



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
Manila

March 30, 2023

MEMORANDUM

TO : **KHADAFFY D. TANGGOL**
Regional Director
DPWH-CAR
Engineer's Hill, Baguio City

Transmitted herewith are the **APPROVED** requests for the **modification** of hereunder stated projects:

1. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Gov. Bado Dangwa National Road, **K0286+750 - K0286+900**, Kapangan, Benguet - - - **P140,000,000.00**
2. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Banaue-Mayoyao-Alfonso Lista-Isabela Bndry Rd, **K0361 + 090 - K0361 + 380**, Banaue, Ifugao - - - **P120,000,000.00**
3. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Baguio-Bontoc Rd - **K0359 + 610 - K0359 + 693** - - - **P100,000,000.00**
4. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Banaue-Mayoyao-Alfonso Lista-Isabela Bndry Rd, **K0346 + 880 - K0347 + 130**, Banaue, Ifugao - - - **P100,000,000.00**
5. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Benguet-Nueva Vizcaya Rd - **K0278 + 250 - K0278 + 320, K0278 + 685 - K0278 + 725** - - - **P150,000,000.00**
6. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Cong. Andres Acop Cosalan Rd - **K0321 + 250 - K0321 + 515** - - - **P200,000,000.00**
7. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Tertiary Roads Gov. Bado Dangwa National Road, **K0328+844 - K0329+000**, Kibungan, Benguet - - - **P200,000,000.00**
8. Convergence and Special Support Program - Sustainable Infrastructure Projects Alleviating Gaps (SIPAG) - Flood Mitigation Structures protecting Public Infrastructures/Facilities Construction of Barren River (Downstream) Flood Control within Chico River Basin, **Sta. 37+995 - Sta. 39+300 (R/S)**, Conner, Apayao - - - **P120,000,000.00**
9. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Baguio-Bontoc Rd - **K0359 + 510 - K0359 + 580** - - - **P150,000,000.00**
10. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Primary Roads Kennon Rd - **K0232 + 535 - K0232 + 580** - - - **P48,000,000.00**
11. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Benguet-Nueva Vizcaya Rd - **K0292 + 100 - K0292 + 350** - - - **P150,000,000.00**

Please be reminded that all approved modifications **shall be posted in the DPWH website within five (5) days** from its approval. Failure to comply with this requirement shall be dealt with accordingly.

ADOR G. CANLAS

Assistant Secretary for Regional Operations
in CAR, Regions I, II, IX, X, XI, XII, and XIII



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
CENTRAL OFFICE
Manila

CAR-009

Programming Division Evaluation Sheet

Name of Project:

Project ID: P00713196LZ

Kennon Rd - K0224 + 280 - K0224 + 505

Appropriation: 48,000,000

Implementing Office: Regional Office CAR

Date: 03/24/2023

A. TYPE OF REQUEST

A.1 ☐ **Change in Implementing Office/Operating Unit due to**

A.1.1 ☐ Geographical Jurisdiction

A.1.2 ☐ Approval of Authority to Bid/Implement

A.2 ☒ **PROJECT MODIFICATION/ADJUSTMENTS**

A.2.1 ☐ Typographical Error/s

A.2.2 ☐ Change in Location (for non-existent locations only)

A.2.3 ☒ Change in Station Limits

A.2.4 ☐ Addition/Deletion of Word/s

A.2.5 ☒ Change in Project Component/s Details

A.2.5.1 ☒ Change in Targets

A.2.5.2 ☐ Change in Scope of Work from _____

to _____

A.2.5.3 ☐ Change in Component Amount

A.2.5.4 ☐ Addition of Component (incl. EXC Component)

A.2.5.5 ☐ Deletion of Component

A.2.5.6 ☐ Movement of Funds between Components

B. EVALUATION

B.1 ☒ ALLOWED as per the GAA Provisions

B.2 ☐ NOT ALLOWED as per the GAA Provisions

C. FUND SOURCE FY 2023 GAA, R.A. 11936

C.1 ☐ for issuance of SARO (☐Released ☐Unreleased)

