

Republic of the Philippines
Department of Public Works and Highways

Bureau : DPWH
Region : IX
District/City : Zamboanga City

PROGRAM OF WORK

(For all types of Project)

Date : _____																																																																				
NAME OF PROJECT : Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City LOCATION: Zamboanga City PROJECT CATEGORY : SLOPE PROTECTION			Appropriation : P 200,000,000.00																																																																	
			Source of Funds : CY-2018 GAA																																																																	
			Issued Obligated Authority :																																																																	
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			Cal. Days to Complete : 360 Calendar Days																																																																	
			Desirable Starting Date : upon approval																																																																	
			Mode of Implementation : by contract																																																																	
PROJECT DESCRIPTION : Scope of Work : Slope Protection Road Width : Roadbed Width : Subbase Course : Surface Course :			Station Limits:																																																																	
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A.1.1(3)	Construction of Field Office for the Engineer	0.26	L.S.	1.00	407,789.85	407,789.85																																																														
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	0.20	L.S.	1.00	317,340.00	317,340.00																																																														
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	0.25	month	12.00	390,375.20	32,531.27																																																														
PART B - OTHER GENERAL REQUIREMENTS																																																																				
B.4(1)	Construction Survey & Staking	0.02	km.	0.71	34,619.94	48,760.48																																																														
B.5	Project Billboard/Signboard	0.01	each	2.00	10,979.20	5,489.60																																																														
B.7	Occupation Safety and Health Program	0.22	month	12.00	341,457.60	28,454.80																																																														
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100(1)	Clearing and Grubbing	0.11	ha.	1.10	178,509.10	162,281.00																																																														
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404(1)a	Reinforcing Steel	0.02	kg.	527.50	24,855.08	47.12																																																														
404(1)b	Reinforcing Steel	0.27	kg.	8,711.00	428,743.56	49.22																																																														
405(1)a3	Structural Concrete, Class "A"	0.45	cu.m.	99.00	709,955.06	7,171.26																																																														
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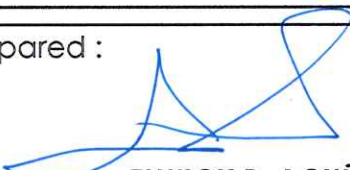
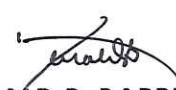
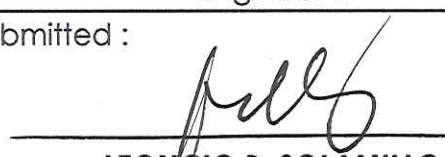
ITEM NO.	DESCRIPTION	% OF TOTAL	UNIT	QUANTITY	DIRECT COST	
					TOTAL	UNIT COST
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES						
505(2)a	Grouted Riprap, Class "A"	0.24	cu.m.	111.00	379,185.11	3,416.08
511(1)a3	Gabions	3.36	cu.m.	1,900.00	5,319,811.77	2,799.90
522(1)	Rockfall Netting	93.30	sq.m.	11,044.00	147,591,009.89	13,363.91
PART H - MISCELLANEOUS STRUCTURES						
603(3)a1	Metal Guardrail (Metal Beam) including Post	0.26	ln.m.	94.00	405,821.59	4,317.25
603(3)b1	Metal Beam End Piece	0.00	each	2.00	3,180.11	1,590.05
TOTAL		100.00			P 158,185,553.86	

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NAME OF PROJECT : Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Zamboanga City

BREAKDOWN OF ESTIMATED EXPENDITURES	% OF TOTAL	AMOUNT
I. ESTIMATED COST		
A. DIRECT COST		
A.1. Labor	4.66	9,328,554.99
A.2. Equipment Expenses	9.80	19,593,493.40
A.3. Materials	64.63	129,251,462.32
SUB-TOTAL (DIRECT COST)	79.09	P 158,173,510.71
B. INDIRECT COST (Per D.O. # 197, s. 2016)		
B.1. Overhead, Contingency & Misc. (8 % Max. of D.C.)	6.28	12,551,299.83
B.2. Profit (8 % Max. of D.C.)	6.30	12,604,003.64
C. VAT (5% of D.C. and I.C. Per D.O. # 197, s. 2016)	4.58	9,166,440.71
SUBTOTAL (CONTRACT COST)	96.25	P 192,495,254.89
II. ESTIMATED GOVERNMENT EXPENDITURES		
1. Engineering and Administrative Overhead (3.5%)	3.50	7,000,000.00
2. Detailed Engineering (1%)		
3. Reserved for the Payment of RROW	0.25	504,745.11
4. Physical Reserved	0.00	
TOTAL ESTIMATED PROJECT COST	100.00	P 200,000,000.00

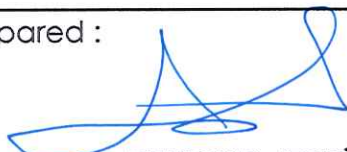
Prepared :  ELWICK P. ACUÑA Engineer II	Checked :  JERALD R. BARRERA Engineer II
Submitted :  LEONCIO B. SOLAMILLO Chief, Construction Division	Recommending Approval :  CAYAMOMBAO D. DIA Assistant Regional Director
Approved :  JORGE U. SEBASTIAN, JR. CESO III Regional Director	

NAME OF PROJECT : Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

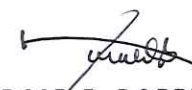
Zamboanga City

BREAKDOWN OF ESTIMATED EXPENDITURES	% OF TOTAL	AMOUNT
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A.3. Materials	64.63	129,251,462.32
SUB-TOTAL (DIRECT COST)	79.09	P 158,173,510.71
B. INDIRECT COST (Per D.O. # 197, s. 2016)		
B.1. Overhead, Contingency & Misc. (8 % Max. of D.C.)	6.28	12,551,299.83
B.2. Profit (8 % Max. of D.C.)	6.30	12,604,003.64
C. VAT (5% of D.C. and I.C. Per D.O. # 197, s. 2016)	4.58	9,166,440.71
SUBTOTAL (CONTRACT COST)	96.25	P 192,495,254.89
II. ESTIMATED GOVERNMENT EXPENDITURES		
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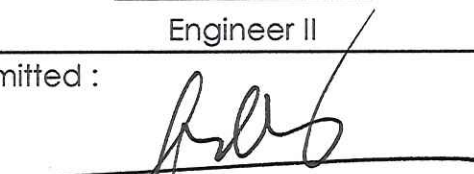
Prepared :


ELWICK P. ACUÑA
Engineer II

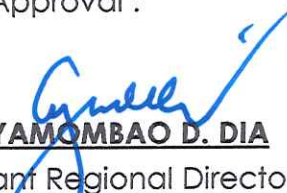
Checked :


JERALD R. BARRERA
Engineer II

Submitted :


LEONCIO B. SOLAMILLO
Chief, Construction Division

Recommending Approval :


CAYAMOMBAO D. DIA
Assistant Regional Director

Approved :


JORGE U. SEBASTIAN, JR., CESO III
Regional Director

APPROVED BUDGET FOR THE CONTRACT

Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Stations:	1869+950.00	to	1870+055.00
	1870+240.00	to	1870+330.00
	1870+520.00	to	1870+590.00
	1870+680.00	to	1870+874.00
	1894+220.00	to	1894+400.00
	1911+910.00	to	1911+981.00

Length: 710.00 km.

