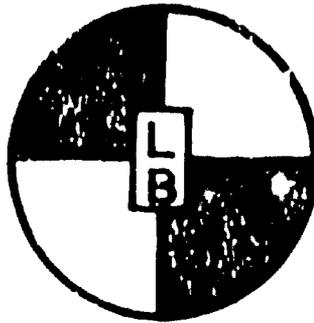


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REPUBLIK INDONESIA

DEPARTEMEN PEKERJAAN UMUM
DIREKTORAT JENDRAL BINA MARGA



ACEH ROAD BETTERMENT PROJECT

MONTHLY PROGRESS REPORT

MARCH 1980

LOUIS BERGER INTERNATIONAL INC.

P. T. ASA ENGINEERING PERTAMA

CONSULTING ENGINEERS



LOUIS BERGER INTERNATIONAL, INC.
Architects - Engineers - Economists - Planners



P.T. ASA ENGINEERING PERTAMA
Architects - Engineers - Constructors - Real Estate
Developers - Modular Home Manufacturers

ACEH ROAD BETTERMENT PROJECT
MONTHLY PROGRESS REPORT
MARCH 1980

Submitted by,

W J G Watson
Engineer-in-Charge

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ACEH ROAD BETTERMENT PROJECT
MONTHLY PROGRESS REPORT
MARCH 1980

T a b l e o f C o n t e n t s

	Page
Part I : - <u>Summary Report</u>	1
Project Map	2
General Summary	4
Headquarters, Survey & Design Staff	10
Part II : - <u>Section Reports</u>	13
Sidikalang - Kruengluas	14
Kutacane - Blangkajeren	23
Part III : - Progress Charts & Cost Estimate	30
Appendices : - Contract Financial data, Contractor Work Force, and Detailed Equipment List	36
A - Sidikalang - Kruengluas	37
B - Kutacane - Blangkajeren	53

- 1 -

PART I

SUMMARY REPORT

PROJECT MAP

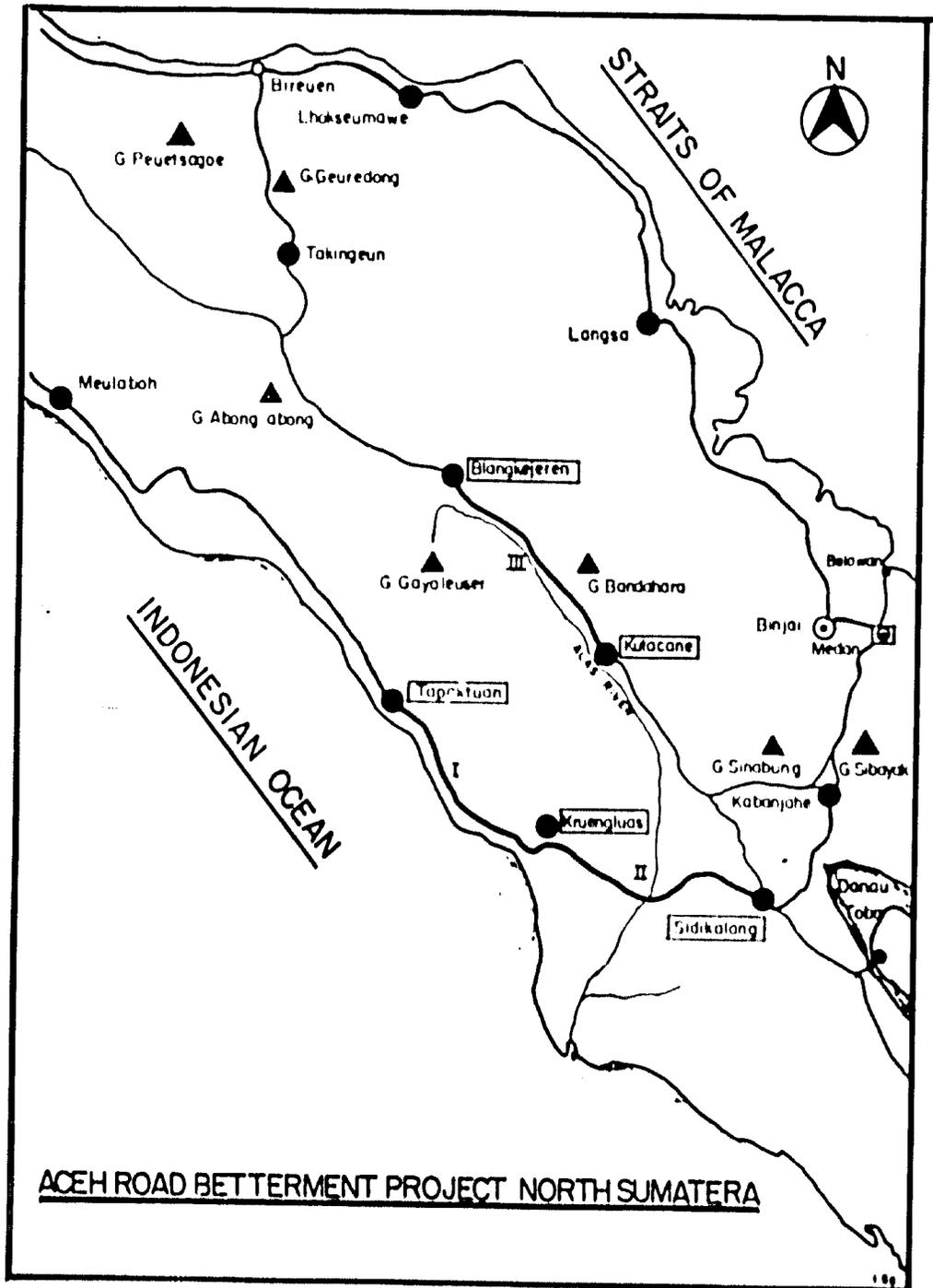
The Aceh Road Betterment Project is located in the province of Aceh and North Sumatera.

The three sections of the Project are shown on the attached map :

Section I - 96 km : Tapaktuan - Kruengluas Road
located on the South coast of
the Aceh Province

Section II - 117 km : Sidikalang - Kruengluas Road
which is partially in North
Sumatera and partially in Aceh
Province

Section III - 105 km : Kutacane - Blangkajeren Road
which is in the central area
of the Aceh Province.



GENERAL SUMMARY

GENERAL SUMMARY

CONSTRUCTION

I. Tapaktuan - Kruengluas

This construction contract was terminated in February 1979. To date no plans have been made to continue work on this section except for work under the Bina Marga AWCAS program.

II. Sidikalang - Kruengluas

Rainfall for this period was recorded at Nan Jombal, the contractor's new base camp and shows frequent and heavy rainfalls in this area where most of the operation is now located. Almost two kilometers of subgrade and subbase and two major pipe culverts were constructed this period.

III. Kutacane - Blangkajeren

This month was relatively wet, but progress of earthwork showed a small improvement due to some equipment from the AWCAS project being returned. Pavement construction was still poor due to low output of crusher and shortage of dump trucks for hauling operations.

A. SURVEY

Section I : Tapaktuan - Kruengluas

Some additional surveying was done during this report period to verify cross section and existing topo on the first 14 kms (Hill section) Tapaktuan end.

Section II : Subulussalam - Kruengluas

Intensive field investigation was completed during this month of the proposed alignment and the existing (logging) roads of the area, also the old Bina Marga alignment versus our alignment recommendations. Surveying crews continued staking out the proposed alignment and gathering the general topo of the area.

Section III : Kotacane - Blangkajeren

Good progress was achieved during this month, having completed about 80% of the total survey work. According to the present work progress, the survey work should be over with by the middle of May when it is anticipated the surveying teams will be transferred to other sections of the project.

SOILS

Testing of subgrade and possible subbase materials was completed for the Kotacane - Blangkajeren section at the end of month. The soils technician was re-established on the Gelombang to Tapaktuan section and continued sampling.

On the Kotacane section the seismic survey equipment broke down and the crew returned to Bandung. However, eleven sites were completed and only three bridges between Km 27 + 748 and Km 43 + 672 could not be investigated.

Meetings were held during the month with Bina Marga and also with DIMJ, Bandung in order to set up and organize mechanical drilling equipment to carry out foundation investigations for selected bridge sites on all sections. All the necessary authorizations and finance were obtained and drilling programmes prepared in anticipation of mobilization during April.

DESIGN

Section I : Tapaktuan - Kruengluas

With the completion of horizontal alignment layouts (already mathematized) for this section work is proceeding in the preparation of final construction drawings, checking the proposed vertical alignment against cross sections, preliminary earthwork quantities and structures & Bridge layouts. Percentage of completion is 90%.

Section II : Subuluzalam - Kruengluas

The design team during this month continued plotting field information and preparing horizontal and vertical layouts. Percentage of completion for this section is 60%

Section III : Kutacane - Blangkajeren

Plotting of field information and tracing of alignment layouts continued including cross sections.

As requested by Mr Soetomo, Project Manager Bina Marga, a brief report on this section was prepared and submitted on March 26, with series of construction considerations and series of basic recommendations for the design and construction programme for this section.

PERCENTAGE OF COMPLETION

At the end of this report period the percentage of work completed is estimated to be survey 34.5%, design 32.5%, total 67% of the total survey and design work.

For detailed work progress refer to Bar Charts page 9.