C.2 ☒ released thru GAAAO

Amount: 48,000,000

D. IMPACT:

D.1 Condition/s: _____ % decrease in unit cost
55.49 % increase in unit cost
35.69 % decrease in physical target
_____ % increase in physical target

D.2 ☐ Additional Project Component

D.3 ☒ Certificate of Cost Reasonableness by RD

D.4 Remarks:

E. Approving Authority as per D.O. 13, s. 2023, Guidelines on Modification of Allotment under the GAA

E.1 ☐ Undersecretary for Operations

E.2 ☒ Secretary

Evaluated By:

ALEX G. BOTE

Director, Planning Service

Noted By:

CONSTANTE A. LLANES, JR., CESO III

Assistant Secretary, Planning Service

Project ID: P00713196LZ

FOR: USEC FOR OPERATIONS

☐ RRB

☒ ERP

☐ EKS

Date:

REMARKS:

☒ Reviewed by Planning Service

☐ Recommended for Approval

☐ Remarks:

MARIA CATALINA E. CABRAL, CESO I, Ph.D.

Undersecretary for Planning and PPP Services



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
Manila

March 22, 2023

MEMORANDUM

FOR : **MANUEL M. BONOAN**
Secretary
This Department

This refers to the memorandum dated 14 March 2023 of **DPWH CAR Regional Director KHADAFFY D. TANGGOL**, requesting for the **modification** of the project under FY 2023 GAA, to wit;

As per GAA/Original			As Modified		
Project Description					
UACS No. : 310107100454000 Project ID: P00713196LZ			OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Primary Roads		
Kennon Rd - K0224 + 280 - K0224 + 505			Kennon Rd - K0232 + 535 - K0232 + 580		
Type of Work/ Physical Target	Unit Cost	Allocation	Type of Work/ Physical Target	Unit Cost	Estimated Cost
CW1- Construction of Road Slope Protection Structure / 2,666.67 sq.m.	₱ 17,369.98/ sq.m.	₱ 46,320,000.00	CW1- Construction of Road Slope Protection Structure / 1,715.00 sq.m.	₱ 27,008.75/ sq.m.	₱ 46,320,000.00
EAO	—	₱ 1,680,000.00	EAO	—	₱ 1,680,000.00
Total:		₱ 48,000,000.00	Total:		₱ 48,000,000.00
Justification: Change in Station Limits in the Project Description and Decrease in physical target for CW1 - Construction of Road Slope Protection Structure from 2,666.67 Square Meters to 1,715 Square Meters due to the following:					
<ul style="list-style-type: none">The change in station limits was deemed necessary because the released funding for the original section is insufficient to completely address the design requirements for slope stabilization along the said section. Thus, a similarly critical section was identified which requires immediate slope intervention.The decrease in the physical target/ increase in unit cost for CW1 is due to the design length of 5-meter permanent ground anchors as recommended in the design analysis. The project utilized the Erosion Control Mat (Type 4), Permanent Ground Anchor, Hydroseeding and Active Wire Mesh System (High Tensile) which contributed to the increase in unit cost thereon causing a deduction in the target area of the proposed slope protection.The derived unit cost is based on the approved Program of Work (POW) with Detailed Unit Price Analysis (DUPA).					
Attached are the following supporting documents: Approved Program of Works (POW) with Detailed Unit Price Analysis (DUPA), Detailed Engineering Design (DED), Certificate of Availability of Funds (CAF), BP 202, Geotagged photos, Certificate of Reasonableness, Evaluation of the Bureau of Construction on the unit cost of the similar type projects, RSM Forms and GIS Map.					

Based on our evaluation, the submitted request for modification of the said project is in order; hence, approval hereof is recommended.