Contract Duration: 360 CD

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UPS IN % OCM	PROFIT	%	TOTAL MARK-UPS VALUE	VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
								(5) x (8)	5% (5) + (9)	(9) + (10)	(5) + (11)	(12) / (3)
PART A - FACILITIES FOR THE ENGINEER												
A.1.1(3)	Construction of Field Office for the Engineer	1.00	L.S.	407,789.85	8.00	8.00	16.00	65,246.38	23,651.81	88,898.19	496,688.03	496,688.03
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	1.00	L.S.	317,340.00	-	8.00	8.00	25,387.20	17,136.36	42,523.56	359,863.56	359,863.56
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	12.00	month	390,375.20	-	-	-	-	19,518.76	19,518.76	409,893.96	34,157.83
	TOTAL OF PART A			1,115,505.05				90,633.58	60,306.93	150,940.51	1,266,445.55	
PART B - OTHER GENERAL REQUIREMENTS												
B.4(1)	Construction Survey & Staking	0.71	km.	34,619.94	8.00	8.00	16.00	5,539.19	2,007.96	7,547.15	42,167.09	59,390.27
B.5	Project Billboard/Signboard	2.00	each	10,979.20	8.00	8.00	16.00	1,756.67	636.79	2,393.47	13,372.67	6,686.33
B.7	Occupation Safety and Health Program	12.00	month	341,457.60	-	8.00	8.00	27,316.61	18,438.71	45,755.32	387,212.92	32,267.74
B.9	Mobilization & Demobilization	1.00	L.S.	233,090.00	-	-	-	-	11,654.50	11,654.50	244,744.50	244,744.50
	TOTAL OF PART B			620,146.74				34,612.47	32,737.96	67,350.43	687,497.17	
PART C - EARTHWORKS												
100(1)	Cleaning and Grubbing	1.10	ha.	178,509.10	8.00	8.00	16.00	28,561.46	10,353.53	38,914.98	217,424.08	197,658.26
101(8)	Removal of Existing Guardrails	94.00	ln.m.	3,609.84	8.00	8.00	16.00	577.57	209.37	786.94	4,396.78	46.77
101(9)	Removal of Existing Guardrail Posts	25.00	each	2,400.16	8.00	8.00	16.00	384.03	139.21	523.23	2,923.39	116.94
102(2)	Supplus Common Excavation	1,255.00	cum.	178,781.03	8.00	8.00	16.00	28,604.96	10,369.30	38,974.26	217,755.29	173.51
104(1)a	Embankment from Roadway Excavation	2,391.50	cum.	551,394.36	8.00	8.00	16.00	88,223.10	31,980.87	120,203.97	671,598.33	280.83
	TOTAL OF PART C			914,694.47				146,351.12	53,052.28	199,403.39	1,114,097.87	
PART F - BRIDGE CONSTRUCTION												
404(1)a	Reinforcing Steel	527.50	kg.	24,855.08	8.00	8.00	16.00	3,976.81	1,441.59	5,418.41	30,273.49	57.39
404(1)b	Reinforcing Steel	8,711.00	kg.	428,743.56	8.00	8.00	16.00	68,598.97	24,867.13	93,466.10	522,209.66	59.95
405(1)a3	Structural Concrete, Class "A"	99.00	cum.	709,955.06	8.00	8.00	16.00	113,592.81	41,177.39	154,770.20	864,725.26	8,734.60
407(8)	Lean Concrete	4.80	cum.	25,816.59	8.00	8.00	16.00	4,130.66	1,497.36	5,628.02	31,444.61	6,550.96
	TOTAL OF PART F			1,189,370.30				190,299.25	68,983.48	259,282.72	1,448,653.02	
PART G - DRAINAGE AND SLOPE PROTECTION WORKS												
505(2)a	Grouled Riprap, Class "A"	111.00	cum.	379,185.11	8.00	8.00	16.00	60,669.62	21,992.74	82,662.35	461,847.47	4,160.79
511(1)a3	Gabions	1,900.00	cum.	5,319,811.77	8.00	8.00	16.00	851,169.88	308,549.08	1,159,718.97	6,479,530.74	3,410.28
522 (1)	Rockfall Netting M	11,091.50	sq.m.	148,225,795.56	8.00	8.00	16.00	23,716,127.29	8,597,096.14	32,313,223.43	180,539,019.00	16,277.24
	TOTAL OF PART G			153,924,792.45				24,627,966.79	8,927,637.96	33,555,604.75	187,480,397.21	
PART H - MISCELLANEOUS STRUCTURES												
603(3)a1	Metal Guardrail (Metal Beam) Including Post	94.00	ln.m.	405,821.59	8.00	8.00	16.00	64,931.45	23,537.65	88,469.11	494,290.69	5,258.41
603(3)b1	Metal Beam End Piece	2.00	each	3,180.11	8.00	8.00	16.00	508.82	184.45	693.26	3,873.37	1,936.69
	TOTAL OF PART H			409,001.69				65,440.27	23,722.10	89,162.37	498,164.06	
	TOTAL			188,173,510.71				25,155,306.47	9,166,440.71	34,321,744.18	192,495,254.89	

Prepared by :

Submitted by :

Recommending Approval:

Approved by :

BELEN A. SAPALEDA
Head, BAC Technical Working Group

LEONILIO B. SOLAMILLO
Chief, Construction Division

CAYANEMBIAO D. DIA
Assistant Regional Director

JOSEPH IL. SAMPANAN
Regional Director

Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Length : 710.00 ln.m.

Contract Duration: 360 CD

Prepared by :

Submitted by:

By: LEONCIO B. SOLAMILLO
Chief, Construction Division

Recommending Approval:

ing Approval: 
CAYAMOMBAO D. DIA
Assistant, Regional Director

Approved by :


JORGE SEBASTIAN, JR., CESO III
Regional Director

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: A.1.1(3) Construction of Field Office for the Engineer

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

*7.00 m. x 9.00 m., 1 - Classroom, for
Government Field Office, fully furnished as
shown on plans*

