

Project Administration Manual

Project Number: 50381-006
Loan Number: LXXXX
October 2020

Republic of the Union of Myanmar: Second Greater
Mekong Subregion Highway Modernization Project

ABBREVIATIONS

ADB	–	Asian Development Bank
CSIS	–	construction supervision and implementation support
DOH	–	Department of Highways
ECD	–	Environmental Conservation Department
EIA	–	Environment Impact Assessment
EMP	–	Environment Management Plan
EWEC	–	East-West Economic Corridor
GMS	–	Greater Mekong Subregion
GOM	–	Government of Myanmar
GRM	–	grievance redress mechanism
MOPFI	–	Ministry of Planning, Finance and Industry
PMU	–	project management unit
RP	–	Resettlement Plan
SOE	–	statement of expenditures

CONTENTS

	Page
I. PROJECT DESCRIPTION	1
A. Rationale	1
B. Impact and Outcome	3
C. Outputs	4
II. IMPLEMENTATION PLAN	5
A. Project Readiness Activities	5
B. Overall Project Implementation Plan	6
III. PROJECT MANAGEMENT ARRANGEMENTS	7
A. Project Implementation Organizations–Roles and Responsibilities	7
B. Key persons involved in implementation	8
C. Project Organization Structure	9
IV. COSTS AND FINANCING	11
A. Base Cost ^b	11
A. Cost Estimates Preparation and Revisions	12
B. Key Assumptions	12
C. Detailed Cost Estimates by Expenditure Category	12
D. Allocation and Withdrawal of Loan Proceeds	13
E. Cost estimates by Financier	13
F. Cost Estimates by Output/Component	14
G. Detailed Cost Estimates by Year	14
H. Contract Awards and Disbursement S-curve	15
I. Fund Flow Diagram	16
V. FINANCIAL MANAGEMENT	17
A. Financial Management Assessment	17
B. Disbursement	22
C. Accounting	23
D. Auditing and Public Disclosure	24
VI. PROCUREMENT AND CONSULTING SERVICES	25
A. Advance Procurement and Retroactive Financing	25
B. Procurement of Goods, Works and Consulting Services	25
C. Procurement Plan	26
D. Consultant's Terms of Reference	26
VII. SAFEGUARDS	26
A. Environment Safeguards	26
B. Involuntary Resettlement	30
C. Indigenous Peoples	32
D. Safeguards support through consultants	32
VIII. GENDER AND SOCIAL DIMENSIONS	33
IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION	37

A.	Project Design and Monitoring Framework	37
B.	Monitoring	39
C.	Evaluation	39
D.	Reporting	41
E.	Stakeholder Communication Strategy	41
X.	ANTICORRUPTION POLICY	44
XI.	ACCOUNTABILITY MECHANISM	44
XII.	RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL	45

APPENDIXES

1.	Technical Description Of Sub-Projects	46
2.	Procurement Plan	49
3.	Qualifications and Terms of Reference for Construction Supervision and Implementation Support Personnel	52
4.	Template Of Annual/Quarterly Progress Report	71

ANNEXES

1.	Communication And Participation Strategy	73
2.	Community-Based Road Safety Program	77

Project Administration Manual's Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with Government of Republic of the Union of Myanmar and Asian Development Bank (ADB) policies and procedures. The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Ministry of Construction (MOC) as the executing agency and the Department of Highways (DOH) as implementing agency are wholly responsible for the implementation of this ADB-financed project, as agreed jointly between the government and ADB, and in accordance with government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by the DOH and MOC with their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At loan negotiations, the borrower and ADB shall agree to the PAM and ensure consistency with the loan agreement. Such agreement shall be reflected in the minutes of the loan negotiations. In the event of any discrepancy or contradiction between the PAM and the loan agreement, the provisions of the loan agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB's administrative procedures (including the Project Administration Instructions of ADB) and upon such approval they will be subsequently incorporated in the PAM.

I. PROJECT DESCRIPTION

A. Rationale

1. **Sector issues and opportunities.** Since political democracy in 2012, the Government of Myanmar has been aiming at a sustained economic growth through the market economy, supported by modernizing the country's transport system. It is estimated that Myanmar's per capita gross domestic product (GDP) may increase 4 times during 2010 to 2030, reaching \$3,500, if the Government implements necessary market policies and infrastructure investments, particularly improving Myanmar's highway network.¹

2. However, Myanmar's transport infrastructure lags behind the rest of Southeast Asia (SEA), due to inadequate investments. Myanmar has invested only about 1% of its GDP between 2005 and 2018 in transport infrastructure while faster growing Asian countries have invested 3%. The government has long prioritized network expansion in remote areas, and the Ministry of Construction (MOC) had tasked 26 private concessionaires to manage and improve the main highways (about 5,545 km in total). Insufficient capacity of the concessionaires, and low toll revenues and financing, however, have resulted in operation and maintenance not meeting international standards.

3. In 2012 the government removed restrictions to vehicle imports which has resulted in gradually increased traffic on the road network. This has led to growing congestion as well as to a quickened deterioration of roads, resulting in shorter useful life. An ADB survey of 2014 (footnote 1) estimated that 60% of the highways were in poor condition. The government now plans to increase transport investments to 3% of GDP by 2030, refocus them on the main corridors, and ensure adherence to international design standards. Government objectives outlined in the National Transport Sector Development Master Plan, and the Master Plan for Arterial Road Network Development in Myanmar, intend to guide long-term investments.² Government's strategy is to modernize and improve the management of the existing highway network, while developing an arterial highway network on straighter alignments that still avoid settled areas.

4. **Greater Mekong Subregion (GMS) Corridors.** The GMS corridors are the backbone of Myanmar's transport system. The EWEC connects Thailand with Yangon and its special economic zone of Thilawa, and then onwards to Patheingyi. The Thailand, Lao People's Democratic Republic, and Viet Nam sections of the corridor have been completed to international standards, with border facilities improved. Improvements to this EWEC corridor will reduce national transport costs and improve regional connectivity with Thailand, and onwards to the rest of the GMS region.

5. Most of the GMS EWEC road corridors in Myanmar, including EWEC, has only two lanes, with pavement condition ranging from poor to fair. Road safety is a serious sector issue with Myanmar's road crash fatality rate being third worst in the SEA region.³ The alignments are long and cross urban areas, and the low design standards with mixed road users (motorized and non motorized vehicles, pedestrians, and animals) make it unsafe for speeds higher than 60 km per hour. Despite this situation, traffic on EWEC ranged from 2,500 to 11,000 vehicles per day in 2016, and has been increasing since 2012, so that the corridor capacity is likely to be reached in the near future.

¹ ADB. 2014. *Myanmar: Unlocking the Potential. Country Diagnostic Study*. Manila.

² Ministry of Construction. 2016. *Master Plan for Arterial Road Network Development in Myanmar*. Nay Pyi Taw; Government of Myanmar. 2015. *National Transport Sector Development Master Plan*. Nay Pyi Taw.

³ World Health Organization. 2018. *Global Status Report on Road Safety 2016*. Geneva.

6. People living in rural areas along the GMS EWEC corridor cannot fully benefit from their road connection because of the limited development of the rural road network. In 2017, the government estimated that 14 million people in Myanmar lived in villages that are physically isolated because there is no connecting road, or because the road is flooded or becomes muddy during the rainy season. In the Bago and Mon regions where the proposed project is located, the government estimates that 1.4 million people have inadequate rural road access.⁴

7. **ADB Assistance.** Since 2012, transport has been a pillar of ADB's reengagement strategy in Myanmar. ADB strategy has focused on the GMS corridors and on rural-urban linkages.⁵ ADB has initially financed road improvement projects in the Ayeyarwaddy delta and on the Eindu-Kawkareik section of the EWEC.^{6 7} ADB has also prepared a strategic review of the sector, and then provided technical assistance (TA) to reform sector institutions and to build their capacity in road asset management and safety.⁸

8. The government has requested ADB's further assistance in developing the country's main road corridors—particularly the EWEC, and improve their management. As the first response, in 2018 ADB approved the GMS Highway Modernization Project to address short-term needs.⁹ It will rehabilitate the Yangon-Pathain and Bago-Thilawa sections of the GMS EWEC, which are in poor condition, but where the existing road alignment is suitable to absorb medium-term traffic demand. Further, ADB approved a rural roads project in 2019 to increase the impact of highway investments through much needed rural connectivity.¹⁰

9. **Proposed Solutions.** The project will help address the longer-term challenge to develop an arterial highway network, which is essential to achieve rapid economic growth. In the government's Master Plan for Arterial Road Network Development in Myanmar, 560 km of arterial highways will have commenced construction by 2020, including the proposed Bago-Kyaikto expressway. Another 3,290 km are planned to be constructed between 2020 and 2030. The arterial highway development program accounts for half of Myanmar's long-term transport investment needs. However, the government lacks experience in developing and managing such projects. The MOC has limited skills in highway engineering design—particularly for safety, implementation of land acquisition and other social and environmental considerations, as well as in operation and maintenance.

10. The project will address capacity issues of the road between Bago-Kyaikto along the EWEC, where the current two-lane road experiences high traffic. A pre-feasibility study prepared by the Japan International Cooperation Agency (JICA) showed that this section would reach capacity between 2020 and 2025.¹¹ Upgrading the currently existing road is not the preferred

⁴ Government of Myanmar. 2017. *National Strategy for Rural Roads and Access*. Nay Pyi Taw.

⁵ ADB. 2017. *Country Partnership Strategy: Myanmar, 2017–2021*. Manila.

⁶ ADB. 2014. *Report and Recommendations of the President to the Board of Directors: Proposed Loan to the Republic of the Union of Myanmar for the Maubin-Pyapon Road Rehabilitation Project*. Manila.

⁷ ADB. 2015. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Republic of the Union of Myanmar for the Greater Mekong Subregion East-west Economic Corridor Eindu to Kawkareik Road Improvement Project*. Manila.

⁸ ADB. 2016. *Myanmar Transport Sector Policy Note: Summary for Decision Makers*. Manila; ADB. 2014. *Technical Assistance to the Republic of the Union of Myanmar for Transport Sector Reform and Modernization*. Manila; ADB. 2015. *Technical Assistance to the Republic of the Union of Myanmar for Improving Road Network Management and Safety*. Manila.

⁹ ADB. 2018. *Report and Recommendations of the President to the Board of Directors: Proposed Loan to the Republic of the Union of Myanmar for the Greater Mekong Subregion Highway Modernization Project*. Manila.

¹⁰ ADB. 2019. *Report and Recommendations of the President to the Board of Directors: Proposed Loan to the Republic of the Union of Myanmar for the Rural Roads and Access Project*. Manila.

¹¹ JICA. 2016. *Preparatory Survey for the Project for Strengthening Connectivity of International Highway in Mekong Region, Final Report Phase-II Survey Report*, Tokyo.

solution, as its widening would involve large resettlement impacts, and because the alignment of the road is long and winding in several areas. The project proposes the construction of a new Bago-Kyaikto expressway with 4 lanes, shorter by 32 km than the current alignment, which will halve travel time. This expressway will be about 64 km long and include a 2.3 km long new bridge across the Sittaung river.¹²

11. The project will be the first greenfield arterial highway constructed in Myanmar to international standards. Project preparation will draw from ADB's experience in other Asian countries, including expressway projects in Viet Nam, and build upon the strong policy dialogue between ADB and the government in the transport sector.

12. The project has been developed in close partnership with JICA (footnote 12), in consideration of each development partner's comparative advantages.¹³ JICA is responsible for the feasibility study for the new Sittaung bridge (2.3 km), and ADB is responsible for the same for feasibility for the 64 km of the Bago-Kyaikto expressway, excluding the Sittaung bridge.

13. A transaction technical assistance (TRTA) has designed the proposed project's feasibility study.¹⁴ Another TRTA supplemented this for designing output 3 of the proposed project.¹⁵

14. **Value added by ADB.** The ADB assistance will provide value addition in the direct support to the DOH of the MOC to (i) construct Myanmar's first greenfield expressway for international standards with international supervision of construction; (ii) ensure full compliance with all safeguards requirements in project implementation; (iii) build government's capacity to develop and manage expressways at international standards; and (iv) ensure road safety in Bago-Kyaikto corridor enhanced.

15. **Alignment with the ADB Strategic Agenda.** The project is included in Country Operations and Business Plan, 2020-2022 for Myanmar, and is aligned with Strategy 2030.¹⁶

B. Impact and Outcome

16. The project is aligned with the following impact: an arterial highway network established in support of economic development, regional economic growth, and international industrial competitiveness in a way that is safe, environmentally-friendly and efficient.¹⁷ The project will have the following outcome: more efficient and safer movement of goods and people between Bago and Kyaikto, along the GMS EWEC.

¹² The new Sittaung bridge will be constructed with JICA's parallel cofinancing, not administered by ADB.

¹³ ADB. 2015. *ADB-JICA Strategic Partnership for Sustainable and Inclusive Development*, Manila.

¹⁴ ADB. 2017. *Technical Assistance to the Republic of the Union of Myanmar for Second Greater Mekong Subregion Highway Modernization Project* (formerly GMS East-West Economic Corridor Highway Development). Manila.

¹⁵ ADB. 2019. *Technical Assistance to the Republic of the Union of Myanmar for Road Safety for Highway Development in the Greater Mekong Subregion East-West Economic Corridor*. Manila.

¹⁶ ADB. 2019. *Country Operations Business Plan: Myanmar, 2020-2022*. Manila; and ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific*. Manila.

¹⁷ Government of Myanmar, Ministry of Transport (former Ministry of Transport is now Ministry of Transport and Communications, and Ministry of Construction). 2016. *Arterial Roads Master Plan*. Nay Pyi Taw.

C. Outputs

17. **Output 1: New Bago-Kyaikto expressway constructed.** The proposed project will construct about 64 km of expressway of 4 lanes between Bago and Kyaikto. This new expressway will be an alternate route between Bago and Kyaikto, shortening the distance by 32 km, and simultaneously providing climate resilient access for the flood prone route. This expressway is also the first greenfield one in Myanmar and will be fully access controlled. A 2.3 km long new bridge across the Sittaung River (Sittaung Bridge) is proposed to be constructed at approximately Km 50 post. The Sittaung bridge will be financed under JICA's parallel co-financing, not administered by ADB.

18. The construction supervision and implementation support (CSIS) consultant, whose activities will be implemented under this output, will also help Department of Highways (DOH) and the Project Management Unit (PMU) implement the proposed project.

19. **Output 2: Capacity of Ministry of Construction for expressway management enhanced.** Given the less than satisfactory performance of the current toll road concessionaires, their toll road management arrangements, and lack of sustainability of the DOH-managed Yangon-Mandalay Expressway, this output will focus on development and implementation of a new scheme for expressway and toll road management for the MOC. Under the CSIS consultant's contract, it will propose routine, periodic, and emergency maintenance activities for a sustainable road asset management regime. Starting with a scheme for the new Bago-Kyaikto expressway to be constructed under the project, the proposed activities under this output will cover the entire expressway and toll highway network of the MOC. Such enhanced scheme for expressway and toll road management will support adequate asset O&M support and long-term financial sustainability of all expressway and toll road system of Myanmar.

20. **Output 3: Road safety for Bago-Kyaikto corridor improved.** To mitigate the risks of incidence of crashes during expressway operation, this output will propose a community-based road safety program. The program design will be completed under an ongoing TA (footnote 15) implemented within 2020. The TA objective will be to establish the foundation for a sustainable road safety regime for Myanmar. The major objectives of the TA are: (i) government's capacity to collect and analyze road safety data improved; (ii) planning a 3-stream approach for road safety for the existing Bago-Kyaikto national highway that could be replicated in other national highways of Myanmar; and (iii) drafting guidelines for safety during construction, first aid and other response, and post-crash victim support.

21. While essential road safety engineering elements will be included in the detailed design for the proposed Bago-Kyaikto expressway, given that majority of crashes are attributable to road user behavior, this output, through the community based road safety program described in para 20, will focus on road user education and social enforcement, including safe school zone, animal control, and post-crash response and emergency care to achieve a sustainable long-term safe environment for road users and local community. Safety during construction will also be implemented together with road safety education for consultant's and contractor's personnel. The output includes road safety provisions that are expected to be implemented during the defect notification period and sustained during the operation of the expressway which will focus on enforcing and educating the road users on the expressway law, emergency response, and building the capacity of the expressway police.

22. While all activities of Output 3 will be implemented by DOH and PMU, details pertaining to implementation of those activities will be finalized by TA-9743 (footnote 15) consultants in close

consultation with DOH, PMU and ADB missions. Once the Output 3 activities begin, ADB missions will support DOH and PMU for its implementation.

II. IMPLEMENTATION PLAN

A. Project Readiness Activities

23. **Implementation period.** The proposed project is expected to be approved in September 2020. Loan signing is anticipated in October 2020, after which the project implementation period is seven years. The detail design consultant (CS2 consultant) will be engaged from November 2020 through an international consulting firm under an ongoing Loan 3747-MYA: GMS Highway Modernization Project. Advance action to recruit the CSIS consultant will be carried out from August 2020. The project is expected to be physically completed by 30 June 2027. Loan closing date will be 30 September 2027. The project milestones and overall project implementation are described in Tables 1 and 2.

Table 1: Indicative ADB and Government Processing Milestones

Indicative Activities	2019					2020												2021							Responsible Individual/Unit/Agency/Government	
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul		
ADB processing milestones																										
Fact-finding mission completion	X																									ADB, MOC
Advance action on consultant recruitment (on behalf of Government): CS2				X	X	X	X	X	X	X	X	X	X	X	X											MOC, ADB to support
Management Review Meeting								X																		ADB
Loan negotiations													X													ADB, MOC, MOPFI
ADB Board Approval														X												ADB
Loan signing															X											ADB, MOPFI
Loan effectiveness declared																	X									ADB
Government project preparation milestones																										
Approval of fact-finding mission's Minutes of Meeting	X																									MOC
Advance action on consultant recruitment: CSIS													X	X	X	X	X	X	X	X	X	X	X	X	X	MOC
Initiate government approval process								X																		MOC
Informal Parliament Briefing												X														MOC, ADB
Submit project for DACU, EC, Cabinet approval								X																		MOC, MOPFI
MYA President submit for Parliament approval												X														GOM
Loan negotiation and authorization													X													MOC, MOPFI, ADB
Loan signing															X											MOPFI, ADB

ADB = Asian Development Bank; CS2 = Consulting Services for Detailed Technical Preparation for new Bago-Kyaikto Expressway; CSIS = construction supervision and implementation support; DACU = Development Assistance Coordination Unit; EC = Economic Committee; GOM = Government of Myanmar; MOC = Ministry of Construction; MOPFI = Ministry of Planning, Finance and Industry; MYA = Myanmar; PMU = project management unit.

Source: Asian Development Bank staff estimates.

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations–Roles and Responsibilities

24. Stakeholders' role and responsibility in the project are presented below.

Table 3: Agency Roles and Responsibilities

Project implementation organizations	Management Roles and Responsibilities
Ministry of Construction (MOC)	<p>MOC will be the executing agency for the Project.</p> <ul style="list-style-type: none"> Ø Administer the Project as the executing agency of the ADB loan; Ø Responsible for the overall project implementation; Ø Timely provision of counterpart funds for project activities; Ø Communicate with ADB for any amendments in the reallocation of the loan amount;
Department of Highways (DOH)	<p>DOH will be the implementing agency for the project to be prepared for implementation under the Project. The roles and responsibilities of the IA will include the following:</p> <ul style="list-style-type: none"> Ø Provide overall coordination and guidance during the implementation of the project to the PMU; Ø Quality assurance of works and services of consultants, contractors and counterpart staff; Ø Establishing a strong financial management system and submitting timely withdrawal applications to ADB; Ø Establishing the advance account and managing the account, report and audit for such advance account; Ø Preparing and submitting audited project financial statements of the Project to ADB ensuring financial audits are conducted as per agreed timeframe and taking recommended actions; Ø Complying with all covenants in the Loan Agreement, under MOC's oversight; Ø Collecting and retaining all support documents, reporting documents and annual audit reports and financial statements.
Project Management Unit (PMU)	<ul style="list-style-type: none"> Ø Finalizing bidding documents, managing the procurement of consultants and contractors, and finalizing contract awards; Ø Monitoring and evaluation of project activities and outputs, including periodic review, preparation of review reports, identifying issues and action plans; and Ø Preparing regular periodic progress reports, and the project completion report.
Ministry of Planning, Finance and Industry (MOPFI)	<ul style="list-style-type: none"> Ø MOPFI will be signing the Loan Agreement; Ø Providing documents and other requirements for loan effectiveness; Ø Allocating and releasing counterpart funds;

Project implementation organizations	Management Roles and Responsibilities
Asian Development Bank (ADB)	<ul style="list-style-type: none"> ∅ Providing ADB with details of the authorized staff with specimen signatures for withdrawal application processing; ∅ Requesting extensions of the loan closing date; and ∅ Processing and submitting to ADB any request, when required, for reallocating the loan proceeds. <hr/> <ul style="list-style-type: none"> ∅ Assist MOC, DOH and the PMU with timely guidance at each stage of project implementation in accordance with the agreed implementation arrangements; ∅ Review all the documents that require ADB approval; ∅ Conduct an inception mission, periodic loan review missions, a mid-term review, a completion mission for the project, and an overall project completion mission; ∅ Monitor schedules of activities, including funds flow; ∅ Monitor and ensure compliance with all loan covenants; ∅ Monitor effectiveness of safeguard procedures; ∅ Monitor the outcome of capacity building and training programs; ∅ Process withdrawal applications and release payments to contractors, consultants, and others as appropriate; ∅ Monitor compliance with financial audit recommendations; ∅ Coordinate with development partners and other stakeholders on Project implementation; ∅ Regularly update ADB's project performance review reports with assistance from DOH and progress reports; and ∅ Regularly post on the ADB website updated project information documents for public disclosure.

Source: Asian Development Bank.

