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 :	Appropriation	:	P **140,000,000.00**
Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City	Source of Funds	:	CY-2018 GAA
	Issued Obligated Authority	:	
LOCATION:	Released	:	
Zamboanga City	Cal. Days to Complete	:	267 Calendar Days
PROJECT CATEGORY :	Desirable Starting Date	:	upon approval
NATIONAL ROAD	Mode of Implementation	:	by contract

PROJECT DESCRIPTION :

Scope of Work	:	Road Opening
Road Width	:	6.70 m.
Roadbed Width	:	12.00 m.
Subbase Course	:	0.30 m. thk.
Surface Course	:	0.15 m. thk.

Station Limits:

				Length
I	1887+800.00	-	1888+600.00	800.00

Net Length: **800.00** **ln.m.** / **0.80** **km.**
Lane Kilometer: **1.60** **km.**

MINIMUM EQUIPMENT REQUIREMENT : TECHNICAL PERSONNEL REQUIRED :

Description	No.	Description	No.	Description	No.
Dump Truck	12	Water Pump	1	Project Engineer	1
Transti Mixer	4	Concrete Screeder	1	Materials Engineer	1
Bulldozer	2	Concrete Vibrator	2	Geometric Surveyor	1
Backhoe	3	Concrete Cutter	2	Foreman	1
Road Grader	2	Bar Cutter	1	Materials Lab. Tech.	1
Road Roller	2	Bar Bender	1	Mason	12
Payloader	4	One Bagger Mixer	2	Carpenter	8
Water Truck	2	Batching Plant	1	Laborers (Skilled)	20
Water Tank	2	Plate Compactor	1	Laborers (Unskilled)	30
Kneading Machine	1	Cargo Truck	1	Safety Practitioner	1
Applicator Machine	1				

ESTIMATED COST OF PROPOSED WORK

ITEM NO.	DESCRIPTION	% OF TOTAL	UNIT	QUANTITY	DIRECT COST TOTAL	DIRECT COST UNIT COST
PART A - FACILITIES FOR THE ENGINEER						
A.1.1(3)	Construction of Field Office for the Engineer	0.39	L.S.	1.00	419,776.01	419,776.01
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	0.28	L.S.	1.00	300,290.00	300,290.00
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	0.26	month	8.90	277,944.94	31,229.77
PART B - OTHER GENERAL REQUIREMENTS						
B.4(1)	Construction Survey & Staking	0.05	km.	0.80	49,896.59	62,370.74
B.5	Project Billboard/Signboard	0.01	each	2.00	10,979.20	5,489.60
B.7	Occupation Safety and Health Program	0.27	month	8.90	286,785.72	32,223.11
B.9	Mobilization & Demobilization	0.94	L.S.	1.00	1,007,775.00	1,007,775.00
PART C - EARTHWORKS						
102(1)	Unsuitable Excavation	2.07	cu.m.	9,280.00	2,232,178.95	240.54
104(2)a	Embankment from Borrow	4.46	cu.m.	8,264.00	4,803,933.44	581.31
104(5)	Boulder Fill	72.58	cu.m.	39,252.00	78,136,484.31	1,990.64

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 : Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City	Appropriation	:	P **140,000,000.00**
	Source of Funds	:	CY-2018 GAA
LOCATION: Zamboanga City	Issued Obligated Authority	:	
	Released	:	
	Cal. Days to Complete	:	267 Calendar Days
PROJECT CATEGORY : NATIONAL ROAD	Desirable Starting Date	:	upon approval
	Mode of Implementation	:	by contract

PROJECT DESCRIPTION :

Scope of Work	:	Road Opening
Road Width	:	6.70 m.
Roadbed Width	:	12.00 m.
Subbase Course	:	0.30 m. thk.
Surface Course	:	0.15 m. thk.

Station Limits:

				Length
I	1887+800.00	-	1888+600.00	800.00

Net Length: **800.00 ln.m. / 0.80 km.**

Lane Kilometer: **1.60 km.**

MINIMUM EQUIPMENT REQUIREMENT : / TECHNICAL PERSONNEL REQUIRED :

Description	No.	Description	No.	Description	No.
Dump Truck	12	Water Pump	1	Project Engineer	1
Transti Mixer	4	Concrete Screeder	1	Materials Engineer	1
Bulldozer	2	Concrete Vibrator	2	Geometric Surveyor	1
Backhoe	3	Concrete Cutter	2	Foreman	1
Road Grader	2	Bar Cutter	1	Materials Lab. Tech.	1
Road Roller	2	Bar Bender	1	Mason	12
Payloader	4	One Bagger Mixer	2	Carpenter	8
Water Truck	2	Batching Plant	1	Laborers (Skilled)	20
Water Tank	2	Plate Compactor	1	Laborers (Unskilled)	30
Kneading Machine	1	Cargo Truck	1	Safety Practitioner	1
Applicator Machine	1				

ESTIMATED COST OF PROPOSED WORK

ITEM NO.	DESCRIPTION	% OF TOTAL	UNIT	QUANTITY	DIRECT COST	
					TOTAL	UNIT COST
PART A - FACILITIES FOR THE ENGINEER						
A.1.1(3)	Construction of Field Office for the Engineer	0.39	L.S.	1.00	419,776.01	419,776.01
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	0.28	L.S.	1.00	300,290.00	300,290.00
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	0.26	month	8.90	277,944.94	31,229.77
PART B - OTHER GENERAL REQUIREMENTS						
B.4(1)	Construction Survey & Staking	0.05	km.	0.80	49,896.59	62,370.74
B.5	Project Billboard/Signboard	0.01	each	2.00	10,979.20	5,489.60
B.7	Occupation Safety and Health Program	0.27	month	8.90	286,785.72	32,223.11
B.9	Mobilization & Demobilization	0.94	L.S.	1.00	1,007,775.00	1,007,775.00
PART C - EARTHWORKS						
102(1)	Unsuitable Excavation	2.07	cu.m.	9,280.00	2,232,178.95	240.54
104(2)a	Embankment from Borrow	4.46	cu.m.	8,264.00	4,803,933.44	581.31
104(5)	Boulder Fill	72.58	cu.m.	39,252.00	78,136,484.31	1,990.64