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	8.00	611.92	4,895.36
	b. Mason	3	8.00	443.20	10,636.80
	c. Carpenter	3	8.00	443.20	10,636.80
	d. Laborer	6	8.00	342.24	16,427.52
Sub-total for A					P 42,596.48
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	1	6.00	1,376.00	8,256.00
	b. Water Truck	1	1.00	19,600.00	19,600.00
	Minor Tools 10% of Labor				4,259.65
Sub-total for B					P 32,115.65
C.	Total (A+B)				74,712.13
D.	Output/day	- L.S./day			
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	I. Earthworks (Excavation, Embankment, Bedding)				
	a. Gravel Bedding	3.50	cu.m.	1,341.40	4,694.90
	b. Selected Fill	10.00	cu.m.	388.35	3,883.50
	c. Soil Poisoning	2.50	L	1,900.00	4,750.00
	II. Concrete Works (Footings, Columns, Beams & Slab on Grade)				
	a. Portland Cement	90.00	bag	284.00	25,560.00
	b. Crushed Gravel	21.00	cu.m.	1,341.40	28,169.40
	c. Washed Sand	18.00	cu.m.	1,641.40	29,545.20
	III. Reinforcing Bars(Footing Columns, Beams, & Slabs on Grade)				
	a. Deformed Round Bar, Grade 40	435.00	kg.	38.00	16,530.00
	b. No. 16 GI Tie Wire	20.00	kg.	90.00	1,800.00
	IV. Formworks (Columns & Beams)				
	a. Coco Lumber	400.00	bd.ft.	25.00	10,000.00
	b. Ordinary Plywood, 1/4"x4'x8'	18.00	pc.	420.00	7,560.00
	c. CWN, Assorted	5.00	kg.	70.00	350.00
	V. Masonry Works (masonry walls & plastering)				
	a. CHB 6" thk	650.00	pc.	18.00	11,700.00
	b. Portland Cement	45.00	bag	284.00	12,780.00
	c. Washed Sand	8.00	cu.m.	1,641.40	13,131.20
	d. 10mm dia. X 6m RSB	65.00	kg.	38.00	2,470.00
	e. No. 16 GI Tie Wire	2.50	kg.	90.00	225.00
	VI. Doors and Windows				
	a. D-1, Hollow Core Flush Type swing door, complete w/ accessories, 0.90mx2.1m	2.00	set	1,765.26	3,530.52
	b. W-1, Jalousie window, 1.4m x 1.2m	2.00	set	924.00	1,848.00
	c. W-2, Jalousie window, 2.8m x 1.2m	2.00	set	1,848.00	3,696.00
Sub-total for E					P 182,223.72
Sub-total for E (I + II + III)					P 333,077.72
F.	Direct Cost (C + E)				407,789.85
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		32,623.19
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		32,623.19
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		23,651.81
J.	Total Unit Cost				496,688.03

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: A.1.1(3) Bunkhouse, 7.00 m. x 9.00 m.

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

*For Government Field Office, fully
furnished as shown on plans*

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
Sub-total for A				P	-
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				-
Sub-total for B				P	-
C.	Total (A+B)				-
D.	Output/day	-	L.S./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	VII. Steel Works				
	a. 65 x 65 x 6mm. L	350.00	kg.	48.00	16,800.00
	b. 50 x 50 x 6mm. L	250.00	kg.	48.00	12,000.00
	c. 50 x 50 x 4mm. L	100.00	kg.	48.00	4,800.00
	d. Purlins C- 150 x 50 x 3mm.	18.00	kg.	48.00	864.00
	e. 16mm dia. Cross bracing	35.00	kg.	38.00	1,330.00
	f. 16mm dia. Turn buckle	20.00	pc.	118.00	2,360.00
	g. 12mm thk base plate	25.00	kg.	47.00	1,175.00
	h. 10mm thk batten plate	15.00	kg.	47.00	705.00
	i. 10mm dia. Sag rod	10.00	kg.	38.00	380.00
	j. 20mm dia. X 350 mm anchor bolts	10.00	pc.	36.00	360.00
	k. Welding Rod	15.00	kg.	169.00	2,535.00
	l. Primer, Zinc Cromate	5.00	gal.	531.00	2,655.00
	VIII Roofing Works				
	a. Pre-painted GI Roofing Sheet long span	55.00	sq.m.	420.00	23,100.00
	b. Pre-painted ridge roll ga 24, 0.60m width	10.00	ln.m.	113.00	1,130.00
	c. Pre-painted flashing, ga. 24	2.00	ln.m.	113.00	226.00
	d. Teckscrew 1 1/2"	1,000.00	pc.	1.25	1,250.00
	e. Roof Sealant	2.00	L	250.00	500.00
	IX. Carpentry Works				
	a. Rough Lumber, sun dried tanguile	500.00	bd.ft.	38.00	19,000.00
	b. Plywood, ordinary 1/4" x 4' x 8'	30.00	pc.	420.00	12,600.00
	c. Finishing Nails	5.00	kg.	100.00	500.00
	d. Common Wire Nails	10.00	kg.	70.00	700.00
	e. Wood Preservative Brown	5.00	L	400.00	2,000.00
Sub-total for E				P	106,970.00
F.	Direct Cost (C + E)				
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		
J.	Total Unit Cost				

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: A.1.1(3) Bunkhouse, 7.00 m. x 9.00 m.

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

*For Government Field Office, fully
furnished as shown on plans*

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
Sub-total for A				P	-
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
Sub-total for B				P	-
C.	Total (A+B)				-
D.	Output/day	-	L.S./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	X. Electrical Works				
a.	2 x 40w Flourescent lighting fixtures	5.00	set	1,030.00	5,150.00
b.	Porcelain Ceiling Outlet w/ female socket	2.00	pc	50.00	100.00
c.	Duplex Convenience outlet	3.00	pc	170.00	510.00
d.	two gang switch	3.00	pc	132.00	396.00
e.	3.5mm2 thw	3.00	roll	3,600.00	10,800.00
f.	8.00mm2 thw	25.00	m	70.00	1,750.00
g.	15mm dia. PVC pipe	20.00	pc	73.00	1,460.00
h.	15mm dia. PVC Coupling	25.00	pc	5.00	125.00
i.	15mm dia. PVC Elbow	25.00	pc	26.00	650.00
j.	15mm dia. PVC Clamp	55.00	pc	8.00	440.00
k.	20mm dia. RSC Pipe	4.00	pc	240.00	960.00
l.	20mm dia. RSC Coupling	3.00	pc	9.00	27.00
m.	20mm dia. RSC elbow	3.00	pc	30.00	90.00
n.	20mm dia. RSC Clamp	10.00	pc	18.00	180.00
o.	20mm dia. Service entrance cap	2.00	pc	100.00	200.00
p.	wire holder	2.00	pc	50.00	100.00
q.	utility box	7.00	pc	32.00	224.00
r.	octagonal box	8.00	pc	34.00	272.00
s.	electrical tape (big)	7.00	pc	31.00	217.00
t.	panel board (side main w/ braches)	2.00	set	1,627.00	3,254.00
	XI. Plumbing Works				
a.	Water Closet (include. Fitting & Accessories)	1.00	set	7,375.00	7,375.00
b.	Lavatory (include fitting & Accessories)	1.00	set	6,615.00	6,615.00
c.	1/2" GI Pipe S-40	2.00	pc	166.00	332.00
d.	1/2" Water Faucet	2.00	pc	321.00	642.00
e.	1/2" Assorted Connector	8.00	pc	20.00	160.00
f.	4" PVC series 1000	1.00	pc	640.00	640.00
g.	2" PVC series 1000	1.00	pc	305.00	305.00
h.	4" PVC assorted Connector	6.00	pc	77.00	462.00
i.	2" PVC assorted Connector	8.00	pc	56.00	448.00
Sub-total for E				P	43,884.00
F.	Direct Cost (C + E)				
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		
J.	Total Unit Cost				

