## **Environmental Monitoring Report**

Semi-Annual Report (July to December 2018) May 2019

MYA: Maubin-Phyapon Road Rehabilitation Project

Prepared by SMEC International Pty. Ltd., in joint venture with Oriental Consultants Global Co. Ltd., and Pyunghwa Engineering Consultants Ltd. for the Department of Highways, Ministry of Construction, and the Asian Development Bank.

#### **CURRENCY EQUIVALENTS**

(as of 15 May 2019)

Currency unit – kyat (K)

K1.00 = \$0.00066 \$1.00 = K1,521

#### **NOTE**

In this report, "\$" refers to US dollars unless otherwise stated.

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Republic of the Union of Myanmar Ministry of Construction Department of Highways

Maubin-Pyapon Road Rehabilitation Project

Loan No.: 3199-MYA



SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT No. 6

JULY TO DECEMBER 2018



SMEC International Pty Ltd in Joint Venture with Oriental Consultants Global Co Ltd and Pyunghwa Engineering Consultants Ltd

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## **EXECUTIVE SUMMARY**

- 1. This is the 6<sup>th</sup> Semi-Annual EMP Monitoring report covering the period July to December 2018 for the Maubin Pyapon Road Rehabilitation Project. This report consolidates the monthly monitoring reports for the period submitted by both the Contractors for ICB-1 and ICB-2 and the monthly reports of the CSC NES (up to October 2018) and inputs of the IES. The other references used in preparing this semi-annual report are the 2014 IEE and EMP and the Contractor's EMPs (CEMPs) for both ICB-1 and ICB-2.
- 2. With the nearing of project completion, activities in ICB-1 included road maintenance, painting of road lane markings, installation of road signs and guardrails, and minor road repairs. For ICB-2, there remained the completion of the Phayar Chaung and Oo Yin Chaung Bridges, installation of road signs and guardrails, road maintenance and repairs.
- 3. Both contractors continued their environmental quality monitoring of ambient noise and pH for water quality. The noise levels were within the standards for noise (55 dB for residential and institutional areas). Fewer high noise levels due to project activities have been detected, but in general noise levels were within the levels measured during the baseline survey in 2016. No complaints have been received from the communities regarding noise but still, the Contractor had to observe and implement the noise mitigating measures prescribed in the EMP/CEMP during its operations.
- 4. With regard to water quality, there was no critical concern in ICB-1, while in ICB-2, the suspected contamination of a community pond by wastewater from the batching plant based on pH measurement was not confirmed by the recent samplings. Further, ICB-2 has installed the additional sedimentation pond in response to ADB Mission's comments.
- 5. Monitoring of EMP implementation showed that the project has generally complied with all the mitigating measures, except for a few outstanding issues which are cited in the report. The compliance with waste and hazardous materials management and disposal is the main concern for both packages. Both Contractors have taken actions on improving hazardous materials handling, storage and waste management, however these are not sustained, and these have to be dealt with in the cleanup of the facilities during abandonment of the project areas.
- 6. Traffic and road safety have improved, with fewer (5) accidents reported (although there was one fatality), and with the installation of guardrails, road signs, and the community trainings conducted.
- 7. The suspension by ADB of disbursements from the loan in view of the lack of environmental clearances from the proper Myanmar government agencies, for the sources of aggregate materials for the construction of the project continued from the previous six-month period. It is noted that the updated permit was submitted in November 2018 and appears unlikely to receive approval before the end of the project. It is suggested that PMU request that this review is prioritized by ECD both Regionally and Centrally to allow prompt actions to be undertaken before the end of the project.
- 8. The remaining months till project completion should focus on plans for abandonment of the project sites and environmental cleanup of the abandoned sites. The Contractor's Abandonment Plans for ICB-1 and ICB-2 will also have to be revised and more detailed and submitted for approval by PMU and CSC, prior to implementation.

- 9. The remaining issue of pending Land Use Permits and the ECC for the ICB-1 quarry site should be resolved.
- 10. With the completion of the project expected in late February, PMU should prepare to mobilize for the operational phase of EMP implementation.
- 11. An ADB Mission was held in November 5-9 2018 and some EMP compliance issues were raised. The actions taken by the Contractors to address the issues are presented in Section 7 (7.1 ADB Mission) of this report.
- 12. One complaint was received and resolved during this reporting period.
- 13. No unanticipated impacts have arisen so far and no additional mitigating measures are necessary at this point of the project.

## 1 INTRODUCTION

- 14. This is the 6<sup>th</sup> Semi-Annual EMP Monitoring report covering the period July to December 2018 for the Maubin Pyapon Road Rehabilitation Project. This report consolidates the monthly monitoring reports for the period submitted by both the Contractors for ICB-1 and ICB-2 and the monthly reports of the CSC NES, covering July to October 2018 only since the NES allocation of inputs concluded in October 2018. The other references used in preparing this semi-annual report are the 2014 IEE and EMP and the Contractor's EMPs (CEMPs) for both ICB-1 and ICB-2.
- 15. The report contains the following; (a) A summary of the works carried out by the Contractors of ICB-1 and ICB-2 during the monitoring period; (b) Compliance of the project to the ADB Loan Covenants; (c) Results of the monthly environmental quality monitoring; (d) Assessment of the Contractors' compliance with mitigation measures; (e) The EMP activities carried out during the period such as public consultations, trainings, ADB Missions, and (f) the summary and recommendations of the IES. Photos of the compliance of Contractors to the issues raised are also included in the Annexes.
- 16. This semi-annual report was prepared by the International Environment Specialist (IES).