ITEM NO.	DESCRIPTION	% OF TOTAL	UNIT	QUANTITY	DIRECT COST	
					TOTAL	UNIT COST
PART D - SUBBASE AND BASE COURSE						
200(1)	Aggregate Subbase Course	3.82	cu.m.	2,897.00	4,111,452.82	1,419.21
PART E - SURFACE COURSES						
300(1)	Gravel Surface Course	0.52	cu.m.	378.00	560,370.07	1,482.46
311(1)e1	Portland Cement Concrete Pavement	8.52	sq.m.	5,125.00	9,175,028.75	1,790.25
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES						
402(1)	Timber Structure	0.65	span	5.00	703,411.66	140,682.33
505(2)a	Grouted Riprap, Class "A"	3.17	cu.m.	909.00	3,414,725.54	3,756.57
PART H - MISCELLANEOUS STRUCTURES						
612(1)	Reflectorized Thermoplastic Pavement Markings (White)	0.13	sq.m.	191.00	141,172.82	739.12
715(1)	Separation Geotextile	1.88	sq.m.	10,932.00	2,026,960.06	185.42
TOTAL		**100.00**			**P 107,659,165.88**	

ITEM NO.	DESCRIPTION	% OF TOTAL	UNIT	QUANTITY	DIRECT COST	
					TOTAL	UNIT COST
PART D - SUBBASE AND BASE COURSE						
200(1)	Aggregate Subbase Course	3.82	cu.m.	2,897.00	4,111,452.82	1,419.21
PART E - SURFACE COURSES						
300(1)	Gravel Surface Course	0.52	cu.m.	378.00	560,370.07	1,482.46
311(1)e1	Portland Cement Concrete Pavement	8.52	sq.m.	5,125.00	9,175,028.75	1,790.25
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES						
402(1)	Timber Structure	0.65	span	5.00	703,411.66	140,682.33
505(2)a	Grouted Riprap, Class "A"	3.17	cu.m.	909.00	3,414,725.54	3,756.57
PART H - MISCELLANEOUS STRUCTURES						
612(1)	Reflectorized Thermoplastic Pavement Markings (White)	0.13	sq.m.	191.00	141,172.82	739.12
715(1)	Separation Geotextile	1.88	sq.m.	10,932.00	2,026,960.06	185.42
TOTAL		**100.00**			**P 107,659,165.88**	

NAME OF PROJECT : **Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City**

Zamboanga City

BREAKDOWN OF ESTIMATED EXPENDITURES	% OF TOTAL	AMOUNT
I. ESTIMATED COST		
A. DIRECT COST		
A.1. Labor	3.30	4,623,989.40
A.2. Equipment Expenses	11.30	15,819,470.49
A.3. Materials	62.30	87,215,705.98
SUB-TOTAL (DIRECT COST)	**76.90**	**P 107,659,165.88**
B. INDIRECT COST (Per D.O. # 197, s. 2016)		
B.1. Overhead, Contingency & Misc. (10 % Max. of D.C.)	7.56	10,578,637.02
B.2. Profit (8 % Max. of D.C.)	6.08	8,509,875.68
C. VAT (5% of D.C. and I.C. Per D.O. # 197, s. 2016)	4.53	6,337,383.93
SUBTOTAL (CONTRACT COST)	**95.06**	**P 133,085,062.51**
II. ESTIMATED GOVERNMENT EXPENDITURES		
1. Engineering and Administrative Overhead (3.5%)	3.50	4,900,000.00
2. Detailed Engineering (1%)		
3. Reserved for the Payment of RROW	1.44	2,014,937.49
4. Physical Reserved		
TOTAL ESTIMATED PROJECT COST	**100.00**	**P 140,000,000.00**

Prepared : **ELWICK P. ACUÑA** Engineer II	Checked : **JOSEPHINE B. RENQUIJO** 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 : **Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City**

Zamboanga City

BREAKDOWN OF ESTIMATED EXPENDITURES	% OF TOTAL	AMOUNT
I. ESTIMATED COST		
A. DIRECT COST		
A.1. Labor	3.30	4,623,989.40
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4. Physical Reserved		
TOTAL ESTIMATED PROJECT COST	**100.00**	**P 140,000,000.00**

Prepared : **ELWICK P. ACUÑA** Engineer II	Checked : **JOSEPHINE B. RENQUIJO** 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

Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City

Stations : 1887+800.00 to 1888+600.00

Length : 800.00 ln.m.