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: A.1.1(11) Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
Sub-total for A				P	-
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
Sub-total for B				P	-
C.	Total (A+B)				-
D.	Output/day	-	L.S./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	Office Equipment/Facilities & Supplies				
	Electric Desk Fan	2.00	unit	1,370.00	2,740.00
	Folding Beds, Good Quality	2.00	each	2,700.00	5,400.00
	pillows w/ pillow cases, fitted sheets and blanket	2.00	each	5,000.00	10,000.00
	Double burner gas stove (Gasul)	1.00	unit	3,700.00	3,700.00
	10 cups Rice Cooker	1.00	unit	2,500.00	2,500.00
	Various Office Supply	1.00	L.S.	45,000.00	45,000.00
	(Folders, Bond Paper, Yellow Pads, Ball Pens, Pencil, Envelopes, etc.)				
	Kitchenware	1.00	L.S.	30,000.00	30,000.00
	(Plates, Spoons & Forks, Glasses, etc.)				
	Dining Table	1.00	set	8,000.00	8,000.00
	Digital Camera	2.00	set	12,000.00	24,000.00
	Cellphone	4.00	set	15,000.00	60,000.00
	Desktop Computer	1.00	set	60,000.00	60,000.00
	Lighting/Water Fixtures				
	a. Electrical Bill	12.00	mos.	3,000.00	36,000.00
	b. Water Bill	12.00	mos.	1,500.00	18,000.00
	c. LPG (11 kg)	12.00	mos.	1,000.00	12,000.00
Sub-total for E				P	317,340.00
F.	Direct Cost (C + E)				317,340.00
G.	Overhead, Contingencies and Miscellaneous			per D.O. 197, s. 2016	-
H.	Contractor's Profit (CP)			8% per D.O. 197, s. 2016	25,387.20
I.	Value Added Tax (VAT)			5% per D.O. 197, s. 2016	17,136.36
J.	Total Unit Cost				359,863.56

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: A.1.2(5) Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer
 Unit of Measurement: month
 Output per hour:
 Quantity: 12.00

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Driver	1	360	422.32	152,035.20
Sub-total for A					P 152,035.20
Name and Capacity		No. of Equipment	No. of Months	Monthly Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
Sub-total for B					P -
C.	Total (A+B)				152,035.20
D.	Output/day	-	L.S./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Diesel	3,600.00	L	31.00	111,600.00
	b. Spare Parts	1.00	L.S.	60,000.00	60,000.00
	c. Engine Oil & Lubricants	1.00	L.S.	16,740.00	16,740.00
	d. Miscellaneous	1.00	L.S.	50,000.00	50,000.00
Sub-total for E					P 238,340.00
F.	Direct Cost (C + E)				390,375.20
G.	Overhead, Contingencies and Miscellaneous		per D.O. 197, s. 2016		-
H.	Contractor's Profit (CP)		per D.O. 197, s. 2016		-
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		19,518.76
J.	Total Unit Cost				34,157.83

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: B.4(1) Construction Survey & Staking
 Unit of Measurement: km.
 Output per hour: 0.04
 Quantity: 0.710

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	For Field Works				
a.	Geodetic Engineer	1	2.22	833.31	1,848.91
b.	Skilled Laborer	3	2.22	443.20	2,950.05
c.	Laborer	3	2.22	342.24	2,278.04
	For Office Works				
a.	Geodetic Engineer	1	6.66	833.31	5,546.72
b.	Skilled Laborer	2	6.66	443.20	5,900.10
Sub-total for A					P 18,523.81
Name and Capacity		No. of Equipment	No. of Days	Unit Cost	Amount
B.	Equipment, (2014 ACEL Rates)				
a.	Total Station w/ complete accessories	1	2.22	800.00	1,775.00
	Minor Tools 10% of Labor				1,852.38
Sub-total for B					P 3,627.38
C.	Total (A+B)				22,151.19
D.	Output/day	0.32	km./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
a.	Standard Stake Plan (800 mm x 910 mm)	25.00	pc	400.00	10,000.00
b.	Blue Printing	125.00	pc	15.00	1,875.00
	Miscellaneous 5% of Materials Cost				593.75
Sub-total for E					P 12,468.75
F.	Direct Cost (C + E)				34,619.94
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		2,769.60
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		2,769.60
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		2,007.96
J.	Total Unit Cost				59,390.27

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: B.5 Project Billboard/Signboard

Unit of Measurement: each

Output per hour:

Quantity: 2.00

Per D.O. 141, s. 2016

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	2.00	611.92	1,223.84
	b. Skilled Labor	1	2.00	443.20	886.40
	c. Unskilled Labor	2	2.00	342.24	1,368.96
Sub-total for A					P 3,479.20
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
Sub-total for B					P -
C.	Total (A+B)				3,479.20
D.	Output/day	-	each/day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Ordinary Plywood 1/2" thk. x 4' x 8'	2.00	pc.	780.00	1,560.00
	b. Tarpaulin (4' x 8')	2.00	pc.	1,000.00	2,000.00
	c. Assorted Lumber	100.00	bd.ft.	38.00	3,800.00
	d. Assorted CW Nails	2.00	kg.	70.00	140.00
Sub-total for E					P 7,500.00
F.	Direct Cost (C + E)				10,979.20
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		878.34
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		878.34
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		636.79
J.	Total Unit Cost				6,686.33

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: B.7 Occupation Safety and Health Program

Unit of Measurement: month

Output per hour:

Quantity: 12.00

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Safety Practioner	1	180.00	611.92	110,145.60
	b. First Aider	1	360.00	443.20	159,552.00
Sub-total for A					P 269,697.60
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Warning Signs and Barricades				45,000.00
Sub-total for B					P 45,000.00
C.	Total (A+B)				314,697.60
D.	Output/day	-	L.S./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Rubber Boots (Long w/ steel toe, Black)	24.00	pair	400.00	9,600.00
	b. Working Gloves (Maong Material)	24.00	pair	15.00	360.00
	c. Rain Coats (Reinforced, Hip Length)	24.00	pc.	100.00	2,400.00
	d. Safety Hats	24.00	pc,	600.00	14,400.00
Sub-total for E					P 26,760.00
F.	Direct Cost (C + E)				341,457.60
G.	Overhead, Contingencies and Miscellaneous		per D.O. 197, s. 2016		-
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		27,316.61
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		18,438.71
J.	Total Unit Cost				32,267.74

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide -
Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: B.9 Mobilization & Demobilization
Unit of Measurement: L.S.
Output per hour:
Quantity: 1.00

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
Sub-total for A				P	-
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
a.	Low Bed Trailer	1	5.00	34,043.00	170,215.00
b.	Bulldozer	1	5.00	3,379.00	16,895.00
c.	Payloader	1	5.00	1,733.00	8,665.00
d.	DumpTruck	2	5.00	1,420.00	14,200.00
e.	Water Truck	1	5.00	2,450.00	12,250.00
f.	Grader	1	5.00	2,173.00	10,865.00
Sub-total for B				P	233,090.00
C.	Total (A+B)				233,090.00
D.	Output/day	-	L.S./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E				P	-
F.	Direct Cost (C + E)				233,090.00
G.	Overhead, Contingencies and Miscellaneous		per D.O. 197, s. 2016		-
H.	Contractor's Profit (CP)		per D.O. 197, s. 2016		-
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		11,654.50
J.	Total Unit Cost				244,744.50

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 100(1) Clearing and Grubbing

Unit of Measurement: ha.