## 2 PROJECT BACKGROUND

#### 2.1 Project Description

- 17. The Maubin-Pyapon Road Rehabilitation Project involves the reconstruction and widening of 54.5 kilometers of road (including 2 sections through urban areas) and also bridge and drainage structure improvements.
- 18. The project lies between the towns of Maubin and Pyapon in the Ayeyarwady Division of Myanmar. Three towns are traversed by the project namely: Maubin, Kyaiklat, and Pyapon.
- 19. The road rehabilitation includes the following:
  - i) Road widening (2.0 x 3.3 m traffic lanes with 1.8 m sealed shoulders each side, asphaltic concrete) except in Kyiaklat and Pyapon (2.0 x 3.5 m traffic lanes only, cement concrete)
  - ii) Raising the road elevation by average of 0.25 m in rural areas and by approximately 0.10 m in Kyaiklat and the bridges and box culverts between Km 0 and Km 13;
  - iii) Upgrading of Oo Yin Chaung bridge (Km 26.4) from a single lane steel bridge to a two-lane concrete bridge, and upgrading of Kyee Chaung Bridge (Km 28.4) to a two-lane concrete bridge standard:
  - iv) Widening or replacement of bridge over Pagoda Creek (Km 33.7);
  - v) Structural works and repairs on bridges and culverts, where required;
  - vi) New surface on bridge decks, where required;
  - vii) Improved road safety features such as signs, pavement marking, guardrail, and better intersections; and
  - viii) Provision of bus bays and loading areas close to intersection of minor roads and waterways.
- 20. The civil works for the project is delivered under two contracts as follows:
  - a) ICB-1: Rehabilitation of Section from Km0+000 to Km25+500 awarded to City General Construction Co. Ltd (formerly Jung Heung Construction Co. Ltd.); and

- b) ICB-2: Rehabilitation of Section from Km25+500 to Km 54+450 awarded to Shwe Taung Wika, Tokyu, STK Joint Venture.
- 21. The construction activities for the project commenced in October 2015 with target completion schedule of October 2018.

#### 2.2 Project Environmental Category

- 22. The project is not expected to cause significant adverse environmental impacts and is therefore classified as Category B based on ADB's classification of projects according to environmental impacts.
- 23. As a Category B project, the project is required to conduct an Initial Environmental Examination (IEE). In compliance with this requirement, the MOC completed the IEE, which was disclosed on May 2014. The IEE was submitted to the Ministry of Industry, Environment, Conservation and Forestry (MIECAF) (predecessor of Ministry of Natural Resources and Environment (MONRE). The MIECAF's issued its comments and conditions for project implementation on 15 July 2014.
- 24. The implementation of the project preceded the issuance of the Myanmar Environmental Impact Assessment Procedures Law issued on December 2015, and was thus covered by the transitory provisions of the said Law.

# 3 COMPLIANCE OF THE PROJECT TO ENVIRONMENTAL SAFEGUARDS CLAUSES OF LOAN COVENANTS

Table 1a. Compliance to Environmental Safeguards Clauses of Loan Covenants of the Maubin–Pyapon Road Rehabilitation Project

Covenant (Environmental Safeguards)	Reference in Loan Agreement	Status of Compliance Actions to be taken
The Borrower shall ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Borrower relating to environment, health and safety; (b) the Environmental Safeguards; and (c) all measures and requirements set forth in the IEE, the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Schedule 5, Para. 8	Continuing compliance until project completion. Compliance of the Contractors with the IEE and the EMP must be monitored and strengthened.
Human and Financial Resources to Implement Safeguards Requirements The Borrower shall make available necessary budgetary and human resources to fully implement the EMP and the RP.	Schedule 5, Para. 11	Continuing compliance until project completion.  Maintain environmental safeguards staff and a social safeguards staff at PMU.
Safeguards – Related Provisions in Bidding Documents and Works Contracts The Borrower shall ensure that all bidding documents and contracts for	Schedule 5, Para. 12	(a) Complied with (b) Continuing compliance until end of project (c) Continuing compliance until end of project

Covenant	Reference in Loan	Status of Compliance Actions
(Environmental Safeguards)  The Borrower shall ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Borrower relating to environment, health and safety; (b) the Environmental Safeguards; and (c) all measures and requirements set forth in the IEE, the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Agreement Schedule 5, Para. 8	to be taken  Continuing compliance until project completion.  Compliance of the Contractors with the IEE and the EMP must be monitored and strengthened.
Works contain provisions that require contractors to: (a) comply with the measures relevant to the contractor set forth in the IEE, the EMP and the RP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set forth in a Safeguards Monitoring Report; (b) make available a budget for all such environmental and social measures; and (c) provide the Borrower with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP and the RP.		
Safeguards Monitoring and Reporting The Borrower shall do the following: (a) submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission; (b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP and the RP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and (c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP or the RP promptly after becoming aware of the breach.	Schedule 5, Para. 14	Continuing compliance until end of project.  The following Semi-annual social monitoring reports have been submitted to ADB: July-December 2016 and January-June 2017 The following Semi-annual environmental monitoring reports (SEMR) have been submitted to ADB: Jan – Jun 2016 1st SEMR Jul – Dec 2016 2nd SEMR Jul – Dec 2016 2nd SEMR Jul – Dec 2017 3rd SEMR Jul – Dec 2017 4th SEMR Jul – Dec 2017 4th SEMR Jan – Jun 2018 5th SEMR PMU should disclose relevant information from safeguards monitoring report to affected persons promptly upon submission. PMU should promptly inform ADB of the fatal crashes with detailed description of the event and proposed

Covenant (Environmental Safeguards)	Reference in Loan Agreement	Status of Compliance Actions to be taken
The Borrower shall ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Borrower relating to environment, health and safety; (b) the Environmental Safeguards; and (c) all measures and requirements set forth in the IEE, the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Schedule 5, Para. 8	Continuing compliance until project completion. Compliance of the Contractors with the IEE and the EMP must be monitored and strengthened.
		corrective action plan. This has been the case for road crashes earlier in 2017, but now rectified.