Contract Duration : 267 CD

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UPS IN % OCM	MARK-UPS IN % PROFIT	TOTAL MARK-UPS %	TOTAL MARK-UPS VALUE	VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (5) x (8)	(10) 5%[(5) + (9)]	(11) (9) + (10)	(12) (5) + (11)	(13) (12) / (3)
PART A - FACILITIES FOR THE ENGINEER												
A.1.1(3)	Construction of Field Office for the Engineer	1.00	L.S.	419,776.01	10.00	8.00	18.00	75,559.63	24,766.78	100,326.47	520,102.48	520,102.48
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	1.00	L.S.	300,290.00	-	8.00	8.00	24,023.20	16,215.66	40,238.86	340,528.86	340,528.86
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	8.90	month	277,944.94	-	-	-	-	13,897.25	13,897.25	291,842.19	32,791.26
	TOTAL OF PART A			**998,010.95**				*99,582.88*	*54,879.69*	*154,462.57*	**1,152,473.53**	
PART B - OTHER GENERAL REQUIREMENTS												
B.4(1)	Construction Survey & Staking	0.80	km.	49,896.59	10.00	8.00	18.00	8,981.39	2,943.90	11,925.29	61,821.88	77,277.34
B.5	Project Billboard/Signboard	2.00	each	10,979.20	10.00	8.00	18.00	1,976.26	647.77	2,624.03	13,603.23	6,801.62
B.7	Occupation Safety and Health Program	8.90	month	286,785.72	-	8.00	8.00	22,942.86	15,486.43	38,429.29	325,215.01	36,541.01
B.9	Mobilization & Demobilization	1.00	L.S.	1,007,775.00	-	-	-	-	50,388.75	50,388.75	1,058,163.75	1,058,163.75
	TOTAL OF PART B			**1,355,436.51**				*33,900.50*	*69,466.85*	*103,367.35*	**1,458,803.86**	
PART C - EARTHWORKS												
102(1)	Unsuitable Excavation	9,280.00	cu.m.	2,232,178.95	10.00	8.00	18.00	401,792.21	131,698.56	533,490.77	2,765,669.72	298.03
104(2)a	Embankment from Borrow	8,264.00	cu.m.	4,803,933.44	10.00	8.00	18.00	864,708.02	283,432.07	1,148,140.09	5,952,073.54	720.24
104(5)	Boulder Fill	39,252.00	cu.m.	78,136,484.31	10.00	8.00	18.00	14,064,567.18	4,610,052.57	18,674,619.75	96,811,104.06	2,466.40
	TOTAL OF PART C			**85,172,596.71**				*15,331,067.41*	*5,025,183.21*	*20,356,250.61*	**105,528,847.32**	
PART D - SUBBASE AND BASE COURSE												
200(1)	Aggregate Subbase Course	2,897.00	cu.m.	4,111,452.82	10.00	8.00	18.00	740,061.51	242,575.72	982,637.22	5,094,090.04	1,758.40
	TOTAL OF PART D			**4,111,452.82**				*740,061.51*	*242,575.72*	*982,637.22*	**5,094,090.04**	
PART E - SURFACE COURSES												
300(1)	Gravel Surface Course	378.00	cu.m.	560,370.07	10.00	8.00	18.00	100,866.61	33,061.83	133,928.45	694,298.52	1,836.77
311(1)e1	Portland Cement Concrete Pavement	5,125.00	sq.m.	9,175,028.75	10.00	8.00	18.00	1,651,505.17	541,326.70	2,192,831.87	11,367,860.62	2,218.12
	TOTAL OF PART E			**9,735,398.81**				*1,752,371.79*	*574,388.53*	*2,326,760.32*	**12,062,159.13**	
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES												
402(1)	Timber Structure	5.00	span	703,411.66	10.00	8.00	18.00	126,614.10	41,501.29	168,115.39	871,527.05	174,305.41
505(2)a	Grouted Riprap, Class "A"	909.00	cu.m.	3,414,725.54	10.00	8.00	18.00	614,650.60	201,468.81	816,119.40	4,230,844.94	4,654.39
	TOTAL OF PART G			**4,118,137.20**				*741,264.70*	*242,970.09*	*984,234.79*	**5,102,371.99**	

APPROVED BUDGET FOR THE CONTRACT

Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City

Stations : 1887+800.00 to 1888+600.00

Length : 800.00 ln.m. Contract Duration : 267 CD

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UPS IN % OCM	MARK-UPS IN % PROFIT	TOTAL MARK-UPS %	TOTAL MARK-UPS VALUE	VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (5) x (8)	(10) 5%[(5) + (9)]	(11) (9) + (10)	(12) (5) + (11)	(13) (12) / (3)
PART A - FACILITIES FOR THE ENGINEER												
A.1.1(3)	Construction of Field Office for the Engineer	1.00	L.S.	419,776.01	10.00	8.00	18.00	75,559.68	24,766.78	100,326.47	520,102.48	520,102.48
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	1.00	L.S.	300,290.00	-	8.00	8.00	24,023.20	16,215.66	40,238.86	340,528.86	340,528.86
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	8.90	month	277,944.94	-	-	-	-	13,897.25	13,897.25	291,842.19	32,791.26
	TOTAL OF PART A			**998,010.95**				*99,582.88*	*54,879.69*	*154,462.57*	**1,152,473.53**	
PART B - OTHER GENERAL REQUIREMENTS												
B.4(1)	Construction Survey & Staking	0.80	km.	49,896.59	10.00	8.00	18.00	8,981.39	2,943.90	11,925.29	61,821.88	77,277.34
B.5	Project Billboard/Signboard	2.00	each	10,979.20	10.00	8.00	18.00	1,976.26	647.77	2,624.03	13,603.23	6,801.6
B.7	Occupation Safety and Health Program	8.90	month	286,785.72	-	8.00	8.00	22,942.86	15,486.43	38,429.29	325,215.01	36,541.01
B.9	Mobilization & Demobilization	1.00	L.S.	1,007,775.00	-	-	-	-	50,388.75	50,388.75	1,058,163.75	1,058,163.75
	TOTAL OF PART B			**1,355,436.51**				*33,900.50*	*69,466.85*	*103,367.35*	**1,458,803.86**	
PART C - EARTHWORKS												
102(1)	Unsuitable Excavation	9,280.00	cu.m.	2,232,178.95	10.00	8.00	18.00	401,792.21	131,698.56	533,490.77	2,765,669.72	298.02
104(2)a	Embankment from Borrow	8,264.00	cu.m.	4,803,933.44	10.00	8.00	18.00	864,708.02	283,432.07	1,148,140.09	5,952,073.54	720.24
104(5)	Boulder Fill	39,252.00	cu.m.	78,136,484.31	10.00	8.00	18.00	14,064,567.18	4,610,052.57	8,674,619.75	96,811,104.06	2,466.40
	TOTAL OF PART C			**85,172,596.71**				*15,331,067.41*	*5,025,183.21*	*20,356,250.61*	**105,528,847.32**	
PART D - SUBBASE AND BASE COURSE												
200(1)	Aggregate Subbase Course	2,897.00	cu.m.	4,111,452.82	10.00	8.00	18.00	740,061.51	242,575.72	982,637.22	5,094,090.04	1,758.40
	TOTAL OF PART D			**4,111,452.82**				*740,061.51*	*242,575.72*	*982,637.22*	**5,094,090.04**	
PART E - SURFACE COURSES												
300(1)	Gravel Surface Course	378.00	cu.m.	560,370.07	10.00	8.00	18.00	100,866.61	33,061.83	133,928.45	694,298.52	1,836.77
311(1)e1	Portland Cement Concrete Pavement	5,125.00	sq.m.	9,175,028.75	10.00	8.00	18.00	1,651,505.17	541,326.70	2,192,831.87	11,367,860.62	2,218.12
	TOTAL OF PART E			**9,735,398.81**				*1,752,371.79*	*574,388.53*	*2,326,760.32*	**12,062,159.13**	
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES												
402(1)	Timber Structure	5.00	span	703,411.66	10.00	8.00	18.00	126,614.10	41,501.29	168,115.39	871,527.05	174,305.41
505(2)a	Grouted Riprap, Class "A"	909.00	cu.m.	3,414,725.54	10.00	8.00	18.00	614,650.60	201,468.81	816,119.40	4,230,844.94	4,654.39
	TOTAL OF PART G			**4,118,137.20**				*741,264.70*	*242,970.09*	*984,234.79*	**5,102,371.99**	

