Feasibility Study for the Restoration of Rural Road
Baybay - Mahaplag Road
50
1 PROJECT

LOCATION : SPOT NO. : BOREHOLE NO. :

FIELD TEST RESULTS

DEPTH (M)	SAMPLE NO.	N - VALUE (30 cm)	RECOVERY (d/r)
0.55- 1.00	SS-1	13	45/45
1.55- 2.00	SS- 2	14	38/45
2.55- 3.00	SS- 3	23	40/45
3.55- 4.00	SS= 4	40	42/45
4.55- 5.00	SS- 5	50	40/45
5.55- 6.00	SS- 6	57	40/45
6.99- 6.90	SS- 7	30 , 50 / 5	33/35
6.90- 7.55	6X- 1	CORING	NO RECOVERY
7.55- 7.80	SS- 8	13,50/10	25/25
7.80- 8.55	CX- 2	CORING	NO RECOVERY
8,99-8,82	SS- 9	18,50/12	20/27
8,82-10,32	CS- 1	CORING	62/150
10.32-11.57	CS- 2	CORING	68/125
11.57-13.00	CS- 3	CORING	72/143
13.00-14.00	CS- 4	CORING	54/100
14.00-15.00	CS-5	CORING	56/100

Feasibility Study for the Restoration of Rural Road Baybay - Mahaplag Road PROJECT

LOCATION

SPOT NO. 50 BOREHOLE NO. : 1

LABORATORY TEST RESULTS

the state of the s							· ·
DEPTH (M)	SAMPLE NO.	NMC (%)	(%)	FL (%)	PI (%)	USC	REMARK
0.55- 1.00	SS- 1	30	45	23	22	CL	*
1.55- 2.00	SS- 2	27	37	25	12	ML	*
2.55- 3.00	SS= 3	60	65	55	10	MH	
3.55. 4.00	SS- 4	58	66	56	10	MH	*
4.55- 5.00	SS- 5	55	64	54	10	MH	
5.55- 6.00	SS= 6	61	67	56	11	МН	*
6.55- 6.90	SS- 7	56	65	54	11	МН	
6.90- 7.55	CX- 1			***		e	NO RECOVERY
7.55- 7.80	SS= 8	57	63	56	7	MH	*
7.80- 8.55	CX- 2	49	isp	84	·	492	NO RECOVERY
8.55- 8.82	SS= 9	55	64	53	11	МН	
8.82-10.32	CS- I	net .	torts	: 	4 00	***	CORING
10.32-11.57	CS- 2	p=0	8#6			.	CORING
11.97×13.00	CS 3	904	· 240	TOP	com-	Sade	CORING
13.00-14.00	cs= 4		. 900	Styl	***	900	CORING
14.00-15.00	CS~ 5	54	•	ondy.	≈ \$\$	# 5	CORING

LEGEND:

^{*} HAVE GRAIN SIZE DISTRIBUTION GRAPH

FINAL BORING LOG

			tor the Restoral Baybay - Mahapla	ساء معتمل والمنشسة	******************		. Dato stario	d "Eghtuq	ry 17, 1991 ry 18, 1991
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	43	96		25		Dork BRO	DWN silpy CLAY		
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6.0	4	83	<u> </u>	24					Hard
7.0	6	ÿa ₹		24		Dark BRO	OWN SILT-CLAY,1	race fine	
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Feasibility Study for the Restoration of Rural Road Baybay - Mahaplag Road 50

LOCATION SPOT NO. BOREHOLE NO.

FIELD TEST RESULTS

DEPTH (M)	SAMPLE NO.	N - VALUE (30 cm)	RECOVERY (d/r)
0.55- 1.00	SS- 1	13	36/45
1.55- 2.00	SS- 2	25	42/45
2.55- 3.00	SS= 3	35	40/45
3.55- 4.00	SS- 4	46	40/45
4.55- 5.00	SS- 5	43	43/45
5.55- 6.00	SS= 6	41	40/45
6.55- 7.00	SS- 7	46	35/45
7.55- 8.00	SS= 8	42	39/45
8.55- 9.00	SS- 9	35	36/45
9.55-10.00	SS-10	50	36/45
10.85-11.00	SS-11	49	30/45
11.55-12.00	SS-12	66	39/45
12.55-13.00	SS-13	64	40/45
11355514.00	SS-14	81	44/45
14.55-15.00	SS-15	87	44/45

Feasibility Study for the Restoration of Rural Roads Baybay - Mahaplag Road

PROJECT :
LOCATION :
SPOT NO. :
BOREHOLE NO: : 50 2

LABORATORY TEST RESULTS

DEPTH (N)	SAMPLE NO	NMC (%)	LL (%)	PL (%)	PI (%)	USC	REMARK
0.55- 1.00	ss∞ l	36	49	24	25	CL	
1.55- 2.00	ss- 2	45	48	24	24	CL	*
2.55- 3.00	ss ~ 3	41	47	23	24	CL	
3.55- 4.00	ss- 4	37	49	25	24	CL	*
4.55- 5.00	ss- 5	35	48	23	25	CL	
5,55- 6,00	ss≈ 6	40	47	23	24	CL	*
6.55- 7.00	ss- 7	39	49	25	24	CL	
7,55-8,00	ss- 8	36	49	23	26	CL	*
8.55- 9.00	ss- 9	36	48	23	25	CL	
9.55-10.00	ss-10	31	46	25	23	CL	*
10.55-11.00	ss-ll	27	44	22	22	CL	
11,55-12.00	ss-12	23	43	22	21	CL	*
12.55-13.00	ss-13	24	43	21	22	CL	
13.55	88-14	26	35	25	10	ML	***************************************
14,55-15.00	ss=15	25	34	24	10	ML	

LEGEND:

^{*} HAVE GRAIN SIZE DISTRIBUTION GRAPH

FILIAL BORING LOG

Location SPOT #45.E Drilling method Wash Sampler used 2'D.L	dy for the Restoration daybay Mahaplay Ros Borina) Split Spoor)d			Dole started Februar 18th completed Februar Water elevation 6.4 Collar elevation	y.21, 1991 ny.22, 1991 Om
T O N OW COURT . R		P.1	3P. OR.	seu?x	DESCRIPTION	consiny -
30 50 40 60 89 100	0 20 40 80 80 100			9	BROWN gravolly SANO	Denso
220 655		٩		3 6 9 9	Brownish GRAY silty SAND with Yord	Medium Ocnse
	q			£ 9.	BDOWN argually SANO	Densei
	0			4	BROWN gravelly SAND	Medium Dense
a	0	10			Light GRAY cloyey SILT with some sub-angular gravel (concrete slab at 5.10—5.45m)	
	7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	II			GRAY Cloyey SILT	
		36			BROWN sendy slity CLAY	Sill
•		34	ran, bun de de de l'arment galenne de l'arment de l'ar		BROWN CLAY	
LEGENO:		35			Ve ave Cores	
GLAY SILT	SCTT CLAN CLASS		1000 Care		SHAVE. SETY SAND CLAVEY SAND	POOR FRANCIS

Y Omer count, n	ing HHC	1 l,	jr. F	HOLFGIAGESO	- TRICHOD YORK
11.0	0 70 40 64	100	9	BROWNISH GRAY clayey SILT	'Very Stiff
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LEGEND:	<u> </u> 	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)		71.772 60649 1969	
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Feasibility Study for the Restoration of Rural Road
Baybay - Mahapleg Road
45

LOCATION : SPOT NO. : BOREHOLE NO.:

FIELD TEST RESULTS

DEPTH (M)	SAMPLE NO.	N - VALUE (30 cm)	RECOVERY (d/r)
0.55- 1.00	SS - 1	36	35/45
1.55- 2.00	SS - 2	20	31/45
2.55- 3.00	SS - 3	33	30/45
3.55- 4.00	SS 🕶 4	41	20/45
4.55- 5.00	SS - 5	21	25/45
5.55- 6.00	SS - 6	14	30/15
6.55- 7.00	SS - 7	11	35/45
7.55- 8.00	SS - 8	10	40/45
8.55- 9.00	SS - 9	11	39/45
9,55-10.00	SS -10	12	38/45
10.55-11.00	SS -11	21	38/45
11.55-12.00	SS -12	24	40/45
12,55-13,00	SS -13	39	41/45
13.55-14.00	SS -14	40	43/45
14,55-15.00	SS -15	48	42/45

Feasibility Study for the Restoration of Rural Road
Baybay - Mahaplag Road PROJECT

LOCATION SPOT NO. BOREHOLE NO. 45

LABORATORY TEST RESULTS

DEPTH (M)	SAMPLE NO.	NMC (%)	LL (%)	PL (%)	PI (%)	USC	REMARK
0.55- 1.00	SS- 1	20	**	NP	10 m	SW	*
1.55- 2.00	SS- 2	20	23	19	4	SM	*
2.55- 3.00	SS- 3	8	1989	Nb	•	SW-SM	
3.55- 4.00	SS- 4	16	456	NP	**	SW-SM	***
4.55- 5.00	SS- 5	15	699	NP		SW-SM	
5.55- 6.00	SS+ 6	57	65	55	10	МН	# × *
6.55- 7.00	SS= 7	56	66	55	11	MH	
7.55- 8.00	SS- 8	60	61	25	36	CH	*
8,55- 9,00	SS- 9	58	59	25	34	CH	
9.55-10.00	SS-10	57	60	25	35	CH	
10.55-11.00	SS-11	61	66	54	1.2	MH	
11.55-12.00	SS-12	55	64	54	10	MH	₩
12.55-13.00	SS-13	56	63	54	9	MH	
13,55-14.00	SS-14	57	65	54	11	MH	a waya e 🤣 💮
14.55-15.00	SS-15	55	64	54	10	MH	

LEGEND:

HAVE GRAIN SIZE DISTRIBUTION GRAPH

Pro	iject <u>Feasibility Study</u>	FINAL on the Restoration				ts Hole designation BH-	>
						Date started Februa	
Loc	olion_SPOT#45_Bo	<mark>B. golqahan MahanlagB</mark>	load_			Dote completed Eebru	
Dri	lling method Wash l	Boring & Coring				Mater elevation	
Sor	npler used2"D.D	Split Spoon &	BXL	Core_	Bori	cel Collar elevation	
Hor	nmer foll 76 cm				_,~	Harnmer weight _63.5	WAY
O,OLD	C ALOW COUNT, N PR COVERY 1 FO 40 60 80 100 0	0 40 80 to 100	P.1	3 P. 9 R.	KATES	DESCRIPTION	CONSINY -
1.0	3) 3)	8		A. 110 A. 110 A. 20 (c.	A A A A A A A A A A A A A A A A A A A A	Light BROWN gravelly SAND	Medium Dense
2.0	32	0		l was	4	Light BROWN SAND with grovel	Dense
3.0	 			0	000000	Light GRAY BOULDER	Very Dense
4.0	(13 (còn m²)			1 10	00		
5.0	27	4	25			Light BROWN sitty CLAY	
6.0	35 67		23			Grayish BROWN CLAY	Hard
	134 174		24			YELLOWISH BROWN SITTY CLAY	
7.0			37			Yellowish BROWN CLAY	Very Stitf
8.0						Yellowish BROWN CLAY	
9.0	6 C	1	40			Light BROWN CLAY	Hard
م	32 63		35				
	GEND:	SILTY CLAY CLAYEY	51.7	BAND		ΨΊΑΥΔ ΔΥΔΑΥ ΔΥΔΥΔ ΔΥΔΥΔ GRAVEL SILTY SAND CLAYEY SAND	JUE YOUNG
	IANDY CLAY SAMOY GRAYEL			SANOST	ONE	LIMESTONE INGRONG SILT SILTSTONE	POOD POOD POCK FRAGMENT

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u.o.	3.0	0	40			
12.0		13	10			
13.0	50		10	200 Page 100 Aug 100 A	Light GRAY inorganic SILT (trigble siltatone)	Hard
	99.66		ii.	And the second s		
14.0	30			Wilson Communication of the Co		
15.0	E2 \59	500 05	806	EHOLE!	15 00M	
			DOM			
			A Let devilence purchase on a stiff limit is personal.	and a second sec		
			e de la companya de l	, agreement many and agreement of many		
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LEGENO:			1		AFA P P-GPA AVAPA AVAPA CPAVO	
SILIKIS VIII	Y . Q . A	SILTY GLAY CLAYEY S		3410 440 3400 3400 3400	GRAVEL SILTY SAND CLAYEY SAN	000

Feasibility Study for the Restoration of Rural Road Baybay - Mahaplag Road 45 PROJECT

LOCATION SPOT NO. BOREHOLE NO.

FIELD TEST RESULTS

DEPTH (M)	SAMPLE NO.	N - VALUE (30 cm)	RECOVERY (d/r)
0.55- 1.00	SS- 1	21	38/4 5
1.55- 2.00	SS- 2	32	40/45
2.00- 3.00	CS- 1	Coring	30/100
3.00- 4.00	CS= 2	Coring	15/100
4.55- 5.00	SS 3	27	32/45
5.55- 6.00	SS- 4	3 3	3C/45
6.55- 7.00	SS_ 5	39	33/45
7.55- 8.00	ŝS ⊷ 6	29	40/45
8.55- 9.00	S§~ 7	37	30/45
9.55-10.00	SS 8	33	30/45
10.55-11.00	SS⊶ 9	3 8	38/45
11.55-12.00	SS-10	48	35/45
12.55-13.00	SS-11	5).	40/45
13.55-14.00	SS-12	59	30/45
14.55-15.00	SS-13	60	40/45

Feasibility Study for the Restoration of Rural Road
Baybay - Mahaphag Road
45 PROJECT

LOCATION : SPOT NO. : BOREHOLE NO. :

LABORATORY TEST RESULTS

DEPTH (M)	SAMPLE NO.	NMC (%)	LL (%)	PL (%)	PI (%)	USC	REMARK
0.55- 1.00	ss- 1	12	9 ************************************	NP	49	SW-SM	
1.55- 2.00	ss- 2	26		NP	410 -	SW-SM	*
2.00 - 3.00	CS- 1	æ ∂	ers.	10.	es	***	
3.00-4.00	CS- 2	451	two .	**************************************	N/C	•	
4,55- 5,00	SS- 3	48	49	24	25	CL	*
5.55- 6.00	8S- 4	44	45	22	23	CL	
6.55- 7.00	ss- 5	48	49	25	24	CL	**
7.55- 8.00	ss= 6	63	65	28	37	CH	
8.55- 9.00	S S- 7	66	67	27	40	CH	*
9.55-10.00	ss=88	63	64	26	35	CH	
10.55-11.00	ss- 9	64	65	25	40	CH	*
11.55-12.00	as-10	57	64	54	10	МН	raine de la companya br>La companya de la co
12.55-13.00	ss-11	58	65	55	10	MH	*
13.55-14.00	ss12	56	66	55	11	МН	
14.55-15.00	ss-13	57	67	56	11	МН	*

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GRAIN SIZE DISTRIBUTION

APPENDIX 11-1 HISTORY OF DAMAGE PROGRESS IN THE SELECTED THREE BRIDGES

The information presented here is based on field observation and hearing from DPWH officials.

1. Sinisian Bridge near Calaca (Spot (BS-6)

Description of Site: The RCDG bridge with a total length of 36M (3 span) is presently crossing the Colong-colong River located at Km. 120.62 along Calaca-Taal National Secondary Road under the Jurisdiction of Batangas 1st District Engineering Office. The road is facing toward Balayan Bay (See Figure-1). Drainage area at the bridge location is about 13 km and the channel width is about 10m in dry season. The riverbed deposits are composed of sand and small sized gravel. The bridge foundations are presently severely exposed by general scouring mainly due to quarrying (see Figure-2 and 3).

Cause of Damage: It seems very clear that the scour damage has a good relation to continuous quarrying of sand and gravel at just the downstream of the bridge. The scouring was further aggravated during heavy rains due to the accelerated velocity of water and a combination of other several causes.

History of Damage Progress:

- In 1983, the bridge was constructed under ADB loan.
- The previous bridge foundations were retained in the river channel, hindering the flood flow in the rainy seasons.
- As per design plan, the gabion boxes for abutment protection were not indicated but they might have been constructed sometime after the completion of the bridge.
- In 1985, it is said that scouring of the river bed at the footings of the bridge were already noticed and reported to the Region IV-A Office.
- In 1987, a series of retaining wall was constructed to protect the left side river bank at downstream from scouring and neighboring houses from overflooding. However, the location of the retaining wall is narrowing the river channel a bit and also attributed to the obstruction of water flow.
- Dated on Nov. 14, 1988 from the 1st District Engineering Office, the report requesting the foundation protection of scouring at the bridges; Calaca, Sinisian and Calbangan, caused by Typhoon "Unsang and Yoning" was submitted to the region IV-a Director. The total cost amounted to P950,000.00 at that time. But no protection measures were undertaken until now.
- On Feb. 11, 1991, the river bed inspected is lower by 2 meters below the bottom
 of the footing at pier 1 and 1.5 m at pier 2.
- The gabion boxes are partly sagging due to the lowering of the original river bed.
- On Feb. 15, 1991, from the interview with the contractor at the bridge site it is said that he had a certificate to quarrying.

- On Feb. 22, 1991, from the discussion with engineers of the 1st District, it is reported that an official letter had been sent to the Bureau of Mines to call the attention of the private contractor to refrain from quarrying within 1 km radius from the bridge. However, the said responsibility was returned back to the Office.
- Memorandum Circular No. 1 dated 5 January 1982, from the Honorable Minister of DPWH, titled STRICT IMPLEMENTATION OF THE PROVISION OF MINES ADMINISTRATIVE ORDER NO. MRD 27, SERIES OF 1980, RE-EXTRACTION OF SAND AND GRAVEL: No Extraction or removal of materials shall be allowed within a distance one (1) kilometer from the boundaries of reservoire established for public water supply and of any public or private works or structures, unless the prior clearance of the agency or owner concerned is obtained.

Probable Consequences:

- Lack of protection for scouring at the pier foundations may have the following consequences.
- Coconut logs and other debris during flood might be stacked into the exposed
 piles and block the flow of water creating turbulence under the bridge and thereby
 erode the previously deposited sediments, exposing the bridge pier foundations
 more severely. Consequently, it would possibly trigger the bridge failure/collapse.
- If the said quarrying continues it is surely expected that in the near future the bridge will be totally collapsed especially during earthquakes.

Disaster Causing Factors Acknowledged

- Illegal Continuation of Quarrying.
- Failure to suspend Quarrying.
- Remnant of Old Bridge Foundations.
- Improper Location of River Control wall.

Note: Scouring by similar causes were also noticed and inspected along the same highway on the following bridges; i) Calaca (Bs-5) at km. 116.49 and ii) Calbangan (BS-7) at km. 122.25 (See Fig. 7.5-1).

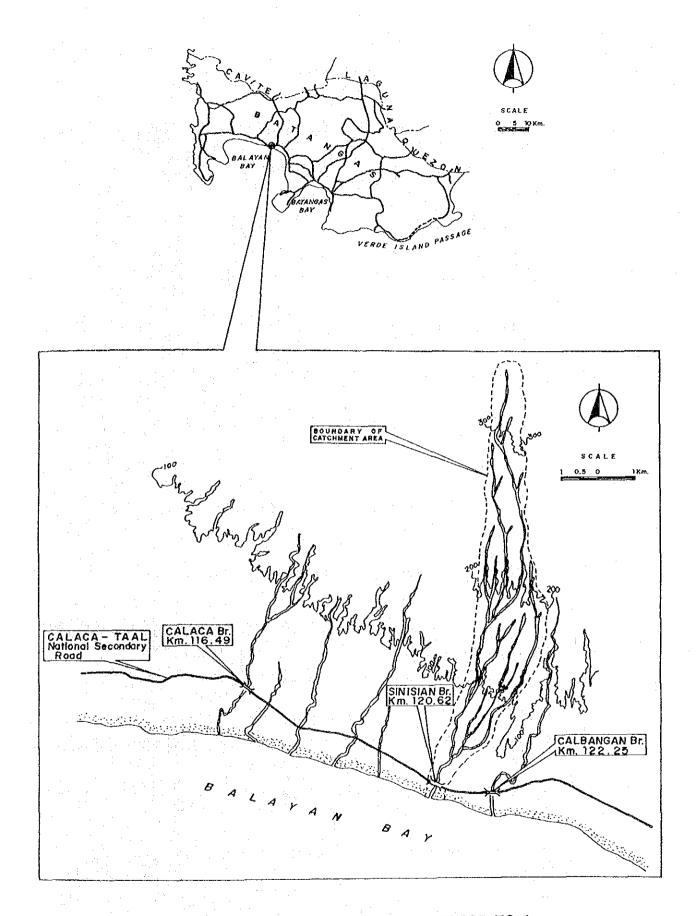
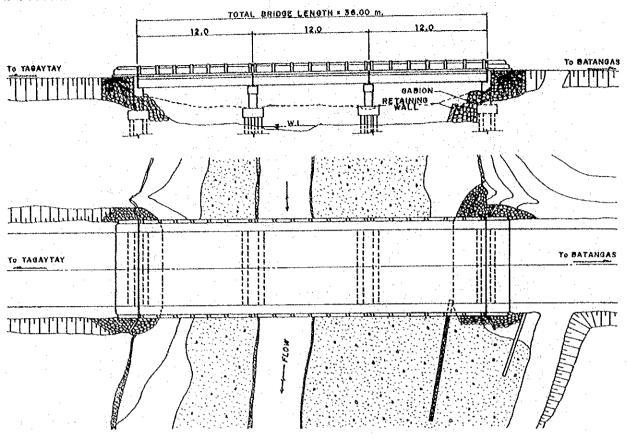


FIGURE -1 LOCATION MAP OF SINISIAN BRIDGE (BS-6)

A. Present



B. Original

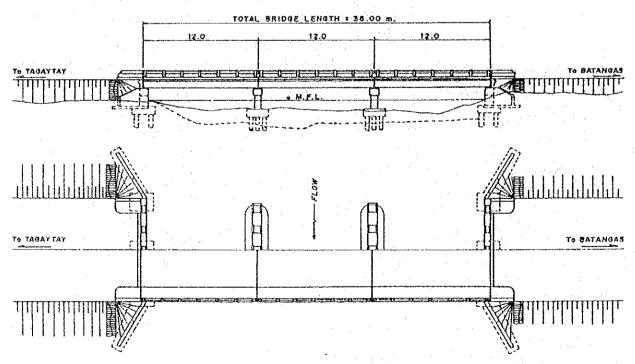


FIGURE-2 ELEVATION AND PLAN OF SINISIAN BRIDGE (BS-6) (Present and Original)

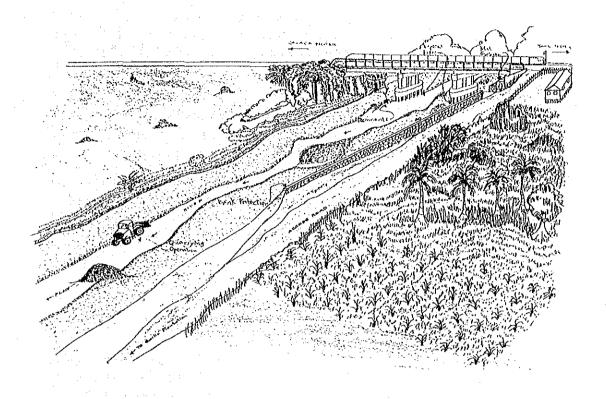


FIGURE-3 SIDE VIEW SKETCH OF SINISIAN BRIDGE (BS-6)

Note

- 1. The RCDG Bridge with a total length of 36 m (span) was constructed in 1983.
- 2. Remnant of previous bridge foundations are retained in the river channel hindering flood water flow.
- 3. Mat Gabions were placed left side abutment after the completion of the bridge.
- 4. Pile foundations are severely exposed by general scour, 2 meters at the deepest.
- 5. Quarry at just downstream is presently still on-going.
- 6. Grouted Riprap River bank protection was constructed in 1987 at left side downstream. The upperstream end is hindering flooded water flow.

Description of Site: The RCDG Bridge with a total length of 124 meters (8 spans x 15.5 m) is crossing Lobo River. It is located along Mapolo-Lobo National Secondary Road under the jurisdiction of Batangas 2nd District Engineering Office. The road is facing toward Verde Island Passage (see Figure-4). The drainage area at the bridge location is about 167 km. Alluvial deposits, particularly of sand and gravel, fill the entire river channel. The river banks consist of alternating sequence of unconsolidated sand and gravel with clay as the surface cover. After the usage of 4 years, the bridge was closed to traffic caused by lateral erosion of the river channel. The river is presently far away from the existing bridge (see Figure-5 to 7).

Cause of Damage: The river is flowing through Coconut Plantation and has a high tendency to shift its course (see Figure-5). The left side river bank was totally washed out by lateral erosion of the meandering river. The disaster might have occurred mainly due to lack of river bank protection where the bank is composed of very erodable materials.

History of Damaged Progress:

- In 1984, the bridges was constructed under local funding and supervised by the DPWH Region IV-A Office.
- In 1986, the left side (Malabrigo) bridge approach started to be scoured due to the meandering of Lobo River. It is said that 1st District Engineering Office reported the said scouring to the Region IV-A Office and no action was taken.
- On January 16, 1988, the bridge was totally closed to traffic due to the washout
 of the left bank caused by Typhoon "Sisang" which directly hit the said area.
- Sometime in 1989, the Region IV-A Office designed the restoration measures amounting to P6.0 M for ADB Assisted Infrastructure Project.
- Dated on June 16, 1990, ADB Advisor addressed the memo report (*) to the region
 IV-A Director after conducting the evaluation study to finance the extension of the
 Lobo Bridge Structure under ADB Assisted Infrastructure Project.
- The memo mentioning that: "The existing Lobo Bridge is an 8 span at 15.24 m. 2-lane RCDG structure over the Lobo River. During Typhoon Sisang, the river changed its course and shifted away from the bridge abutment a distance which would necessitate the extension of the bridge for 120 to 125 m. It was told the water did not overtop the bridge but that the debris especially coconut tree trunks longer than the 15 m. spans created serious obstructions. In fact, the engineers from Batangas 2nd District said that new spans should be 22 to 30 m. to prevent future blockage. Examination of the site indicates that the addition of more spans to the bridge is insufficient to address the restoration problem. Everyone seemed to agree that river control measures need to be taken to insure that the erosion and shifting would not continue. The original estimate of 6.0 Million does not provide for any river control. The Advisor feels that unless additional funds are provided the bridge extension should not be undertaken. Additionally, in order to properly address the problem, hydrology of the area should be studied including topographic surveys, borings, etc. appropriate and complete design should then be undertaken. The above may not only need additional funds, but may need substantial time for design and construction, extending probably beyond the closing date of the loan. The Advisor recommends that this project be undertaken and that appropriate fundings be provided".

- Dated December 13, 1989, it was requested from the Region IV-A Director to the
 Director of Maintenance, that "Lobo Bridge with an allocation of P6.0 Million was
 estimated to cost P20.5 Million including construction of river wall and spurdikes,
 hence the project was deleted, not thru lack of merit but due to lack of fund".
- On Jan. 31, 1991, JICA Study Team requested to the Regional IV- A Office to submit the original design plan of the bridge for evaluation of the causes of its damage. However, the said plan was no longer kept in the Region IV-A Office. The same request was made to DPWH Central Office and Batangas 1st District Engineering Office but the plan could not be obtained.
- On Feb. 26, 1991, the left bank edge was 140 m far from the left side edge of the abutment. During the recent two years, the river channel was additionally widened 20 to 25 meters.