SURVEY AND DESIGN

March 1980

SCHEDULE PROGRESS	S = SURVEY D = DESIGN	1979						1980						% TO DATE					
		J	J	A	S	O	N	D	J	F	M	A	M	J	J	S	D	TOT.	
Section I : TAPAKTUAN - KRUENGLUAS (96Km)																			
Horizontal, Align - Plan	S																100	90	95
Vertical, Align - Plan	S																100	90	95
Cross Sections	D																-	90	90
Permanent Ref & B.M.	S																100	-	100
Culverts & Bridges	S																100	50	75
Section II : a) BULIHODI - SUBULUSALAM (22km)																			
Horizontal, Align - Plan	S																20	10	15
Vertical, Align - Profile	S																20	10	15
Cross Sections	D																-	0	0
Permanent Ref & B.M.	S																40	-	40
Culverts & Bridges	S																100	80	90
b) SUBULUSALAM - KRUENGLUAS (50 Km)																			
Align Reconnaissance	S																100	-	100
Preliminary Traverse - Lay out	S																100	100	100
Horizontal, Align - Plan	S																50	60	55
Vertical, Align - Profile	S																50	60	55
Cross Sections	D																-	60	60
Permanent Ref & B.M.	S																20	-	20
Culverts & Bridges	S																20	60	40
Section III : KM 44 - BLANGKEJEREN (60Km)																			
Horizontal Alignment	S																80	60	70
Vertical Alignment	S																90	60	70
Cross Sections	D																-	60	60
Permanent Ref & B.M.	S																100	-	100
Culverts & Bridges	S																100	100	100
Add Soils Investigation - I, II, III	S																50	-	50
Revision of Quantity Estimate	D																-	30	30

HEADQUARTERS AND SURVEY & DESIGN
STAFF

HEADQUARTERS STAFF

<u>Classification</u>	<u>Begin Period</u>	<u>End Period</u>	<u>Variation</u>	<u>Location</u>		
				<u>Sk</u>	<u>Mdn</u>	<u>Jkt</u>
<u>Expatriate</u>						
Engineer-in-Charge	1	1	0	1	-	-
By Engineer-in-Charge	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>-</u>	<u>-</u>
	2	2	0	2	-	-
<u>Indonesian</u>						
Progress Engineer and Cont. Admin.	1	1	0	1	-	-
Admin. Manager	1	1	0	1	-	-
Purchasing Officer	1	1	0	-	1	-
Jr Accountant	1	1	0	1	-	-
Secretaries	2	2	0	1	-	1
Draftsman	1	1	0	1	-	-
Clerk	2	2	0	2	-	-
Radio Operator	1	1	0	1	-	-
Drivers	4	4	0	3	1	-
Office Janitor	5	4	-1	3	-	1
Guard	<u>1</u>	<u>1</u>	<u>0</u>	<u>-</u>	<u>1</u>	<u>2</u>
	22	21	-1	14	3	4
Total Personnel	24	23	-1	16	3	4

DESIGN AND SURVEY STAFF

<u>Classification</u>	<u>Begin Period</u>	<u>End Period</u>	<u>Variation</u>	<u>Sdk</u>	<u>Location</u>		
					<u>Mdn</u>	<u>Tpn</u>	<u>Kc</u>
<u>Expatriate</u>							
Chief Design Eng.	1	1	0	-	1	-	-
Struct. Design Eng.	2	2	0	-	2	-	-
Soils Engineer	1	1	0	-	1	-	-
Location/Design Engineer	<u>3</u>	<u>3</u>	<u>0</u>	<u>1</u>	<u>-</u>	<u>1</u>	<u>1</u>
	7	7	0	1	4	1	1
<u>Indonesia</u>							
Civil Engineer	4	5	+1	1	4	-	-
Surveyor	2	3	+1	1	-	1	1
Instrumentmen	6	6	0	3	-	1	2
Draftsmen	9	9	0	-	8	1	-
Secretary	1	1	0	-	1	-	-
Clerk	2	2	0	-	2	-	-
Drivers	7	6	-1	-	3	1	2
Survey Aides	18	19	+1	8	-	4	7
Office Janitor	1	1	0	-	1	-	-
Guard	1	1	0	-	1	-	-
Messenger	<u>1</u>	<u>1</u>	<u>0</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>-</u>
	52	54	+2	13	21	8	12
Total Personnel	59	61	+2	14	25	9	13

PART . II

SECTION REPORTS

SIDIKALANG - KRUENGLUAS SECTION

SIDIKALANG - KRUENGLUAS SECTION

GENERAL

Record rainfalls in March dampened what otherwise might have been excellent progress. Rain was particularly frequent and heavy in the area of the new Contractor base camp at Nan Jombal, where most of the operation is now located. Tragedy befell the Contractor in March as a bulldozer operator and a dump truck driver were killed in separate job-related accidents.

ROAD

Almost two kilometers of subgrade and subbase were constructed in March and we are anticipating an increase in those numbers in coming months. Excavation, Subgrade Subbase are on the critical path of this project and must proceed at 2 to 3 kms per month.

BRIDGE AND CULVERT

A major pipe culvert at Sta 22 + 611 (Lae Gambir I) was constructed this month with a noticeable improvement in construction methods and efficiency. Five bridges have been approved for construction and excavation has commenced at two sites.

Please see Appendix A for contract financial data, P.T. Nindya Karya's work force and detailed equipment lists.

EQUIPMENT UTILIZATION

T Y P E	QUANTITY (*)	OPERATION	IDLE	DOWN TIME %	CHANGE OPERATION FROM LAST MONTH (+ or -) %
Bulldozer	5	79	16	5	- 7,2
Motorgrader	3	84	16	-	+ 0,1
Excavator	1	65	23	12	+47,8
Loader	4	63	12	25	- 1,7
Compactor	9	57	18	25	- 8
Crusher	2	84	16	-	- 2,2
Pavement Eq.	6	20	80	-	+20
Conc.Mixer	6	20	80	-	+20
Crane	2	42	58	-	- 1,1
Piling Eq.	3	-	-	100	-
Dump truck	30	44	18	38	-24,7
Concr.Vibr.	6	28	72	-	+28
Tamping Ham	3	58	42	-	+58

(*) : Main project Equipment only.

ROAD CONSTRUCTION

ACTIVITY	LENGTH COMPLETE (KM)		REMARKS
	THIS MONTH	TO DATE	
Pipe culvert Ø 60	17 m	25,4	Km 61.9 - km 36.5
Pipe culvert Ø 80	11 m	22,7	Km 61.9 - km 39.2
Pipe culvert Ø100	56 m	38,9	Km 61.9 - km 23.0
Subgrade	2.02	27,2	Km 61.9 - km 36.2 Km 26.0 - km 24.5
Subbase	1.66	26,9	Km 61.9 - km 36.5 Km 26.0 - km 24.5
Base	0.24	23,9	Km 61.9 - km 38.0
Macadam	0	23,6	Km 61.9 - km 39.5

CULVERT AND BRIDGE CONSTRUCTION

STATION	T Y P E	% COMPLETE		R E M A R K S
		THIS MONTH	TO DATE	
59 + 857	Bridge 5 spans (8,10,10,10,10)= 48 m	0	100	Approaches & deck paved
48 + 470	1 - 1.4m Ø C M Pipe	0	100	Completed
42 + 908	Bridge, 4 Spans (8,10,8,6) = 32 m	0	100	Awaiting paving of approaches & deck.
39 + 787	1 - 0.80m Ø RC pipe	0	100	completed
39 + 114	1 - 2.0 x 2.0 box	0	100	completed
38 + 210	1 - 1.0m Ø RC pipe	0	100	completed
38 + 065	2 - 1.0m Ø RC pipe	0	100	completed
36 + 114	Bridge, 1 span 25 m	0	100	completed
35 + 540	Bridge, 1 span 22 m	0	100	completed
34 + 750	1 - 1.0m Ø RC pipe	0	100	completed
34 + 120	Bridge, 1 span 17 m	0	100	completed
32 + 950	1 - 1.0m Ø RC pipe	0	100	completed
32 + 550	1 - 1.0m Ø RC pipe	0	100	completed
31 + 865	2 - 1.0m Ø RC pipes	0	100	completed
31 + 535	2 - 1.0m Ø RC pipes	0	100	completed
30 + 972	2 - 1.0m Ø RC pipes	0	100	completed
30 + 880	2 - 1.0m Ø RC pipes	0	100	completed
30 + 252	2 - 1.0m Ø RC pipes	0	100	completed
30 + 105	1 - 1.0m Ø RC pipe	0	100	completed
29 + 605	1 - 3.0 x 3.0 Box	0	100	completed
27 + 184	1 - 1.0 Ø RC pipe	10	100	completed
26 + 525	1 - 1.0 Ø RC pipe	0	100	completed
26 + 470	Bridge, 1 span 25 m	0	100	completed
25 + 740	1 - 1.8 x 1.8 box	0	100	completed
25 + 633	1 - 1.8 x 1.8 box	0	100	completed
24 + 631	1 - 1.8 x 1.8 box	0	100	completed
24 + 460	2 - 1.0m Ø RC pipes	0	100	completed
24 + 340	1 - 1.0m Ø RC pipe	0	100	completed
23 + 942	2 - 1.0m Ø RC pipes	0	100	completed
23 + 766	2 - 1.0m Ø RC pipes	0	90	Needs spillway
23 + 523	2 - 1.0m Ø RC pipes	0	100	completed
22 + 930	1 - 1.0m Ø RC pipes	0	100	completed