B. Key persons involved in implementation

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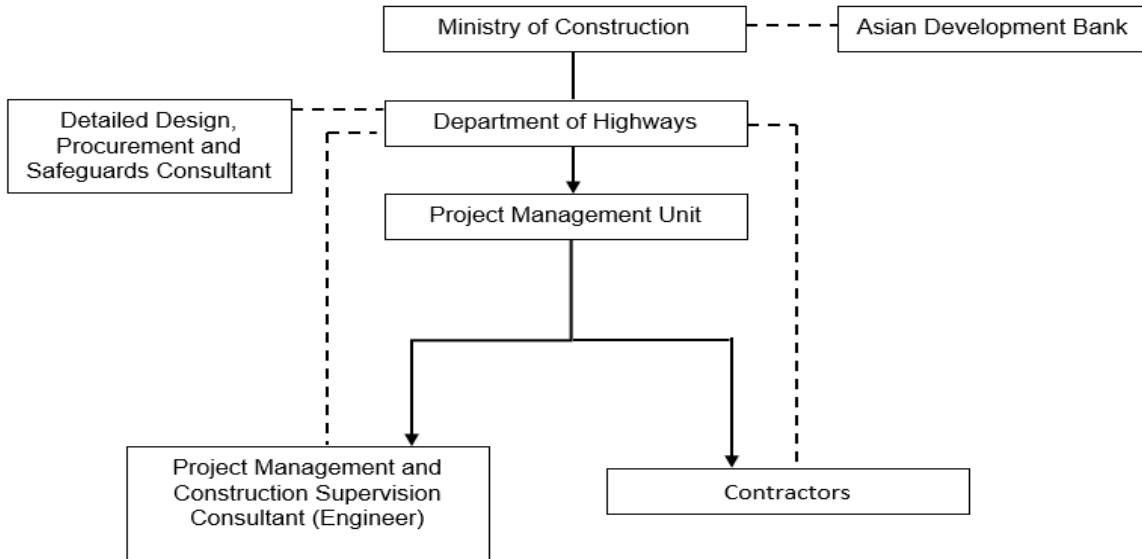
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C. Project Organization Structure

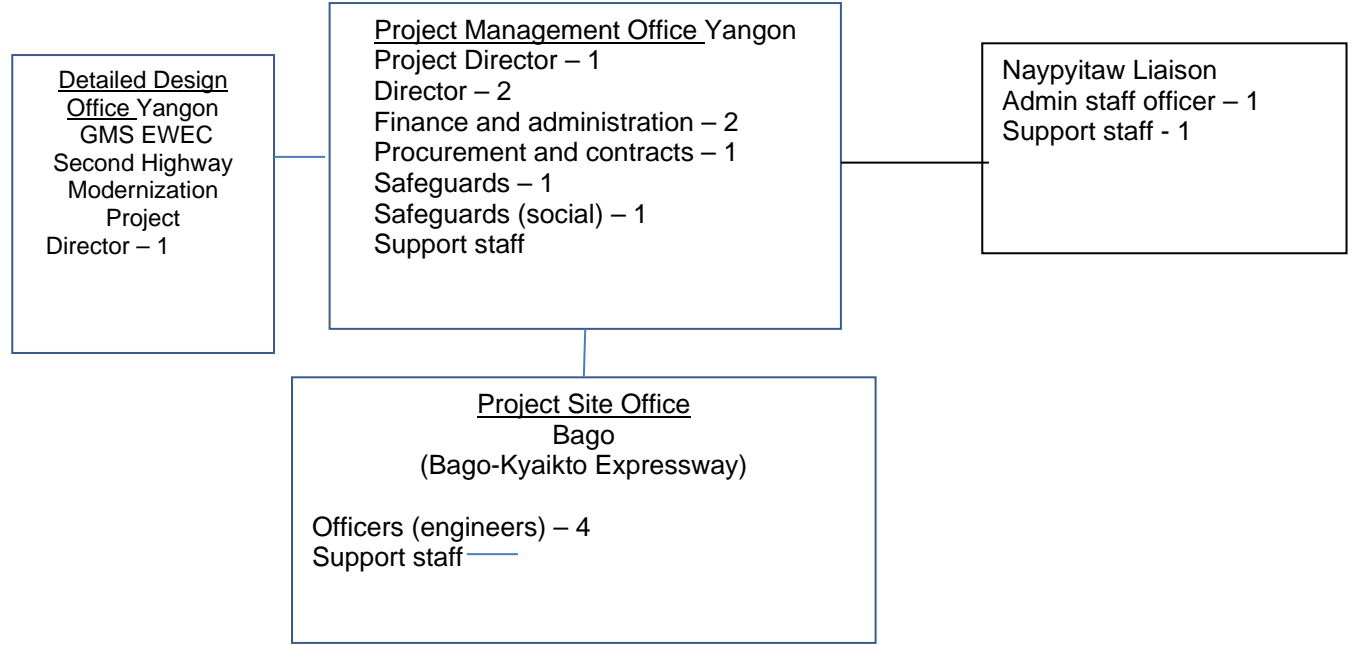
25. Implementation arrangements are shown below:

Figure 1: Project Organizational Chart



————— Administrative relationship
 - - - - - Contractual relationship
 —————> Supervision

Figure 2: Project Management Unit Organization Chart



IV. COSTS AND FINANCING

26. The project is estimated to cost \$526.34 million (Table 5).

27. The government has requested a loan of \$483.80 million from ADB's ordinary capital resources (concessional loan) to help finance the project, of which \$50 million is expected to be provided from the regional set-aside. The government will provide the equivalent of \$42.54 million to finance interest during construction and resettlement cost.

28. The ADB loan will have a 32-year term, including a grace period of 8 years; an interest rate of 1.0% per year during the grace period and 1.5% per year thereafter during 24 years; and such other terms and conditions set forth in the draft loan agreement.

Table 5: Summary Cost Estimates
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Output 1: New Bago-Kyaikto expressway constructed ^c	419.76
2. Output 2: Capacity of MOC for expressway management enhanced ^d	1.00
3. Output 3: Road Safety for Bago-Kyaikto corridor Improved	4.50
Subtotal (A)	425.26
B. Project Management Cost	3.80
C. Contingencies^e	87.77
D. Financial Charges During Implementation^f	9.51
Total (A+B+C+D)	526.34

CSIS = construction supervision and implementation support; MOC = Ministry of Construction

^a Includes taxes and duties of \$54.43 million. Such amount does not represent an excessive share of the project cost. ADB will finance taxes and duties.

^b In December 2019 prices.

^c Includes land acquisition and resettlement cost of \$33.03 million and CSIS consultants cost of \$13 million.

^d The capacity development of MOC will be provided by the CSIS consultants.

^e Physical contingencies computed at 15.0% for civil works and 8% for other cost categories. Price contingencies are based on expected \$ cumulative inflation over the implementation period; land acquisition costs (as major expenditure in local currency Kyat) were escalated in accordance with latest Kyat inflation rates projections.

^f Includes interest charges.

Source: Asian Development Bank.

29. The summary financing plan is in Table 6. ADB will finance the expenditures in relation to civil works, consultants, incremental administrative costs (for project administration), taxes and duties on ADB-financed expenditures. The government will finance the cost of resettlement, and interest during implementation. Climate adaptation is estimated to cost \$10.7 million. ADB will finance 100% of such costs.

Table 6: Summary Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (concessional loan)	483.80	92.0
Government	42.54	8.0
Total	526.34	100.0

Note: Japan International Cooperation Agency (JICA) will finance the new Sittaung bridge. JICA's parallel cofinancing will not be administered by the Asian Development Bank.

Source: Asian Development Bank.

A. Cost Estimates Preparation and Revisions

30. The cost estimates were prepared by an ADB Mission in consultation with the MOC and the DOH, based on the project's preliminary design cost estimates, which are part of the project feasibility study issued by the project preparatory consultant on 2 August 2019 and updated during the loan fact finding mission on 20-27 August 2019. Revised civil works unit costs were based on prevalent market rates in Myanmar as of December 2019. Consultant cost estimates are based on fees and rates observed for similar assignments in 2018.

B. Key Assumptions

31. The following key assumptions underpin the cost estimates and financing plan (Table 7):
- (i) Exchange rate: MK 1,523 = \$1.00 (as of 1 December 2019). Cost estimates were calculated under the assumption of a purchasing power parity exchange rate.
 - (ii) Land acquisition costs were escalated in accordance with latest MMK inflation rates projections.
 - (iii) Price contingencies are based on expected USD cumulative inflation over the implementation period. These are as follows:

Table 7: Escalation Rates for Price Contingency Calculation

Item	2020	2021	2022	2023	2024	2025	Average
Foreign rate of price inflation	1.5%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
Domestic rate of price inflation	6.5%	7.0%	7.2%	7.2%	7.2%	7.2%	7.1%

Source: Asian Development Bank.

C. Detailed Cost Estimates by Expenditure Category

Table 8: Cost Estimates by Expenditure Category

	Total Cost (\$ million)	% of Total Base Cost
A. Investment Costs		
1. Output 1: Civil Works ^a	419.76	79.8%
2. Output 2: Capacity of MOC for expressway management enhanced	1.00	0.2%
3. Output 3: Road safety	4.50	0.9%
Subtotal (A)	425.26	80.9%
B. Project Management Costs	3.80	0.7%
C. Contingencies	87.77	16.6%
D. Financing Charges During Implementation	9.51	1.8%
Total Project Cost (A+B+C+D)	526.34	100.0%

^a Includes land acquisition and resettlement cost of \$33.03 million and CSIS consultants cost of \$13 million.

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank.

D. Allocation and Withdrawal of Loan Proceeds

Table 9: Allocation and Withdrawal of Loan Proceeds

Category	ADB Financing (\$)	Percentage and Basis for Withdrawal from the Loan Account
1. Project Costs	396,030,000	100% of total expenditure claimed
2. Unallocated *	87,770,000	100% of amount due
Total	483,800,000	

* May be used for physical and price contingencies.

Source: Asian Development Bank.

E. Cost estimates by Financier

Table 10: Cost Estimates by Financier

(\$ million)

	ADB		Government		Total Cost	
	Amount	%	Amount	%	Amount	Taxes and Duties
A. Investment Costs						
1. Output 1: Civil Works ^a	386.73	73.5%	33.03	6.3%	419.76	41.97
2. Output 2: Capacity of MOC	1.00	0.2%	0.00	0.0%	1.00	0.10
3. Output 3: Road Safety	4.50	0.9%	0.00	0.0%	4.50	0.45
Subtotal (A)	392.23	74.6%	33.03	6.3%	425.26	42.52
B. Project Management Costs	3.80	0.7%	0.00	0.0%	3.80	0.38
C. Contingencies	87.77	16.6%	0.00	0.0%	87.77	8.78
D. Financing Charges during Implementation	0.00	0.0%	9.51	1.8%	9.51	0.00
Total Project Cost (A+B+C+D)	483.80	91.9%	42.54	8.1%	526.34	51.68

^a Includes land acquisition and resettlement cost of \$33.03 million and CSIS consultants cost of \$13 million.

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank.

F. Cost Estimates by Output/Component

Table 11: Cost Estimates by Output/Component
(\$ million)

Item	Total	Output 1		Output 2		Output 3	
	cost	Amount	%	Amount	%	Amount	%
A. Investment Costs							
1. Civil Works	373.73	373.73	100.0%	0.00	0.0%	0.00	0.0%
2. Land Acquisition	33.03	33.03	100.0%	0.00	0.0%	0.00	0.0%
3. Consulting Services: CSIS	13.00	13.00	100.0%	0.00	0.0%	0.00	0.0%
4. Output 2: Capacity of MOC	1.00	0.00	0.0%	1.00	100.0%	0.00	0.0%
5. Output 3: Road Safety	4.50	0.00	0.0%	0.00	0.0%	4.50	100.0%
Subtotal (A)	425.26	419.76	98.7%	1.00	0.2%	4.50	1.1%
B. Project Management Cost	3.80	3.80	100.0%	0.00	0.0%	0.00	0.0%
C. Contingencies	87.77	86.87	99.0%	0.00	0.0%	0.90	1.0%
D. Financing Charges during Implementation	9.51	9.31	97.9%	0.00	0.0%	0.20	2.1%
Total Project Cost (A+B+C+D)	526.34	519.74	98.7%	1.00	0.2%	5.60	1.1%

Source: Asian Development Bank.

G. Detailed Cost Estimates by Year

Table 12: Cost Estimates by Year
(\$ million)

	2021	2022	2023	2024	2025	2026	Total
A. Investment Costs							
1. Civil Works ^b	15.59	126.55	87.94	69.49	101.00	19.19	419.76
2. Output 2: Capacity of MOC	0.20	0.20	0.20	0.20	0.20	0.00	1.00
3. Output 3: Road Safety	0.00	1.07	1.07	1.07	1.07	0.22	4.50
B. Project Management Costs	0.25	0.70	0.70	0.70	0.70	0.75	3.80
C. Contingencies	0.91	25.00	18.61	15.61	23.25	4.39	87.77
D. Financing charges	0.00	0.79	1.84	2.78	4.10	0.00	9.51
Total	16.95	154.31	110.36	89.85	130.32	24.55	526.34

^b Includes land acquisition and resettlement cost of \$33.03 million and CSIS consultants cost of \$13 million.

Source: Asian Development bank.

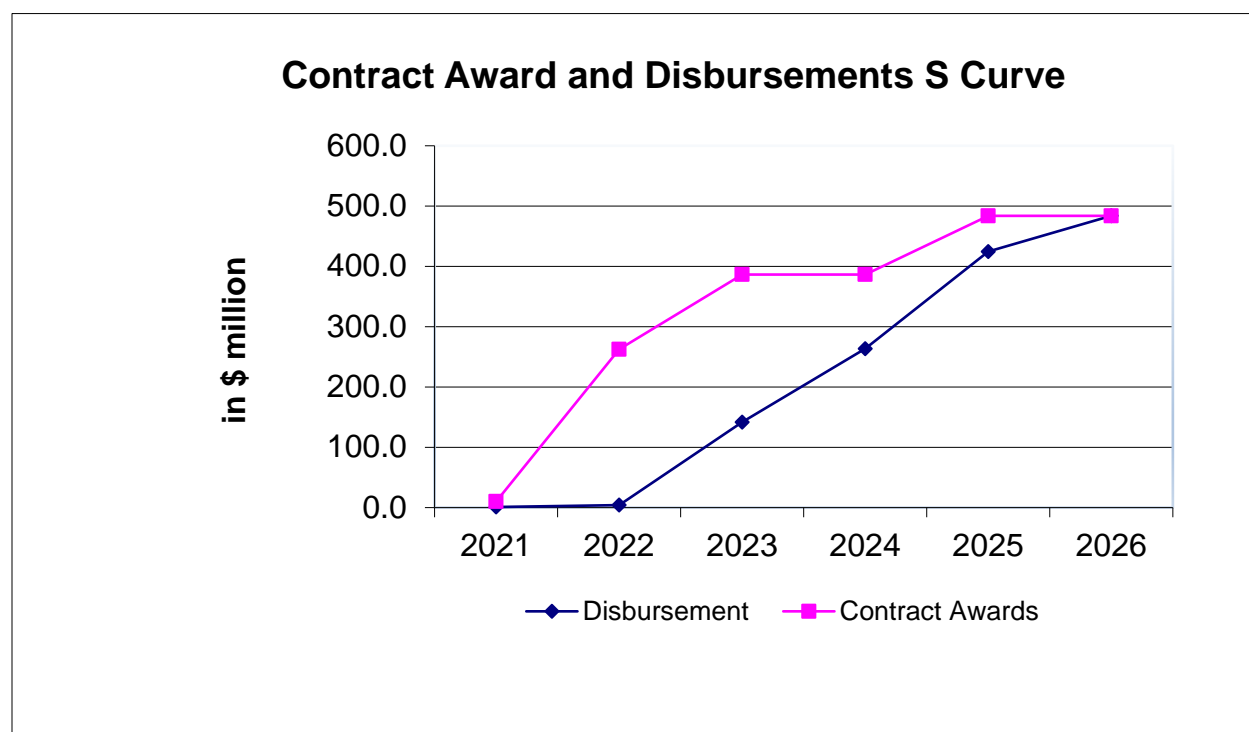
H. Contract Awards and Disbursement S-curve

Table 13: Estimated quarterly and yearly contract awards and loan disbursements
(as of 12 August 2020)

Year	Contract Award (\$million)					Disbursement (\$million)					
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	
2021	0.0	0.0	10.0	0.0	10.0	0.0	0.0	1.0	0.0	1.0	
2022	0.0	0.0	127.5	125.0	252.5	2.8	2.8	35.1	99.6	140.3	
2023	0.0	76.3	47.8	0.0	124.1	10.3	36.0	41.1	15.4	102.8	
2024	0.0	0.0	0.0	0.0	0.0	8.7	30.5	34.8	13.1	87.1	
2025	0.0	97.3	0.0	0.0	97.3	12.6	44.2	50.5	18.9	126.2	
2026	0.0	0.0	0.0	0.0	0.0	2.6	9.2	10.6	4.0	26.4	
Total Contract Awards:					483.80	Total Disbursements:					483.80

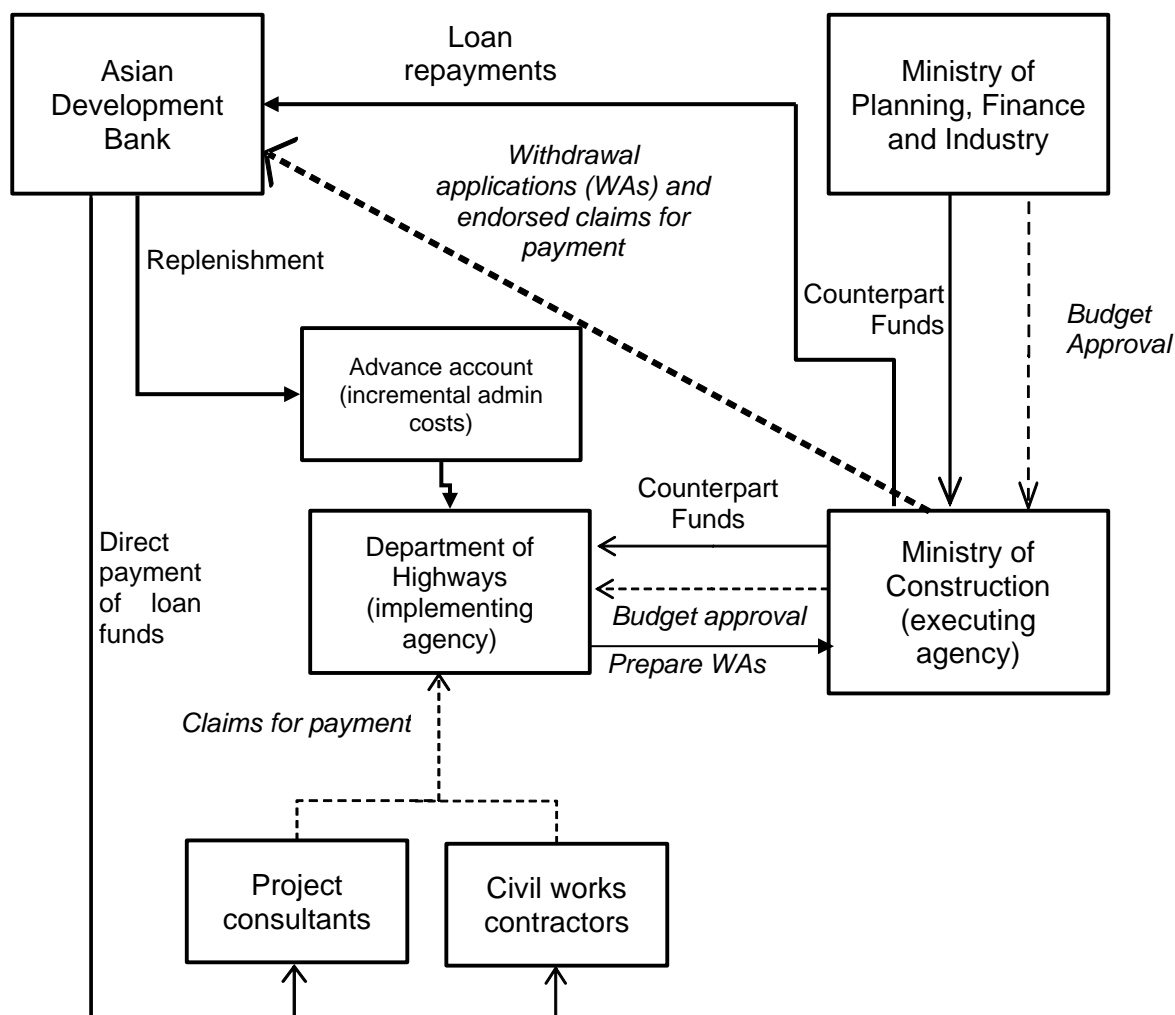
Source: Asian Development Bank.

Figure 3: Contract awards and loan disbursements S-curve



I. Fund Flow Diagram

Figure 4: General Fund Flow Diagram



Legend:

- Fund flow
- Requests and approvals

Supporting Agreements:

- Y Loan Agreement between ADB and the Government of Myanmar
- Y Management Agreement between Ministry of Construction and Department of Highways

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

32. The financial management assessment (FMA) was conducted in May 2019 in accordance with ADB's Guidelines for the Financial Management and Analysis of Projects and the Financial Due Diligence: A Methodology Note. The FMA considered the capacity of the DOH, including funds-flow arrangements, staffing, accounting and financial reporting systems, financial information systems, and internal and external auditing arrangements. The FMA does not cover the Ministry of Construction (MOC) in its role as executing agency (EA) since it will not be directly involved in the financial management of the project.

33. The overall financial management (FM) risk for the project without mitigation is assessed being substantial. This is a result of a substantial risk rating for the country system, substantial rating for the agency-specific risks, and combined substantial control risk rating for the project financial management elements. Upon implementation of proposed mitigation measures, the overall fiduciary risk is considered to be moderate.

1. Inherent risk

34. The country-level risk pertains to the Government of Myanmar's (GOM) Public Financial Management (PFM) system which has a number of significant shortcomings, including limited fiscal transparency, low budget credibility, the budget classification system not yet fully developed, manual and time-consuming financial reporting, as well as a weak control environment which expose the PFM system to fiduciary risk. The country-level risk without mitigation is high.

35. The entity-specific risks pertain to the Department of Highways (DOH) in its role as the implementing agency (IA). The DOH has limited practical and operational experience with the financial management (FM) procedures and requirements of ADB-financed projects. The level of entity-specific risks without mitigation is substantial.

36. The overall inherent risk level without mitigation is substantial.

2. Project risk

37. DOH will be the implementing agency (IA) for the Project and thus responsible for the financial management (FM) arrangements. MOC, in its role as the executing agency (EA), will be responsible for overall project implementation and for complying with the covenants in the Loan Agreement.

38. A financial management assessment (FMA) of DOH has been carried out in accordance with the technical guidelines of the Asian Development Bank (ADB) to review the capacity of its FM system and procedures. The following FM weaknesses and related fiduciary risks were identified:

Table 14: Summary of the Financial Management Assessment

Particulars	Conclusions
Organization and Personnel	Many of the finance/accounting staff of DOH lack knowledge of and experience with the FM requirements and procedures of externally funded projects, including ADB projects.
Information systems	DOH has no computerized FM information system (FMIS) in place, and spreadsheets are used only sporadically, which increases the risk of errors and results in long processing time. This also delays the preparation of financial reports.
Accounting Policies and Procedures	Accounting and internal control procedures are based on national requirements. Financial reports are prepared with delays, which limits the value of reporting to monitor budget performance.
Planning and Budgeting	DOH’s budget process is relatively well-functioning and enables monthly monitoring. However, there is evidence that government counterpart funding is not made available adequately or on a timely basis in prior projects.
Internal audit	There is no internal audit function in DOH which means a lack of assurance to DOH management that the FMIS and processes are effective and adequate.
External audit	The Office of the Auditor General (OAG) will audit the project financial statements. There are historic examples of deficiencies in the coverage and timeliness in the external audit undertaken by the OAG for on-going ADB-financed projects. This undermines the purpose of external audit in terms of the credibility of the financial statements and the accountability of DOH in its role as implementing agency.