Table 1b. Compliance to Environmental Safeguards Provisions in the Project Administration Manual

SI No.	Item Description	Compliance Status
	i. confirming that the EMP is included in the bidding documents and civil works contracts	Complied
	ii. ensuring the CEMPs are prepared by contractors, reviewed by ADB and CSC, and approved by CSC prior to construction commencing	Complied
	iii. establishing a system to monitor the environmental aspects of the project including the indicators set out in the monitoring plan of the EMP	Complied
	iv. supervising the implementation of environmental mitigating measures required for the construction activities	Complied
	v. reviewing, monitoring and evaluating the effectiveness of the implemented CEMPs, and recommending corrective actions, if required.	Ongoing Compliance
	vi. preparing monthly environmental monitoring reports for PMU	Ongoing Compliance - Monthly Environmental Monitoring Reports for July to December 2018 submitted to PMU
	vii. preparing the semi-annual environmental monitoring reports for ADB review and public disclosure	Ongoing Compliance - 4 Semi-annual Environmental Monitoring Reports (including this one) have been submitted
	viii. addressing, recording and reporting on any grievances arising from the project's Grievance Redress Mechanism in a timely manner	Ongoing Compliance
	ix. training MOC/ Department of Roads staff in environmental safeguards and monitoring	Complied

Table 1c. Compliance to Environmental Safeguards Clauses of the Civil Work Contract
Agreement

EMP provisions for inclusion in tender and	Compliance Status
contract documents for civil works	
The contractor will be responsible for.	Ongoing Compliance.
Implementing the required environmental mitigation	
measures and monitoring activities as specified in	
Table 1 and Table 2 and as defined by their	
respective CEMPs to be approved by CSC prior to	
the start of site works.	
The contractor will designate a full time	Complied
Environment Officer to ensure proper	
implementation of the Project environmental	
management plan (EMP) and CEMP.	
3. the contractor will closely coordinate with the	Ongoing compliance
CSC to ensure good planning for mitigation	
measures and ensure timely implementation	
4. The contractor's most senior representative at the	Ongoing Compliance
site such as the Construction Manager or	
Construction Superintendent, will be a member of	
the village environmental complaints committee.	

# 4 PROJECT STATUS AND ACTIVITIES UNDERTAKEN BY CONTRACTORS DURING THE MONITORING PERIOD

## 4.1 ICB-1

- 25. The Contractor's actual progress to the end of the month (November 2018) was 97.18% compared to a planned progress of 100% resulting in a slippage of -2.82%. Progress for the month was 0.17%. The slippage remains due to outstanding non-weather sensitive work such as guardrails. The road marking has been completed.
- 26. All pavement work is complete but with remedial work to defective areas outstanding and reinstatement is scheduled to start early next month (December 2018). Progress remained limited to road markings and cladding work. Work to guardrails is awaiting delivery, anticipated for late December 2018. Weekly meetings to review outstanding issues continued.
- 27. A schedule of further cracking over short pavement sections identified during recent site inspections has been issued to the Contractor. The Contractor has prepared a remedial works schedule and method statement. After three revisions the method statement has been approved at the end of Oct. In the interim the Contractor temporarily sealed the cracks. Remedial works started with excavation on 11 Nov. and continued till December 2018.
- 28. Projected work in December 2018 was limited to pavement repair investigation and reinstatement, based on approvals in October and November 2018.
- 29. The expected date of project completion for ICB-1 is end of February 2019, by which time all construction activities will likely be completed and the Defects Liability Period commences.

#### 4.2 ICB-2

- 30. The Contractor's actual progress to the end of the month (November 2018) was 97.69% compared to a planned progress of 100% resulting in a slippage of -2.31%. Progress for the month was 0.54%.
- 31. Work to both flexible and rigid pavements was substantially complete. Minor outstanding flexible pavement at existing bridge approaches and minor rigid pavement at the Payar Chaung bridge approaches were agreed after receipt of PMU comments on bridge overlays. The Contractor completed this work in November 2018 and continued work on cladding and road markings. Weekly meetings to review outstanding issues continued.
- 32. Work to Oo Yin Chaung and Payar Chaung bridges resumed after the Environmental Permit was issued. Payar Chaung bridge was completed and opened to traffic on 05 November 2018.
- 33. Projected work in December 2018 was limited to guide post installation and completion of rigid shoulders in Kyaiklat followed by road markings to Kyaiklat and guardrail installation.
- 34. The physical progress of project activities for both ICB-1 and ICB-2 as of November 30, 2018 is shown in Table 3-1. This progress report indicates that the project is close to completion.
- 35. The expected project completion date for ICB-2 is end of February 2019, by which time all construction work activities will be terminated, and the Defects Liability Period takes effect.