22 + 810	Bridge, 1 span 19 m	0	100	Completed
22 + 611	2 - 1.0m ϕ RC pipes	45	95	Backfill remains
22 + 286	1 - 1.0m ϕ RC pipes	10	20	Excavation begun
21 + 883	2 - 1.0m ϕ RC pipes	22	32	Excavation in rock
21 + 488	1 - 1.8 x 1.8 Box	20	23	Excavation begun
21 + 383	1 - 0.80m ϕ RC pipe	15	30	Excavation begun
21 + 177	1 - 1.8 x 1.8 box	10	10	
20 + 900	1 - 1.0m ϕ RC pipe	50	50	
20 + 690	Bridge, 1 span 16 m	19	19	Excavation for abutments
20 + 368	1 - 1.0m ϕ RC pipe	60	60	
20 + 245	2 - 0,8m ϕ RC pipes	15	65	Requires endwalls & spillway
20 + 163	Bridge, 1 span 16m	20	25	Excavation for abutments
18 + 625	Bridge, 3 spans (4 + 10 + 6) =20 m	0	0	Stake out survey
17 + 991	Bridge, 1 span 17m	0	0	Shop drawings approved
17 + 577	Bridge, 1 span 18m	0	0	Shop drawings approved

ENGINEER FORCE REPORT
SIDIKALANG - KRUENGLUAS SECTION

<u>Classification</u>	<u>Begin Period</u>	<u>End Period</u>	<u>Variation</u>
<u>Expatriate</u>			
Resident Engineer	<u>1</u> 1	<u>1</u> 1	<u>0</u> 0
<u>Indonesian</u>			
Ass. Resident Engineer	2	3	+1
Chief Lab. Technician	1	1	0
Inspector	2	3	+1
Jr Inspector	1	0	-1
Surveyor	1	1	0
Instrumentmen	3	3	0
Quantity Technician	1	1	0
Lab. Technician	3	3	0
Draftsman	1	1	0
Clerk	1	1	0
Lab. Helper	2	2	0
Chainman	2	2	0
Rodman	2	2	0
Driver	<u>7</u>	<u>7</u>	<u>0</u>
	29	30	+1
Total Personnel	30	31	+1

SIDIKALANG
RAINFALL - MARCH 1980

<u>D a t e</u>	<u>Rainfall, MM</u>
1	-
2	11.4
3	5.2
4	7.0
5	4.3
6	30.1
7	12.8
8	6.1
9	-
10	0.6
11	-
12	2.0
13	6.4
14	-
15	14.2
16	40.0
17	3.5
18	1.8
19	-
20	-
21	16.5
22	11.0
23	19.8
24	36.6
25	32.0
26	9.3
27	-
28	40.0
29	21.8
30	16.3
31	<u>30.9</u>
	Total: <u>380.2</u>

NAN JOMBAL
RAINFALL - MARCH 1980

<u>Date</u>	<u>Rainfall MM</u>
1	25.50
2	-
3	20.50
4	10.00
5	117.00
6	52.50
7	46.50
8	-
9	40.00
10	45.00
11	14.00
12	20.00
13	18.00
14	8.00
15	-
16	45.00
17	-
18	35.00
19	20.00
20	34.00
21	33.00
22	12.00
23	-
24	-
25	38.00
26	-
27	10.00
28	137.00
29	14.00
30	115.00
31	<u>75.00</u>

Total: 985.00

Average/day: 31.77

RECORD OF CONTROL TESTS

For month of : March 1980.

SECTION II LABORATORY Sdki - Kr.luas	SECTION OF ROAD PAVEMENT	EMBANKMENT	SUB GRADE	SUB - BASE	BASE	BASE (CRUSH STONE)	MACADAM	SURFACING (ASPHALT)	SHOULDER	CONCRETE
TYPES OF TESTS	NO OF TESTS	THIS MONTH	THIS MONTH	THIS MONTH	THIS MONTH	THIS MONTH				
Liquid limit		1	2	7		1				
Plastic limit		1	2	7		1				
Linear shrinkage										
Particle-size analysis fine		1	2							1
Analysis of mat C AGG				7		5	1			3
Specific gravity fine		1	4	7		1	1			2
Bulk density of aggregate			4	7		1	1			3
Abration by loss angles			4	9		1	1			1
Abration by sodium / mag										
Agg least dimension										
Agg crushing value										
Clay lump										
Compaction proctor standard							3			2
Compaction proctor mod		1	2	3		1				
Compaction CBR standard			18							
Compaction CBR mod		1	16	5		1				
Sand equivalent test			5	7		1				1
% Air void of compacted specimen										
Field CBR										
Field moisture content		7	24	12		4				
Field density		7	24	12		4				
Asphalt content										
Thickness determination				12		4				
Surface finish										
Slump test										
Cement test										6
Concrete test by comp										1
Concrete switch hammer										14
Auger hand boring		8								
Special test										
Special test augerhand log found										
Total no of tests		28	107	95		25	7			34

KUTACANE - BLANGKAJEREN SECTION

KUTACANE - BLANGKAJEREN SECTION

GENERAL:

Although March was a relatively wet month, earthwork progress showed a small improvement due to release of some equipment from the AWCAS project. Progress on pavement construction was poor due to the low output of the crusher and the serious shortage of operational dump trucks. Approval by Bina Marga to use pit run gravel with no admixture as class "C" base course material has speeded up production, but is offset by the lack of dump trucks to haul the material. New dump trucks are now urgently needed if any improvement in progress is to be made.

EQUIPMENT UTILIZATION

T Y P E	Average Quantity	Operation %	Idle	Down time	Change Operation from Last month %
Bulldozer	5	42	11	47	- 6
Grader	4	40	15	45	+ 3
Excavator	1	39	13	48	-23
Loader	5	38	17	45	+ 9
Compactor	8	41	37	22	- 5
Crusher	2	33	38	29	+ 6
Paving Eq.	7	7	68	25	- 5
Dump Trucks	42	37	16	47	+ 6

ROAD CONSTRUCTION

ACTIVITY	KM Complete		Remarks
	This month	to date	
Earthworks	2.3	24.2	Extend to km 32.1
Subbase	1.4	21.8	" to km 23.5
Base course	1.9	21.5	" to km 21.7
Prime	1.9	21.5	" to km 21.7
Pen. Macadam	0.7	10.0	" to km 10.3

BRIDGE AND BOX CULVERTS

STATION	TYPE	% COMPLETE		REMARKS
		THIS MONTH	TO DATE	
6+200	2-2.7x3.0 box	0	98	Stream Excav. to complete
8+800	2-3.0x3.0 box	0	98	" " to complete
10+280	2-3.0x1.8 box	0	98	" " to complete
10+890	4-span x10m bridge	0	98	Dry rip-rap to complete
11+320	3-3.0x3.3 box	0	100	Completed
11+650	3-3.0x3.2 box	0	100	"
12+600	2-3.0x3.0 box	0	100	"
13+280	2-3.0x3.0 box	0	100	"
14+500	2-3.0x3.0 box	0	100	"
15+300	3-span x10m bridge	17	75	Span pier # beam no. 2 cast
16+740	2-2.4x2.5 box	0	100	Completed
17+110	2-2.4x2.7 box	0	100	"
18+970	2-3.0x2.7 box	0	98	Rip-rap to complete
19+200	2-3.0x3.9 box	0	98	Rip-rap to complete
19+380	1-1.8x1.8 box	0	98	Rip-rap & stream excav. to complete
20+700	2-2.4x1.8 box	0	98	Rip-rap & stream excav. to complete
21+860	14-3.0x3.25 box	12	70	Toe wall & bottom slab cast compl. wall 9, 10, 11 & 12 cast

23+191	2-2.4x2.1 box	0	97	Rip-rap & stream excav. to complete
23+458	1-2.4x2.4 box	0	97	Dry rip-rap & stream excav. to complete
24+270	4-3.0x3.0 box	3	9	Up stream toe-wall cast.
24+458	1-3.0x2.1 box	0	96	Dry rip-rap & stream excav. to complete
25+858	2-3.0x2.1 box	22	97	To slab; kerbs & hand rail cast. Dry rip-rap & stream excavation to complete
26+329	2-2.4x2.4 box	0	97	" "
26+448	1-2.4x1.8 box	0	97	Rip-rap & stream excav. to complete
26+571	2-2.4x1.8 box	11	19	Bottom slab cast
27+304	3-span x10m bridge	4	10	Column pier # 1 casted, Structure Excavation. Abutment I & II.
32+023	2-3.0x3.0 box	4	6	Tow wall cast
32+319	1-3.0x3.0 box	1	1	Stake out & Structure Excavation.
36+795	3-span x 10m bridge	5	7	Structure Excavation Abutment I & II
37+367	1-3x2.4 box	-	-	
38+575	1-2.4x2.4 box	-	-	
39+542	3-3.0x3.0 box	2	2	Structure excavation
40+371	1-2.4x2.4 box	-	-	
40+582	8-3.0x2.1 box	-	-	
45+510	2-span x 10m bridge	-	-	