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) (5) x (8)	(10) 5%[(5) + (9)]	(11) (9) + (10)	(12) (5) + (11)	(13) (12) / (3)
PART H - MISCELLANEOUS STRUCTURES												
612(1)	Reflectorized Thermoplastic Pavement Markings (White)	191.00	sq.m.	141,172.82	10.00	8.00	18.00	25,411.11	8,329.20	33,740.30	174,913.13	915.78
715(1)	Separation Geotextile	10,932.00	sq.m.	2,026,960.06	10.00	8.00	18.00	364,852.81	119,590.64	484,443.45	2,511,403.51	229.73
	TOTAL OF PART H			***2,168,132.88***				*390,263.92*	*127,919.84*	*518,183.76*	***2,686,316.64***	
	TOTAL			**107,659,165.88**				19,088,512.70	6,337,383.93	25,425,896.63	**133,085,062.51**	

Prepared by :

BELEN A. SAPALLEDA
Head, BAC Technical Working Group

Submitted by :

LEONCIO B. SOLAMILLO
Chief, Construction Division

Recommending Approval:

CAYAMOMBAO D. DIA
OIC - Assistant. Regional Director

Approved by :

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

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UPS IN %		TOTAL MARK-UPS		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (5) x (8)	(10) 5%[(5) + (9)]	(11) (9) + (10)	(12) (5) + (11)	(13) (12) / (3)
PART H - MISCELLANEOUS STRUCTURES												
612(1)	Reflectorized Thermoplastic Pavement Markings (White)	191.00	sq.m.	141,172.82	10.00	8.00	18.00	25,411.11	8,329.20	33,740.30	174,913.13	915.78
715(1)	Separation Geotextile	10,932.00	sq.m.	2,026,960.06	10.00	8.00	18.00	364,852.81	119,590.64	484,443.45	2,511,403.51	229.73
	TOTAL OF PART H			***2,168,132.88***				*390,263.92*	*127,919.84*	*518,183.76*	***2,686,316.64***	
	TOTAL			**107,659,165.88**				19,088,512.70	6,337,383.93	25,425,896.63	**133,085,062.51**	

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Chief, Construction Division

Recommending Approval:

CAYAMOMBAO D. DIA
OIC - Assistant. Regional Director

Approved by :

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

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City

Item No./Description: 104(2)a Embankment from Borrow
Unit of Measurement: cu.m.
Output per hour: 50.00
Quantity: 8,264.00

Compacted Volume

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	20.66	611.92	12,642.27
	b. Unskilled Laborer	2	20.66	342.24	14,141.36
	Sub-total for A			P	26,783.62
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Motorized Road Grader (140 hp), G170A	1	20.66	17,384.00	359,153.44
	b. Vibratory Roller (10 mt), SD100C	1	20.66	14,768.00	305,106.88
	c. Water Truck/Pump (16000 L)	1	5.17	19,600.00	101,234.00
	Sub-total for B			P	765,494.32
C.	Total (A+B)				792,277.94
D.	Output/day 400.00	cu.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Common Borrow (with 25% Shrinkage Factor)	10,330.00	cu.m.	388.35	4,011,655.50
	Sub-total for E			P	4,011,655.50
F.	Direct Cost (C + E)				4,803,933.44
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		480,393.34
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		384,314.68
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		283,432.07
J.	Total Unit Cost				720.24

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, 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 - Classoom, 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.	1,570.73	5,497.56
	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 (Footing, Columns, Beams & Slab on Grade)				
	a. Portland Cement	90.00	bag	287.00	25,830.00
	b. Crushed Gravel	21.00	cu.m.	1,570.73	32,985.33
	c. Washed Sand	18.00	cu.m.	1,870.73	33,673.14
	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	287.00	12,915.00
	c. Washed Sand	8.00	cu.m.	1,870.73	14,965.84
	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	194,209.89
	Sub-total for E (I + II + III)			P	345,063.89
F.	Direct Cost (C + E)				419,776.01
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		41,977.60
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		33,582.08
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		24,766.78
J.	Total Unit Cost				520,102.48

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, 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 11/2"	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		10% 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: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, 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 Convinience 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		10% 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: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, 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 *(Folders, Bond Paper, Yellow Pads, Ball Pens, Pencil, Envelopes, etc.)*	1.00	L.S.	45,000.00	45,000.00
	Kitchenware *(Plates, Spoons & Forks, Glasses, etc.)*	1.00	L.S.	30,000.00	30,000.00
	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	8.90	mos.	3,000.00	26,700.00
	b. Water Bill	8.90	mos.	1,500.00	13,350.00
	c. LPG (11 kg)	8.90	mos.	1,000.00	8,900.00
	Sub-total for E			P	300,290.00
F.	Direct Cost (C + E)				300,290.00
G.	Overhead, Contingencies and Miscellaneous		per D.O. 197, s. 2016		-
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		24,023.20
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		16,215.66
J.	Total Unit Cost				340,528.86

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, 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: 8.90

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Driver	1	267	422.32	112,759.44
	Sub-total for A			P	112,759.44
	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)				112,759.44
D.	Output/day -	L.S./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Diesel	2,670.00	L	31.00	82,770.00
	b. Spare Parts	1.00	L.S.	40,000.00	40,000.00
	c. Engine Oil & Lubricants	1.00	L.S.	12,415.50	12,415.50
	d. Miscellaneous	1.00	L.S.	30,000.00	30,000.00
	Sub-total for E			P	165,185.50
F.	Direct Cost (C + E)				277,944.94
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	13,897.25
J.	Total Unit Cost				32,791.26

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City

Item No./Description: B.4(1) Construction Survey & Staking
Unit of Measurement: km.
Output per hour: 0.04
Quantity: 0.800