Disaster Causing Factors Acknowledge:

- No Proper Considerations for Meandering River/Lack of River Bank Protection.
- Insufficient Opening of Each Span for Floating Coconut Trunks.
- No Application of Remedial Measures for Protection against Lateral Erosion.

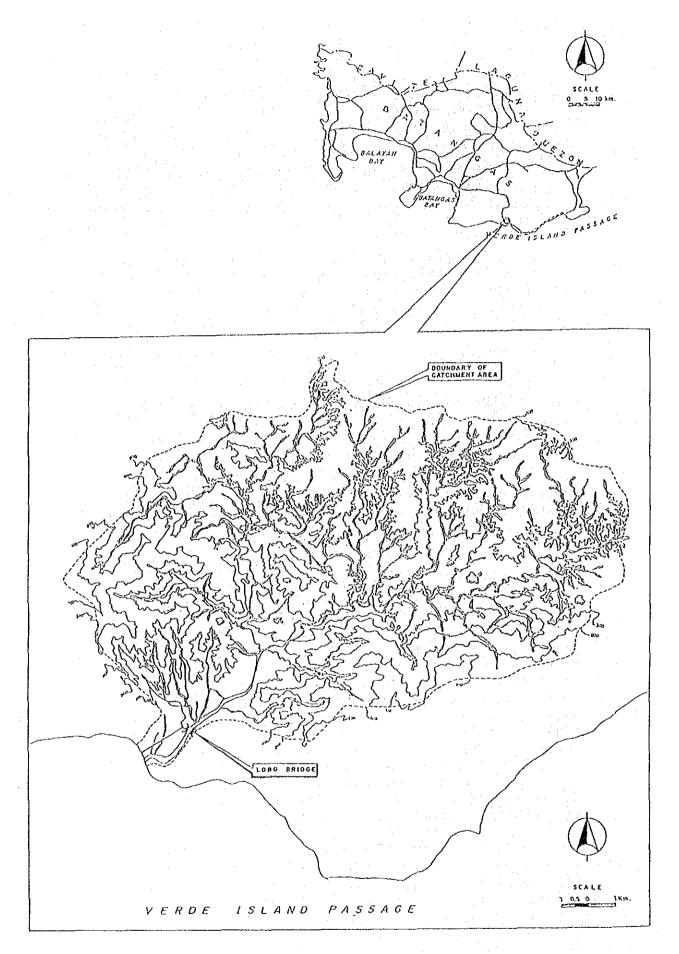


FIGURE-4 LOCATION MAP OF LOBO BRIDGE (BS-33)

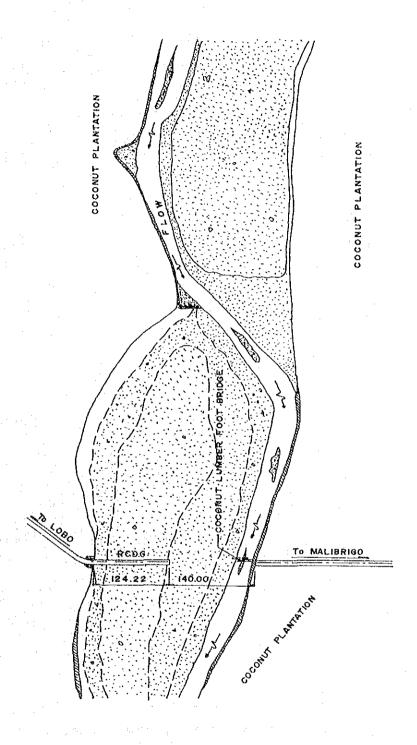
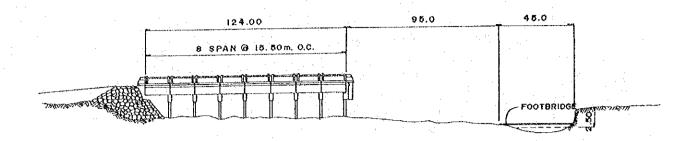


FIGURE-5 PLAN OF LOBO RIVER



ELEVATION

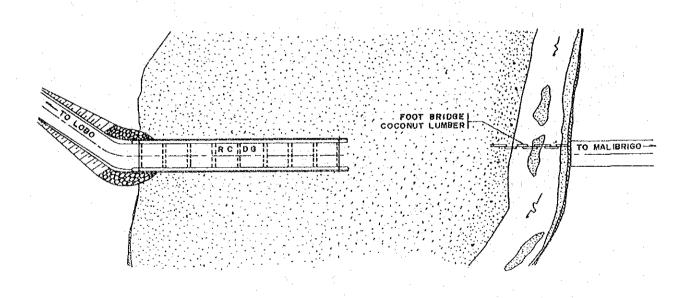


FIGURE-6 ELEVATION AND PLAN OF LOBO BRIDGE (BS-33)

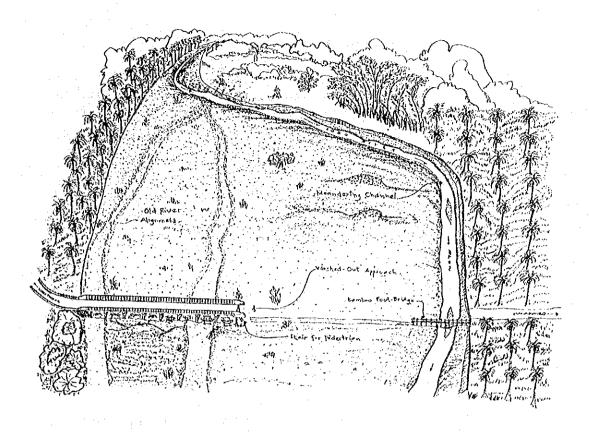


FIGURE-7 SIDE VIEW SKETCH OF LOBO BRIDGE (BS-33)

Note:

- 1. The RCDG Bridge with a total length of 124 m (8 span x 15.5 m) was constructed in 1984.
- 2. The bridge was closed to traffic on January, 1988/
- 3. River bank is composed of a sequences of sand and gravel used as coconut plantation.
- 4. The river has a meandering tendency.

3. Banoyo Bridge near Banoyo Jct. to Baguilaua (Spot BS-50)

Description of Site: The Banoyo bailey bridge with a total length of 27 meters (3 spans) is crossing the Banoyo River along Sta. Maria-Banoyo-San Luis Provincial Road under the Jurisdiction of the Provincial Engineering Office. The road is facing Balayan Bay (see Figure-8).

Drainage area at the bridge location is about 8 km. The river bed and its banks consist of unconsolidated sand and gravel. The bridge was previously extended one span after the bridge approach had been washed out. The vicinity of the bridge approach is presently severely side-eroded and about to be washed out again.

History:

- In 1969, the bridge was originally constructed near the mouth of the river as one span of 18 meters.
- In the part of 1970's, flood currents scoured the left bank which is composed of fluvial deposits, causing serious lateral erosion and finally the left side approach embankment was completely washed away.
- In 1977, another span of 9 meters was extended behind the existing left side abutment (see Figure-10).
- In 1985, the bridge was strengthened by installing an additional pier under the bailey bridge.
- Up to the present time, flood currents are still continuously threatening to wash away again the left approach (see Figure-II).

Probable Consequences:

 The flood currents still continues to side-erode the left side bank just upstream of the extended abutment, resulting in threatening again to wash away the left approach.

Disaster Causing Factors Acknowledged:

No River Bank Protection.

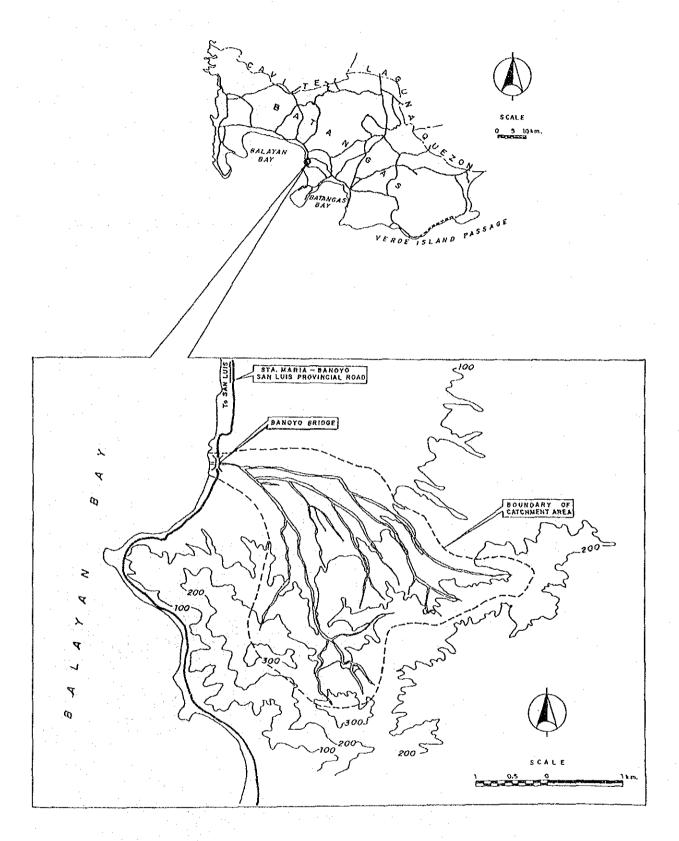


FIGURE-8 LOCATION MAP OF BANOYO BRIDGE (BS-50)

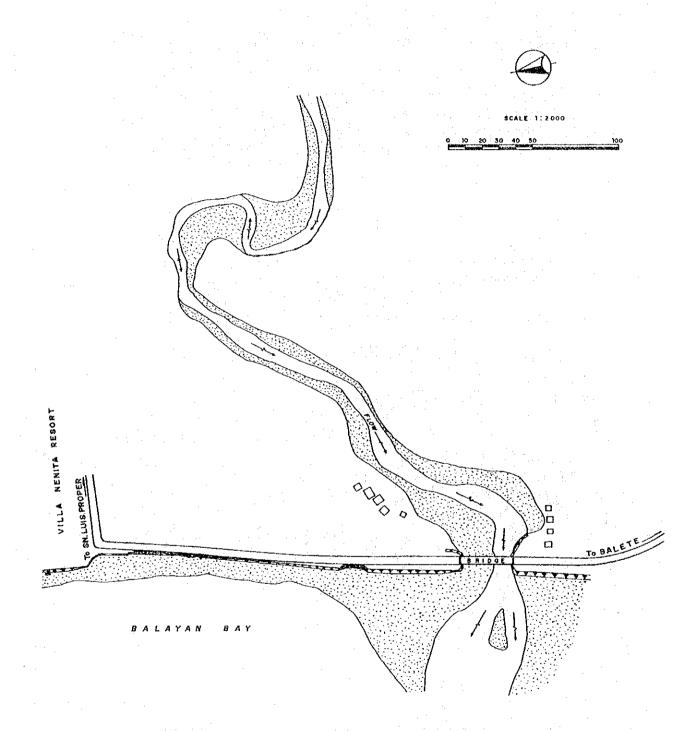
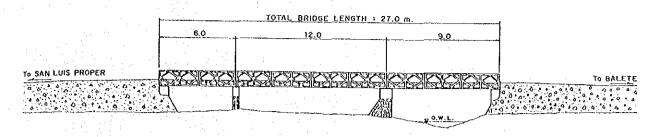


FIGURE-9 PLAN OF BANOYO RIVER (BS-50)



ELEVATION

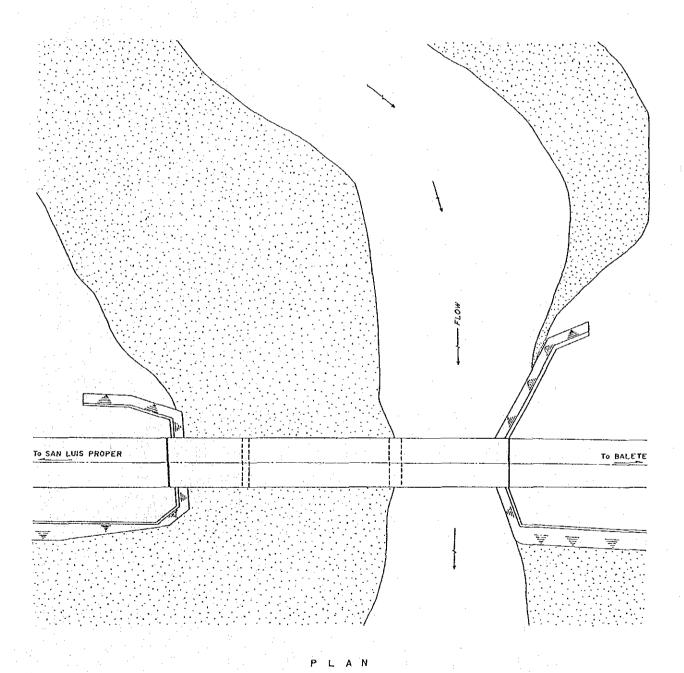


FIGURE-10 ELEVATION AND PLAN OF BANOYO BRIDGE

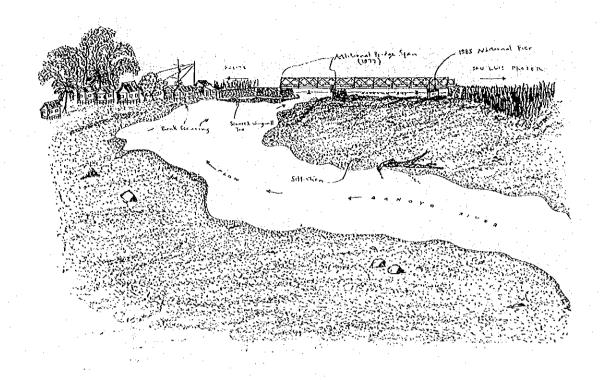
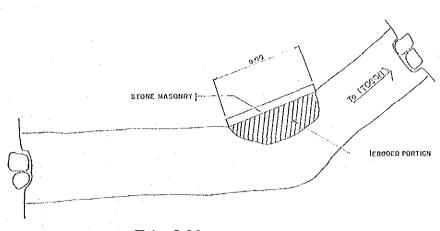


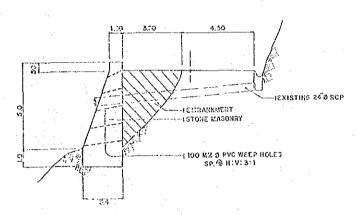
FIGURE 11 SIDE VIEW SKETCH OF BANOYO RIVER (BS-50)

Note:

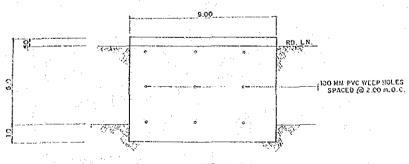
- 1. The Bailey Bridge with one span of 18 m was constructed in 1969.
- 2. The left approach embankment was washed out and extended another span of 9 m behind the left side abutment in 1977.
- 3. The bridge was strengthened by installing an additional pier under the bailey floor system in 1985.
- 4. The flood water is presently threatening to wash away the left side approach again.

APPENDIX 11-2 DRAWINGS FOR RESTORATION WORKS RECENTLY IMPLEMENTED





SECTION.



ELEVATION 1:100

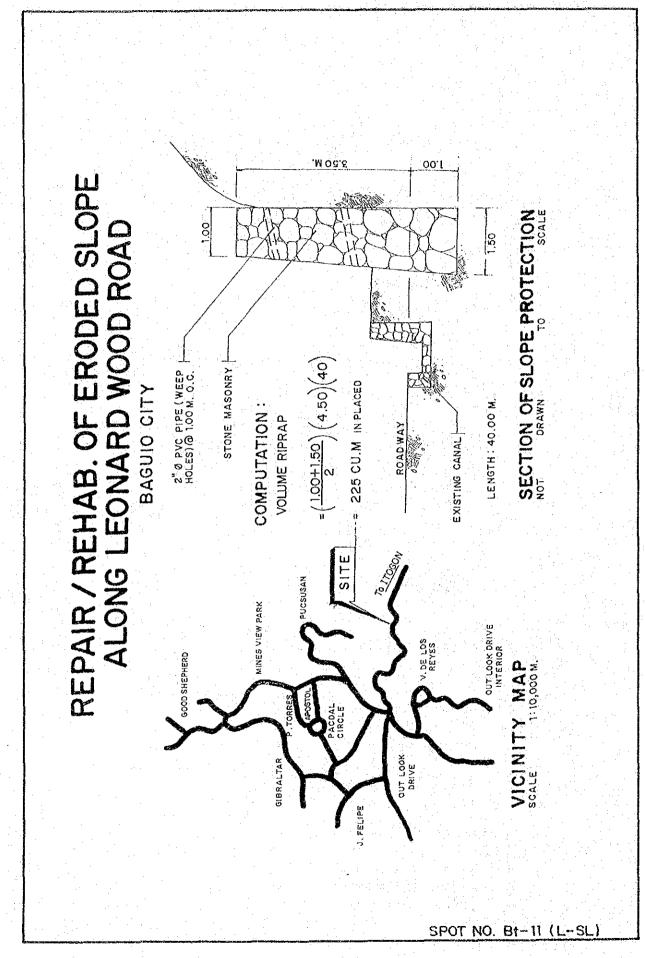
VOLUME COMPUTATION

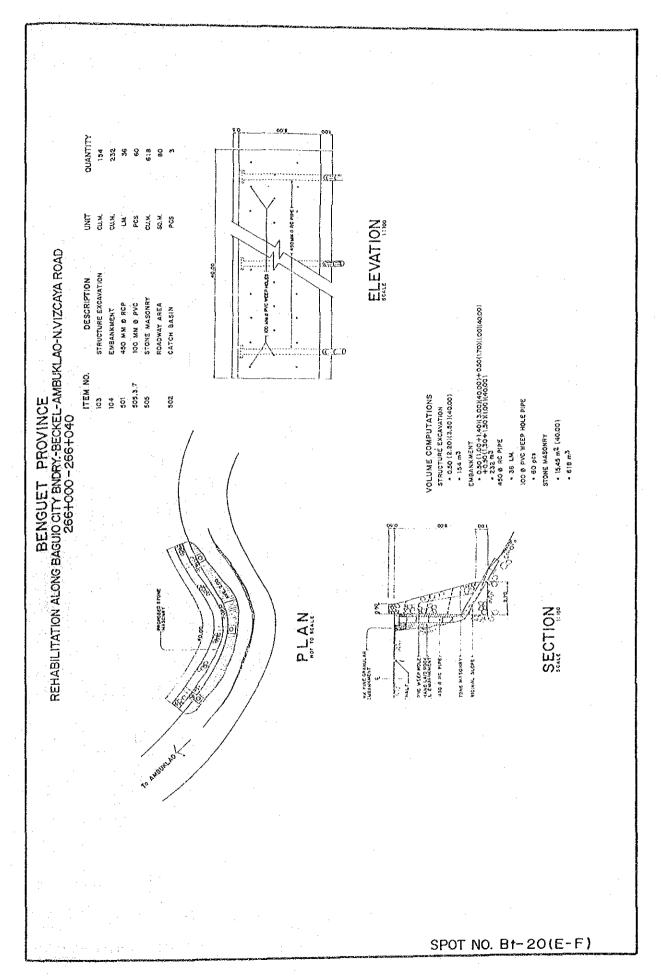
ITEM NO.

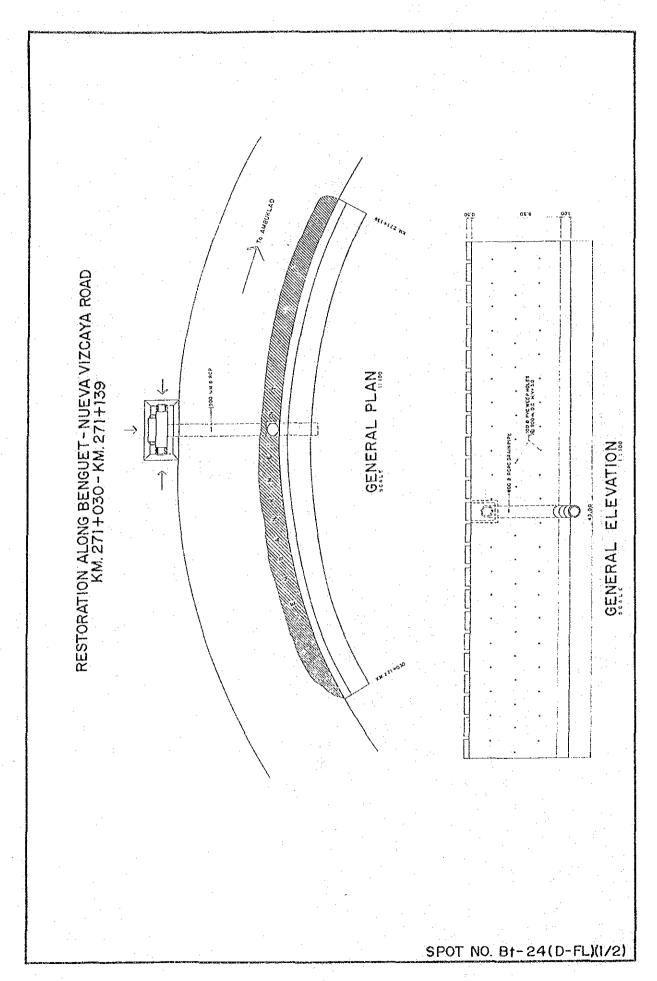
103, V= (1 X 2.40) 9 = 2.60 m³

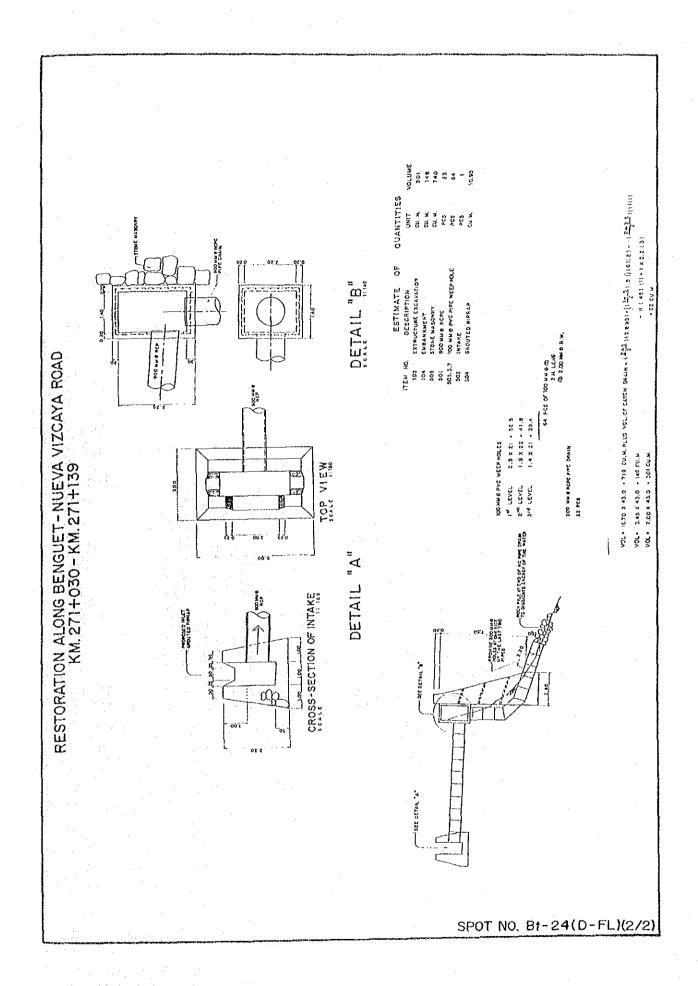
505, $V = \{(0.50 \times 0.90) + \frac{1}{2}(0.80 + 2.40) + 4.5 + 1 \times 2.4\} 9 = 90 \text{ m}^3$ 104, $V = \frac{1}{2}\{3.5 \times 4.5\} 9 = 70.86 \text{ m}^3$

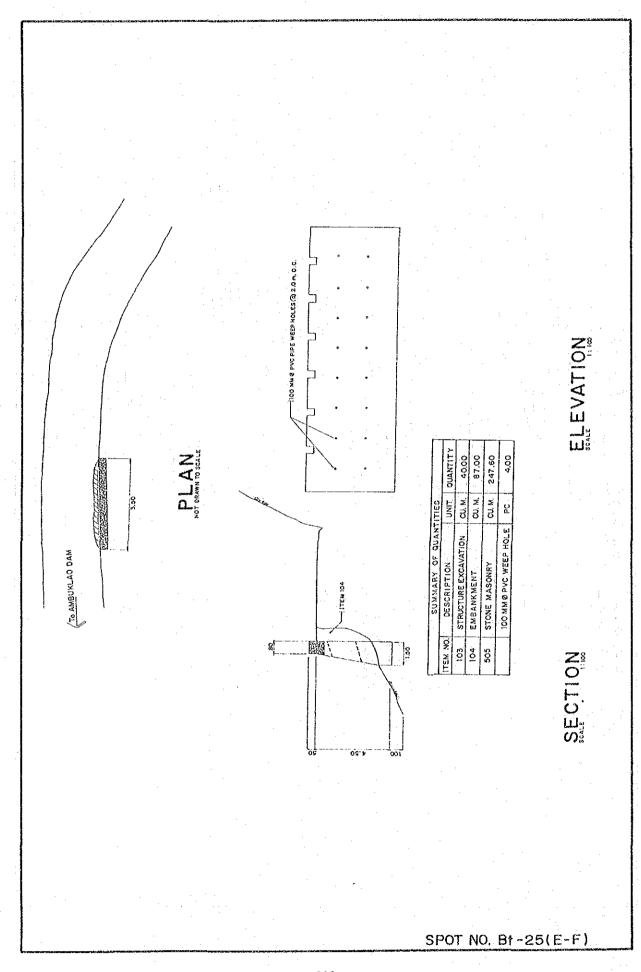
SPOT NO. Bt-7(CLV-D)