Total Concrete poured this Est. = 94.3 Cu m
 Precast yard product: RCP ø 60 = - m
 RCP ø 80 = - m
 RCP ø100 = - m

ENGINEER FORCE REPORT
KUTACANE - BLANGKAJEREN SECTION

<u>Classification</u>	<u>Begin Period</u>	<u>End Period</u>	<u>Variation</u>
<u>Expatriate</u>			
Resident Engineer	<u>0</u> 0	<u>1</u> 1	<u>+1</u> +1
<u>Indonesian</u>			
Ass. Res. Enginee.	1	1	0
Inspectors	4	4	0
Quantity Tech.	1	1	0
Lab. Technician	2	2	0
Instrumentmen	2	2	0
Draftsman	1	1	0
Rodmen	7	7	0
Clerk	1	1	0
Driver	5	4	-1
Lab. Labourer	1	1	0
Radio Operator	1	1	0
Janitor	<u>1</u>	<u>1</u>	<u>0</u>
	27	26	-1
Total Personnel	27	27	0

KUTACAMA - BLANGKAJEREN SECTION
RAINFALL MARCH 1980

<u>DATE</u>	<u>RAINFALL mm</u>
1	3
2	14
3	20
4	-
5	23
6	4
7	34
8	27
9	-
10	17
11	-
12	17
13	-
14	-
15	26
16	44
17	13
18	-
19	6
20	6
21	1
22	3
23	-
24	19
25	-
26	-
27	29
28	1
29	-
30	40
31	-
	<hr/>
Total:	347
	<hr/>

RECORD OF CONTROL TESTS

For month of March 1980

SECTION LABORATORY KUTACANE	SECTION OF ROAD PAVEMENT	EMBANKMENT	SUB GRADE	SUB BASE	BASE	BASE (CRUSH STONE)	MACADAM	SURFACING (ASPHALT)	SHOULDER	CONCRETE
TYPES OF TESTS	NO OF TESTS	THIS MONTH	THIS MONTH	THIS MONTH	THIS MONTH	THIS MONTH				
Liquid limit			3		3					
Plastic limit			3		3					
Linear shrinkage			3		3					
Particle-size analysis fine							12			4
Analysis of mat C AGG										
Specific gravity fine			2							
Bulk density of aggregate										
Abration by loss angles										
Abration by sodium / mag.										
Agg. least dimension										
Agg. crushing value										
Clay lump										
Compaction proctor standard			5		3					
Compaction proctor mod										
Compaction CBR standard										
Compaction CBR mod										
Sand equivalent test										
% Air void of compacted stone base										
Field CBR										
Field moisture content			15	17	20					
Field density			15	17	20					
Asphalt content										
Thickness determination										
Surface finish										
Slump test										
Cement test										6
Concrete test by comp										22
Concrete switch hammer										
Auger hand boring										
Special test										
Organic impurities test										
Total no of tests			46	34	52		12			32

- 30

ACEH ROAD BETTERMENT PROJECT
MONTHLY PROGRESS REPORT
MARCH 1980

PART III

PROGRESS CHARTS

AND

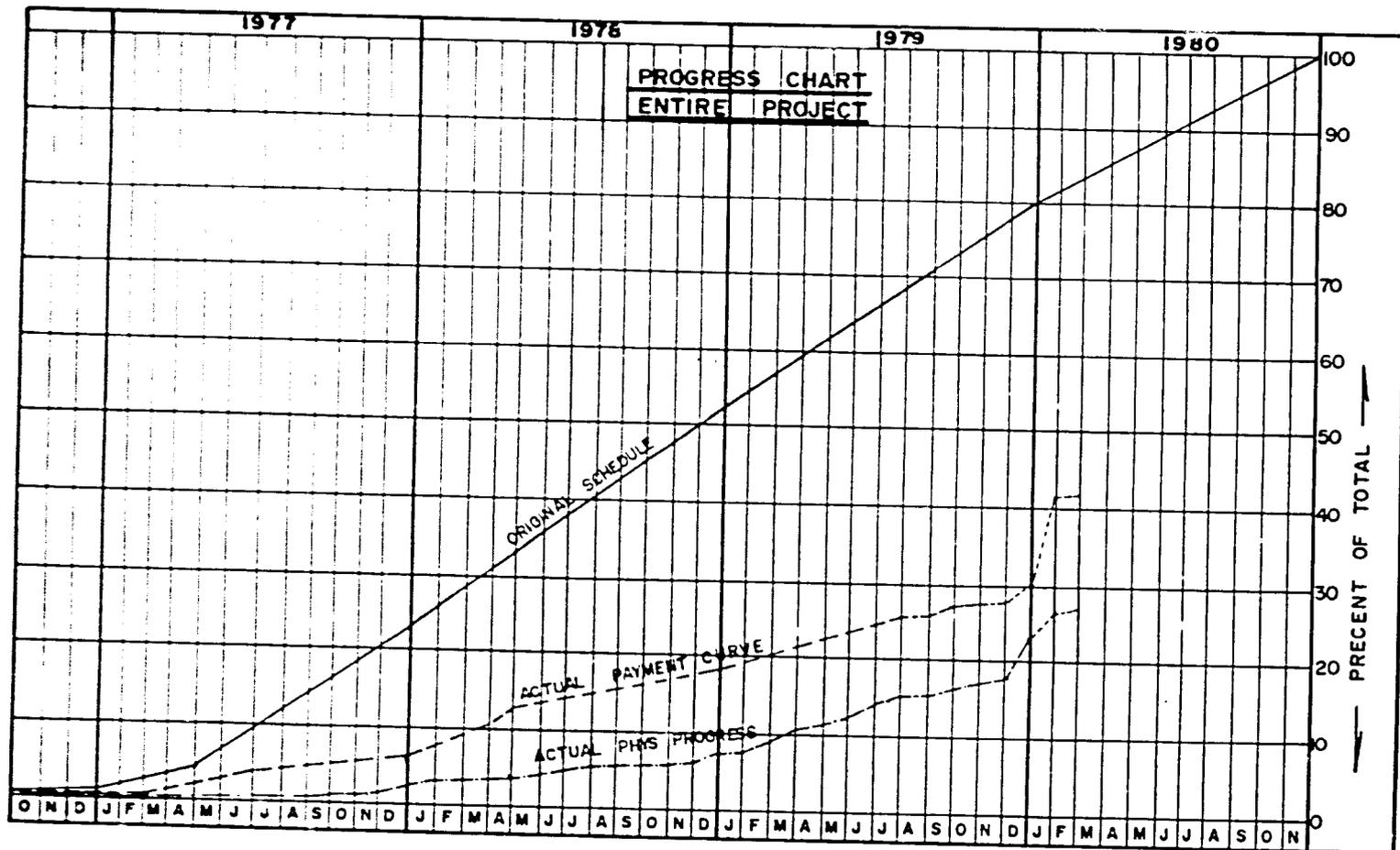
COST ESTIMATE

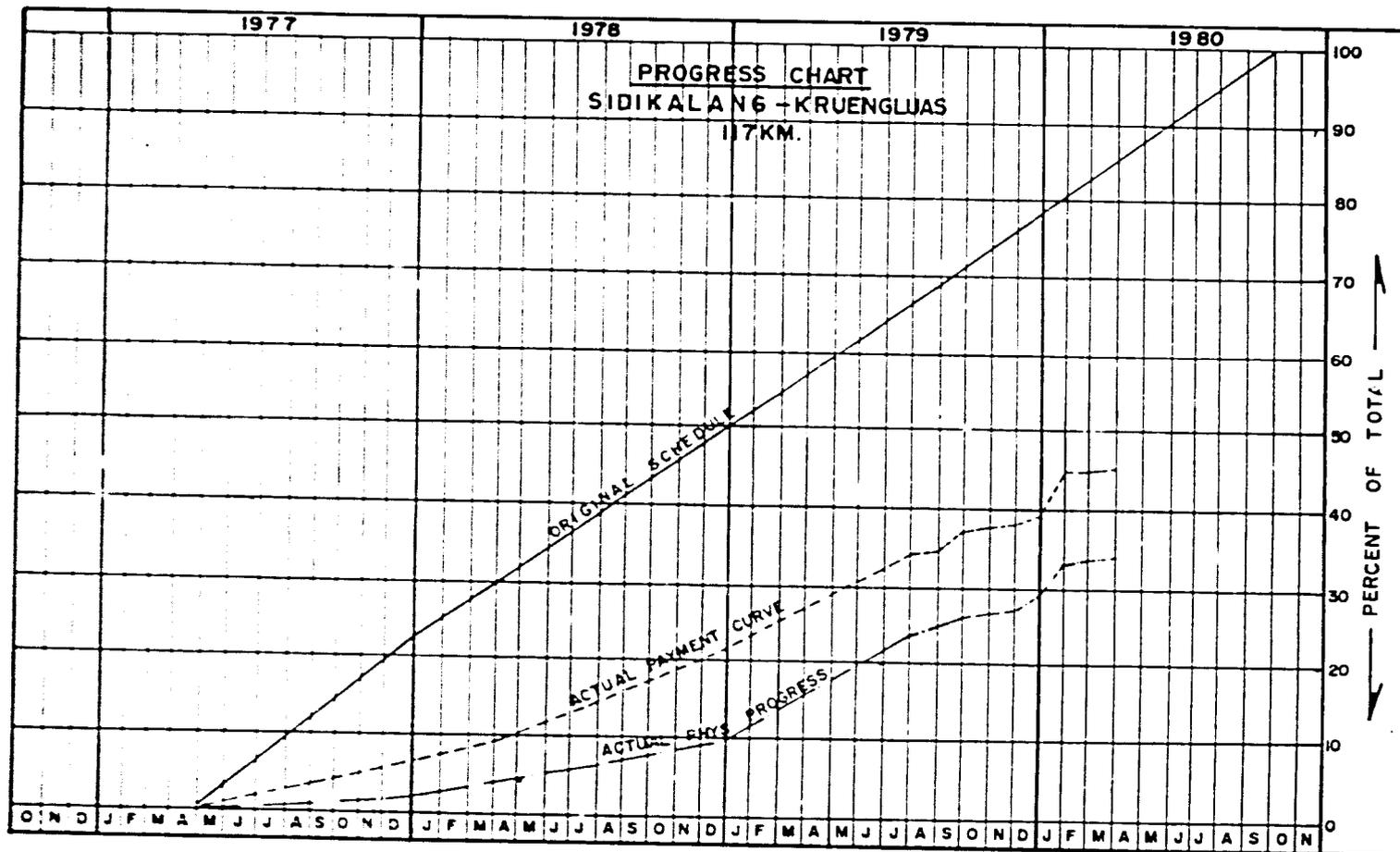
ESTIMATE OF TOTAL COST - MILLION RUPIAHS