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	For Field Works				
	a. Geodetic Engineer	1	2.50	833.31	2,083.28
	b. Skilled Laborer	3	2.50	443.20	3,324.00
	c. Laborer	3	2.50	342.24	2,566.80
	For Office Works				
	a. Geodetic Engineer	1	7.50	833.31	6,249.83
	b. Skilled Laborer	2	7.50	443.20	6,648.00
	Sub-total for A			P	20,871.90
	Name and Capacity	No. of Equipment	No. of Days	Unit Cost	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Total Station w/ complete accessories	1	2.50	800.00	2,000.00
	Minor Tools 10% of Labor				2,087.19
	Sub-total for B			P	4,087.19
C.	Total (A+B)				24,959.09
D.	Output/day 0.32	km./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Standard Stake Plan (600 mm x 910 mm)	50.00	pc	400.00	20,000.00
	b. Blue Printing	250.00	pc	15.00	3,750.00
	Miscellaneous 5% of Materials Cost				1,187.50
	Sub-total for E			P	24,937.50
F.	Direct Cost (C + E)				49,896.59
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		4,989.66
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		3,991.73
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		2,943.90
J.	Total Unit Cost				77,277.34

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, 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		10% per D.O. 197, s. 2016		1,097.92
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		647.77
J.	Total Unit Cost				6,801.61

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) including Bridge, Zamboanga City

Item No./Description: B.7 Occupation Safety and Health Program
Unit of Measurement: month
Output per hour:
Quantity: 8.90

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Safety Practioner	1	133.50	611.92	81,691.32
	b. First Aider	1	267.00	443.20	118,334.40
	Sub-total for A			P	200,025.72
	Name and Capacity	**No. of Equipment**	**No. of Days**	**Daily Rate**	**Amount**
B.	Equipment, (2014 ACEL Rates)				
	a. Warning Signs and Barricades				60,000.00
	Sub-total for B			P	60,000.00
C.	Total (A+B)				260,025.72
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)				286,785.72
G.	Overhead, Contingencies and Miscellaneous		per D.O. 197, s. 2016		-
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		22,942.86
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		15,486.43
J.	Total Unit Cost				36,541.01

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, 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. Water Truck	2	5.00	19,600.00	196,000.00
	c. Backhoe	2	5.00	12,296.00	122,960.00
	d. Bulldozer	1	5.00	27,032.00	135,160.00
	e. DumpTruck	4	5.00	11,360.00	227,200.00
	f. Payloader	1	5.00	13,864.00	69,320.00
	g. Motorized Grader	1	5.00	17,384.00	86,920.00
	Sub-total for B			P	1,007,775.00
C.	Total (A+B)				1,007,775.00
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)				1,007,775.00
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	50,388.75
J.	Total Unit Cost				1,058,163.75

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City

Item No./Description: 102(1) Unsuitable Excavation
Unit of Measurement: cu.m.
Output per hour: 40.00
Quantity: 9,280.00

For Disposal

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	29.00	611.92	17,745.68
	b. Leadman	2	29.00	561.36	32,558.88
	c. Unskilled Labor	6	29.00	342.24	59,549.76
	use double gang of labor and equipment				
	Sub-total for A			P	109,854.32
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Dump Truck (12 cu.yd.)	4	29.00	11,360.00	1,317,760.00
	b. Backhoe (0.80 cu.m.)	2	29.00	12,296.00	713,168.00
	c. Payloader (1.50 cu.m.) - disposal site	2	2.90	13,864.00	80,411.20
	Minor Tools 10% of Labor Cost				10,985.43
	Sub-total for B			P	2,122,324.63
C.	Total (A+B)				2,232,178.95
D.	Output/day 320.00	cu.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	Sub-total for E			P	-
F.	Direct Cost (C + E)				2,232,178.95
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		223,217.90
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		178,574.32
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		131,698.56
J.	Total Unit Cost				298.02

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME:	Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City
Item No./Description:	104(5) Boulder Fill
Unit of Measurement:	cu.m.
Output per hour:	25.00
Quantity:	39,252.00

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	196.26	611.92	120,095.42
	b. Leadman	4	196.26	561.36	440,690.05
	b. Skilled Laborer	8	196.26	443.20	695,859.46
	c. Unskilled Laborer	32	196.26	342.24	2,149,376.72
	use quadruple gang of labor and equipment				
	Sub-total for A			P	3,406,021.65
	Name and Capacity	**No. of Equipment**	**No. of Days**	**Daily Rate**	**Amount**
B.	Equipment, (2014 ACEL Rates)				
	a. Backhoe (0.80 cu.m.)	4	196.26	12,296.00	9,652,851.84
	Minor Tools 10% of Labor				340,602.16
	Sub-total for B			P	9,993,454.00
C.	Total (A+B)				13,399,475.65
D.	Output/day 200.00	cu.m./day			
	Name and Specifications	**Quantity**	**Unit**	**Unit Cost**	**Amount**
E.	Materials				
	a. Boulders (with 5% wastage factor)	41,214.60	cu.m.	1,570.73	64,737,008.66
	Sub-total for E			P	64,737,008.66
F.	Direct Cost (C + E)				78,136,484.31
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		7,813,648.43
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		6,250,918.74
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		4,610,052.57
J.	Total Unit Cost				2,466.40

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME:	Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City
Item No./Description:	200(1) Aggregate Subbase Course
Unit of Measurement:	cu.m.
Output per hour:	50.00
Quantity:	2,897.00

Variable thickness, Compacted Volume

	Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor					
	a. Const. Foreman		1	7.24	611.92	4,431.83
	b. Unskilled Labor		2	7.24	342.24	4,957.35
	Sub-total for A				P	9,389.18
	Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)					
	a. Motorized Road Grader (140 hp), G710A		1	7.24	17,384.00	125,903.62
	b. Vibratory Roller (10 mt), SD100DC		1	7.24	14,768.00	106,957.24
	c. Water Truck/Pump (16000 L)		1	1.81	19,600.00	35,488.25
	Sub-total for B				P	268,349.11
C.	Total (A+B)					277,738.29
D.	Output/day	400.00	cu.m./day			
	Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials					
	a. Aggregate Subbase Course (w/ 15% Shrinkage Factor)		3,331.55	cu.m.	1,150.73	3,833,714.53
	Sub-total for E				P	3,833,714.53
F.	Direct Cost (C + E)					4,111,452.82
G.	Overhead, Contingencies and Miscellaneous			10% per D.O. 197, s. 2016		411,145.28
H.	Contractor's Profit(CP)			8% per D.O. 197, s. 2016		328,916.23
I.	Value Added Tax (VAT)			5% per D.O. 197, s. 2016		242,575.72
J.	Total Unit Cost					1,758.40