Table 2. Maubin-Pyapon Road Rehabilitation Project Accomplishment as of end of November 2018.

Contract	Time remaining	Progress as of November 30, 2018			Comment
		Scheduled	Actual	Variance	
ICB1	-43 days (-3.9%)	100%	97.18%	-2.82%	All pavement and structural works complete. Current work include road markings, signs and road furniture; remedial work and guardrails outstanding.
ICB2	-43 days (-3.9%)	99.99%	97.69%	-2.30%	All pavement works substantially complete. Current work includes road markings, signs and road furniture; remedial work and guardrails outstanding.

## 4.3 ICB-1 and ICB-2 Comparative Photos

36. For ICB-1 and ICB-2 the following are comparative photos of sections of the road taken in July 2018 and December 2018, showing the progress of works.



Figure 1. Overview of the Road Section of ICB-1



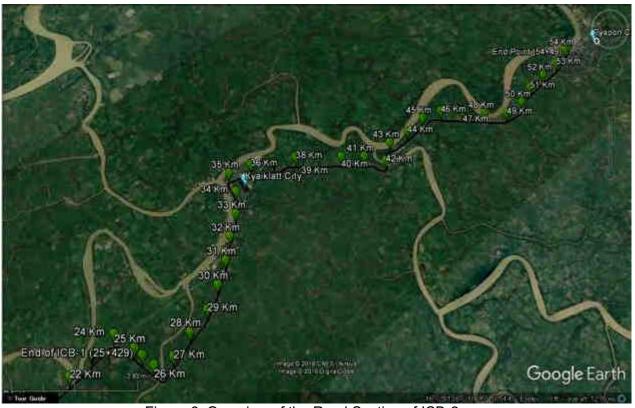


Figure 6. Overview of the Road Section of ICB-2

## ICB-2 Progress of Work, July to December 2018



Figure 7. Construction of Phayar Chaung Bridge at Kyaiklatt, July 2018



Figure 8. Construction of Phayar Chaung Bridge at Kyaiklatt, November 2018



Figure 9. Oo Yin Chaung Bridge Work in October 2018



Figure 10. Oo Yin Chaung Bridge Work in December 2018

#### 5. EMP COMPLIANCE MONITORING

## 5.1 Environmental Quality Monitoring

- 37. Environmental quality monitoring was conducted in the Batching Plants, Asphalt Plants and Stockpile areas, in the Campsites of both ICB-1 and ICB-2. Monitoring consisted of measuring the Noise levels in the stationary and mobile sources of noise; and for Water Quality, the measurement of pH levels in the settling tanks and ponds.
- 38. For noise measurements, ICB-1 noise levels were measured using noise meters, while ICB-2 used a mobile phone app. For pH measurements, both ICB-1 and ICB-2 used pH paper.
- 39. Methods compliant for regulatory purposes shall be utilized if necessary in order to settle complaints or should there be a need to enforce regulatory compliance.

### 5.1.1 Noise Monitoring

40. In the measurement of noise levels, the results are compared with the Noise Standards of Myanmar as shown in Table 3, and the Baseline Survey done in December 2016 (Table 5), in order to determine compliance of the project to the IEE EMP.

Table 3. Myanmar Noise Standards

	One Hour LAeq (dBA)*		
Receptor	Daytime 07:00 - 22:00 (10:00 - 22:00 for Public holidays)	Nighttime 22:00 - 07:00 (22:00 - 10:00 for Public holidays	
Residential, institutional, educational	55	45	
Industrial, commercial	70	70	

<sup>\*</sup> Equivalent continuous sound level in decibels

## ICB-1

- 41. For the period July to December 2018, noise level monitoring was focused on 2 points within the ICB-1 Campsite area, namely: the ICB-1 Workshop Area and the ICB-1 Site Office Area.
- 42. In general, for the July to December 2018 period, the noise monitoring data shows that resulting monthly average daytime noise levels are lower than the measured Baseline Noise for ICB-1 level of 48 dB(A) which was measured in December 2016 (Table 5). The daytime noise levels are also lower than the Standard Noise Levels of Myanmar for daytime (see Table 3).
- 43. The monthly noise monitoring results for ICB-1 is shown in the following matrix (Table 4). The detailed Monthly Noise Monitoring Results Reports for July to December 2018 are in Annex A.

Table 4. Monthly Noise Monitoring Results for ICB-1, July to December 2018

Month	Monitoring Results	
July	The source of the noise was purely domestic noise from the local residences	
	nearby. Sampling Point was at Workshop Area and the average was 47.95 dB.	
	These readings were within the baseline monitoring limits of 38 – 87.80, and	
	lower than the national standard of 55 dB for daytime (residential).	

Month	Monitoring Results
August	The source of the noise was purely domestic noise from the local residences nearby. Sampling Point was at Site Office and the average was 46.17 dB. These readings were within the baseline monitoring limits of 38 – 87.80, and lower than the national standard of 55 dB for daytime (residential).
September	The source of the noise was purely domestic noise from the local residences nearby. Sampling Point was at Site Office and the average was 46.34 dB. These readings were within the baseline monitoring limits of 38 – 87.80, and lower than the national standard of 55 dB for daytime (residential).
October	The source of the noise was purely domestic noise from the local residences nearby. Sampling Point was at Site Office and the average was 46.24 dB. These readings were within the baseline monitoring limits of 38 – 87.80, and lower than the national standard of 55 dB for daytime (residential).
November	The source of the noise was purely domestic noise from the local residences nearby. Sampling Point was at Site Office and the average was 45.42 dB. These readings were within the baseline monitoring limits of 38 – 87.80, and lower than the national standard of 55 dB for daytime (residential).
December	The source of the noise was purely domestic noise from the local residences nearby. Sampling Point was at Site Office and the average was 47.21 dB. These readings were within the baseline monitoring limits of 38 – 87.80, and lower than the national standard of 55 dB for daytime (residential).