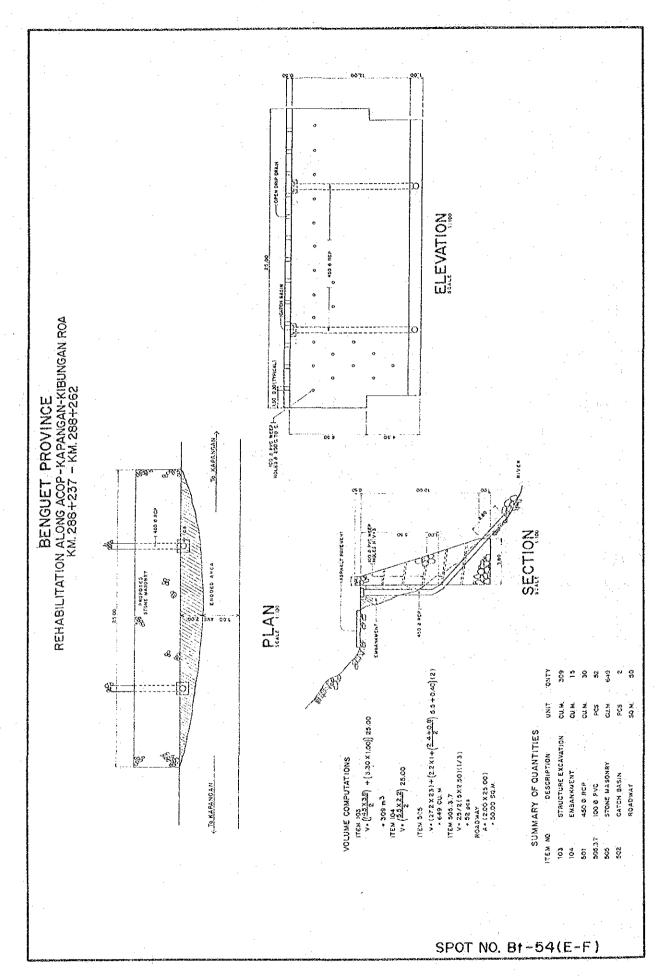


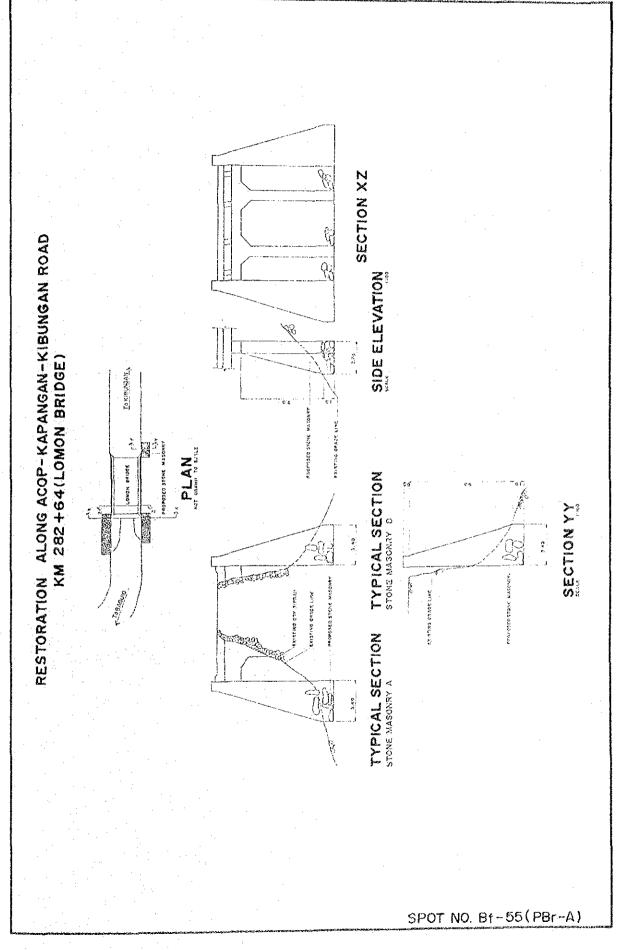


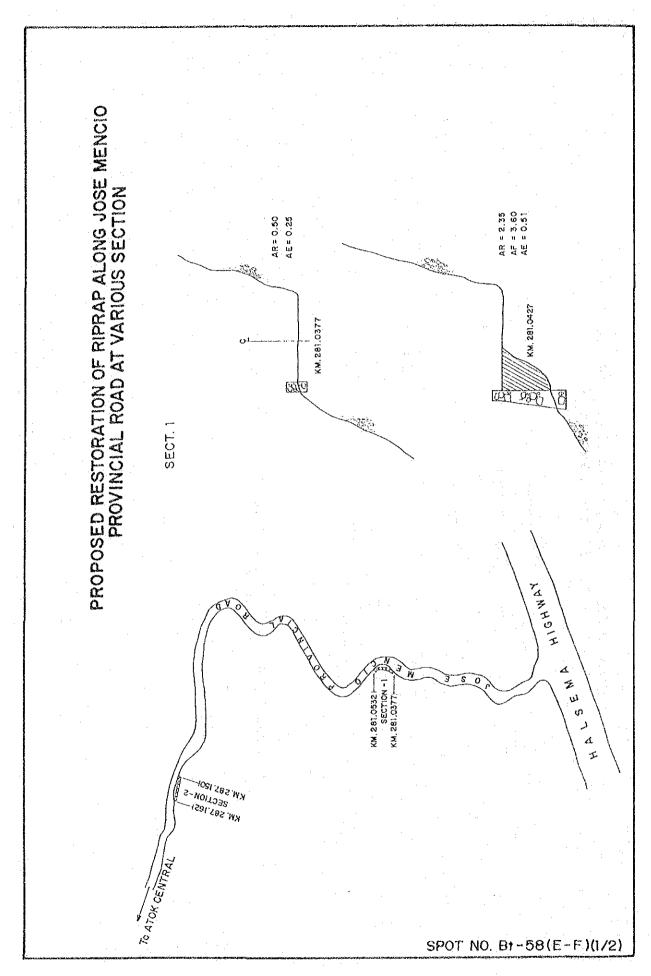
CU.M. 1334 PC 123 SO.M. 53 STRUCTURE EXCAVATION EMBANKMENT DESCRIPTION STONE MASONRY CATCH BASIN 100 MM & PVC 450 0 RCP SILL OF QUANTITIES ROADWAY RESTORATION ALONG ACOP-KAPANGAN-KIBUNGAN ROAD KM.271+194 - KM.271+229 103 501 502 502 505 505 505 7.57 -- 100 8 PVC WEEP HOUS (82.0 M.O.C. H'V+3.0 X N. 2714194 to 129. PROPOSED LENGTH: 34,0015 SECTION SCALE PLAN NOT DRAWN TO SCALE TEM 505 V - ((0.8x0.5)+(0,7x1,0)+(4.7±0.5)12.0) 35.0 - 1234 M3 ELEVATION VOLUME COMPUTATION

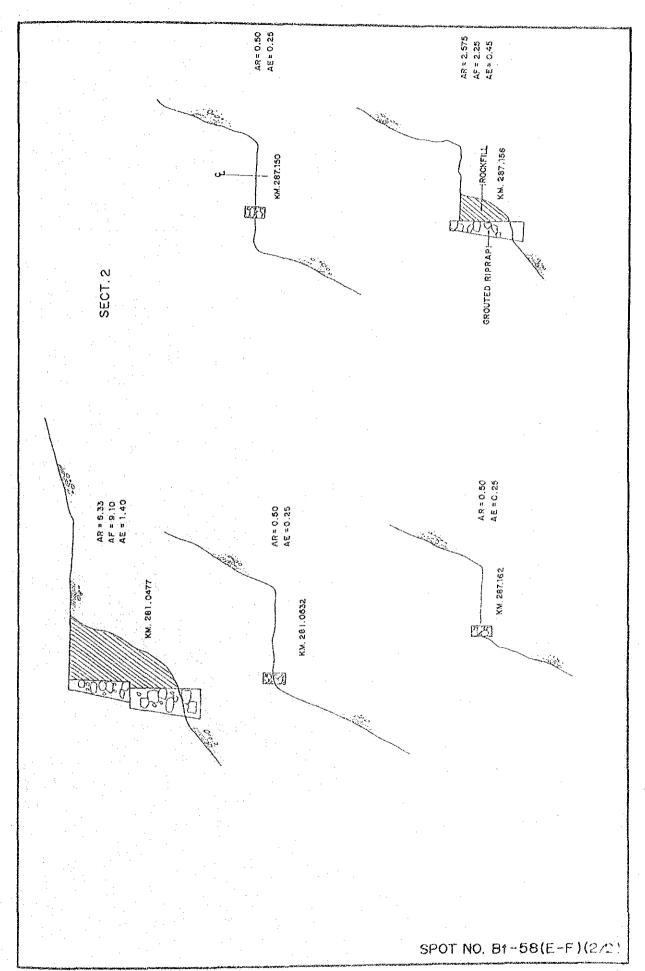
ITEM 103 - \(\left(\frac{74+0.9}{24+0.7}\right) 35.0 \cdot 683 M^3

ITEM 104 - \(\frac{64+0.9}{64+0.7}\cdot - \frac{64}{64+0.7}\cdot - \frac{64}{64+0.7 $v = \{ (\frac{35.0}{2}) \text{ 7 x 3.0} \} \frac{1}{5} = 123 \text{ PCS}$ Area of Poadway V = (56 X 2.0) 35.0 • 195 M3 A + 1,50 X 35.0 * 53 M² TEN 505.3.7 SPOT NO. Bt-38(E-F)









APPENDIX 14-1 UNIT COST ANALYSIS

PRICE COMPONENT	P/UNI	T F.C.	L.C.	TAXES	TOTAL
) EQUIPMENT:					
-Wheel Loader, 80 HP	P/hr.	294.26	90.54	67.91	452.71
! -Dump Truck, 190 HP			202.76		1,013.82
Minor tools 10% of unskilled					·
laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	962.34	296.10	222.09	1,480.53
) LABOR:					•
-Foreman	P/hr.	-	22.50	• .	22.50
O-Unskilled Laborer	P/hr.	-	140.00	•	140.00
T-4-1	D ()				1.1
Total B	P/hr.		162.50		162.50
Total A+B	P/hr.	962.34	458.60	222.09	1,643.03
	• • •				.,
\$ 100 miles					
) OUTPUT: 60 m ⁻ 3/hr.					
4 4/7 07	D (***			M 0.	07.70
1,643.03 60 m ⁻ 3/hr.	P/m 3	16.74	6.78	3.86	27.38
00 m 3/m :					
DIRECT COST:	P/m ³	16.74	6.78	3.86	27.38
Mobilization & Demo. 2%				0.08	
Overhead, Cont's & Misc. 8%					
Contractor's Profit 7%	P/m^3				
Value Added Tax 10%	P/m ³	1.67	86.0	0.39	2.74
	÷				
) UNIT COST:	P/m ³	21.25	8.61	4.92	34.78

PRICE COMPONENT	P/UN11	F.C.	L.C.	TAXES	TOTAL
) EQUIPMENT:					
- Dump Truck, 190 HP	P/hr.	329.49	101.38	76.04	506.91
- Wheel Loader, 80 HP	P/hr.	294.26	90.54	67.91	452.71
Minor tools 10% of unskilled					
laborer	P/hr.	9.10	2.80	2.10	14.00
	: .			100	4
Total A	P/hr.	632.85	194.72	146.05	973.62
	•	:			
) LABOR:					
	- 1.				
- Foreman	P/hr.	- :	22.50	. -	22.50
O-Unskilled Laborers	P/hr		140.00	-	140.00
	D /2 -		162.50		162.50
Total B	P/hr.	÷	102.30		102.30
Total A+B	P/hr	632 RS	357.22	146.05	1 136 12
. Total x.o	17112.	031.105	331140		., 1501.2
			•		
OUTPUT: 20 m^3/hr.					
1,136.12 P/hr.	P/m^3	35.22	13.63	7.96	56.81
20 m ² /hr.	. !			•	
				. :	
) DIRECT COST:	P/m^3	35.22	13.63	7.96	56.81
	: .	1	*.		
· ·	P/m^3		0.27		1.14
Overhead, Cont's & Misc. 8%	and the second		1.09	0.63	
	P/m^3	1.0	0.95	0.56	3.98
Value Added Tax 10%	P/m^3.	3.52	1.36	0.80	5.68
	1				
	_'	and the same	4-1-4-	46.4	
UNIT COST:	P/m ⁻ 3	44.73	17.30	10.12	72.15

ORK ITEM: U1-4 Refilling/Embank	nent	UNIT COST: P68.4				
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL	
) EQUIPMENT:	,,					
- Bulldozer, 200 HP	P/hr.	698.82	215.02	161.27	1,075.11	
.5-Water Truck, 120 HP	P/hr.	325.36	100.10	75.09	500.55	
.5-Sheepsfoot Roller, 106 HP	P/hr.	47.81	14.71	11.03	73.55	
.5-Pneumatic Roller, 106 HP	P/hr.	92.30	28.40	21.30	142.00	
.5-Water Pump	P/hr.	12.16	3.74	2.80	18.70	
Minor tools 10% of unskilled						
laborer	P/hr.	2.73	0.84	0.63	4.20	
and the second						
Total A	P/hr.	1,179.18	362.81	272.12	1,814.11	
) LABOR:						
- Foreman	P/hr.	_	22.50		22.50	
0.5-Skilled Laborers	P/hr.	•	8.00		8.00	
5 - Unskilled Laborer	P/hr.	_	42.00		42.00	
,	7					
Total 8	P/hr.		72.50		72.50	
Total A+B	P/hr.	1,179.18	435.31	272.12	1,886.6	
C) OUTPUT: 100 m ⁻ 3/hr.	P/m^3	11.85	4.29	2.73	18.87	
100 m ² 3/hr.						
	•		•			
) MATERIALS:					=	
Blending Soil: 1 m ² 3/m ² 3	- 4. - 4					
x P35.00/m ³	P/m ³	22.40	7.35	5.25	35.00	
Total D	P/m^3	22.40	7.35	5.25	35.0	
E) DIRECT COST:	P/m^3	34.25	11.64	7.98	53.8	
Mobilization & Demo. 2%	P/m*3	0.69	0.23			
Overhead, Contis. & Misc. 8%	. P/m ³	2.74	0.93	0.64		
Contractor's Profit 7%	P/m^3	2.40	0.81	0.56		
Value Added Tax 10%	P/m^3	3,43	1.16	0.80	5.3	
F) UNIT COST:	P/m^3	43.51	14.77	10.14	68.4	
PERCENTAGE:		64	21	15	100	

ORK ITEM: U1-5 Selected Material Fill UNIT COST: P368.94/A							
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL.		
) EQUIPMENT:							
- Wheel Loader, 80 HP	P/hr.	294.26	90.54	67.91	452.71		
	P/hr.	329.49	101.38	76.04	506.91		
		184.60	56.80	42.60	284.00		
	0.45	909 35	2/0 72	104 55	1,243.62		
Total A	P/AF.	000.33	240.12	100.33	1,243.02		
) LABOR:							
- Asst. Foreman	P/hr.	_	19.00	٠_	19.00		
- Asst. Foreman - Unskilled Laborers	P/hr		28.00		28.00		
- Unskitted Laborers	e/itt c		20.00		20.00		
Total B	P/hr.		47.00		47.00		
Total A+B	P/hr.	808.35	295.72	186.55	1,290.62		
			:"				
) OUTPUT: 7 m ² /hr.							
1,290.62 P/hr. 7 m ³ /hr.	P/m^3	115.48	42.24	26,65	184.37		
			1.1		1.1		
) MATERIALS:				-			
		F (5=	70.40	45 74	400.70		
Boulders: 1 x P102.30	P/m 3	56.27	30.69	15.54	102.30		
Total D	P/m^3	56.27	30.69	15.34	102.30		
					:		
) DIRECT COST:	P/m^3	171.75	72.93	41.99	286.67		
Mobilization & Demobilization 2%	D/m^3	3 /3	1.46	0.84	5.73		
Overhead, Contingencies & Misc. 8%	P/m ³	3.43 13.74					
	P/m^3 P/m^3	12.02 20.10		4.91	33.54		
AGINE MORE INV	£/III 3 °	20.10	در.ن	4.71	44. در.		
) UNIT COST:	P/m^3	221.04	93.86	54.04	368.94		
,							
PERCENTAGE:		60	25	: 15	100		

WORK ITEM: U2-2 Temporary Side Ditch UNIT COST: P10.99/						
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL	
A) EQUIPMENT:						
Minor tools 10% of unsk. labore	r P/hr.	9.10	2.80	2.10	14.00	
Total A	P/hr.	9.10	2.80	2.10	14.00	
B) LABOR:						
1 -Asst. Foreman	P/hr.	-	19.00	-	19.00	
10-Unskilled Laborers	P/hr.	•	140.00	-	140.00	
Total B	P/hr.		159.00		159.00	
Total A+8	P/hr.	9.10	161.80	2.10	173.00	
<u>173.00 P/hr.</u> 20.0 lm/hr.	P/lm.	0.46	8.08	0.11	8.65	
en general de la companya de la comp La companya de la co						
) DIRECT COST:	P/lm.	0.46	8.08	0.11	8.65	
Mobilization & Demobilization	2% P/lm.		0.16	- :	0.17	
Overhead, Contingencies & Misc.	8% P/lm.	-	0.65	-	0.69	
Contractor's Profit	7% P/tm.	-	0.57	•	0.61	
Value Added Tax	10% P/lm.	~	0.81	•	0.87	
E) UNIT COST:	P/lm.	0.58	10.27	0.14	10.99	
PERCENTAGE:		5	93	2	100	

WORK ITEM: U3-1 Sheet Covering		• :	UNIT CO	ST: P28	.11/m^2
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% of Unskilled Laborer	P/hr.	5.46	1.68	1.26	8.40
Total A	P/hr.	5.46	1.68	1.26	8.40
B) LABOR:				. 1	
1- Foreman 6- Unskilled Laborers	P/hr. P/hr.	-	22.50 84.00	-	22.50 84.00
Total B	P/hr.		106.50		106.50
Total A+B	P/hr.	5.46	108.18	1.26	114.90
C) OUTPUT: 25 m^2/hr.				٠	
114.90 P/hr. 25 m ² /hr.	P/m ²	0.22	4.33	0.05	4.60
) MATERIALS:					
Vinyl Sheet 0.0033 x sheet/m ²	4		4 1 25 7	e e e e e e e e e e e e e e e e e e e	
x P1,560/sheet	P/m^2	2.86	1,56	0.78	5.20
<u>-</u> :-	P/m 2				: 11.22
Incidental 5% of the above	P/m^2	0.45	0.25	0.12	0.82
Total D	P/m 2	9.48	5.18	2.58	17.24
e) DIRECT COST:	P/m^2	6.99	12.96	1.89	21.84
Mobilization & Demo. 2%	P/m^2	0.13	0.26	0.04	0.43
Overhead, Cont's & Misc. 8%	P/m ²			0.15	1.75
Contractor's Profit 7%	P/m^2	0.50	0.90	0.13	1.53
Value Added Tax 10%	P/m^2	0.82	1.52	0.22	2.56
•			e de la companya de La companya de la co		
F) UNIT COST:	P/m^2	8.99	16.69	2.43	28.11
PERCENTAGE:		32	60	8 .	100

ORK ITEM: U3-2 Sand Bags Covering	ST: P112.17/m^2				
PRICE COMPONENT	P/UNIT	f.C.	L.C.	TAXES	TOTAL
) EQUIPMENT:					
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	9.10	2,80	2.10	14.00
3) LABOR:					
10-Unskilled Laborers	P/hr.	-	140.00	-	140.00
Yout all B	P/hr.		140.00		140.00
, the sector at a large A+B	P/hr.	9.10	142.80	2.10	154.00
c) <i>O</i> UTPUT: 10 m ² /hr.					
154.00 P/hr. 10 m ² /hr.	P/m^2	0.91	14.28	0.21	15.40
	٠				
D) MATERIALS:					
Sand bags: 8 bags/m ² xP7.8/bag	P/m^2	37.44	15.60	9.36	62.40
Soil: 0.144 cu.m./m ² x P65/cu.m.	P/m ²	5.62	2.34	1.40	9.36
Total D	P/m^2	43.06	17.94	10.76	71.70
E) DIRECT COST:	P/m^2	43.97	32.22	10.97	87.10
Mobilization & Demobilization 2%	P/m ²	0.88	0.64	0.22	1.7
Overhead, Contingencies & Misc. 8%	P/m 2	3.51	2.58	88.0	6.9
Contractor's Profit 7%	P/m^2	3.08	2.26	0.77	6.1
		5.14			
F) UNIT COST:	P/m ⁻ 2	56.58	41.47	14.12	112.1
		50	37	13	100

ORK ITEM: U4-1 Sand Bags Wall UNIT COST: P112.17/m							
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL.		
A) EQUIPMENT:							
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00		
rotal A	P/hr.	9.10	2.80	2.10	14.00		
s) LABOR:							
•							
O-Unskilled Laborers	P/hr.	-	140.00	-	140.00		
Total B	P/hr.		140.00	i	140.00		
Total A+B	P/hr.	9.10	142.80	2.10	154.00		
) OUTPUT: 10 m²2/hr.	÷						
154.00 P/hr. 10 m²/hr.	P/m^2	0.91	14.28	0.21	15.40		
	٠						
) MATERIALS:				• .	* 4		
Sand bags: 8 bags/m ² xP7.8/bag	P/m^2	37.44	15.60	9.36	62.40		
Soil: 0.144 cu.m./m ² x P65/cu.m.	P/m^2	5.62	2.34	1.40	9.36		
Total D	P/m^2	43.06	17.94	10.76	71.76		
) DIRECT COST:	P/m^2	43.97	32.22	10.97	87.16		
Mobilization & Demobilization 2%	P/m 2	0.88	0.64	0.22	1.74		
Overhead, Contingencies & Misc. 8%	P/m^2	3.51	2.58	88.0	6.97		
Contractor's Profit 7%	P/m^2	3.08	2.26	0.77	6.11		
	P/m^2			1.28			
D UNIT COST:	P/m^2.	56.58	41.47	14.12	112.17		
PERCENTAGE:		50	37	13	100		

WORK ITEM: U4-2 Gabion Wall	UNIT COST: P1,424.71/				
PRICE COMPONENT	P/UNI	T F.C.	t.c.	TAXES	TOTAL
A) EQUIPMENT:				-	
Minor tools 10% of Unskilled					
Laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr,	9.10	2.80	2.10	14.00
B) LABOR:			· '.		
1 -Foreman	P/hr.	~	22.50		22.50
10-Unskilled Laborer			140.00		140.00
Total B	P/hr.		162.50		162,50
Total A+B	P/hr.	9.10	165.30	2.10	176.50
f					
C) OUTPUT: 2 m ² 3/hr.	•				
176.50 P/hr. 2 m ³ /hr.	P/m 3	9.10	165.30	2.10	176.50
) MATERIALS:	÷				
Wire Mash: 1.60 roll/m ³					
x P585/roll	P/m ³	450.45	245.70	122.85	819.00
			30.69		
Incidentals 1% of the above	P/m^3	5.07	2.76	1.38	9.21
Total D	P/m^3	511.79	279.15	139.57	930.51
				•	
DIRECT COST:	P/m^3	520.89	444.45	141.67	1,107.01
Mobilization & Demo. 2%	P/m 3	10.42	8.89	2.83	22.14
Overhead, Cont's & Misc. 8%	P/m^3	41.67	35.56	11.33	
Contractor's Profit 7%	P/m^3	36.46	31.11	9.92	77.49
Value Added Tax 10%	P/m^3	60.94	52.00	16.57	129.51
) UNIT COST:	P/m^3	670.38	572.01	182,32	1,424.71
PERCENTAGE:		47	40	13	100

WORK ITEM: U4-3 Wooden Fence			UNIT COS	T: P185.	17/lm.
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:				19.1	
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2,10	14.00
rotal A	P/hr.	9.10	2.80	2.10	14.00
				-	
3) LABOR:					
10-Unskilled Laborers	P/hr.	•	140.00	-	140.00
Total B	P/hr.		140.00	e te e	140.00
Total A+B	P/hr.	9.10	142.80	2.10	154.00
c) OUTPUT: 5.0 lm./hr.	t et .	e e		. :	
<u>154 P/hr.</u> 5.0 lm/hr.	P/lm.	1.82	28.56	0.42	30.80
) MATERIALS:					
Coco Lumber (3"x3") = 23 bd.ft/lm.	٠.		1 2		4.4.79
x P5.0/bd.ft.	P/lm.	28.75			
Ţο, tra t ' · · b		28.75		17.25	•
			garan ya		
) DIRECT COST:	P/lm.		97.56		
Mobilization & Demobilization 2%	P/lm.	0.61	1.95	0.36	2.92
Overhead, Contingencies & Misc. 8%					
			6.83		
Value Added Tax 10%	P/tm.	3.06	9.76	1.76	14.58
$(1-2)^{-1} (\lambda_{i}) = (\lambda_{i})^{-1} (\lambda_{i}) = (\lambda_{i})^{-1} (\lambda_{i})$	o*	**	1000	1,50	
	P/lm.	38.83	123.90	22.44	185.17
PERCENTAGE:	: '	21	67	12	100

WORK ITEM: U5-1 Gabion Foot Protection			UNIT COST: P1,424.71/m ² 3				
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL		
A) EQUIPMENT:	······································						
Minor tools 10% of Unsk. Laborer	P/hr	9.10	2.80	2.10	14.00		
er o tal ej A s este	P/hr.	9.10	2.80	2.10	14.00		
B) LABOR:		•					
1 -Foreman	P/hr.	-	22.50	. =	22.50		
10-Unskilled Laborer	P/hr.		140.00	-	140.00		
					.40.00		
Total B	P/hr.		162.50		162.50		
Total A+B	P/hr.	9.10	165.30	2.10	176.50		
C) OUTPUT: 2 m^3/hr.							
176.50 P/hr. 2 m ² /hr.	P/m ¹ 3	9.10	165.30	2.10	176.50		
) MATERIALS:							
Wire Mesh: 1.60 roll/m ⁻³							
x P585/roll	P/m^3	450.45	245.70	122 85	819.00		
Stone: 1 x 102.30					102.30		
	P/m^3		2.76	1.38			
Total D	P/m^3	511.79	279.15	139.57	930.51		
			• .				
DIRECT COST:	P/m^3	520.89	444.45	141.67	1,107.01		
	-						
Mobilization & Demobilization 2%	P/m ⁻ 3	10.42	8.89	2.83	22.14		
Overhead, Contingencies & Misc. 8%				11.33			
	P/m^3		31.11	9.92			
	P/m 3		52.00		129.51		
	•						
) UNIT COST:	P/m ³	670.38	572,01	182.32	1,424.71		
PERCENTAGE:		47	40	13	100		