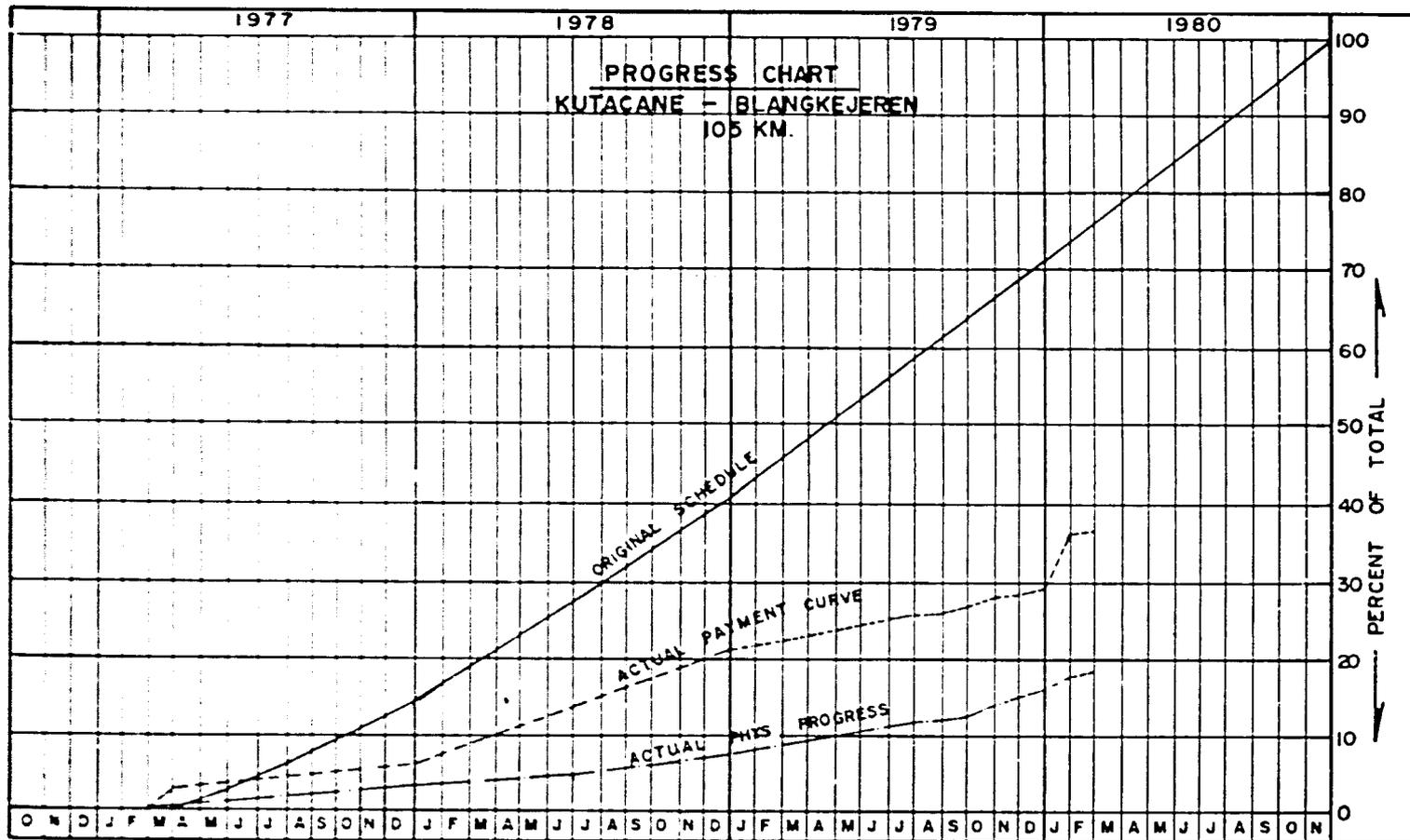
	SECTION II	SECTION III	
Original Contract Price	5.783	4.739	
Modified Contract Amount	6.456	5.451	(1)
Invoiced Thru Sept.1979	2.022	1.255	(2)
Estimate to Complete	4.434	4.196	(3)
Escal. thru July 1979	955	344	(4)
Est. Escalation after July 1979	4.684	5.355	(5)
Estim. Total Final Cost	12.095	11.150	(6)

NOTES

- (1) Includes Change Orders, Extra Work Orders and Modified Contract Quantities based on estimate of balance of work to be done.
- (2) = (1) - (2)
- (3) Based on Estimate to Complete after July x average escalation percentage of July 1979 invoice.
- (4) = (2) + (1) + (4) + (5)







APPENDICES

CONTRACT FINANCIAL DATA
CONTRACTOR'S WORK FORCE
AND

DETAILED EQUIPMENT LIST

A - SIDIKALANG - KRUENGLUAS

B - KUTACANE - BLANGKAJEREN

APPENDIX A
SIDIKALANG - KRUENGLUAS

APPENDIX - A

ACEH ROAD BETTERMENT PROJECT
MONTHLY FINANCIAL SUMMARY

Section Sidikalang-Kruengluas Period NO 36

Contractor PT Nindya Karya Contract No 05/CTR/LN/BM/77

Original Contract Price Rp 5.783.029.512

Period Ending Date March 1980

Contract Price Beginning of Period, Including C.O. No <u>6</u>	Rp 6.007.620.490
Contract Price Changes Accepted during Period, Including C.O. Nos. <u>-</u>	-
Contract Price at end of Period No <u>36</u>	6.007.620.490
Total Contract Payments for Work Completed at Beginning of Period	2.853.261.203
Contract Payment for Period No <u>36</u> Invoiced	2.845.152
Total Contract Payments Due at End of Period No <u>36</u> Including Retention and Repayments	2.856.106.355
Total Contract Price Remaining to Pay at End of Period No <u>36</u> Including Retentions and Repayments	3.151.514.135
Total Retention to End of Period No <u>35</u>	218.744.395
Retention Period No <u>36</u>	284.515
Total Retention at End of Period No <u>36</u>	219.028.910
Advance Payment Period No <u>36</u>	569.030
Total Repayment of Advance Payment to End Period No <u>36</u>	296.491.983
Advance Repayment Remaining at End Period No <u>36</u>	570.962.444

CHANGE ORDER SUMMARY

CONTRACTOR : PT Nindya Karya

Sheet 1 No. 4

CONTRACT No: 05/CTR/LN/BM/77

Month Ending March 1980

C.O. No.	CO Content + Description	Price Change	Date Submitted	Date Appd. Bina Marga	Date Accepted by Contr.
1	C.C. No. 1	48.562.642	May 21, '77	June 30, 77	Aug. 9, '77
	a) N.O. 1 reduce barracks quantity				
	b) N.O.C. No. 2 define base and subbase				
	c) N.O.C. No. 3 add base camp roads				
2	C.O. No. 2	+182.588.549	July 30, 77	Aug. 20, 77	Aug. 9, '77
	a) N.O.C. No. 4 Install roads and utilities base camp				
	b) N.O.C. No. 5 include Add No. 3 in Contract				
3	C.O. No. 3	-76.131.049	Mar. 19 '77	Apr. 18 '77	Sept. 30 '77
	a) N.O.C. No. 6 correct Contract quantities to agree with pricing				
	b) N.O.C. No. 7 change specification for asphalt				