Output per hour: 0.05 ha.

Quantity: 1.10 ha.

Light Clearing

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	2.75	611.92	1,682.78
	b. Unskilled Labor	2	2.75	342.24	1,882.32
Sub-total for A					P 3,565.10
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Dump Truck (12 cu.yd.)	2	2.75	11,360.00	62,480.00
	b. Payloader (1.50 cu.m.)	1	2.75	13,864.00	38,126.00
	c. Bulldozer, D6H SERIES II PSDS/DD	1	2.75	27,032.00	74,338.00
Sub-total for B					P 174,944.00
C.	Total (A+B)				178,509.10
D.	Output/day	0.40	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E					P -
F.	Direct Cost (C + E)				178,509.10
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		14,280.73
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		14,280.73
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		10,353.53
J.	Total Unit Cost				197,658.26

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 101(8) Removal of Existing Guardrails

Unit of Measurement: In.m.

Output per hour: 20.00

Quantity: 94.00

Existing PCCP Width = 4 m. (Brgy. Rd. 1 & 2)

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	0.59	611.92	359.50
	b. Unskilled Labor	2	0.59	342.24	402.13
Sub-total for A					P 761.64
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Cargo Truck	1	0.29	9,696.00	2,848.20
Sub-total for B					P 2,848.20
C.	Total (A+B)				3,609.84
D.	Output/day	160.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E					P -
F.	Direct Cost (C + E)				3,609.84
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		288.79
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		288.79
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		209.37
J.	Total Unit Cost				46.77

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 101(9) Removal of Existing Guardrail Posts

Unit of Measurement: each

Output per hour: 8.00

Quantity: 25.00

For Disposal (includes qty. Brgy. Rd. 1 & 2)

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	0.39	611.92	239.03
	b. Unskilled Labor	2	0.39	342.24	267.38
Sub-total for A					P 506.41
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Cargo Truck	1	0.20	9,696.00	1,893.75
Sub-total for B					P 1,893.75
C.	Total (A+B)				2,400.16
D.	Output/day	64.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E					P -
F.	Direct Cost (C + E)				2,400.16
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		192.01
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		192.01
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		139.21
J.	Total Unit Cost				116.94

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 102(2) Surplus Common Excavation

Unit of Measurement: cu.m.

Output per hour: 60.00

Quantity: 1,255.00

For Disposal

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	2.61	611.92	1,599.92
	b. Unskilled Labor	2	2.61	342.24	1,789.63
Sub-total for A					P 3,389.55
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Bulldozer, D6H SERIES II PSDS/DD	1	2.61	27,032.00	70,677.42
	b. Payloader (1.50 cu.m.)	1	2.61	13,864.00	36,248.58
	c. Payloader (1.50 cu.m.) - at disposal area	1	0.65	13,864.00	9,062.15
	d. Dump Truck (12 cu.yd.)	2	2.61	11,360.00	59,403.33
Sub-total for B					P 175,391.48
C.	Total (A+B)				178,781.03
D.	Output/day	480.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E					P -
F.	Direct Cost (C + E)				178,781.03
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		14,302.48
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		14,302.48
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		10,369.30
J.	Total Unit Cost				173.51

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 104(1)a Embankment from Roadway Excavation

Unit of Measurement: cu.m.

Output per hour: 50.00

Quantity: 2,391.50

Compacted Volume

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	For Excavation Work				
	a. Const. Foreman	1	4.96	611.92	3,036.57
	c. Unskilled Laborer	2	4.96	342.24	3,396.64
	Spreading and Compaction				
	a. Const. Foreman	1	5.98	611.92	3,658.52
	c. Unskilled Laborer	2	5.98	342.24	4,092.33
Sub-total for A					P 14,184.06
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	For Excavation Work				
	a. Bulldozer, D6H Series II PSDS/DD	1	4.96	27,032.00	134,142.58
	b. Payloader (1.50 cu.m.)	1	4.96	13,864.00	68,798.19
	c. Dump Truck (12 cu.yd.)	2	4.96	11,360.00	112,744.88
	Spreading and Compaction				
	a. Motorized Road Grader (140 hp), G170A	1	5.98	17,384.00	103,934.59
	b. Vibratory Roller (10 mt), SD100C	1	5.98	14,768.00	88,294.18
	c. Water Truck/Pump (16000 L)	1	1.49	19,600.00	29,295.88
Sub-total for B					P 537,210.30
C.	Total (A+B)				551,394.36
D.	Output/day	400.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E					P -
F.	Direct Cost (C + E)				551,394.36
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		44,111.55
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		44,111.55
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		31,980.87
J.	Total Unit Cost				280.83

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 404(1)a Reinforcing Steel
 Unit of Measurement: kg.
 Output per hour: 180.00
 Quantity: 527.50

Grade 40, For ties at Cantilever Wall

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	0.37	611.92	224.16
	b. Skilled Labor	2	0.37	443.20	324.71
	c. Unskilled Labor	8	0.37	342.24	1,002.95
Sub-total for A					P 1,551.82
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Bar Cutter	1	0.18	1,758.00	321.99
	b. Bar Bender	1	0.18	2,812.00	515.05
	c. Cargo Truck (9 - 10 mt.)	1	0.05	9,696.00	532.78
Sub-total for B					P 1,369.81
C.	Total (A+B)				2,921.63
D.	Output/day	1,440.00	ln.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Tie Wire (2% of RSB)	11.08	kg.	80.00	886.20
	b. Reinforcing Steel Bar, Grade 40 (with 5% wastage)	553.88	kg.	38.00	21,047.25
Sub-total for E					P 21,933.45
F.	Direct Cost (C + E)				24,855.08
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		1,988.41
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		1,988.41
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		1,441.59
J.	Total Unit Cost				57.39

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 404(1)b Reinforcing Steel

Unit of Measurement: kg.

Output per hour: 180.00

Quantity: 8,711.00

Grade 60, Reinforcing Bars for Cantilever Wall

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	6.05	611.92	3,701.69
	b. Skilled Labor	2	6.05	443.20	5,362.10
	c. Unskilled Labor	8	6.05	342.24	16,562.51
Sub-total for A					P 25,626.31
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Bar Cutter	1	3.02	1,758.00	5,317.34
	b. Bar Bender	1	3.02	2,812.00	8,505.32
	c. Cargo Truck (9 - 10 mt.)	1	0.91	9,696.00	8,798.11
Sub-total for B					P 22,620.77
C.	Total (A+B)				48,247.08
D.	Output/day	1,440.00	ln.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Tie Wire (2% of RSB)	182.93	kg.	80.00	14,634.48
	b. Reinforcing Steel Bar, Grade 40 (with 5% wastage)	9,146.55	kg.	40.00	365,862.00
Sub-total for E					P 380,496.48
F.	Direct Cost (C + E)				428,743.56
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		34,299.49
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		34,299.49
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		24,867.13
J.	Total Unit Cost				59.95

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 405(1) a3 Structural Concrete, Class "A"

Unit of Measurement: cu.m.