P/hr. P/hr. P/hr. P/hr. P/hr. P/hr. P/hr. P/hr.	1,301.74	32.40 9.26 9.10 100.13 22.50 32.00 56.00 110.50 210.63	194.41 55.31 54.59 600.51	648.03 184.97 182.03 2,002.38 22.50 32.00 56.00 110.50 2,112.88
P/hr. P/hr. P/hr. P/hr. P/hr. P/hr. P/hr. P/hr.	421.22 120.40 118.34 1,301.74	32.40 9.26 9.10 100.13 22.50 32.00 56.00 110.50 210.63	194.41 55.31 54.59 600.51	648.03 184.97 182.03 2,002.38 22.50 32.00 56.00 110.50 2,112.88
P/hr. P/hr. P/hr. P/hr. P/hr. P/hr. P/hr. P/hr.	421.22 120.40 118.34 1,301.74	32.40 9.26 9.10 100.13 22.50 32.00 56.00 110.50 210.63	194.41 55.31 54.59 600.51	648.03 184.97 182.03 2,002.38 22.50 32.00 56.00 110.50 2,112.88
P/hr. P/hr. P/hr. P/hr. P/hr. P/hr.	120.40 118.34 1,301.74	9.26 9.10 100.13 22.50 32.00 56.00 110.50 210.63	55.31 54.59 600.51	184.97 182.03 2,002.38 22.50 32.00 56.00 110.50 2,112.88
P/hr. P/hr. P/hr. P/hr. P/hr.	118.34 1,301.74 1,301.74	9.10 100.13 22.50 32.00 56.00 110.50 210.63	54.59 600.51	182.03 2,002.38 22.50 32.00 56.00 110.50 2,112.88
P/hr. P/hr. P/hr. P/hr.	1,301.74	22.50 32.00 56.00 110.50 210.63	600.51	22.50 32.00 56.00 110.50 2,112.88
P/hr. P/hr. P/hr.	- - 1,301.74	22.50 32.00 56.00 110.50 210.63	600.51	22.50 32.00 56.00 110.50 2,112.88
P/hr. P/hr. P/hr.	1,301.74	32.00 56.00 110.50 210.63	. 8 . 8	32.00 56.00 110.50 2,112.88
P/hr. P/hr. P/hr.	1,301.74	32.00 56.00 110.50 210.63	. 8 . 8	32.00 56.00 110.50 2,112.88
P/hr. P/hr. P/hr.	1,301.74	32.00 56.00 110.50 210.63	. 8 . 8	32.00 56.00 110.50 2,112.88
P/hr. P/hr. P/hr.	1,301.74	32.00 56.00 110.50 210.63	. 8 . 8	32.00 56.00 110.50 2,112.88
P/hr. P/hr. P/hr.	1,301.74	32.00 56.00 110.50 210.63	. 8 . 8	32.00 56.00 110.50 2,112.88
P/hr. P/hr.	1,301.74	56.00 110.50 210.63	. 8 . 8	56.00 110.50 2,112.88
P/hr.	1,301.74	110.50 210.63	. 8 . 8	110.50 2,112.88
P/hr.		210.63	. 8 . 8	2,112.88
P/hr.		210.63	. 8 . 8	
d d d			. 8 . 8	
P/m	162.71	26.33	75.04	
P/m	162.71	26.33	75.04	. 11
P/m	162.71	26.33	75.04	
P/m	162.71	26.33	75.04	
P/m	162.71	26.33	75 07	
			73.00	264.10
		e in care	1 Post	
		9.9		
				1 1 · · · · · · · · · · · · · · · · · ·
**				attalia a
P/m	206.80	131,60	37.60	564.00
P/m	206.80	131.60	37.60	564.00
		·		
P/m	369.51	157.93		828.10
				44.54
				16.56
4			and the second second	. '
-				57.97
P/M	36.95	15.79	31.27	82.81
P/m	469.28	200.57	143.08	1,051.68
 	F.0	. :	4~	100
	P/m P/m P/m P/m P/m	P/m 206.80 P/m 369.51 P/m 7.39 P/m 29.56 P/m 25.87 P/m 36.95 P/m 469.28	P/m 206.80 131.60 P/m 369.51 157.93 P/m 7.39 3.16 P/m 29.56 12.63 P/m 25.87 11.06 P/m 36.95 15.79	P/m 206.80 131.60 37.60 P/m 369.51 157.93 112.66 P/m 7.39 3.16 2.25 P/m 29.56 12.63 9.02 P/m 25.87 11.06 7.88 P/m 36.95 15.79 11.27 P/m 469.28 200.57 143.08

-	ORK ITEM: U6-3 Bailey Bridge (Depreciation)				ORS. 0001. F13,333.03/				
	PRICE COMPONENT	P/UNI	T F.C.	L.C.	TAXES	TOTAL			
()	EQUIPMENT:								
-	Stake Truck	P/hr.	198.25	61.00	45.75	305.0			
	Truck Mounted Crane		1,176.60			1,810.1			
	Minor tools 10% of Unskilled	17111 2	1,170.00	302.03	271.33	1,810.1			
	Laborer	P/hr.	4.55	1.40	1.05	7.0			
	Total A	P/hr.	1,379.40	424.43	318.33	2,122.1			
)	LABOR:								
-									
	Foreman	P/hr.	-	22.50	-	22.5			
-	Skilled Laborer	P/hr.	-	32.00	-	32.0			
-	Unskilled Laborers	P/hr.	-	70.00	-	70.0			
₹.	Driver	P/hr.	-	15.00	-	15.0			
1	Total B	P/hr.		139.50		139.5			
	Total A+B	P/hr.	1.379.40	563.93	318.33	2,261.6			
			.,			2,20110			
)	OUTPUT: 3.0 lm/hr.								
	2,261.66 P/hr. 3.0 tm/hr.	P/lm.	459.80	187.97	106.11	753.8			
						•			
)	MATERIALS:								
			:						
	Struc. Steel: 200 kgs/lm x P9/kg.	P/lm.	440.00	280.00	80.00	1,800.0			
	Yacal/Guijo: 365 bd.ft./lm.	•							
	x P22.00/bd.ft.	P/lm.	2,007.50	4,818.00	1,204.50	8,030.0			
	Nails: 4 kgs/lm. x P22.50/kg.	P/lm.	64.80	9.00	16.20	90.0			
	Total D		2,512.30	5,107.00	1,300.70	9,920.0			
	Dincer coor.	Dilm	2 072 10	E 20/ 07	1 (04 91	10 477 0			
	DIRECT COST:	r/UII.	6,716.10	5,294.97	1,400.01	10,073.00			
	Mobilization & Demo. 2%	P/lm.	59.44	105.90	28.14	213.4			
:	Overhead, Cont's & Misc. 8%	P/lm.	237.77	423.60	112.54	853.9			
	Contractor's Profit 7%	P/lm.	208.05		98.47	747.17			
	Value Added Tax 10%	P/lm.	297.21		140.68	1,067.39			
:)	UNIT COST:	P/lm.	3,774.57	6,724.62	1,786.64	13,555.83			
				·	·				

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	IUIAL
) EQUIPMENT:					
- Motor Grader, 115 HP	P/hr.	868.92	267.36	200.52	1,336,80
	P/hr		284.38		
- Pneumatic Roller, 106 HP			56.80		
- Water Truck, 120 HP			133.48		
- Water Pump		24.31			37.40
Minor tools 20% of unskilled					
	out- :) /E/ 00	755.10	£44 73	3.775 50
Total A	P/nr.	2,434.09	755.10		3,113.36
	:				1.5
) LABOR:	:			4	** * *
		1	•		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
- Foreman	P/hr.		22.50	-	22.50
- Skilled Laborers	P/hr.	-	128.00	-	128.00
0-Unskilled Laborers	P/hr.		140.00	-	140.00
Total B	P/hr.		290.50	• .	290.50
Total A+B	P/hr.	2,454.09	1,045.60	566.33	4,066.02
				*	* 1
) OUTPUT: 20 m ² /hr.				1:	ť
		400 70	ra 20	20.72	203.30
4,066.02 P/hr.	P/M 3	166.70	52,28	20.32	20.7.30
20 m^3/hr.				. :	and the
				-	
) MATERIALS:			1		1.4
			1. 2		
C.A.: 0.15 m ³ /m ³ x P215/m ³	P/m^3	17.74	9.68	4.83	32.29
Incidentals 30% of the above	P/m13	5.28	2.88	1.44	9.60
	1.5		*:	100	100
Total D	P/m^3	23.02	12.56	6.27	41-85
			+ +	200	
The second secon					
) DIRECT COST:	P/m^3	145.72	64.84	34.59	245,19
	. 7		70		
Mobilization & Demo. 2%	P/m ³	2.91			
Overhead, Cont's. & Misc. 8%	P/m ³	11.66			19.6
· ·		10.20		4 1	17.10
Value Added Tax 10%	P/m ⁻ 3	17.05	7.59	4.04	28.6
			•		
•				4. 2.	745 5
O UNIT COST:	P/m^3	187.54	83.45	44.51	315.50

WORK ITEM: P1-1(1) Recutting (Com	UNIT COST: P58.30/m ³				
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL.
A) EQUIPMENT:					
l- Wheel Loader, 80 HP	P/hr.	294.26	90,54	67.91	452,71
2- Dump Truck, 190 HP	P/hr.	658.98	202.76		1,013.82
Minor tools 10% of unskilled					•
laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	962.34	296.10	222.09	1,480.53
3) LABOR:					
I- Foreman	P/hr.	_	22.50	_	22.50
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00
•					
Total B	P/hr.		162.50		162.50
Total A+B	P/hr.	962.34	458.60	222.09	1,643.03
C) OUTPUT: 60 m ² /hr.					
1 6/3 07 D/hn	D /m^7	27.40	44 37	. (70	/F 70
1,643.03 P/hr. 60 m ³ /hr.	P/m ³	27.69	11,23	6.39	45.30
)) DIRECT COST:	P/m ⁻ 3	27.69	11.23	6.39	45.30
Mobilization & Demobilization	2% P/m^3	0.55	0.22	0.13	0.90
Overhead, Contingencies & Misc.	8% P/m^3	2.22	0.90	0.51	3.63
Contractor's Profit	7% P/m^3	1.94	0.79	0.44	3.17
Value Added Tax 1	0% P/m^3	3.24	1.31	0.75	5.30
IN INIT COCT.	0/-*7	76 (/	4/ /5		E0 70
ONIT COST:	P/m ³	35.64	14.45	8.22	58.30
PERCENTAGE:		61	25	14	100

-Bulldozer, 200 HP -Wheel Loader, 80 HP -Dump Truck, 190 HP -Aircompressor, 93 HP -Aircompressor, 93 HP -Rock Drill, 106 HP -Aircompressor, 93 HP -Rock Drill, 106 HP -Aircompressor, 93 HP -Aircompressor, 93 HP -Rock Drill, 106 HP -Aircompressor, 93 HP -Aircompressor, 93 HP -Aircompressor, 93 HP -Aircompressor, 93 HP -Rock Drill, 106 HP -Aircompressor, 93 HP -Rock Drill, 106 HP -Aircompressor, 93 HP -Aircompressor, 94 HP -Aircompressor, 95 HP -Aircompressor, 96 HP -Aircompressor, 95 HP -Aircompressor, 95 HP -Aircompressor, 96 HP -Aircompressor,	WORK ITEM: P1-1(2) Recutting (Rock)			UNIT COST: P358.53/m ³					
-Bulldozer, 200 HP -Wheel Loader, 80 HP -Dump Truck, 190 HP -Aircompressor, 93 HP -Aircompressor, 93 HP -Rock Drill, 106 HP -Aircompressor, 93 HP -Rock Drill, 106 HP -Aircompressor, 93 HP -Aircompressor, 93 HP -Rock Drill, 106 HP -Aircompressor, 93 HP -Aircompressor, 93 HP -Aircompressor, 93 HP -Aircompressor, 93 HP -Rock Drill, 106 HP -Aircompressor, 93 HP -Rock Drill, 106 HP -Aircompressor, 93 HP -Aircompressor, 94 HP -Aircompressor, 95 HP -Aircompressor, 96 HP -Aircompressor, 95 HP -Aircompressor, 95 HP -Aircompressor, 96 HP -Aircompressor,	PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL			
-Wheel Loader, 80 RP -Dump Truck, 190 NP -Dump Truck, 190 NP -Aircompressor, 93 NP -Aircompressor, 94 -Ai) EQUIPMENT:				. :				
-Wheel Loader, 80 RP -Dump Truck, 190 NP -Dump Truck, 190 NP -Aircompressor, 93 NP -Aircompressor, 94 -Ai	Puliwayan 200 HO	P/hr	698.82	215.02	161,27	1.075.11			
-Oump Truck, 190 HP -Aircompressor, 93 HP -Aircompressor, 93 HP -Aircompressor, 93 HP -Rock Drill, 106 HP Minor tools 10% of unskilled laborer P/hr. 9.10 2.80 2.10 14.00 T o t a l A P/hr. 1,931.73 600.04 449.17 2,980.94) LABOR: -Foreman -Skilled Laborer P/hr. 1,931.73 600.04 449.17 2,980.94) LABOR: -Foreman -Skilled Laborer P/hr. 169.91 27.17 19.51 116.59 Aircompressor, 93 HP P/hr. 69.91 27.17 19.51 116.59 P/hr. 9.10 2.80 2.10 14.00 T o t a l A P/hr. 1,931.73 600.04 449.17 2,980.94) LABOR: -Foreman -Skilled Laborer P/hr. 16.00 - 16.00 -16.00 -16.00 -16.00 -17.00 140.00 T o t a l B P/hr. 1,931.73 778.54 449.17 3,159.44) OUTPUT: 20 m 3/hr. 3,159.44 P/hr. 20 m 3/hr.) MATERIALS: Dynamite: 0.3 x P52 Blasting Caps & Fuse: 5 x P21.00 P/m 3 96.58 38.93 22.46 157.97 DIRECT COST: P/m 3 10.92 1.56 3.12 15.60 T o t a l D P/m 3 84.42 12.06 24.12 120.60) DIRECT COST: P/m 3 181.00 50.99 46.58 278.57 Overhead, Contingencies & Misc. 8% P/m 3 1.48 4.08 3.73 22.29 Contractor's Profit 7% P/m 3 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m 3 21.18 5.97 5.45 32.60									
-Aircompressor, 93 HP -Rock Drill, 106 HP Rock Drill, 106 HP Minor tools 10% of unskilled laborer P/hr. 9.10 2.80 2.10 14.00 T o t a l A P/hr. 1,931.73 600.04 449.17 2,980.94) LABOR: -Foreman -Skilled Laborer P/hr. 1,931.73 600.04 449.17 2,980.94) Unskilled Laborer P/hr. 16.00 - 16.00 0-Unskilled Laborer P/hr. 140.00 140.00 T o t a l B P/hr. 1,931.73 778.54 449.17 3,159.44) OUTPUT: 20 m³3/hr. 3,159.44 P/hr. 20 m³3/hr. P/m³3 96.58 38.93 22.46 157.97 Dynamite: 0.3 x P52 Blasting Caps & Fuse: 5 x P21.00 P/m³3 73.50 10.50 21.00 105.00 T o t a l D P/m³3 84.42 12.06 24.12 120.60) DIRECT COST: P/m³3 181.00 50.99 46.58 278.57 Overhead, Contingencies & Misc. 8% P/m³3 14.48 4.08 3.73 22.29 Contractor's Profit 7% P/m³3 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m³3 21.18 5.97 5.45 32.60					4.	A 7			
-Rock Drill, 106 HP P/hr. 69.91 27.17 19.51 116.59 Minor tools 10% of unskilled laborer P/hr. 9.10 2.80 2.10 14.00 T o t a l A P/hr. 1,931.73 600.04 449.17 2,980.94) LABOR: -Foreman P/hr 22.50 - 22.50 - 36.00 - 16.0						- , .			
Minor tools 10% of unskilled laborer P/hr. 9.10 2.80 2.10 14.00 T o t a l A P/hr. 1,931.73 600.04 449.17 2,980.94) LABOR: -foreman P/hr 22.50 - 22.50 - Skilled Laborers P/hr. 16.00 - 16.00 0-Unskilled Laborer P/hr. 140.00 140.00 T o t a l B P/hr. 178.50 178.50 T o t a l A + B P/hr. 1,931.73 778.54 449.17 3,159.44) OUTPUT: 20 m³3/hr. 3_159.44 P/hr. 20 m³3/hr. P/m³3 96.58 38.93 22.46 157.97 Dynamite: 0.3 x P52 P/m³3 10.92 1.56 3.12 15.60 Blasting Caps & Fuse: 5 x P21.00 P/m³3 73.50 10.50 21.00 105.00 T o t a l D P/m³3 84.42 12.06 24.12 120.60) DIRECT COST: P/m³3 181.00 50.99 46.58 278.57 Mobilization & Demobilization 2% P/m³3 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m³3 14.48 4.08 3.73 22.29 Contractor's Profit 7% P/m³3 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m³3 21.18 5.97 5.45 32.60									
Laborer P/hr. 9.10 2.80 2.10 14.00 Total A P/hr. 1,931.73 600.04 449.17 2,980.94 LABOR:	and the second s	P/III -	09,91	61.11	17471	110.27			
Total A P/hr. 1,931.73 600.04 449.17 2,980.94) LABOR: -Foreman		D. (1)	0.40	2.00	2 10	17.00			
Description	laborer	P/Ar.	9.10	2.00	2.10	14.00			
-Foreman	Total A	P/hr.	1,931.73	600.04	449.17	2,980.94			
-Foreman				· ·					
-Foreman	A APOD					***			
-skilled Laborers) LABUK:								
-skilled Laborers	o poblecia	D/hn	_	22 50	-	. 22 50			
O-Unskilled Laborer P/hr. 140.00 140.00 T o t a l B P/hr. 178.50 178.50 T o t a l A + B P/hr. 1,931.73 778.54 449.17 3,159.44) OUTPUT: 20 m ³ /hr. 3,159.44 P/hr. 20 m ³ /hr. P/m ³ 96.58 38.93 22.46 157.97 Dynamite: 0.3 x P52 P/m ³ 10.92 1.56 3.12 15.60 Blasting Caps & Fuse: 5 x P21.00 P/m ³ 73.50 10.50 21.00 105.00 T o t a l D P/m ³ 84.42 12.06 24.12 120.60) DIRECT COST: P/m ³ 181.00 50.99 46.58 278.57 Mobilization & Demobilization 2% P/m ³ 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m ³ 3 14.48 4.08 3.73 22.25 Contractor's Profit 7% P/m ³ 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ³ 21.18 5.97 5.45 32.60	A Property of the Control of the Con	-	_						
Total B P/hr. 178.50 178.50 Total A + B P/hr. 1,931.73 778.54 449.17 3,159.44) OUTPUT: 20 m ³ /hr. 3,159.44 P/hr. 20 m ³ /hr. P/m ³ 96.58 38.93 22.46 157.97 20 m ³ /hr.) MATERIALS: Dynamite: 0.3 x P52 P/m ³ 10.92 1.56 3.12 15.60 Blasting Caps & Fuse: 5 x P21.00 P/m ³ 73.50 10.50 21.00 105.00 Total D P/m ³ 84.42 12.06 24.12 120.60) DIRECT COST: P/m ³ 181.00 50.99 46.58 278.57 Mobilization & Demobilization 2% P/m ³ 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m ³ 14.48 4.08 3.73 22.25 Contractor's Profit 7% P/m ³ 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ³ 21.18 5.97 5.45 32.60	*****	-	·						
Total A+B P/hr. 1,931.73 778.54 449.17 3,159.44) OUTPUT: 20 m ³ /hr. 3,159.44 P/hr. P/m ³ 96.58 38.93 22.46 157.97 20 m ³ /hr.) MATERIALS: Dynamite: 0.3 x P52 P/m ³ 10.92 1.56 3.12 15.60 Blasting Caps & Fuse: 5 x P21.00 P/m ³ 73.50 10.50 21.00 105.00 Total D P/m ³ 84.42 12.06 24.12 120.60) DIRECT COST: P/m ³ 181.00 50.99 46.58 278.57 Mobilization & Demobilization 2% P/m ³ 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m ³ 14.48 4.08 3.73 22.25 Contractor's Profit 7% P/m ³ 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ³ 21.18 5.97 5.45 32.60	U-Unskilled Laborer	P/Nr.		140,00		140.00			
Total A+B P/hr. 1,931.73 778.54 449.17 3,159.44) OUTPUT: 20 m ³ /hr. 3,159.44 P/hr. P/m ³ 96.58 38.93 22.46 157.97 20 m ³ /hr.) MATERIALS: Dynamite: 0.3 x P52 P/m ³ 10.92 1.56 3.12 15.60 Blasting Caps & Fuse: 5 x P21.00 P/m ³ 73.50 10.50 21.00 105.00 Total D P/m ³ 84.42 12.06 24.12 120.60) DIRECT COST: P/m ³ 181.00 50.99 46.58 278.57 Mobilization & Demobilization 2% P/m ³ 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m ³ 14.48 4.08 3.73 22.25 Contractor's Profit 7% P/m ³ 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ³ 21.18 5.97 5.45 32.60	Total B	P/hr		178.50	٠	178.50			
OUTPUT: 20 m ³ /hr. 3,159.44 P/hr. 20 m ³ /hr. P/m ³ 96.58 38.93 22.46 157.97 MATERIALS: Dynamite: 0.3 x P52 P/m ³ 10.92 1.56 3.12 15.60 Blasting Caps & Fuse: 5 x P21.00 P/m ³ 73.50 10.50 21.00 105.00 Total D P/m ³ 84.42 12.06 24.12 120.60 DIRECT COST: P/m ³ 181.00 50.99 46.58 278.57 Mobilization & Demobilization 2% P/m ³ 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m ³ 14.48 4.08 3.73 22.26 Contractor's Profit 7% P/m ³ 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ³ 21.18 5.97 5.45 32.60	, , , , ,	* ,							
) OUTPUT: 20 m ³ /hr. 3,159.44 P/hr. 20 m ³ /hr. P/m ³ 96.58 38.93 22.46 157.97 20 m ³ /hr.) MATERIALS: Dynamite: 0.3 x P52 P/m ³ 10.92 1.56 3.12 15.60 Blasting Caps & Fuse: 5 x P21.00 P/m ³ 73.50 10.50 21.00 105.00 T o t a l D P/m ³ 84.42 12.06 24.12 120.60) DIRECT COST: P/m ³ 181.00 50.99 46.58 278.57 Mobilization & Demobilization 2% P/m ³ 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m ³ 14.48 4.08 3.73 22.29 Contractor's Profit 7% P/m ³ 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ³ 21.18 5.97 5.45 32.60	Total A+R	ջ/իր,	1 931 73	778.54	449:17	3.159.44			
3,159.44 P/hr. 20 m ⁻³ /hr. MATERIALS: Dynamite: 0.3 x P52				,,					
3,159.44 P/hr. 20 m ⁻³ /hr. MATERIALS: Dynamite: 0.3 x P52	· · · · · · · · · · · · · · · · · · ·								
3,159.44 P/hr. 20 m ⁻³ /hr. MATERIALS: Dynamite: 0.3 x P52) AUTPUT: 20 m^3/hr.								
20 m ⁻ 3/hr. MATERIALS: Dynamite: 0.3 x P52									
20 m ⁻ 3/hr. MATERIALS: Dynamite: 0.3 x P52	3.159.44 P/hr.	P/m^3	96.58	38,93	22.46	157.97			
Dynamite: 0.3 x P52									
Dynamite: 0.3 x P52									
Dynamite: 0.3 x P52				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
Dynamite: 0.3 x P52									
### Blasting Caps & Fuse: 5 x P21.00 P/m ³ 73.50 10.50 21.00 105.00 ### Total D P/m ³ 84.42 12.06 24.12 120.60 ### DIRECT COST: P/m ³ 181.00 50.99 46.58 278.57 ### Mobilization & Demobilization 2% P/m ³ 3.62 1.02 0.93 5.57 ### Overhead, Contingencies & Misc. 8% P/m ³ 14.48 4.08 3.73 22.25 ### Contractor's Profit 7% P/m ³ 12.67 3.57 3.26 19.50 ### Value Added Tex 10% P/m ³ 21.18 5.97 5.45 32.60) Invention								
Blasting Caps & Fuse: 5 x P21.00 P/m ³ 73.50 10.50 21.00 105.00 Total D P/m ³ 84.42 12.06 24.12 120.60 DIRECT COST: P/m ³ 181.00 50.99 46.58 278.57 Mobilization & Demobilization 2% P/m ³ 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m ³ 14.48 4.08 3.73 22.29 Contractor's Profit 7% P/m ³ 12.67 3.57 3.26 19.50 Value Added Tex 10% P/m ³ 21.18 5.97 5.45 32.60	Dynamita · O 3 x PS2	p/m^ፕ	10.92	. 1.56	3.12	15.60			
Total D P/m ³ 84.42 12.06 24.12 120.60 DIRECT COST: P/m ³ 181.00 50.99 46.58 278.57 Mobilization & Demobilization 2% P/m ³ 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m ³ 14.48 4.08 3.73 22,29 Contractor's Profit 7% P/m ³ 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ³ 21.18 5.97 5.45 32.60			100						
) DIRECT COST: P/m ² 3 181.00 50.99 46.58 278.57 Mobilization & Demobilization 2% P/m ² 3 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m ² 3 14.48 4.08 3.73 22.29 Contractor's Profit 7% P/m ² 3 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ² 3 21.18 5.97 5.45 32.60	atasting caps a ruse. 3 x remov		.3.30	10,20					
) DIRECT COST: P/m ² 3 181.00 50.99 46.58 278.57 Mobilization & Demobilization 2% P/m ² 3 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m ² 3 14.48 4.08 3.73 22.29 Contractor's Profit 7% P/m ² 3 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ² 3 21.18 5.97 5.45 32.60	Tatal	D/m^3	2/ /2	12 06	26 12	120 60			
Mobilization & Demobilization 2% P/m ² 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m ² 14.48 4.08 3.73 22.29 Contractor's Profit 7% P/m ² 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ² 21.18 5.97 5.45 32.60	, o ca c o	17111 2		12.00	27112	120100			
Mobilization & Demobilization 2% P/m ² 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m ² 14.48 4.08 3.73 22.29 Contractor's Profit 7% P/m ² 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ² 21.18 5.97 5.45 32.60									
Mobilization & Demobilization 2% P/m ³ 3.62 1.02 0.93 5.57 Overhead, Contingencies & Misc. 8% P/m ³ 14.48 4.08 3.73 22.29 Contractor's Profit 7% P/m ³ 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ³ 21.18 5.97 5.45 32.60) DIRECT COST:	P/m 3	181.00	50.99	46.58	278.57			
Overhead, Contingencies & Misc. 8% P/m ³ 14.48 4.08 3.73 22.25 Contractor's Profit 7% P/m ³ 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ³ 21.18 5.97 5.45 32.60		• • • •			7 7 7				
Overhead, Contingencies & Misc. 8% P/m ³ 14.48 4.08 3.73 22.29 Contractor's Profit 7% P/m ³ 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ³ 21.18 5.97 5.45 32.60	Mobilization & Demobilization 23	6 P/m^3	3.62	1.02	0.93	5.57			
Contractor's Profit 7% P/m ³ 12.67 3.57 3.26 19.50 Value Added Tax 10% P/m ³ 21.18 5.97 5.45 32.60	and the second s								
Value Added Tex 10% P/m ³ 21.18 5.97 5.45 32.60									
		141							
) UNIT COST: P/m ⁻³ 232.95 65.63 59.95 358.53	107	:		/,		32.00			
) UNIT COST:	P/m^3	232.95	65.63	59.95	358.53			
PERCENTAGE: 65 19 16 100						1.1			

WORK ITEM: P1-3 Refilling/Embank	ment	t UNIT COST: P68.42/m ³					
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL		
A) EQUIPMENT:							
1:- Bulldözer, 200 HP	P/hr.	698.82	215.02	161.27	1,075.1		
1.5-Water Truck, 120 HP	P/hr.	325.36	100.10	75.09			
0.5-Sheepsfoot Roller, 106 HP	P/hr.	47.81	14.71	11.03	73.5		
0.5-Pneumatic Roller, 106 HP	P/hr.	92.30			142.00		
0.5-Water Pump	P/hr.	12.16	3.74	2.80	18.70		
Minor tools 10% of unskilled			. •				
laborer	P/hr.	2.73	0.84	0.63	4.20		
Total . A	P/hr.	1,179.18	362.81	272.12	1,814.11		
3) LABOR:							
l - Foreman	P/hr.	_	22.50		22.50		
0.5-Skilled Laborers	P/hr.	-	8.00		8.00		
3 - Unskilled Laborer	P/hr.	•	42.00	_	42.00		
	. ,		44.00		76.100		
Total B	P/hr.		72.50		72.50		
epsily of Total A+B	P/hr.	1,179.18	435.31	272.12	1,886.61		
C) OUTPUT: 100 m^3/hr.							
1,886.61 P/hr. 100 m 3/hr.	P/m^3	11.85	4.29	2.73	18.87		
D) MATERIALS:							
Blending Soil: 1 m^3/m ³							
x P35.00/m ³	P/m^3	22.40	7.35	5.25	35.00		
Total D	P/m ³	22,40	7.35	5.25	35.00		
DIRECT COST:	P/m^3	34.25	11.64	7.98	53.87		
Mobilization & Demo. 2%	P/m^3	0.69	0.23	0.16	1.08		
Overhead, Cont's. & Misc. 8%	P/m 3	2.74	0.93	0.64	4.3		
Contractor's Profit 7%	P/m^3	2.40	0.81	0.56	3.77		
Value Added Tax 10%	P/m 3	3.43	1.16	0.80	5.39		
ARIGE RODED IBY	-	-					
Value Roben 19X 10%							
F) UNIT COST:	P/m^3	43.51	14.77	10.14	68.42		

