1.860	12.70	25.67	29.96	58.23	58.23	7.84	5.32
01 + 040.00	20.00	1.740	1.132	1.132	1.070	1.070	0.966	1.820	1.855	1.855	1.855	7.35	17.85	21.98	40.74	40.74	4.64	3.45
01 + 060.00	20.00	-	-	-	-	-	-	-	-	-	-	2.34	7.35	10.20	17.40	17.40	1.52	1.32
											TOTAL	290.12	573.86	747.54	1,315.00	1,244.35	177.19	119.95

CONSTRUCTION COST ESTIMATE WORKSHEET

Date Prepared

Sheet : of

PROJECT : .... FLYOVER

NORTH JAVA CORRIDOR FLYOVER PROJECT

KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO :

ESTIMATOR :

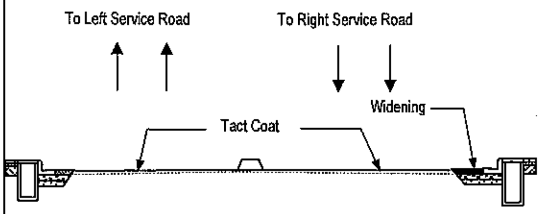
CHECKED BY :

SKETCH DRAWING

CALCULATION

Gebang Flyover - Contract Package 2

REMARKS



Section of Road Widening

Item No. 6.1.2 - Tact Coat

Pavement Overlay

Note: See Detailed Construction Layout Plan

Dwg. # GRD-024 - GRD-030 for reference.

At Approach A

Input Data :

Area from AutoCad		
Area 1 =	1,054.09	sqm.
Area 2 =	1,098.74	sqm.
Total Area =	2,152.83	sqm.

Volume = (2,152.83 sqm. x 0.50 lit./sqm.) **= 1,076.41 lit.**

At Approach B

Input Data :

Area from AutoCad		
Area 1 =	1,117.20	sqm.
Area 2 =	1,083.73	sqm.
Total Area =	2,200.93	sqm.

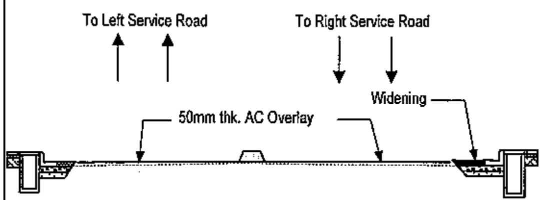
Volume = (2,200.93 sqm. x 0.50 lit./sqm.) **= 1,100.46 lit.**

Total Volume = 2176.878 Liters

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of
PROJECT : .... FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO :	ESTIMATOR :	CHECKED BY :

SKETCH DRAWING	CALCULATION Gebang Flyover - Contract Package 2	REMARKS

Item No. 6.3.5 - Asphalt Concrete Wearing Course (AC - WC) — Pavement Overlay



Section of Road Widening

Note: See Detailed Construction Layout Plan

Dwg. # GRD-024 - GRD-030 for reference.

At Approach A

Input Data :

Area from AutoCad		
Area 1 =	1,054.09	sqm.
Area 2 =	1,098.74	sqm.
Total Area =	2,152.83	sqm.
thickness =	0.05 m	

Wt = (2,152.83 x 0.050 x 2.30) **= 247.58 Ton**

At Approach B

Input Data :

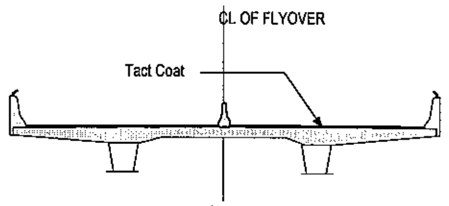
Area from AutoCad		
Area 1 =	1,117.20	sqm.
Area 2 =	1,083.73	sqm.
Total Area =	2,200.93	sqm.
thickness =	0.05 m	

Wt = (2,200.93 x 0.050 x 2.30) **= 253.11 Ton**

Total Wt. = 500.682 ton

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of
PROJECT : .... FLYOVER		
NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO :	ESTIMATOR :	CHECKED BY :

SKETCH DRAWING



SECTION AT FLYOVER

CALCULATION

Gebang Flyover - Contract Package 2

REMARKS

Item No. 6.1.2 - Tact Coat — Location : At Viaduct

Note: See Detailed Construction Layout Plan

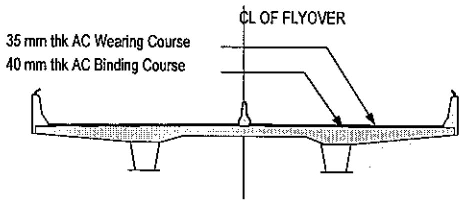
Dwg. # GRD-024 - GRD-030 for reference.

At Viaduct :

Station	Distance (m)	Width (m)	Area (m^2)	Remarks
00 + 316.00				Slope is considered
00 + 320.00	4.00	8.002	32.008	
00 + 340.00	20.00	8.002	160.04	
00 + 360.00	20.00	8.002	160.04	
00 + 380.00	20.00	8.002	160.04	
00 + 400.00	20.00	8.002	160.04	
00 + 420.00	20.00	8.002	160.04	
00 + 440.00	20.00	8.002	160.04	
00 + 460.00	20.00	8.002	160.04	
00 + 480.00	20.00	8.002	160.04	
00 + 500.00	20.00	8.002	160.04	
00 + 520.00	20.00	8.002	160.04	
00 + 540.00	20.00	8.002	160.04	
00 + 560.00	20.00	8.002	160.04	
00 + 580.00	20.00	8.002	160.04	
00 + 600.00	20.00	8.002	160.04	6-11
00 + 620.00	20.00	8.002	160.04	
00 + 640.00	20.00	8.002	160.04	
00 + 660.00	20.00	8.002	160.04	
00 + 680.00	20.00	8.002	160.04	
00 + 701.00	21.00	8.002	168.042	
		Total Area =	**3,080.77 sqm.**	

Total Volume = Total Area x 0.50 lit/sqm. x 2 face **= 3,080.77 lit.**

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
PROJECT : .... FLYOVER			
NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	ESTIMATOR :	CHECKED BY :	
SKETCH DRAWING	CALCULATION Gebang Flyover - Contract Package 2		REMARKS



SECTION AT FLYOVER

Item No. 6.3.6 - Asphalt Concrete Wearing Course (AC - BC)

Location : At Viaduct

Note: See Detailed Construction Layout Plan

Dwg. # GRD-024 - GRD-030 for reference.

At Viaduct :

Station	Distance (m)	Ave. Width (m)	Area (m^2)	Remarks
				Slope is considered
00 + 316.00				
00 + 320.00	4.00	8.002	32.008	
00 + 340.00	20.00	8.002	160.04	
00 + 360.00	20.00	8.002	160.04	
00 + 380.00	20.00	8.002	160.04	
00 + 400.00	20.00	8.002	160.04	
00 + 420.00	20.00	8.002	160.04	
00 + 440.00	20.00	8.002	160.04	
00 + 460.00	20.00	8.002	160.04	
00 + 480.00	20.00	8.002	160.04	
00 + 500.00	20.00	8.002	160.04	
00 + 520.00	20.00	8.002	160.04	
00 + 540.00	20.00	8.002	160.04	
00 + 560.00	20.00	8.002	160.04	
00 + 580.00	20.00	8.002	160.04	
00 + 600.00	20.00	8.002	160.04	
00 + 620.00	20.00	8.002	160.04	
00 + 640.00	20.00	8.002	160.04	
00 + 660.00	20.00	8.002	160.04	
00 + 680.00	20.00	8.002	160.04	
00 + 701.00	21.00	8.002	168.042	
		Total Area =	**3,080.77 sqm.**	

Input Data :

thickness = 0.040 m

Total Wt = (Total Area x Thickness) x 2.30 = **283.43 Ton**

DIVISION 7.
Structures

GEBANG FLYOVER

FINAL
up to september 30' 2006

NO. PAY ITEM	DESCRIPTION	UNIT	ESTIMATE QUANTITY	REMARKS
	DIVISION 7 STRUCTURES			
7.1.(1)a	Structure Concrete , Class A (35 Mpa)	Cu M	770.83	
	(for Post Tension Double Girder)			
7.1.(1)b	Structure Concrete , Class A (35 Mpa) for Steel Girder	Cu M	634.74	
7.1.(2)a	Structure Concrete , Class B (30 Mpa) for Pier Head	Cu M	109.66	
7.1.(2)b	Structure Concrete , Class B (30 Mpa) for Column	Cu M	122.53	
7.1.(2)c	Structure Concrete , Class B (30 Mpa) for Composite Column	Cu M	148.57	
7.1.(2)d	Structure Concrete , Class B (30 Mpa) for Abutment	Cu M	134.91	
7.1.(3)a	Structure Concrete , Class B-1 (28 Mpa) for Barrier , Median	Cu M	-	in Division 8
7.1.(3)b	Structure Concrete , Class B-1 (28 Mpa) for Parapet Wall	Cu M	948.73	
7.1.5	Structure Concrete , Class C (24 Mpa) for Footing, Approach Slab			
	and Retaining Wall	Cu M	314.89	
7.1.6	Structure Concrete, Class D	Cu M		
7.1.8	Structure Concrete , Class E	Cu M	42.17	
SS.7.1.9	Waterproofing on Deck	Sq M	3,080.00	
7.1(9)	Structure Column Casing (Ribbed Inner Surface t = 20 mm)	Kg	-	
SS7.1(10	Structure Casing for Bore Pile (Inner Ribed Surface t = 13 mm)	Kg	57,650.40	
7.1(10)	Structure Column Casing (Erected)	Kg	-	
SS7.1(11)	Steel Casing for Bored Pile (Erected)	Kg	57,650.40	
7.2.(9)	PC Strand Size 12.7 mm and Accessories	Kg	17,844.11	
7.2.(9)a	PC Strand Size 21.8 mm and Accessories	Kg	13,105.13	
7.3.3	PC Bar and Accessories	Kg	1,176.46	
7.3.(4)	Reinforcing Steel Bars Grade 40	Kg	486,335.61	
7.3.(6)	Reinforcing Steel Bars D 51	Kg	-	
7.5.(1)	Furnish and Delivery of Steel Girder	Ton	427.40	
7.5.(1)a	Furnish and Delivery of Steel Coping and Portal	Ton	154.71	
7.5.(3)	Erection of Steel Girder	Ton	427.40	
7.5.(4)	Erection of Steel Coping and Portal	Ton	154.71	
7.6.(22)	Cast in Place Concrete Bored Pile Dia 1500 mm	Ln M	428.00	
7.6.(23)	Cast in Place Concrete Bored Pile Dia 1800 mm	Ln M	146.00	
7.6.(26)	Cast in Place Concrete Bored Pile Dia 2500 mm	Ln M	395.00	
7.6.(27)	Pile Integrity Test	Each	27.00	
SS.7.6(28)	Pile Dynamic Analysis (PDA) Dia 1500 mm	Each	1.00	
SS.7.6(29)a	Pile Dynamic Analysis (PDA) Dia 1800 mm	Each	1.00	
SS.7.6(29)b	Pile Dynamic Analysis (PDA) Dia 2500 mm	Each	1.00	
7.9.(1)	Stone Masonry	Cu M	127.28	
7.9.(1)	Blinding Stone	Cu M		
7.11.(1)	Expantion Joint (Type A)	Ln M	48.00	
7.11.(2)	Expantion Joint (Type B)	Ln M		
SS7.11.(4)	Restrainer Type - A	Set	-	
SS7.11.(5)	Restrainer Type - B	Set	6.00	
SS7.11.(6)	Stopper for Steel Girder	Set	8.00	
7.11.(6)	Fixed Anchor	Set	-	
7.11.(7)	Moved Anchor	Set	-	
7.12.(2)	Elastomeric Bearing Pad Type - A1	Set	-	
7.12.(2)a	Elastomeric Bearing Pad Type - A2	Set	-	
7.12.(2)b	Elastomeric Bearing Pad Type - A3	Set	-	
7.12.(2)c	Elastomeric Bearing Pad Type - A4	Set	4.00	
7.12.(7)a	Bridge Bearing for Steel Girder Type - B1	Set	-	
7.12.(7)b	Bridge Bearing for Steel Girder Type - B2	Set	8.00	
7.12.(7)c	Bridge Bearing for Steel Girder Type - C1	Set	2.00	
7.12.(7)d	Bridge Bearing for Steel Girder Type - C2	Set	-	
7.12.(7)e	Bridge Bearing for Steel Girder Type - C3	Set	2.00	
7.12.(7)f	Bridge Bearing for Steel Girder Type - C4	Set	-	
7.13	Steel Bridge Reilings	Ln.M	1,581.69	
7.14	Bridge Name Plate	Each	2.00	
7.15.(1)	Demolition of Existing Structure Masonry	Cu M	63.37	
7.15.(2)	Demolition of Existing Structure Concrete	Cu M	9.25	
7.15.(10)	Demolition of Existing Rigid Pavement	Sq M	-	
7.15.(11)	Demolition of Existing Hedge or Fence	Ln M	605.97	
7.15.(12)	Demolition of Existing Concrete Side Walk	Sq M	186.86	from highway
7.15.(13)	Demolition of Existing Concrete Curb	Ln M	132.16	
7.16.(1)	Concrete Pavement (t = 270 mm)	Sq M	-	
7.16.(2)	Lean Concrete (t = 100 mm)	Sq M	-	
	Retrofitting of Existing Bridge	Ls	1.00	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared : 29 - 08 - 2006	Sheet : 1 of 3
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO : GCL - 002 - 003 - 004 DRAWING NO : GCR- 002 - 003 - 004	QUANTITY :	CHECKED BY :