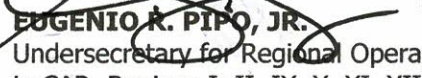
ADOR G. CANLAS

Assistant Secretary for Regional Operations
in CAR, Regions I, II, IX, X, XI, XII, and XIII

RECOMMENDING APPROVAL:



MARIA CATALINA E. CABRAL, Ph.D., CESO I
Undersecretary for Planning
and Public-Private Partnership Services



EUGENIO R. PIHO, JR.
Undersecretary for Regional Operations
in CAR, Regions I, II, IX, X, XI, XII, and XIII

APPROVED/~~DISAPPROVED~~:



MANUEL M. BONOAN
Secretary

2.3 mksa/MLS/AVS/AGC/ERP

Department of Public Works and Highways
Office of the Secretary



WIN3E02683



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
CORDILLERA ADMINISTRATIVE REGION
Engineer's Hill, Baguio City

MAR 14 2023

MEMORANDUM

FOR : MANUEL M. BONOAN
Secretary

THRU : EUGENIO R. PIPO, JR.
Undersecretary for Regional Operations
CAR, Regions I, II, IX, X, XI, XII and XIII

SUBJECT : Request for the Modification of the Project: ORGANIZATIONAL OUTCOME 1 : Ensure Safe and Reliable National Road System - Asset Preservation Program - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Primary Roads - Kennon Rd - K0224 + 280 - K0224 + 505

We are respectfully submitting the modification of the above project in the amount of **Forty-Eight Million Pesos (Php 48,000,000.00)**, as indicated below:

	As per GAA/Original	As Modified
Project ID	P00713196LZ	
UACS	310107100454000	
Project Title	Kennon Rd – K0224 + 280 - K0224 + 505	Kennon Rd – K0232 + 535 - K0232 + 580
Physical Target	2,666.670 Square meters	1,715.000 Square meters

The supporting documents based on D.O. No. 13, series of 2023 are attached for your ready reference.

For the consideration of the Secretary.


KHADAFFY D. TANGGOL
Regional Director

CAR.1 CSCE/HFD/JWC/ABM

Tables for Modification Request Form

A. GENERAL					
1. REGION Cordillera Administrative Region		2. DEO Benguet First District Engineering Office		3. LEGISLATIVE DISTRICT BENGUET (LONE DISTRICT)	
B. ORIGINAL PROJECT			C. PROPOSED REVISED PROJECT		
4. UACS (Unified Account Code Structure as defined in GAA) 310107100454000 ✓					
5. Project Id P00713196LZ ✓					
6. Project Category OO1: Ensure Safe and Reliable National Road System ✓					
7. Sub-Program (P/A/P) Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Primary Roads ✓					
8. Operating Unit Central Office			18. Operating Unit (Change subject to DBM approval) Central Office		
9. Type of Work (Enter Details for all Components below)			19. Type of Work (Enter Details for all Components below)		
Component ID	Type of Work		Component ID	Type of Work	
CW1	Construction of Road Slope Protection Structure ✓		CW1	Construction of Road Slope Protection Structure ✓	
10. PROJECT DESCRIPTION (as recorded in GAA) Kennon Rd - K0224 + 280 - K0224 + 505 ✓			20. PROJECT DESCRIPTION (of the revised project) Kennon Rd - K0232 + 535 - K0232 + 580 ✓		
11. ALLOTMENT (P'000) (as recorded in GAA) 48,000			21. REVISED ESTIMATED COST (P'000) (Equal to, or lower than GAA allotment) 48,000		22. CAF (To be obtained from Financial Management office) <input checked="" type="checkbox"/> YES
12. PHYSICAL TARGET (Enter Details for all Components below)			23. PHYSICAL TARGET (Enter Details for all Components below)		
Component ID	Target	Target Unit	Component ID	Target	Target Unit
CW1	2,666.67 ✓	Square Meters (m2)	CW1	1,715 ✓	Square Meters (m2)
13. UNIT COST (Enter Details for all Components below)			24. UNIT COST (Enter Details for all Components below)		
Component ID	Component Cost (P'000)	Target Unit Cost (P'000/Target Unit)	Component ID	Component Cost (P'000)	Target Unit Cost (P'000/Target Unit)
CW1	46,320.000 ✓	17.36998	CW1	46,320.000 ✓	27.00875
EAO	1,680.000 ✓		EAO	1,680.000 ✓	