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
) EQUIPMENT:					
200 00	P/hr.	698.82	 215:02	161.27	1 075 1
- Bulldozer, 200 HP	-	325.36		75.09	
.5-Water Truck, 120 HP	According to the control of the cont	•	4	11.03	
5-Sheepsfoot Roller, 106 HP	P/hr.	47.81		21.30	
.5-Pneumatic Roller, 106 HP	P/hr.	92.30		and the second second	18.7
.5-Water Pump	P/hr.	12.16	3.74	2.00	10.7
Minor tools 10% of unskilled laborer	P/hr.	2.73	0.84	0.63	4.2
Total A	P/hr.	1,179.18	362.81	272.12	1,814.1
Lanon					
) LABOR:					
	P/hr.	· _	22.50		22.5
Foreman	P/hr.		8.00		8.0
.5-Skilled Laborers		-			
- Unskilled Laborer	P/hr.	•	42.00	· · · · ·	42.0
Total B	P/hr.	44	72.50		72.5
Total A+B OUTPUT: 100 m ² 3/hr	P/hr.	1,179.18	435.31	272.12	1,886.6
r					
1,886.61 P/hr. 100 m ³ /hr.	P/m ⁻ 3	11.85	4.29	2.73	18.8
			-		
MATERIALS:	•		:		
, internet				4	
Blending Soil: 1 m ³ /m ³					
x P35.00/m ² 3	P/m ⁻ 3	22.40	7.35	5.25	35.0
Total D	P/m ₁ 3	22.40	7.35	5.25	35.0
DIRECT COST:	P/m^3	34.25	11.64	7.98	53.8
Mobilization & Demo. 2%	P/m^3	0.69	0.23	0.16	1.0
Overhead, Cont's. & Misc. 8%	P/m 3	2.74		0.64	4.3
Contractor's Profit 7%		2.40	4.6	0.56	3.7
Value Added Tax 10%	P/m^3	3.43	1.16		5.3
UNIT COST:	P/m^3	43.51	14.77	10.14	68.4

WORK ITEM: P2-1 Slope Ditch		UNIT COST: P318.76/lm.				
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL	
A) MATERIALS:						
Concrete Quantity Q = 0.149 m ⁻³	P/hr.	-	-	~	· -	
B) UNIT COST: 250.30 x 0.149/0.117	P/lm.	146.63	130.69	41.44	318.76	
PERCENTAGE:		46	41	13	100	

*Unit Cost P250.30 is same as P2-2(1) Side Ditch Type A

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
) EQUIPMENT:	··				
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	9.10	2.80	2.10	14.00
) LABOR:					
-Foreman O-Unskilled Laborers	P/hr. P/hr.	-	22.50 140.00		22.50 140.00
Total B	P/hr.		162.50		162.50
Total A+B	P/hr.	9.10	165.30	2.10	176.50
	· · · · · · · · · · · · · · · · · · ·				
c) OUTPUT: 5 lm/hr.			:		
<u>176.50 P/hr.</u> 5 lm./hr.	P/lm.	1.90	32.96	0.44	35.30
) MATERIALS:					
Cement: 0.93 x P120			33.48		
F.A.: 0.02 x P151 Boulders: 0.12 x P393			0.69 14.15		3.02 47.16
Total D	P/lm.	89.22	48.32	24.24	161.78
) DIRECT COST:	P/lm.	91.12	81.28	24.68	197.08
	⟨P/lm.	1.82	1.63	0.49	
Overhead, Contingencies & Misc. 8%	6 P/lm. 6 P/lm.	7.29 4.38	6.50	1.98	15.77
	6 P/lm. 6 P/lm.	6.38 9.11	5.69 8.13	1.73 2.47	13.80 19.71
	÷				·
) UNIT COST:	P/lm.	115.72	103.23	31.35	250.30
	· · · · ·	 -	· · · · · · · · · · · · · · · · · · ·	,	

ORK ITEM: P2-2(2) Side Ditch Type B		UNIT COST: P318.76/lm			
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) MATERIALS:					
Concrete Quantity Q = 0.149 m ⁻³	P/hr.	+ 2	~ .	**	v -•*
B) UNIT COST: 250.30 x 0.149/0.117	7 P/lm.	146.63	130.69	41.44	318.76
PERCENTAGE:		46	41	13	100

^{*} Unit Cost P250.30 is same as P2-2(1) Side Ditch Type A

WORK ITEM: P2-2(3) Side Ditch Type C UNIT COST: P500.60/lm.						
PRICE COMPONENT	P/UNIT	F.C.	L.C. TAXES TOTAL			
A) MATERIALS:						
Concrete Quantity Q = 0.234 m ³	P/hr.	-	era organismo kaj jeda			
B) UNIT COST: 250.30 x 0.234/0.117	P/lm.	230.28	205.25 65.07 500.60			
PERCENTAGE:		46	41 13 100			

^{*} Unit Cost P250.30 is same as P2-2(1) Side Ditch Type A

	PRICE COMPONENT	P/UNI1	F.C.	L.C.	TAXES	TOTAL
1)	EQUIPMENT:					
1-	Concrete Batching Plant	P/hr.	950,95	292.60	219 45	1,463.0
			294.26		67.91	
	Water Tank Truck			66.74		
		P/hr	53 62	16.50	12 38	82.5
				139.91		
		.,	434116	137,71	107.74	099.0
	Total A	P/hr	1 970 44	606.29	151 71	Z 024 /
			1,910.40	000.29	424.74	3,031.4
)	LABOR:					
-	Foreman	P/hr.	-	22.50	-	22.5
-	Skilled Laborer		-			128.0
0	-Unskilled Laborers	P/hr.	· -	700.00		700.0
	Total B	P/hr,		850.50		850.5
	Total A+B	P/hr.	1,970.46	1,456,79	454.74	3.881.9
			·			
)	OUTPUT: 8 m ³ /hr.					
	3,881.99 P/hr.	: P/m ⁻ 3	246.31	182.10	56.84	485.2
	8 m ³ /hr.					
	ety i sa sa ar till i tigger i ligger					
)	MATERIALS:					
	Cement: 9 x P120	P/m^3	594.00	324.00	162.00	1,080.0
•		P/m^3	47.57	17.37	10.57	75.5
	C.A. : 0.8 x P179	P/m ³	94.51	27.21	21.48	143.2
	Lumber : 5.0 x P32	P/m ⁻ 3	40.00	96.00	24.00	160.0
	Nails : 3.0 x P22.50	P/m^3	47.93	6.75	12.82	67.5
	Incidentals 20% of the above	P/m ⁻ 3	167.17	92.27	45.80	305.2
	Total D	P/m ⁻ 3	991.18	563.60	276.67	1,831.4
					and the second	
)	DIRECT COST:	P/m^3	1,237.49	745.70	333.51	2,316.7
	Mobilization & Demobilization 2%	p/m^7	26 75	1/, 01	6,67	46.3
	Overhead, Contingencies & Hisc. 8%					
			86.62			-
	Value Added Tax 10%	r/m 3	123.75	14.37	33.35	231.6
	INIT COST.	p/m^7	1 571 61	947.04	423 54	2 942 2
	UNIT COST:	P/m^3	1,571.61	947.04	423.56	2,942.2

WORK ITEM: P2-3(2) Reinforcing Stee	t Bar	<u> </u>	UNIT COS	11 P331	ou/Kg.
PRICE COMPONENT	F.C.	L.C.	TAXES TOTA		
A) EQUIPMENT:					
		F 4F	5 6	0.70	40.70
1 -Bar Bender	P/hr.		2.40		
0.5-Bar Shear	P/hr.	8.85	4.05	4.80	17.70
	n ele -	47 00		7 55	28.00
Total A	P/hr	14.00	6.45	7.33	20.00
		' .			
3) LABOR:					
3) LABOR:	200			-	
.5-Foreman	P/hr.	-	33,75		33.75
i.5-roreman 5 -Skilled Laborers	P/hr.		80.00		80.00
5 -Unskilled Laborer	P/hr.		210.00		210.00
5 -Onskitted Laborei			2.0,00		
Total B	P/hr.		323.75		323.75
10161 5	1				
Total A+B	P/hr	14.00	330.20	7.55	351.75
10131 7	. ,		555125		
				. •	
C) OUTPUT: 125 kg./hr.					
	. *	2.5			
351.75 P/hr.	P/kg.	0.12	2.64	0.06	2.82
125 kg./hr.	,				
123 1317111					
) MATERIALS:					
Rebars: 1.05 x P22.50	P/kg.	11.82	9.22	2.59	23.63
		•			100
DIRECT COST:	P/kg.	11.94	11.86	2.65	26.45
(1) 1 (1) 1	1.1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Mobilization & Demobilization 2	% P/kg.	0.24	0.24	0.05	0.53
Overhead, Contingencies & Misc. 8				0.21	2.12
	% P/kg.		0.83	0.18	1.89
	% P/kg.		1.19		2.65
	•	100			12
F) UNIT COST:	P/kg.	15.17	15.07	3.36	33.60
			<u>: </u>		<u> </u>
PERCENTAGE:		45	45	10	100
and the second s					

	(1) RCPC 610	J mm	UNIT COST: P1,410.17/U						
PRICE COMPO	DNENT		P/UNIT	F.C.	L.C.	TAXES	TOTAL		
A) EQUIPMENT:				·			-		
1 - Vibratory F	Roller		P/br	462.12	142.19	106.64	710.95		
1 - Dump Truck		: 1		329.49					
0.5-Backhoe Cra				182.39					
	10% of the	above							
	Total:	A	P/hr.	1,071.40	329.66	247.25	1,648.3		
			-						
B) LABOR:									
0.5-Asst. Fore	nan		P/hr.	-	11.25	•	11.2		
2 - Skilled Lab	oorers		P/hr.	-	32.00		32.00		
3 - Unskilled I	Laborers		P/hr.		42.00		42.00		
			·						
	Total	В	P/hr.		85.25		85.2		
	Total	A + B	P/hr.	1,071.40	414.91	247.25	1,733.5		
	*								
c) output: 3 d	n/hr.						-		
1,733.56 P	/hr.		P/m	357.13	138.30	82.42	577.8		
3 m/hr.	•								
	•								
D) MATERIALS:									
RCPC : 1 x	P494	2.54	P/m	271.70	148.20	74.10	494.0		
	ut: 0.011 x P		P/m	13.13	7.16	3.58	23.8		
	Total	D ·	P/m	284.83	155.36	77.68	517.8		
		•							
E) DIRECT COS	T:		P/m	641.96	293.66	160.10	1,095.7		
	0 Dbili		D (ci	12 9/	E 97	z 20	21 0		
the second of the second of the second	on & Demobili		100	12.84	5.87	3,20	21.9		
and the second second	Contingencies			51.35		12.81	87.6		
Contractor		7%		44.94	20.55	11.21	76.7		
Value Adde	d Tax	10%	P/m	75.11	34.35	18.73	128.1		
F) UNIT COST:			P/m	826.20	377.92	206.05	1,410.1		
			<u> </u>	<u> </u>					

) (.5-	PRICE COMPONENT EQUIPMENT: Vibratory Roller, 175 HP Dump Truck, 190 HP Backhoe Crawler, 82 HP Minor tools 10% of the above Total A LABOR: Asst. Foreman Skilled Laborers Unskilled Laborers	P/hr. P/hr. P/hr. P/hr. P/hr. P/hr.	462.00 329.49 182.39 2.73	56.12 0.84	106.00 76.03 42.09 0.63	710.00 506.90 280.60 4.20 1,501.70
- .5- 	Vibratory Roller, 175 HP Dump Truck, 190 HP Backhoe Crawler, 82 HP Minor tools 10% of the above Total A LABOR: Asst. Foreman Skilled Laborers Unskilled Laborers	P/hr. P/hr. P/hr. P/hr. P/hr.	329.49 182.39 2.73	101.38 56.12 0.84 300.34	76.03 42.09 0.63	506.90 280.60 4.20 1,501.70
- .5- 	Dump Truck, 190 HP Backhoe Crawler, 82 HP Minor tools 10% of the above Yotal A LABOR: Asst. Foreman Skilled Laborers Unskilled Laborers	P/hr. P/hr. P/hr. P/hr. P/hr.	329.49 182.39 2.73	101.38 56.12 0.84 300.34	76.03 42.09 0.63	506.90 280.60 4.20 1,501.70
- .5- 	Dump Truck, 190 HP Backhoe Crawler, 82 HP Minor tools 10% of the above Yotal A LABOR: Asst. Foreman Skilled Laborers Unskilled Laborers	P/hr. P/hr. P/hr. P/hr. P/hr.	329.49 182.39 2.73	101.38 56.12 0.84 300.34	76.03 42.09 0.63	506.90 280.60 4.20 1,501.70
.5~	Backhoe Crawler, 82 HP Minor tools 10% of the above Total A LABOR: Asst. Foreman Skilled Laborers Unskilled Laborers	P/hr. P/hr. P/hr. P/hr.	182.39 2.73	56.12 0.84 300.34	42.09 0.63	280.60 4.20 1,501.70
.5~	Minor tools 10% of the above Total A LABOR: Asst. Foreman Skilled Laborers Unskilled Laborers	P/hr. P/hr. P/hr.	2.73	0.84 300.34 9.50	0.63	4.20 1,501.70
.5~	Total A LABOR: Asst. Foreman Skilled Laborers Unskilled Laborers	P/hr. P/hr.	976.61	9.50	224.75	
.5~	LABOR: Asst. foreman Skilled Laborers Unskilled Laborers	P/hr. P/hr.	976.61	9.50	224.75	
.5~	Asst. foreman Skilled Laborers Unskilled Laborers	P/hr.			jeve e j	
.5~	Asst. foreman Skilled Laborers Unskilled Laborers	P/hr.			(ever)	
.5~	Asst. foreman Skilled Laborers Unskilled Laborers	P/hr.	<u>.</u>		in the second	
	Skilled Laborers Unskilled Laborers	P/hr.	<u>.</u>			100
	Skilled Laborers Unskilled Laborers	P/hr.	-		. - (1 1)	
	Unskilled Laborers	•		32.00		9.50
		P/hr.			-	32.00
	Total R		- · ·	42.00	· -:	42.00
	, , , , , ,	P/hr.	2	83.50	: ::	83.50
	Total A+B	P/hr.	976.61	383.84	224.75	1,585.20
				-		
)	OUTPUT: 2.60 m/hr.			. ' -		
	1,585.20 P/hr.	P/lm.	357.62	147.63	86.44	591.69
	2.60 m/hr.					
			•			
)	MATERIALS:					
,	MIERIALS.	•				•
	RCPC: 1 x P878.00	P/lm.	482.90	263.40	131.70	878.00
	Cement Grout: 0.016 x P2,170	P/lm.	19.10	10.42	5.20	34.72
	y y e o a Tojt ya ljoe ⊅	P/lm.	502.00	273.82	136.90	912.72
)	DIRECT COST:	P/lm.	877.62	421.45	223.34	1,522.41
1	Mobilization & Demobilization 2%	P/lm.	17.55	8.42	4.47	30.44
1	Overhead, Contingencies & Misc. 8%	P/lm.	70.20	33.72	17.87	121.79
į	Contractor's Profit 7%	P/lm.	61.43	29.51	15.63	106.57
		P/lm.	102.68	49.31	26.13	178.12
				-	: 1	
) ,	UNIT COST:	P/lm.	1,129.48	542.41	287.44	1,959.33
		·				100

#UK	K ITEM: P2-4(3) RCPC 1220 mm		1: 72,9	950.85/lm.		
- 4	PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A)_	EQUIPMENT:					
1 -	Vibratory Roller, 175 HP	P/hr.	462,12	142.19	106.64	710.95
	Dump Truck, 190 HP		329.49		76.04	
	-Beckhoe Crawter, 82 HP	P/hr.	182.39			
	Minor tools 10% of the above	P/hr.	97,34			
	Total A	P/hr.	1,071.34	329.64	247.23	1,648,21
3)	LABOR:					
),5	-Asst. Foreman	P/hr.	-	8.00	_	8.00
3 -	Skilled Laborers	P/hr.	-	48.00	_	48.00
	Unskilled Laborers	P/hr.	-	70.00		70.00
	Total B	P/hr.		126.00	÷	126.00
			1 074 7/		1/7 17	
	Total A+B	P/Ar.	1,071.34	455.04	247.23	1,774.21
(2)	CUTPUT: 20 m/hr.					
	1,774.21 P/hr.	P/lm,	.535.67	227.82	123.61	887.10
	20 m/hr.					
0)	MATERIALS:					
	aras . 1 v p4 707	D/lm	744 15	£17 00	208.05	1 303 00
	RCPC : 1 x P1,393	P/lm. P/lm.	23.87	417.90 13.02	6.51	1,393.00 43.40
	Cement Grout: 0.020 x P2,170	r/tm.	43.01	13.02	0.01	43.40
	Total D	P/lm.	790.02	430.92	215.46	1,436.40
						-
E) _.	DIRECT COST:	P/lm.	1,325.69	658.74	339.07	2,323.50
	Mobilization & Demobilization	2% P/lm.	26.51	13.17	6.79	46.47
	Overhead, Contingencies & Misc.		106.06	52.70	27.12	
	Contractor's Profit	7% P/lm.	92.80	46.11	23.74	
	and the second s	10% P/lm.	132.57	65.87	33.91	232.35
	INIT CONT.	· 6/1	1 /07 /7	974 50	130 (7	2 050 05
F) '	UNIT COST:	P/lm.	1,683.63	אכיסנט	430.03	2,950.85
	PERCENTAGE:		57	28	15	100

WORK ITEM: P2-5(1) Catch Basin for	r 610 mm UNIT COST: P5,751.17/eac				
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES TOTAL	
) MATERIALS:					
Concrete Quantity: 2.10 m ³ /each Concrete (Class A): 2.10x2,608.24 Others 5% of the above	P/each	-		766.82 5,477.30 38.34 273.87	
UNIT COST:	P/each	3,105.63	1,840.38	805.16 5,751.17	
PERCENTAGE:		54	32	14 100	

WORK ITEM: P2-5(2) Catch Basin for	910 mm	ń	UNIT COST: P7,531.23/eac		
PRICE COMPONENT	P/UNI1	F.C.	L.C.	TAXES	TOTAL
A) MATERIALS:				***	
Concrete Quantity: 2.75 m ³	P/m^3	-	. : •	•	-
Concrete (Class A): 2.75x2,608.24	P/m^3	3,873.20	2,295.23	1,004.17	7,172.60
Others 5% of the above	P/m ³	193.66	114.76	50.21	358.63
B UNIT COST:	P/m^3	4,066.86	2,409.99	1,054.38	7,531.23
PERCENTAGE:		54	32	14	100

WORK ITEM: P2-5(3) Catch Basin fo	r 1070 i	mm	UNIT COS	T: P8,791	.07/m ³
PRICE COMPONENT	P/UNI	r F.C.	L.C.	TAXES	TOTAL
A) MATERIALS:					
Concrete Quantity: 3.21 m ³ Concrete (Class A): 3.21x2,608.2	P/m^3 4 P/m^3		2,679.18	1.0	
Others 5% of the above	P/m^3	226.05	133.96	58.61	418.62
B UNIT COST:	P/m^3	4,747.17	2,813.14	1,230.76	8,791.07
PERCENTAGE:		54	32	14	100

WORK ITEM: P2-5(4) Catch Basin for	l: P2-5(4) Catch Basin for 1220 nm				
PRICE COMPONENT	P/UNI	r F.C.	L.C.	TAXES	TOTAL
A) MATERIALS:					
Concrete Quantity: 3.98 m 3	P/m13	. <u>-</u>	. •	· · · · · · · · · · · · · · · · · · ·	· ; •
Concrete (Class A): 3.98x2,608.24	P/m^3	5,760.37	3,413.56	1,493.43	10,667.36
Others 5% of the above	P/m^3	288.02	170.68	74.67	533.37
B UNIT COST:	P/m^3	6,048.39	3,584.24	1,568.10	11,200.73
PERCENTAGE:		54	32	14	100

-	PRICE COMPONENT		P/UNIT	F.C.	L.C.	TAXES	TOTAL
>	EQUIPMENT:	,					
-	Boring Machine		P/hr.	780.00	240.00	180.00	1,200.00
	Minor tools 10% of t	inskilled aborer	P/hr.	5.46	1.68	1.26	8.40
	Total	. A	P/hr.	785.46	241.68	181.26	1,208.40
		**					
							• • •
)	LABOR:				r		
	Foreman		P/hr.		22.50	_	22.50
	Skilled Laborers		P/hr.	_	32.00		32.00
	Unskilled Laborers		P/hr.		84.00	-	84.00
	Total	, В	P/hr.		138.50		138.50
	Total	, A + B	P/hr.	785.46	380.18	181.26	1,346.90
)	OUTPUT: 3.0 lm/hr. 1,346.90 P/hr. 3.0 lm/hr.	· ·	P/lm.	261.82	126.73	60.42	448.97
)	MATERIALS:						
	Steel Pipe: 0.17 pcs	s/lm.		:			
	x P866.3		P/lm.	106.03	14.73	26.51	147.27
	Total	D	P/lm.	106.03	14.73	26.51	147.27
		-		•			
)	DIRECT COST:		P/lm.	367.85	141.46	86.93	596.24
	Mobilization & Demo.	. 2%	P/lm.	7.36	2.83	1.73	11.92
	Overhead, Cont's & F	lisc. 8%	P/lm.	29.43	11.32	6.95	47.70
	Contractor's Profit	7%		25.75	9.90	6.08	41.73
	Value Added Tax	10%	P/lm.	43.04	16.55	10.17	69.76
	•		-			*	
)	UNIT COST:		P/lm.	473.43	182.06	111.86	767.35
	······································	···			29	14	100

PRICE COMPONENT P/UNIT F.C. L.C. TAXES TOTA								
PRICE COMPONENT	P/UNIT	f.C.	L.C.	TAXES	TOTAL			
) EQUIPMENT:		•						
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00			
Total A	P/hr.	9.10	2.80	2.10	14.00			
) LABOR:								
- Asst. Foreman	P/hr.	-	19.00	-	19.00			
O-Unskilled Laborers	P/hr.	-	140.00	: •	140.00			
Total 8	P/hr.		159.00		159.00			
Total A+B	P/hr.	9.10	161.80	2.10	173.00			
) OUTPUT: 20 m^2/hr.								
) 001r01. 20 m 2/m .				•				
173.00 P/hr. 20 m ² /hr.	P/m ⁻ 2	0.46	8.09	0.10	8.65			
) MATERIALS:								
Seed	P/m 2	1.25	3.00	0.75	5.00			
Fertilizer: 0.02 bag/m ² xP500/bag			6.00	1.50	10.00			
Cogon mat: 2 bundles/m^2xP5/bundle			10.00	•	10.00			
Incidental 5% of the above	P/m^2	0.65	0.20	0.15	1.00			
Yotal D	P/m^2	4.40	19.20	2.40	26.00			
) DIRECT COST:	P/m*2	4.86	27.29	2.50	34.65			
	r/m z	4.90	Er.E7		J-1.03			
Mobilization & Demobilization 2%	P/m ²	0.10	0.55	0.04	0.69			
Overhead, Contingencies & Misc. 8%			2.18		2.77			
	P/m ²	0.34			2.43			
Value Added Tax 10%	P/m 2	0.49.	2.73	0.25	3.47			
) UNIT COST:	P/m 2	6.18	34.66	3.17	44.01			
PERCENTAGE:		12	82	6	100			

,		 -		<u> </u>	.20/m^2	
	PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A)	EQUIPMENT:					
	Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
	Total	P/hr.	9.10	2.80	2.10	14.00
3)	LABOR:			•	٠	
i -	Foreman	P/hr.		22.50	-	22.50
		P/hr.		64.00	. •	64.00
	-Unskilled Laborers	P/hr.	-	140.00	-	140.00
	Total 8	P/hr.	• .	226.50		226.50
	Total A+8	P/hr.	9.10	229.30	2.10	240.50
	. •					
٠,	CUTPUT: 2.0 m ² /hr.		•			
	2011 201 20 20 20 20 20 20 20 20 20 20 20 20 20					4
		P/m 2	4.55	114.65	1.05	120.25
	2.0 m ⁻ 2/hr.					
				·		
)	MATERIALS:					
	Fertilizer: 0.01 bag/m ² x P500/b.	P/m^2	1.25	3.00	0.75	5.60
	Territoria area media e a tanata		,,,,			
	Total D	P/m 2	1.25	3.00	0.75	5.00
				. 4		
(3	DIRECT COST:	P/m 2	5.80	117.65	1.80	125.25
	Mobilization & Demobilization 2%	P/m^2	0.12	2.35	0.04	2.51
	Overhead, Contingencies & Misc. 8%				0.14	10.01
	Contractor's Profit 7%	P/m 2	0.41	8.24	0.13	8.78
	Value Added Tax 10%	P/m 2	0.68	13.76	0.21	14.65
				: .	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	$\mathcal{L}^{(k)}(\mathcal{A}) = \mathcal{L}^{(k)}(\mathcal{A}) + \mathcal{L}^{(k)}(\mathcal{A}) + \mathcal{L}^{(k)}(\mathcal{A}) + \mathcal{L}^{(k)}(\mathcal{A})$	+ 1		*.	7 7 7 7 7	
)	UNIT COST:	P/m^2	7.47	151.41	2.32	161.20
	PERCENTAGE:		5	94	1	100

WORK ITEM NO.:	P4-8 Wattli			UNIT COST: P391.55/lm.				
PRICE COMPO	NENT		P/UNIT		L.C.	TAXES	TOTAL	
A) EQUIPMENT:					gienn des , un'une enn en 8 declie en en Bristo bes			
Minor tools	10% of Unsk.	Laborer	P/hr.	9,10	2.80	2,10	14.00	
	rotal	A	P/hr,	9.10	2.60	2.10	14.09	
				•				
B) LABOR:								
- Foreman	4		P/hr.		22.50	34	22.50	
4- Skilled Lab	xorers		P/hr,	٠	64.00	-	64.00	
10-Unskilled l	aborers		P/hr.	•	140.00		140.00	
	Total	В	P/hr.		226.50		226.59	
	Total	A + B	P/hr.	9.10	229.30	2.10	240.50	
OUTPUT: 1.0	lm/hr.							
240.50 P/hr			P/lm.	9.10	229.30	2.10	240.50	
) MATERIALS:	. *	e e						
Peg : 2.67	bd/lm. x P22/	bd. ft.	P/la.	14.68	35.24	8.81	58.73	
The second secon) bundels/lm >						5.00	
	Total	D	P/lm.	14.68	46.24	8.81	63.7	
E) DIRECT COST	f: The state of th		P/im.	23.78	269.54	10.91	304.23	
M obilizatio	on & Demobilia	ation 2%	P/la.	0.48	5.40	0.22	6.10	
	Contingencies	& Misc. 8%	P/lm.	1.90	21.56	0.87	24.3	
Contractor'	s Profit	7%	P/lm.	1,66	18,87	0.76	21.29	
Value Added	i Tax	10%	P/lm.	2.78	31.54	1.28	35.60	
					* 1			
F) UNIT COST:			P/lm.	30.60	346.91	14.04	391.5	
PERCENTAGE:				8	88	4	100	