CHANGE ORDER SUMMARY

CONTRACTOR : PT Nindya Karya

Sheet 2 No 4

CONTRACT No: 05/CTR/LN/BM/77

Month Ending : March 1980

C.O. No.	C.O. Content + Description	Price Change	Date Submitted	Date Appd. Bina Marqa	Date Accepted by Contr.
	c) N.O.C. No. 8 change design of Reinf. Concr. bridge to culvert at Sta 38+632				
	d) N.O.C. No. 9 change design of Reinf. concr. bridge to culvert at Sta 38+179				
	e) N.O.C. No. 10 change design of Reinf. concr. bridge to culvert at Sta 46+837				
4.	C.O. No. 4	+18.288.436	June 28 '78	July 11 '78	Sept. 30 '78
	a) N.O.C. No. 12 change of bridge to RCP Ø 100 cm				
	b) N.O.C. No. 13 change of bridge to RCP Ø 100 cm				
	c) N.O.C. No. 15 change of mobil- ization payment of 80% on completion of mobilization				

ESCALATION RECORD SUMMARY

Sheet 1 of 2

CONTRACTOR : PT Nindya Karya

CONTRACT : 05/CTR/LN/BM/77

MONTH ENDING : March 1980

Period	Ave Esc %	Plus Escalation Payment	Negative Escalation Record	Total Escalation Record	Esc. Invoice No.
April-May 77	11.23	1.697.837		1.697.837	2E
June 77	12.11	1.213.223		2.911.060	3E
July 77	14.15	1.379.946		4.291.006	4E
August 77	14.46	1.007.133		5.298.139	5E
September 77	13.55	181.351		5.479.490	6E
October 77	13.55	4.992.682		10.472.172	7E
November 77	13.86	4.964.411		15.436.583	8E
December 77	47.06	13.385.392		28.821.975	9E
January 78	46.15	14.419.340		43.241.315	10E
February 78	46.50	13.375.078		56.616.393	11E
March 78	46.48	3.394.690		59.011.083	12E
April 78	49.89	8.215.242		67.226.325	13E
May 78	48.12	11.561.638		78.787.963	14E
June 78	48.05	7.833.367		86.621.330	15E
July 78	49.18	16.766.338		103.387.668	16E
August 78	50.19	15.482.413		118.870.081	17E
September 78	50.14	1.769.347		120.639.428	18E
October 78	59.90	22.461.006		143.100.434	19E
November 78	63.18	10.415.342		153.515.776	20E
December 78	74.85	37.260.436		190.776.212	21E
January 79	97.34	88.735.078		279.511.290	22E
February 79	102.40	131.875.666		411.386.956	23E
March 79	108.57	105.432.656		516.819.612	24E
April 79	116.89	93.172.725		609.992.337	25E
May 79	125.42	125.025.958		735.018.295	26E
June 79	116.89 ^b	110.497.007 ^b		845.515.302	27E
July 79	125.42 ^b	109.281.518 ^b		954.796.820	28E
August 79	135.29 ^b	52.127.030 ^b		1.006.923.850	29E
Sept. 79	129.10 ^b	47.827.895 ^b		1.054.751.745	30E
Oct. 79	135.29 ^b	53.000.713 ^b		1.107.752.458	31E
November 79	135.29	27.177.231		1.134.929.689	32E
December 79	135.29	116.020.116		1.250.949.805	33E

^bAmount and % shown is provisional using factors of 2 month backwards.

CONTRACTOR FORCE REPORT

CONTRACTOR: P.T. Nindya Karya

MONTH ENDING March 1980

Classification	Beginning of Period	End of Period	Variation + or -	Remarks
Civ. Engineer (Sup)	4	4	-	
Engineer Consultant	1	2	+1	
Bach. Civil Eng.	4	4	-1	
Mech. Engineer	1	1	-	
Bach. Mech. Eng.	2	2	-	
Surveyors	4	4	-	
Surveyor helper	15	16	+1	
Foremen	15	15	-	
Ass. Foremen	7	7	-	
Chief Adm.	1	1	-	
Adm. Personnel	16	17	+1	
Clerk	1	1	-	
Lab. Crew	2	2	-	
Draftsmen	3	3	-	
Quantity crew	1	1	-	
Heavy Eq. Op.	25	25	-	
Heavy Eq. Op. Help.	7	7	-	
Chief Mechanic	1	1	-	
Mech. Helper	28	28	-	
Welder	1	1	-	
Elect. Foremen	1	1	-	
Electrician	1	1	-	
Mechanic	12	13	+1	
Carpenters	1	1	-	
Dispatcher	1	1	-	
Carpenter help.	17	17	-	
Masons	2	2	-	
Masons helper	3	3	-	
Steelmen	7	7	-	
Steelmen helper	3	3	-	
Dump truck drivers	48	45	-3	
Vehicle drivers	8	8	-	

EQUIPMENT LIST

CONTRACTOR: PT NINDYA KARYA

MONTH ENDING: March 1980

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
I.	Earth Mover :								
1.	Bulldozers 180 HP	new	1	-	-	-	1	100	*Cat D7G, BM Equip.
2.	Bulldozer 140 HP	new	1	-	-	-	1	100	Case 1150 B.
3.	Bulldozer D 60 E	new	3	-	-	-	3	100	
4.	Motor grader		3	-	-	-	4	75	1. 120G, 2 KOM GD37.
5.	Ripper	new	2	-	-	-	2	100	1 for D7G, 1 for 1150 B
II.	Loading Equipment:								
1.	W. Loader 1,30-1,50 M3	new	3	-	-	-	3	100	Cat 920-BM Equip.
2.	Track Loader up to 1,50 M3	used	1	-	-	-	1	100	KOM D57-BM Equip.
3.	Exc. Shovel 0.67 M3	new	1	-	-	-	1	100	Drott 40YR-BM Equip.
4.	Backhoe Loader hoe 17m3, shovel 0.25 m3	-	-	-	-	-	2	-	
5.	Claimshell	-	-	-	-	-	1	-	
III.	Compaction Equip.:								
1.	Vibro comp. self propelled w/t smooth drum	new	1	-	-	-	1	100	SP54-BM Equipment
2.	Vibro compactor self propelled w/t sheep foot	new	1	-	-	-	1	100	SPF 54, subs. for sheep foot roller.

EQUIPMENT LIST

CONTRACTOR: PT NINDYA KARYA

MONTH ENDING: March 1980

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
3.	Pneumatic Tired Roller	new	2	-	-	-	2	100	PSR-C-25 BM Equip.
4.	Tandem roller 8-12t	new	1	-	-	-	2	50	Bina Marga Equip.
5.	Three wheel roller 12 - 15t	new	2	-	-	-	3	66.66	Bina Marga Equip.
6.	Tamping Rammer	new	5	-	-	-	5	100	
IV. Material Process & Plant:									
1.	Stone crusher 70 Tph	new	1	-	-	-	1	100	Lippman
2.	Crusher stone up to 30 Tph	used	1	-	-	-	1	100	IR 600
3.	Air compressor 175 Cfm	New	1	-	-	-	2	50	Airman
4.	Air compressor IR600	new	1	-	-	-	1	100	
5.	Concr. mixer 0,250m ³	new	2	-	-	-	2	100	
6.	Concr. mixer 0,50-1,00 M ³	*new,**used	4	-	-	-	5	80	*Plymouth **Lester Engine
7.	Concr. vibr W3t head diam. 36 m/m	new	6	-	-	-	6	100	
8.	Water pump 2"-4" Ø	new	16	-	-	-	-	-	

EQUIPMENT LIST

CONTRACTOR: PT NINDYA KARYA

MONTH ENDING: March 1980

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
9	Oil pump 2" Ø	new	1	-	-	-	1	100	
10	Jack hammer/Rockdrill	new	7	-	-	-	7	100	
11	Paving breaker	new	2	-	-	-	2	100	IRJ40=4, Atlas copco=3
12	Belt conveyor	new	3	-	-	-	3	100	
V Bridge Equipment									
1.	Pile driving lead for 20MP length	new	1	-	-	-	1	100	
2.	Diesel Pile Hammer 5 tons capacity	new	1	-	-	-	1	100	Koeh. JKO 80-331 Eq.
3.	Tree foot	used	1	-	-	-	1	100	
4.	Carry Deck Crane	-	1	-	-	-	1	100	
5.	Crane Cole		1	-	-	-	1	100	
VI Surface Equipment									
1.	Chip spreader 3M	new	1	-	-	-	1	100	
2.	Asp. Distrib. 4000Lt	new	1	-	-	-	1	100	Etnyre
3.	Asp. sprayer 600 Lt	new	1	-	-	-	1	100	
4.	Mech. Sweeper Broom	new	1	-	-	-	1	100	
5.	Asphalt Tank Burner 15 tons	new	1	-	-	-	-	0	

EQUIPMENT LIST

CONTRACTOR: PT NINDYA KARYA

MONTH ENDING March 1980

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
VII.	Transportation :								
1.	Holden Pick-up	-	1	-	-	-	1	100	used by Contr. Adv.
2.	Toyota Jeep	new	5	-	-	-	5	-	
3.	Pick up & Mini bus	new	12	-	-	-	-	-	Is required
4.	Motorcycle	new	16	-	-	-	-	-	
5.	Dump truck 5 ton	*new, *used	30	-	-	-	30	100	20 BM equip.
6.	Flatbed Truck 5 ton	new	1	-	-	-	1	100	BM equipment.
7.	Water Tank 4000 Lt	new	2	-	-	-	2	100	BM equipment
8.	Fuel Tank truck 4000	new	1	-	-	-	1	100	BM equipment.
9.	Truck crane 5 ton	new	1	-	-	-	1	100	Carry deck
10.	Truck tractor w/t								
	Low bed 20 t	-	-	-	-	-	-	-	
11.	Pole trailer 20-25t	-	-	-	-	-	1	-	
VII.	Power Station :								
1.	Generator set 300 KVA	new	1	-	-	-	1	100	
2.	Generator set 5 KVA	new	2	-	-	-	2	100	
3.	Generator set 50 KVA	-	1	-	-	-	1	100	
IX.	Mechanic:								
1.	Electric welder 400A	new	1	-	-	-	1	100	
2.	Electric welder 225A	new	1	-	-	-	1	100	
3.	Acetylene welder	new	1	-	-	-	-	100	
4.	Cutter rebar	new	3	-	-	-	3	100	
5.	Handwinch 1 ton	new	2	-	-	-	2	100	