ADB = Asian Development Bank, DOH = Department of Highways, FM = Financial Management, FMIS = financial management information system, OAG = Office of the Auditor General.
 Source: Asian Development Bank (ADB).

39. Due to its limited capacity, DOH will establish a dedicated Project Management Unit (PMU) for the Second GMS Highway Modernization Project to manage project activities including disbursement, procurement, contract administration, monitoring and reporting. The PMU will comprise two full-time finance and administration staff that will receive training, if and as required.

40. As DOH is currently implementing three other ADB-financed projects as well as other externally funded projects, it has some knowledge and experience regarding ADB policies and procedures, including setting up and operating PMUs, administering the use of advance fund or statement of expenditures procedures. However, a PMU for an on-going ADB-financed project has been found to have significant challenges managing the project, including for FM. It will hence be important to ensure that the PMU for the Second GMS Highway Modernization Project is well-functioning which requires the engagement of capable and competent staff, and that adequate managerial and technical procedures are developed and implemented.

41. The overall project risk is substantial.

Table 15: Financial Management Risk Assessment and Management Plan

Risk Description	Rating	Mitigation Measures	Responsibility
Technical			
1. Design and project preparation is inadequate.	M	The project preparatory technical assistance prepared a preliminary design carried out substantial topographical and geotechnical surveys. On the basis of these, international consultants under the Greater Mekong Subregion Highway Modernization Project will prepare detailed designs before procuring the civil works.	PMU, project consultants
2. Initial project start-up delays (such as consultant selection and contract awards) occur in project implementation.	S	The recruitment of CSIS consultant has been initiated under advance action before loan negotiations.	PMU, project consultants
3. Weak government capacity in procurement, contract management, financial management, and safeguards compliance affects project implementation progress	S	The proposed project will minimize the number of contracts, set up project FM system, and strengthen PMU capacity through training and day-to-day assistance by CSIS consultant and ADB.	
4. Extreme weather events delay civil works or require an increase in the scope of works and COVID-19 impacts adversely on the contractor's workforce, subcontractors, suppliers, consultants, government and ADB staff, and general public (particularly vulnerable people)	S	For weather events, status will be closely monitored and the CSIS consultants may be required to design additional works. For COVID-19 impacts, the contractor will maintain vigilance in the management of health risks in all siteworks for a safe working environment, including adjacent areas for the general public. Health and safety protocols will be enforced for working in trenches and other confined spaces.	PMU, MOC, ADB
5. New uncontrolled settlements along corridors reduce safety.	S	Access control measures will be implemented with no loopholes for entry.	Project consultants, PMU, MOC
6. The military unexpectedly occupies private land along the alignment.	S	Based on the alignment finalized in August 2019, the MOC has initiated and engaged in the lengthy process to freeze affected land (ongoing).	PMU, MOC
7. The government fails to execute an expressway management scheme for the Bago–Kyaikto expressway, and the government's budget for operation and	S	The proposed project will support the DOH in developing and implementing a new expressway operation (including revising and updating toll fees) and a maintenance management scheme.	PMU, MOC

Risk Description	Rating	Mitigation Measures	Responsibility
maintenance falls below minimum requirements.			
Economic and Financial			
8. Government's commitment to allow trucks on the expressway is not sustained, lowering the economic benefits of the project	M	MOC will prepare an operational plan and review initial operations	MOC, project consultants
9. The government's budget for operation and maintenance falls below minimum requirements	S	This project will support DOH in developing and implementing the new expressway operations (including revision and update of toll fees) and maintenance management scheme.	MOC
10. Insufficient PMU staffing and capacity in FM: responsibilities of PMU are not clearly outlined and understood.	M	The PMU will prepare job descriptions to define roles, responsibilities, lines of supervision, and limits of authority, as well as required qualifications of PMU FM staff. Two full-time finance and administration staff will be allocated to the PMU. Training on ADB FM procedures will be provided. A capacity development concept for the Accounting and Finance Section on the FM of externally funded projects will be prepared and implemented.	PMU, DOH, ADB
11. Financial reports become not reliable. Financial management performance rating becomes low because of delays in annual accounts submission and acceptance.	S	The DOH will prepare and implement an information technology improvement strategy for finance units. It will also use a simple application for project reporting (to be verified by internal audit annually) at the initial stage.	PMU, DOH
12. Weak government PFM system leads to inadequate and delayed counterpart financing. Project financial reporting and audit performed according to standards are not acceptable to ADB.	S	ADB will continue providing technical support and undertaking policy initiatives to address systemic financial management issues to strengthen the government's PFM system and procedures.	PMU, MOC
13. Planning and budgeting: counterpart financing is delayed because of complex and different approval processes; delay in project implementation.	M	Counterpart financing for land acquisition will be included in the 2020–2021 state budget for Bago region and Mon state. Government financing approval process will be initiated early as part of project readiness activities.	MOC, DOH
14. Absence of internal control function in the DOH and weak accounting and	H	The CSIS consultants will develop project-specific financial management manual for the PMU, covering internal	PMU, DOH, reviewed and

Risk Description	Rating	Mitigation Measures	Responsibility
reporting procedures lead to risk of erroneous and fraudulent financial data and misuse of project funds and assets; delay in project financial reporting (quarterly progress reports and annual audited project financial statements submissions); and delay in management information on project performance (cost overruns, disbursement and/or payment requirements, etc.)		audit, internal control, reporting requirements, and information systems (Microsoft Excel models); assignment of qualified finance staff (from existing Accounting and Finance Section unit of the DOH) to perform regular internal audit activities.	agreed upon by ADB
15. External auditor's opinions provided on project financial statements are not in line with ADB requirements. There is no independent assurance on the use of loan proceeds.	S	Develop (i) comprehensive requirements for external auditor and (ii) tools for monitoring the implementation of audit recommendations to be reviewed and agreed by ADB	PMU, DOH, ADB
Governance and Institutional			
16. A comprehensive legislative framework for procurement has not been established and procurement is currently undertaken in accordance with directives that do not provide a comprehensive approach to the function.	M	ADB procurement rules will apply to all procurement under the project, with open competition and international advertising being the default procurement option. All packages will be subject to prior approval and the borrower will be provided with external procurement-related support during key stages.	MOC, project consultants, ADB
17. Weak capacity of the government in procurement and contract management leads to less qualified contractors and construction delays.	S	The MOC will select the appropriate number of civil works contracts, taking into account engineering considerations, contractor's financial capability, and maximizing the competitiveness of procurement. Standard types of contracts and specifications will be used. Comprehensive procurement assistance and training on management on FIDIC principles will be provided to MOC staff.	MOC, ADB
18. Weak capacity of the government in financial management	S	MOC will set up project financial management system and strengthen PMU capacity through training and day-to-day assistance	MOC, ADB
19. MOC unable to appoint enough full-time skilled staff to manage the project, and frequent turnover of trained staff	M	CSIS consultant will provide project management support and train new staff, with training repeated at regular intervals	PMU, project consultants

Risk Description	Rating	Mitigation Measures	Responsibility
20. Weak institutional capacity slows down important operational decisions	M	ADB will conduct frequent missions, and strengthen resident mission with specialist staff	ADB
Safeguards			
21. Weak capacity of the government and inconsistencies between ADB and government social safeguard policies leads to noncompliance with approved resettlement plans.	S	The PMU will hire external monitor, and the CSIS consultant will include resettlement specialists. ADB will provide frequent monitoring and assistance.	PMU, project consultants, ADB
22. Poor traffic management by contractors leads to road user dissatisfaction	M	CSIS consultant will prepare and monitor traffic management plan	PMU, project consultants

ADB = Asian Development Bank, CSIS = Construction Supervision and Implementation Support, DOH = Department of Highways, FIDIC = Fédération Internationale des Ingénieurs Conseils (International Federation of Consulting Engineers), FM = financial management, H = high, km = kilometer, L = low, M = moderate, MOC = Ministry of Construction, PFM = Public Financial Management, PMU = project management unit, S = substantial.
Source: ADB.

42. The proposed FM Action Plan will be discussed and agreed between ADB and the MOC, in its function as EA, prior to loan negotiations. The agreed FM Action Plan should thereafter be considered a rolling plan to be regularly reviewed for progress and updated on this basis as well as if new FM elements are identified to require improvement.

43. Based on the proposed mitigation measures to be carried out, the residual project FM risk is **moderate**.

44. As noted, DOH will set up a PMU to manage day-to-day activities, including the project-specific FM tasks. As MOC is already implementing other ADB-financed projects, it has knowledge and experience regarding ADB policies and procedures and will assist DOH with building up its experience in these aspects of the project. Project FM procedures carried out by the PMU will be based on ADB requirements for disbursement, accounting and financial reporting, and external audit.

45. Providing the PMU to be set up as well as other proposed risk mitigation measures being implemented, the planned project FM arrangements were thus considered satisfactory.

B. Disbursement

1. Disbursement Arrangements for ADB Funds

46. The loan proceeds will be disbursed following ADB's *Loan Disbursement Handbook* (2017, as amended from time to time), and detailed arrangements between the government and ADB. Online training for project staff on disbursement policies and procedures is available. Project staff is encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.¹⁸

¹⁸ Disbursement eLearning. http://wpqr4.adb.org/disbursement_elearning.

47. Payments for works and consulting services should be certified by the PMU Project Director based on the payment terms in the contracts. The PMU, through MOC, will be responsible for: (i) preparing disbursement projections; (ii) requesting budgetary allocations for counterpart funds; (iii) collecting supporting documents, and (iv) preparing and sending withdrawal applications (WAs) to ADB, with a copy to be sent to the Ministry of Planning, Finance and Industry (MOPFI). Each WA must include the claim or invoice from the contractor or consultant.

48. **Advance fund procedure.** DOH will, through the PMU, establish an advance account promptly after loan effectiveness at a commercial bank to be proposed by the MOPFI. The currency of the advance account is in US dollars. The advance account is to be used exclusively for ADB's share of eligible expenditures. MOC will be accountable and responsible for proper use of advances to the advance account.

49. The total outstanding advance to the advance account should not exceed the estimate of ADB's share of expenditures to be paid through the account for the forthcoming 6 months.¹⁹ Supporting documents should be submitted to ADB or retained by MOC in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time) when liquidating or replenishing the advance account.

50. **Statement of expenditure procedure.** The SOE procedure²⁰ may be used for reimbursement of eligible expenditures or liquidation of advances to the advance account. The ceiling of the SOE procedure is the equivalent of \$10,000 per individual payment. Supporting documents and records for the expenditures claimed under the SOE procedure should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit. Reimbursement and liquidation of individual payments in excess of the SOE ceiling should be supported by full documentation when submitting the WA to ADB.

51. Before the submission of the first WA, the borrower should submit to ADB sufficient evidence of the authority of the person(s) who will sign the WAs on behalf of the borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per WA is stipulated in the *Loan Disbursement Handbook* (2017, as amended from time to time). Individual payments below such amount should be paid (i) by MOC and subsequently claimed to ADB through reimbursement, or (ii) through the advance fund procedure, unless otherwise accepted by ADB. The borrower should ensure sufficient category and contract balances before requesting disbursements.

52. Sample forms for withdrawal applications of loan proceeds can be downloaded from the ADB website.²¹

2. Disbursement Arrangements for Counterpart Funds

53. The PMU will be responsible for preparing disbursement projections, and requesting, through DOH and MOC, normal and supplementary budgetary allocations for counterpart funds.

C. Accounting

¹⁹ ADB. 2017. *Loan Disbursement Handbook*. Manila, Appendix 10B.

²⁰ SoE forms are available in Appendix 7B of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

²¹ Available at: http://www.adb.org/documents/handbooks/loan_disbursement/default.asp.

54. The PMU will maintain separate books and records by funding source for all expenditures incurred by the project. The PMU will prepare consolidated project financial statements in accordance with the modified cash based accounting standards.

D. Auditing and Public Disclosure

55. The DOH will cause the detailed project financial statements to be audited in accordance with the International Standards of Supreme Audit Institutions (ISSAI) by an independent auditor acceptable to ADB based on a terms of reference (TOR) acceptable to ADB. The audit, which will be undertaken by the Office of the Auditor General (OAG), will include a separate auditor's opinion on the use of the loan proceeds and compliance with financial covenants, if applicable. The audited project financial statements (APFS) together with the auditor's opinion will be presented in the English language by DOH to ADB within six months from the end of the fiscal year.

56. The audit report for the project financial statements will include a management letter and auditor's opinions, which cover (i) whether the project financial statements present an accurate and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting standards; (ii) whether the loan proceeds were used only for the purpose of the project; and (iii) whether the GOM was in compliance with the financial covenants contained in the legal agreements (where applicable).

57. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the OAG in its role as external auditor.

58. The GOM, MOC, and DOH have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the APFS.²² ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

59. After the review, ADB will disclose the APFS and the opinion of the auditors on the project financial statements no later than 14 calendar days of ADB's confirmation of their acceptability by posting them on ADB's website.²³ The management letter, additional auditor's opinions, and audited entity financial statements will not be disclosed.²⁴

²² ADB's approach and procedures regarding delayed submission of audited project financial statements:

- (i) When APFS are not received by the due date, ADB will write to the EA advising that (a) the audit documents are overdue; and (b) if they are not received within the next six months, requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.
- (ii) When the APFS are not received within six months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (a) inform the EA of ADB's actions; and (b) advise that the loan may be suspended if the audit documents are not received within the next six months.
- (iii) When the APFS are not received within 12 months after the due date, ADB may suspend the loan.

²³ Access to Information Policy: <https://www.adb.org/documents/access-information-policy>

²⁴ This type of information would generally fall under Access to Information Policy exceptions to disclosure. ADB. 2019. *Access to Information Policy*. Section III(B)(7).

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Procurement and Retroactive Financing

60. **Advance contracting.** All advance contracting will be undertaken in conformity with the ADB procurement Policy – Goods, Works, Non-consulting and Consulting Services (2017, as amended from time to time) and procurement regulations for ADB Borrowers – Goods, Works, Non-consulting and Consulting Services (2017, as amended from time to time). The issuance of invitations to bid under advance contracting will be subject to ADB approval. The borrower, executing and implementing agencies have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the project.

61. The borrower will recruit the Construction Supervision and Implementation Support (CSIS) Consultant via advance contracting. The advance contracting shall include all steps up to the completion of evaluation and negotiations with the preferred bidder. No contract shall be signed until the loan is effective.

62. **Retroactive financing.** Retroactive financing is not envisaged and hence not in the scope of this project.

B. Procurement of Goods, Works and Consulting Services

63. All procurement of goods, works, non-consulting and consulting services will be undertaken in accordance with ADB Procurement Policy – Goods, Works, Non-consulting and Consulting Services (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers – Goods, Works, Non-consulting and Consulting Services (2017, as amended from time to time).

64. Open competitive bidding (OCB) procedures with international advertisement will be used for the procurement of civil works and consulting services. Strategic procurement planning was carried out to identify procurement risks, develop mitigating measures, review procurement options and agree on fit-for-purpose procurement arrangements. The procurement risk is rated high since DOH does not have much capability and will depend on international consultants for the preparation of detailed design, procurement and project implementation support. The capacity development in procurement will be provided by the consultant through day-to-day assistance and trainings. In parallel, ADB will strengthen DOH's capacity in safeguards, procurement and contract management. Value for money will be achieved by (i) selecting the CSIS consultant through advance action, under quality and cost based method with 90% weight assigned to quality; and (ii) procuring civil works package through OCB with international advertising to ensure better competition, where one civil works contract is split into 5 lots taking into account engineering considerations, size and complexity of road sections, and where bidders are permitted to bid for a single lot or combination of lots based on their technical capacity and availability of financial resources.

65. An estimated 1,236 person-months (486 internationals, 750 nationals) of consulting services are required for CSIS consulting services.

66. A consulting firm (CS2) will be engaged under the ongoing Loan 3747-MYA: GMS Highway Modernization Project for the detail design, procurement support, safeguards documentation finalization, and facilitation of land acquisition, resettlement and income restoration for the proposed Project.

67. A delegation matrix outlining the responsibilities of government and ADB for consultant selection will be signed by the recipient. Consultants (TA 8788) will support EA during consultant recruitment process including the advertisement, tender, and evaluation stages. Government will remain responsible for negotiating and signing the consulting services contracts.

68. A 2015 ADB Country and Sector/Agency Procurement Risk Assessment found that there are weaknesses in many components of the public procurement system in Myanmar. The procurement environment is assessed as high risk because most of the weaknesses are systemic and, if left unmitigated, are likely to have a major impact on the effectiveness and integrity of public procurement. In the preparation of this project, it was noted that many of these risks remain. To mitigate these risks, all packages will be released via open competitive bidding, using ADB standard documents and in accordance with ADB procedures. All packages will be subject to prior review by ADB and additional procurement support will be provided to the borrower during the bidding, evaluation and contract management stage. Finally, ADB, upon request, will directly support the recruitment of the CSIS consulting package up to the completion of the evaluation stage, with negotiation and contract signature by the borrower.”

C. Procurement Plan

69. An 18-month procurement plan indicating methods, review procedures and estimated schedule is contained in Appendix 2.

D. Consultant's Terms of Reference

70. The outline TORs of consultants to be engaged under the project are presented in Appendix 3.

VII. SAFEGUARDS

71. **Prohibited investment activities.** Pursuant to ADB's Safeguard Policy Statement (2009) (SPS), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the ADB SPS.

A. Environment Safeguards

72. **Due Diligence.** This project is classified as a Category 'A' for environment. An environmental impact assessment (EIA) was prepared and uploaded to the ADB website in July 2019.^[2] The project alignment has been selected so as to minimize environmental impacts, traversing primarily agricultural land classifying as highly modified habitat and avoiding encroachment on legally protected sites. Without mitigation measures, construction impacts have the potential to be significant. Properly licensed quarrying sites will need to be identified for the sourcing of significant amounts of material required for the construction of the elevated highway embankment. A biodiversity action plan has been prepared to address possible adverse impacts on biodiversity, primarily the catastrophic loss of containment and/or diffuse pollution during Sittaung bridge construction and operation, affecting water quality of the River Sittaung and the

^[2] Environmental Impact Assessment (accessible from the list of linked documents in Appendix 2).

downstream Gulf of Mottama Ramsar site.²⁵ Other anticipated impacts during construction include fugitive dust, temporary traffic disturbance and occupational and community safety at construction sites. Adherence to the environmental management plan (EMP) will reduce residual impact significance to acceptable levels. During operation, the project's impact on ambient air quality is not anticipated to be significant. However, some 10 km of noise barriers at 19 identified sensitive sites will be required.

73. Traffic safety will be strengthened through a community-based road safety program (para 12). The capacity of the PMU, responsible for overseeing the implementation of the EMP, will be strengthened through the appointment of environment staff and the recruitment of supervision consultants and an independent environment monitor. Meaningful public consultation was carried out during EIA preparation to inform the project design and environmental assessment process. A grievance redress mechanism also has been defined.

74. **Valued Environmental Receptors (VEC).** The identification of Valued Environmental Receptors (VERs)²⁶ was conducted through desk study and field work. The expressway alignment is within open land with the dominant land use being arable, mainly at a subsistence level. The airshed is considered undegraded but ambient noise levels partly exceed the Myanmar standards for day and night noise. There are limited community facilities along the expressway alignment, although a number of pagoda and stupa are present. The surrounding areas of the expressway alignment contain a number of biodiversity designated sites. These include the Gulf of Mottama, a Wetland of International Importance (Ramsar) site; and the Gulf of Mottama Important Bird Area (IBA). The Gulf of Mottama Ramsar site is located to the south of the project area near the proposed River Sittaung Bridge. The Gulf of Mottama IBA is crossed by the River Sittaung Bridge. The two above sites are important for overwintering birds which include IUCN Critically Endangered species, including the Spoon-billed Sandpiper. The majority of the global population of this species is believed to winter in the Gulf of Mottama Ramsar site.

75. **Anticipated Impacts.** The EIA identified several potentially significant environmental impacts related to the design, construction and operation of the project, and proposed mitigation measures. The project design made careful consideration of various alignment alternatives to minimize land acquisition and to avoid sensitive and/or legally protected sites. However, the project will result in significant losses of agricultural land as the expressway passes mainly through productive agricultural land. Also, about 125,000 productive trees (primarily piper betel, rubber and bamboo) will be affected. Severance and habitat fragmentation caused by the expressway are mitigated through the installation of 120 box culverts and under-passes to allow movement of people, two and three wheelers, and animals including wildlife. About 40 large under-passes can allow four-wheel vehicles.

76. Without mitigation measures, construction impacts have the potential to be significant. The project will require large amounts of suitable materials to construct the elevated embankment. Potential quarries have been identified in the EIA. Each civil works contractor will ensure that construction materials such as sand, gravel, aggregates, will only be obtained from sources that have the required national government environmental approvals. The project will require the construction of 15 bridges to cross rivers and streams. Bridge pier construction shall avoid the high run-off season to minimize negative impacts on river hydrology, ecology and surface water

²⁵ The Sittaung Bridge, proposed for JICA financing and classifying as associated facility per the ADB SPS, has been assessed through a separate EIA. Key findings of the Sittaung Bridge EIA are reflected in the Second GMS Highway Modernization EIA.

²⁶ Including elements of the environment that are of value to the functioning of natural or human systems (i.e. areas or elements of ecological, landscape or heritage value, soil and sediment, air and water bodies); and human receptors.

quality. Other anticipated construction environmental impacts include fugitive dust, noise, vibration, disposal of solid waste, temporary traffic disturbance, and occupational and community health and safety at construction sites.

77. A Critical Habitat Assessment (CHA) was conducted to fulfil SPS 2009 requirements and procedures set out in the International Finance Corporation's performance standard No 6 Guidance Notes of 2018. CHA concludes that the project is partially located within an area classified as likely or actual critical habitat for two globally endangered aquatic species. These are the Narrow sawfish (*Anoxypristis cuspidate*) and the Broadfin shark (*Lamiopsis temminckii*). Also located in the proximity is one internationally designated RAMSAR site (gulf of Mottama). On a precautionary basis, a biodiversity action plan has been developed and incorporated into the EMP. Possible adverse impacts on likely CH-qualifying biodiversity include catastrophic loss of containment and/or diffuse pollution from construction or road run-off affecting water quality within catchment area, River Sittaung and Gulf of Mottama. The BAP includes measures²⁷ that will ensure that CH-triggering biodiversity will not be significantly adversely affected. Providing assurances regarding mitigation of the risks of road run-off reaching the River Sittaung in an uncontrolled manner are met, it is considered that ADB's SPS requirements for development within an area containing Critical Habitat are met. No additional compensatory or offsetting measures are considered necessary. An ecology monitoring plan for the proposed new Sittaung River Bridge is included in its draft EIA. The ecology monitoring plan focuses on migratory bird surveys, fish surveys, mudflat surveys, and water quality monitoring in the project's area of influence prior to, during and after construction.