NO	DESCRIPTION	h1	h2	l	Area	Total Area (Sq M)	Ln M	QTY	TOTAL QTY (Cu M)	REMARKS
7.1.(1)a	Structure Concrete, Class A									
	(Fc' = 35 Mpa) for Post Tension									
	Double Girder	0.250	0.390	1.559	0.499					Span girder span to span
		0.390	0.390	1.078	0.420					
		(1.078 + 0.85) / 2		0.964						
		(0.821 + 0.799) / 2		0.810	0.781					
		0.390	0.240	0.600	0.189					
		0.240	0.240	2.221	0.533					
		0.240	0.390	0.600	0.189					
		(1.078 + 0.85) / 2		0.964						
		(0.821 + 0.799) / 2		0.810	0.781					
		0.390	0.390	1.078	0.420					
		0.390	0.250	1.562	0.500	4.312				
		0.250	0.390	1.559	0.499					Girder on diafragma
		(5.579 + 5.350) / 2		5.465						
		(0.821 + 0.799) / 2		0.810	4.426					
			0.390	5.579	2.176					
		0.390	0.250	1.562	0.500					
						7.601				

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared : 29 - 08 - 2006	Sheet : 2 of 3
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO : GCL - 002 - 003 - 004	QUANTITY :	CHECKED BY :

NO	DESCRIPTION	h1	h2	l	Area	Total Area (Sq M)	Ln M	QTY	TOTAL QTY (Cu M)	REMARKS
7.1.(1)a	Structure Concrete, Class A	(0.4 + 0.25) / 2 x 0.25			0.08125	0.08125	4.500	0.366		Post of aproach slab at Abt
	(Fc' = 35 Mpa) for Post Tension									
	Double Girder									
		8.70 x 0.898 x 1.7						13.281		Diafraghma A1
		(8.70 + 7.650) / 2 x 1.7 x 0.7						9.728		Diafraghma A1
						4.312	18.250	78.694		A1 - P1
						7.601	2.000	15.202		Diafraghma P1
						4.312	18.000	77.616		P1 - P2
						7.601	2.000	15.202		Diafraghma P2
						4.312	18.000	77.616		P2 - P3
						7.601	2.000	15.202		Diafraghma P3
						4.312	17.000	73.304		P3 - P4
						7.601	1.250	9.501		Diafraghma P4
									385.71	
						SUB TOTAL A1 to P4			385.71	

CONSTRUCTION COST ESTIMATE WORKSHEET | Date Prepared : 29 - 08 - 2006 | Sheet : 3 of 3

PROJECT : GEBANG FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT

KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO : GCR - 002 - 003 - 004 | QUANTITY : | CHECKED BY :

NO	DESCRIPTION	h1	h2	l	Area	Total Area (Sq M)	Ln M	QTY	TOTAL QTY (Cu M)	REMARKS
7.1.(1)a	Structure Concrete, Class A	(0.4 + 0.25) / 2 x 0.25			0.08125	0.08125	4.500	0.366		Post of aproach slab at Abt
	(Fc' = 35 Mpa) for Post Tension									
	Double Girder									
						7.601	1.250	9.501		Diafraghma P12
						4.312	17.000	73.304		P12 - P13
						7.601	2.000	15.202		Diafraghma P13
						4.312	18.000	77.616		P13 - P14
						7.601	2.000	15.202		Diafraghma P14
						4.312	18.000	77.616		P14 - P15
						7.601	2.000	15.202		Diafraghma P15
						4.312	18.250	78.694		P15 - A2
		8.70 x 0.858 x 1.7						12.690		Diafraghma A2
		(8.70 + 7.650) / 2 x 1.7 x 0.7						9.728		Diafraghma A2
									385.12	
						SUB TOTAL P8 to A2			385.12	
						SUMMARY			770.83	

CONSTRUCTION COST ETIMATE WORKSHEET	Date Prepared : 16 - 08 -2006	Sheet : 1 of 1
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO : GST - 02	QUANTITY :	CHEKED BY :

NO	DESCRIPTION	h1	h2	l	Area	Total Area (Sq M)	Ln M	QTY	TOTAL QTY (Cu M)	REMARKS
7.1.(1)b	Structure Concrete, Class A									
	(Fc' = 35 Mpa) for Steel Girder									
		0.250	0.390	1.440	0.461					
		0.390	0.390	1.501	0.585					
		0.390	0.240	0.600	0.189					
		0.240	0.240	1.620	0.389					
		0.240	0.390	0.600	0.189					
		0.390	0.390	1.501	0.585					
		0.390	0.250	1.440	0.461					
						2.859				
	P4 - P5					2.859	26.250	75.053		
	P5 - P6					2.859	36.000	102.930		
	P6 - P7					2.859	26.250	75.053		
	P7 - P8					2.859	26.250	75.053		
	P8 - P9					2.859	27.000	77.198		
	P9 - P10					2.859	27.000	77.198		
	P10 - P11					2.859	27.000	77.198		
	P11- P12					2.859	26.250	75.053		
									634.74	
							222.000			
							SUMMARY		634.74	

CONSTRUCTION COST ESTIMATE WORKSHEET | Date Prepared : 15 - 09 - 2006 | Sheet : 1 of 3

PROJECT : GEBANG FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT

KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO : GSB - 03 | QUANTITY : | CHECKED BY :

NO	DESCRIPTION	CALCULATION	Area	Total Area (Sq M)	Ln M	QTY	TOTAL QTY (Cu M)	REMARKS
7.1.3(1)	Structure Concrete, Class B (30 Mpa) for Pier Head							
		3.14 X 0.90 X 0.90	2.543					
		3.30 X 5.90	19.470	11.007	0.300	3.30		
		((2.0 x 5.90)+(3.30 x 6.01278))/2		15.821	0.400	6.33		
		(6.01278+6.06916) /2 x0.60	3.625	3.625	0.950	3.44		
		(6.01278+6.21634) /2 x0.722	4.415	4.415	0.950	4.19		
		1.40 X 6.63022	9.282					
		1.40 X 6.01278	8.418	8.850	2.190	19.38		
							36.65	PIER HEAD P4
					TOTAL		36.65	

CONSTRUCTION COST ESTIMATE WORKSHEET | Date Prepared : 15 - 09 - 2006 |

PROJECT : GEBANG FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT

KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO : GSB - 06 | QUANTITY : | CHECKED BY :

NO	DESCRIPTION	CALCULATION	Area	Total Area (Sq M)	Ln M	QTY	TOTAL QTY (Cu M)	REMARKS
7.1.3(1)	Structure Concrete, Class B (30 Mpa)							
	for Pier Head							
		3.14 X 0.90 X 0.90	2.543					
		3.30 X 5.90	19.470	11.007	0.300	3.30		
		((2.0 x 5.90)+(3.30 x 6.01278))/2		15.821	0.400	6.33		
		(6.01278+6.06916) /2 x0.60	3.625	3.625	0.950	3.44		
		(6.01278+6.18758) /2 x0.622	3.794	3.794	0.950	3.60		
		1.40 X 6.63022	9.282					
		1.40 X 6.01278	8.418	8.850	2.190	19.38		
							36.06	PIER HEAD P7
					TOTAL		36.06	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared : 15 - 09 - 2006	Sheet : 3 of 3
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO : GSB - 08	QUANTITY :	CHECKED BY :

NO	DESCRIPTION	CALCULATION	Area	Total Area (Sq M)	Ln M	QTY	TOTAL QTY (Cu M)	REMARKS
7.1.3(1)	Structure Concrete, Class B (30 Mpa)							
	for Pier Head							
		3.14 X 0.90 X 0.90	2.543					
		3.30 X 5.90	19.470	11.007	0.300	3.30		
		((2.0 x 5.90)+(3.30 x 6.01278))/2		15.821	0.400	6.33		
		(6.01278+6.22931) /2x0.768	4.701	4.701	0.950	4.47		
		(6.01278+6.18194) /2 x0.60	3.658	3.658	0.950	3.48		
		1.40 X 6.63022	9.282					
		1.40 X 6.01278	8.418	8.850	2.190	19.38		
							36.95	PIER HEAD P12
					TOTAL		36.95	
				SUMMARY P4, P7 and P12			109.66	