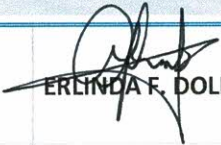


Tables for Modification Request Form

14. PROJECT WORK LOCATION (Must be defined in strict accordance with DO 65 Series 2014) Click here to enter text.				25. PROJECT WORK LOCATION (Must be defined in strict accordance with DO 65 Series 2014. Also complete "ANNEX A" for National Road projects under OO-1) Click here to enter text.			
Start X		End X		Start X		End X	
Start Y		End Y		Start Y		End Y	
15. ROAD CLASSIFICATION (if applicable) Primary Road				26. ROAD CLASSIFICATION (if applicable) Primary Road			
16. IMPLEMENTING OFFICE (Record the Implementing Office of the original project) Cordillera Administrative Region				27. IMPLEMENTING OFFICE (Record the Implementing Office of the proposed revised project) Cordillera Administrative Region			
17. PROJECT IMPLEMENTATION PLAN (PIP)				28. PROJECT IMPLEMENTATION PLAN (PIP)			
Planned Start Date		Planned End Date		Planned Start Date		Planned End Date	
05/21/2023		11/16/2023		05/21/2023		11/16/2023	
29. OVERLAP? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES				30. UNDER WARRANTY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES			

D. ATTACHMENTS & JUSTIFICATIONS

31. PROJECT IMPACT ANALYSIS ATTACHED? (For Flood Control Projects) <input type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> N/A
32. TECHNICAL JUSTIFICATION (Explain in detail in Bullet point format; minimum of 2 points) <i>Change in Station Limits in the Project Description and Increase in physical target for CW1 - Construction of Road Slope Protection Structure from 2,666.67 Square Meters to 1,715 Square Meters due to the following:</i> <ul style="list-style-type: none"> The change in station limits was deemed necessary because the released funding for the original section is insufficient to completely address the requirements for slope stabilization along the said section. Thus, a similarly critical section was identified which requires immediate intervention. The decrease in the physical target/ increase in unit cost for CW1 is due to the design length of 5-meter permanent ground anchors as recommended in the design analysis. The project utilized the Erosion Control Mat (Type 4), Permanent Ground Anchor, Hydroseeding and Active Wire Mesh System (High Tensile) which contributed to the increase in unit cost thereon causing a deduction in the target area of the proposed slope protection. The derived unit cost is based on the approved Program of Work (POW) with Detailed Unit Price Analysis (DUPA). <p>Attached are the following supporting documents: Approved Program of Works (POW) with Detailed Unit Price Analysis (DUPA), Detailed Engineering Design (DED), Certificate of Availability of Funds (CAF), BP 202, Geotagged photos, Certificate of Reasonableness, Evaluation of the Bureau of Construction on the unit cost of the similar type projects, RSM Forms and GIS Map.</p>
33. PHOTOS SUBMITTED <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES
34. A MAP OF THE PROPOSED PROJECT WORK LOCATION SUBMITTED <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES

Tables for Modification Request Form

35. PREPARED BY:			
Name:	 ERLINDA F. DOLIENTE	Position:	Chief, Planning Section
Office:	Planning and Design Division	Date:	
36. REVIEWED BY DISTRICT OFFICE (If Required)		38. REVIEWED BY REGIONAL OFFICE	
Name:		Name:	 ANGELITA B. MABITAZAN
Position:		Position:	Chief, Planning and Design Division
Date:		Date:	
37. RECOMMENDED BY DISTRICT OFFICE (If Required)		39. RECOMMENDED BY REGIONAL OFFICE	
Name:		Name:	 KHADAFFY D. TANGGOL
Position:		Position:	Regional Director
Date:		Date:	

Tables for Modification Request Form

UACS (Unified Account Code Structure as defined in GAA)

310107100454000

Project Id


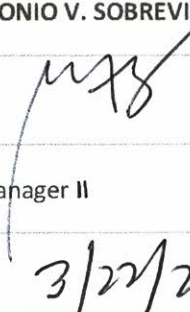
P00713196LZ

40. DPWH OFFICE OF THE UNDERSECRETARIES FOR OPERATIONS

Primary Reason for Request (based on Category of Modification): (choose one)