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City

Item No./Description: 300(1) Gravel Surface Course
Unit of Measurement: cu.m.
Output per hour: 50.00
Quantity: 378.00

Compacted Volume

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	0.95	611.92	578.26
	b. Unskilled Labor	2	0.95	342.24	646.83
	Sub-total for A			P	1,225.10
	Name and Capacity	**No. of Equipment**	**No. of Days**	**Daily Rate**	**Amount**
B.	Equipment, (2014 ACEL Rates)				
	a. Motorized Road Grader (140 hp), G710A	1	0.95	17,384.00	16,427.88
	b. Vibratory Roller (10 mt), SD100DC	1	0.95	14,768.00	13,955.76
	c. Water Truck/Pump (16000 L)	1	0.24	19,600.00	4,630.50
	Sub-total for B			P	35,014.14
C.	Total (A+B)				36,239.24
D.	Output/day 400.00	cu.m./day			
	Name and Specifications	**Quantity**	**Unit**	**Unit Cost**	**Amount**
E.	Materials				
	a. Uncrushed Aggregate Surface Course (w/ 15% Shrinkage Factor)	434.70	cu.m.	1,205.73	524,130.83
	Sub-total for E			P	524,130.83
F.	Direct Cost (C + E)				560,370.07
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		56,037.01
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		44,829.61
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		33,061.83
J.	Total Unit Cost				1,836.77

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME:	Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City
Item No./Description:	311(1)e1 Portland Cement Concrete Pavement
Unit of Measurement:	sq.m.
Output per hour:	57.50
Quantity:	5,125.00

0.28 m. thick, includes widening

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	11.14	611.92	6,817.59
	b. Skilled Labor	4	11.14	443.20	19,751.30
	c. Unskilled Labor	12	11.14	342.24	45,756.00
	Sub-total for A			P	72,324.89
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Transit Mixer (5 cu.m.)	4	11.14	10,544.00	469,895.65
	b. Concrete Vibrator	2	11.14	730.00	16,266.30
	c. Concrete Batch Plant (30 cu.m.)	1	11.14	14,076.00	156,825.00
	d. Payloader (1.50 cu.m.), LX80-2C	1	11.14	13,864.00	154,463.04
	e. Concrete Screeder (5.5 hp)	1	11.14	4,360.00	48,576.09
	f. Water Truck/Pump (16000 L)	1	11.14	19,600.00	218,369.57
	g. Concrete Saw (7.5 hp), 14" Blade Ø	1	11.14	261.04	2,908.33
	h. Bar Cutter, Single Phase	1	1.11	1,758.00	1,958.64
	Minor Tools 5% of Labor				3,616.24
	Sub-total for B			P	1,072,878.86
C.	Total (A+B)				1,145,203.76
D.	Output/day 460.00	sq.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Reinforcing Steel Bar	2,562.50	kg.	38.00	97,375.00
	b. Curing Compound	1,486.25	L	35.00	52,018.75
	c. Asphalt Sealant	871.25	L	100.00	87,125.00
	d. Steel Forms (Rental)	2,357.50	m	60.00	141,450.00
	e. Sand	789.25	cu.m.	1,870.73	1,476,473.65
	f. Gravel	1,435.00	cu.m.	1,570.73	2,253,997.55
	g. Cement	13,632.50	bag	287.00	3,912,527.50
	h. Concrete Saw (Diamond Blade 14" Ø)	0.77	pc.	2,500.00	1,921.88
	i. Pipe Sleeve, 2" Ø	39.98	m.	61.00	2,438.48
	j. Grease/Tar	39.98	L	112.50	4,497.19
	Sub-total for E			P	8,029,824.99
F.	Direct Cost (C + E)				9,175,028.75
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		917,502.87
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		734,002.30
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		541,326.70
J.	Total Unit Cost				2,218.12

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City

Item No./Description: 402(1) Timber Structure
Unit of Measurement: span
Output per hour:
Quantity: 5.00

Grade 40, For Line Canal

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	28.00	611.92	17,133.76
	b. Skilled Labor	6	28.00	443.20	74,457.60
	c. Unskilled Labor	6	28.00	342.24	57,496.32
	Sub-total for A			P	149,087.68
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Bar Cutter	1	28.00	1,758.00	49,224.00
	b. Bar Bender	1	4.67	2,812.00	13,122.67
	c. Cargo Truck (9 - 10 mt.)	1	2.07	9,696.00	20,090.11
	Sub-total for B			P	82,436.78
C.	Total (A+B)				231,524.46
D.	Output/day -	ln.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Coco Trunks	158.50	pc.	950.00	150,575.00
	b. Coco Lumber - Floor Planks and Running Board	11,576.00	bd.ft.	25.00	289,400.00
	c. 25 mm. dia. X 400 mm. Mach. Bolt with std. nuts washer	47.00	kg.	150.00	7,050.00
	d. 25 mm. dia. X 500 mm. Steel Bars	565.05	kg.	44.00	24,862.20
	Sub-total for E			P	471,887.20
F.	Direct Cost (C + E)				703,411.66
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		70,341.17
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		56,272.93
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		41,501.29
J.	Total Unit Cost				174,305.41

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME:	Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City
Item No./Description:	505(2)a Grouted Riprap, Class "A"
Unit of Measurement:	cu.m.
Output per hour:	2.50
Quantity:	909.00

For Slope Protection

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	45.45	611.92	27,811.76
	b. Leadman	2	45.45	561.36	51,027.62
	c. Skilled Labor	4	45.45	443.20	80,573.76
	d. Unskilled Labor	16	45.45	342.24	248,876.93
	use quadruple gang of labor and equipment				
	Sub-total for A			P	408,290.08
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	2	45.45	1,376.00	125,078.40
	b. Water Truck/Pump (16000 L)	2	2.27	19,600.00	89,082.00
	Minor Tools 5% of Labor				20,414.50
	Sub-total for B			P	234,574.90
C.	Total (A+B)				642,864.98
D.	Output/day 20.00	cu.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Cement	2,727.00	bag	287.00	782,649.00
	b. Sand	227.25	cu.m.	1,870.73	425,123.39
	c. Gravel	13.64	cu.m.	1,570.73	21,416.90
	d. Weep Holes (PVC)	272.70	m.	50.83	13,862.25
	e. Filter Cloth	13.64	sq.m.	160.00	2,181.60
	f. Boulders (15 - 25 kg.)	954.45	cu.m.	1,570.73	1,499,183.25
	Miscellaneous 1% of Materials Cost				27,444.16
	Sub-total for E			P	2,771,860.56
F.	Direct Cost (C + E)				3,414,725.54
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		341,472.55
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		273,178.04
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		201,468.81
J.	Total Unit Cost				4,654.39