WORK ITEM: P5-3 Stone Pitching			UNIT COS	T: 21,32	26.00/m ³
PRICE COMPONENT	P/UNIT	F.C.	ı.c.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% Labor	P/hr.	14.94	6.22	3.74	24.90
rotal A	P/hr.	14.94	6.22	3.74	24.90
22 L 2000 -					
3) LABOR:					
2 -Foreman	P/hr.	-	45.00	-	45.00
4 -Skilled Laborers	P/hr.	-	64.00	: • ,	64.00
10-Unskilled Laborer	P/hr.		140.00	i e	140.00
Total B	P/hr.	÷	249.00		249.00
Total A+B	P/hr.	14.94	255.22	3.74	273.90
				-	
:) OUTPUT: 3.0 m ⁻ 3/hr.					
<u>273.90 P/hr.</u> 3.0 m ² 3/hr.	P/m 3	4.98	85.07	1.24	91.29
3.0 m 3, 2					
) MATERIALS:					1000
			5		456.00
					45,30
Boulders: 1.0 x P393	· ·				393.00 44.71
Incidental 5% of the above	· P/N 3	24.11	13,20	. 0.00	44.77
Total D	P/m^3	520.26	278.38	140.37	939.01
, , , , ,	; / III 3	20.20	210,50	140.51	,3,,00
		:			
) DIRECT COST:	P/m^3	525.24	363.46	141.61	
Mobilization & Demobilization 23	% P/m 3				
Overhead, Contingencies & Misc. 83					
			25.44		
			42.52		
			:	:	the theory of
	, į	2. 22			1.00
) UNIT COST:	P/m^3	675.98	467.77	182.25	1,326.00
		51	35	14	

IORK	ITEM: P6-2 Grouted Riprap	UNIT COST: P1,326.00/m13				
Р	RICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
4) E	QUIPMENT:			~···		
М	inor tools 10% Labor	P/hr.	14.94	6.22	3.74	24.90
	Total A	P/hr.	14.94	6.22	3.74	24.90
			*			
s) E	ABOR:					
		D. /b -		/F 60		(£ 0)
	oreman	P/hr.		45.00	-	45.00
	killed Laborers	P/hr.		64.00	•	64.00
0-0	nskilled Laborer	P/hr.	-	140.00		140.00
	Total B	P/hr.		249.00		249.00
	Total A+B	P/hr.	14.94	255.22	3.74	273.90
;) 0	UTPUT: 3.0 m ⁻ 3/hr.					
	73.90 P/hr. .0 m ⁻ 3/hr.	P/m^3	4.98	85.07	1.24	91.29
)) H	ATERIALS:					
C	ement: 3.80 x P120	P/m^3	250.80	136.80	68.40	456.00
	.A. : 0.30 x P151	P/m^3				
	oulders: 1.0 x P393	-		117.90	58.95	393.00
	ncidental 5% of the above	P/m 3		13.26		
	Total D	P/m^3	520.26	278.38	140.37	939.0
) D	IRECT COST:	P/m^3	525.24	363.46	141.61	1,030.3
Ņ	obilization & Demobilization 7	2% P/m^3	10.50	7.27	2.83	20.6
·C	verhead, Contingencies & Misc. (3% P/m^3	42.02	29.08	11.33	82.43
		7% P/m^3	36.77	25.44	9.91	72.17
		0% P/m^3	61.45	42.52	16.57	
F) (INIT COST:	P/m ⁻ 3	675.98	467.77	182.25	1,326.0
F	PERCENTAGE:		51	35	14	100

ORK ITEM: P6-4(1) Structure Excava	t (on		NIT COST	. FO7.77	7(B) 3
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
) EQUIPMENT:					N: -
- Dump Truck, 190 HP	P/hr.	329.49	101.38	76.04	. : 506.91
- Backhoe Crawler, 100 HP	P/hr.	456.37	140.42	105.32	702.11
Minor tools 10% of unskilled		100			
laborer	P/hr.	7.28	5.04	1.68	14.00
Total A	P/hr.	793.14	246.84	183.04	1,223.02
) LABOR:					
- Asst. Foreman	P/hr.	•	19.00	-	19.00
- Skilled Laborers	P/hr.	-	32.00	-	32.00
O-Unskilled Laborer	P/hr.	-	140.00	-	140.00
	÷				
Total B	P/hr.	•	191.00		191,00
Total A+B	P/hr.	793.14	437.84	183.04	1,414.02
OUTPUT: 20 m^3/hr.					
1,414.02 P/hr. 20 m ⁻ 3/hr.	P/m ³	36.76	25.45	8.49	70.70
zo m synt.				<i>*</i> •	
	· ·		A, 4 4		
DIRECT COST:	P/m ³	36.76	25.45	8.49	70.70
	P/m*3	0.74	0.51	0.16	
Overhead, Contingencies & Misc. 8%		2.94	2.04	0.68	
Contractor's Profit 7%		2.57	1.78	0.60	4.95
Value Added Tax 10%	P/m^3	3.68	2.55	0.84	7.07
ering a state of the state of	111	1.1			
) UNIT COST:	P/m ³	46.69	32.33	10.77	89.79
PERCENTAGE:	1 1 1	52	36	12	100

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
) EQUIPMENT:					
- Concrete Batching Plant	P/hr.	950.95	292.60	219.45	1,463.00
- Wheel Loader	P/hr.	294.26	90.54		
- Water Tank Truck	:P/hr.	216.91	66.74	50.06	333.7
- Concrete Mixers	P/hr.	53.62	16.50	12.38	82.50
Minor tools 30% of the above		454.72		104.94	
Total A	P/hr.	1,970.46	606.29	454.74	3,031.4
			٠		
) LABOR:					
ett ag tallig i skriver og er					
- Foreman	P/hr.		22.50		22.5
- Skilled Laborer	P/hr.		128.00		128.0
O-Unskilled Laborers	P/hr.	•	700.00		700.0
Total B	P/hr.		850.50		850.5
Total A+B	P/hr.	1,970.46	1,456.79	454.74	3,881.9
				1	
) OUTPUT: 8 m^3/hr.					
= -004 -00d			400.40	F (a)	
3,881.99 P/hr.	P/M 3	240.31	182.10	20.84	485.2
8 m ³ /hr.	er a				
N MATERIAL O-					
) MATERIALS:					
0 - 0400	D /- 27	FO(00	777 00	467.00	1 000 0
Cement : 9 x P120		594.00			1,080.0
F.A. : 0.5 x P151	P/m^3			10.57	75.5
C.A. : 0.8 x P179	P/m^3			21.48	
Lumber : 5.0 x P32			96.00		
Nails : 3.0 x P22.50			6.75		67.5
Incidentals 20% of the above	P/m13	167.17	92.27	45.80	305.2
Total D	: P/m ³	991.18	563.60	276.67	1,831.4
Algebra de la composición del composición de la composición del composición de la co					•
) DIRECT COST:	P/m^3	1,237.49	745.70	333.51	2,316.7
		.			
Mobilization & Demobilization					
Overhead, Contingencies & Misc					
Contractor's Profit	7% P/m ³				
Value Added Tax	10% P/m ³ .	123.75	74.57	33.35	231.6
		:			
) UNIT COST:	P/m^3	1,571.61	947.04	423.56	2,942.2

WORK ITEM: P6-4(3) Grouted Riprap		UNIT COST: P1,326.00/m'3					
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL		
A) EQUIPMENT:			<u>,</u>				
Minor tools 10% Labor	P/hr.	14.94	6.22	3.74	24.90		
Total A	P/hr.	14.94	6.22	3.74	24.90		
B) LABOR:		1.4					
2 -Foreman	P/hr.	*	45.00	-	45.00		
4 -Skilled Laborers	P/hr.	-	64.00	•	64.00		
10-Unskilled Laborer	P/hr.	-	140.00		140.00		
$(x_{ij} + x_{ij}) = (x_{ij} + x_{ij}) = (x_{$							
Total B	P/hr.		249.00		249.00		
		4/ 0/	255 22	9 77/	222 00		
Total A+B	P/hr.	14.94	255.22	3.74	273.90		
	-						
c) OUTPUT: 3.0 m ⁻³ /hr.							
27 00 (FO) 1. 3.0 m 3/m .							
273.90 P/hr. 3.0 m ³ /hr.	P/m*3	4.98	85.07	1.24	91.29		
					ega Elli		
) MATERIALS:							
Cement: 3.80 x P120	D/m°Z	250.80	136.80	68.40	456.00		
F.A. : 0.30 x P151	P/m ³ P/m ³	28.54	10.42	6.34	45.30		
Boulders: 1.0 x P393	P/m^3	216.15	117.90	58.95			
Incidental 5% of the above	P/m^3	24.77	13.26	6.68	44.71		
The defical Sw of the above	17111 3	2,7111	15.20	0.00	*****		
Total D	.P/m*3	520.26	278.38	140.37	939.01		
		1,	*		5.9		
and the state of the state of the state of	W.			e de la companya de l	1 1 4		
DIRECT COST:	P/m^3	525.24	363.46	141.61	1,030.31		
化多二硫磺二甲基氯二酰基酚二溴酚		: *	1.	124	180		
Mobilization & Demobilization 2	% P/m^3	10.50	7.27	2.83			
Overhead, Contingencies & Misc. 8			29.08				
	% P/m^3		25.44				
Value Added Tax 10	% P/m^3	61.45	42.52	16.57	120.54		
		1 1					
n. 101 000-	64-17	(7E 00	//*	100.05	4 707 00		
F) UNIT COST:	P/m^3	675.98	467.77	182,25	1,326.00		
PERCENTAGE:		51	35	14	100		

WORK ITEM: P6-5(1) Recutting (Common)			UNIT COST: P58.30/m ³			
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL	
A) EQUIPMENT:						
1- Wheel Loader, 80 HP	P/hr.	294.26	90.54	67,91	452.71	
2- Dump Truck, 190 HP	P/hr.	658.98	202.76	152.08	1,013.82	
Minor tools 10% of unskilled					•	
laborer	P/hr.	9.10	2.80	2.10	14.00	
Total A	P/hr.	962.34	296.10	222.09	1,480.53	
B) LABOR:						
1 Faraman	D./L	."	22.50		22.50	
1- Foreman 10-Unskilled Laborer	P/hr.	-	22.50	-	22.50	
10-Unskilled Laborer	P/hr.	•	140.00	-	140.00	
Total 8	P/hr.		162.50		162.50	
Total A+8	P/hr.	962.34	458.60	222.09	1,643.03	
C) OUTPUT: 60 m ⁻ 3/hr.			٠			
1,643.03 P/hr. 60 m ⁻ 3/hr.	P/m^3	27.69	11.23	6.39	45.30	
		27.40	44.07		45.30	
D) DIRECT COST:	P/m ³	27.69	11.23	6.39	45.30	
Mobilization & Demobilization 2%	P/m ⁻ 3	0.55	0.22	0.13	0.90	
Overhead, Contingencies & Misc. 8%	P/m^3	2.22	0.90	0.51	3.63	
Contractor's Profit 7%	P/m ² 3	1.94	0.79	0.44	3.17	
Value Added Tax 10%	P/m^3	3.24	1.31	0.75	5.30	
·····································		٠.	-			
E) UNIT COST:	P/m^3	35.64	14.45	8.22	58.30	
PERCENTAGE:		61	25	14	100	

PRICE COMPONENT		P/UNIT	F.C.	L.C.	TAXES	TOTAL
) EQUIPMENT:						
Concrete Batching Plant		P/hr.		100	219.45	A CONTRACTOR OF THE PARTY OF TH
- Wheel Loader			294.26	90.54		
Water Tank Truck		P/hr		66.74		333.7
Concrete Mixers		-	53.62			4.5
Minor tools 30% of the above		P/hr	454.72	139.91	104.94	699.5
			•		-	
Total A		P/hr	1,970.46	606.29	454.74	3,031.4
) LABOR:						
Faucasa		P/hr.	_	22.50	· · · · ·	22.5
- Foreman - Skilled Laborer	٠	P/hr.		128.00	-	128.0
	•	P/hr.	_	700.00		700.0
J-Unskilled Laborers		7/11		100.00		100.0
rotal B		P/hr		850.50		850.5
Total A+B		P/hr.	1,970.46	1,456.79	454.74	3,881.9
OUTPUT: 8 m^3/hr.						- 114
,					٠.	
3,881.99 P/hr.		P/m^3	246.31	182.10	56.84	485.2
8 m ³ /hr.			100			1 - 1
						* * *
	15. J		1.0		4.5	
MATERIALS:	.*					1 1 1
	.=	* .		5,776,000		
Cement : 9 x P120		P/m ³	594.00		162.00	
F.A. : 0.5 x P151		P/m ⁻ 3	47.57		10.57	75.5
C.A. : 0.8 x P179		P/m ³	94.51	27.21		143.2
Lumber: 5.0 x P32		P/m 3	40.00	96.00		
Nails : 3.0 x P22.50		P/m ³	47.93			67.5
Incidentals 20% of the above		P/m ³	167.17	92.27	45.80	305.2
Total D		P/m^3	991.18	563.60	276.67	1,831.4
10 Cac D	•		,,,,,	303.00	210101	1,03
DIRECT COST:		P/m ³	1,237.49	745.70	333.51	2,316.7
Mobilization & Demobilization	20/	D/m17	2/ 7F	14.91	6.67	46.3
Overhead, Contingencies & Misc		P/m ² 3	24.75			
Contractor's Profit		P/m 3	86.62	59.66 52.20		and the second second
Value Added Tax		P/m ² 3	123.75	74.57		
FORME PHANCE I DA	10/1	1 / 101	ل و د سکو	17.21	زی و در	L-71 - E
				100	102.20	
) UNIT COST:		P/m^3	1,571.61	947.04	423.56	2,942.2

HOR	K ITEM: P6-5(3) Ladder Foundation	n :		UNIT COS	Υ: P132.	11/m^2
	PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A)	EQUIPMENT:	···				
	Minor tools 10% of Unsk. Laborer	P/hr.	3.64	1.12	0.84	5.60
	Total A	P/hr.	3.64	1.12	0.84	5.60
	engan kalawa Kingga					
3)	LABOR:					
- ا	Foreman	P/hr.	-		-	22,50
2 ~.	Skilled Laborers	P/hr.	-	32.00	-	32.00
-	Unskilled Laborers	P/hr.	-	56.00	-	56.00
	Total B	P/hr.		110.50		110.50
	Total A+B	P/hr.	3.64	111.62	0.84	116.10
					٠.	
2)	OUTPUT: 4.0 m ² /hr.					
	116.1 P/hr. 4.0 m ² /hr.	P/m^2	0.91	27.91	0.21	29.0
						:
	MATERIALS:					
					:	
	Coco Lumber: 15 bd.ft/mxP5.0/bd.ft	P/m^2	18.75	45.00	11.25	75.00
	Total D		18.75	45.00	11.25	75.00
E)	DIRECT COST:	P/m^2	19.66	72.91	11.46	104.03
٠.						
	Mobilization & Demobilization 2%					
	Overhead, Contingencies & Misc. 8% Contractor's Profit 7%	P/m 2	1.57 1.38	5.83 5.10	0.92 0.80	8.32 7.28
		P/m 2	1.96	7.29		10.40
			•			•
	HULT COST.	D/m^2	2/, 07	02.50	1/, 55	172 14
r)	UNIT COST:	P/m^2	24.97	92.59	14.55	132.1
	PERCENTAGE:		20	70:	10	100

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
) EQUIPMENT:					
- Concrete Batching Plant	P/hr.	950.95	292.60	219.45	1,463.00
- Wheel Loader			90.54	67.91	452.7
- Water Tank Truck		4 4 4	66.74		
- Concrete Mixers		53.62			82.5
Minor tools 30% of the above	-		139,91		
	·				1.
Total A	P/hr.	1.970.46	606,29	454.74	3.031.4
LABOR:				-	
	4.4	*:			
Foreman	P/hr.	-	22.50		22.5
- Skilled Laborer	P/hr.		128.00	. •	128.0
)-Unskilled Laborers	P/hr.		700.00	-	700.0
					•
Total 8	P/hr.		850.50	7.1	850.5
rsp` Total 'A,€B	P/hr.	1,970.46	1,456.79	454.74	3,881.9
					:
OUTPUT: 8 m ³ /hr.					
7 084 00 0 4	D 4-27	7// 71	182.10	E	485.2
3,881.99 P/hr. 8 m^3/hr.	P/m^3	240.31	102.10	20.04	465.2
MATERIALS:					
0		50, 00	73/ 00	162.00	4 000 0
Cement : 9 x P120	P/m ² 3		17.37		
F.A. : 0.5 x P151		94.51		21.48	
. C.A. : 0.8 X P179	P/m ³				160.0
Lumber: 5.0 x P32 Nails: 3.0 x P22.50	P/m ² 3	40.00		12.82	
Incidentals 20% of the above	P/m^3	47.93 167,17	92.27		305.2
The identates 20% of the above	r/m 3	101, 11	76.61	45.00	303,2
Total D	P/m^3	991.18	563.60	276.67	1,831.4
					• • •
DIRECT COST:	P/m^3	1,237.49	745.70	333.51	2,316.7
	. , , , ,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			.,
Mobilization & Demobilization	2% P/m^3	24.75	14.91	6.67	46.3
Overhead, Contingencies & Misc.	8% P/m^3	99.00	59.66	26.68	185.3
Contractor's Profit	7% P/m^3	86.62	52.20	23.35	162.1
Value Added Tax	10% P/m^3	123.75	74.57		231.6
·	•		•		
		1 :		•	112
UNIT COST:	P/m^3	1,571.61	947.04	423.56	2,942.2

WORK ITEM: P6-9(1) Gabion Wall		UNIT COST: P1,424.71/m					
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL		
A) EQUIPMENT:							
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00		
Total A	P/hr.	9.10	2.80	2.10	14.00		
3) LABOR:							
1 -Foremen	P/hr.		22.50		22.50		
10-Unskilled Laborer	P/hr.	•	140.00	-	140.00		
Total B	P/hr.		162.50		162.50		
Total A+B	P/hr.	9.10	165.30	2.10	176.50		
C) OUTPUT: 2 m^3/hr.				•			
176.50 P/hr. 2 m^3/hr.	P/m^3	9.10	165.30	2.10	176.50		
) MATERIALS:							
Wire Mesh: 1.60 roll/m ⁻³		•					
x P585/roll	P/m^3	450.45	245.70	122.85	819.00		
Stone: 1 x 102.30	P/m^3	56.27	30.69	15.34	102.30		
Incidentals 1% of the above	P/m ³	5.07	2.76	1.38	9.21		
1 otal D	P/m ⁻³	511.79	279.15	139.57	930.51		
E) DIRECT COST:	P/m~3	520.89	444.45	141.67	1,107.01		
Mobilization & Demobilization 2%	P/m^3	10.42	8.89	2.83	22.14		
Overhead, Contingencies & Misc. 8%							
· · · · · · · · · · · · · · · · · · ·		36.46		9.92			
Value Added Tax 10%	P/m ⁻ 3	60.94	52.00	16.57	129.51		
F) UNIT COST:	P/m ⁻ 3	670.38	572.01	182.32	1,424.71		
PERCENTAGE:		47	40	13	100		

WORK ITEM: P6-9(2) Permeance Mat UNIT COST: P34.11/m								
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL			
A) EQUIPMENT:								
			_					
Yotal A	P/hr.			<u>.</u> .				
TO Cat A	.,							
3) LABOR:			•					
					* *			
i- Foreman	P/hr.		22.50	-	22.50			
2- Unskilled Laborers	P/hr.	•	28.00	· -	28.00			
				100				
Total B	P/hr.		50.50		50.50			
Total A+B	P/hr.		50.50		50.50			
		٠						
c) OUTPUT: 10 m ² /hr.								
50 50 0/hm	P/m^2		5.50	_	5.50			
50.50 P/hr. 10 m²2/hr.	1701 €		3.30		5.5 0			
10 m 2/m 1								
) MATERIALS:					. · · ·			
	÷							
Sack Cioth: 2 bags/m ⁻² x P10/bag	P/m^2	5.00	12.00		20.00			
Incidentals 5% of the above	P/m^2	0.25	0.60	0.15	1.00			
(x,y) = (x,y) + (x,y				1				
Total D	P/m12	5.25	12.60	3.15	21.00			
	- : :-		40.40		24 50			
) DIRECT COST:	P/m^2 -	5.25	18.10	3.15	26.50			
Mobilization 2 Danabilization 20	D/m^2	0 11	n 74	0.86	በ የ7			
Mobilization & Demobilization 2% Overhead, Contingencies & Misc. 8%			0.36	0.25	0.53 2.12			
Contractor's Profit 7%	4 4			0.23				
	P/m^2		2.12	0.37				
TOTAL PAGE TON	· 746 €		£41£	0.5				
) UNIT COST:	P/m^2				34.11			
PERCENTAGE:		20	- 68	12	100			

WOR	K ITEM: P6-10 Steel Sheet Pile		UNIT COST: P2,987.24/m			
	PRICE COMPONENT	P/UNI	Γ F.C.	L.C.	TAXES	TOTAL
1)	EQUIPMENT:					
1-	Truck Mounted Crane	P/hr.	1,176.60	362.03	271.53	1,810.16
1 -	Pile Kammer		370.04			
	Total A	P/hr.	1,546.64	475.89	356.93	2,379-46
3)	LABOR:					
	Foreman	P/hr.		22.50		22.50
	H.E. Operator	P/hr.		34.00		34.00
	-Skilled Laborers	P/hr.		8.00		8.00
	Unskilled Laborers	P/hr.	•	14.00	•	14.00
	Total B	P/hr.		78.50		78.50
	Total A+B	P/hr.	1,546.64	554.39	356.93	2,457.96
)	OUTPUT: 6.0 lm/hr.					
		P/lm.	257.77	92.40	59.49	409.66
	6.0 tm/hr.					
)	MATERIALS:					
•	Auto Awar San					
-	Steel Sheet Pile Class A: 0.08	P/Im	1 480 00	222 00	148 00	1 850 00
	Others 5% of the above		32.38			
		. ,	36.30	10.21	15.00	72.30
	Total D	P/lm.	1,512.38	268.24	161.88	1,942.50
·)	DIRECT COST.	D/Im	1 770 15	7A0 47	221 77	2 752 14
,	DIRECT COST:	r/ UNL	1,770.15	200.04	221.37	د, ععد اله
٠.	Mobilization & Demo. 2%	P/lm.	35.40	7.21	4.43	47.04
	Overhead, Cont's. & Misc. 8%	P/lm.	141.62	28.85	17.70	188.17
	Contractor's Profit 7%	P/lm.	123.91	25.24	15.50	164.65
	Value Added Tax 10%	P/lm.	177.02	36.06	22.14	235.22
;						
•	UNIT COST:	P/lm.	2,248.10	457.96	281.14	2,987.24
	PERCENTAGE:		75	15	10	100

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:			· · · · · · · · · · · · · · · · · · ·		
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	9.10	2.80	2.10	14.00
) LABOR:	•				
-Foreman	P/hr.	. •	22.50		22.50
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00
					s.
Total B	P/hr.		162.50	***	162.50
Total A+B	P/hr.	9.10	165.30	2.10	176.50
	÷ ,				
c) OUTPUT: 2 m ² 3/hr.				*	
176.50 P/hr. 2 m 3/hr.	P/m ⁻ 3	9.10	165.30	2.10	176.50
) MATERIALS:					
Wire Hesh: 1.60 roll/m ³					
x P585/roll	P/m ² 3	450.45	245.70	122.85	819.00
Stone: 1 x 102.30	P/m^3.	56.27	30.69	15.34	102.30
Incidentals 1% of the above	P/m^3	5.07	2.76	1.38	9.2
Total D	D /m^27	511.79	270 15	170 57	070 5
Total D	Pym 3	311.79	219.13	137.31	930.3
				·. *	
) DIRECT COST:	P/m ³	520.89	444.45	141.67	1,107.0
Mobilization & Demobilization 2	% P/m ⁻ 3	10.42	8.89	2.83	22.1
Overhead, Contingencies & Misc. 8				11.33	
· ·		36.46			
Value Added Tax 103		60.94	52.00	16.57	129.5
					. P
) UNIT COST:	P/m^3	670.38	572.01	182.32	1,424.7
	····				

ORK ITEM: P14-2 Gabion Consolidation	on ·	UNIT COST: P1,424.71/m ²					
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL		
) EQUIPMENT:		***************************************					
Minor tools 10% of Unsk. Laborer	₽/hr.	9.10	2.80	2.10	14.00		
Total A	P/hr.	9.10	2.80	2.10	14.00		
) LABOR:							
-Foreman	P/hr.	.	22.50		22.50		
0-Unskilled Laborer	P/hr.	-	140.00	-	140.00		
Total B	P/hr.		162,50		162.50		
Total A+B	P/hr,	9.10	165.30	2.10	176.50		
OUTPUT: 2 m ² 3/hr.							
176.50 P/hr. 2 m ² /hr.	P/m^3	9.10	165.30	2.10	176.50		
and the second of the second of the second							
) MATERIALS:							
Wire Mesh: 1.60 roll/m ³							
	P/m ⁻ 3	450.45	245.70	122.85	819.00		
Stone: 1 x 102.30	P/m^3	56.27	30.69	15.34	102.30		
Incidentals 1% of the above	P/m^3	5.07	2.76	1.38	9.21		
EST CALLS CONTRACTOR			÷	•			
Total D	P/m^3	511.79	279.15	139.57	930.51		
) DIRECT COST:	P/m^3	520.89	444.45	141.67	1,107.01		
Mobilization & Demobilization 2%	P/m^3	10.42	8.89	2.83	22.14		
Overhead, Contingencies & Misc. 8%		41.67		11.33	88.56		
•	P/m^3			9.92	77.49		
the second secon	P/m^3	60.94		16.57	129.51		
) UNIT COST:	P/m^3	670.38	572.01	182.32	1,424.71		
		47	40	13	100		

NORK ITEM: P15-1(1)							·
PRICE COMPONENT			P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					:		
1- Wheel Loader, 80	HP .		P/hr.	294.26	90.54	67.91	452.71
2- Dump Youck, 190 H							1,013.82
Minor tools 10% o		ed		1.0	100	4 4	
	laborer		P/hr.	9.10	2.80	2.10	14.00
Tot	al A		P/hr.	962.34	296.10	222.09	1,480.53
		•				÷	
s) LASOR:						٠	
1- Foreman			P/hr.	<u>.</u>	22.50	-	22.50
10-Unskilled Laborer			P/hr.	•	140.00	-	140.00
Tot	al 8		P/hr		162.50		162.50
Tot	al A	+ 8	P/hr.	962.34	458.60	222.09	1,643.03
C) OUTPUT: 60 m ² 3/hr	•						
1,643.03 P/hr. 60 m ³ /hr.			P/m ⁻ 3	27.69	11.23	6.39	45.30
)) DIRECT COST:			· P/m^3	27.69	11.23		45.30
Mobilization & De	mobilizat	ion 23	P/m^3	0.55	0.22		0.90
Overhead, Conting					0.90		
Contractor's Prof			P/m^3	1.94		0.44	
Value Added Tax		10%	4 P/m ³	3.24	1.31	0.75	5.30
						44	
E) UNIT COST:			P/m ³	35.64	14.45	8.22	58.30
PERCENTAGE:				61	25	14	100