78. The noise impact assessment predicted that operational noise exceeds the relevant standard at 19 sections of the expressway. A total length of noise barriers about 9.9 km will be required, which will incur an incremental cost of about \$3 million. During detail design, ambient noise levels shall be monitored and re-checked, and the noise barriers will be designed.

79. **Environmental management plan.** The EMP outlines potential impacts, mitigation and monitoring measures, institutional arrangements, training requirements, and an environment implementation cost estimates. Total EMP cost is \$3.81 million which is about 1% of the total project cost. PMU shall ensure that each contractor will prepare a draft contractor's environment management plan (CEMP) based on the project EMP and actual site conditions. PMU, with the support of CSIS consultant, will supervise the compliance of CEMP after its approval by DOH and provided with no-objection by ADB. The construction specifications will incorporate the EMP requirements and detailed EMP shall be included as part of bidding documents.

80. The MOC will be responsible for the overall implementation and compliance with loan assurances, the EIA and the EMP (including Environmental Monitoring Plan). The PMU through CSIS will have the overall responsibility to supervise the implementation of environment mitigation and monitoring measures, ensure the contractors' compliance with environmental management requirements. The PMU will assign one of its staff as environmental officer to coordinate, liaise with key regulatory agencies including ECD and reporting to ADB on EMP compliance. The environmental specialists of the CSIS will supervise the implementation of EMP. The PMU will contract an external monitoring consultant (EMC) to conduct independent verification of EMP/BAP

²⁷ Principally, but not limited to: (i) Road and bridge design to include drainage system that manages road run off, including oil interceptors, sediment traps and first flush run off storage areas; (ii) During construction, contractors to implement measures to prevent construction waste (solids and liquid) entering the catchment area and river Sittaung. The construction of the Sittaung Bridge requires adoption of steel pipe sheet piles (SPSP) methodology for bridge pier construction.

implementation and environmental impact monitoring results during the construction and operational stages of the project.

81. The PMU will coordinate the preparation of the semi-annual environment monitoring reports and submit to ADB within scheduled timeframe. The reports will also include a copy of the licenses/public consultations minutes related to quarries, borrow pits and other related facilities. The CSIS consultant will support the PMU and contractors on all aspects of environmental management and monitoring for the project.

82. Civil works contractors will be responsible for implementing the mitigation measures during construction under supervision of the PMU and the CSIS consultant. Contractors shall obtain all required environmental permits from ECD prior to construction. These include environmental permits for quarries and crushers, borrow areas, hot mix plants etc. Under no circumstances materials from quarries operated by the Correctional Department of the Ministry of Home Affairs will be accepted.

83. Contractors will conduct noise, air and surface water quality monitoring at construction site boundaries and nearby sensitive receptors to confirm compliance with relevant Myanmar ambient quality standards as well as the IFC (2007) standard for noise and air quality. Each works contractor will submit monthly progress reports to CSIS. These reports will include reporting on EMP implementation performance.

84. **External Monitoring Consultant (EMC).** As required by SPS 2009 for environment Category A projects, the environment performance of the project will be verified by an independent EMC, to be contracted by PMU. The EMC will review EMP implementation and monitoring activities and results of the contractors and CSIS consultant, assess EMP implementation performance, visit the project sites and consult potentially affected people, discuss assessment with PMU and CSIS consultant; and suggest corrective actions. The EMC will prepare annual reports for submission to DOH and ADB. These reports will be disclosed to public through the project website and ADB website.

85. **Climate change.** The project is classified as “Medium Climate Risk”. The major climate risk to the project is the projected increase in precipitation and the related risk of floods.^[4] Climate adaptation is estimated to cost \$10.70 million, primarily for the proofing of climate-sensitive components including road embankment, bridges and underpasses, and road drainage facilities.

86. **Consultation.** Two rounds of stakeholder consultation were held with government and local district officials. Also, two rounds of public consultation with villagers were held as required for a Category A project. Five community consultations were held in March 2018 and four more in August 2018. Major inquiries were related to compensation for land resettlement. Overall, there was general support for the new expressway. PMU, with the support of CSIS consultant, will have the main responsibility to ensure meaningful public consultations during project implementation.

87. **Grievance Redress Mechanism (GRM).** Consistent with the requirements of SPS 2009, a GRM has been discussed and agreed with DOH. This will be established prior to contract awards to address community concerns, reduce risks, and to assist the project to maximize environmental and social benefits. The GRM is accessible to diverse stakeholders, including

^[4] Climate Risk and Vulnerability Assessment (Appendix F of the EIA, accessible from the list of linked documents in Appendix 2)

vulnerable groups such as women. Opportunities for confidentiality and privacy for complainants are to be ensured wherever necessary.

88. **Reporting.** Environmental reporting shall include weekly progress reporting by the Contractor (to CSIS); and monthly inspection and monitoring reporting by the CSIS (to PMU). The CSIS will draft semi-annual environmental monitoring reports in a format acceptable to ADB. The PMU will finalize the environmental monitoring reports and DOH will submit the reports to ECD and ADB. In addition, the EMC will prepare and submit independent annual environmental verification reports to DOH for further submission to ADB and ECD.

89. **Capacity building and training.** The capacity of PMU and contractors' staff responsible for EMP implementation and supervision will be strengthened. All parties involved in implementing and supervising the EMP must understand the goals, methods, and practices of project environmental management. The project will increase capacity through (i) institutional capacity building, and (ii) training. The existing capacity of PMU will be strengthened by (i) appointing an environmental focal person within the PMU who will be in charge of EMP coordination, including GRM and coordination of environmental impact monitoring, training, reporting, etc.; (ii) contracting environmental specialists and construction safety engineers under CSIS consultant; and (iii) contracting EMC to guide and verify PMU, CSIS and contractors in implementing EMP and ensuring compliance with SPS 2009.

90. The PMU and contractors will receive training for drafting CEMP, EMP and CEMP implementation, supervision, and reporting, GRM implementation, protection measures in legally protected sites, and safety during construction. A training plan with budgetary provisions has been included in the EIA. Training will be facilitated by the environment specialists of CSIS consultant.

B. Involuntary Resettlement

91. The Project has been classified as Category "A" for Involuntary Resettlement in accordance with SPS, 2009. During the feasibility study, land acquisition and involuntary resettlement impacts were assessed through inventory of losses (IOL) and socio-economic surveys of the affected households. A draft Resettlement Plan (RP) has been prepared in accordance with SPS, 2009 and Government of Myanmar's (GOM's) laws and regulations. The project requires acquisition of a total of 502.79 hectares (ha) of land of which 442.54 ha is private land and 60.25 ha is state land. The project will impact 447 households with 2441 persons, out of which 32 households are non-titleholders living within the existing MOC Right-of-way (ROW). The project requires relocation of 64 households with 306 persons. Among these 447 affected households, 338 households (1,902 persons) will lose at least 10% of their total production landholding and 64 households (306 persons) are required to be relocated. These households are considered as severely affected households (SAHs) and will be entitled to participate in the Income Restoration Program (IRP). A total of 177 affected households are considered as vulnerable affected households (VAH) by the Project. Various kinds of trees will also be affected due to the land acquisition and there are public facilities which will be affected. The IRP will be implemented by the Project to (a) provide technical assistance for those who want to continue farming or raising livestock/cattle; (b) create career opportunities through vocational trainings and job creating activities; and (c) provide technical assistance or/and small business/service models for those who want to do business.

92. The draft RP will be updated based on the detail design and detailed measurement survey. DOH has overall responsibility for updating and finalizing the draft RP. DOH will be assisted by

the CSIS consultant in updating, implementing and monitoring the RP. DOH through MOC will be responsible for getting the updated RP approved by ADB before and contracts are awarded and securing budget allocation and approval from the MOPFI for the land acquisition and resettlement activities as specified in the RP. DOH through MOC will oversee liaison with relevant line ministries and regional offices for land acquisition and resettlement related issues and also getting necessary clearances for the state land. DOH will ensure that no physical or economic displacement will occur until compensation at full replacement cost has been paid to the displaced persons and other entitlements listed in the RP have been paid to the displaced persons.

93. Adequate consultation and disclosure of information have been conducted during the preparation of draft RP. There were 23 public consultation meetings held with local people, including displaced persons and villagers at large in August–September 2018. The information shared and discussed with the meeting participants included: (i) the preliminary design of the highway; (ii) the scope of land acquisition and resettlement by the project (based on the result of the IOL), (iii) the principles of land acquisition and resettlement applied for the project (principles, eligibility, proposed entitlements); (iv) the proposed implementation schedule for land acquisition, compensation, assistance and civil works; and (v) the proposed GRM. The public information booklet in Myanmar language was provided to all the meeting participants and posted in the village monasteries, houses of the village administrators, and house of heads. The draft RP will be disclosed in the ADB’s website. Consultations and disclosure process will be continued during detail design.

94. A GRM set out in the RP. The GRM will ensure that all grievances and complaints by displaced persons and affected communities regarding land acquisition, compensation, assistance, and relocation or any other aspects of the project are resolved in a timely and satisfactory manner, and that all avenues for airing grievances are available to them. A Grievance Redress Committee (GRC) will be established in each project township for all four townships, and for two project region/states. The committee will be headed by the Deputy Township Administrator and Deputy Region/State Administrator, respectively. The GRM and the GRC will be established during the detailed design and prior to disbursement of compensation and assistance.

95. The DOH and MOC have overall responsibility for resettlement plan updating (including participating in DMS and engaging a qualified appraiser), approving the updated resettlement plan, securing resources (including financial), overseeing RP implementation, monitoring, and liaison with relevant State and District government offices. Additionally, various other departments and agencies will be involved in the land acquisition and resettlement activities such as General Administration Department, Land Record Department (State and District) and village tract administration. The DOH and MOC will be assisted by the CSIS consultants who will have both national and international safeguards experts to carry out most the tasks and responsibilities during the detail design for updating, implementing and monitoring the RP. A qualified service provider (IRP consultant) will be engaged by the PMU to assist the IRP eligible households in developing and implementing of the household IRP. Monitoring of RP implementation will be done internally by the DOH/MOC and externally by an external resettlement monitoring agency. The RP cost will be financed by the Government as part of counterpart financing. DOH through MOC will ensure timely allocation of RP funds from the MOPFI.

96. The DOH and MOC will ensure that:

- (i) The draft RP is updated during the detail design prior to its implementation and the updated RP is approved by DOH/MOC and ADB and is disclosed;
- (ii) RP, agreed between the Government and ADB, is implemented in accordance with their terms and all applicable laws and regulations of Myanmar and SPS 2009;

- (iii) in case of any inconsistency between government laws and ADB's policy, the latter will prevail;
- (iv) all affected persons are given adequate opportunity to participate in resettlement planning and implementation;
- (v) counterpart funds for resettlement activities are provided according to the budget and project schedule;
- (vi) any additional costs in excess of the resettlement plan budget estimates are met within the project schedule; and
- (vii) adequate staff and resources are committed to supervising and monitoring implementation of the resettlement plan.

C. Indigenous Peoples

97. The Project has been classified as Category "B" for Indigenous Peoples in accordance with SPS 2009. A separate Ethnic Group Development Plan (EGDP) has been prepared to ensure that ethnic groups in the project areas participate equitably in consultations, mitigation programs and project benefits. There are 1,049 ethnic minority households residing in the project areas consisting of Karen (625 households); Shan (245 households); Mon (176 households); Paoh (2 households); and Chin (1 household). No ethnic group households will be affected by land acquisition nor experience other severe impacts. Negative impacts and risks to ethnic groups in the project areas are similar to those of Burmese households. These include increased risks of HIV, sexually transmitted infections (STI) and human trafficking both during the construction and expressway operation. Other risks and impacts include labor influx, noise, dust and safety during construction as well as long term severance impact of the expressway on local communities as well as risks of road crashes during expressway operation. The GRM proposed in the RP will be used for ethnic group community members. The proposed GRM has been discussed with the local ethnic minority communities and local administrators. The complainants will be exempted from all administrative and legal fees that might be incurred in the resolution of grievances and complaints.

98. The EGDP was prepared based on consultations and socio-economic surveys with ethnic group peoples in the project areas. It will be updated if there are any impacts in terms of land acquisition and involuntary resettlement. This will be known following the completion of detail design. The update will be based on close consultation with local ethnic communities and stakeholders and will be publicly disclosed to the local ethnic group communities. The institutional arrangement and monitoring will be the same as proposed in the RP. However, representation from the ethnic group will be ensured. The PMU under DOH will be responsible for implementation of the EGDP and monitoring the ethnic group development activities. The DOH/MOC will be assisted by the CSIS consultant who will be responsible for the EGDP implementation. The draft and updated EGDP is required to be endorsed by DOH and agreed by ADB.

D. Safeguards support through consultants

99. For each investment project, the consultants will conduct a safeguard review as part of its overall due diligence including environmental impact assessment, and social impact assessments, resettlement and land acquisition, gender, and indigenous people impact assessment, and prepare necessary safeguard documentation as part of the feasibility study and detailed design of the project.

100. The consultants will also provide on-the-job training and transfer of knowledge to staff of MOC and PMU to ensure sustainability in the preparation and implementation of environmental

and social safeguard assessment and mitigation measures in accordance with applicable laws, regulations, and procedures. The consultant will provide support and guidance to strengthen and enhance improvement of regulations or procedures for environmental and social safeguards, and strengthening safeguard units, task force, safeguards focal points for coordination and monitoring.

VIII. GENDER AND SOCIAL DIMENSIONS

101. **Gender.** The project is categorized as Some Gender Elements (SGE) for gender mainstreaming. The project identifies specific programs and activities where participation of women in benefit sharing can be promoted. The project will address marginalization of women in training through specific targets for women in project training activities. For villages in the project areas, participation of women will be actively promoted in consultation activities, HIV/AIDS and Human Trafficking Awareness and Prevention Program (HTAPP) as well as livelihood restoration activities for households affected by land acquisition. The participation of women in capacity development programs in Government agencies responsible for project implementation and operation will also be ensured through targets in training for project management and crash data collection and analysis provided in Outputs 1 and 3. The project will also mitigate risks to women posed during the construction period. Risks of HIV/AIDS transmission will be reduced through tailored training activities to workers as well as communities. Risks of sexual harassment and gender-based violence will be reduced through female-oriented and accessible means of filing grievances as well as public awareness campaigns on what constitutes gender-based violence and sexual harassment and where women can go to find support.

102. A Gender Action Plan (GAP) has been prepared summarizing key gender targets including: (i) women represent at least 50% of participants in village-based training programs (such as income/livelihood restoration within RP and awareness of HIV and human trafficking prevention); and (ii) at least 50% of participants in the training/activities on road safety awareness will be females. DOH will be responsible of implementation and monitoring of the GAP activities with support from the CSIS consultant.

103. **HIV/AIDS and human trafficking.** The project poses increased risks of HIV/AIDS and STI as well as human trafficking. The risks are associated with the construction phase as a result of influx of construction workers and camp followers (including sex workers), low levels of awareness of risk prevention as well as during the operation phase of the completed project due to increased mobility. To mitigate these risks, the project will implement HTAPP designed during project preparation. The program will be implemented by a service provider under the CSIS consultant.

104. Main activities of the program will include (i) raising awareness of local communities and high-risk groups using behavioral change communication; (ii) improvement of access to medical services; (iii) raising the capacities of the stakeholders; and (iv) mobilization of local level peer educators. The civil works contractors will be required to provide HIV/AIDS awareness and prevention training for their workers through service providers as part of their contracts.

105. **Conflict sensitivity approach.** Being adjacent to the past conflict-affected Kayin State, the project will benefit all ethnic groups in a fair, unbiased and equal manner. Further, improving the transport connectivity along the GMS EWEC would enhance employment and income opportunities in the project areas and also in other parts of the country through increased trade and business activities, which in turn could foster growth, reduce poverty in an equal manner.

GENDER ACTION PLAN

Project Output	Gender Action Targets	Responsible Agencies	Cost Estimate
Output 1: New Bago – Kyaikto highway constructed			
Participation of women in Government capacity development.	1. At least 50 government staff, of whom at least 50% are women, have increased knowledge of project management, implementation of social and environmental safeguards, and road asset management.		
For communities			
Project detailed design and implementation is gender and social responsive	2. At least 30% of the participants in the consultation meetings on the project detailed design are females. 3. At least two separate FGDs with women for each village tract will be conducted to facilitate women to express their opinions and concerns on the project detailed design.	PMU with support from the CSIS during the detailed design	Included in the budget of CSIS and Design Consultant
HIV/AIDS, sexually transmitted infections (STIs), and other communicable diseases	4. 1,350 women in the age of 18-40 in the project villages participate in the HTAPP. 5. About 400 female sex workers will be targeted under the HTAPP. 6. Collaborate with existing local AIDS authorities to maximize coordination. 7. Build partnerships with local health providers for community awareness and referrals. 8. At least 20 awareness raising sessions will be provided to each project village over 6 years. 36,000 condoms will be provided to project villages.	PMU with support from the CSIS HTAPP service provider	Included in the budget of HTAPP
Sexual harassment	9. Provide and promote safe and female-oriented and accessible means of filing grievances. 10. Conduct public awareness campaigns on what constitutes gender-based violence and sexual harassment and where women can go to find support. 11. Build partnerships and coordination with gender-based violence and sexual harassment programs of NGOs and local authorities. 12. Provide helpline information targeted at young girls and working-age women.	PMU with support from the CSIS	Included in the budget of HTAPP

Project Output	Gender Action Targets	Responsible Agencies	Cost Estimate
	13. At least 20 awareness raising sessions will be provided to each project village over 6 years.		
Ensure women's participation in trainings programs.	14. At least 200 women will participate in village-based training programs on income/ livelihood restoration program.	PMU CSIS	Income restoration training budget in the Resettlement Plan. Included in the budget of CSIS
For workers			
Ensure gender responsive social protection for the labor force during the project implementation and maintenance	15. CLS will be incorporated in bidding documents and contracts; Construction contractor(s) will provide workers with brief CLS; 16. Equal pay for same type of work for both men and women; 17. Build separate toilets (safe and feasible to use) for both males and females at the camps 18. No child labor.	Construction Contractor(s)	Included in the budget of Construction Contractor(s)
Sexual harassment	19. Build zero tolerance policy requirements for contractors and conduct training for workers, both male and female. 20. Provide and promote safe and female-oriented and accessible means of filing grievances for female workers. 21. Conduct public awareness campaigns on what constitutes gender-based violence and sexual harassment and where female workers can go to find support. 22. 4 awareness raising session per year for workers.	Construction Contractor(s)	Included in the budget of Construction Contractor(s)
HIV/AIDS, sexually transmitted infections (STIs), and other communicable diseases	23. Provide tailored training and awareness on HIV/AIDS and STIs for all contractor workers. 24. Distribute free condoms to ensure sufficient availability on-site. Conduct social marketing of condom use to high-risk groups. 25. 4 awareness raising session per year for workers.	Construction Contractor(s)	Included in the budget of Construction Contractor(s)
Output 2: Capacity of MOC for expressway management enhanced			
PMU and CSIS to have designated a gender specialist/focal point to support the GAP implementation	26. The PMU will appoint a gender focal person who is responsible for gender mainstreaming and GAP implementation and reporting to MOC and ADB.	PMU CSIS	Included in the budget of the PMU, CSIS and construction contractor(s)

Project Output	Gender Action Targets	Responsible Agencies	Cost Estimate
	27. A national gender specialist will be hired by the CSIS to support the PMU and construction contractor(s) in implementation, monitoring, reporting of the GAP implementation. 28. Construction contractor(s) will assign gender focal persons who have responsibilities in gender issues.	Construction contractor(s)	
Monitor and report progress on GAP implementation during the project implementation	29. At least 50 government staff, of whom at least 50% are women, have increased knowledge of crash data collection, analysis, and design of safety treatment 30. Project information system developed to regularly monitor GAP indicators that are sex-disaggregated data including items covering resettlement, compensation, CLS, women's participation and benefits.	MOC, DOH, PMU with support from CSIS	Included in the budget of the MOC, DOH, and CSIS
Output 3: Road safety for Bago-Kyaikto corridor improved			
For communities			
Increase women's involvement in and benefits from road safety awareness training	31. At least 50% of participants in the training/activities on road safety awareness are females.	PMU CSIS	Included in the budget of CSIS and design consultant

ADB = Asian Development Bank; CLS = Core labor standards; CSIS = Construction Supervision and Implementation Support (consultant), DOH = Department of Highways; FGD = focus group discussion; GAP = Gender Action Plan; HTAPP = HIV and Human Trafficking Awareness and Prevention Program; MOC = Ministry of Construction; PMU = Project Management Unit; STI = sexually transmitted infection.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

Impact the Project is Aligned with			
An arterial highway network established in support of economic development, regional economic growth, and international industrial competitiveness in a way that is safe, environmentally friendly, and efficient ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
<p>Outcome More efficient and safer movement of goods and people between Bago and Kyaikto along the Greater Mekong Subregion East–West Economic Corridor</p>	<p>By 2028:</p> <p>a. Freight transport cost of rice between Bago and Kyaikto reduced by 15% in nominal terms (2020 baseline: \$1 per ton-km)</p> <p>b. Travel time between Bago and Kyaikto reduced by 50% to 55 minutes (2020 baseline: 110 minutes)</p> <p>c. Road crash fatality rate on new Bago–Kyaikto expressway 10% less than that of Yangon–Mandalay expressway (2018 baseline in Yangon–Mandalay expressway: 210 fatalities per billion vehicle-km)</p>	<p>a–b. Project completion report</p> <p>c. Project completion report, Road Transport Administration Department data</p>	<p>New uncontrolled settlements along the corridors reduce safety</p>
<p>Outputs</p> <p>1. New Bago–Kyaikto expressway constructed</p> <p>2. Capacity of the Ministry of Construction for expressway management enhanced</p> <p>3. Road safety for Bago–Kyaikto corridor improved</p>	<p>By 2027:</p> <p>1a. At least 64 km of climate-resilient expressway constructed between Bago and Kyaikto (2019 baseline: 0 km)</p> <p>1b. At least 50 government staff, of whom at least 50% are women, have increased knowledge of project management, implementation of social and environmental safeguards, and road asset management (2019 baseline: 0%)</p> <p>2a. New toll road scheme and toll road management for the Ministry of Construction for the new expressway developed (2019 baseline: None)</p> <p>2b. New routine, periodic, and emergency maintenance activities consistently applied in the toll road network (2020 baseline: None)</p> <p>3a. A new community-based road safety program implemented (2019 baseline: None)</p>	<p>1a. Project progress reports and Department of Highways annual road condition surveys</p> <p>1b. Post-training evaluation results</p> <p>2a–2b. Project progress reports</p> <p>3a. Survey of participants and attendance records</p>	<p>Unexpectedly severe climate events slow down civil works and require additional rehabilitation works</p>

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
	<p>3b. At least 500 villagers in project area, of whom at least 50% are women, are trained on community-based road safety protection mechanisms (2019 baseline: 0)</p> <p>3c. At least 25% of expressway users who watched road safety telenovela report increased awareness of road safety etiquette (2019 baseline: 0)</p> <p>3d. At least 50 government staff, of whom at least 50% are women, have increased knowledge of crash data collection, analysis, and design of safety treatments (2019 baseline: 0)</p>	<p>3b. Post-training evaluation results</p> <p>3c. Project completion report; knowledge attitude and practices survey of a sample of 1,000 expressway users</p> <p>3d. Post-training evaluation results, project completion report</p>	

Key Activities with Milestones

1. New Bago–Kyaikto expressway constructed

- 1.1 Finalize design (Q3 2020–Q1 2021)
- 1.2 Implement safeguards plan (Q2 2021–Q4 2021)
- 1.3 Implement civil works (Q4 2021–onwards)
- 1.4 Monitor defect notification period (Q4 2025–Q4 2026)

2. Capacity of the Ministry of Construction for expressway management enhanced

- 2.1 Approve a new sustainable toll scheme (Q3 2022)
- 2.2 Test and implement expressway and toll road management scheme in the toll road network (Q1 2023–onwards)

3. Road safety for Bago–Kyaikto corridor improved

- 3.1 Analyze road crash data, identify blackspots, and design safety treatments (Q3 2022)
- 3.2 Design expressway safety civil works (Q2 2023)
- 3.3 Implement expressway safety civil works (Q2 2023–Q4 2024)
- 3.4 Train government staff (Q2 2021–Q2 2023)
- 3.5. Broadcast telenovela on road safety etiquette (Q4 2024)
- 3.6 Implement community-based road safety communication campaign on protection mechanisms (Q2 2025)

Project Management Activities

Recruit construction supervision and implementation support consultants
 Prepare bidding documents
 Award procurement contracts
 Update safeguards planning documents
 Supervise construction
 Complete project completion report

Inputs

Asian Development Bank: \$483.80 million
 Government of Myanmar: \$42.54 million

Assumptions for Partner Financing

Japan International Cooperation Agency: \$254.8 million (loan) for the New Sittaung Bridge

km = kilometer, Q = quarter.