Category A	Category B	Category C	Category D	Impact
<input type="checkbox"/> Typographical error on Project Description	<input type="checkbox"/> Overlapping Sections <input checked="" type="checkbox"/> Change in Station Limits <input checked="" type="checkbox"/> Change in Physical Target	<input type="checkbox"/> No such Barangay <input type="checkbox"/> No such City or Municipality	<input type="checkbox"/> Change in (IO), requiring a change in the (OU)	<input type="checkbox"/> No change or decrease in unit cost <input type="checkbox"/> 20% or less increase in unit cost <input checked="" type="checkbox"/> > 20% increase in unit cost

Reviewed by Office of the Undersecretary for Operations

Name:	Engr. MANUEL L. SINGSON	Name:	Engr. ANTONIO V. SOBREVINAS, JR.
Signature		Signature	
Position:	Project Manager I	Position:	Project Manager II
Date:	3/23/23	Date:	3/22/23

41. DPWH PLANNING SERVICE

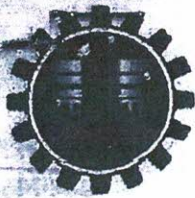
Category of Modification (please check the appropriate)	<input type="checkbox"/> Category A – Typographical Error <input type="checkbox"/> Category B – Change in Station Limits <input type="checkbox"/> Category C – Change in Location, due to non-existing location <input type="checkbox"/> Category D – Change in Operating Unit (requires DBM approval) <input type="checkbox"/> Modification does not comply with DBM Categories
---	--

Reviewed by Planning Service

Name:	ANNA ANDREA M. NOCHE	Name:	PETER PAUL R. CORTEZ
Signature		Signature:	
Position:	Regional Coordinator	Position:	OIC - Chief of Programming Division
Date:	3/24/23	Date:	

ANNEX A: Project Work Location Details for National Roads

Component ID	Section ID	Start Limit LRP + Disp	End Limit LRP + Disp	Start Chainage	End Chainage	Length (m)	Type of Work	Detail Scope of Work	Target Unit	Physical Target
P00713196LZ - CW1	S00393LZ	K0232 + 535	K0232 + 580	17559	17604	45	Construction of Road Slope Protection Structure	Active Wire Mesh System (High Tensile) (L/S) ✓	Square Meters	1715



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
CENTRAL OFFICE
Manila

July 27, 2022

MEMORANDUM

FOR : Assistant Secretary ADOR G. CANLAS.
For Regional Operations in REGIONS I, II, CAR, IX, X, XI, XII & XIII

Subject : 001: Ensure Safe and Reliable National Roads with Slips Slope Collapse and Landslide – Secondary Roads, Rehabilitation/ Reconstruction of National Roads Banaue – Mayoyao A Lista – Isabela Bdry. Road P85,905,000.00 and three (3) others.

Forwarded herewith are the result of evaluation for the above-mentioned projects which were referred to this office.

PROJECT NO. 1

The amount of Eighty Five Million Nine Hundred Five Thousand Pesos (**P85,905,000.00**) for **3,140.50 m²** of Slope Protection Structures as submitted was found to be reasonable as evaluated based on the items of work involved and its quantities as reflected in the submitted Program of Works and design plans duly approved by Regional Director, DPWH-CAR.

SCOPE OF WORK

ITEM NO.	DESCRIPTION	AMOUNT (Total Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer	P 203,439.60	0.25%
Part B	Other General Requirements	P 1,532,726.30	1.85%
Part C	Earthworks	P 223,796.35	0.27%
Part G	Drainage & Slope Protection Structures	P 80,769,413.00	97.43%
Part H	Miscellaneous Structures	P 168,028.00	0.20%
	GRAND TOTAL	P 82,897,403.25	100.00%

Cost of slope protection per m² = $\frac{P82,897,403.25}{3,140.00 \text{ m}^2}$ = **P26,400.45/ m²**