WORK ITEM: P15-1(2) Structure Excayation			UNIT COST: P89.79/m'3					
PRICE COMPONENT		F.C.		TAXES				
A) EQUIPMENT:	* The affects have seen an area come.							
1- Dump Truck, 190 HP	P/hr.	329,49	101.38	76.94	506.91			
1- Backhoe Crawler, 100 HP			140.42					
Minor tools 10% of unskilled								
laborer	P/hr.	7.28	5.04	1.68	14.00			
Yotal A	P/hr.	793.14	246.84	183.04	1,223.02			
B) LABOR:								
1- Asst. Foreman	P/hc.		19.00	-	19.00			
	P/hr.			- .				
10-Unskilled Laborer	P/nr.		140.00		140,00			
	-				,			
Total B	P/hr,		191.00		191.00			
Totai A+B	P/nr.	793.14	437.84	183.04	1,414.02			
c) OUTPUT: 20 m ⁻³ /hr.								
1,414_02 P/hr. 20 m ² 3/hr.	P/m*3	36.7€	25.45	8.49	70.70			
D) DIRECT COST:	P/m ⁻³	36.76	25.45	8.49	70.70			
Mobilization & Demobilization 23	E P/m13	0.74	0.51	0.16	1.4			
Overhead, Contingencies & Misc. 85				0.65	5.60			
Contractor's Profit 7	6 P/m 3	2.57	1.78	0.60	4.93			
Value Added Tax 103	% P/m 3	3.68	2,55	0.84	7.07			
E) UNIT COST:	8/m^3	46.69	32:33	10.77	89.79			
PERCENTAGE:	arana manana makaba-kata a ka	52	36	12	:100			

	RK ITEM: P15-1(3) Concrete Railin			UNIT COS		
	PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
١)	EQUIPMENT:					
۱-	Concrete Vibrator	P/hr.	26.52	8.16	6.12	40.80
	Minor tools 20% of the above	P/hr.	4.55	1.40	1.05	7.00
	Total A	P/hr.	31.07	9.56	7.17	47.80
			4			
		•				
3)	LABOR:					-
	Foreman	P/hr.	_	22.50		22.50
	-Skilled Laborers	P/hr.	-	48.00	. -	48.00
	Unskilled Laborer	P/hr.	-	70.00		70.00
, -	UISKIT TEG LADOLE!	.,		70.00		
	ĭotal 8	P/hr.		140.50		140.50
		•	•			
	Total A+B	P/hr.	31.07	150.06	7.17	188.30
:)	OUTPUT: 1.0 m/hr.					
	188.30 P/hr.	P/m	31.07	150.06	7.17	188.30
	1.0 m/hr.					
				•	,	
, ,	MATERIALS:					
•	PATERING.					
	Cement: 1.656 x P120	P/m	43.30	23.61	11.80	78.71
	F.A. : 0.0423 x P151	P/m	3.51	1.92	0.96	6.39
	C.A. : 0.0502 x P179	P/m	4.94	2.70	1.35	8.99
	RSBars: 31.45 x P22.50	P/m	382.10	247.65	77.83	707.58
	Incidentals 5% of the above	P/m	22.05	12.02	6.01	40.08
	Total D	P/m	455.90	287.90	97.95	841.75
						1
						٠.
)	DIRECT COST:	P/m	486.97	437.97	105.12	1,030.08
						44
	Mobilization & Demobilization 2%	P/m	9.74	8.76	2.10	20,60
	Overhead, Contingencies & Misc. 8%	P/m	38.96	35.04	8.41	82.41
	Contractor's Profit 7%	P/m	34.09	30.66	7.36	72.11
	Value Added Tax 10%	P/m	56.98	51.24	12.30	120.52
	UNIT COST:	P/m	626.74	563.67	135.20	1.325.70
)	UNIT COST:	P/m	626.74	563.67	135.29	1,325.70

	 -				
PRICE COMPONENT	P/UNIT	f.C.	L.C.	TAXES	TOTAL
) EQUIPMENT:					
-Concrete Mixer	P/hr.	482.46	148.45	111.34	742.25
i -Dump Truck	P/hr.				
-Pite Hammer	P/hr.	370.04	113.86	85.40	569.30
Minor tools 30% of the above	P/hr.	354.6			
Total A	P/hr.	1,536.59	472.80	354.61	2,364.00
3) LABOR:					
l-Foreman	- D/hn	_	22.50		22 Ed
i -roieman 10-Skilled Laborers	P/hr. P/hr.	 -	22.50 160.00		22.50 160.00
30-Unskilled Laborers	P/hr.	-	420.00	-	420.00
1 -Driver	P/hr.	_	15.00	•	15.00
1 -H.E. Operator	P/hr.	_	17.00	_	17.00
i iitas opei atoi	F / III .	_	17.00		11.00
Total B	P/hr.		634.50		634.50
Total A+B	P/hr.	1,536,59	1,107.30	354.61	2,998.50
C) OUTPUT: 8.0 m/hr.					
2,998.50 P/hr.	P/lm.	192.08	138.41	44.32	374.81
8.0 m/hr.	:				
	1				
D) MATERIALS:					
Cement: 1.464 x P120	P/lm.	96.62	52.70	26.35	175.67
F.A. : 0.0944 x P151	P/lm.	0.89	0.33	0.19	1.41
C.A. : 0.112 x P179	P/lm.	13.23	3.81	3.01	20.05
Steel Bars: 39.88 x P22.50	P/lm.	476.28	66,15	119.07	661.50
Incidental 21% of the above	P/lm.	123.27	25.83	31.21	180.31
Total D	P/lm.	710.29	148.82	179.83	1,038.94
E) DIRECT COST:	P/lm.	1,107.80	315.76	275.50	1,699.06
Mobilization & Demobilization 2	% P/lm.	22.16	6.31	5.51	33.98
Overhead, Contingencies & Misc. 8		88.62		22.04	135.92
	% P/lm.			19.28	
	% P/lm.	110.78	31.58	27.61	169.97
F) UNIT COST:	P/lm.	1,406.91	401.01	349.94	2,157.86
PERCENTAGE:		64	20	16	100

	· · · · · · · · · · · · · · · · · · ·	UNIT COST: P33.60/kg.					
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL		
A) EQUIPMENT:					,		
-Bar Bender	P/hr.	5:15	2.40	2.75	10.30		
).5-Bar Shear	P/hr.	8.85	4.05	4.80	17.70		
Total A	P/hr.	14.00	6.45	7.55	28.00		
3) LABOR:			•				
S) EMBOR:	•						
1.5-Foreman			33.75				
5 -Skilled Laborers	P/hr.		80.00				
15 -Unskilled Laborer	P/hr.		210.00	-	210.00		
	0.11		707 W		707 7°		
Total B	P/hr.		323.75		323.75		
Total A+B	P/hr	14.00	330.20	7.55	351.75		
	,						
C) OUTPUT: 125 kg./hr.	-	*					
351.75 P/hr.	P/kg.	0.12	2.64	0.06	2.82		
125 kg./hr.							
		•					
) MATERIALS:		:			111		
Rebars: 1.05 x P22.50	P/kg.	11 82	0 22	2.59	23.63		
VCD019: 1:03 V LCC:30	1/13.	11.02	7,22	2.37	63.03		
					contract.		
DIRECT COST:	P/kg.	11.94	11.86	2.65	26.45		
(x,y) = (x,y) + (x,y) + (x,y) = 0							
Mobilization & Demobilization 2%					0.53		
Overhead, Contingencies & Misc. 8%					2.12		
			0.83				
Value Added Tax 10%	P/kg.	1.19	1.19	0.27	2.65		
the second of the second	. :						
) UNIT COST:	P/kg.	15.17	15.07	3.36	33.60		
		45	45		100		

PRICE COMPONENT	P/UNI1	F.C.	L.C.	TAXES	TOTAL
) EQUIPMENT:			••••		
- Concrete Batching Plant	P/hr.	950.95	292.60	219.45	1,463.0
- Wheel Loader			90.54		
- Water Tank Truck		216.91		50.06	
- Concrete Mixers	P/hr.		16.50		
Minor tools 30% of the above	P/hr.	454.72		104.94	
Total A	P/hr.	1,970.46	606.29	454.74	3,031.4
					•
) LABOR:					
- Foreman	P/hr.	-	22.50	-	22.5
- Skilled Laborer			128.00		128.0
O-Unskilled Laborers	P/hr.	-	700.00	-	700.0
Total B	P/hr.		850.50		850.5
Total A+B	P/hr.	1,970.46	1,456.79	454.74	3,881.9
) OUTPUT: 8 m ² /hr.				٠	
3,881.99 P/hr.	P/m^3	246.31	182.10	56.84	485.2
8 m ² /hr.	٠.				
) MAYERIALS:					
False Work: 2.5 cu.m. x P140	P/m^3	45.50	259.00	45.50	350.0
Cement : 9 x P120	P/m^3	594.00	324.00	162.00	1,080.0
F.A. : 0.5 x P151	. P/m^3	47.57	17.37	10.57	75.5
C.A. : 0.8 x P179	P/m ⁻ 3	94.51	27.21	21.48	143.2
Lumber : 5.0 x P32	P/m^3	40.00	96.00	24.00	160.0
Nails : 3.0 x P22.50	P/m*3		6.75		67.5
Incidentals 20% of the above	P/m ⁻³	173.90	146.07	55.27	375.2
rotal D	P/m ³	1,043.41	876.40	331.64	2,251.4
) DIRECT COST:	P/m^3	1,289.72	1,058.50	388.48	2,736.7
Mobilization & Demobilization 2	% P/m ⁻ 3	25.79	21.17	7.77	54.7
Overhead, Contingencies & Misc. 8	% P/m^3	103.18	84.68	31.08	218.9
· · · · · · · · · · · · · · · · · · ·	% P/m^3	90.28	74.10	27.19	191.5
Value Added Tax 10	% P/m^3	128.97			273.6
) UNIT COST:	P/m ³	1,637.94	1,344.30	493.37	3,475.6
					

PRICE COMPONENT	P/UNI1	F.C.	L.C.	TAXES	TOTAL
A)EQUIPMENT:					• :
2-Truck Mounted Crane, 50 T	P/hr.	1,283.56	49.37	296.20	1,629.13
Minor tools 10% of the above	P/hr.	64.18	4.94	29.62	98.74
Total A	P/hr.	1,347.74	54.31	325.82	1,727.87
			: *		
B)LABOR:					
1-Foreman	P/hr.		22.50	-	22.50
2-H.E. Operator	P/hr.	-	34.00		34.00
2-Skilled Laborers	P/hr.	-	32.00		32.00
6-Laborers	P/hr.	_	84.00		84.00
: .					
γοtal Β	P/hr.		172.50	r - 1	172.5
Total A+B	P/hr.	1,347.74	226.81	325.82	1,900.3
1,900.37 P/hr. 1.0 each/hr.	P/ea.	1,347.74	226.81	325.82	1,900.3
D)MATERIALS:					
Pre-Stressed Girder (L=24m)	P/ea.	107,473.46	52,793.98	28,282.49	188,549.9
Total D	P/ea.	107,473.46	52,793.98	28,282.49	188,549.9
					:
E)DIRECT COST:	P/ea.	108,821.20	53,020.79	28,608.31	190,450.3
Mobilization & Demo. 2%	P/ea.	2,176.42	1,060.42	572.16	3,809.0
Overhead, Cont's & Misc. 8%					
Contractor's Profit 7%	P/ea.	7,617.48	3,711:46	2,002.58	13,331.5
Value Added Tax 10%	P/ea.	12,732.08	6,203.43	3,347.17	22,282.6
F)UNIT COST:	P/ea.	140,052.88	68,237.76	36,825.39	245,109.5
	 	57	28	15	100

PRICE COMPONENT	P/UNIT	F.C.	r.c.	TAXES	TOTAL
A) EQUIPMENT:					
4 -Truck Mounted Crane, 50 T	P/hr.	2,567.12	197.48	1,184.80	3,949.40
Minor tools 15% of equip- ment	P/hr.	385.07	29.62	177.72	592.41
Total A	P/hr.	2,952.19	227.10	1,362.52	4,541.81
B) LABOR:					
(4) (1) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4					
1 -foreman	P/hr.	•	22.50		22.50
4 -H.E. Operator	P/hr.	•	68.00	•	68.00
2 -Skilled Laborers	P/hr.	-	32.00	-	32.00
10-Laborers	P/hr.	. -	140.00	-	140.00
Yotal 8	P/hr.	•	262.50		262.50
Total A+B	P/hr.	2,952.19	489.60	1,362.52	4,804.3
4,804.31 P/hr. 1.0 each/hr. D) MATERIALS:	P/ea.	2,952.19	489.60	1,362.52	4,804.3
Pre-Stressed Girder (L=38m)	P/ea.	373,344.89	183,397.49	98,248.65	654,991.03
Total D	D/ea	373 344 80	183,397.49	98 248 65	.654 991 03
	.,				
E) DIRECT COST:	P/ea.	376,297.08	183,887.09	99,611.17	659,795.34
Mobilization & Demo. 2%	γ/ea.	7,525.94	3,677.74	1,992.22	13,195.90
Overhead, Cont's & Misc. 8%	6 P∕ea.	30,103.77	14,710.97	7,968.89	52,783.63
Contractor's Profit 7%	% P∕ea.	26,340.79	12,872.09	6,972.78	46,185.66
Value Added Tax 10%	€ P/ea.	44,026.76	21,514.78	11,654.51	77,196.0
F) UNIT COST:	P/ea.	484,294.34	236,662.67	128,199.57	849,156.5
PERCENTAGE:		57	28	15	100

ORK ITEM: P16-1 Concrete Foot Prot	.ection	UNIT COST: P2,942.21/m ³				
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL	
) EQUIPMENT:	•					
- Concrete Batching Plant	P/hr.	950.95	292.60	219.45	1,463.00	
	P/hr.	294.26	90.54	67.91	452.7	
- Water Tank Truck	P/hr.	216.91	66.74	50.06	333.7	
	P/br.	53,62	16.50	12.38	82.56	
Minor tools 30% of the above	P/hr.	454,72	139.91	104.94	699.5	
Total A	P/hr.	1,970.46	606.29	454.74	3,031.49	
LABOR:						
				, ,		
Foreman	P/hr.	-	22.50	-	22.5	
Skilled Laborer	P/hr.	_	128.00	~	128.0	
)-Unskilled Laborers	P/hr.	•	700.00	•	700.0	
		1.6				
Total B	P/hr.		850.50		850.50	
Total A+B	P/hr.	1,970.46	1,456.79	454.74	3,881.9	
OUTPUT: 8 m ³ /hr.	•			٠		
3,881.99 P/hr.	P/m^3	246,31	182.10	56.84	485.2	
8 m^3/hr,						
	-					
MATERIALS:						
	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1					
Cement: 9 x P120		594.00			1,080.0	
F.A. : 0.5 x P151		47.57		10.57	75.5	
C.A.: 0.8 x P179	P/m ² 3		27.21		143.2	
Lumber: 5.0 x P32	P/m ³				160.0	
			6.75			
Incidentals 20% of the above	P/m 3	167.17	92.27	45.80	305.2	
7 otal D	P/m ² 3	991.18	563.60	276.67	1,831.4	
DIRECT COST:	P/m^3	1,237.49	745.70	333.51	2,316.70	
Mobilization & Demobilization 2%	6 P/m 3	24.75	14.91	6.67	46.3	
Overhead, Contingencies & Misc. 82	-			26.68		
		86.62			162.1	
	6 P/m 3				231.6	
HULL COCT.	D /**	4 574 44	. 017 01	102 E4	2.0/2.2	
UNIT COST:	P/M 3	1,0/1.61	947.04	423.56	2,942.2	
PERCENTAGE:					100	

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL		
A) EQUIPMENT:							
Minor tools 10% of Unskilled							
Laborer	P/hr.	9.10	2.80	2.10	14.00		
Total A	P/hr.	9.10	2.80	2.10	14.00		
B) LABOR:							
1 -Foreman	P/hr.	_	22.50		22.50		
10-Unskilled Laborer	P/hr.		140.00		140.00		
Total B	P/hr.		162.50		162.50		
Total A+B	P/hr.	9.10	165.30	2.10	176.50		
C) OUTPUT: 2 m ² 3/hr.	·						
176.50 P/hr. 2 m ² 3/hr.	P/m^3	9.10	165.30	2.10	176.50		
D) MATERIALS:							
Wire Mesh: 1.60 roll/m ²							
x P585/roll	P/m^3	450.45	245.70	122.85	819.00		
Stone: 1 x 102.30		56.27	30.69	15.34			
Incidentals 1% of the above	P/m ³	5.07	2.76	1.38	9.21		
Total	P/m-3	511.79	279.15	139.57	930.51		
E) DIRECT COST:	P/m^3	520.89	444.45	141.67	1,107.01		
Mobilization & Demo. 2%	P/m ⁻ 3	10.42	8.89	2.83	22.14		
Overhead, Cont's. & Misc. 8%	P/m ² 3	41.67	35.56	11.33	88.56		
Contractor's Profit 7%	P/m ³	36.46	31.11	9.92	77.49		
Value Added Tax 10%	P/m ⁻ 3	60.94	52.00	16.57	129.51		
F) UNIT COST:	P/m [*] 3	670.38	572.01	182.32	1,424.71		
PERCENTAGE:		47	40	13	100		

ORK ITEM: P16-3 Grouted Riprap	Apron		UNIT COS	T: P1,32	26.00/m ² 3
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% Labor	P/hr.	14.94	6.22	3.74	24,90
Total A	P/hr.	14.94	6.22	3.74	24.90
	4				
B) LABOR:					•
	~ 41		/E 00		/F: 00
-Foreman	P/hr.		45.00		45.00
-Skilled Laborers	P/hr.		64.00	•	64.00
0-Unskilled Laborer	P/hr.	-	140.00	-	140.00
Total B	P/hr.		249.00		249.00
Total A+B	P/hr.	14.94	255.22	3.74	273.90
c) OUTPUT: 3.0 m ² /hr.	-			· 1. · .	
273.90 P/hr. 3.0 m ³ /hr.	P/m^3	4.98	85.07	1.24	91.29
) MATERIALS:					
					. 1
Cement: 3.80 x P120	P/m^3	250.80	136.80	68.40	456.00
F.A. : 0.30 x P151	P/m^3	28.54	10.42	6.34	45.30
Boulders: 1.0 x P393	P/m^3	216,15	117.90	58.95	393.00
Incidental 5% of the above	P/m 3	24.77	13.26	6.68	44.71
Total D	P/m^3	520.26	278.38	140.37	939.01
DIRECT COST:	P/m^3	525.24	363.46	141.61	1,030.31
Mobilization & Demo. 2%	P/m^3	10.50	7.27	2.83	20.60
Overhead, Cont's. & Misc. 8%					
Contractor's Profit 7%					72.12
		61.45			120.54
				: 407 00	4 724 00
) UNIT COST:	P/m ³	6/5.98	407.77	162.23	1,326.00

WORK ITEM: P17-2(1) Selected Material Fill				UNIT COST: P368.94/m1			
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL		
A) EQUIPMENT:							
- Wheel Loader, 80 HP	P/hr.	294.26	90.54	67.91	452.7		
- Dump Truck, 190 HP	P/hr.	329,49	101,38	76.04	506.91		
- Pneumatic Roller, 106 HP	P/hr.			42.60			
Total A	P/hr.	808.35	248.72	186.55	1,243.62		
3) LABOR:							
- Asst. Foreman	P/hr.	-	19.00	-	19.00		
- Unskilled Laborers	P/hr.	-	28.00	•	28.00		
Total 8	P/hr.		47.00	·	47.00		
Total A+B	P/hr.	808.35	295.72	186.55	1,290.62		
1,290.62 P/hr. 7 m ² 3/hr.	P/m [*] 3	115.48	42.24	26.65	184.37		
) MATERIALS:							
Boulders: 1 x P102.30	P/m^3	56.27	30.69	15.34	102.30		
Total D	P/m ⁻ 3	56.27	30.69	15.34	102.30		
) DIRECT COST:	P/m^3	171.75	72.93	41.99	286.67		
Hobilization & Demobilization 2%	P/m^3	3.43	1.46	0.84	5.73		
Overhead, Contingencies & Misc. 8%	P/m^3	13.74	5.83	3.36	22.93		
Contractor's Profit 7%	P/m^3	12.02	5.11	2.94	20.07		
	P/m^3	20.10	8,53	4.91	33.54		
	•				•		
) UNIT COST:	P/m ³	221.04	93.86	54.04	368.94		
PERCENTAGE:		60	25	15	100		

ORK ITEM: P17-2(2) Cylinder Gabion	ı -		UNIT COS	T: P1,42	4.71/m ⁻ 3
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
) EQUIPMENT:					
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	9.10	2.80	2.10	14.00
) LABOR:					
-Foreman	P/hr.	_	22.50	•	22.50
0-Unskilled Laborer	P/hr.		140.00	-	140.00
			-	St	
Total B	P/hr.		162.50	t I e e	162.50
B+A latoT	P/hr.	9.10	165.30	2.10	176.50
c) OUTPUT: 2 m ² /hr.					
176.50 P/hr.	P/m^3	9.10	165.30	2.10	176.50
2 m^3/hr.					
				:	
) MATERIALS:					
Wire Mesh: 1.60 roll/m ³					
x P585/roll		450.45			
Stone: 1 x 102.30		56.27			
Incidentals 1% of the above	P/m^3	5.07	2.76	1.38	9.21
Total	P/m^3	511.79	279.15	139.57	930.5
				. :	
) DIRECT COST:	P/m ⁻ 3	520.89	444.45	141.67	1,107.01
Mobilization & Demobilization 2%	P/m 3	10.42	8.89	2.83	22.14
Overhead, Contingencies & Misc. 8%	P/m ³	41.67	35.56	11.33	88.56
Contractor's Profit 7%	P/m 3	36.46	31.11	9.92	77.49
Value Added Tax 10%	P/m ³	60.94	52.00	16.57	129.51
				•	
) UNIT COST:	P/m^3	670.38	572.01	182.32	1,424.71
PERCENTAGE:		47	40	13	100

ORK ITEM: P18-1 Concrete Spillway	/	UNIT COST: P2,94					
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL		
) EQUIPMENT:							
···.							
- Concrete Batching Plant	P/hr.	950.95	292.60	219.45	1,463.0		
- Wheet Loader			90.54		452.7		
- Water Tank Truck			66.74				
- Concrete Mixers			16.50		82.5		
Minor tools 30% of the above	P/hr.	454.72	139.91	104.94	699.5		
Total A	P/hr.	1,970.46	606.29	454.74	3,031.4		
) LABOR:			•				
- Foreman	P/hr.	-	22.50	-	22.5		
- Skilled Laborer	P/hr.	-	128.00	• •	128.0		
O-Unskilled Laborers	P/hr.	-	700.00	-	700 .0		
Total B	P/hr.		850.50		850.5		
Total A+B	P/hr.	1,970.46	1,456.79	454.74	3,881.9		
OUTPUT: 8 m²3/hr.							
3,881.99 P/hr.	P/m^3	246.31	182.10	56.84	485.2		
8 m ⁻³ /hr.							
) MATERIALS:							
Cement : 9 x P120	P/m ³	594.00	324.00	162.00	1,080.0		
F.A. : 0.5 x P151	P/m 3	47.57	17.37	10.57	75.5		
C.A. : 0.8 x P179	P/m ³	94.51	27.21	21.48	143.2		
Lumber : 5.0 x P32	P/m^3	40.00	96.00	24.00			
Nails : 3.0 x P22.50		47.93	6.75	12.82	67.5		
Incidentals 20% of the above	P/m"3	167.17					
restrict Total D	P/m^3	991.18	563.60	276.67	1,831.4		
) DIRECT COST:	P/m^3	1,237.49	745.70	333.51	2,316.7		
Mobilization & Demobilization	2% P/m ⁻ 3	24.75	14.91	6.67	46.3		
Overhead, Contingencies & Misc.			59.66	26.68	185.3		
	7% P/m ⁻ 3			23.35	162.1		
	0% P/m 3						
the state of the s					: 1		
) UNIT COST:	P/m 3	1,571.61	947.04	423.56	2,942.2		

WORK ITEM: P19-1 Gravel Surfacio	UNIT COST: P315.50/m-3				
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
() EQUIPMENT:					
- Motor Grader, 115 HP	P/hc.	868.92	267.36	200.52	1,336.80
- Vibratory Roller, 115 HP	P/hr.	924.24	284.38	213.28	1,421.90
- Presumatic Roller, 106 HP	P/hr.	184.60			284.00
- Water Truck, 120 HP	P/hr.	433.82	133.48	100.12	667.47
- Vater Pump	թ/հո.	24.31	7.48	5.61	37.40
Ninor tools 20% of unskilled laborers	P/hr.	18.20	5.60	4.20	28.00
Total A	P/hr.	2,454.09	755.10	566.33	3,775.52
3) LABOR:					
Foreman	P/hr.	_	22.50	-	22.50
* * *	P/hr.	_	128.00		128.00
Skilled Laborers	P/hr.		140.00	-	140.00
0-Unskilled Laborers	P/RC.	-	140.00		150.00
Total 8	P/hr.		290.50		290.50
Total A+B	P/hr.	2,454.09	1,045.60	566.33	4,066.07
) OUTPUT: 20 m ⁻³ /hr.					
4,066.02 P/hr.	P/m ⁻ 3	122.70	52.28	28.32	203.30
20 m ³ /hr.					
) MATERIALS:					•
C.A.: 0.15 m ³ /m ³ x P215/m ³	P/m'3	17:74	9.68	4.83	32.2
Incidentals 30% of the above	P/m ⁻ 3	5.28	2.88	1 44	9.60
				.* .	
Total D	P/m 3	23.02	12.56	6.27	41.8
	•	* 4		+ 1	
) DIRECT COST:	P/m 3	145.72	64.84	34.59	245.15
Mobilization & Demo. 23	P/m'3	2.91	1.30	0.69	4.9
Overhead, Cont's, & Hisc. 8%	P/m'3	11.66	5.18		
Contractor's Profit 7%	P/m 3	10.20	4.54		
Value Added Tax 10%	P/m'3	17.05	7.59		
		e e e e e e e e e e e e e e e e e e e			
) UNIT COST:	P/m^3	187.54	83.45	44.51	315.50
	- 1271 5/				
PERCENTAGE:		. 60	26	14	100