^a Government of Myanmar, Ministry of Transport. 2015. *Master Plan for Arterial Road Network Development in Myanmar*. Nay Pyi Taw. The Ministry of Transport was bifurcated into the Ministry of Transport and Communications and the Ministry of Construction in 2016.

Source: Asian Development Bank.

B. Monitoring

106. **Project performance monitoring.** The PMU will be responsible for monitoring and reporting on the performance of the Project against indicators and targets contained in the design and monitoring framework. A CSIS consultant will be recruited to support the PMU to set up the monitoring and evaluation system and reporting framework. Progress against the participatory planning, monitoring, and evaluation indicators will be reported quarterly, and annually by MOC to ADB as part of the overall progress reports prepared by the PMU with assistance from the consultant.²⁸

107. **Compliance monitoring.** The Project will be reviewed jointly by government and ADB twice a year during ADB's administration missions that will assess implementation progress and compliance with loan agreement's covenants. Compliance will be also monitored through quarterly progress reports submitted, as well as through review of project accounts and procurement procedures.

108. The MOC will ensure that (i) the project funding is utilized based on procurement and financial management procedures agreed by the government and ADB, and (ii) all viable project-prepared projects are prioritized for inclusion in the MOC budget for the year in which the commencement of the civil works is expected to start.

109. **Safeguards monitoring.** Compliance with environmental and involuntary resettlement safeguards will be included in the quarterly progress report to be prepared by the CSIS consultant. The PMU, with necessary assistance from CSIS consultant, will also prepare semi-annual environmental and resettlement monitoring reports that will document its monitoring of EMP and resettlement plan implementation. In addition, an external monitoring agent will be engaged for monitoring implementation of the resettlement plan, which will make periodic reports, as needed by the implementation of resettlement activities, and at least annually. Recruitment of external monitoring agent will be initiated about 4 months earlier than the beginning of resettlement activities.

110. **Gender and social dimensions monitoring:** Monitoring of gender issues related to Resettlement Plan implementation will be reported in the PMU's semi-annual social safeguards monitoring reports, with necessary assistance from CSIS consultant. Implementation of the HIV/AIDS and human trafficking awareness and mitigation will be reported in the monthly and quarterly project progress reporting.

C. Evaluation

111. **Mid-term Review.** The MOC and ADB will undertake a comprehensive midterm review after 2 years of project implementation. During the midterm review mission, ADB and MOC may agree on changes in both Project scope and implementation arrangements, as deemed necessary.

112. **Project Completion Report.** Within 6 months of physical completion of the project, the MOC will submit a project completion report to the ADB.²⁹ The CSIS consultant will support MOC

²⁸ The PMU will submit regular monthly progress reports to DOH, who in turn will report to the MOC. MOC will consolidate and submit quarterly and annual reports to ADB, reporting on the Project as a whole.

²⁹ Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

in collecting the relevant data and drafting the project completion report. In this report, MOC will evaluate the project performance based on indicators and targets stipulated in the design and monitoring framework and baseline profiling data collected during project preparation. Subsequently, ADB will field a mission to finalize its project completion report. Evaluation activities are summarized below.

Table 16: Project Evaluation Activities

Evaluation Activity	Purpose	Methodology	Who are responsible and involved
Review Mission	Review the progress of the project and provide guidance to facilitate implementation	Site visit and meetings with MOC/DOH and PMU officials, contractors and consultants twice a year	ADB MOC/DOH PMU
Mid Term Review Mission	Review the progress of the project and make adjustments to facilitate implementation and successful project completion	Site visit and meetings with MOC/DOH, MOPFI and PMU officials, contractors and consultants	ADB MOC/DOH PMU/MOPFI
Project Completion Review	Evaluate the overall output of the project and its relevance and suitability	Site visit and meetings with MOC/DOH and PMU officials	ADB MOC/DOH PMU

ADB = Asian Development Bank; DOH = Department of Highways; MOC = Ministry of Construction; MOPFI = Ministry of Planning, Finance and Industry; PMU = project management unit.

D. Reporting

113. The MOC will provide ADB with
- (i) CSIS consultant monthly progress reports and other reports as necessary;
 - (ii) Quarterly progress reports in a format consistent with ADB's project performance reporting system. The template for the quarterly progress report is in Appendix 4;
 - (iii) Annual reports including
 - (a) progress achieved by output as measured through the indicator's performance targets;
 - (b) key implementation issues and solutions;
 - (c) updated procurement plan; and
 - (d) updated implementation plan for next 12 months;
 - (iv) Quarterly safeguards monitoring reports (separate for social and environment);
 - (v) Project completion report within 6 months of physical completion. Project accounts and MOC's audited financial statement together with the associated auditor's report, should be adequately reviewed.

E. Stakeholder Communication Strategy

114. The communication and participation strategy directly contributes to the project output of improving road safety for the Bago-Kyaikto Corridor during the project construction and operation phases. The strategy also provides communication support to implement the resettlement action plan and contribute to mitigating environmental impacts during the construction phase.

115. This section summarizes and highlights elements in the more detailed communication and participation strategy (in Annex 1) which will be further refined following further communication-based assessment (CBA). The key audiences for the communication and participation strategy will be determined and disaggregated using the results of the CBA. The approaches in the strategy are based on the poverty and social analysis, environmental impact assessment, and the project's social action plan and ethnic group development plan.

116. The communication and participation strategy is aimed at: (i) promoting road safety etiquette among key stakeholders to improve their transport experience; (ii) mobilizing communities in the project sites to institute safety among pedestrians and non-motorized transport modes during road construction; (iii) providing communication support to reinforce meaningful consultations among project-affected persons (PAPs); and (iv) promoting feedback and grievance redress mechanisms among PAPs.

117. The above objectives are based on the following behavior-related issues that can be addressed through communication approaches customized for specific audiences:

- (a) While consultations indicate that PAPs and other stakeholders generally welcome the highway construction, activities during its construction including the transportation of materials and machinery by heavy vehicles would cause impacts on the travelling of local people and may increase the risks of accidents and crashes. The highway construction will restrict cross movement and quick access of villagers including the ethnic groups to farming land, community cemeteries or markets

118. A site-specific communication campaign will reinforce the project's community-based road safety program including the villagers' use of underpasses constructed in strategic places for access to places across the highway. Initial consultations indicate that PAPs prefer community assemblies to be conducted to share the traffic management and mitigation measures for locals during the construction phase, namely: (i) materials should be concentrated at the vacant land; (ii) the heavy trucks serving for construction activities need to be limited in speed and operation time when travelling through residential areas; and (iii) hazard warning signs are required at the construction site.

119. These community assemblies will generate community-based protection mechanisms that PAPs will themselves develop and institute to ensure that road users including pedestrians and other non-motorized transport users are safe during road construction. Succeeding communication activities – using village roving megaphones, social media, etc. – will reinforce the road safety community protection measures. The communication-based assessment will identify the most efficient, primary and secondary communication channels as well as the ethnic language tailored to specific audiences.

- (b) The highway's increased traffic flow and smoother mobility comes with the associated risks of crashes and accidents to people along the road. In addition, other potential risks include: (i) local people crossing the road without using the under-bypasses; and (ii) concentration of local people at the interchanges for trading.

120. The poverty and social analysis done for the project showed that majority of the PAPs and key stakeholders along the road received middle school education, with very few reaching high school and college. With this literacy background, initial consultations also show that local peoples prefer either face-to-face, audio-visual and media-based communication channels. Learning from the popularity of Korean telenovelas, the project will produce a soap opera series in the local language that will promote road safety etiquette. The communication-based assessment will probe deeper into the television (tv) viewership and road use behavior of key audiences to develop the telenovela series. Women's and children's stories, and experiences of vulnerable groups will be generated to ensure voice and representation in the telenovela plot.

121. Reinforcing communication activities will ensure that the messages in the telenovela of road safety etiquette is absorbed and practiced by PAPs and communities along the road. The community-based road safety campaign (discussed in previous paragraph) will include mini community assemblies to discuss the plot twists and characters of the tv series, and generate lessons that can be used for safer road use behavior in the villagers' daily mobility. ICT – social media and mobile phone blasts – will be designed as promotional material to entice people to watch the novela, and also as monitoring tool to check on message absorption and incremental behavior changes.

- (c) Construction activities will permanently require acquisition of 4,383,086 m² of lands owned by 424 households (2,345 persons) and 733,024 m² of lands which is managed by State/Regional Administrations and communities. A total of 447 households will be affected due to permanent land acquisition for the project, including 21 squatters who built their houses within the current ROW of the existing road. Among these 447 affected households (AHs), 338 households (1,902 persons) will lose 10% or more than 10% of their total production landholding and 64 households (306 persons) are required to be relocated.

122. Stakeholder consultations will continuously be held in the project areas to ensure that PAPs have a two-way communication platform to understand the scope of the project, governing ADB policies and procedures, benefit entitlements, and be updated about project progress. Communication materials will be developed in Myanmar and other appropriate local language.

123. A GRM, utilizing existing village-level mechanisms, will be installed and maintained to record and track consultation and information-sharing activities, and to register concerns and/or complaints received, and to track follow-up action. A project focal point, with full name and contact information, will be designated for regular contact with affected people and other interested stakeholders. Any possible communication capacity deficits will be identified, and capacity building for key government staff in the development and implementation of stakeholder communication strategies can be combined with broader ADB-supported capacity building support to maximize resource utilization. Consistent with the Gender Action Plan, GRM promotion will include increasing women's awareness that they can use this platform to raise issues on gender-based violence and sexual harassment.

124. The PAM includes the ADB requirements for disclosure of project information and monitoring and reporting requirements for safeguard policies on environment and resettlement in accordance with SPS 2009 and Access to Information Policy. The MOC will post all relevant information on its website. The website will include disclosure information requirements, as well as information regarding the bidding process, bidders, contract awards, use of funds disbursed under the project, and physical progress.

125. Information of the project will also be communicated with Government through the PMU, DOH, and MOC. Relevant government officials in regions, townships and villages will be briefed on the project, and provided with written information (in Myanmar language and other languages deemed appropriate to ensure access of local communities to the information) on key project components and relevant requirements pertaining to ADB safeguards, stakeholder communication, and grievance redress procedures.

X. ANTICORRUPTION POLICY

126. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project.³⁰ All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.³¹ If the Borrower becomes aware or has a reasonable suspicion that any member of the Borrower or executing agency has engaged in corrupt or fraudulent practices (as defined in ADB's Anticorruption Policy) under or in connection with the Project or the loan, the Borrower shall take such timely and appropriate action satisfactory to ADB to investigate and/or remedy the situation.

127. The ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the DOH, MOC, and PMU. ADB will require the Borrower to institute, maintain, and comply with internal procedures and controls following international best practice standards in preventing corruption or money laundering activities or the financing of terrorism and covenant with ADB to refrain from engaging in such activities. Consistent with its commitment to good governance, accountability, and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the project. All contracts financed by ADB in connection with the project shall include provisions specifying the right of ADB to audit and examine the records and accounts of the MOC and all contractors, suppliers, consultants, and other service providers as they relate to the project. Any allegations of corruption can be reported to the PMU.

128. The MOC, DOH and PMU will ensure that all its staff involved in the project are fully aware of and comply with the government's and ADB's procedures, including procedures for implementation, procurement, use of consultants, disbursement, reporting, monitoring, and prevention of fraud and corruption.

129. The MOC will consider options to establish—within 6 months after loan effectiveness—a web-page for the project that will disclose the implementation status.

130. To support these efforts, relevant provisions are included in the loan agreement/regulations and the bidding documents for the project.

XI. ACCOUNTABILITY MECHANISM

131. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the accountability mechanism.³²

³⁰ Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>.

³¹ ADB's Integrity Office web site is available at: <http://www.adb.org/integrity/unit.asp>.

³² For further information see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

XII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL

132. The PAM will be subject to change after ADB's Board approval of the project and during the period of project implementation. All revisions/updates during course of implementation should be retained in this section to provide a chronological history of changes to implemented arrangements recorded in the PAM.

TECHNICAL DESCRIPTION OF SUB-PROJECTS

A. Bago-Kyaikto Expressway GMS EWEC Highway Development Project

1. Location.

- Start Point: Intersection with Yangon-Mandalay Road (NH 1) just south of Bago,
- End Point: Intersection with Yangon-Myeik Road (NH 8) near Kyaikto
- Length: 64 km

2. **Works.** The civil works are to build a new 4-Lane expressway which will be fully access controlled. There will be toll plazas at the locations near Bago and Kyaikto. And also four trumpet interchanges, 2-Lane at Waw and Thanatpin , 4-Lane at Kyaikto and 6-Lane at Bago. The civil works will include:

a. Road

3. With the design cross-sections for 4 divided-lanes (4x3.50m), plus 2 lanes (2x2.50m) for "emergency" stop. The 3.50m lane width just meet 100kph design speed, as well as the "emergency stop" lane ensures that cars/pickups and medium buses will fully stop outside of the carriageway. The standard lane and shoulder widths are maintained throughout the length of the road, including the bridges.

b. Structures and Bridges on Bago to Kyaikto Road

4. There is a total of 344 structures proposed for the Bago to Kyaikto Road. Forty-three of those are bridges with the longest being 270-meters long to cross the Ka Lun Chaung-and 200-meters long to cross the Bago-Sittaung canal and the parallel roads. The total length of bridges is 2,780 meters.

Table A1.1: Number of Structures According to Categories

#	Structure Type	Number
05.1.1	Underpasses 2.0m x 2.0m	61
05.1.2	Underpasses 6.0m x 4.5m	40
05.1.3	Box Culverts 1.5m x 1.5m	61
05.1.4	Box Culverts 2.0m x 2.0m	61
05.1.5	Box Culverts 3.0m x 3.0m	48
05.1.6	Box Culverts 6.0m x 4.5m	33
05.2.1	Road Bridge	27
05.2.2	River Bridge	15
05.2.3	Railway Bridge	1
Total Structures		347

5. **Pavement Structure.** There are two different types of pavement sections, as shown below.

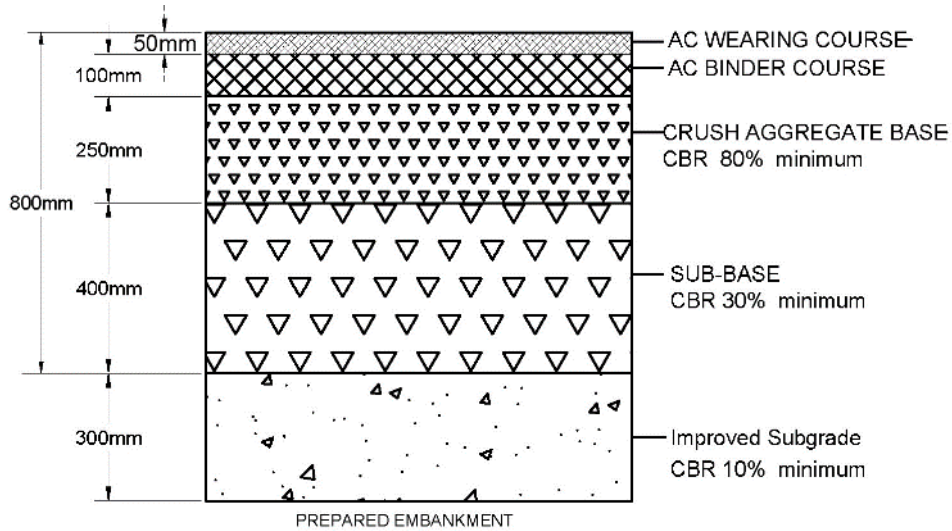
Table A1.2: Proposed Pavement Thickness and Design Life

Road	Year	Design Year	Asphalt Concrete	Base	Sub-Base	Pavement Total	Select Subgrade	Design Method
Bago-Kyaikto	2034	10	150	250	400	800	300	AASHTO

Road	Year	Design Year	Asphalt Concrete	Base	Sub-Base	Pavement Total	Select Subgrade	Design Method
(00–50 km)								
Bago-Kyaikto (52–65 km)	2034	10	150	250	300	700	-	AASHTO

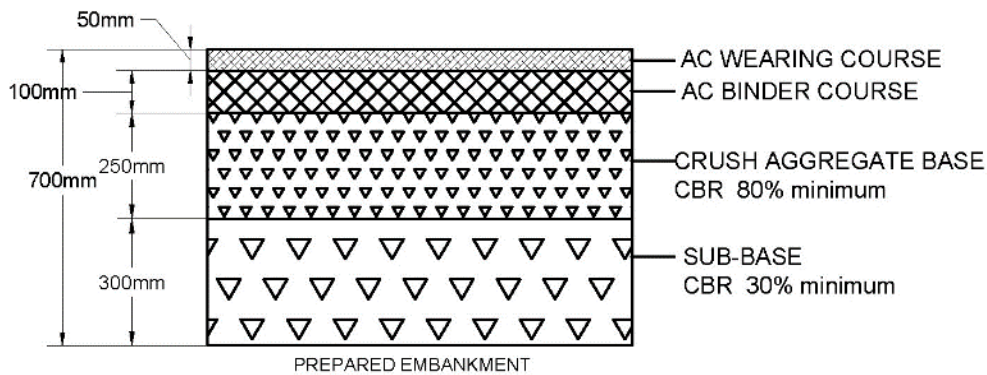
AASHTO = American Association of State Highway and Transportation Officials.
 Source: The TA-9314-MYA Consultant, 2018.

Figure A1.1: Proposed Pavement Thickness (Bago–Kyaikto (00–50 km))



Source: The TA-9314-MYA Consultant, 2018

Figure A1.2: Proposed Pavement Thickness (Bago–Kyaikto (52–65 km))



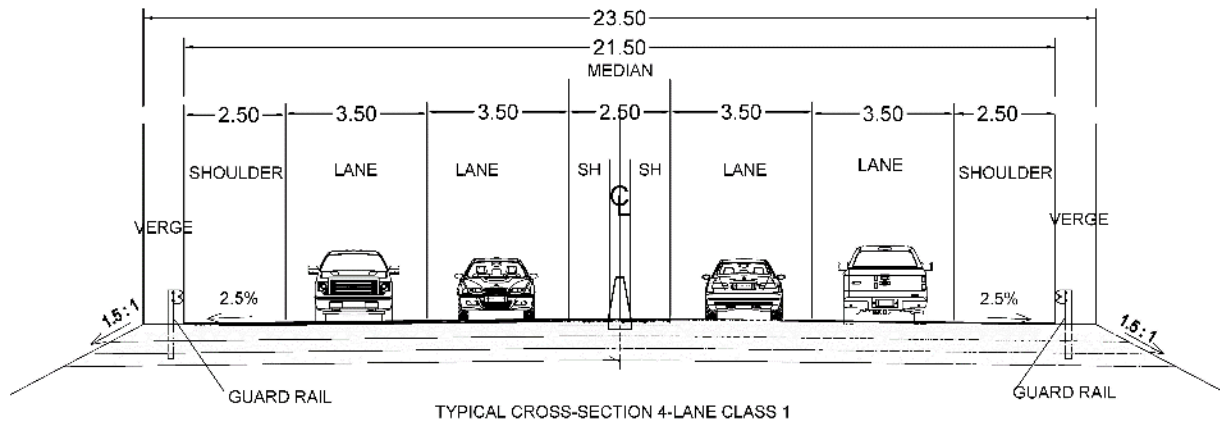
6. **Road Safety Features.** There will be a perimeter fence to prevent access by pedestrians, as well as domestic animals.

7. The 3.50m lane width just meet 100kph design speed, as well as the "emergency stop" lane ensures that cars/pickups and medium buses will fully stop outside of the carriageway. The standard lane and shoulder widths are maintained throughout the length of the road, including the

bridges, so there are no dangerous “squeeze points”. The median is wide enough to provide good separation between the two traffic streams. Traffic signs, including road markings and delineation devices, have an important role in ensuring safety. There will be full lighting at the interchanges, as well as the toll stations. This has significant benefits for safety and security. Care must be taken to try and avoid putting lighting columns in locations where they might be hit by out-of-control vehicles. Where this has not been possible, they have been either shielded by guardrail or a “breakaway design” has been used.

8. **Cross-Sections.** The typical cross-section is described in Figure 5 below.