Cost per kilometer of Road (Exclude Part A, B, C & H) = $\frac{P80,769,413.00}{3,140.00 \text{ m}^2}$ = **P25,722.74/ m²**

The estimated cost of **P26,400.45** per square meter of slope protection structures for the Rehabilitation/Reconstruction of National Roads with Slips Slope Collapse and Landslide - Secondary Roads – Banaue - Mayoyao A Lista – Isabela Bdry. Road at 3,140.00 square meter is due to design requirements which mainly involved Erosion Control Mat (Type 4), Permanent Ground Anchor, Hydroseeding and Active Wire Mesh System (High Tensile) at **97.43%** of the total project cost coupled with recent price escalation of construction materials and fuel and it is 394.50 km away to project site.

(Part A, B, C & G are excluded)

If **Facilities for the Engineer, Other General Requirements, Earthworks, and Miscellaneous Structures** along the stations as reflected in K0350+650 – K0350+760 per approved plans and location map of the proposed new road alignment are excluded in the computation the resulting cost is only **P25,722.74** per square meter, hence it is considered reasonable as the Unit Costs of the items of work involved are within the range of the prevailing cost of the Department.

PROJECT NO. 2

The amount of Three Hundred Million Pesos (**P300,000,000.00**) for **11,394.00 m²** of Slope Protection Structures as submitted was found to be reasonable as evaluated based on the items of work involved and its quantities as reflected in the submitted Program of Works and design plans duly approved by Regional Director, DPWH-CAR.

SCOPE OF WORK

ITEM NO.	DESCRIPTION	AMOUNT (Total Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer	P 375,580.80	0.13%
Part B	Other General Requirements	P 2,559,573.20	0.88%
Part C	Earthworks	P 474,665.97	0.16%
Part D	Subbase and Base Course	P 158,117.45	0.05%
Part E	Surface Course	P 1,407,120.60	0.49%
Part F	Bridge Construction	P 120,689.44	0.04%
Part G	Drainage & Slope Protection Structures	P 284,252,869.60	98.19%
Part H	Miscellaneous Structures	P 147,484.80	0.05%
	GRAND TOTAL	P 289,496,101.86	100.00%

$$\text{Cost of slope protection per m}^2 = \frac{\text{P289,496,101.86}}{11,394.00 \text{ m}^2} = \text{P25,407.77/m}^2$$

$$\text{Cost per kilometer of Road (Exclude Part A, B, C, D, E, F \& H)} = \frac{\text{P284,252,869.60}}{11,394.00 \text{ m}^2} = \text{P24,947.59/m}^2$$

The estimated cost of **P25,407.77** per square meter of slope protection structures for the Rehabilitation/Reconstruction of National Roads with Slips Slope Collapse and Landslide - Secondary Roads – Mt. Province – Cagayan via Tabuk – Enrile Road at 11,394.00 square meter is due to design requirements which mainly involved Erosion Control Mat (Type 4), Permanent Ground Anchor, Hydroseeding and Active Wire Mesh System (High Tensile) at **98.19%** of the total project cost coupled with recent price escalation of construction materials and fuel and it is 422.48 km away to project site.

(Part A, B, C, D, E, F & H are excluded)

If **Facilities for the Engineer, Other General Requirements, Earthworks, Subbase Course, Surface Course, Bridge Construction and Miscellaneous** along the stations as reflected in K0406+453 – K0406+692 per approved plans and location map of the proposed new road alignment are excluded in the computation the resulting cost is only **P24,947.59** per square meter, hence it is considered reasonable as the Unit Costs of the items of work involved are within the range of the prevailing cost of the Department.

PROJECT NO. 3

The amount of Sixty Nine Million Pesos (**P69,000,000.00**) for **2,507.00 m²** of Slope Protection Structures as submitted was found to be reasonable as evaluated based on the items of work involved and its quantities as reflected in the submitted Program of Works and design plans duly approved by Regional Director, DPWH-CAR.