CONSTRUCTION COST ETIMATE WORKSHEET	Date Prepared : 28 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO : GSB - 02 ,03, 06, 08	QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	L / R	CALCULATION	QTY (Cu M)	REMARKS
7.1.(2)b	Structure Concrete, Class B (Fc' = 30 Mpa)				
	for Column				
		P1 - L	3.14 X 0.50² X 6.887	5.41	
		R	3.14 X 0.50² X 6.797	5.34	
		P2 - L	3.14 X 0.50² X 7.487	5.88	
		R	3.14 X 0.50² X 7.397	5.81	
		P3 - L	3.14 X 0.50² X 8.393	6.59	
		R	3.14 X 0.50² X 8.303	6.52	
		P4	3.14 X 0.90² X 7.362	18.72	
		P7	3.14 X 0.90² X 7.379	18.77	
		P12	3.14 X 0.90² X 6.171	15.70	
		P13 - L	3.14 X 0.50² X 7.652	6.01	
		R	3.14 X 0.50² X 7.562	5.94	
		P14 - L	3.14 X 0.50² X 7.267	5.70	
		R	3.14 X 0.50² X 7.177	5.63	
		P15 - L	3.14 X 0.50² X 6.752	5.30	
		R	3.14 X 0.50² X 6.662	5.23	
			SUMMARY	122.53	

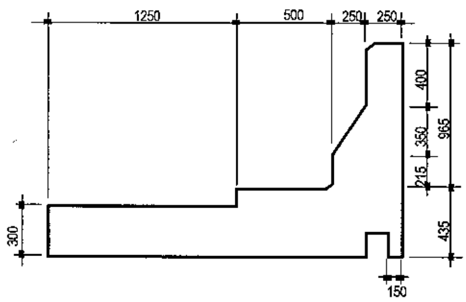
CONSTRUCTION COST ETIMATE WORKSHEET		Date Prepared : 28 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO : GSB - 04, 05, 07	QUANTITY :		CHECKED BY :	

NO	DESCRIPTION	L / R	CALCULATION	QTY (Cu M)	REMARKS
7.1.(2)c	Structure Concrete, Class B (Fc' = 30 Mpa)				
	for Composite Column				
		P5 - L	$3.14 \times 0.680^2 \times 13.890$	20.17	
		R	$3.14 \times 0.680^2 \times 13.747$	19.96	
		P6 - L	$3.14 \times 0.680^2 \times 13.888$	20.16	
		R	$3.14 \times 0.680^2 \times 13.742$	19.95	
		P8	$3.14 \times 0.680^2 \times 11.683$	16.96	
		P9	$3.14 \times 0.680^2 \times 11.838$	17.19	
		P10	$3.14 \times 0.680^2 \times 11.792$	17.12	
		P11	$3.14 \times 0.680^2 \times 11.746$	17.05	
			SUMMARY	148.57	

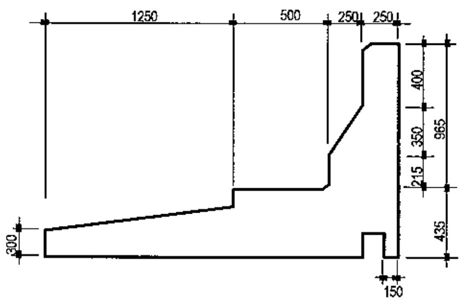
CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared : 28 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO : GSB - 01 , 09	QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	A1/A2	CALCULATION	QTY (Cu M)	REMARKS
7.1.(2)d	Structure Concrete, Class B (Fc' = 30 Mpa) for Abutment				
		A1	2.20 x 9.00 x 2.40	47.52	Footing
			Area 1.193 Sq M Height 5.022 M		Coulumn
			1.193 x 5.022 x 2	11.98	
			3.30 x 5.022 x 0.4	6.63	Wall
			Total A1	66.13	
		A2	2.20 x 9.00 x 2.40	47.52	Footing
			Area 1.193 Sq M Height 5.736 M		Coulumn
			1.193 x 5.736 x 2	13.69	
			3.30 x 5.736 x 0.4	7.57	Wall
			Total A2	68.78	
			SUMMARY	134.91	

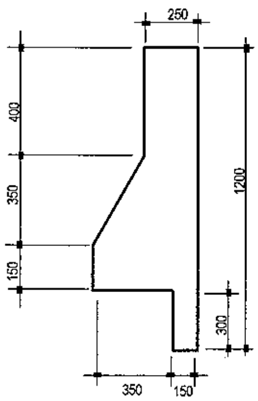
CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared 10/12/2006 10:40	Sheet : of	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	ESTIMATOR :	CHECKED BY :	
SKETCH DRAWING	CALCULATION Gebang Flyover - Contract Package 2		REMARKS



Section of Parapet at Approach



Section of Parapet at M.S.E Wall



Section of Parapet at Viaduct

- Structure Concrete

A. At Approach Slab								
Data:								
	1.19	sqm.	=	Area of Parapet from AutoCad Drawing				
	10.00	m	=	Length of Parapet at Approach Slab				
				(2 side)				
A.1. Volume of Concrete Parapet at Approach A								
	Volume	=	1.19	x	10.00	=	**11.90**	**cum.**
A.2. Volume of Concrete Parapet at Approach B								
	Volume	=	1.19	x	10.00	=	**11.90**	**cum.**
B. At MSE Wall								
Data:								
	1.06	sqm.	=	Area of Parapet from AutoCad Drawing				
	199.32	m	=	Length of Parapet at MSE Wall				
				Approach A (2 side)				
	279.32	m	=	Length of Parapet at MSE Wall				
				Approach B (2 side)				
B.1. Volume of Concrete Parapet at MSE Wall (Approach A)								
	Volume	=	1.06	x	199.32	=	**211.28**	**cum.**
B.2. Volume of Concrete Parapet at MSE Wall (Approach B)								
	Volume	=	1.06	x	279.32	=	**296.08**	**cum.**
C. At Viaduct								
Data:								
	0.37	sqm.	=	Area of Parapet from AutoCad Drawing				
	770.00	m	=	Length of Parapet at Viaduct				
				(2 side)				
C.1. Volume of Concrete Parapet at Viaduct								
	Volume	=	0.37	x	770.00	=	**284.90**	**cum.**
Total Concrete Volume of Parapet at Merak 1						=	**816.06**	**cum.**

backup concrete parapet_Concrete Parapet gebang

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 10 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO : GSB - 56		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Cu M)	REMARKS
7.1.5	Structure Concrete, Class C (Fc' = 24 Mpa) for Footing, Approach Slab and Retaining Wall			
		Quantity		A1 & A2
		= 0.25 x 4.50 x 5	5.63	
		= 0.15 x 4.50 x 2 x (0.25 + 0.4) / 2	0.44	
		Total	6.06	
		Note , for two Approach Slab		
		= 6.064 x 2	12.13	
		SUMMARY	12.13	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared : 29 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO : GEP - 010 , 011	QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	CALCULATION	QTY (Cu M)	REMARKS
7.1.5	Structure Concrete, Class C (12 Mpa)			
	for Footing, Approach Slab and			
	Retaining Wall	Sta 0 + 225.80 to 0 + 148.00		A1 Ramp to end of stubwall
		L1 = 38.90 Ln M		
		L2 = 38.90 Ln M		
		h1 = 2.391 M'		
		h2 = 0.551 M'		
		t = 0.400 M'		
		w1 = 1.300 M'		
		w2 = 0.800 M'		
		Quantity :		
		= (2.331+0.551) /2 x 77.80 x 0.40 x 2	89.69	
		= 0.4 x 1.30 x 38.90 x 2	40.46	
		= 0.4 x 0.80 x 38.90 x 2	24.90	
		Sub Total	*155.04*	
		Sta 0 + 832.20 - 0 + 908.000		A2 Ramp to end of stubwall
		L1 = 37.900 Ln M		
		L2 = 37.900 Ln M		
		h1 = 2.270 M'		
		h2 = 0.502 M'		
		t = 0.400 M'		
		w1 = 1.300 M'		
		w2 = 0.800 M'		
		Quantity :		
		= (2.27+0.502) / 2 x 75.80 x 0.40 x 2	84.05	
		= 0.4 x 1.30 x 37.90 x 2	39.42	
		= 0.4 x 0.80 x 37.90 x 2	24.26	
		Sub Total	*147.72*	
		Total Stubwall	302.76	
		SUMMARY	314.89	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 28 - 08 - 2006	Sheet : 1 of 2	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	CALCULATION	QTY (Cu M)	REMARKS
7.1.(8)	Structure Concrete Class E	A1 = A2		A1 & A2
		= (9.20 x 2.60) - (3.14 x 0.9^2 x 2)		
		= 18.833 Sq M		
		For two abutment A1 and A2		
		= 18.833 x 0.10 x 2		
		= 3.767 Cu M	3.77	
			3.77	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 29 - 08 - 2006	Sheet : 2 of 2	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	CALCULATION	QTY (Cu M)	REMARKS
7.1.(8)	Structure Concrete Class E			
		A1 Stubwall		
		= (38.900 x 1.50 x 0.10) x 2	11.67	
		= (38.900 x 1.00 x 0.10) x 2	7.78	
		Sub Total	19.45	
		A2 Stubwall		
		= (37.90 x 1.50 x 0.10) x 2	11.37	
		= (37.90 x 1.00 x 0.10) x 2	7.58	
		Sub Total	18.95	
		SUMMARY	42.17	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 10 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO : GSB - 01 to 09		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Sq M)	REMARKS
SS.7.1.(9)	Water Proofing on Deck			
		A1 - A2 = 385 Ln M		
		Width = 8.00 M		
		Quantity = 385 x 8.00		
		= 3,080 Sq M	3,080.00	
		SUMMARY	3,080.00	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 30 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO : GSB - 42, 43, 44		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Kg)	REMARKS
SS7.1(10)	Structure Cassing for Bored Pile	Ø 2500		
	(Inner Ribbed Surface t =13 mm)	= $(1.25^2 \times 3.14) - (1.237^2 \times 3.14)$		
		= 0.102 Sq M		
		P5 - L = 6 x 0.102 x 7850	4,804.20	
		R = 6 x 0.102 x 7850	4,804.20	
		P6 - L = 6 x 0.102 x 7850	4,804.20	
		R = 6 x 0.102 x 7850	4,804.20	
		P8 = 12 x 0.102 x 7850	9,608.40	
		P9 = 12 x 0.102 x 7850	9,608.40	
		P10 = 12 x 0.102 x 7850	9,608.40	
		P11 = 12 x 0.102 x 7850	9,608.40	
		SUMMARY	57,650.40	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared : 30 - 08 - 2006	Sheet : 1 of 1	
PROJECT : PETERONGAN FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO : GSB - 42, 43, 44	QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	CALCULATION	QTY (Kg)	REMARKS
SS.7.1(11)	Structure Casing for Bored Pile			
	(Erected)	Ø 2500		
		= $(1.25^2 \times 3.14) - (1.237^2 \times 3.14)$		
		= 0.102 Sq M		
		P5 - L = 6 x 0.102 x 7850	4,804.20	
		R = 6 x 0.102 x 7850	4,804.20	
		P6 - L = 6 x 0.102 x 7850	4,804.20	
		R = 6 x 0.102 x 7850	4,804.20	
		P8 = 12 x 0.102 x 7850	9,608.40	
		P9 = 12 x 0.102 x 7850	9,608.40	
		P10 = 12 x 0.102 x 7850	9,608.40	
		P11 = 12 x 0.102 x 7850	9,608.40	
		SUMMARY	57,650.40	