Output per hour: 1.40

Quantity: 99.00

For Cantilever Wall (20.68 Mpa, 28 days)

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	8.84	611.92	5,408.94
	b. Skilled Labor	4	8.84	443.20	15,670.29
	c. Unskilled Labor	8	8.84	342.24	24,201.26
	Installation/Removal of Formworks				
	b. Skilled Labor	4	8.84	443.20	15,670.29
	c. Unskilled Labor	8	8.84	342.24	24,201.26
Sub-total for A				P	85,152.02
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	1	8.84	1,376.00	12,162.86
	b. Concrete Vibrator	1	8.84	730.00	6,452.68
	c. Water Truck/Pump (16000 L)	1	0.88	19,600.00	17,325.00
	Minor Tools 5% of Labor				4,257.60
Sub-total for B				P	40,198.14
C.	Total (A+B)				125,350.16
D.	Output/day	11.20	ln.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Lumber, Good - 4 uses	6,930.00	bd.ft.	37.00	64,102.50
	b. Marine Plywood (1/2" x 4' x 8') - 4 uses	158.40	pc.	880.00	34,848.00
	c. Assorted CWN (1kg./100 bd.ft. of Lumber)	69.30	kg.	65.00	4,504.50
	d. Cement	940.50	bag	284.00	267,102.00
	e. Sand	49.50	cu.m.	1,641.40	81,249.30
	f. Gravel	99.00	cu.m.	1,341.40	132,798.60
Sub-total for E				P	584,604.90
F.	Direct Cost (C + E)				709,955.06
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		56,796.40
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		56,796.40
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		41,177.39
J.	Total Unit Cost				8,734.60

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 407(8) Lean Concrete
Unit of Measurement: cu.m.

Output per hour: 1.40

Quantity: 4.80

Class B, 16.5 Mpa

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	0.43	611.92	262.25
	b. Skilled Labor	1	0.43	443.20	189.94
	c. Unskilled Labor	2	0.43	342.24	293.35
Sub-total for A					P 745.54
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	1	0.43	1,376.00	589.71
	b. Concrete Vibrator	1	0.43	730.00	312.86
	c. Water Truck	1	0.04	19,600.00	840.00
Sub-total for B					P 1,742.57
C.	Total (A+B)				2,488.11
D.	Output/day	11.20	kg./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Portland Cement	45.60	bag	284.00	12,950.40
	b. Sand	2.40	cu.m.	1,641.40	3,939.36
	c. Gravel	4.80	cu.m.	1,341.40	6,438.72
Sub-total for E					P 23,328.48
F.	Direct Cost (C + E)				25,816.59
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		2,065.33
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		2,065.33
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		1,497.36
J.	Total Unit Cost				6,550.96

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 505(2)a Grouted Riprap, Class "A"

Unit of Measurement: cu.m.

Output per hour: 1.25

Quantity: 111.00

For Slope Protection

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	11.10	611.92	6,792.31
	c. Skilled Labor	2	11.10	443.20	9,839.04
	d. Unskilled Labor	8	11.10	342.24	30,390.91
Sub-total for A					P 47,022.26
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	1	11.10	1,376.00	15,273.60
	b. Water Truck/Pump (16000 L)	1	0.56	19,600.00	10,878.00
	Minor Tools 5% of Labor				2,351.11
Sub-total for B					P 28,502.71
C.	Total (A+B)				75,524.98
D.	Output/day	10.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Cement	333.00	bag	284.00	94,572.00
	b. Sand	27.75	cu.m.	1,641.40	45,548.85
	c. Gravel	1.67	cu.m.	1,341.40	2,233.43
	d. Weep Holes (PVC)	33.30	m.	50.83	1,692.75
	e. Filter Cloth	1.67	sq.m.	160.00	266.40
	f. Boulders (15 - 25 kg.)	116.55	cu.m.	1,341.40	156,340.17
	Miscellaneous 1% of Materials Cost				3,006.54
Sub-total for E					P 303,660.14
F.	Direct Cost (C + E)				379,185.11
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		30,334.81
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		30,334.81
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		21,992.74
J.	Total Unit Cost				4,160.79

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 511(1)a3 Gabions
 Unit of Measurement: cu.m.
 Output per hour: 7.50
 Quantity: 1,900.00

*For Slope Protection, 1 m x 1 m x 2 m,
Metallic Coated*

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	31.67	611.92	19,377.47
	b. Leadman	3	31.67	561.36	53,329.20
	c. Skilled Labor	6	31.67	443.20	84,208.00
	d. Unskilled Labor	24	31.67	342.24	260,102.40
	<i>use quadruple gang of labor</i>				
Sub-total for A					P 417,017.07
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	Minor Tools 10% of Labor				41,701.71
Sub-total for B					P 41,701.71
C.	Total (A+B)				458,718.77
D.	Output/day	60.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Boulders	1,995.00	cu.m.	1,341.40	2,676,093.00
	b. Gabion Wire Mesh (1 m. x 1 m. x 2 m.) with complete accessories	950.00	pc.	2,300.00	2,185,000.00
Sub-total for E					P 4,861,093.00
F.	Direct Cost (C + E)				5,319,811.77
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		425,584.94
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		425,584.94
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		308,549.08
J.	Total Unit Cost				3,410.28

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 522(1) Rockfall Netting
 Unit of Measurement: sq.m.
 Output per hour: 6.00
 Quantity: 11,044.00

For Slope Protection

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	Soil Nailing of Anchor Bolts				
a.	Const. Foreman	1	230.08	611.92	140,792.59
b.	Leadman	4	230.08	561.36	516,638.32
c.	Skilled Labor	8	230.08	443.20	815,783.47
d.	Unskilled Labor	16	230.08	342.24	1,259,899.52
	Installation of High Tensile Wires & Components				
a.	Const. Foreman	1	230.08	611.92	140,792.59
b.	Leadman	4	230.08	561.36	516,638.32
c.	Skilled Labor	8	230.08	443.20	815,783.47
d.	Unskilled Labor	16	230.08	342.24	1,259,899.52
	Installation of Erosion Control Materials and Vegetation				
a.	Const. Foreman	1	230.08	611.92	140,792.59
b.	Leadman	4	230.08	561.36	516,638.32
c.	Skilled Labor	8	230.08	443.20	815,783.47
d.	Unskilled Labor	16	230.08	342.24	1,259,899.52
	use quadruple gang of labor and equipment				
Sub-total for A					P 8,199,341.70
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
a.	Hydraulic Telescopic Boom Truck	4	230.08	8,143.20	7,494,458.40
b.	Air Compressor	4	230.08	4,016.00	3,696,058.67
c.	Drilling Machine Dry Type	4	230.08	3,000.00	2,761,000.00
d.	Pull Out Tester	4	34.51	10,000.00	1,380,500.00
e.	Grouting Machine	4	57.52	6,930.00	1,594,477.50
f.	Hydroseeding Machine	4	11.50	7,616.00	350,462.93
g.	Power Spray	4	11.50	1,500.00	69,025.00
	Minor Tools 10% of Labor				819,934.17
Sub-total for B					P 18,165,916.67
C.	Total (A+B)				26,365,258.37
D.	Output/day	48.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
a.	Item 522a(1) High Tensile Wire Mesh & Components (Tecco High, Rope Anchor, Connection, Clip & Wire Rope Anchor)	11,044.00	sq.m.	7,900.00	87,247,600.00
b.	Item 513(1) Achor Bolts Mat. (Anchor Bolts 32 mm. dia. X length, threading of Bolts with Nuts, 5000 psi Non-Shrink Grout, Centralizer and Drill Bit, L = based on the design length	11,044.00	sq.m.	1,608.33	17,762,396.52
c.	Item 520 Hydroseeding (3D Geonet/Erosion Control Matt. Centrosema Seed and Enzyme)	11,044.00	sq.m.	750.19	8,285,098.36
d.	Additional 7% Materials Cost for Mindanao Area (Mobilization/Hauling/Handling Purposes)				7,930,656.64
Sub-total for E					P 121,225,751.52
F.	Direct Cost (C + E)				147,591,009.89
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		11,807,280.79
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		11,807,280.79
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		8,560,278.57
J.	Total Unit Cost				16,277.24