APPENDIX B

KOTACANE - BANGKALIREN SECTION

APPENDIX - B

ACEH ROAD BETTERMENT PROJECT
MONTHLY FINANCIAL SUMMARY

Section Kotacane - Blangkajeren Period NO 35

Contractor PT Hutama Karya Contract No 04/CTR/LN/BM/77

Original Contract Price Rp 4.739.536.738.-

Period Ending Date March 1980

Contract Price Beginning of Period, Including C.O. No <u>6</u>	Rp 5.215.184.595
Contract Price Changes Accepted during Period, Including C.O. Nos <u>-</u>	-
Contract Price at end of Period No <u>35</u>	5.215.184.595
Total Contract Payments for Work Completed at Beginning of Period	1.872.212.704
Contract Payment for Period No <u>35</u> Invoiced	6.603.441
Total Contract Payments Due at End of Period No <u>35</u> Including Retention and Repayments	1.955.718.355
Total Contract Price Remaining to Pay at End of Period No <u>35</u> Including Retentions and Repayments	3.336.368.452
Total Retention to End of Period No <u>34</u>	157.405.862
Retention Period No <u>35</u>	660.344
Total Retention at End of Period No <u>35</u>	158.066.206
Advance Payment Period No <u>35</u>	1.320.688
Total Repayment of Advance Payment to End Period No <u>35</u>	163.039.134
Advance Repayment Remaining at End Period No <u>35</u>	544.550.436

Note : The figures above remains the same as period no. 35 whereas the Invoice for period no. 36 is still on negotiation

MATERIAL ON SITE SUMMARY

SECTION : Kutacane-Blangkejeren

MONTH ENDING : March 1980

ITEM	UNIT	Begin Period		End Period	
		Quan.	Price in Rp.	Quan.	Price in Rp.
Reinf. Concr. Pipe					
∅ 60 cm	m	979	7.815.847	962	7.680.127
Reinf. Concr. Pipe					
∅ 80 cm	m	1.153	15.615.070	1.149	15.760.907
Reinf. Concr. Pipe					
∅ 100 cm	m	16	296.048	0	0
Reinf. Concr. Box					
50 x 100 cm	m	19	399.000	19	399.000
Mac. Aggregate	Loose cu.m	3.230	10.823.730	3.315	11.108.565
Asphalt Cement					
Penet. Macadam	kg	1.371.888	144.048.240	1.334.421	140.114.205
Reinf. Steel	kg	170.320	5.620.560	163.817	5.405.961
Right of Way Mon.	each	281	1.218.135	281	1.218.135
Hectometer Post	each	792	3.433.320	792	3.433.320
Base Course C1 A	mod/cu.m	0	0	59	278.775
Base Course C1 C	cu.m	11.119	35.678.647	11.119	35.678.647
Note : Same as noted in Financial Summary					

CHANGE ORDER SUMMARY

CONTRACTOR : PT Hutama Karya

Sheet 1 No 4

CONTRACT No: 04/CTR/LN/BM/77

Month Ending March 1980

C.O. No.	C.O. Content + Description	Price Change	Date Submitted	Date Appd. Bina Marga	Date Accepted by Contr.
1.	C.O. No. 1	- 359.823	Oct. 10 '77	Dec. 21 '77	
	a) EWO No. 1				
	Removal slide				
	Nr. Km 80				
	b) EWO No. 2				
	Repair landslide				
	Km 66				
	c) N.O.C. No. 1				
	change Specification				
	for asphalt				
	d) N.O.C. No. 4				
	include Add. No. 3				
	in Contract				
2.	C.O. No. 2	+ 136073112	Mar. 28 '78	Apr. 6 '78	Oct. 7 '78
	a) EWO No. 3				
	repair bridges				
	between Kutacane-				
	Blangkejeren				
	b) EWO No. 4				
	clearance				
	c) N.O.C. No. 3				
	change in quantity				
	of clearing and				
	grubbing in sparse				
	vegetation				

CHANGE ORDER SUMMARY

CONTRACTOR : PT Hutama Karya

Sheet 3 No 4

CONTRACT No: 04/CTR/LN/BM/77

Month Ending March 1980

C.O. No.	C.O. Content + Description	Price Change	Date Submitted	Date Appd. Bina Marga	Date Accepted by Contr.
	f) N.O.C. No. 10 Excavation of roadway on ground slip & around broken bridge				
4.	C.O. No. 4	-60,095,912	Oct. 10, 78	Nov. 8, '78	Dec. 21, '78
	a) N.O.C. No. 12 Manufacture and Install 50 x 100 cm box culvert				
	b) N.O.C. No. 13 Extension of services of Expatriate Advisor to Contractor				
	c) N.O.C. No. 14 Construction of reinforced con- crete and stone masonry retaining wall				
5.	C.O. No. 5	+168,162,320	Feb. 2, '79	Feb. 12, '79	Feb. 23, '79
	a) N.O.C. No. 15 Decrease of est. quantity for pay item 6.01(2) - subbase CL. 'B' by 8.085m ³ Add new pay				

CHANGE ORDER SUMMARY

CONTRACTOR : PT Hutama Karya

Sheet 4 No 4

CONTRACT No: 04/GTR/LN/BM/77

Month Ending : March 1980

C.O. No.	CO Content + Description	Price Change	Date Submitted	Date Appd Bina Marga	Date Accepted by Contr.
	item 6.01(3)				
	Subbase Cl. 'C' est.				
	quantity 50,000 m ³				
	w/unit price Rp. 3000				
	b) N.O.C. No. 17				
	Change of Base				
	Course Cl. 'A'				
	modified				
	c) N.O.C. No. 18				
	Priority I in Cost				
	Program of A.L.S.				
6.	C.O. No. 6	0	May 1979	May 16, '79	May 30, '79
	a) Deletion of N.O.C.				
	no. 18 from C.O.				
	no. 5 covering				
	added maintenance				
	of roadway under				
	A.L.S. priority I				
	b) Add. EWO no. 5				
	covering some added				
	maintenance of				
	roadway under ALS				
	priority I, to				
	isolate funding				
	of this work				

ESCALATION RECORD SUMMARY

CONTRACTOR : PT Hutama Karya —

CONTRACT : 04/CTR/LN/BM/77

MONTH ENDING March 1980

Period	Ave Esc. %	Plus Escalation Payment	Negative Escalation Record	Total Escalation Record	Esc. Invoice No
April-May 1977	11.23	5.151.192		1.151.192	1E
May-June 1977	11.23	274.000		5.425.192	3E
June-July 1977	11.23	127.205		5.552.397	4E
July-Aug. 1977	14.46	619.667		6.172.064	5E
Sept. 1977	13.55	650.776		6.822.840	6E
October 1977	13.55	0		6.822.840	7E
November 1977	13.86	1.550.181		8.373.021	8E
December 1977	47.06	18.108.306		26.481.327	9E
January 1978	46.15	5.199.513		31.680.840	10E
February 1978	46.50	0		31.680.840	11E
March 1978	46.48	0		31.680.840	12E
April 1978	47.89	1.548.553		33.229.393	13E
May 1978	48.12	14.309.181		47.538.574	14E
June 1978	48.05	9.976.578		57.515.152	15E
July 1978	49.18	4.302.782		61.817.934	16E
August 1978	50.19	5.505.384		67.323.318	17E
September 1978	50.14	0		67.323.318	18E
October 1978	59.90	6.567.856		73.891.174	19E
November 1978	63.18	10.430.611		84.321.785	20E
December 1978	74.85	16.387.031		100.708.816	21E
January 1979	97.14	17.645.532		118.354.348	22E
February 1979	102.40	31.683.633		150.037.981	23E
March 1979	108.57	44.980.597		195.018.578	24E
April 1979	116.89	61.773.065		256.791.643	25E
May 1979	125.42	22.267.716		279.059.359	26E
June 1979	116.89	18.674.816*		297.734.175	27E
July 1979	125.42	46.285.182*		344.019.357	28E
August 1979	135.29*	9.676.469*		353.695.826	29E
September 1979	129.10*	23.239.307*		376.930.533	30E
October 1979	135.29*	85.897.382*		462.827.915	31E

* Amount and % shown is provisional using factors of 2 month backwards.