CONSTRUCTION COST ESTIMATE WORKSHEET | Date Prepared : 29 - 08 - 2006 | Sheet : 1 of 1

PROJECT : GEBANG FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT

KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO : GCL 005 and GCL 006
GCR 005 and GCR 006

QUANTITY :

CHEKED BY :

NO	DESCRIPTION	LOCATION	Length (M)	No. Req'd	Nos	Unit Weight (Kg / M)	Weight (Kg)	Total Weigth (Kg)	Remarks
7.2.(9)	PC Strand Size 12.7 mm								
		A1 - P1	20.80	12	12	0.774	2,318.28		
		P1 - P2	20.00	12	12	0.774	2,229.12		
		P2 - P3	20.00	12	12	0.774	2,229.12		
		P3 - P4	19.25	12	12	0.774	2,145.53		
		P12 - P13	19.25	12	12	0.774	2,145.53		
		P13 - P14	20.00	12	12	0.774	2,229.12		
		P14 - P15	20.00	12	12	0.774	2,229.12		
		P15 - A2	20.80	12	12	0.774	2,318.28		
								17,844.11	
						SUMMARY		17,844.11	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared : 29 - 08 - 2006	Sheet : 1 of 1
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO : GCL 007 and GCR 007	QUANTITY :	CHEKED BY :

NO	DESCRIPTION	LOCATION	Length (M)	No. Req'd	Nos	Weight / 1 nos (Kg)	Weight (Kg)	Total Weigth (Kg)	Remarks
7.2.(9)a	PC Strand Size 21.8 mm								
		A1 to P4	8.70	1	128	21.59	2,763.52		A1 - P1 - P2 - P3 - P4
		P12 to A2	8.70	1	128	21.59	2,763.52		P12 - P13 - P14 - P15 - A2
		P 4 to P7	8.70	1	143	21.59	3,087.37		P4 - P5 - P6 - P7 Deck Slab
		P7 - P12	8.70	1.000	208	21.59	4,490.72		P7 - P8 - P9 - P10 - P11 - P12 Deck Slab
							7,578.090	13,105.13	
						SUMMARY		13,105.13	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 29 - 08 - 2006			Sheet : 1 of 1			
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT								
KATAHIRA AND ENGINEERS INTERNATIONAL								
DRAWING NO : GCL - 005 - 006 GCR - 005 - 006	QUANTITY :				CHEKED BY :			

NO	DESCRIPTION	LOCATION	Length (M)	No. Req'd	Nos	Unit Weight (Kg / M)	Weight (Kg)	Total Weigth (Kg)	Remarks
7.3.(3)	PC Bar	P1	5.179	1	6.00	6.31	196.08		
		P2	5.179	1	6.00	6.31	196.08		
		P3	5.179	1	6.00	6.31	196.08		
		P13	5.179	1	6.00	6.31	196.08		
		P14	5.179	1	6.00	6.31	196.08		
		P15	5.179	1	6.00	6.31	196.08		
								1,176.46	
						SUMMARY		1,176.46	

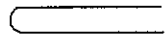
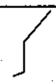
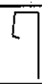
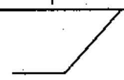
CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared :	Sheet : of	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		10/9/2006 13:07		
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		QUANTITY :	CHECKED BY :	
NO	SKETCH DRAWING	DECRIPTION	SUMMARY	REMARKS
7.3.(4)	REINFORCING STEEL BARS GRADE 40			
		Bored pile	-	300,158.00
		Abutment	33,457.00	
		Pier Column	44,985.00	
		Pier Head	25,668.00	
		Girder		
		Deck Slab	99,386.04	
		PC Girder	98,258.00	
		Parapet Wall	73,412.32	
		Aproach Slab	2,112.00	
		Stubwall	23,074.00	
		TOTAL	400,352.36	
	REINFORCING STEEL BARS D 51	Bored piles	-	289,233.00

LENGTH OF PARAPET EACH FLYOVER

No.	Fly Over	A1 (meter)	A2 (meter)	AB1 (meter)	Bridge (meter)	Total (meter)	Remarks
1	Merak	92.95	122.95	115.00	920.00	1,581.80	
2	Balaraja	96.00	73.50	-	221.00	781.00	
3	Nagrek	270.00	80.00	-	224.00	1,148.00	
4	Gebang	104.66	144.65	-	385.00	1,268.62	
5	Peterongan	120.00	120.00	-	262.00	1,004.00	
6	Tanggulangin	110.66	110.66	-	200.00	842.63	

BAR BENDING SCHEDULLE
PARAPET

PARAPET APPROACH

Rebar Name	Dia (mm)	Length (mm)	NOS	Unit Weight (kg/m')	Weight (kg)	Diagram	Remarks
a	16.00	300.00	5.00	1.58	23.70		
b	12.00	120.00	5.00	0.88	5.26		
c	14.00	135.00	5.00	0.88	5.92		
d	20.00	125.00	6.60	2.47	20.34		
e	12.00	254.00	5.00	0.88	11.14		
f	12.00	135.00	5.00	0.88	5.92		
g	12.00	100.00	14.00	1.21	16.93		
h	14.00	100.00	12.00	1.58	18.96		
					108.162		

PARAPET BRIDGE

Rebar Name	Dia (mm)	Length (mm)	NOS	Unit Weight (kg/m')	Weight (kg)	Diagram	Remarks
a	10	228	5	0.62	7.07		
b	16	115	5	1.58	9.09		
c	10	55	5	0.62	1.71		
d	10	100	12	0.62	7.44		
					25.298		

QUANTITY CALCULATION REINFORCING BAR AT GEBANG FLY OVER (PARAPET)

status 10/9/2006 11:47

	LENGTH		LENGTH
FLY OVER	385.00	2	770.00
			770.00 Meter

RE-BAR AT BRIDGE GEBANG FLYOVER PER LN.M

								TOTAL WEIGTH (KG)
1	a	2.28	5	0.62	7.068			
2	b	1.15	5	1.58	9.085			
3	c	0.55	5	0.62	1.705			
4	d	1	12	0.62	7.44			
					25.298		**770.00**	**19,479.46**

	LENGTH		LENGTH
ABUTMENT A1	104.66	2	209.32
ABUTMENT A2	144.66	2	289.32
ABUTMENT AB1	0.00	2	0.00
			498.63 Meter

RE-BAR PARAPET AT APPROACH GEBANG FLYOVER PER LN.M

1	a	3.00	5.00	1.58	23.70		
2	b	1.20	5.00	0.88	5.26		
3	c	1.35	5.00	0.88	5.92		
4	d	1.25	6.60	2.47	20.34		
5	e	2.54	5.00	0.88	11.14		
6	f	1.35	5.00	0.88	5.92		
7	g	1.00	14.00	1.21	16.93		
8	h	1.00	12.00	1.58	18.96		
					108.16165	**498.63**	**53,932.86**

TOTAL WEIGTH of REINFORCING STEEL PARAPET MERAK FO (kg) **73,412.32**

GEBANG FLYOVER
QUANTITY OF ABUTMENT AND PIER COLUMN REINFORCEMENT

7.3.(4) REINFORCING STEEL BARS GRADE 40

LOCATION		TYPE	WEIGHT (Kg)	TOTAL WEIGHT (Kg)	REMARKS / DRAWING NO
A1		FOOTING	7,403.00	16,853.00	GSB - 15
		RC COLUMN	6,421.00		GSB - 11
		WALL	3,029.00		GSB - 12
P1	P1 - L	RC COLUMN	1,971.00	3,923.00	GSB - 16
	P1 - R	RC COLUMN	1,952.00		GSB - 16
P2	P2 - L	RC COLUMN	1,809.00	3,605.00	GSB - 17
	P2 - R	RC COLUMN	1,796.00		GSB - 17
P3	P3 - L	RC COLUMN	1,954.00	3,895.00	GSB - 18
	P3 - R	RC COLUMN	1,941.00		GSB - 18
P4		RC COLUMN	5,753.00	5,753.00	GSB - 19
P5	P5 - L	COMPOSITE COLUMN	256.00	512.00	GSB - 39
	P5 - R	COMPOSITE COLUMN	256.00		GSB - 39
P6	P6 - L	COMPOSITE COLUMN	256.00	512.00	GSB - 39
	P6 - R	COMPOSITE COLUMN	256.00		GSB - 39
P7		RC COLUMN	8,229.00	8,229.00	GSB - 20
P8		COMPOSITE COLUMN	1,912.00	1,912.00	GSB - 40
P9		COMPOSITE COLUMN	256.00	256.00	GSB - 41
P10		COMPOSITE COLUMN	256.00	256.00	GSB - 41
P11		COMPOSITE COLUMN	256.00	256.00	GSB - 41
P12		RC COLUMN	4,781.00	4,781.00	GSB - 19
P13	P13 - L	RC COLUMN	2,050.00	4,147.00	GSB - 16
	P13 - R	RC COLUMN	2,097.00		GSB - 16
P14	P14 - L	RC COLUMN	1,777.00	3,538.00	GSB - 17
	P14 - R	RC COLUMN	1,761.00		GSB - 17
P15	P15 - L	RC COLUMN	1,696.00	3,410.00	GSB - 17
	P15 - R	RC COLUMN	1,714.00		GSB - 17
A2		FOOTING	7,403.00	16,604.00	GSB - 52
		RC COLUMN	6,784.00		GSB - 13
		WALL	2,417.00		GSB - 13
		TOTAL ABUTMENT A1 DAN A2		33,457.00	
		TOTAL PIER P1 s/d P15		44,985.00	

GEBANG FLYOVER
QUANTITY OF APROACH SLAB REINFORCEMENT

7.3.(4) REINFORCING STEEL BARS GRADE 40

LOCATION	TYPE	WEIGHT (Kg)	TOTAL WEIGHT (Kg)	REMARKS / DRAWING NO
A1	APPROACH SLAB	1,056.00		GSB - 56
A2	APPROACH SLAB	1,056.00	2,112.00	GSB - 56
P4	PIER HEAD	8,557.00		GSB - 25
P7	PIER HEAD	8,554.00		GSB - 29
P12	PIER HEAD	8,557.00	25,668.00	GSB - 33