Table 5. Baseline Noise ICB-1 measured in December 2016

Station	Sampling	Day Time Average	Night Time Average	NEQ (Emission) Guidelines	
Station	Locations	Noise Level (dB)	Noise Level (dB)	Day Time (7:00-22:00) (dB)	Night Time (22:00-7:00) (dB)
1	Near Site Camp	51.01	50.66	55	45
2	Km 0+000	56.62	59.15	55	45
3	At Stockpile (Near House) Construction Work	48.11	50.89	70	70

## ICB-2

- 44. For the period July to December 2018, noise level measurement for ICB-2 was done in 2 locations, namely: (a) Asphalt Mixing Plant; and (b) Batching Plant at ICB-2 Campsite.
- 45. The monthly noise monitoring results for ICB-2 is shown in the following matrix (Table 6). The detailed Monthly Noise Monitoring Results Reports for July to December 2018 in Annex A.
- 46. It should be noted that the noise measurements were still done using a mobile phone app, even if the attention of the ICB-2 HSE was called, and advised to use a standard calibrated noise meter. The IES opines that the values herein reported are not reliable.

Table 6. Monthly Noise Monitoring Results for ICB-2, July to December 2018

Month	Monitoring Results	
July	(a) Batching Plant Site: Only 3 sampling points were used. The measured	
	results were 50.1dB (A) inside the site, 51.1dB(A) inside the site, and 63.4dB	
	(A) (outside the site). All three points were located 50 m away from the	
	Batching Plant Site in Camp Site. These readings were within the national	

Month	Monitoring Results
	standard of 55 dB for daytime (residential) except one point (measured at
	63.4 dB (A)) which is higher than the standard of 55 dB.
	(b) There was no measurement made for the asphalt plant site.
August	(a) Asphalt Plant Site: Two stations were measured and results were 65.2 dB
	(A) and 48.2 dB (A). The first one is within the standard while the second one
	exceeds the standard of 55 dB.
	(b) Batching Plant: Results at the 3 sampling stations were: 50.1 dB (A), 51.1
0 (	dB (A), and 63.4 dB (A). The third sample exceeded the 55 dB standard.
September	(a) Batching Plant: 3 stations measured as follows: 38 dB (A), 36 dB(A), and 41 dB(A).
	(b) Asphalt Plant: 3 stations measured as follows: 32 dB (A), 38 dB (A), and 31 dB (A).
	All readings were lower than the Myanmar Environmental Quality Emission
	Guidelines value of 55 dB (daytime).
October	(a) Batching Plant: 3 stations measured as follows: 32 dB (A), 34 dB (A), and
	33 dB (A). All readings were lower than the Myanmar Environmental Quality
	Emission Guidelines value of 55 dB (daytime).
	(b) No measurements were made for the Asphalt Plant.
November	(a) Asphalt Plant: Measurements were made at 3 points, at 2 different dates.
	Nov 1 2018, the results were 42 dB (A), 43 dB (A), and 40 dB (A) respectively.
	On Nov 30 measurements at the same 3 points were: 31 dB (A), 48 dB (A),
	and 48 dB (A). All readings were lower than the Myanmar Environmental
	Quality Emission Guidelines value of 55 dB (daytime).
December	<ul><li>(b) No measurements were made for the Batching Plant.</li><li>(a) Batching Plant: Measurements were made at 3 points, at 2 different dates.</li></ul>
December	For Dec 3 2018, results were: 38 dB (A), 42 dB (A), and 44 dB (A)
	respectively. For Dec 14 2018, results were: 45 dB (A), 39 dB (A), and 41 dB
	(A) respectively.
	(b) Asphalt Plant: Measurements were made at 3 points, and results were 35
	dB (A), 49 dB (A) and 34 dB (A) respectively.
	All readings were lower than the Myanmar Environmental Quality Emission
	Guidelines value of 55 dB (daytime).

## 5.1.2 Water Quality Monitoring

47. For Water Quality, pH is a measure of how acidic/basic water is. The standard range is from 6-9, with 7 as the neutral pH. A pH reading of less than 7 indicates acidity, while a pH of greater than 7 indicates a base.

## ICB-1 (see Monthly Water Quality Monitoring Reports for July to December 2018 in Annex B)

- 48. Water sampling was done at the settling pond of the Asphalt Plant. The Asphalt Plant has not been in operation since May 2018. For the months of July to December 2018, the results for pH were all 7, which is neutral. The Standard pH range is 6-9.
- 49. The summary of water Quality Monitoring in ICB-1 is shown in Table 7.