3

CONTRACTOR FORCE REPORT

CONTRACTOR : P.T. Hutama karya

MONTH ENDING : March 1980

Classification	Beginning of Period	End of Period	Variation + or -	Remarks
Staff:				
General Manager	1	1	0	
Cont. Superintendent	1	1	0	
Proj. Mgr/Site Eng.	1	1	0	
Bridge Sup.	1	1	0	
Road Sup.	1	1	0	
Heavy Eq. Sup.	1	1	0	
Paving Sup.	1	1	0	
Field:				
Ass. Sup.	5	4	-1	
Mech. Gen. Foremen	5	9	+4	
Estimator	1	0	-1	
Office Engineer	0	1	+1	
Data Monitor	0	2	+2	
Surveyor	4	3	-1	
Draftsmen	5	3	-2	
Laboratory	2	2	0	
Foremen	8	9	+1	
Warehousemen	1	1	0	
Ass. Warehousemen	4	7	+3	
Operators	23	30	+16	
Mechanics	17	45	+28	
Riggers	2	3	+1	
Sk. Aggregate	1	1	0	
Drivers	28	16	-8	
Guards	23	23	0	
Electrician	6	10	+4	
Road Workers	4	7	+3	
Bridge/Culvert workers	9	14	+5	
Welders	3	6	+3	
Others	1	0	-1	

EQUIPMENT LIST

CONTRACTOR: PT HUTAMA KARYA

MONTH ENDING: March 1980

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
I	Automobiles								
1.	Jeep	new	7	1	-	-	7	100	
2.	Mini Bus	new	1	-	-	-	1	100	
3.	Station Wagon	-	1	-	-	-	1	100	
II.	Batchers								
1.	Conc. Mini Winslow	new	1	-	-	-	1	100	Bina Marga Equipment
III.	Bulldozers								
1.	Dozer CAT D7G	new	1	-	-	-	1	100	Bina Marga Equipment
2.	Dozer CAT D6G		1	-	-	-	1	100	Bina Marga Equip.
3.	Dozer KOM D60E		1	-	-	-	3	-	
4.	Komatsu (Swamp Dozer) new		1	-	-	-	1	100	
5.	John Deere JD 555		1	-	-	-	1	100	
6.	Komatsu SUD 80A		2	-	-	-	2	100	
6.	Komatsu D80A	new	2	-	-	-	2	100	Bina Marga Equip.
7.	Shovel JD 555	new	1	-	-	-	1	100	
IV	Compactor								
1.	Vibro roller IR/SP54 new		2	-	-	-	2	100	Bina Marga Equip.
2.	VR with sheep foot ass. IR/SP54	new	1	-	-	-	1	100	Bina Marga Equip.
3.	Tow sheep foot roller drum		2	-	-	-	2	100	
4.	Mini Vibro roller dynavac		2	-	-	-	2	100	

EQUIPMENT LIST

CONTRACTOR: PT HUTAMA KARYA (cont)

MONTH ENDING : March 1980

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
5.	Wellers 051-S	new	1	-	-	-	1	100	Bina Marga Equip.
6.	Hand compactor	new	2	-	-	-	2	100	
V.	Conveyors								
1.	Portable Belt Lippman	new	3	-	-	1	4	66.66	Bina Marga Equip.
2.	Portable Belt Hewitt Robin	new	2	-	-	-	2	100	Bina Marga Equip.
VI	Cranes								
1.	Hydrolic wheel Drott 40	new	1	-	-	-	1	100	Bina Marga Equip.
2.	Broom P&H 550	new	-	-	-	1	1	0	Bina Marga Equip.
VII	Compressor								
1.	Portable IR 600	new	1	-	-	-	1	100	
2.	Portable 300	new	2	-	-	-	2	100	
VIII	Crushers								
1.	Portable, HewittRobins	new	1	-	-	-	1	100	Bina Marga Equip.
2.	Port. COBHAPCO PC&C		1	-	-	-	1	100	
IX	Distributors								
1.	Asphalt Mack	new	1	-	-	-	1	100	Bina Marga Equip.
2.	Asphalt Hanta	new	1	-	-	-	1	100	"
X	Drills								
	Hand		1	-	-	5	6	16.6	Bina Marga Equip.

EQUIPMENT LIST

CONTRACTOR: PT HUTAMA KARYA (cont)

MONTH ENDING: March 1980

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
2.	Crawler		1	-	-	-	1	0	
XI Generators									
1.	Ford 100 KVA		1	-	-	-	1	100	Bina Marga Equip.
2.	Detroit 300 KVA		1	-	-	-	1	100	
3.	Kubota 10 KVA		1	-	-	-	1	100	
4.	Deutz 30 KVA		1	-	-	-	1	100	
XII Graders									
1.	Motor Cat. 120C	new	1	-	-	1	2	50	Bina Marga Equip.
2.	Motor Komatsu GP37 PU	new	1	-	-	-	1	100	Bina Marga Eq.
3.	Motor Komatsu	new	2	-	-	-	2	100	"
4.	Motor John Deere	new	1	-	-	-	1	100	"
XIII Hammer JD 570A									
1.	Jack IR/J40	new	2	-	-	-	2	100	
2.	Pile Driving MKT/DT 305	new	1	-	-	-	1	100	
XIV Leads									
1.	Pile Driving MK/150	new	1	-	-	-	1	100	
XV Lifts									
1.	Fork case 58-L	new	-	-	-	2	2	-	
XVI Loaders									
1.	Wheel Cat 920	new	4	-	-	-	4	100	Bina Marga Equip.

EQUIPMENT LIST

CONTRACTOR: PT HUTAMA KARYA (cont.)

MONTH ENDING: March 1980

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
2.	Kinco	new	1	-	-	-	1	100	
3.	M.F.	new	1	-	-	-	1	100	Bina Marga Equip.
4.	John Deere JD548		1	-	-	-	1	100	
XVII	Mixers								
1.	Concr. Plymouth 16	new	2	1	-	-	3	66.67	Bina Marga Equip.
2.	Soil Mixer	new	1	-	-	-	1	100	
3.	Concrete Goliath 140	new	4	-	-	-	4	100	
	Concr. KYC Mixer	new	1	-	-	-	1	100	
XVIII	Plants								
1.	Saw Mill		-	-	-	-	1	-	
2.	Preservation		-	-	-	-	1	-	
3.	Bedrunning	new	2	-	-	1	2	100	Pend. Cont. need
4.	Concrete Batching		-	-	-	1	1	-	
5.	Aggregate		1	-	-	1	1	100	
XIX	Pumps								
1.	Water 4" 1"	new	1	-	-	2	5	60	
2.	Water 6" Alcon	new	1	-	-	-	1	100	
3.	Water 6" Janner	new	2	-	-	-	2	100	
4.	Water Tank	new	-	-	-	1	1	0	
XX	Rollers								
1.	Steel wheel J Koech	new	2	-	-	-	2	100	Bina Marga Equip.
2.	Tandem Galion	new	1	-	-	-	1	100	Bina Marga Equip.
3.	Tire Pneumatic	new	1	-	-	-	1	100	Bina Marga Equip.

EQUIPMENT LIST

CONTRACTOR: PT HIRTANA KARYA

MONTH ENDING: March 1980

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
4.	Three wheel Roller	new	2	-	-	-	2	100	Bina Marga Equip.
XXI	Spreader:								
1.	Chip, Etnyre 4-53	new	2	-	-	-	2	100	
2.	Handy Walles G-5	new	1	-	-	-	1	100	
XXII	Traxcavator:								
1.	Shovel Cat 977 L	new	-	-	-	2	2	-	
XXIII	Trucks:								
1.	Dump loadstar IH	new	22	-	-	-	22	100	B M Equipment
2.	Dump IH KL 321	new	4	5	-	-	8	50	
3.	Dump IH KR 300	new	4	-	-	-	4	100	
4.	Flatbed IH. 1850	new	2	-	-	-	2	100	B M Equipment
5.	Fuel tank IH 1850	new	1	-	-	-	1	100	B M Equipment
6.	Water tank 5000 lt	new	1	-	-	-	1	100	B M Equipment
7.	Daihatsu Diesel SV 26T	new	1	-	-	-	-	-	
8.	Dump Isuzu		10	-	-	-	10	100	
XIV	Welding Unit:								
1.	Acetylene, Lincoln		1	-	-	1	2	50	
2.	Arch. Hobart	new	1	-	-	1	2	50	
3.	Arch. trvo las OTC 250 Amp	new	1	-	-	-	1	100	

EQUIPMENT LIST

CONTRACTOR: PT HUTAMA KARYA

MONTH ENDING: March 1980

ITEM No	DESCRIPTION	CONDITION	LOCATION				TOTAL RECD	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
4.	Arch. trvo las OTC 200 Amp	new	1	-	-	-	1	100	
XXV	Vibrators:								
1.	Concr. Robin, Elect, Case and Honda	new	6	-	-	1	7	85.7	
XXVI	Motorcycles:								
1.	Honda CB 100		6	-	-	-	6	100	
2.	Yamaha L75 - 10		8	-	-	-	8	100	
XXVII	Excavator:								
1.	Back Hoe	new	1	-	-	-	1	100	B M Equipment
2.	Back Hoe Loader Sakai		1	-	-	-	1	100	
XXVIII	Hand compactor:								
1.	Tokuden Temper	new	2	-	-	-	2	100	
XXIX	Saws:								
1.	Chainsaw	new	5	-	-	2	7	71.43	
2.	Cross cut	new	-	-	-	4	4	0	
XXX	Low Boy Trailers		2	-	-	-	2	100	Bina Marga Equip.