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME:	Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City
Item No./Description:	612(1) Reflectorized Thermoplastic Pavement Markings (White)
Unit of Measurement:	sq.m.
Output per hour:	25.00
Quantity:	191.00

For Center Line (Separation & Edge Lines)

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	0.96	611.92	584.38
	b. Skilled Labor	2	0.96	443.20	846.51
	c. Unskilled Labor	6	0.96	342.24	1,961.04
	Sub-total for A			P	3,391.93
	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	0.96	6,264.00	5,982.12
	b. Applicator Machine	1	0.96	750.00	716.25
	c. Kneading Machine	1	0.96	1,500.00	1,432.50
	Minor Tools 10% of Labor				339.19
	Sub-total for B			P	8,470.06
C.	Total (A+B)				11,861.99
D.	Output/day 200.00	sq.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Thermoplastic Paint (White)	62.08	bag	1,585.00	98,388.88
	b. Glass Beads	6.30	bag	2,500.00	15,757.50
	c. Primer	22.92	L	160.00	3,667.20
	d. LPG (50 kg)	0.76	cyl.	3,450.00	2,635.80
	e. LPG (12 kg)	0.38	cyl.	828.00	316.30
	f. Calsumine	23.88	kg.	100.00	2,387.50
	Miscellaneous 5% of Materials Cost				6,157.66
	Sub-total for E			P	129,310.83
F.	Direct Cost (C + E)				141,172.82
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		14,117.28
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		11,293.83
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		8,329.20
J.	Total Unit Cost				915.78

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City

Item No./Description: 715(1) Separation Geotextile
Unit of Measurement: sq.m.
Output per hour: 100.00
Quantity: 10,932.00

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	13.67	611.92	8,361.89
	b. Skilled Labor	2	13.67	443.20	12,112.66
	c. Unskilled Labor	8	13.67	342.24	37,413.68
	Sub-total for A			P	57,888.22
	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	13.67	9,696.00	132,495.84
	Sub-total for B			P	132,495.84
C.	Total (A+B)				190,384.06
D.	Output/day 800.00	sq.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Filter Cloth	11,478.60	sq.m.	160.00	1,836,576.00
	Sub-total for E			P	1,836,576.00
F.	Direct Cost (C + E)				2,026,960.06
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		202,696.01
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		162,156.80
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		119,590.64
J.	Total Unit Cost				229.73

PROJECT : Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City
LOCATION : Zamboanga City net length : 800.00 ln.m.
LIMITS : 1887+800.00 - 1888+600.00
0+-000.00 - 0+000.00

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	345,063.89	41,977.60	33,582.08	24,766.78	520,102.48
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	1.00	L.S.	-	-	300,290.00	-	24,023.20	16,215.66	340,528.86
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	8.90	month	112,759.44	-	165,185.50	-	-	13,897.25	291,842.19
	TOTAL OF PART A			155,355.92	32,115.65	810,539.39	41,977.60	57,605.28	54,879.69	**1,152,473.53**
PART B - OTHER GENERAL REQUIREMENTS										
B.4(1)	Construction Survey & Staking	0.80	km.	20,871.90	4,087.19	24,937.50	4,989.66	3,991.73	2,943.90	61,821.88
B.5	Project Billboard/Signboard	2.00	each	3,479.20	-	7,500.00	1,097.92	878.34	647.77	13,603.23
B.7	Occupation Safety and Health Program	8.90	month	200,025.72	60,000.00	26,760.00	-	22,942.86	15,486.43	325,215.01
B.9	Mobilization & Demobilization	1.00	L.S.	-	1,007,775.00	-	-	-	50,388.75	1,058,163.75
	TOTAL OF PART B			224,376.82	1,071,862.19	59,197.50	6,087.58	27,812.92	69,466.85	**1,458,803.86**
PART C - EARTHWORKS										
102(1)	Unsuitable Excavation	9,280.00	cu.m.	109,854.32	2,122,324.63	-	223,217.90	178,574.32	131,698.56	2,765,669.72
104(2)a	Embankment from Borrow	8,264.00	cu.m.	26,783.62	765,494.32	4,011,655.50	480,393.34	384,314.68	283,432.07	5,952,073.54
104(5)	Boulder Fill	39,252.00	cu.m.	3,406,021.65	9,993,454.00	64,737,008.66	7,813,648.43	6,250,918.74	4,610,052.57	96,811,104.06
	TOTAL OF PART C			3,542,659.59	12,881,272.96	68,748,664.16	8,517,259.67	6,813,807.74	5,025,183.21	**105,528,847.32**
PART D - SUBBASE AND BASE COURSE										
200(1)	Aggregate Subbase Course	2,897.00	cu.m.	9,389.18	268,349.11	3,833,714.53	411,145.28	328,916.23	242,575.72	5,094,090.04
	TOTAL OF PART D			9,389.18	268,349.11	3,833,714.53	411,145.28	328,916.23	242,575.72	**5,094,090.04**
PART E - SURFACE COURSES										
300(1)	Gravel Surface Course	378.00	cu.m.	1,225.10	35,014.14	524,130.83	56,037.01	44,829.61	33,061.83	694,298.52
311(1)e1	Portland Cement Concrete Pavement	5,125.00	sq.m.	72,324.89	1,072,878.86	8,029,824.99	917,502.87	734,002.30	541,326.70	11,367,860.62
	TOTAL OF PART E			73,549.99	1,107,893.00	8,553,955.82	973,539.88	778,831.91	574,388.53	**12,062,159.13**
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES										
402(1)	Timber Structure	5.00	span	149,087.68	82,436.78	471,887.20	70,341.17	56,272.93	41,501.29	871,527.05
505(2)a	Grouted Riprap, Class "A"	909.00	cu.m.	408,290.08	234,574.90	2,771,860.56	341,472.55	273,178.04	201,468.81	4,230,844.94
	TOTAL OF PART G			557,377.76	317,011.68	3,243,747.76	411,813.72	329,450.98	242,970.09	**5,102,371.99**
PART H - MISCELLANEOUS STRUCTURES										
612(1)	Reflectorized Thermoplastic Pavement Markings (White)	191.00	sq.m.	3,391.93	8,470.06	129,310.83	14,117.28	11,293.83	8,329.20	174,913.13
715(1)	Separation Geotextile	10,932.00	sq.m.	57,888.22	132,495.84	1,836,576.00	202,696.01	162,156.80	119,590.64	2,511,403.51
	TOTAL OF PART H			61,280.15	140,965.90	1,965,886.83	216,813.29	173,450.63	127,919.84	**2,686,316.64**
	T O T A L			**4,623,989.40**	**15,819,470.49**	**87,215,705.98**	**10,578,637.02**	**8,509,875.68**	**6,337,383.93**	**133,085,062.51**