	TOTAL APPROACH SLAB	2,112.00
	TOTAL PIER HEAD	25,668.00

GEBANG FLYOVER
QUANTITY OF BORED PILE REINFORCEMENT

LOCATION	WEIGHT PER 1 PC (Kg)		NO. REQ'D	TOTAL WEIGHT (Kg)	
	GRADE SD 40	GRADE SD 51	(PCS)	GRADE SD 40	GRADE SD 51
A1	19,413.00	-	2.00	38,826.00	-
P1	12,025.00	-	2.00	24,050.00	-
P2	12,276.00	-	2.00	24,552.00	-
P3	12,276.00	-	2.00	24,552.00	-
P4	5,546.00	18,569.00	1.00	5,546.00	18,569.00
P5	5,122.00	19,282.00	2.00	10,244.00	38,564.00
P6	5,122.00	19,282.00	2.00	10,244.00	38,564.00
P7	9,039.00	34,347.00	1.00	9,039.00	34,347.00
P8	12,530.00	41,279.00	1.00	12,530.00	41,279.00
P9	8,715.00	33,393.00	1.00	8,715.00	33,393.00
P10	8,423.00	32,555.00	1.00	8,423.00	32,555.00
P11	8,715.00	33,393.00	1.00	8,715.00	33,393.00
P12	5,546.00	18,569.00	1.00	5,546.00	18,569.00
P13	12,276.00	-	2.00	24,552.00	-
P14	11,080.00	-	2.00	22,160.00	-
P15	11,080.00	-	2.00	22,160.00	-
A2	20,152.00	-	2.00	40,304.00	-
			SUB TOTAL	300,158.00	289,233.00
			TOTAL	589,391.00	

BREAK DOWN REINFORCING STEEL

GEBANG		quantity	unit	weight (Kg)	total weight (Kg)			
GIRDER		286.306	Cum	101.00	78,153.80			
APPROACH SLAB		11.610	Cum	138.00	1,602.18			
		11.610	Cum	138.00	1,602.18			
MS WALL		210.680	Cum	109.00	22,964.12			
		282.610	Cum	109.00	30,804.49			
STUBWALL	A1			12,459.00	12,459.00		23,074.00	Stubwall
	A2			10,615.00	10,615.00		159,395.57	Parapet
PARAPET (stubwall)		73.910	Cum	79.00	12,292.40		182,469.57	
		72.010	Cum	79.00	11,976.40			
						182,469.57		

BREAK DOWN CONCRETE

GEBANG

A1 - A2 = 385 + (2 x 0.95)
= 386.90 Ln M

Ramp A1 - EPS Wall = 104.658 Ln M
EPS Wall - End of Ramp = 77.80 Ln M

Ramp A2 - EPS Wall = 144.685 Ln M
EPS Wall - End of Ramp = 75.80 Ln M

Area 1 = 0.370 Sq M
Area 2 = 1.161 Sq M
Area 3 = 1.057 Sq M
Area 4 = 0.475 Sq M

Quantity

= 386.90 x 0.370 x 2	286.31
= 5.000 x 1.161 x 2	11.61
= 99.658 x 1.057 x 2	210.68
= 77.800 x 0.475 x 2	73.91
= 5.000 x 1.161 x 2	11.61
= 133.685 x 1.057 x 2	282.61
= 75.80 x 0.475 x 2	72.01
	948.73

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared : 10 - 09 - 2006	Sheet : of	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	CALCULATION	QTY (Ton)	REMARKS
7.5.(1)	Furnish and Delivery of Steel Girder		427.40	
		SUMMARY	427.40	

	Date Prepared : 10 - 09 - 2006	Sheet : of	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	CALCULATION	QTY (Ton)	REMARKS
7.5.(1)a	Furnish and Delivery of Steel			
	Coping and Portal		154.71	
		SUMMARY	154.71	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 10 - 09 - 2006	Sheet : of	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Ton)	REMARKS
7.5.(3)	Erection of Steel Girder		427.40	
		SUMMARY	427.40	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared : 10 - 09 - 2006	Sheet : of	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	CALCULATION	QTY (Ton)	REMARKS
7.5.(4)	Erection of Steel Coping and Portal			
			154.71	
		SUMMARY	154.71	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 28 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO : GSB - 02		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Ln M)	REMARKS
7.6.(22)	Cast in Place Concrete Bored Pile Dia 1500 mm	P1 2 X 38	76.00	
		P2 2 X 36	72.00	
		P3 2 X 36	72.00	
		P13 2 X 36	72.00	
		P14 2 X 34	68.00	
		P15 2 X 34	68.00	
		SUMMARY	428.00	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 28 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO : GSB - 01 , 09		QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	CALCULATION	QTY (Ln M)	REMARKS
7.6.(23)	Cast in Place Concrete Pile 180 cm D	A1 2 X 35	70.00	
		A2 2 X 38	76.00	
		SUMMARY	146.00	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 28 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO : GSB 03, 04, 05, 06, 07, 08		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Ln M)	REMARKS
7.6.(26)	Cast in Place Concrete Bored Pile	P4 1 X 33	33.00	
	Dia 2500 mm			
		P5 2 X 35	70.00	Portal
		P6 2 X 35	70.00	Portal
		P7 1 X 33	33.00	
		P8 1 X 41	41.00	
		P9 1 X 39	39.00	
		P10 1 X 37	37.00	
		P11 1 X 39	39.00	
		P12 1 X 33	33.00	
		SUMMARY	395.00	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 19 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO : GSB 01 to 09		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Each)	REMARKS
7.6.(27)	Pile Integrity Test	A1 2 Each		
		P1 2 Each		
		P2 2 Each		
		P3 2 Each		
		P4 1 Each		
		P5 2 Each		Portal
		P6 2 Each		Portal
		P7 1 Each		
		P8 1 Each		
		P9 1 Each		
		P10 1 Each		
		P11 1 Each		
		P12 1 Each		
		P13 2 Each		
		P14 2 Each		
		P15 2 Each		
		A2 2 Each		
		27 Each	27.00	
		SUMMARY	27.00	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 19 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO : GSB - 02		QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	CALCULATION	QTY (Each)	REMARKS
7.6.(7)	Pile Dynamic Analysis (PDA) 1500 mm		1.00	
		SUMMARY	1.00	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 19 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO : GSB - 01, 09		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Each)	REMARKS
SS7.6.(29)a	Pile Dynamic Analysis (PDA)		1.00	
	Dia 1800 mm			
		SUMMARY	1.00	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 19 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO : GSB - 03, 04, 05, 06, 07, 08		QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	CALCULATION	QTY (Each)	REMARKS
SS7.6.(29)b	Pile Dynamic Analysis (PDA) , Dia 2500 mm		1.00	
		SUMMARY	1.00	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	BACK UP QUANTITY STONE MASONRY	Sheet : of

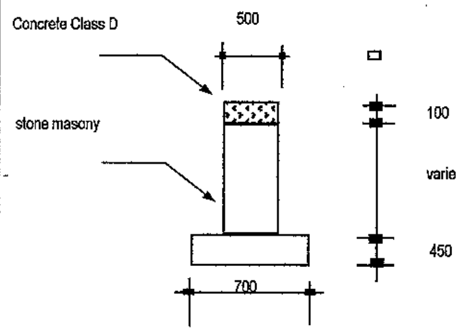
PROJECT : GEBANG FLYOVER

NORTH JAVA CORRIDOR FLYOVER PROJECT

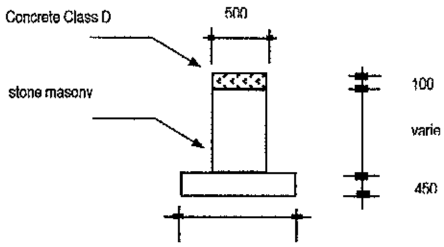
KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO :	ESTIMATOR :	CHECKED BY :

SKETCH DRAWING



Sta 0+280 - 0+300



Sta 0+820 - 0+880

CALCULATION

PROJECT : GEBANG FLYOVER

STA	AREA	AV. AREA	DISTANCE START	DISTANCE END	L (M)	VOL (Cu.M)	REMARKS
0 +020.00	0.38	0.38	0 +009.65	0 +026.45	16.80	6.42	LEFT SIDE
0 +080.00	0.40	0.40	0 +068.54	0 +080.00	11.46	4.57	APPROACH
0 +100.00	0.37	0.39	0 +080.00	0 +100.00	20.00	7.72	
0 +120.00	0.38	0.38	0 +100.00	0 +120.00	20.00	7.56	
0 +920.00	0.38	0.38	0 +908.00	0 +920.00	12.00	4.57	
0 +940.00	0.39	0.38	0 +920.00	0 +948.83	28.83	11.04	
1 +020.00	0.50	0.48	1 +012.45	1 +034.44	22.00	10.55	
TOTAL					131.08	52.43	

STA	AREA	AV. AREA	DISTANCE START	DISTANCE END	L (M)	VOL (Cu.M)	REMARKS
0 +040.00	0.46	0.23	0 +031.46	0 +051.28	19.82	4.55	RIGHT SIDE
0 +060.00	0.00	0.23	0 +051.28	0 +060.00	8.73	2.00	APPROACH
1 +000.00	0.50	0.25	0 +987.50	1 +000.00	12.50	3.13	
1 +020.00	0.00	0.25	1 +000.00	1 +012.60	12.60	3.15	
TOTAL					53.64	12.83	

STA	AREA	AV. AREA	DISTANCE START	DISTANCE END	L (M)	VOL (Cu.M)	REMARKS
0 +520.00	0.40	0.20	0 +512.65	0 +520.00	7.35	1.46	LEFT SIDE
0 +540.00	0.00	0.20	0 +520.00	0 +529.76	9.76	1.94	SERVICE ROAD
0 +660.00	0.39	0.39	0 +649.21	0 +660.00	10.79	4.19	
0 +700.00	0.38	0.38	0 +660.00	0 +700.00	40.00	15.12	
0 +840.00	0.44	0.44	0 +821.99	0 +840.00	18.02	7.84	
0 +860.00	0.36	0.36	0 +840.00	0 +868.25	28.25	10.28	
0 +920.00	0.38	0.38	0 +915.89	0 +920.00	4.12	1.57	
0 +940.00	0.39	0.39	0 +920.00	0 +952.30	32.30	12.44	
1 +020.00	0.50	0.25	1 +011.26	1 +020.00	8.74	2.19	
1 +040.00	0.00	0.25	1 +020.00	1 +039.99	19.99	5.00	
TOTAL					179.32	62.02	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared : 19 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	CALCULATION	QTY (Ln M)	REMARKS
7.11.(2)	Expantion Joint (Type A)			
		P4 = 8 Ln M x 2		
		= 16.00 Ln M		
		P7 = 8 Ln M x 2		
		= 16.00 Ln M		
		P12 = 8 Ln M x 2		
		= 16.00 Ln M		
		Total = 16.00 + 16.00 + 16.00		
		= 48.00 Ln M	48.00	
		SUMMARY	48.00	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared : 21 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	CALCULATION	QTY (Set)	REMARKS
SS7.11.(4)	Restrainner Type A			
		P4 = 1.00 x 2 Each		
		= 2.00 Each		
		P7 = 1.00 x 2 Each		
		= 2.00 Each		
		P12 = 1.00 x 2 Each		
		= 2.00 Each		
		Total = 2.00 + 2.00 + 2.00		
		= 6.00 Each	6.00	
		SUMMARY	6.00	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 24 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		QUANTITY :	CHECKED BY :	