Table 7. Monthly pH measurements, ICB-1, July to December 2018

Location	Measured pH						
	July August September October November December						
Asphalt Plant	7	7	7	7	7	7	

- 50. The monitoring results showed that the pH level of wastewater from 7 drums was pH 8 for July and October, pH 9 for August, pH 12 for September and December, and pH 13 for November. The standard range for pH is 6-9. The results show that for September and December, the pH exceeded the standard range towards the basic (alkaline), and indicate more presence of salts and metals and higher total dissolved solids (TDS).
- 51. For the Batching Plant Collection Pond, pH for July, August and October was pH 8, for September and December was pH 12, and for November was pH 13. The results show that for September, November and December, the pH exceeded the standard range towards the basic (alkaline), and indicate more presence of salts and metals and higher total dissolved solids (TDS).
- 52. For the Camp Water Supply and the Camp Wastewater Pond, the pH levels from July to December were within the 6-9 standard pH range.
- 53. The summary of ICB-2 Water Quality Monitoring for January to June 2018 is shown in Table 8.

Location	Measured pH						
	July August September October November December						
Batching Plant	8	9	12	8	13	12	
Drums							
Batching Plant	8	8	12	8	13	12	
Collection Pond							
Water Supply	7	7	6	6	7	6	
Camp Wastewater	7	7	7	6	7	7	

Table 8. Monthly pH measurements, ICB-2, July to December 2018

#### 6. EMP IMPLEMENTATION MONITORING

54. Compliance of ICB-1 and ICB-2 to the EMP is assessed for the period July to December 2018, based on the EMP as contained in the 2014 IEE and the CEMPs submitted by the Contractors of both packages. The full report matrix format of the assessment is shown in Annex C. The summary status of EMP compliance during the reporting period is as follows (Table 9).

Table 9. Key EMP Compliance Issues for	or Period July to December 2018
--	---------------------------------

Items of Concern	ICB-1	ICB-2
Permits (see List of Permits in Annex F)	1. Permit applications submitted to Local Government and pending approval  ICB-1 Application for Land Use Permit for site office, stockyard, borrow pit and jetty, were submitted to Local Government (General Administrative Office at Kyaiklett) on June 14 2017 and are still pending at the Local Government.  Accordingly, there has been a change of leadership in the Local Government, and the procedure for getting the Land Use Permit has been changed.	1. Permit applications submitted to Local Government and pending approval

Items of Concern	ICB-1	ICB-2
	Now there is a need for the approval of the State Parliament Member (Senator) before the approval of the Township Administrative Office.  Copies of the applications for Land Use Permit have been submitted to CSC on Feb 6 2018  Land Use Permit applications have been submitted to the Board of Agricultural Land Management in Kyaiklatt in accordance with the new procedure on February 20 2018 (copies of application letters are shown in Annex G)	instructions / guidelines on the process they have to go through.  2. Permits already accepted by CSC  ICB-2 LU Permit for Campsite ICB-2 Permit for Operation of Batching Plant, Crushing Plant and Asphalt Plant.  3. Permits submitted to CSC (see Annex D) Environmental Approval for the Suppliers of Aggregates for ICB-2  Longlife Mining Co. Ltd Rehmonya Co. Ltd. (Yarmanya)
	<ul> <li>2. Permits already accepted by CSC</li> <li>ICB-1 Permit for sand dredging</li> <li>ICB-1 Permit for Operation of Soil Mixing Plant and Asphalt Plant.</li> </ul>	
	3. Permits still to be received  ICB-1 Supplier of Aggregates: According to Mr Min Yong Sik, Admin Officer of ICB-1 Contractor, the revised EMP (in accordance with ECD comments) has been resubmitted to the Mandalay ECD Office on Nov 27 2018.	
Hazardous Materials Management	Haphazard storage of drums of emulsion, filled and empty has been noted by ADB mission.  1. Storage of drums are not in accordance with EMP which states that these drums should be placed on cemented floor on impervious bed, and the drums are covered with tarpaulin.  2. Drums are not stored in upright position and there is leakage of bitumen on the ground.	Storage of bitumen in Gonhintyan Bridge  There is no more storage of bitumen in the area, as it is being cleaned up for abandonment.
Waste Management and Pollution Prevention	<ol> <li>Rubbish is still strewn around the camp site.</li> <li>Settling Pond at AC Plant has neutral pH, the AC Plant has not been in operation since May 2018.</li> </ol>	<ol> <li>The ICB-2 Contractor actions were:</li> <li>There is no operation going on in the Camp Site.</li> <li>Garbage bins/drums are provided around the camp,</li> <li>The contractor advised that solid wastes are collected by the Kyaiklatt Municipal every Wednesday and Sunday.</li> </ol>

Items of Concern	ICB-1	ICB-2
Noise	Noise levels are within standard of 55 dB, and no complaints from communities, but still Contractor has to implement noise mitigation measures	No complaints from communities, but still Contractor has to implement noise mitigation measures
Occupational Health and Safety	Workers on site have been observed to wear PPEs.	Workers on site have been observed to wear PPEs.
Traffic Safety Management	Road Safety Program Activities have been implemented by the ADB Consultants for ICB-1 and ICB-2	Road Safety Program Activities have been implemented by the ADB Consultants for ICB-1 and ICB-2
Baseline Environmental Quality Monitoring	ICB-1 Contractor has already conducted in 2016	ICB-2 Contractor has already conducted in 2016
Abandonment Plan	ICB-1 Contractor has submitted the Abandonment and Rehabilitation Plan to CSC in mid-January 2018.	ICB-2 Contractor has submitted the Abandonment and Rehabilitation Plan to CSC in mid-January 2018.

## 7. EMP RELATED ACTIVITIES

## 7.1 ADB Mission

55. An ADB Mission was conducted November 5-9 2018. The following matrix (Table 10) presents the Mission findings on Environmental Safeguards, and the actions taken thereon.