Figure A1.3: Opening Stage Class 1 4-Lane Highway



PROCUREMENT PLAN

A. Basic Data

Project Name: Second Greater Mekong Subregion Highway Modernization Project		
Project Number: 50381-006	Approval Number: LXXXX	
Country: Myanmar	Executing Agency: Ministry of Construction	
Project Procurement Classification: A	Implementing Agency: Department of Highways	
Project Procurement Risk: High		
Project Financing Amount: \$483.80 million	Project Closing Date: 30 September 2027	
Date of First Procurement Plan: 16 September 2020	Date of this Procurement Plan: 16 September 2020	
Procurement Plan Duration (in months): 18	Advance Contracting: Yes	e-Procurement: No

B. Methods, Review, and Procurement Plan

Except as ADB may otherwise agree, the following methods shall apply to the procurement of goods, works, non-consulting services, and consulting services.

Procurement of Goods, Works, and Non-consulting Services	
Method	Comments
Open competitive bidding with international advertisement for works	Local contractors have limited capacity to implement road contracts above \$4.0 million

Consulting Services	
Method	Comments
Open competitive bidding with international advertising, using Quality- and Cost-Based Selection (QCBS).	One international consulting firm for Construction Supervision and Implementation Support (CSIS) is required

C. Lists of Active Procurement Packages (Contracts)

The following table lists goods, works, non-consulting services, and consulting services contracts for which the procurement activity is either ongoing or expected to commence within the procurement plan's duration.

Goods, Works, and Non-consulting Services							Advertisement Date (quarter, year)	Comments
Package Number	General Description	Estimated Value (\$m)	Procurement Method	Review	Bidding Procedure	Advertisement Date		
CW B-K	Construction of Bago-Kyaikto Expressway							Advertising: International Number of contracts: maximum 5 Prequalification of Bidders: No Domestic Preference: No Advance Contracting: No Bidding Documents: ADB SBD for Large Works
	Lot1: KM 0.00 – 11.00	91.91	OCB	Prior	1S2E	Q4 2021		
	Lot2: KM 11.00 – 25.20	109.54	OCB	Prior	1S2E	Q4 2021		
	Lot3: KM 25.20 – 37.50	82.26	OCB	Prior	1S2E	Q4 2021		
	Lot4: KM 37.50 – 50.27	68.62	OCB	Prior	1S2E	Q4 2021		
	Lot5: KM 52.57 – 65.05	77.55	OCB	Prior	1S2E	Q4 2021		

1S2E = single-stage:two-envelope, OCB = open competitive bidding, Q = quarter

Consulting Services							
Package Number	General Description	Estimated Value (\$m)	Selection Method	Review	Type of Proposal	Advertisement Date (quarter, year)	Comments
HMP2-CSIS	Construction Supervision and Implementation Support	14.00	QCBS	Prior	FTP	Q3 2020	Type: Firm Quality-Cost Ratio: 90:10 Prequalification/ Short-listing of Firms: Yes Advance Contracting: Yes The estimated value is inclusive of provisional sums, contingency and taxes

FTP = Full technical proposal, Q = quarter, QCBS = quality- and cost-based selection

D. List of Indicative Packages (Contracts) Required Under the Project

The following table lists goods, works, non-consulting services, and consulting services contracts for which the procurement activity is expected to commence beyond the procurement plan duration and over the life of the project.

Goods, Works, and Non-consulting Services							
Package Number	General Description	Estimated Value (\$m)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter, year)	Comments
NONE							

Consulting Services							
Package Number	General Description	Estimated Value (\$m)	Selection Method	Review	Type of Proposal	Advertisement Date (quarter, year)	Comments
NONE							

E. List of Awarded and Completed Contracts

The following table lists the awarded and completed contracts for goods, works, non-consulting and consulting services.

Goods, Works and Non-consulting Services					
Package Number	General Description	Contract Value	Date of ADB Approval of Contract Award	Date of Completion	Comments
NONE					

Consulting Services					
Package Number	General Description	Contract Value	Date of ADB Approval of Contract Award	Date of Completion	Comments
NONE					

F. Non-ADB Financing

The following table lists goods, works, non-consulting and consulting services contracts over the life of the project, financed by non-ADB sources.

Goods, Works, and Non-consulting Services				
General Description	Estimated value (cumulative \$m)	Estimated Number of Contracts	Procurement Method	Comments
NONE				

Goods, Works, and Consulting Services				
General Description	Estimated value (cumulative \$m)	Estimated Number of Contracts	Procurement Method	Comments
NONE				

**MYA: SECOND GREATER MEKONG SUBREGION (GMS): HIGHWAY MODERNIZATION
PROJECT (HMP)
TERMS OF REFERENCE (TOR)
HMP2-CSIS: CONSULTING SERVICES FOR
CONSTRUCTION SUPERVISION AND IMPLEMENTATION SUPPORT (CSIS) CONSULTANT**

I. THE PROJECT

A. Rationale

1. The Government of Myanmar has committed to improving the nation's road transport infrastructure as a means of stimulating economic growth. To materialize this goal, the Government requested from the Asian Development Bank (ADB) to help finance the Second Greater Mekong Subregion (GMS) Highway Modernization Project along the GMS East West Economic Corridor (EWEC).

2. **Value added by ADB assistance.** The ADB assistance will provide value addition in the direct support to Department of Highways (DOH) of the Ministry of Construction (MOC) through (i) improving connectivity between Myanmar and Thailand which will contribute to Myanmar's further integration within and beyond the GMS; (ii) supporting ongoing ADB transport infrastructure and cross-border transport facilitation activities to enhance trade between Myanmar and Southeast Asia; (iii) enhancing road access to Mon and Kayin states; (iv) supporting government's commitment to improve well-being of people in areas that have long been affected by conflict; (v) improving access to Kyaikto, major tourism and pilgrimage site; (vi) building government's capacity to develop and manage expressways highways at international standards; and (vii) to ensure road safety in Bago-Kyaikto corridor.

3. **Alignment with the ADB Strategic Agenda.** The proposed project is included in the Country Operations and Business Plan, 2020-2022 and in the aide memoire of the country programming mission conducted in March/April 2019.³³

B. Impact and Outcome

4. The project is aligned with the following impact: establish an arterial highway network in support of economic development, regional economic growth, and international industrial competitiveness in a way that is safe, environmentally-friendly and efficient all-weather and safe road infrastructure developed.³⁴ The project will have the following outcome: more efficient and safer movement of goods and people between Bago and Kyaikto, along the GMS EWEC.

C. Outputs

5. **Output 1 – New Bago-Kyaikto Expressway constructed.** The proposed project will construct about 64 kilometers (km) of expressway between Bago and Kyaikto. The expressway is the first greenfield one in Myanmar and will be fully access controlled. There will be a proposed 2.1 km long new bridge (New Sittaung Bridge) across the Sittaung River constructed at approximately Km 50 post. This bridge is proposed for parallel co-financing by JICA. The Construction Supervision and Implementation Support (CSIS) Consultant, whose activities will be

³³ ADB. 2019. *Country Operations Business Plan: Myanmar, 2020-2022*. Manila.

³⁴ Government of Myanmar, Ministry of Construction. 2015. *Arterial Roads Master Plan*. Nay Pyi Taw.

implemented under this output, will also help DOH and the Project Management Unit (PMU) implement the proposed project.

6. **Output 2 – Capacity of MOC for expressway management enhanced:** Given the less than satisfactory performance of the current toll road concessionaires, and their toll road management arrangements, this output will focus on proposing a new scheme for expressway and toll road management for MOC. Under the CSIS consultant’s contract, it will propose routine, periodic, and emergency maintenance activities for a sustainable road asset management regime. Starting with a scheme for Bago-Kyaikto Expressway, the proposed activities will cover the entire toll highway network of MOC.

7. **Output 3 – Road Safety for Bago-Kyaikto Corridor Improved.** To mitigate these risks, this output will introduce a community-based road safety program. The program design will be completed under a Technical Assistance (TA), TA-9743 MYA: Road Safety for Highway Development in GMS EWE. The TA objective will be to establish the foundation for a sustainable road safety regime for Myanmar and focuses on (i) Government’s capacity to collect and analyze road safety data improved; (ii) 3-stream approach for road safety for national highways; and (iii) guidelines for safety during construction, first aid and other response, and post-crash victim support.

8. **Project Costs and Financing.** The project’s estimated cost is \$526.34 million. The government has requested a loan of \$483.80 million from ADB’s ordinary capital resources (concessional loan) to help finance the project, of which \$50 million is expected to be provided from the regional set-aside. The government will provide the equivalent of \$42.54 million to finance interest during construction and resettlement cost.

9. **Implementation Arrangements.** The project will be implemented over a 6-year period, from 2021 to 2026, which comprises one year of pre-construction activities such as detailed design approval, production of contract documents, detailed measurement surveys, land acquisition activities, utility relocation activities and recruitment of CSIS consultant, four years of civil works, one year of defect liability period before the scheduled loan closing date. As stated in para 2 above, proposed project’s EA will be the MOC acting through its DOH. In 2015 DOH has established a PMU to oversee the project’s implementation. This PMU has been implementing the three ongoing ADB-financed road projects (Loan 3199, Loan 3310 and Loan 3747). The civil works will be undertaken by contractors selected under Open Competitive Bidding, in line with ADB’s Procurement Regulations for ADB Borrowers (Goods, Works, Non-consulting and Consulting Services). The civil works will be implemented through 5 Lots, namely, CW B-K Lot1, CW B-K Lot2, CW B-K Lot3, CW B-K Lot4 and CW B-K Lot5. An indicative schedule for the overall project activities is provided in **Appendix 2**.

10. The proposed project includes one package for consulting services, namely, HMP2-CSIS: Construction Supervision and Implementation Support Consultant.

11. Based on the TOR of CSIS, CSIS will support the implementation of all civil works under Output 1, carry out capacity development enhancement for MOC under output 2 and support the PMU in overall Project management. For implementation of ADB-financed civil works MOC/DOH will be the Employer and CSIS will be the Engineer, as defined in the FIDIC Conditions of Contract under which the contracts will be implemented.

II. SCOPE OF WORK AND REQUIRED OUTPUTS

12. The consulting services will comprise the following 2 key tasks and associated deliverables:

- | | |
|--------|--|
| Task 1 | Civil works contract supervision including implementation of resettlement plan, social safeguards, environmental safeguards, and other tasks |
| Task 2 | Project Management Support to PMU in all required aspects |

13. The CSIS will supervise all contractors of CW B-K Lot1, CW B-K Lot2, CW B-K Lot3, CW B-K Lot4 and CW B-K Lot5. Tasks will include the following:

- (i) reviewing the project's detailed designs to identify any significant aspects that require amendment before construction commences, if necessary, and inform the PMU of these for its decision as to whether changes to the designs are to be made;
- (ii) administering the civil works contracts as the Engineer, and undertaking the duties of the Engineer, as defined in the contract documents;
- (iii) ensuring that the contractors' topographical surveys and cross sections to be used for final design, working drawings, as-built drawings and measurement purposes comply with the requirements of the specifications;
- (iv) checking and approving the contractors' method statements, working drawings, and programs for both temporary and permanent structures;
- (v) developing a comprehensive system of inspection checking and recording to ensure compliance of all works with the specifications;
- (vi) developing interim and final measurement and payment systems; establishing a monitoring system for costs to date, and costs to completion; providing a system for the preparation of interim and final payment certificates; providing advice on the evaluation of claims and extensions of time; providing advice on the preparation of variation orders, and for monitoring variation orders; establishing claims monitoring, evaluation and reporting system; and assisting and advising the Employer on all matters pertaining to the contracts and to disputes;
- (vii) providing day-to-day supervision and inspection of works on site; maintaining by the supervision staff of a site diary covering all contractors' activities, and recording site conditions;
- (viii) prior to commencement of works, approving the contractors' method statements and working drawings including traffic management and traffic control arrangements, proposed public and private haul and access routes, together with the contractors' arrangements for maintenance and reinstatement of the same, borrow pit locations, working areas, materials stockpile areas, materials preparation, and processing areas, etc.;
- (ix) reviewing, commenting upon, and accepting the contractors' quality assurance plans and procedures; assisting the contractors with establishing on-site and laboratory-based quality control, testing, and reporting procedures for all construction, workmanship, and materials; supervising the contractors in implementation of their approved quality assurance plans;

- (x) together with the PMU, the contractors, and public utility agencies, identify all utility services (electricity, telecommunication, gas, and water) within the project's corridor of impact that are to be protected and marked to avoid damage, or relocated, as required by the works; in this regard, special attention is drawn to identifying and marking the exact location of buried gas pipelines and fibre optic cables within the right-of-way, not only within the corridor of impact, and ensuring proper arrangements are made to ensure their protection and uninterrupted service during construction of the works, and during any required relocation or adjustment of the facilities;
- (xi) commenting on and ultimately approving the contractors' Environmental Management Plans (CEMPs) and Summary Social Action Plan, and, thereafter, monitoring and reporting compliance with these plans;
- (xii) monitoring the contractors' programs and costs to completion and providing advice to the Employer on procedures necessary to complete the works within the time and cost stated in the works contracts;
- (xiii) preparing reports and providing assistance, as necessary and as required, to the Disputes Board and during any subsequent arbitration procedures;
- (xiv) conducting monthly Contract Site Meetings, to be attended by representatives of the Employer and the contractors; attending and making presentations at progress coordination meetings and preparing the minutes of Meetings and similar progress reviews, obtain approval from PMU before finalization of the draft minutes;
- (xv) providing the Employer with complete records and assisting the contractors with providing "As Built" drawings for the contracts; certifying completion and taking over all of the works; and
- (xvi) preparing Final Payment Certificates, Taking Over Certificates, and Performance Certificates, to the timing of, and as required by, the contracts, and advising the Employer on the release of all contractors' securities and retention payments.

14. **Environmental Supervision and Compliance Monitoring.** The CSIS will ensure the implementation of the Project's Environmental Management Plan (EMP), which is part of the Project's Environmental Impact Assessment (EIA). The specific tasks will include the following:

1. During implementation of civil works construction:

- (i) supervise the implementation of the CEMPs and the project EMP;
- (ii) supervise all ambient environmental monitoring (water quality, air quality, and noise levels) conducted by independent third party environmental monitoring contractors;
- (iii) evaluate the contractors' submitted works activities and schedules relative to the requirements of the approved CEMPs;
- (iv) undertake monthly inspection, monitoring and reporting of construction sites and all construction-related facilities (workers' camps, asphalt batching plants, concrete batching plants, borrow pits, disposal sites for spoil and unsuitable materials, equipment maintenance areas, fuel and materials storage sites, project-specific quarries and crushers, etc.) to assess the contractors' compliance with the CEMPs and project EMP.

- (v) require the contractors to update their respective CEMPs when necessary;
- (vi) monitor the contractors' compliance with health and safety requirements of the project as stipulated in the contract documents;
- (vii) Project EMP includes safety during construction. However, PMU's lessons learned indicate that even for international contractors they neglect road safety during constructions by failing provide appropriate signs, lighting, markings, safe zones, and barriers for deep excavations and road edges. Therefore, all civil works contracts should include compulsory conditions for internationally accepted road safety provisions during construction;
- (viii) record non-conformance cases, promptly inform contractors of improvements needed, respond to contractors' proposals, prepare corrective action plans for Contractors, and monitor implementation;
- (ix) include environmental monitoring in monthly progress reports for submission to the PMU; and
- (x) draft semi-annual environmental safeguards monitoring reports, as required by ECD and ADB;

2. Upon completion of construction:

- (i) prepare a report on the project's environmental compliance performance, including lessons learned that may help MOC and DOH in their environmental monitoring of future projects. The report will be an input to the overall project completion report.

15. The CSIS's International Environment Specialist (IES) will undertake the initial monthly monitoring, working with the National Environmental Specialist (NES). Subsequent monthly monitoring will be carried out by the NES. The IES will undertake semi-annual monitoring and report preparation working with the NES. The required semi-annual report environmental report will be based on the results of monthly monitoring. The IES, with assistance from the NES, will design and conduct an environmental management capacity building program for MOC and DOH staff.

16. **Resettlement and Social Management.** The CSIS's social management tasks will cover:

- (i) Involuntary Resettlement Management
- (ii) Communications and Participation Planning and Implementation

17. As for involuntary resettlement management, the CSIS will support the PMU with:

- (i) Updating the project resettlement plans is the duty of CS2 consultants. CSIS should implement the RP and update the resettlement plan by issuing addendums as necessary in accordance with Government and ADB's SPS, 2009 prior to commencement of construction in any section of a road, including: (a) guiding and supporting the planning and implementation of the detailed measurement surveys; (b) updating the socio-economic surveys, if required; (c) guiding and supporting the updated replacement cost surveys to ensure that compensation rates are based on

- replacement cost at time of compensation; (d) supporting the preparation of detailed relocation and income restoration strategies, in consultation with affected households, civil society and relevant Government agencies; (e) ensuring meaningful consultation and participation of affected households, civil society stakeholders, community-based organizations, and relevant government agencies in the planning and implementation of the resettlement plans; (f) supporting the PMU and relevant Government agencies to ensure appropriate disclosure of the resettlement plans; and (g) preparing and supporting the PMU in the finalization of the updated resettlement plans to the stage where they are endorsed by the Government and receive ADB concurrence.
- (ii) providing the PMU with detailed schedules and allocation of responsibilities for demolition or relocation of structures, compensation, and assistance to affected households, and monitoring their implementation to ensure that the notice to proceed to contractors for any given section cannot proceed until the PMU confirms in writing that payment has been fully disbursed to the displaced and/or affected people, and rehabilitation measures are in place, already compensated or assisted displaced people have cleared the area, and the area is free of any encumbrances;
 - (iii) preparing updates and supplementary resettlement plans in accordance with Government and ADB's SPS, 2009 to cover any changes in the scope of works covered by the resettlement plans;
 - (iv) monitoring of implementation of resettlement plans and income restoration activities, and reporting on a quarterly basis;
 - (v) recommending corrective actions on non-compliance issues, and reporting on their implementation;
 - (vi) coordinating the works of the Independent External Monitor, which MOC will contract to carry out a 100% monitoring of affected people and will issue Semi-Annual Monitoring Reports and Compliance Reports;
 - (vii) supporting the PMU and relevant Government agencies to establish an effective GRM; and
 - (viii) providing capacity building on project social safeguards requirements, implementation arrangements and monitoring requirements.

18. **Project Communications Plan.** The CSIS' international resettlement specialist will outsource this activity (in provisional sum) to develop and implement a Project Communications Plan. The plan will include:

- (i) **Project Website.** The CSIS will develop a project website in English and Myanmar language and help the PMU set it up and maintain it, either as part of MOC's website, or as a stand-alone website. The website is to include information about the project, disclosure requirements, links to key public documents, as well as information regarding the bidding process, bidders, contract awards, use of funds disbursed under the project, and physical progress. The project will follow ADB's Public Communication Policy and its guidelines on the disclosure and exchange of information.
- (ii) **Public Relations.** The CSIS will prepare a project information leaflet in English and Myanmar language, record positive and/or negative local media coverage about the project, and draft press releases on project progress.

- (iii) **Stakeholder Relations.** The CSIS will assist the PMU hold stakeholder outreach meetings in the project area to update local communities with project progress. Specific communications materials will be provided to community members in Myanmar language or other appropriate local language, describing the project, relevant governing ADB policies and procedures, benefit entitlements (for affected people), grievance redress mechanism, HIV/AIDS, safe working conditions, etc. A basic tracking system will be maintained to record consultation activities, the provision of project information, to register concerns and/or complaints received, and to track follow-up action.
- (iv) **Information to road users.** The CSIS will ensure that clear and updated information is provided periodically to road users about current and future disruptions of traffic caused by works.

19. The CSIS will implement the following other tasks related to Project implementation, details of which are provided in the paras 20, 21 and 22.

- (i) Utility relocation facilitation
- (ii) Road safety audits
- (iii) Technical transfer programs, on-site and in-country, including appropriate program of overseas seminars and workshops

20. **Utility relocation facilitation.** Based on the final approved road profiles, identify all public utilities that are to be relocated and provide the Employer with schedules of these for its interaction with the relevant utility agencies to arrange for the affected utilities' relocation from the project-affected area of the right-of-way.

21. **Road safety audits.** Road safety audit was done during feasibility study by TA 9314 consultants. CS2 consulting services package includes road safety audit during detailed design. This road safety audit should be repeated during construction as deemed necessary by CSIS consultants. Finally, after completion of civil works, final road safety audit should be conducted to reconfirm that there are no engineering issues related to road safety. During any of these stages of audit, changes for design or construction should be recommended for the entire Bago-Kyaikto expressway. In case of road safety issues found after completion of works, CSIS consultants should instruct the contractors to amend completed works or undertake additional works to comply with the findings of the audit.

22. **Technical transfer program.** Provide technical transfer programs for the MOC and DOH (PMU) staff and others as MOC proposes, in all aspects of current road design, road safety audit, social management, construction and contract management procedures, the latter to include the conditions of contract, environmental management, and others as appropriate. Conduct on-site workshops and providing comprehensive technical guidelines to staff of the PMU in contract administration, measurement and certification, construction supervision, quality control, in-situ and laboratory testing and reporting, monitoring and appliance of environmental and social safeguards; monitoring and implementation of the resettlement plan, and other activities as required. Prepare an appropriate and cost-effective program of overseas seminars and workshops for relevant MOC and PMU staff for discussion and agreement between MOC and ADB and, when the program proceeds, manage the program.

TASK 2 Project management support to PMU in all required aspects

23. The CSIS will support the PMU in the following key aspects, but not limited to, for project management:

- (i) Procurement assistance
- (ii) Contract management assistance
- (iii) Benefit monitoring and evaluation
- (iv) Periodic reporting to ADB, including project completion report

24. **Procurement assistance.** The CSIS will provide complete support to the PMU to carry out all stages of procurement for CW B-K Lot1, CW B-K Lot2, CW B-K Lot3, CW B-K Lot4 and CW B-K Lot5 until contract signing. All contracts will be procured under Open Competitive Bidding, in line with ADB's Procurement Regulations for ADB Borrowers (Goods, Works, Non-consulting and Consulting Services). This task will include updating periodically the project's procurement plan.

25. **Contract management assistance.** The CSIS will provide day to day assistance to PMU in interpretation of contract clauses, sharing best practices on contractual issues, counter-measures to the non-compliance by contractors, etc under FIDIC based contracts.

26. **Benefit monitoring and evaluation.** The CSIS will establish a benefit monitoring and evaluation system based on the project's Design and Monitoring Framework indicators, plus other useful indicators, in consultation with PMU and ADB missions. Baseline data for all such agreed indicators should be compiled and reported in a phase 1 report. This activity should be completed before any civil work starts. Again, close to project completion, when all civil works have been completed, phase 2 data compilation should be completed in an exact manner as it was conducted for phase 1. Same set of data should be compiled, analyzed, and reported in the phase 2 report. This report also forms a basis for the draft project completion report.