NO	DESCRIPTION	CALCULATION	QTY (Set)	REMARKS
SS7.11.(6)	Stopper for Steel Girder			
		P4 = 1.00 x 2 Each		Steel Girder
		= 2.00 Each		
		P7 = 1.00 x 2 Each x 2 Each		Steel Girder
		= 4.00 Each		
		P8 = 1.00 x 2 Each		
		= 2.00 Each		Steel Girder
		Total = 2.00 + 4.00 + 2.00		
		= 8.00 Each	8.00	
		SUMMARY	8.00	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 21 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Set)	REMARKS
7.12.(2)c	Elastomeric Bearing Pad			
	Type - A4	P4 = 1.00 x 2 Set		PC Girder
		= 2.00 Set		
		P12 = 1.00 x 2 Set		PC Girder
		= 2.00 Set		
		Total = 2.00 + 2.00		
		= 4.00 Set	4.00	
		SUMMARY	4.00	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 28 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Set)	REMARKS
7.12.(7)b	Bridge Bearing for Steel Girder			
	Type - B2	P4 = 1.00 x 2 Set		
		= 2.00 Set		
		P7 = 1.00 x 4 Set		
		= 4.00 Set		
		P12 = 1.00 x 2 Set		
		= 2.00 Set		
		Total = 2.00 + 4.00 + 2.00		
		= 8.00 Set	8.00	
		SUMMARY	8.00	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 28 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Set)	REMARKS
7.12.(7)c	Bridge Bearing for Steel Girder			
	Type - C1	P5 = 1.00 x 1 Set		
		= 1.00 Set		
		P6 = 1.00 x 1 Set		
		= 1.00 Set	2.00	
		SUMMARY	2.00	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 28 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Set)	REMARKS
7.12.(7)e	Bridge Bearing for Steel Girder			
	Type - C3	P5 = 1.00 x 1 Set		
		= 1.00 Set		
		P6 = 1.00 x 1 Set		
		= 1.00 Set	2.00	
		SUMMARY	2.00	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 29 - 08 - 2006	Sheet : 1 of 1	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO : GSB - 01 to 09 GEP - 002 to 011		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Ln M)	REMARKS
7.13	Steel Bridge Reiilings	A1 - A2 = 385 Ln M		
		Ramp A1 - End EPS Wall		
		= 104.685 + 0.95		
		= 105.608 Ln M		
		End EPS Wall - Stubwall		
		= 77.80 + 0.50		
		= 78.30 Ln M		
		Ramp A2 - End EPS Wall		
		= 144.685 + 0.95		
		= 145.635 Ln M		
		End EPS Wall - Stubwall		
		= 75.80 + 0.50		
		= 76.30 Ln M		
		L Total		
		=(385+105.608+78.30+145.635+76.30) x 2		
		= 1,581.686 Ln M	1,581.69	
		SUMMARY	1,581.69	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 10 - 08 - 2006	Sheet : of	
PROJECT : GEBANG FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Each)	REMARKS
7.14	Bridge Name Plate	2 Each	2.000	
		SUMMARY	2.000	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared :	Sheet : 1 of 1
PROJECT : GEBANG **FLYOVER**	BACK UP QUANTITY DEMOLITION OF MASONRY	
NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO :	ESTIMATOR :	CHECKED BY :

QUANTITY CALCULATION

PROJECT : GEBANG FLYOVER

SKETCH DRAWING	STA Start	STA End	L/R	Average Area	Length	Volume (Cu.M)	REMARKS
MAIN ROAD	00 + 136.89	00 + 144.62	R	0.360	7.730	2.783	
	00 + 908.74	00 + 916.07	L	0.360	7.330	2.639	
-	00 + 916.91	00 + 925.59	L	0.360	8.673	3.122	
	00 + 926.72	00 + 933.71	L	0.360	6.996	2.519	
	00 + 934.79	00 + 943.47	L	0.360	8.682	3.126	
						14.188	
SERVICE ROAD	00 + 145.43	00 + 160.51	L	0.360	15.084	5.430	
	00 + 184.32	00 + 197.81	L	0.360	13.491	4.857	
	00 + 202.40	00 + 212.59	L	0.360	10.182	3.666	
	00 + 231.10	00 + 235.78	L	0.360	4.675	1.683	
	00 + 244.57	00 + 252.15	L	0.360	7.584	2.730	
	00 + 360.17	00 + 363.27	L	0.360	3.097	1.115	
	00 + 742.88	00 + 751.70	L	0.360	8.828	3.178	
	00 + 759.59	00 + 763.47	L	0.360	3.871	1.394	
	00 + 812.25	00 + 830.32	L	0.360	18.074	6.507	
	00 + 849.13	00 + 856.71	L	0.360	7.581	2.729	
	00 + 857.46	00 + 871.56	L	0.360	14.106	5.078	
	00 + 871.80	00 + 880.91	L	0.360	9.109	3.279	
	00 + 883.15	00 + 892.59	L	0.360	9.444	3.400	
	00 + 893.67	00 + 899.19	L	0.360	5.526	1.989	
	00 + 900.32	00 + 906.29	L	0.360	5.966	2.148	
						49.182	

QUANTITY OF DEMOLITION MASONRY = **63.370** Cu.M

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared : 10/3/2006 19:21		Sheet : 1 of 1
PROJECT : GEBANG FLYOVER	BACK UP QUANTITY OF DEMOLITION CONCRETE		
NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO : GRD 024 - GRD 030	ESTIMATOR :		CHECKED BY :

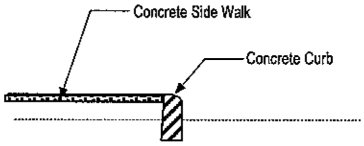
SKETCH DRAWING	QUANTITY CALCULATION PROJECT : GEBANG FLYOVER						REMARKS
	STA		Length	Concrete	Volume		
	Start	End		Thickness	(Cu.M)	L/R	
MAIN ROAD	00 + 136.89	00 + 144.62	7.730	0.100	0.773	R	
					0.773		
SERVICE ROAD	00 + 908.74	00 + 916.07	7.330	0.100	0.733	R	
	00 + 916.91	00 + 925.59	8.673	0.100	0.867	R	
	00 + 926.72	00 + 933.71	6.996	0.100	0.700	R	
	00 + 934.79	00 + 943.47	8.682	0.100	0.868	R	
					3.168		
	QUANTITY OF DEMOLITION OF EXISTING CONCRE				3.941	Cu.M	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared :	Sheet : 1 of 1
PROJECT : GEBANG **FLYOVER**	BACK UP QUANTITY DEMOLITION OF HEDGE OR FENCE	
NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO :	ESTIMATOR :	CHECKED BY :

SKETCH DRAWING	QUANTITY CALCULATION PROJECT : GEBANG FLYOVER				REMARKS
	STA		Length	L/R	
	Start	End			
MAIN ROAD	00 + 133.03	00 + 171.93	38.897	L	
	00 + 916.10	00 + 916.10	0.000	L	
	00 + 965.03	00 + 975.01	9.977	L	
			48.874		
SERVICE ROAD	00 + 465.16	00 + 652.18	187.017	L	
	00 + 672.47	00 + 757.17	84.703	L	
			271.720		
SERVICE ROAD	00 + 133.03	00 + 171.93	38.897	R	
	00 + 202.38	00 + 244.59	42.208	R	
	00 + 296.12	00 + 304.66	8.544	R	
	00 + 475.84	00 + 606.58	130.739	R	
	00 + 622.23	00 + 668.31	46.086	R	
	00 + 752.67	00 + 754.59	1.922	R	
	00 + 767.34	00 + 784.32	16.977	R	
			285.373		
	QUANTITY DEMOLITION OF HEDGE OF FENCE =		**605.967**	M ✓	
			605,97		

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared 9/20/2006 14:21	Sheet : of
PROJECT : GEBANG PROJECT NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO : GRS-019, GRD-020,GRD-021,GRD-022,GRD-023,GRD024	ESTIMATOR :	CHECKED BY :

SKETCH DRAWING



CALCULATION | REMARKS

Gebang Fly Over - Contract Package 2

Item No. 7.15 (4) - Demolition of Concrete Side Walk

MAIN ROAD / FLYOVER

STATION		WIDTH	AREA
START	END		
0+000.000	0+000.000	0.000	0.000
0+000.000	0+000.000	0.000	0.000
SUB TOTAL LENGTH			0.000

STATION		WIDTH	AREA
START	END		
0+000.000	0+000.000	0.000	0.000
0+000.000	0+000.000	0.000	0.000
SUB TOTAL LENGTH			0.000

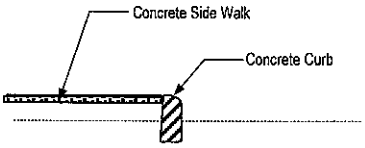
SERVICE ROAD

STATION		LEFT SIDE WIDTH	AREA
START	END		
0+480.615	0+594.464	1.400	159.389
0+000.000	0+000.000	0.000	0.000
SUB TOTAL LENGTH			159.389

STATION		RIGHT SIDE WIDTH	AREA
START	END		
0+500.948	0+519.259	1.500	27.467
0+000.000	0+000.000	0.000	0.000
SUB TOTAL LENGTH			27.467

TOTAL = **186.855 cum.** ✓

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared **9/20/2006 11:07**	Sheet : of	
PROJECT : GEBANG PROJECT NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO : GRS-019, GRD-020,GRD-021,GRD-022,GRD-023,GRD024	ESTIMATOR :	CHECKED BY :	
SKETCH DRAWING	CALCULATION Gebang Fly Over - Contract Package 2		REMARKS



Item No. 7.15 (5) - Demolition of Concrete Curb

MAIN ROAD / FLYOVER

STATION		LENGTH
START	END	
0+000.000	0+000.000	0.000
0+000.000	0+000.000	0.000
SUB TOTAL LENGTH		0.000

STATION		LENGTH
START	END	
0+000.000	0+000.000	0.000
0+000.000	0+000.000	0.000
SUB TOTAL LENGTH		0.000

SERVICE ROAD

STATION		LEFT SIDE LENGTH
START	END	
0+480.615	0+594.464	113.849
0+000.000	0+000.000	0.000
0+000.000	0+000.000	0.000
SUB TOTAL LENGTH		113.849

STATION		RIGHT SIDE LENGTH
START	END	
0+500.948	0+519.259	18.311
0+000.000	0+000.000	0.000
0+000.000	0+000.000	0.000
SUB TOTAL LENGTH		18.311