	WORK ITEM: P19-2(1) Bituminous					
	PRICE COMPONENT	P/UNIT	f.C.		TAXES	
	·					
	A) EQUIPMENT:					
	Asphalt Distributor	P/hr.	306.28	102.57	86.43	495.2
	Power Broom	P/hr.	598.97	215.35	168.09	982.4
						661.3
	Minor tools 10% of the above	P/hr.	12.09	3.72	2.79	18.6
	Total A	P/hc,	1,293.19	467.79	396.66	2,157.6
	B) LABOR:					•
	D) LABOR.					
		P/he	_	22.50		39 £.
			-		-	22.5 32.0
	6- Laborers		-		-	84.0
	3- L.E. Operator		-		•	48.0
	Total B	5 thr		186.50		
						186.5
	Total A+B	P/hr.	1,293.19	654,29	396.66	2,344.1
	C) OUTPUT: 2.00 tons/hr.					
	0.7/2:// 5.0					
	2,343;64 P/hr. 2.00 ton/hr.	P/ton	646.58	326.89	198.33	1,171.8
	L. OU LONGING.					
	D) MATERIALS:		ė.			
	Emulsified Asphalt	P/ton	5,239.97	1,612.30	1,209.22	8,061.4
	Totel	P/ton	5,239.9?	1,612.30	1,209,22	8,061.4
	E) DIRECT COST:	P/ton	5 ,88 6.55	1,939.19	1,407.55	9,233.2
	Mobilization & Demo. 2%	P/ton	117.73	38,78	.28.15	184.6
	Overhead, Contis. & Kisc. 8%	P/ton	470.92	155.14	112.60	738.6
÷	Contractor's Profit 7%	P/ten	412.06	135.74	98,53	646.3
	Value Added Tax 10%	.P/ton	688.73	226.88	164.68	1,080.2
-	F) UNIT COST:	P/ton	7,575.99	2,495.73	1,811.51	81 ,88 3,2

PRICE COMPONENT	P/UN1	T F.C.	L.C.	TAXES	TOTAL
EQUIPMENT:					
Vibratory Tandem Roller, 7 T	P/hr.	269.72	82.99	62.24	414.95
Pneumatic Tired Roller, 14 T	P/hr.	184.60	56.80	42.60	284.00
)-Dump Trucks, 5-6 m ²					
Minor tools 10% of the above	P/hr.	389.08	119.71	89.79	598.58
Total A	P/hr.	4,138.20	1,273.30	955.03	6,366.53
1					
LABOR:					
Foreman	P/hr.	-	22.50	-	22.50
Capatas	P/hr.	-	19.00	· -	19.00
Skilled Laborers	P/hr.	•	64.00	· ·	64.00
-Laborers	P/hr.		210.00	-	210.00
Total B	P/hr.		315.50		315.50
Total A+B	P/hr.	4,138.20	1,588.80	955.03	6,682.03
6,682.03 P/hr. 15 ton/hr.	P/ton	275.88	105.92	63.67	445.47
					•,
MATERIALS:					
Asphalt Concrete Course:					
1.03 x P1,088.74	P/ton	728.51	224.16	168.11	1,120.78
	D 44	ንታስ ይቆ	332 47	140 44	4 400 TO
Total D	P/ton	728.51	224.16	108.11	1,120.78
		•			
DIRECT COST:	P/ton	1,004.39	330.08	231.78	1,566.25
Mobilization & Demo. 2%	P/ton	20.09	6.60	4.63	31.32
Overhead, Cont's. & Hisc. 8%	P/ton			18.54	
Contractor's Profit 7%	P/ton			16.22	
/alue Added Tax 10%	P/ton			27.11	
	1				: - سمان دی
UNIT COST:	P/ton	1,292.64	424.79	298.28	2,015.75

NORK ITEM: P19-3 Concrete Pavement			UNIT COST: P2,942.21/m ³			
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL	
) EQUIPMENT:						
- Concrete Batching Plant	P/hr.	950.95	292,60	219.45	1,463.0	
i- Wheel Loader			90.54			
I- Water Tank Truck			66.74			
2- Concrete Mixers			16.50			
Minor tools 30% of the above			139.91			
Total A	P/hr.	1,970.46	606.29	454.74	3,031.49	
B) LABOR:						
I- Foreman	P/hr.	-	22.50	-	22.5	
B- Skilled Laborer	P/hr.	-	128.00	-	128.0	
50-Unskilled Laborers	P/hr.		700.00	*	700.0	
Total B	P/hr.		850.50		850.50	
Total A+B	P/hr.	1,970.46	1,456.79	454.74	3,881.9	
C) OUTPUT: 8 m ⁻³ /hr.						
3,881.99 P/hr. 8 m 3/hr.	P/m 3	246.31	182.10	56.84	485.2	
0 iii 3710 .						
) MATERIALS:						
Cement : 9 x P120	P/m^3	594.00	324.00	162.00	1,080.0	
F.A. : 0.5 x P151	P/m 3	.47.57	17.37	10.57	75.5	
C.A. : 0.8 x P179	P/m 3	94,51	27.21	21.48	143.2	
Lumber : 5.0 x P32	P/m^3	40.00	96.00	24.00	160.0	
Nails : 3.0 x P22.50	P/m^3	47.93	6.75	12.82	67.5	
Incidentals 20% of the above			92.27	45.80	305.2	
Total D	P/m^3	991.18	563.60	276.67	1,831.4	
) DIRECT COST:	P/m^3	1,237.49	745.70	333.51	2,316.7	
Mobilization & Demobilization 2	% P/m 3	24.75	14.91	6.67	46.3	
Overhead, Contingencies & Misc. 8			59.66	26.68	185.3	
		86.62	52.20	23.35	162.1	
			74.57			
					: .	
) UNIT COST:	P/m^3	1,571.61	947.04	423.56	2,942.2	
				100		



APPENDIX 14-2 CONSTRUCTION COST FOR EACH SPOT

Spot No. Bt-1 URGENT RESTORATION MEASURES:

	TYPE OF WORK	TIKU	QUAN-	UNIT COST (P)	TOTAL COST (P)
ป1-1	Removal of Dep. Mat'ls.	cu.m.	1200	34.78	41,736
U1-2	Removal of Unst. Matils.	cu.m.	26	72.15	1,876
TOTAL					43,612

	TYPE OF WORK	TINU	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
p1-1	Recutting	cu.m.	1260	58.30	73,458
P2-2	Side Ditch (A)	l.m.	80	250.30	20,024
P4-8	Wattling	l.m.	590	391.55	231,014
P6-2	Grouted Riprap	cu.m.	75	1,326.00	99,450
P6-9	Gabion Wall	cu.m.	75	1,424.71	106,853
TOTAL					530,799

Spot No. 8t-2 URGENT RESTORATION MEASURES:

None

,	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	8700	68.42	595,254
P6-9	Gabion Wall	cu.m.	7371	1,424.71	10,501,537
	Permeance Mat	sq.m.	1600	34.11	54,576
P19-1	Gravel Surfacing	cu.m.	336	315.50	106,008
TOTAL					11,257,375

Spot No. Bt-7
URGENT RESTORATION MEASURES:

	TYPE OF WORK	1.	QUAN-	UNIT COST (P)	TOTAL COST (P)
บ1-1	Removal of Dep. Matils.	cu.m.	90	34.78	3,130
U3-1	Sheet Covering	sq.m.	48	28.11	1,349
TOTAL					4,479

	TYPE OF WORK	UNIT	QUAN- TITY	UNIT Cost (P)	TOTAL COST (P)
P6-2	Grouted Riprap	cu.m.	36	1,326.00	47,736
P6-9	Gabion Wall	cu.m.	22	1,424.71	31,343
P16-3	Grouted Riprep Apron	cu.m.	8	1,326.00	10,608
P18-1	Concrete Spillway	cu.m.	12	2,942.21	35,307
TOTAL					124,994

Spot No. Bt-11 URGENT RESTORATION MEASURES:

	TYPE OF WORK	1	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
u7-1	Gravel Surfacing	cu.m.	26.80	315.50	8,455
TOTAL					8,455

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
P1-4	Counternweight Fill	cu.m.	1,300	68.42	88,946
P2-1	Slope Ditch (B)	tm.	32	318.76	10,200
P2-5	Catch Basin	ea.	2	11,200.73	22,401
P3-2	Horizontal Drain Hole	l.m.	252	306.17	77,154
P6-9	Gabion Wall	cu.m.	162	1,424.71	230,803
P19-2(1)	Bituminous Tack Coat	cu.m.	0.01	11,883.25	188
P19-2(2)	Bit. Conc. Surface Course	m.t.	30.82	2,015.75	62,125
TOTAL					491,817

Spot No. Bt-14 URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Matils.	cu.m.	230	34.78	7,999
υ3-1	Sheet Covering	sq.m.	520	38.11	14,617
TOTAL					22,616

	TYPE OF WORK	TINU	QUAN-	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting	cu.m.	360	58.30	20,988
P2-2	Side Ditch (A)	l.m.	40	250.30	10,012
P4-2	Hand Seeding with Mat	sa.m.	180	44.01	7,922
P5-3	Stone Pitching	cu.m.	54	1,326.00	71,604
P6-2	Grouted Riprap	cu.m.	45	1,326.00	59,670
TOTAL					170,196

Spot No. Bt-20 URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-4	Refilling/Embankment	cu.m.	90	68.42	6,158
U3-2	Sand Bag Covering	cu.m.	50	112.17	5,608
U4-3	Nooden Fence	t.m.	20	185.17	3,703
TOTAL					15,469

	TYPE OF WORK	UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-2	Grouted Riprap	cu.m.	33	1,326.00	43,758
P16-3	Grouted Riprap (Apron)	cu.m.	4	1,326.00	5,304
TOTAL					49,062

Spot No. Bt-24
URGENT RESTORATION MEASURES:

	TYPE OF WORK	דואט	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Matils	cu.m.	180	34.78	6,260
TOTAL					6,260

	TYPE OF WORK	TIMU	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting	cu.m.	250	58.30	14,575
P2-2	Side Ditch (8)	l.m.	18	318.76	5,738
P8-2	Gabion Catch Wall	cu.m.	101	1,424.71	143,895
TOTAL					164,208

Spot No. Bt-25
URGENT RESTORATION MEASURES:

TYPE OF WORK	į	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U3-1 Sheet Covering	sq.m.	240	28.11	6,746
TOTAL				6,746

	TYPE OF WORK	UNIT	TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	420	68.42	28,736
P2-2	Side Ditch (B)	l.m.	40	318.76	12,750
P6-2	Grouted Riprap	cu.m.	94	1,326.00	124,644
P16-1	Concrete Foot Protection	cu.m.	56	1,942.21	164,764
TOTAL					330,894

Spot No. Bt-33 URGENT RESTORATION MEASURES:

:	TYPE OF WORK	TIKU	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Matils	cu.m.	67	34.78	2,330
U1-2	Removal of Unst. Matils.	cu.m.	: 5	72.15	361
TOTAL					2,691

	TYPE OF WORK	UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting	cu.m.	800	58.30	46,640
P2-2	Side Ditch (A)	l.m.	33	250.30	8,260
P4-6	Pick Hole Seeding	sq.m.	210	161.20	33,852
P6-2	Grouted Riprap	cu.m.	33	1,326.00	43,758
TOTAL				:	132,510

Spot No. 8t-38
URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
บ3-1	Sheet Covering	sq.m.	320	28.11	8,995
TOTAL					8,995

	TYPE OF WORK	UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	730	68.42	49,947
P2-2	Side Ditch (B)	l.m.	45	318.76	14,344
P4-2	Hand Seeding with Mat	sq.m.	300	44.01	13,203
P6-2	Grouted Riprap	cu.m.	7	1,326.00	9,282
TOTAL					86,776

Spot No. Bt-39
URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Matils.	cu.m.	150	34.18	5,217
TOTAL					5,217

	TYPE OF WORK	UNIT	QUAN~	UNIT COST (P)	TOTAL COST (P)
P6-2	Grouted Riprap	cu.m.	24	1,326.00	31,824
P8-2	Catch Gabion Wall	cu.m.	90	1,424.71	128,223
P16-3	Grouted Riprap (Apron)	cu.m.	21	1,326.00	27,846
P18-1	Concrete Spillway	cu.m.	28	2,942.21	82,382
TOTAL	·				270,275

Spot No. Bt-43 URGENT RESTORATION MEASURES:

TYPE OF WORK	1	OUAN-	UNIT COST (P)	TOTAL COST (P)
U1-1 Removal of Dep. Mat'ls	cu.m.	200	34.78	6,956
TOTAL	:			6,956

	TYPE OF WORK	UNIT	OUAN-	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting	cu.m.	390	58.30	22,737
P2-2	Side Ditch (A)	l.m.	60	250.30	15,018
P4-6	Pick Hole Seeding	sq.m.	800	44.01	35,208
P6-2	Grouted Riprap	cu.m.	61	1,526.00	80,886
TOTAL					153,849

Spot No. 8t-54 URGENT RESTORATION MEASURES:

	TYPE OF WORK	1	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
u1-4	Refilling	cu.m.	7	68.42	479
U4-3	Wooden Fence	l.m.	16	185.17	2,963
TOTAL					3,442

	TYPE OF WORK	 UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling	 cu.m.	310	68.42	21,210
P6-9(1)	Gabion Wall	 cu.m.	154	1,424.71	219,405
P6-9(2)	Permeance Mat	sq.m.	100	34.11	3,411
TOTAL				· · · · · · · · · · · · · · · · · · ·	244,026

Spot No. Bt-55 URGENT RESTORATION MEASURES:

	TYPE OF WORK	דואט	QUAN- TITY	COST (P)	TOTAL COST (P)
U4-1	Sand Bag Wall	sq.m.	120	112.17	13,460
TOTAL					13,460

	TYPE OF WORK	דנאט	QUAN-	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling	cu.m.	30	68.42	2,053
P6-2	Grouted Riprap	cu.m.	35	1,326.00	46,410
P15-1(2)	Structural Excavation	cu.m.	37	89.79	3,322
P15-1(3)	Concrete Bridge Railing	l.m.	16	1,325.70	21,211
P15-1(5)	Reinforcing Steel	kg.	9800	33.60	329,280
P15-1(6)	Structural Conc. Class A	cu.m.	98	3,475.61	340,610
TOTAL					742,886

Spot No. Bt-57
URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
ບ1-1	Removal of Dep.Mat'ls.	cu.m.	193	34.78	6,713
U1-2	Removal of Unst. Matils.	cu.m.	8	72.15	577
TOTAL	:				7,290

	TYPE OF WORK	דואט	QUAN-	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting	cu.m.	240	58.30	13,992
P2-2	Side Ditch (A)	l.m.	32	250.30	8,010
P4-8	Wattling	l.m.	80	391.55	31,324
P6-2	Grouted Riprap	cu.m.	33	1,326.00	43,758
TOTAL					97,084

Spot No. Bt-58
URGENT RESTORATION MEASURES:

	TYPE OF HORK	1 1	QUAN-	UNIT COST (P)	TOTAL COST (P)
U3-1	Sheet Covering	sq.m.	150	28.11	4,216
TOTAL					4,216

TYPE OF WORK	דואט	QUAN-	UNIT COST (P)	TOTAL COST (P)
P6-2 Grouted Riprap	cu.m.	69	1,326.00	91,494
P16-3 Grouted Riprap (Apron)	cu.m.	9	1,326.00	11,934
P16-2 Gabion Foot Protection	cu.m.	32	1,424.71	45,590
TOTAL				149,018

Spot No. Bt-59
URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Mat'(s	cu.m.	200	34.78	6,956
TOTAL					6,956

	TYPE OF WORK	TINU	QUAN-	UNIT COST (P)	TOTAL COST (P)
P2-2	Side Ditch	l.m.	100	250.30	25,030
P4-8	Wattling	l.m.	380	391.55	148,789
P6-2	Grouted Riprap	cu.m.	37	1,326.00	49,062
TOTAL					222,881

Spot No. Bt-62 URGENT RESTORATION MEASURES:

TYPE OF WORK		TYPE OF WORK UNIT T		UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Matils	cu.m.	170	34.78	5,913
U1-2	Removal of Unst. Mat'ls	cu.m.	15 .	72.15	1,082
TOTAL					6,995

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
P6-2	Grouted Riprap	cu.m.	27	1,326.00	35,802
P8-2	Gabion Catch Wall	cu.m.	58	1,424.71	82,633
P16-3	Grouted Riprap (Apron)	cu.m.	. 3	1,326.00	3,978
TOTAL					122,413

Spot No. Bt-63 URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
U6-3	Bailey Bridge	t.m.	9	13,555.83	122,002
TOTAL.					122,002

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
P6-2	Grouted Riprap	cu.m.	49	1,326.00	64,974
P15-1(2)	Structural Excavation	cu.m.	570	89.79	51,180
P15-1(3)	Railing	t.m.	18	1,325.70	23,862
P15-1(4)	Concrete Piling	l.m.	105	2,157.86	226,575
P15-1(5)	Reinforcing Steel	kgs.	13360	33,60	448,896
P15-1(6)	Struc. Conc. (Class A)	cu.m.	167	3,475.61	580,427
TOTAL					1,395,914

Spot No. Bt-68
URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN-	COST (P)	TOTAL COST (P)
U1-4	Refilling/Embankment	cu.m.	85	68.42	5,816
υ 3-1	Sheet Covering	sq.m.	36	28.11	1,011
U3-2	Sand Bag Covering	sq.m.	66	112.17	7,403
U4-1	Sand Bag Wall	sq.m.	9	112.17	1,009
TOTAL					15,239

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
P2-4	R.C. Pipe Culvert	l.m.	1	1,410.17	1,410
P2-5	Catch Basin	ea.	1	5,751.17	5,751
P6-2	Grouted Riprap	cu.m.	40	1,326.00	53,040
P16-3	Grouted Riprap (Apron)	cu.m.	6	1,326.00	7,956
TOTAL					68,157

Spot No. Bt-70 URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Matls	cu.m.	400	34.78	13,912
TOTAL					13,912

	TYPE OF WORK	דואט	QUAN-	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	960	68.42	65,683
P15-1(3)	Railing	l.m.	76	1,325.70	100,753
P15-1(5)	Reinforcing Steel	kgs.	24600	33.60	826,560
P15-1(6)	Struc. Conc. (Class A)	cu.m.	256	3,475.61	889,756
P15-1(8)	Pre-Stressed Girder	ea.	3	849,156.58	2,547,469
P19-1	Gravel Surfacing	cu.m.	69	315.50	21,769
TOTAL					5,018,409

Spot No. Bs-3
URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-4	Refilling/Embankment	cu.m.	25	68.42	1,710
U3-2	Sand Bag Covering	sg.m.	30	112.17	3,365
TOTAL					5,075

5 F	TYPE OF WORK	TINU	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	120	68.42	8,210
P6-2	Grouted Riprap	cu.m.	26	1,326.00	34,476
P16-3	Grouted Riprap Apron	cu.m.	11	1,326.00	14,586
TOTAL					57,272

Spot No. 8s-6 URGENT RESTORATION MEASURES:

	TYPE OF WORK	1	-NAUD	UNIT COST (P)	TOTAL COST (P)
U5-1	Gabion Foot Protection	cu.m.	4	1,424.71	5,698
TOTAL					5,698

	TYPE OF WORK	TIKU	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P14-2	Gabion Consolidation	cu.m.	114	1,424.71	162,416
P16-1	Conc. Foot Protection	cu.m.	65	2,942.21	191,243
TOTAL					353,659

Spot No. Bs-8
URGENT RESTORATION MEASURES:

	TYPE OF WORK	1	GUAN-	COST (P)	TOTAL COST (P)
U4-1	Sand Bag Wall	sq.m.	6	112.17	673
U4-3	Wooden Fence	t.m.	3	185.17	555
TOTAL					1,228

	TYPE OF WORK	TIKU	- NAUQ	COST (P)	TOTAL COST (P)
P6-4(1)	Structural Excavation	cu.m.	2	89.79	179
P6-4(2)	Struc. Concrete (Class A)	cu.m.	1	2,942.21	2,942
P6-4(3)	Grouted Riprap	cu.m.	4	1,326.00	5,304
TOTAL					8,425

Spot No. Bs-12
URGENT RESTORATION MEASURES:

	TYPE OF WORK	}.	QUAN- TITY	דואט COST (P)	TOTAL COST (P)
บ1-1	Removal of Dep. Matils	cu.m.	140	34.78	4,869
U1-2	Removal of Unst. Matils	cu.m.	10	72.15	721
TOTAL					5,590

	TYPE OF WORK	1	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P8-2	Catch Gabion Wall	cu.m.	84	1,424.71	119,675
P19-1	Gravel Surfacing	cu.m.	12	315.50	3,786
TOTAL					123,461

Spot No. Bs-14 URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
U2-2	Temporary Side Ditch	l.m.	72	10.99	791
บ7-1	Gravel Surfacing	cu.m.	11	315.50	3,470
TOTAL					4,261

	TYPE OF WORK	UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P2-2	Side Ditch (B)	t.m.	83	318.76	26,457
P2-5	Catch Basin	ea.	1	5,751.17	5,751
P6-6	Supported Type Conc. Wall	cu.m.	4	2,239.52	8,958
P6-9	Gabion Wall	cu.m.	4	1,424.71	5,698
P16-3	Grouted Riprap Apron	cu.m.	2	1,326.00	2,652
P18-1	Concrete Spillway	cu.m.	7	2,942.21	20,595
TOTAL					70,111

Spot No. Bs-28
URGENT RESTORATION MEASURES:

	TYPE OF WORK		QUAN-	COST (P)	TOTAL COST (P)
ป1-4	Refilling/Embankment	cu.m.	27	68.42	. 1,847
U3-2	Sand Bag Covering	sq.m.	54	112.17	6,057
U4-3	Wooden Fence	l.m	18	185.17	3,333
TOTAL					11,237

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	80	68.42	5,473
P2-4	Concrete Culvert 2.5m ø	cu.m.	8	2,942.21	23,537
P6-2	Grouted Riprap	cu.m.	38	1,326.00	50,388
P6-9(1)	Gabion Wall	cu.m.	115	1,424.71	163,841
P6-9(2)	Permeance Mat	sq.m.	96	34.11	3,274
P16-3	Grouted Riprap Apron	cu.m.	11	1,326.00	14,586
LATOT					261,099

Spot No. 8s-30 URGENT RESTORATION HEASURES:

	TYPE OF WORK	TINU	QUAN-	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Matils.	cu.m	200	34.78	6,956
u1-2	Removal of Unst. Hat'ls.	cu.m.	10	72.15	721
TOTAL					7,677

	TYPE OF WORK	TINU	QUAN-	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting	cu.m.	1940	58.30	113,102
P4-8	Wattling	t.m.	210	391.55	82,225
P8-2	Catch Gabion Wall	cu.m.	50	1,424.71	71,235
TOTAL				aret	266,562

Spot No. Bs-33 URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
บ6-1	H-Pile Bent	t.m,	1005	1,051.68	1,056,938
u6-2	Bailey Bridge	L.m.	171	13,555.83	2,318,046
TOTAL					3,374,984

	TYPE OF WORK	דואט	QUAN-	UNIT COST (P)	TOTAL COST (P)
P6÷9 .	Gabion Wall	cu.m.	960	1,424.71	1,367,721
P15-1(2)	Structural Excavation	cu.m.	660	89.79	59,261
P15-1(3)	Reiling .	t.m.	342	1,325.70	453,389
P15-1(4)	Concrete Piling	L.m.	1150	2,157.86	2,481,539
P15-1(6)	Struc. Conc. (Class A)	cu.m.	1080	3,475.61	3,753,658
P15-1(5)	Reinforcing Steel	l,m.	140400	33.60	4,717,440
P17-2(1)	Selected Materials	cu.n.	2800	368.94	1,033,032
P17-2(2)	Gabion Spurdike	cu.m.	1040	1,424.71	1,481,698
TOTAL					15,347,738

Spot No. Bs~36 URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	-MAUD YTIT	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Matils	cu.m.	105	34.78	3,651
TOTAL					3,651

	TYPE OF WORK	דואט	QUAN-	COST (P)	TOTAL COST (P)
P1-1	Recutting (Common)	cu.m.	2850	58.30	166,155
P2-2	Side Ditch	l.m.	92	250.30	23,027
P4-6	Pick Hole Seeding	sq.m.	870	161.20	140,244
P6-2	Grouted Riprap	cu.m.	37	1,326.00	49,062
TOTAL					378,488

Spot No. Bs-42
URGENT RESTORATION MEASURES:

e e	TYPE OF WORK		TITY	UNIT COST (P)	TOTAL COST (P)
U4-1	Sand Bag Wall	sq.m.	10	112,17	1,121
TOTAL					1,121

	TYPE OF WORK	דואט	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P2-4	R.C.P.C. 0.60 m ø	L.m.	1	1,959.33	1,959
P6-2	Grouted Riprap	cu.m.	16	1,326.00	21,216
P.16-3	Grouted Riprap Apron	cu.m.	2	1,326.00	2,652
TOTAL					25,827

Spot No. Bs-43
URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
U1-4	Refilling	cu.m.	29	68.42	1,984
U3-2	Sand Bag Covering	sq.m.	26	112.17	2,916
TOTAL					4,900

	TYPE OF WORK	UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-3	Grouted Riprap	cu.m.	9	1,326.00	11,934
P16-3	Grouted Riprap (Apron)	cu.m.	8	1,326.00	10,608
TOTAL					22,542

Spot No. Bs-45 URGENT RESTORATION MEASURES:

	TYPE OF WORK	דואט	QUAN-	UNIT COST (P)	TOTAL COST (P)
U1-4	Refilling/Embankment	cu.m.	15	68.42	1,026
U3-2	Sand Bag Covering	cu.m.	18	112.17	2,019
TOTAL					3,045

TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
P6-2 Group Riprap	cu.m.	9	1,326.00	11,934
P16-3 Grouted Riprap Apron	cu.m.	10	1,326.00	13,260
TOTAL				25,194

Spot No. Bs-48
URGENT RESTORATION MEASURES:

None

PERMANENT RESTORATION MEASURES:

5. 4	TYPE OF WORK	TINU	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-10	Steel Sheet Pile	t.m.	224	2,987.24	669,141
P16-1	Concrete Foot Protection	cu.m.	5	2,942.21	14,711
P16-2	Gabion Foot Protection	cu.m.	90	1,424.71	128,223
TOTAL					812,075

Spot No. Bs-50 URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
บ1-4	Refilling/Embankment	cu.m.	816	68.42	55,830
u4-2	Gabion Wall	cu.m.	82	1,424.71	116,826
TOTAL					172,656

	TYPE OF WORK	UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	85	68.42	5,815
P6-9	Gabion Wall	cu.m.	122	1,424.71	173,814
TOTAL					179,629

Spot No. Bs-51 URGENT RESTORATION MEASURES:

	TYPE OF WORK	TINU	QUAN-	UNIT COST (P)	TOTAL COST (P)
บ1-4	Refilling/Embankment	cu.m.	43	68.42	2,942
U3-2	Sand Bag Wall	sq.m.	57	112.17	6,393
U4 -3	Wooden Fence	l.m.	57	185.17	10,554
TOTAL					19,889

	TYPE OF WORK	UNIT	QUAN-	UNIT COST (P)	TOTAL COST (P)
P6-5(1)	Recutting (Common)	cu.m.	380	58.30	22,154
P6-5(2)	Struc. Conc. (Class A)	cu.m.	250	2,942.21	735,552
P6-5(3)	Ladder Foundation	sq.m.	114	132.11	15,060
TOTAL					772,766

Spot No. Bs-53 URGENT RESTORATION MEASURES:

None

	TYPE OF WORK	UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	446	68.42	30,515
P19-1	Gravel Surfacing Course	cu.m.	79	315.50	24,924
P2-2	Side Ditch 0.6 m ³ /m x P1,326 x 1.6	l.m.	140	1,272.96	178,214
P2-4	R.C.P.C. 0.60 m ø	(.m.	48	1,410.17	67,688
TOTAL				·	301,341