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 603(3)a1 Metal Guardrail (Metal Beam) including Post

Unit of Measurement: In.m.

Output per hour: 4.20

Quantity: 94.00

For Center Line (Separation & Edge Lines)

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	2.80	611.92	1,711.92
	b. Skilled Labor	2	2.80	443.20	2,479.81
	c. Unskilled Labor	4	2.80	342.24	3,829.83
Sub-total for A					P 8,021.56
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Cargo Truck/Delivery Truck (2-5 mt)	1	0.70	9,696.00	6,781.43
Sub-total for B					P 6,781.43
C.	Total (A+B)				14,802.99
D.	Output/day	33.60	sq.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Cement	14.11	bag	284.00	4,007.81
	b. Sand	1.01	cu.m.	1,641.40	1,654.53
	c. Gravel	2.02	cu.m.	1,341.40	2,704.26
	d. M.F.B.G. Class B 3.34mm.	94.00	ln.m.	3,350.00	314,900.00
	e. Bolt, Nut & Washer 5/8" dia. X 9"	36.00	pc.	28.00	1,008.00
	f. Bolt, Nut & Washer 5/8" dia. X 1"	144.00	pc.	21.00	3,024.00
	g. Guardrail Post 4" x 5' with dowels	36.00	pc.	1,770.00	63,720.00
Sub-total for E					P 391,018.60
F.	Direct Cost (C + E)				405,821.59
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		32,465.73
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		32,465.73
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		23,537.65
J.	Total Unit Cost				5,258.41

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide -
Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

Item No./Description: 603(3)b Metal Beam End Piece
Unit of Measurement: each
Output per hour: 6.00
Quantity: 2.00

For Barrier Lines

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	0.04	611.92	25.50
	b. Skilled Labor	1	0.04	443.20	18.47
	c. Unskilled Labor	2	0.04	342.24	28.52
Sub-total for A					P 72.48
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Cargo Truck/Delivery Truck (9-10 mt)	1	0.04	9,696.00	404.00
	Minor Tools 5% of Labor				3.62
Sub-total for B					P 407.62
C.	Total (A+B)				480.11
D.	Output/day	48.00	sq.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Metal Guardrail End Piece	2.00	each	1,350.00	2,700.00
Sub-total for E					P 2,700.00
F.	Direct Cost (C + E)				3,180.11
G.	Overhead, Contingencies and Miscellaneous		8% per D.O. 197, s. 2016		254.41
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		254.41
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		184.45
J.	Total Unit Cost				1,936.69

PROJECT : Rehabilitation / Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Primary Road - Pagadian - Zamboanga City Road, Zamboanga City

LOCATION : Zamboanga City

LIMITS : 1869+950.00 - 1870+055.00

1870+240.00 - 1870+330.00

1870+520.00 - 1870+590.00

1870+680.00 - 1870+874.00

1894+220.00 - 1894+400.00

1911+910.00 - 1911+981.00

710.00 In.m.

net length :

SUMMARY OF DETAILED ESTIMATES

ITEM NO.	DESCRIPTION	QTY.	UNIT	LABOR	EQUIPMENT	MATERIALS	OCM	PROFIT	VAT	TOTAL
PART A - FACILITIES FOR THE ENGINEER										
A.1.1(3)	Construction of Field Office for the Engineer	1.00	L.S.	42,596.48	32,115.65	333,077.72	32,623.19	32,623.19	23,651.81	496,688.03
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	1.00	L.S.	-	-	335,225.66	-	26,818.05	18,102.19	380,145.90
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	12.00	month	152,035.20	-	302,510.00	-	-	22,727.26	477,272.46
TOTAL OF PART A										
PART B - OTHER GENERAL REQUIREMENTS										
B.4(1)	Construction Survey & Staking	0.71	km.	18,523.81	3,627.38	12,468.75	2,769.60	2,769.60	2,007.96	42,167.09
B.5	Project Billboard/Signboard	2.00	each	3,479.20	-	7,500.00	878.34	878.34	636.79	13,372.67
B.7	Occupation Safety and Health Program	12.00	month	269,697.60	45,000.00	26,760.00	-	27,316.61	18,438.71	387,212.92
B.9	Mobilization & Demobilization	1.00	L.S.	-	247,290.00	-	-	-	12,364.50	259,654.50
TOTAL OF PART B										
PART C - EARTHWORKS										
100(1)	Clearing and Grubbing	1.10	ha.	3,565.10	174,944.00	-	14,280.73	14,280.73	10,353.53	217,424.08
101(8)	Removal of Existing Guardrails	94.00	In.m.	761.64	2,848.20	-	288.79	288.79	209.37	4,396.78
101(9)	Removal of Existing Guardrail Posts	25.00	each	506.41	1,893.75	-	192.01	192.01	139.21	2,923.39
102(2)	Surplus Common Excavation	1,175.50	cum.	3,174.83	164,281.02	-	13,396.47	13,396.47	9,712.44	203,961.23
102(3)a	Surplus Rock Excavation	2,971.00	cum.	8,597.33	553,301.87	-	44,951.87	44,951.87	32,590.10	684,392.17
104(1)a	Embankment from Roadway Excavation	2,391.50	cum.	14,184.06	537,210.30	-	44,111.55	44,111.55	31,980.87	671,598.33
TOTAL OF PART C										
PART F - BRIDGE CONSTRUCTION										
404(1)a	Reinforcing Steel	527.50	kg.	1,551.82	1,369.81	21,933.45	1,988.41	1,988.41	1,441.59	30,273.49
404(1)b	Reinforcing Steel	8,711.00	kg.	25,626.31	22,620.77	380,496.48	34,299.49	34,299.49	24,867.13	522,209.66
405(1)a3	Structural Concrete, Class "A"	99.00	cum.	85,152.02	40,198.14	584,604.90	56,796.40	56,796.40	41,177.39	864,725.26
407(8)	Lean Concrete	4.80	cum.	745.54	1,742.57	23,328.48	2,065.33	2,065.33	1,497.36	31,444.61
TOTAL OF PART C										
PART G - DRAINAGE AND SLOPE PROTECTION WORKS										
505(2)a	Grouled Riprap, Class "A"	111.00	cum.	47,022.26	28,502.71	303,660.14	30,334.81	30,334.81	21,992.74	461,847.47
511(1)a3	Gabions	1,900.00	cum.	417,017.07	41,701.71	4,861,093.00	425,584.94	425,584.94	308,549.08	6,479,530.74
522(1)	Rockfall Netting	11,044.00	sq.m.	8,199,341.70	18,165,916.67	121,225,751.52	11,807,280.79	11,807,280.79	8,560,278.57	179,765,850.05
TOTAL OF PART G										
PART H - MISCELLANEOUS STRUCTURES										
603(3)a1	Metal Guardrail (Metal Beam) including Post	94.00	In.m.	8,021.56	6,781.43	391,018.60	32,465.73	32,465.73	23,537.65	494,290.69
603(3)b1	Metal Beam End Piece	2.00	each	72.48	407.62	2,700.00	254.41	254.41	184.45	3,873.37
TOTAL OF PART H										
TOTAL										
				9,301,672.41	20,071,752.74	128,812,128.70	12,544,562.83	12,598,697.49	9,166,440.71	192,495,254.89