Name of Project : **Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Curuan - Lubigan Section) Including Bridge, Zamboanga City**
Station Limits : 1887+800.00 - 1888+600.00

Net Length : 800.00 ln.m.

Item No.	Description	Quantity	Unit	DURATION # OF DAYS
PART A - FACILITIES FOR THE ENGINEER				
A.1.1(3)	Construction of Field Office for the Engineer	1.00	L.S.	8.00
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances	1.00	L.S.	267
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service V	8.90	month	267
PART B - OTHER GENERAL REQUIREMENTS				
B.4(1)	Construction Survey & Staking	0.80	km.	7.50
B.5	Project Billboard/Signboard	2.00	each	2.00
B.7	Occupation Safety and Health Program	8.90	month	267
B.9	Mobilization & Demobilization	1.00	L.S.	5.00
PART C - EARTHWORKS				
102(1)	Unsuitable Excavation	9,280.00	cu.m.	29.00
104(2)a	Embankment from Borrow	8,264.00	cu.m.	20.66
104(5)	Boulder Fill	39,252.00	cu.m.	196.26
PART D - SUBBASE AND BASE COURSE				
200(1)	Aggregate Subbase Course	2,897.00	cu.m.	7.24
PART E - SURFACE COURSES				
300(1)	Gravel Surface Course	378.00	cu.m.	0.95
311(1)e1	Portland Cement Concrete Pavement	5,125.00	sq.m.	11.14
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES				
402(1)	Timber Structure	5.00	span	28.00
505(2)a	Grouted Riprap, Class "A"	909.00	cu.m.	45.45
PART H - MISCELLANEOUS STRUCTURES				
612(1)	Reflectorized Thermoplastic Pavement Markings (Whit	191.00	sq.m.	0.96
715(1)	Separation Geotextile	10,932.00	sq.m.	13.67

WEEKS (6 WORKING DAYS): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47

TOTAL NO. OF WORKING DAYS	:	205
INCLEMENT WEATHER	:	34
NUMBER OF SUNDAYS	:	27
TOTAL NO. CALENDAR DAYS	:	**267**

Prepared by:

ELWICK P. ACUÑA
Engineer II

Submitted by:

LEONCIO B. SOLAMILLO
Chief, Construction Division

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

UNIT COST ANALYSIS FOR HAULING COST FOR PORTLAND CEMENT

TOTAL QUANTITY REQUIREMENTS FOR PORTLAND CEMENT

DESCRIPTION	**QUANTITY** (Bags)
Portland Cement Concrete Pavement	13,632.50
Grouted Riprap, Class "A"	2,727.00
Construction of Field Office for the Engineer	90.00
T O T A L	**16,449.50**

Quantity = **16,449.50** Bags

Delivery Charge = P 0.120 / bag / km.

S I T E	HAULING DISTANCE
Zamboanga City DEO	44.00
Batching plant	

*Average hauling distance from Source to assumed Stockpiling area :
say 44.00 km.

Delivery Charge = P 0.120 x 44.00
= P 5.28 / bag

*Delivery Truck : 16,449.50 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	=	$\frac{44.00 \times 60}{30.00}$	=	88.00	mins.
Unloaded running	=	$\frac{44.00 \times 60}{40.00}$	=	66.00	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	:	202.00	mins.		
No. of trips for Dumptruck per day	=	$\frac{8.0 \times 60.00}{202.00}$	=	2.38 say 2.38	trip
Dumptruck daily output	=	500 x 2.38	=	1,188.12	cu.m.
Using (3) Dumptrucks	=	3 x 1188.12	=	3,564.36	cu.m.

AV

1.	No. of days for Delivery Truck	=	16,449.50 / 3,564.36	=	4.61	say	4.61	days
2.	No. of days for Labor, for unloading	=	complimentary to D. Truck days			=	4.61	days

DELIVERY COST :

16,449.50	- Bags, Portland Cement	@ P	5.28	/ bag	= P	86,853.36
				Sub - Total	**P**	**86,853.36**

LABOR :

1	- Foreman	@ P	611.92 /day	x	4.61	days	= P	2,824.01
10	- Laborers, unloading	@ P	342.24 /day	x	4.61	days	= P	15,794.37
					Sub - Total		**P**	**18,618.38**

MATERIALS :

16,449.50	- Bags, Portland Cement (Pick-Up Price)	@ P	280.00	/ bag	= P	4,605,860.00
				Sub - Total	**P**	**4,605,860.00**

Estimated Quantity		16,449.50 Bags			
Unit Cost	P	286.41 / Bag,	say	P	287.00 / Bag
Grand Total	P	4,711,331.74			
Delivery Cost	P	86,853.36			
Labor	P	18,618.38			
Materials	P	4,605,860.00			

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:	39.00	x	12.07	=	470.73	+	1,400.00	=	**1,870.73**
Cost of Coarse Aggregates:	39.00	x	12.07	=	470.73	+	1,100.00	=	**1,570.73**
Cost of Item 200 Materials:	39.00	x	12.07	=	470.73	+	680.00	=	**1,150.73**
Cost of Item 201 Materials:	39.00	x	12.07	=	470.73	+	680.00	=	**1,150.73**
Cost of Item 300 Materials:	39.00	x	12.07	=	470.73	+	735.00	=	**1,205.73**
Cost of Boulders:	39.00	x	12.07	=	470.73	+	1,100.00	=	**1,570.73**

Cost of Embankment, Common Borrow: 5.00 x 12.07 = 60.35 + 328.00 = **388.35**