Table 10 . Environmental Safeguards Issues from the MOM of ADB Mission Nov 5-9, 2018

ADB Findings	Action Taken
25. The Mission found the following updates for resolution of this non-compliance issue for aggregate quarries: (i) for CW1, the contractor has recruited a consultant to prepare the necessary documentation for government's environmental approvals (from the Ministry of Natural Resources and Environment Conservation [MONREC]) for their quarry. The contractor submitted all documents to MONREC in August 2018, and received comments for document revision in October 2018. All revisions are expected to be submitted for reconsideration by MONREC in November 2018. The contractor expects the MONREC approval of the quarry within December 2018.	ICB-1 has re-submitted the revised EMP to ECD in Mandalay on Nov 27 2018.
27. Meanwhile, the CW2 contractor submitted the required MONREC approval document for the remaining second quarry, based on which ADB confirmed that all works may resume, and that ADB will also restart processing all withdrawal applications, as of 6 October 2018.  28. In summary, CW1 contractor may not resume any works since it has not complied with its requirement for the aggregate quarry approval by MONREC. Until the contractor has completed this requirement the withdrawal applications of both this contractor and the Consultant will not be processed by ADB. However, since the CW2 contractor has already completed the requirements, ADB resumed processing of CW2	The ICB-2 Contractor has already complied with the ECC requirement for the 2 quarries of their aggregate sources. ICB-1 Contractor is still in the process of getting the ECC for the quarry of its aggregate source. The revised EMP has been submitted to ECD in Mandalay. The PMU has assisted by sending a letter to the ECD Mandalay to facilitate the processing of the EMP. The CSC notes that further assistance may be required.

ADD Findings	Action Taken
ADB Findings	Action raken
withdrawal applications fully, since 6 October 2018.	
2018.	
42. The environment category is B for the project. Although the Mission was not able to review environment safeguards, it was observed that the Consultant has instructed the contractors on 29 October 2018 for corrective actions on minor noncompliance issues: oil spillage, open bitumen drums, scattered garbage etc. While those have been fully resolved by the CW1 contractor by 5 November 2018, the CW2 contractor assured PMU to correct all issues by 12 November 2018.	The issues raised in October 2018 have been acted upon but are not sustained. Same minor issues remain such as the prevalence of heaps of plastic and other solid waste strewn around the campsite and the littering; the unmanaged storage of hazardous materials such as drums of bitumen not stored upright and properly resulting in leaks on the soil, the unprotected soil where the hazardous materials are just placed, and the disarrayed discarded junk materials
43. Environmental Monitoring Reports. Following para. 14(a), Schedule 5 of the Loan Agreement, PMU is required to submit semiannual environment monitoring reports (SEMRs) to ADB and disclose relevant information in ADB website. The SEMRs for 2017 have been disclosed in ADB website. The PMU submitted the SEMR for January to June 2018 to ADB in September 2018. ADB provided comments in September 2018, but the Consultant has not yet submitted the revised SEMR to PMU. The PMU assured to submit the revised SEMR by November 2018. Submission of semi-annual safeguards monitoring reports was late (para. 14, Schedule 5). The Mission requested PMU to submit semi-annual safeguards monitoring reports for July-December 2017 to ADB by 16 February 2018. PMU should also disclose relevant information from the monitoring reports to affected persons promptly upon submission.	The SEMR for Jan to June 2018 has been uploaded to the ADB website, and the revision of the said SEMR, per ADB comments, has been submitted in December 2018.  The SEMR for July to December will be submitted to ADB in early February 2019.

## 7.2 HIV Prevention Awareness

56. The HIV/AIDS prevention awareness campaign continued during this period with the assistance of an NGO group. A total of 1 training for ICB-1 and 4 trainings for ICB-2 were conducted for July to December, with a total of 560 participants (315 Male and 245 Female). List of Trainings for HIV/AIDS Prevention Awareness is shown below (Table 11)

Table 11. HIV/AIDS Prevention Awareness Trainings Conducted July to December 2018

Contractor	Date	Location	Participants		
Contractor	Date	Location	Male	Female	Total
ICB-1	14-07-2018	At Monastery located in Sue-Ka-Nan Village, Kyaiklat Township.	49	46	95
ICB-2	07-07-2018, (11 <sup>th</sup> )	Site Camp	88	19	107
ICB-2	15-07-2018, (12 <sup>th</sup> )	Oo Yin Chaung Site Office	38	65	103
ICB-2	28-07-18, (13 <sup>th</sup> )	Oo Yin Chaung Site Office	64	15	79

Contractor	Date	Location	Participants		
Contractor	Date	Location	Male	Female	Total
ICB-2	11-Aug-18, (14 <sup>th</sup> )	Tun Tauch Private School	76	100	176
Total			315	245	560

#### 7.3. Complaints Received and Resolved

57. One complaint was filed and resolved in August 2018 as shown in Table 4 below.

Table 4. Complaint filed in August 2018

No	Received Date	Filed By	Nature of Complaint	Status of Resolve
1	29-8-2018	(Resident at No.(22) , Chaung Dwn Road ,(16) Quarter , Pyapon Township	The existing ladder in front of house connect to the road was demolishing because of construction of slope of bridge approach.	Local DOH resolve by reconstruction of this ladder.