UNIT COST ANALYSIS FOR HAULING COST FOR PORTLAND CEMENT

TOTAL QUANTITY REQUIREMENTS FOR PORTLAND CEMENT

DESCRIPTION	QUANTITY (Bags)
Structural Concrete, Class "A"	940.50
Grouted Riprap, Class "A"	333.00
Metal Guardrail (Metal Beam) including Post	14.11
Construction of Field Office for the Engineer	90.00
T O T A L	1,377.61

Quantity = **1,377.61** Bags

Delivery Charge = P 0.120 / bag / km.

S I T E	HAULING DISTANCE
Zamboanga City DEO	25.00
Batching plant	

*Average hauling distance from Source to assumed Stockpiling area :
say 25.00 km.

Delivery Charge = P 0.120 x 25.00
= P **3.00** / bag

*Delivery Truck : 1,377.61 bags., (hauling works)
20,000.00 kgs., (capacity per haul)
or 500.00 bags, (capacity per haul)

*Capacity of Laborers unloading bags of Cement from Delivery Truck :
Assume (10) laborers can unload 500.00 bags of Cement.

*Dumptruck (10 Wheeler) days computation : **TIME-MOTION ANALYSIS**

Speed when loaded	:	30.00	kph	
Speed when unloaded	:	40.00	kph	
Loaded running	=	$\frac{25.00 \times 60}{30.00}$	=	50.00 mins.
Unloaded running	=	$\frac{25.00 \times 60}{40.00}$	=	37.50 mins.
Loading and Unloading	:	45.00	mins.	
allowance for delay/traffic	:	3.00	mins.	
Capacity of Dumptruck	:	8.00	cu.m.	
	:	500.00	bags	
Total Cycle time	:	135.50	mins.	
No. of trips for Dumptruck per day	=	$\frac{8.0 \times 60.00}{135.50}$	=	3.54 say 3.54 trip
Dumptruck daily output	=	500 x 3.54	=	1,771.22 cu.m.
Using (3) Dumptrucks	=	3 x 1771.22	=	5,313.65 cu.m.

1. No. of days for Delivery Truck = $\frac{1,377.61}{5,313.65} = 0.26$ say 0.26 days
2. No. of days for Labor, for unloading = complimentary to D. Truck days = 0.26 days

DELIVERY COST :

1,377.61	- Bags, Portland Cement	@ P	3.00	/ bag	= P	4,132.84
Sub - Total					P	4,132.84

LABOR :

1	- Foreman	@ P	611.92 /day	x	0.26 days	= P	158.65
10	- Laborers, unloading	@ P	342.24 /day	x	0.26 days	= P	887.29
Sub - Total							1,045.93

MATERIALS :

1,377.61	- Bags, Portland Cement	@ P	280.00	/ bag	= P	385,731.36
	(Pick-Up Price)			Sub - Total	P	385,731.36

Estimated Quantity		1,377.61 Bags			
Unit Cost	P	283.76 / Bag,	say P	284.00 / Bag	
Grand Total	P	390,910.13			
Delivery Cost	P	4,132.84			
Labor	P	1,045.93			
Materials	P	385,731.36			

UNIT COST ANALYSIS FOR HAULING COST FOR ALL AGGREGATES

Hauling Cost from the Quarry to Batching plant

Item No. : ALL AGGREGATES Terrain : Flat to Rolling
 Quantity : 1,000.00 Unit : cu.m.
 Hauling Distance : 5.00 km.
 Effective Working Hours : 8.00 hrs.

Hauling: Using 10.00 cu.m.capacity Dumptruck

Weight of Dumptruck (cap. 10.00 cu.m.) : 16,000.00 kgs.
 Unit weight of Fine Aggregates : 1,640.00 kg/m³
 Unit weight of Coarse Aggregates : 1,534.00 kg/m³
 Maximum Volume to be Carried per DT : 11.57 cu.m.

*Dumptruck (10 Wheeler) days computation : TIME-MOTION ANALYSIS

Speed when loaded	:	30.00	kph	
Speed when unloaded	:	40.00	kph	
Loaded running	=	$\frac{5.00 \times 60}{30.00}$	=	10.00 mins.
Unloaded running	=	$\frac{5.00 \times 60}{40.00}$	=	7.50 mins.
Loading and Unloading	:	5.00	mins.	
allowance for delay/traffic	:	3.00	mins.	
Capacity of Dumptruck	:	10.00	cu.m.	
Total Cycle time	:	25.50	mins.	
No. of trips for Dumptruck per day	=	$\frac{8 \times 60.00}{25.50}$	=	18.82 say 18.82 trips
Dumptruck daily output	=	10 x 18.82	=	188.24 cu.m.
Using (5) Dumptrucks	=	5 x 188.24	=	941.18 cu.m.
1. No. of days for Dumptrucks	=	$\frac{1,000.00}{941.18}$	=	1.06 say 1.06 days

EQUIPMENT USED : (2009 ACEL RATES)

5	- Unit Dumptruck	@ P 11,360.00 /day	x 1.06 days	= P 60,350.00
			Sub - Total	P 60,350.00

Estimated Quantity		1,000.00 cu.m.
Unit Cost	P	12.07 /cu. m./km. (Unit Cost, Hauling per cu.m.per km.)
Grand Total	P	60,350.00
Equipment	P	60,350.00
Labor	P	
Materials	P	

	Hauling Distance		Unit Cost per cu.m./km.		Hauling Cost per cu.m.		Unit Price		Unit Cost per cu.m.
Cost of Fine Aggregates:	20.00	x	12.07	=	241.40	+	1,400.00	=	1,641.40
Cost of Coarse Aggregates:	20.00	x	12.07	=	241.40	+	1,100.00	=	1,341.40
Cost of Boulders:	20.00	x	12.07	=	241.40	+	1,100.00	=	1,341.40