TOTAL	**132.160 m.**	✓

DIVISION 8.
Miscellaneous

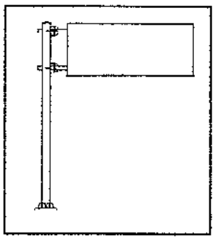
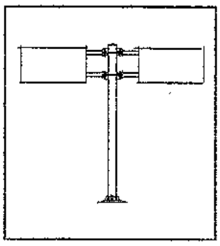
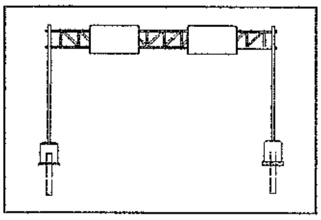
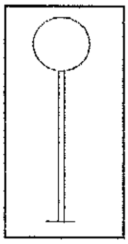
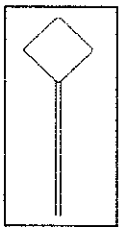
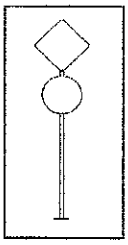
CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared :		Sheet : 1 of 1
PROJECT : GEBANG FLYOVER	BACK UP QUANTITY SOLID SODING		
NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL	8.1 (1)		
DRAWING NO :	ESTIMATOR :	CHECKED BY :	

SKETCH DRAWING	QUANTITY CALCULATION PROJECT : GEBANG FLYOVER						REMARKS
	STA		Length	Average	Area		
	Start	End		Width	(Sq.M)		
MAIN ROAD / FLY OVER	00 + 316.78	00 + 340.45	23.664	9.962	235.741		
	00 + 340.45	00 + 361.78	21.337	9.542	203.598		
	00 + 361.78	00 + 390.99	29.206	8.220	240.073		
	00 + 390.99	00 + 412.34	21.356	6.571	140.330		
	00 + 412.34	00 + 419.20	6.857	5.701	39.092		
	00 + 419.20	00 + 426.00	6.796	5.480	37.242		
	00 + 426.00	00 + 454.86	28.864	5.392	155.635		
	00 + 454.86	00 + 466.01	11.151	5.456	60.840		
	00 + 466.01	00 + 477.01	10.998	6.030	66.318		
	00 + 477.01	00 + 486.99	9.983	6.982	69.701		
	00 + 486.99	00 + 497.03	10.040	7.582	76.123		
	00 + 497.03	00 + 514.12	17.082	7.660	130.848		
	00 + 514.12	00 + 523.46	9.343	7.464	69.736		
	00 + 523.46	00 + 532.78	9.322	6.949	64.779		
	00 + 532.78	00 + 559.51	26.730	5.431	145.171		
	00 + 559.51	00 + 568.24	8.725	4.001	34.909		
	00 + 568.24	00 + 576.94	8.708	3.620	31.523		
	00 + 576.94	00 + 593.28	16.337	3.525	57.588		
	00 + 593.28	00 + 597.82	4.540	3.326	15.100		
	00 + 597.82	00 + 602.43	4.614	2.508	11.572		
	00 + 602.43	00 + 604.25	1.816	0.945	1.716		
	00 + 618.79	00 + 620.00	1.213	1.826	2.215		
	00 + 620.00	00 + 623.29	3.286	4.297	14.120		
	00 + 623.29	00 + 626.72	3.431	5.157	17.694		
	00 + 626.72	00 + 629.75	3.029	5.400	16.357		
	00 + 629.75	00 + 633.03	3.287	5.485	18.029		
	00 + 633.03	00 + 658.93	25.895	6.651	172.228		
	00 + 658.93	00 + 663.83	4.900	7.998	39.190		
	00 + 663.83	00 + 668.74	4.911	8.387	41.189		
	00 + 668.74	00 + 680.28	11.536	8.844	102.024		
	00 + 680.28	00 + 700.36	20.080	9.562	192.005		
			TOTAL		**2502.684**	**Sq.M**	
	QUANTITY SOLID SODING			=	**2502.684**	**Sq.M** ✓	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared : 10/4/2006 17:25		Sheet : 1 of 1
PROJECT : GEBANG FLYOVER	BACK UP QUANTITY BRC FENCE		
NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO : GRD 067	ESTIMATOR :	CHECKED BY :	

SKETCH DRAWING	QUANTITY CALCULATION PROJECT : GEBANG FLYOVER					REMARKS
	STA			Length		
	Start	End	L/R			
SERVICE ROAD	00 + 000.00	00 + 000.00	L	0.000	M	
		TOTAL		**0.000**	M	
	QUANTITY OF BRC FENCE =			**0.000**	M	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
PROJECT : GEBANG **FLYOVER** NORTH JAVA CORRIDOR FLYOVER PROJECT	BACK UP QUAMTITY ROAD SIGN		
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	ESTIMATOR :	CHECKED BY :	

SKETCH DRAWING	CALCULATION				REMARKS **Drawing No.**
 Overhead Sign Type A	- Overhead Sign Type A	=	1	Each	GTR - 001
	- Overhead Sign Type A	=	2	Each	GTR - 003
			3		
 Overhead Sign Type B	- Overhead Sign Type B	=	1	Each	GTR - 002
			1		
 Overhead Sign Type C					
 Regulatory and Warning Sign Type A	- Reg & Warning Sign Type A	=	0	Each	GTR - 001
	- Reg & Warning Sign Type A	=	3	Each	GTR - 002
	- Reg & Warning Sign Type A	=	11	Each	GTR - 003
	- Reg & Warning Sign Type A	=	6	Each	GTR - 004
			20		
 Regulatory and Warning Sign Type A	- Reg & Warning Sign Type A	=	1	Each	GTR - 001
	- Reg & Warning Sign Type A	=	0	Each	GTR - 002
	- Reg & Warning Sign Type A	=	3	Each	GTR - 003
	- Reg & Warning Sign Type A	=	1	Each	GTR - 004
			5		
 Regulatory and Warning Sign Type A	- Reg & Warning Sign Type B	=	0	Each	
	SUMMARY QUANTITY ROAD SIGN				
	- Overhead Sign Type A		**1**	Each	
	- Overhead Sign Type B		**3**	Each	
	- Overhead Sign Type C		**0**	Each	
	- Regulatory & Warning Sign Type A		**25**	Each	
	- Regulatory & Warning Sign Type B		**0**	Each	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
PROJECT : GEBANG FLY OVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	ESTIMATOR :	CHECKED BY :	

SKETCH DRAWING

1 **SEPARATOR LINE**

0.12

3 m

'Note : - Area of 1 Marking = 0.36 M^2

2 **MARGINAL LINE**

0.12

Length

'Note : - Area of Marking = Length x 0.12 m

3 **WARNING LINE**

0.12

3 m

'Note : - Area of 1 Marking = 0.36 M^2

4 **ZEBRA CROSS**

0.3m

4 m

'Note : - Area of 1 Marking = 1.2 M^2

5 **ARROW**

a. TYPE 1 (DIRECT)

'Note : - Area of 1 Arrow = 1.1M^2

b. TYPE 2 (TURN LEFT/RIGHT)

'Note : - Area of 1 Marking = 1.18 M^2

c. TYPE 3 (DIRECT AND TURN LEFT/RIGHT)

'Note : - Area of 1 Marking = 1.48 M^2

CALCULATION

Gebang Flyover - Contract Package 2

Item No. ... - Road Marking

REMARKS: ROAD MARKING FLYOVER

Note: See Detailed Construction Layout Plan

Dwg. # GTR-003 - GTR-008 for reference.

Station	Marginal Strip Length	Separator Line Sum of Marks	Warning Line Sum of Marks	Zebra Cross Sum of Marks	Area (m^2)
00 + 000.00					
	1520.0	95	0	0	216.600
01 + 142.71					
				SUM	**216.60**

TOTAL AREA ROAD MARKING FLYOVER = 216.60 (m^2)

TOTAL AREA 827.10 (m^2)

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
PROJECT : GEBANG FLY OVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	ESTIMATOR :	CHECKED BY :	

SKETCH DRAWING	CALCULATION Gebang Flyover - Contract Package 2	REMARKS

Item No. ... - Road Marking — ROAD MARKING AT GRADE

1 **SEPARATOR LINE**

0.12

3 m

'Note : - Area of 1 Marking = 0.36 M^2

2 **MARGINAL LINE**

0.12

Length

'Note : - Area of Marking = Length x 0.12 m

3 **WARNING LINE**

0.12

3 m

'Note : - Area of 1 Marking = 0.36 M^2

4 **ZEBRA CROSS**

0.3m

4 m

'Note : - Area of 1 Marking = 1.2 M^2

5 **ARROW**

a. TYPE 1 (DIRECT)

'Note : - Area of 1 Arrow = 1.1M^2

b. TYPE 2 (TURN LEFT/RIGHT)

'Note : - Area of 1 Marking = 1.18 M^2

c. TYPE 3 (DIRECT AND TURN LEFT/RIGHT)

'Note : - Area of 1 Marking = 1.48 M^2

Note: See Detailed Construction Layout Plan

Dwg. # GTR-003 - GTR-008 for reference.

Station	Marginal Strip Length	Separator Line Sum of Marks	Warning Line Sum of Marks	Zebra Cross Sum of Marks	Area (m^2)
00 + 000.00					
	408.4	36	13	0	66.647
00 + 148.00					
	1067.7	35	22	37	193.044
00 + 616.48					
	584.5	34	7	25	114.898
00 + 908.13					
	528.97	60	23	0	93.357
01 + 142.71					
				SUM	467.95

ARROW

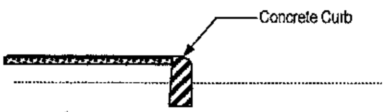
Station	TYPE 1 Qty	TYPE 2 Qty	TYPE 3 Qty	AREA (m^2)
00 + 000.00				
	25	2	0	30
01 + 142.71				
			SUM	29.86

CHEVRON AND STOP LINE

Station	CHEVRON Length	STOP LINE Length	AREA (m^2)
00 + 000.00			
	115.9	0	34.8
00 + 148.00			
	173.2	0	52.0
00 + 616.48			
	41.8	0	12.5
00 + 908.13			
	44.8	0	13.4
01 + 142.71			
		SUM	112.69

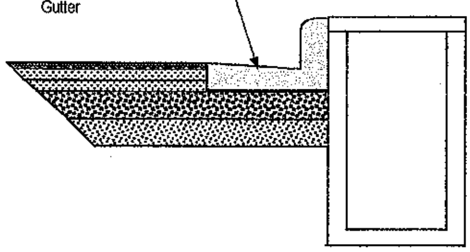
TOTAL AREA ROAD MARKING AT GRADE = 610.50 (m^2)

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of
PROJECT : GEBANG **FLYOVER** NORTH JAVA CORRIDOR FLYOVER PROJECT	BACK UP QUANTITY CON. CURB TYPE A 8.8 (1)	
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO :	ESTIMATOR :	CHECKED BY :