27. **Periodic reporting to ADB, including project completion report.** The CSIS will assist the PMU in drafting the project's progress reports, and semi-annual safeguards monitoring reports as stated in table 2: reporting requirements.

28. The CSIS will also prepare a project completion report in accordance with ADB's format and content for such reports. This will require, among others, (a) conducting a baseline survey prior to construction commencing and final survey of the project roads, to include an assessment of classified traffic volumes, average speeds, number and severity of crashes, International Roughness Index (to be undertaken by each Contractor), and pavement condition; (b) conducting a baseline and final survey of freight transport and public transport costs on the project roads; and (c) carrying out economic and financial analyses of each project road as applicable.

III. CSIS Personnel

29. The indicative personnel requirements for the CSIS services are presented in Tables 1A and 1B below. Qualifications and Terms of Reference for each of the key staff are provided in **Appendix 3**.

Table 1A: International Personnel

Position	Person Months
I. International Personnel	
Team Leader/Highway Engineer	54
Senior Resident Engineer	36
Resident Engineer	36
Quantity Surveyor	36
Road Design Engineer	3
Structural Engineer	4
Geotechnical Engineer	24
Materials Engineer 1	36
Materials Engineer 2	36
Resettlement Specialist	6
Environment Specialist	6
Benefit Monitoring Evaluation Specialist	2
Procurement Specialist	4
Road Safety Auditor	2
Financial Management Specialist	2
Total person months	287

Table 1B: National Key Personnel

II. National - Key Personnel	
Position	Person Months
Deputy Team Leader	54
Resident Engineer 1: CW B-K Lot1: KM 0-11	48
Resident Engineer 2: CW B-K Lot2: KM 11-25.20	48
Resident Engineer 3: CW B-K Lot3: KM 25.20-37.50	48
Resident Engineer 4: CW B-K Lot4: KM 37.50-50.27	48
Resident Engineer 5: CW B-K Lot5: KM 52.57-65.05	48
Structural Engineer 1	6
Structural Engineer 2	6
Materials Engineer 1: CW B-K Lot1: KM 0-11	48
Materials Engineer 2: CW B-K Lot2: KM 11-25.20	48
Materials Engineer 3: CW B-K Lot3: KM 25.20-37.50	48
Materials Engineer 4: CW B-K Lot4: KM 37.50-50.27	48
Materials Engineer 5: CW B-K Lot5: KM 52.57-62.00	48
Quantity Surveyor 1	54
Quantity Surveyor 2	54
Resettlement/Social Development Specialist	12
Environment Specialist	24
Total person months	690

Table 1C: National Non-Key Personnel

III. National - Non-key Personnel	
Position	Person Months
Site Inspectors (15 positions)	720
Office Engineers (6 positions, 36 person months each)	216
Total – non-key staff	936

30. Curriculum vitae (CV) must be provided with consultants' proposals for all key positions. Proposal evaluation will be based on all international positions (Table 1A), and for national positions (Tables 1B) identified above as key staff. The non-key national staff will be discussed and agreed with the selected consultant during contract negotiations or during implementation, and replacements may be requested at that time. Administrative and clerical support personnel are to be provided as required, and the cost of these is to be clearly included in the consultants' cost proposals.

31. The civil works contracts will include provision for the CSIS's offices, residential accommodation for PMU staff, vehicles with drivers for CSIS and PMU staff, motorcycles for inspection teams, office equipment, laboratories with equipment and other support services. See Section V below for tentative location of services.

IV. Reporting Requirements

32. Table 2 shows the reporting requirements. All reports will be submitted in English in hard copy to DOH and ADB (5 copies and 2 copies respectively) and in electronic form as PDF files through an appropriate large file transfer application. DOH/PMU and ADB mission will agree on suitable formats for the progress reports prior to the submission of the first such report.

Table 2: Reporting Requirements

Report	Content	Submission date
Inception Report	Report will contain a detailed work program, a brief description of the updated working methods proposed for carrying out the services in accordance with the Terms of Reference. The report will also identify any major issues and problems likely to be encountered.	4 weeks after commencement of services
Monthly Reports	Monthly Report to summarize the progress of the project and of each civil works contract separately, the work accomplished, any problems encountered during the month, environmental and resettlement status, a work plan for the next month, and minutes of site meetings. The report will present progress information (S-curve for overall project, and for each contract) in graphical form, relative to all consultants' and contractors' approved contract schedules. S-curves should be based on physical progress. Overall project progress should be weighted average considering all project outputs/activities.	Within 10 days after the end of each month

Report	Content	Submission date
Quarterly Project Progress Reports	Summarize (i) progress achieved for each activities, (ii) status of PMU staffing, (iii) environmental, resettlement and social safeguards status, (iv) disbursement and contracting status, (v) status of compliance with loan covenants, (vi) key issues and solutions, and (vii) updated procurement plan, costs to completion, others as appropriate.	Within 1 month after the end of each quarter
Environmental Monitoring Reports	Environmental monitoring report to include status of compliance with the project EMP, records of related activities, issues and solutions, and results of environmental baselines and monitoring.	Within 15 days after the end of each monitoring period (semi-annual basis)
Social and Resettlement Monitoring Report	Social and resettlement monitoring report to include status of compliance with resettlement plans, records of social and resettlement activities, GRM, and issues and solutions.	Within 15 days after the end of each monitoring period (semi-annual basis)
Safeguards Completion Reports	Final status of compliance, summary records of activities, GRM and monitoring results with reference to baselines.	Not later than 3 months after the completion of all civil works (for environmental reports), not later than 3 months after the completion of all resettlement activities (for resettlement reports).
Benefit monitoring and evaluation Reports	<p>Phase 1: baseline report: after establishing a benefit monitoring and evaluation system based on the project's Design and Monitoring Framework indicators, plus other useful indicators baseline data for all such agreed indicators should be compiled and reported in phase 1 report.</p> <p>Phase 2: benefit monitoring and evaluation report: data compilation should be completed in an exact manner as it was conducted for phase 1. Same set of data should be compiled, analyzed, and reported in the phase 2 report for benefit monitoring and evaluation.</p>	<p>Should be completed before any civil works starts.</p> <p>Should be conducted close to project completion, when all civil works have been completed.</p>
Draft Project Completion Report	The report will be based on the standard ADB format for project completion reports, and, will provide additional information relevant to the overall project implementation.	Not later than 3 months prior to completion of civil works.
Final Project Completion Report	This report will update the draft report with contract completion information and will reflect comments provided on the draft completion report.	Not later than 3 months after completion of civil works.

V. Tentative Location of Services

33. It is anticipated that for the duration of the project the locations for the CSIS offices will be as follows.

- a. CSIS should not expect PMU to provide office space for project implementation activities.
- b. The civil works contracts will include provision for the CSIS's offices, including a field office at Bago, residential accommodation for PMU staff, vehicles with drivers for CSIS and PMU staff, motorcycles for inspection teams, office equipment, laboratories with equipment and other support services. More details can be found in para 35.

VI. Implementation Schedule

34. The CSIS contract will be for 72 months. The contract period will be 48 months for CW B-K civil works contract from the date of commencement of civil works, to be followed by a one-year defect notification period.

VII. Employer's Support, Counterpart Personnel and Information

A. Services and facilities to be made available to the CSIS by the Employer

35. The following facilities will be provided through the civil works contracts at no cost to the CSIS (except during first 12 months after CSIS's commencement)

- i. A main office in Yangon and a field office for CSIS personnel at Bago. The office will be fully furnished, maintained and serviced, including all office equipment, computers, software and printers, and all consumables;
- ii. telecommunications systems by landline at each office, if available in the area, and by mobile phones, excluding the cost of international telephone and fax charges for both landline and mobile calls; internet connection at each office including all recurrent charges and charges made by the internet service provider;
- iii. materials testing laboratories. fully equipped, serviced and maintained, including computers, software and printers and all consumables;
- iv. all survey, measurement, and setting out equipment necessary for checking the setting out and control of the works;
- v. site safety equipment including visibility jackets and helmets;
- vi. all in-situ testing and sampling equipment;
- vii. fully licensed and insured vehicles with drivers for the use of the Project Manager, Resident Engineers and their staff for project activities, including servicing, maintenance, fuel, and oil;
- viii. same as vii for PMU staff: Project Director, Deputy Project Director, Assistant Project Director, resident counterpart staff (each);
- ix. fully licensed and insured motorcycles for the use of site supervision staff for project activities, including helmets, protective clothing, servicing, maintenance, fuel, and oil; and

- x. security and maintenance services for the offices, laboratories, and their compounds.

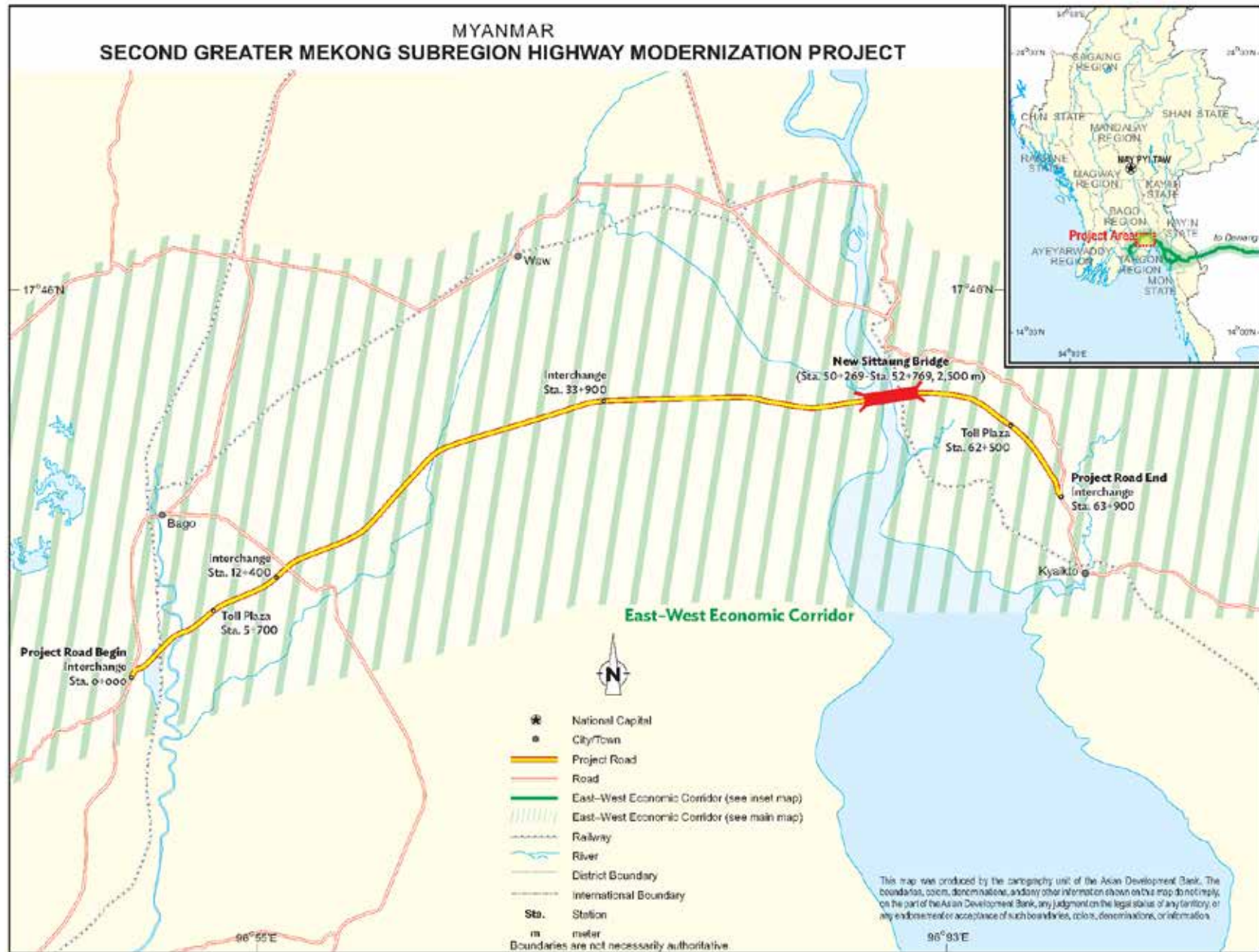
B. Counterpart personnel to be assigned by the Employer to CSIS

36. DOH will provide counterpart staff to work with the CSIS, within the PMU. The counterpart staff are to be given technical transfer by the CSIS to gain hands-on experience in all aspects of project management and contract supervision. It should be noted that the counterpart staff are Employer's staff and not staff of the CSIS.

C. Data, Reports, and Information

37. DOH will provide all relevant existing data, reports, and information available through documents, and other modes to the CSIS during the implementation of the services. DOH will assist with facilitating access of the CSIS to other government agencies for communications, collecting of relevant information, data, documents, etc. and other activities related to the services.

Figure: Second Greater Mekong Subregion Highway Modernization Project
OVERALL PROJECT MAP



QUALIFICATIONS AND TERMS OF REFERENCE FOR CSIS PERSONNEL

International Consultants (Terms of Reference Table 1A)

1. **Team Leader/Highway Engineer:** Professionally qualified civil engineer or equivalent, preferably with 15 years' experience in projects similar to the project, and 7 years' experience as a team leader/project manager. The expert should have experience in new highway construction works and must have experience in expressway, especially in soft soil area (with high embankment) including structures, construction and maintenance works. Sound English communication and experience in FIDIC-based contract management is compulsory. The expert should have at least 5 years of experience in managing large contracts under Multilateral Development Bank (MDB)-financed projects. Geographical experience in Myanmar or the region is an advantage. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years. The team leader will be responsible to MOC as the Employer, for the successful implementation of the project, and for managing the CSIS team. Furthermore, the team leader will assist MOC to manage the contract management plan for periodic reporting to ADB as required. The team leader has to provide assistance as required to the PMU for matters related to the project, including providing responses to ADB's requests, and supporting PMU during ADB review missions.

2. **Senior Resident Engineer:** Professionally qualified civil engineer or equivalent, preferably with 10 years' experience in projects similar to the project, including, one position with Asphalt concrete pavement experience, and supervision of contracts under FIDIC-based contract conditions. The expert should have experience in new highway construction works and must have experience in expressway, especially in soft soil area (with high embankment) including structures, construction and maintenance works. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years. The expert will be responsible to the Team Leader for the successful implementation of the contracts to which they have been assigned, and for managing the consultant's team members assigned to these contracts. The senior resident engineer will act as an acting team leader in the absence of the team leader by assuming all the responsibilities of the team leader as stated in the TOR.

3. **Resident Engineer:** Professionally qualified civil engineer or equivalent, preferably with 7 years' experience in projects similar to the project, including, one position with Asphalt concrete pavement experience, and supervision of contracts under FIDIC-based contract conditions. The expert should have experience in new highway construction works and must have experience in expressway, especially in soft soil area (with high embankment) including structures, construction and maintenance works. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years. The expert will be responsible to the Team Leader for the successful implementation of the contracts to which they have been assigned, and for managing the consultant's team members assigned to these contracts.

4. **Quantity Surveyor:** Professionally qualified civil engineer or equivalent, preferably with 7 years' experience in projects similar to the project, including establishing and implementing measurement and payment systems, document management systems, and other related systems, preferably for projects financed by ADB or similar funding agencies. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years. The expert will be responsible to the Team Leader for all matters related to contract measurement and payments, document management, processing contractors' interim payment

certificates for certification, assisting the PMU as required with processing ADB financing applications, etc.

5. **Road Design Engineer:** Professionally qualified civil engineer or equivalent, preferably with 7 years' experience in projects similar to the project, including geometric design of road alignments, intersections, road safety-related facilities, and others. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years. This expert will be responsible for any design updates of detailed design consultants' outputs (reference: CS2 consulting services of L3747-MYA: Greater Mekong Subregion Highway Modernization Project).

6. **Structural Engineer:** Professionally qualified civil engineer or equivalent, preferably with 7 years' experience in projects similar to the project, including assessment of existing concrete and steel truss bridge and culverts, design of replacement structures, reviewing of contractors' designs and working drawings, etc. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years. The Structural Engineer will be responsible for any bridge design updates of detailed design consultants' outputs (reference: CS2 consulting services of L3747-MYA: Greater Mekong Subregion Highway Modernization Project).

7. **Geotechnical Engineer:** Professionally qualified civil engineer or equivalent, preferably with 7 years' relevant experience in detailed design with respect to geotechnical situation in Myanmar. The expert will collect all relevant soft soil, and other geotechnical data for the team leader to update the detailed design and monitor the construction works. The expert will collaborate with the Resident Engineer to supervise the soft soil treated works. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years. [80% of the project is located on the soft soil area with high embankment. The estimated quantities for soft soil treatment material are 7.8 million meter of PVD, 2 million sq-meter of Geotextile sheet, treatment drainage pipe 9000 meter for consolidation of surcharge load.]

8. **Materials Engineers: 2 experts:** Professionally qualified civil engineer, or equivalent, preferably with 7 years' experience as a materials engineer in climatic and geotechnical conditions similar to Myanmar. Each expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years. The Materials Engineer will be responsible to the Team Leader for all investigation, testing, and reporting related to materials to be used on the project, including oversight of contractors' laboratories, site testing activities, review and approval of concrete and asphalt mix designs, etc, and for the work of the CSIS's materials team.

9. **Resettlement Specialist:** Qualified BSc. or equivalent in social development or related field, with preferably 7 years' experience in resettlement management, implementation of social safeguards, gender and complaints resolution. The specialist should have prepared or assisted in the preparation of at least 5 resettlement plans for infrastructure projects and have been engaged in preferably 3 similar projects in resettlement monitoring and implementation of social safeguards. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years. The specialist will be responsible to the Team Leader with all resettlement and social aspects of the project, including monitoring and reporting on compliance with the resettlement plan and social safeguards, including HIV/AIDS awareness and human trafficking program which is a part of each civil works contract. The expert will also be responsible for project communications plan as stated in para 18 of the TOR.

10. **Environmental Specialist:** Professionally qualified Bachelor's degree or equivalent in environment or related field preferably 7 years' experience in environmental management and monitoring. The specialist will have prepared or assisted in the preparation of preferably 5 environmental impact assessments or equivalents for infrastructure projects financed by ADB or similar agencies. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years. The expert will be responsible to the Team Leader for all environmental aspects of the project.
 11. **Benefit Monitoring and Evaluation Specialist:** Professionally qualified economist preferably with preferably 7 years' experience in preparing economic assessments of transport sector projects, with a substantial part of this experience on ADB or similar development bank-financed projects. The specialist will preferably be able to demonstrate experience with the application of Highway Development and Management Tool (HDM4) analysis. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years. The expert will be responsible to the Team Leader for the economic aspects of the project. The expert will also be responsible to the Team Leader for preparing and implementing a monitoring and evaluation program that will enable the effectiveness of the project to be assessed, during implementation and at completion.
 12. **Procurement Specialist:** Professionally qualified civil engineer or equivalent, preferably with 7 years' relevant experience in procurement under multilateral development bank procedures, with some of this experience in institutional and physical environments similar to those prevailing in Myanmar. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years. The Procurement Specialist will be responsible to the Team Leader for procurement assistance to MOC as required, including preparation and finalization of civil works contracts, and others that may arise.
 13. **Road Safety Auditor:** Professionally qualified civil engineer or equivalent, preferably with 7 years' experience in projects similar to the project, including extensive experience in road safety audit during design. Initial road safety audits have been conducted and confirmed by detailed design consultants (reference: CS2 consulting services of L3747-MYA: Greater Mekong Subregion Highway Modernization Project). With this design, when the road construction is completed, the expert shall carry out road safety audits on completed road alignment. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years.
 14. **Financial Management Specialist.** Professionally qualified financial specialist or equivalent, preferably with 7 years' relevant experience in financial analysis of expressways for operations and management (O&M) under multilateral development bank procedures. Some of this experience needs to be in institutional and physical environments similar to those prevailing in Myanmar. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years. The expert will be responsible to the Team Leader for proposing an O&M scheme for Bago-Kyaikto Expressway, acceptable to MOC and ADB. He/she also needs to propose a program, to be implemented by a service provider, to implement Output 2 of the project: Capacity of MOC for Expressway Management enhanced. This program is to be financed under the provisional sum of \$1 million, and under the same provisional sum the Team Leader should propose other relevant training programs as deemed necessary by MOC/ADB. Selection of the service provider will happen during project implementation and the procurement plan will be revised accordingly.
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National Consultants – Key Staff (Terms of Reference Table 1B)

15. **Deputy Team Leader:** Professionally qualified civil engineer, or equivalent, preferably with 10 years' experience in road construction, of which preferably 5 years should be spent on site in the contract administration and supervision of road and bridge works. The Deputy Team Leader will be responsible to the Team Leader for the effective implementation of the project and for managing the relationship between the CSIS and the PMU. The expert should have demonstrated satisfactory performance if he/she was involved in work for MOC in the past 5 years.

16. **Resident Engineers: 5 experts.** Professionally qualified civil engineers, or equivalent, preferably with at least 7 years' experience in road construction and structural design, of which preferably 3 years should be spent on site in the contract administration and supervision of road and bridge works.

17. **Structural Engineers: 2 experts.** Professionally qualified civil engineer, or equivalent, preferably with at least 5 years' experience in bridge design and supervision of bridge construction.

18. **Materials Engineers: 5 experts.** Professionally qualified civil engineers, or equivalent, with preferably 7 years' experience, including preferably 3 years for the design, specification and testing of road pavements, sub-grade, road construction materials, concrete materials, and others as required.

19. **Quantity Surveyors: 2 experts.** Professionally qualified civil engineer, or equivalent, preferably 7 years' experience, having extensive computer skills, to be responsible to the Resident Engineers for their respective contracts for managing the contract's record keeping, contract payment systems, contract cost projections, and all similar tasks.

20. **Resettlement/Social Development Specialist:** With BA or equivalent in social development or related field, preferably 3 years of relevant experience, to work with and be trained by the international resettlement specialist in resettlement management, implementation of social safeguards, complaints resolution, gender and all other aspects of the international specialist's scope of work.

21. **Environment Specialist:** Professionally qualified BSc in environment or related field or equivalent qualification with 3 years of relevant experience, to work with and be trained by the international environmental specialist in environmental management and monitoring to the requirements of ADB and similar financing agencies.

National Consultants – Non-key Staff (Terms of Reference Table 1C)

22. **Site Inspectors: 15 positions.** Preferably qualified civil engineers. or equivalent qualification in engineering or a related field, and preferably with a basic range of experience to cover surveying, earthworks, site testing, concrete structures and bitumen-based surfacing. Actual inputs to be aligned with contractors' work schedules.