SCOPE OF WORK

ITEM NO.	DESCRIPTION	AMOUNT (Total Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer	P 203,439.60	0.31%
Part B	Other General Requirements	P 1,511,469.80	2.27%
Part C	Earthworks	P 228,436.93	0.34%
Part G	Drainage & Slope Protection Structures	P 64,640,950.30	97.08%
	GRAND TOTAL	P 66,584,296.63	100.00%

$$\text{Cost of slope protection per m}^2 = \frac{\text{P66,584,296.83}}{2,507.00 \text{ m}^2} = \text{P26,559.35/m}^2$$

$$\text{Cost per kilometer of Road (Exclude Part A, B \& C)} = \frac{\text{P64,640,950.30}}{2,507.00 \text{ m}^2} = \text{P25,784.18 m}^2$$

The estimated cost of **P26,559.35** per square meter of slope protection structures for the Rehabilitation/Reconstruction of National Roads with Slips Slope Collapse and Landslide - Secondary Roads - Banaue - Mayoyao A Lista - Isabela Bdry. Road at 2,507.00 square meter is due to design requirements which mainly involved Erosion Control Mat (Type 4), Permanent Ground Anchor, Hydroseeding and Active Wire Mesh System (High Tensile) at **97.08%** of the total project cost coupled with recent price escalation of construction materials and fuel and it is 402.80 km away to project site.

(Part A, B & C are excluded)

If **Facilities for the Engineer, Other General Requirements and Earthworks**, along the stations as reflected in K0358+842 – K0359+047 per approved plans and location map of the proposed new road alignment are excluded in the computation the resulting cost is only **P25,784.18** per square meter, hence it is considered reasonable as the Unit Costs of the items of work involved are within the range of the prevailing cost of the Department.

PROJECT NO. 4

The amount of One Hundred Fifty Million Five Hundred Fifty Thousand Pesos (**P150,550,000.00**) for **5,853.04 m²** of Slope Protection Structures as submitted was found to be reasonable as evaluated based on the items of work involved and its quantities as reflected in the submitted Program of Works and design plans duly approved by Regional Director, DPWH-CAR.

SCOPE OF WORK

ITEM NO.	DESCRIPTION	AMOUNT (Total Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer	P 281,685.60	0.19%
Part B	Other General Requirements	P 1,787,292.50	1.23%
Part C	Earthworks	P 417,767.82	0.29%
Part F	Bridge Construction	P 6,171,515.37	4.25%
Part G	Drainage & Slope Protection Structures	P 136,619,434.98	94.04%
	GRAND TOTAL	P 145,277,696.27	100.00%

Cost of slope protection per m² = $\frac{P145,277,696.27}{5,853.04 \text{ m}^2}$ = **P24,820.90/m²**

Cost per kilometer of Road (Exclude Part A, B, C & F) = $\frac{P136,619,434.98}{5,853.04 \text{ m}^2}$ = **P23,341.62/m²**

The estimated cost of **P24,820.90** per square meter of slope protection structures for the Rehabilitation/Reconstruction of Roads with Slips Slope Collapse and Landslide - Secondary Roads - Baguio - Bontoc Road, Sabangan, Mt. Province at 5,853.04 square meter is due to design requirements which mainly involved Erosion Control Mat (Type 4), Permanent Ground Anchor, Hydroseeding and Active Wire Mesh System (High Tensile) at **94.04%** of the total project cost coupled with recent price escalation of construction materials and fuel and it is 385.30 km away to project site.

(Part A, B & C are excluded)

If **Facilities for the Engineer, Other General Requirements, Earthworks and Bridge Construction** along the stations as reflected in K0374+120 – K0374+285 per approved plans and location map of the proposed new road alignment are excluded in the computation the resulting cost is only **P23,341.62** per square meter, hence it is considered reasonable as the Unit Costs of the items of work involved are within the range of the prevailing cost of the Department.



ARISTARCO M. DOROY

OIC - Director, Bureau of Construction

Cc: Undersecretary MAXIMO L. CARVAJAL for Technical Services

6.1.1 JAM/CBC/GEC

Desktop reasonableness CAR

Ref. No.: 6.1-405-5550/358-02