SKETCH DRAWING	CALCULATION	REMARKS **Drawing No.**
	Concrete Curb Type A Left and Right side	
	L = 295.758 M median before app	GRD-024
	L = 908.156 M biside app A1	GRD-025,26,27
	L = 580.067 M biside app A2	GRD-027,28,29
	L = 304.003 M median before app	GRD-029
	2087.984	
	Quantity Concrete Curb Type A = **2087.984** M	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of
PROJECT : GEBANG **FLYOVER** NORTH JAVA CORRIDOR FLYOVER PROJECT	BACK UP QUANTITY CON. CURB TYPE B	
KATAHIRA AND ENGINEERS INTERNATIONAL	8.8 (2)	
DRAWING NO :	ESTIMATOR :	CHECKED BY :

SKETCH DRAWING

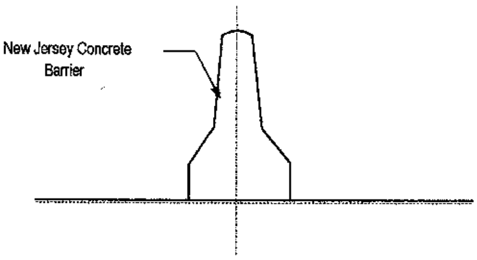


CALCULATION				REMARKS **Drawing No.**
Concrete Curb and Gutter Left Side				
L	=	27.551	M	GRD-024
L	=	85.315	M	GRD-024
L	=	65.284	M	GRD-025
L	=	37.201	M	GRD-025
L	=	46.576	M	GRD-025
L	=	64.278	M	GRD-025
L	=	110.080	M	GRD-025
L	=	525.048	M	GRD-027,28
L	=	61.549	M	GRD-029
		1022.882	**M**	
Concrete Curb and Gutter Right Side				
R	=	58.156	M	GRD-024
R	=	144.158	M	GRD-024
R	=	120.018	M	GRD-025
R	=	52.454	M	GRD-026
R	=	56.498	M	GRD-026
R	=	160.660	M	GRD-027
R	=	190.485	M	GRD-028
R	=	166.315	M	GRD-029
R	=	83.021	M	GRD-029
		1031.765	M	

Quantity Concrete Curb & Gutter = **2054.65 Ln.M** ✓

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of
PROJECT : GEBANG **FLYOVER**		
NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO :	ESTIMATOR :	CHECKED BY :

SKETCH DRAWING	CALCULATION	REMARKS
	85.9 Gebang Flyover - Contract Package 2	



Section of Concrete Median Type B

Item No. 8.4.12(2) - Concrete Median Type B (New Jersey Barrier)

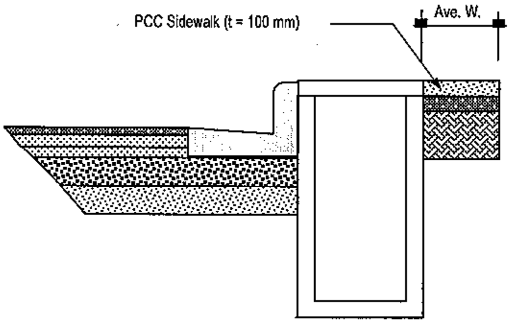
Note: See Detailed Construction Layout Plan

Dwg. # GRD-022 - GRD-027 for reference.

Station		Length
From	To	(m)

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared 9/22/2006 11:30	Sheet : 1 of 3
PROJECT : GEBANG FLYOVER		
NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO :	ESTIMATOR :	CHECKED BY :

SKETCH DRAWING	CALCULATION	REMARKS
	Gebang Flyover - Contract Package 2	



Section of PCC Sidewalk at Right Service Road

Item No. 8.4.13 - Concrete Sidewalk -

Location : At Shoulder

Note: See Detailed Construction Layout Plan
Dwg. # GRD-024 - GRD-030 for reference.

At Right Service Road

Length (m)	Ave. Width (m)	Area (m^2)	
49.000	0.402	19.698	
112.578	0.403	45.369	
45.904	0.403	18.499	
54.162	1.302	70.519	
156.607	0.626	98.036	
183.107	0.501	91.737	
106.545	0.403	42.938	
	Total Area =	386.796	sqm.

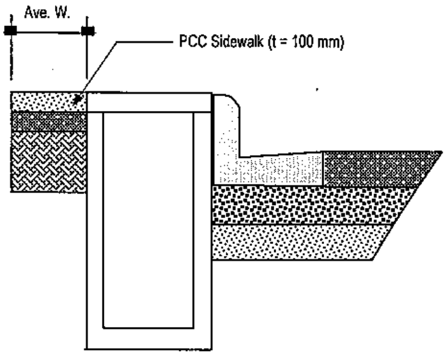
CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared 9/22/2006 11:24	Sheet : 2 of 3
PROJECT : GEBANG FLYOVER		
NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO :	ESTIMATOR :	CHECKED BY :

SKETCH DRAWING	CALCULATION	REMARKS
	Gebang Flyover - Contract Package 2	

Item No. 8.4.13 - Concrete Sidewalk — Location : At Shoulder

Note: See Detailed Construction Layout Plan

Dwg. # GRD-024 - GRD-030 for reference.



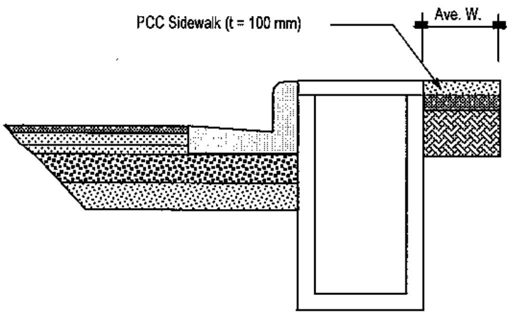
Section of PCC Sidewalk at Left Service Road

At Left Service Road

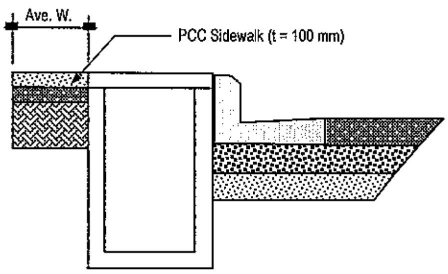
Length (m)	Ave. Width (m)	Area (m^2)	
24.337	0.403	9.808	
33.233	0.402	13.360	
40.814	0.403	16.448	
57.451	1.302	74.801	
102.328	1.302	133.231	
445.095	0.445	198.067	
	Total Area =	**445.715**	**sqm.**

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared 9/22/2006 11:24	Sheet : 3 of 3
PROJECT : GEBANG FLYOVER		
NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO :	ESTIMATOR :	CHECKED BY :

SKETCH DRAWING



Section of PCC Sidewalk at Right Side



Section of PCC Sidewalk at Left Side

CALCULATION

Gebang Flyover - Contract Package 2

				REMARKS
Item No. 8.4.13 - Concrete Sidewalk				Location : At Shoulder
Note: See Detailed Construction Layout Plan				
Dwg. # GRD-024 - GRD-030 for reference.				
A. Approach A				
At Right Side				
Length	Ave. Width	Area		
(m)	(m)	(m^2)		
52.433	1.301	68.215		
87.080	0.401	34.919		
	Sub-Total =	103.134		
At Left Side				
Length	Ave. Width	Area		
(m)	(m)	(m^2)		
24.277	0.401	9.735		
81.587	0.400	32.635		
37.000	0.401	14.837		
	Sub-Total =	57.207		
A. Approach B				
At Right Side				
Length	Ave. Width	Area		
(m)	(m)	(m^2)		
52.000	0.403	20.956		
76.987	0.628	48.348		
	Sub-Total =	69.304		
At Left Side				
Length	Ave. Width	Area		
(m)	(m)	(m^2)		
73.000	0.402	29.346		
53.303	0.402	21.428		
	Sub-Total =	50.774		
Total Area =	280.419	sqm.		

DIVISION 9.
Facilities

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
PROJECT : GEBANG **FLYOVER** NORTH JAVA CORRIDOR FLYOVER PROJECT	BACK UP ELECTRICAL		
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	ESTIMATOR :	CHECKED BY :	

SKETCH DRAWING	CALCULATION	REMARKS
ELECTRICAL UNDER VIADUCT	1. Panel LP-PJU FO = 0 Each	
	2. Cealling sont 150 watt = 13 Each	
	3. Cable NYY 2 x 2.5 mm2= 690-400 = 290 m	
FLY OVER	1. Panel LP-PJU.FO = 1 Each	
	2. Ligthing Pole (sont 250 watt) = 20 Each	
	3. Cable NYY 2x2.5mm2= 20x11.5 = 230 m	
	4. Cable NYFGBY 4 x 10mm2 = 752+20X2	
	= 792 M	
SERVICE ROAD	1. Panel LP-PJU.1 = 1 Each	
	2. Panel LP-PJU.2 = 1 Each	
	3. Panel LP-PJU.3 = 1 Each	
	4. Panel LP-PJU.4 = 1 Each	
	5. Lighting Pole (sont 250 watt) = 58 Each	
	7. Cable NYY 2x2.5 mm2 = 58 x 11.5 = 667 M	
	8. Cable NYFGBY 4 x 10 mm2= 1120X2+58X2 = 2356 m	
	9. Cable NYFGBY 4 x 25 mm2 :	
	PLN1 to LP-PJU.1 = 120 m	
	PLN2 to LP-PJU.2 = 40 m	
	PLN1 to LP-PJU.3 = 160 m	
	PLN2 to LP-PJU.4 = 10 m	
	330 M	
	Cable NYFGBY 4 x 50 mm2 = 200 M	
	SUMMARY QUANTITY GEBANG FO	
	1. Panel LP-PJU.FO = 1 Each	
	Panel LP-PJU.1 = 1 Each	
	Panel LP-PJU.2 = 1 Each	
	Panel LP-PJU.3 = 1 Each	
	Panel LP-PJU.4 = 1 Each	
	2. Ligthing Pole (sont 250 watt) = 78 Each	
	3. Ceilling Sont 150 watt = 13 Each	
	4. Cable NYY 2 x 2.5 mm2 = 1187 M	
	Cable NYFGBY 4 x 10 mm2 = 3148 M	
	Cable NYFGBY 4 x 25 mm2 = 330 M	
	Cable NYFGBY 4 x 50 mm2 = 200 M	

Relocation & Protection of Existing Utilities

COST ESTIMATE FOR UTILITY PROTECTION AND RELOCATION

GEBANG FLYOVER

No.	Description	Unit	Estimate Quantity	Unit Price (Rp.)	Amount (Rp.)	Remarks
	ABOVE GROUND					
1	Relocation of Existing Electricity (PLN), Pole medium Voltage	Each				
2	Relocation of Existing Electricity (PLN), Pole Low Voltage	Each				
3	Electric Cable Above Ground	Ln.M				
4	Relocation of Existing Telephone Utility pole	Each				
5	Telephone Cable Above Ground	Ln.M				
	UNDER GROUND					
6	Under Ground Cable Duct with PVC dia.4" (include telephone and electric cable)	Ln.M				
7	Under Pipe Relocation dia. 75 mm	Ln.M				
			TOTAL COST		**0.00**	