23. **Office Engineers: 6 positions.** Preferably qualified civil engineers. or equivalent qualification in engineering or a related field, and preferably with a basic range of experience including computer operations relevant to the project's activities. Actual inputs to be aligned with project requirements and contractors' work schedules.

TEMPLATE OF ANNUAL/QUARTERLY PROGRESS REPORT

1. Quarterly reports will include: (i) a narrative description of progress made by each project component and the project during the reporting period; (ii) modifications to the implementation schedule; (iii) major project activities by the executing agency, project management unit (PMU); (iv) financial and procurement-related information; (v) problems experienced and remedial actions proposed; and (vi) the work plan for the following period. All data shall be sex-disaggregated, where relevant. The second and fourth quarter progress reports will also include findings of initial assessments of project impact on the targeted beneficiaries

A. Introduction and Basic Data

2. Provide the following:

- (i) ADB loan number, project title, borrower, executing agencies, implementing agencies;
- (ii) total estimated project cost and financing plan;
- (iii) status of project financing including availability of counterpart funds and cofinancing;
- (iv) original and revised (if applicable) ADB loan closing date and elapsed loan period based on original and revised (if applicable) loan closing dates; and
- (v) date of last ADB review mission.

B. Utilization of Funds (ADB Loan, and Counterpart Funds)

3. Provide the following:

- (i) cumulative contract awards financed by the ADB loan, cofinancing, and counterpart funds (commitment of funds to date), and comparison with time-bound projections (targets);
- (ii) cumulative disbursements from the ADB loan, cofinancing, and counterpart funds (expenditure to date), and comparison with time-bound projections (targets); and
- (iii) re-estimated costs to completion, need for reallocation within ADB loan categories, and whether an overall project cost overrun is likely.

C. Project Purpose

4. Provide the following:

- (i) status of project scope/implementation arrangements compared with those in the report and recommendation of the President (RRP), and whether major changes have occurred or will need to be made;
- (ii) an assessment of the likelihood that the immediate development objectives (project purpose) will be met in part or in full, and whether remedial measures are required based on the current project scope and implementation arrangements;
- (iii) an assessment of changes to the key assumptions and risks that affect attainment of the development objectives; and
- (iv) other project developments, including monitoring and reporting on environmental and social requirements that might adversely affect the project's viability or accomplishment of immediate objectives.

D. Implementation Progress

5. Provide the following:

- (i) assessment of project implementation arrangements such as establishment, staffing, and funding of the PMU;
- (ii) information relating to other aspects of the executing agency's internal operations that may impact on the implementation arrangements or project progress;
- (iii) progress or achievements in implementation since the last progress report;
- (iv) assessment of the progress of each project component, such as, (a) recruitment of consultants and their performance; (b) procurement of goods and works (from preparation of detailed designs and bidding documents to contract awards); and (c) the performance of suppliers, manufacturers, and contractors for goods and works contracts;
- (v) assessment of progress in implementing the overall project to date in comparison with the original implementation schedule (include actual progress in comparison with the original schedules and budgets, the reference framework for calculating the project progress will be provided by ADB); and
- (vi) an assessment of the validity of key assumptions and risks in achieving the project's quantifiable implementation targets.

E. Compliance with Covenants

6. Provide the following:
- (i) the borrower's compliance with policy loan covenants such as sector reform initiatives and executing agency reforms, and the reasons for any noncompliance or delay in compliance;
 - (ii) the borrower's and executing agency's compliance with financial loan covenants including the executing agency's financial management, and the provision of audited project accounts or audited agency financial statements; and
 - (iii) the borrower's and executing agency's compliance with project-specific loan covenants associated with implementation, environment, and social dimensions.

F. Major Project Issues and Problems

7. Summarize the major problems and issues affecting or likely to affect implementation progress, compliance with covenants, and achievement of immediate development objectives. Recommend actions to overcome these problems and issues (e.g., changes in scope, changes in implementation arrangements, and reallocation of loan proceeds).

COMMUNICATION AND PARTICIPATION STRATEGY

1. This strategy and following action plan are closely related to Gender Action Plan.¹
2. It should be noted that all consultation activities are to adhere to Gender Action Plan targets to ensure at least 30% participation by women. Consultation attendance records are to have separate columns to indicate attendance by male and female.

Consultation and Participation Plan

Issue	Target Audience	Means of Communication	Responsible	Timing	Source of Funds
1. Construction and Environment Related					
1.1. Information on project design, schedule, anticipated impacts and hazards and EMP mitigation measures.	Administration Offices, and village tract/village administrators and communities in areas concerned.	Meetings with agencies; Consultation meetings with communities. Brochure for public.	PMU, DDPSC	During detailed design	Project supervision consultant time
1.2. Presentation of planned activities and schedule; anticipated impacts and mitigation measures (including restricted access, disruptions, hazards, road safety); GRM	Potentially affected households, communities in vicinity of works,	Public meetings & site visits. Household discussions with any that are directly affected.	Contractors; DDPSC	Prior to start of construction works; monthly thereafter at sites where works are ongoing.	Works contracts
1.3. Works schedule, activities, impacts, community safety, community complaints and worker-community relations.	Village tract/village administrators	Community liaison meetings	Contractors; PSC	Bi-weekly	Works contracts
1.4. Public satisfaction with EMP implementation	village tract/village administrators and communities	Public opinion survey,	DDPSC	mid-term review stage and upon completion of works.	Project supervision consultant time

¹ Gender Action Plan (accessible from the list of linked documents in Appendix 2 of the RRP),

Issue	Target Audience	Means of Communication	Responsible	Timing	Source of Funds
	in areas concerned.				
2. Resettlement Related					
2.1. Disclosure of agreed RP	Affected households, communities in project areas; Stakeholders.	Dissemination of RP to all Townships and Village tracts in project areas and agencies involved in RP implementation. Public posting of updated PIB in village tract notice boards.	PMU / DDPSC	Following formal approval and concurrence from Government and ADB	Project supervision consultant time Resettlement Plan
	General public	Public disclosure on ADB's website	ADB		NA
2.2. Resettlement	Relocating AHs,	Group and individual discussions with relocating AHs on options details and assistance entitlements.	District GAD, village tract, PMU and DDPSC	Following DMS	Resettlement Plan
2.3. Livelihood development	AHs eligible for livelihood assistance, CBOs	Group discussions on livelihood strategy, including proposed options. Needs and preference assessment. (Feedback informs final design of livelihood assistance.)	DDPSC	Following DMS	Resettlement Plan
2.4. Entitlements, eligibility and compensation rates	Affected households, CBOs, CSOs	Public consultation meetings. Distribution of the PIB to APs	PMU, DDPSC and village tract	Following DMS and replacement cost study	Resettlement Plan
2.5. Disclosure of agreed updated RP	Affected households; Communities in project areas.	Translated resettlement plan publicly accessible in local village tract offices, uploaded on ADB website.	PMU, DDPSC and village tract ADB for uploading	Upon final approval of updated RP	Resettlement Plan

Issue	Target Audience	Means of Communication	Responsible	Timing	Source of Funds
2.6. Implementation schedule of resettlement plan and civil works	Affected households CBOs, CSOs	Public consultation meetings	PMU, DDPSC and village tract	Ongoing prior to implementation and upon significant change in implementation schedule.	Resettlement Plan
2.7. Compensation disbursement schedule	Affected households	Notices to individual households	PMU and Village tract	Minimum 1 week prior to disbursement	Resettlement Plan
2.8. Relocation arrangements	Households required to relocate	Group discussions and individual consultations as needed.	District GAD, village tract, PMU and DDPSC	Commencing upon final approval of updated RP until resettlement satisfactorily completed.	Resettlement Plan
2.9. Disclosure of periodic External Resettlement Monitoring Reports	Public, local authorities, CBOs, CSOs,	Uploaded on ADB website.	ADB	Upon submission of periodic monitoring reports (semi-annual)	NA
2.10. Disclosure of periodic Internal Monitoring Reports	Public,	Uploaded on ADB website.	ADB	Upon submission of periodic monitoring reports by PMU (semi-annual)	NA
3. Ethnic Group Development Plan					
3.1. Disclosure of agreed EGDP	Communities in project areas; Stakeholders (including CBOs, CSOs and traditional leaders)	Translated versions dissemination of EGDP to all townships and village tracts in project areas and agencies involved in EGDP implementation. Public posting of updated PIB in village tract notice boards and dissemination to	PMU / DDPSC	Following formal approval and concurrence from Government and ADB	Counterpart contribution; Project supervision consultant time;

Issue	Target Audience	Means of Communication	Responsible	Timing	Source of Funds
		village chiefs and traditional leaders.			
3.2. General project information (design, schedule, activities, GRM)	Ethnic groups in general project areas	Brochures translated in to local ethnic languages	PMU, DDPSC	During project design and implementation.	EGDP
	General public	Public disclosure on ADB's website	ADB		NA
4. Other Social Issues					
4.1. HIV and human trafficking mitigation	Communities in the project areas. Construction workers	Public consultation and small group meetings	Service Provider	Ongoing during construction	HIV and Human Trafficking Awareness and Prevention Program
4.2. Road safety awareness	Communities in the project areas	Public consultation meetings, class room	CBOs, Teachers, Road Safety Service Provider	During construction phase and at commencement of operation phase.	Road Safety Awareness program
4.3. Opportunities for project work	Adults in the project area	Public notices	Contractor	Ongoing during construction phase	Works contracts

ADB = Asian Development Bank; CBO = Community-Based Organization; CSO = Civil Society Organization; DDPSC = Detailed Design, Procurement, and Safeguards; DOH = Department of Highways; EGDP = Ethnic Group Development Plan; EMP = Environment Management Plan; GAD = General Administrative Department; GRM = Grievance Redress Mechanism; IEC = Information, Education & Communication; MOC = Ministry of Construction; PIB = Public Information Brochure; PMU = Project Management Unit; RP = Resettlement Plan; SP = Service Provider

COMMUNITY-BASED ROAD SAFETY PROGRAM

1. Background

1. Myanmar recorded the fourth highest fatality rate in southeast Asian countries in 2016, which has been on increasing trend over the last ten years (2006 to 2016), in terms of fatality rate per 100,000 inhabitants. Crash fatality rate for Myanmar is 19.9 per 100,000 inhabitants (2016).¹

2. While road crashes do not only create suffering, fear, and trauma to victims and families, but it is also a heavy burden on their economy as well as the nation. The economic growth in tandem with road improvements has automatically given rise to the use of motor vehicles despite the road users being not educated sufficiently in sharing road with other road users in an orderly and safe manner. About 90% of crashes on Myanmar roads are therefore attributable to road user errors or their behavioral issues.

3. Road crashes have largely impacted on the vulnerable road users, like pedestrians, motorcycle riders, and bicyclists. Over 82% of road crash victims are such road users. While the vehicle population increases and the road networks expands more to paved condition, these vulnerable road users become more exposed to risk of road crashes. Statistics show the road environment (or engineering) attributes to road crashes far less than other two attributes together, education and enforcement. Nevertheless, road user education on road safety is minimal. It is common that drivers driving vehicles, especially motorcycles, without licenses of which statistics are not available. Also, enforcement is almost non-existent, with limited resources of police force available for enforcement, and with even police lacking adequate knowledge on effective enforcement.

4. It may be likely that the project personnel also do not have enough knowledge on road safety, which is an issue. All road users, with animals using road from road-side farms, have had no systematic road safety training, which may be expected to aggravate when the road has been paved to asphalt surface. Current speeding behaviour of inter-city buses, passenger cars, and trucks (Bago-Thanyin highway) is likely to be worsened. Nearly 70% of the road users being motorcycles, bicycles, and pedestrians, this kind of environment poses severe risks.

5. Given this foregoing road safety situation, and the lessons learned from the fatalities happened during construction of the ongoing projects of Loan 3199 Maubin-Pyapon Road Rehabilitation Project and Loan 3310 GMS: Eindu-Kawkareik Highway Improvement Project, it is necessary to propose increased road safety awareness through a community based road safety program for the project beneficiaries, police, supervision consultants, and construction personnel.

2. Proposed Community Based Road Safety Program

6. The proposed program focuses on six major areas of action: implementation of safe school zones, social enforcement, in communes in the project area, animal control, road safety education for PMCSC and contractors' personnel, post-crash response and emergency care, and building the capacity of expressway police.

7. **Safe School Zone (SSZ).** It is proposed that all school zones are demarcated to be recognized as traffic calming areas during those periods when students commute to and from schools, by public transport, school bus, motorcycles, bicycles, or on foot. Such physical

1 World Health Organization. 2018. [Global Status Report on Road Safety, 2018](#). France.

demarcation over about 200 meters (m) on either direction of school (depending on the size of school or student number) by pavement coloring need to be supplemented by appropriate road signs, rumble strips, and retractable humps to regulate traffic speeds.

8. To fulfil the objectives of community-based safe school zone activity, it is necessary to focus on the following interventions and measures through training and education.

- (i) Advising parents, schools and the local authority on their joint responsibilities and advising on how road safety education can be improved.
- (ii) Advising on improved training of school teachers and students.
- (iii) Advising on how to make roads and the environment safer for children.

9. **Social Enforcement.** This pillar supports enforcement activities along the project roads with traffic police, to target offenses attributable to speeding, drink-and-drive, and neglect to wear helmets which cover a large majority of violations with respect to crash incidence. It is proposed that project's CSC consulting services provide the local police with training on simple but effective enforcement methods coordinated with community and school education provided under this activity.

10. Nevertheless, in the absence of sufficient police personnel in communities, it is proposed to introduce a social education practices to communities. This approach does not aim at any type of punishment at all to violators, but focuses on having the violators understand the impact of risky road user behaviors on their own safety. The management of livestock in efficient road use is also a part of this activity here.

11. It is also important to have local community as social enforcers in fulfilling the social enforcement activities. According to the consultation results with the local community, it is observed that women volunteered to participate in social enforcement and safe school zone activities as lead enforcers. The women's willingness to protect the family and community and their instinct of loving and caring nature proves that women are better enforcers in social enforcement activities.

12. **Animal Control.** Initial assessment on animal access on the existing highway to be conducted and educated and enforce the community on importance of fences and warning signs next to the road and have control of the movement of farm-animals near the highway or expressway. Animal control guideline will also be introduced to the community.

13. **Road safety education for PMCSC and contractors' personnel.** Since these personnel needs continuous education for proper driver behavior, as well as management of road safety during construction. All personnel need to undergo this training during multiple occasions during the proposed road safety program. It is also necessary that contractors' health and safety officer and crash prevention officer are well familiar with the road safety measures that need to be sustained after the program has been completed.

14. **Post-Crash Response and Emergency Care.** Emergency care for injury is at the core of the post-crash response. Effective care of the injured requires a series of time-sensitive actions, beginning with activation of the emergency care system, and continuing with care at the scene, transport, and facility-based emergency care. Even the most sophisticated emergency care system is ineffective if bystanders fail to recognize a serious injury or do not know how to call for help. It is proposed that an information brochures/poster to inform the communities on the information on contact numbers for emergency medical assistance and ambulances. Assessment of willingness and commitments of communities to provide first aid care to road crash victims

need to be conducted through community consultations. If the assessment results show that first aid trainings to communities are effected and sustainable for community-based post-crash care and if the communities show the willingness and motivation for commitments, basic first aid training will be provided to certain communities in collaboration with Myanmar Red Cross Association.

15. **Building the Capacity of Expressway Police.** The aim of this program is to improve and enhance the road safety knowledge and to strengthen the capacity of expressway police to enforce laws relating to primary road safety risk factors. Strengthening the capacity of the expressway police to enforce the traffic laws is fundamental to deterring road users from violating the laws, to reduce harm and to reduce inappropriate and unsafe behaviors on the expressway.

3. Required Resources

16. **Consulting Resources.** It is proposed to recruit one international road safety expert, with knowledge in community-based education and engagement with communities to implement the proposed program with 3 national community trainers. This expert should be assisted by an international gender expert with knowledge on road safety and gender, as how women participation is more effective in road safety. The experts should liaise with the PMU to develop the program with more concrete data on schools, pagodas, local police force, farmland livestock etc. Consultations with stakeholders is also necessary to collect information to develop the program.

17. **Qualification of the experts.** The road safety expert, a national of ADB member country, needs to have a degree in engineering or any other area which leads to his/her expertise in road safety. Work experience in GMS developing member countries in road safety activities for at least 5 years is required. Experience in road safety related work in any other country is not accounted for. Community consultation experience is also required. The expert should be fluent in English.

18. The gender expert, a national of ADB member country, needs to have a degree in social science or any other area which leads to his/her expertise in gender aspects. Work experience in GMS developing member countries in gender activities for at least 5 years is required. Experience in gender and road safety related work in any other country is not accounted for. Community consultation experience is also required. The expert should be fluent in English.

19. **Terms of Reference.** Once selected, the two experts should jointly prepare the work program within 15 working days after mobilization, in consultation with ADB mission and PMU. It should be noted that the expert should not deviate from the instructions provided by ADB mission at any time, during the program formulation and during its implementation.

20. Once the program is finalized, the experts should recruit 3 local facilitators under the provisional sum. With these facilitators, the expert should traverse the entire length of the project road to capture the areas needing road safety program implementation, and stakeholders who need to be consulted. Once this activity is completed, the expert needs to consult with ADB mission for any revisions for the program drafted and revise it as necessary.

21. The next step is to implement the program with various stakeholders as planned. The experts should train the 3 facilitators, initially to work under them, and then work independently in 3 groups. One group should include the road safety expert and gender as well. The experts should rotate being with other groups to ensure that quality of program is sustained by all facilitators. The

road safety education should be implemented on daily basis irrespective of weekends, as identified key stakeholders can disseminate information on better road safety for villages.

22. For education campaigns, equipment necessary should be procured under the provisional sum. These also should be a part of program formulation. Similar action is necessary for safe school zone implementation, which should be discussed with PMU and the PMCSC, as minor civil works are involved; some of them are proposed in the road safety audit under the PMCSC tasks.

23. Educational materials should be concise, easy to follow, easy to understand, and with less characters but more pictures and sketches. The experts should ensure repeatedly that stakeholders understand the materials/education concepts by inquiring on their comprehension, through evaluations.

24. Other visual aids, short movie clips, banners, posters should be prepared by the experts, again, under the provisional sum.

4. Cost Estimate

25. The consulting services may be estimated to cost about \$200,000. This is as shown in the table below.

Table A2.1: Cost Estimate

Item	Description	Cost (\$)
1	International expert remuneration and per diem 13 person-months x 8,000 (road safety expert 10 person-months; gender expert 3 person-months) Both experts intermittent	104,000
2	International travel	20,000
3	Provisional sum for facilitators, safe school zones (physical engineering provisions to be included in civil works contracts), road safety education campaigns	50,000
4	Communications and reports	1,000
5	Local transport	10,000
6	Contingencies	15,000
	TOTAL	200,000

5. Implementation Schedule

26. The program duration should be about 5 years. However, the PMU should make appropriate arrangements to have the program continue for the remaining project period under the PMCSC.

6. Reporting

27. The experts should write a work program within 15 days after mobilization, discuss with PMU and ADB mission to have it finalized. About a month before completion of the program the experts should jointly submit the draft final report to PMU and ADB mission for comments, on accomplishments of the program, findings, and future steps. Having received comments the report should be finalized and submitted.

28. All reports should be in English, and submitted similar way as required for PMCSC.

Table A2.2: Description of Road Safety Activities for SSZ and Social Enforcement

1. **Safe School Zone (SSZ).** It is proposed that all school zones are demarcated to be recognized as traffic calming areas during those periods when students commute to and from schools, by motor cycles, bicycles, or on foot. Such physical demarcation over about 200 meters (m) on either direction of school (depending on the size of school or student number) by pavement coloring need to be supplemented by appropriate road signs, rumble strips, and retractable humps to regulate traffic speeds. Each school needs to demarcate student containment areas with yellow ropes driven to ground securely, which should be used during school closure times to gather students before guiding them to walk on the left-hand side of the road or across the zebra crossing to other side of the school to walk on the left-hand side.
2. As the carte for SSZ for each school must show a set of design parameters, which differ from school to school, of which the design and implementation of the following: (i) appropriate location of zebra crossing considering the access ways to houses and establishments near school; (ii) provide retractable humps before and after zebra crossing, to be used during SSZ implementation but safely stored by the school after school closure; (iii) provide signs to indicate the SSZ, and continuous set of rumble strips to slow down all approaching vehicles entering the SSZ; (iv) organize a group of guides (teachers/parents/volunteers/police/commune officials) and design a one-page manual with illustrations but limited words to train these guides for at least a month in one school; (v) provide high visibility vests, hats, and T-shirts to guides for easier identification; and (vi) mobile stop/go signs, flags, and red batons to control traffic as well as guide students safely out to the road shoulders/or crossing to other side.
3. Apart from physical measures of road safety for students, it is proposed that gradual involvement of parents voluntarily should be encouraged to protect their children. School teachers, assisted by parents need to be trained to guide students in crossing roads correctly when a gap occurs in traffic flow. In such scenario, guides walk to the middle with high-held stop signs to stop the traffic in both directions, assisted by rumble strips and humps on either side. Then the guides guide students to walk on the left-hand side of the road in a single file, facing traffic, on road shoulders. Pedestrian students have the priority to be guided out of the school, followed by cycling students, and finally those on motorcycles. Side by side riding motorcycles or push cycles are strongly discouraged, similarly, to reduce risk of crashes by other road users who may tend to overtake carelessly the riders.
4. Also, the practical actions are proposed to be incorporated in regular curriculum activities and school events. Here, the posters, effective visual aids, impact stories by victims on short movie clips, animation movies etc., developed in the data library under data compilation and analysis may be used. User guides and curriculum-supporting materials developed need to focus on brevity, clarity, highest impact, cultural sensitivities, low-cost, and sustainability.
5. **Social Enforcement.** This pillar supports enforcement activities along the project roads with traffic police, to target offenses attributable to speeding, drink-and-drive, and neglect to wear helmets which cover a large majority of violations with respect to crash incidence. It is proposed that project's supervision consulting services provide the local police with training on simple but effective enforcement methods coordinated with community and school education provided under this activity. This activity needs equipment required for such training (reflective vests, light batons, portable stop signs, flash lights etc.).
6. Nevertheless, in the absence of sufficient police personnel in communities, it is proposed to introduce a social education practices to communities. This approach does not aim at any type of punishment at all to violators, but focuses on having the violators understand the impact of risky road user behaviors on their own safety. In this respect, community elders, parents, monks, school teachers, commune chiefs, who are deemed to be respected by various age groups of road users, may be deemed effective. The proposed program under the project aims at periodic community programs and events to involve all types of effective leaders to train and induce their day to day activities in oversight of mis-behaving road users such that sustainability is achieved.
Here too, the effective visual aids, developed in the data library under data compilation and analysis, may be used by the social enforcers to attract the attention of road users needing corrective behavior.