## 7.4 Accidents Reported

58. For the period July to December, 5 accidents have been reported (4 in ICB-1 and 1 in ICB-2). The accidents were mainly the result of the drivers' behavior such as speeding, falling asleep and overtaking and swerving from the wrong side. There was one fatal accident, an over-speeding motorbike bumping into a truck that resulted in the death of the motorbike driver. The Accident Report (July 2018 to December 2018) is in Annex E.

## 7.5. Monitoring and Evaluation

- 59. The Contractors have monitored noise levels and pH water quality from July to December and have submitted monthly reports to CSC and PMU.
- 60. The CSC National Environment Specialist (NES) conducted monitoring using the forms previously designed by the IES. However, the monitoring was done only from July to October 2018. The allocated man months for the NES was completed in November 2018. There were no further inputs on the reports for November and December 2018 from the NES.

## 8. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

- 61. Monitoring of EMP implementation showed that the project has generally complied with all the mitigating measures, except for a few outstanding issues. The compliance with waste and hazardous materials management and disposal for ICB-1 and ICB-2 still persist. Whatever actions taken before to resolve the previous observations of ADB, most of the actions were not sustained and the same issues remain. The camp sites have to be inspected at least once a week to alert the Contractors to maintain housekeeping of their premises and store hazardous materials properly, and dispose of solid waste in the municipal dumpsite, and hazardous waste in the appropriate and approved disposal sites.
- 62. While the issue of ECCs for the quarries have been resolved for the 2 quarries used by ICB-2, the quarry site of ICB-1 still has no ECC, although the application has been made, and the revised EMP has already been re-submitted to ECD in Mandalay. There has been no indication from ECD as to the timeline for endorsement to the Central ECD for approval. The

has to be a resolution on this issue before the expected project completion date of end of February 2019.

- 63. For environmental quality, there were no critical concerns with noise. In general, the Contractors followed the time limit of doing construction work only in daytime and refrained from working at night. In terms of fugitive dust, construction work on the pavements have been completed, hence there is no fugitive dust observed.
- 64. With regard to Noise Monitoring, the ICB-2 Contractor should refrain from using Mobile Phone App in measuring noise levels as the app is not calibrated in accordance with ECD procedures, and the measured results are not reliable. The Contractor should use the standard noise meter, calibrated by ECD or a reputable environmental laboratory.
- 65. With regard to water quality, the pH levels of the settling ponds were within the pH range of 6-9. However, there is concern for other parameters which have not been measured, such as e-coli and oil and grease. There are visual indicators of contaminated wastewater going into the drainage canals. The fugitive contaminated wastewater draining into the open canals are due to the bypass channels that lead from the source to the open canals.
- 66. The suspension by ADB of disbursements from the loan, in view of the lack of environmental clearances from the proper Myanmar government agencies, for the sources of aggregate materials for the construction of the project remains in effect for ICB-1.
- 67. With the project nearing completion, the Contractors have submitted their Rehabilitation and Abandonment Plans, but these plans need to be improved, and further meetings should enable the Contractors to put more details into these plans. These Contractor's Abandonment Plans for ICB-1 and ICB-2 will also have to be re-submitted for approval by PMU and CSC, in anticipation of the completion of the project in February 2019. The Contractors have to indicate the timelines of dismantling, disposal of junk equipment, hazardous materials and wastes, the filling up of dug out borrow pits, clean up of spilled oil and grease and bitumen, and the final abandonment of the sites.
- 68. It is noted that the process of abandonment has already begun in ICB-2 with the demobilization of the Asphalt Plant in December 2018. The HSE for ICB-2 has also already been demobilized.
- 69. With the expected completion of construction work at the end of February 2019, there are pending permits that might not be issued in ensuing months, such as the Land Use Permits for both ICB-1 and ICB-2, and the ECC for the ICB-1 quarry. Despite follow ups to the concerned authorities, there have been no indications as to the timeline for approval. This should be resolved by PMU and ADB. The applications for the land use permits have been submitted in January 2018, and in the case of ICB-1, they have re-submitted their applications in February 2018, to conform with the new local regulations regarding Land Use Permits whereby the State Senator must approve the Permits before the local administrators will approve. In following up the Land Use permit applications, the Contractor was informed that there is little chance for the permits to be approved.
- 70. Ranking of Overall Progress of Implementing Environmental Safeguards

Rating parameters	Rating (1-10)*
Compliance to Loan Covenants	7.5
II. Compliance to Mitigating Measures	7.5
III. Submission of requirements (Reports, etc.)	
a. CEMP	7.5

b. Environmental Permits	5
c. Monthly reports	7.5
IV. Timely submission / compliance	7.5
Overall (Average of total of I – IV)	42.5/6 = 7.08 (Good)

<sup>\*</sup>Rating equivalents:

Very Good = 8-10; Good = 6.5-7.5; Fair = 3.5-5; Poor = 2-3; Very Poor = 1.5

- 71. For the remaining months of the project, the following recommendations are hereby made.
  - a) In order to expedite the lifting of the ADB suspension and facilitate the completion of the project, it is important for CSC and PMU to assist the Contractors in securing the permits by following up with the appropriate regulatory agencies on the processing of the permits.
  - b) In relation to the approvals of the EMPs of the quarries of the aggregate sources for the project, it is recommended to conduct environmental audit to determine compliance of the quarries to their approved EMPs and the conditions of such approvals. It should also check the conformance of the sites to ADB Safeguards Policy Statement.
  - c) The Abandonment and Rehabilitation Plans of ICB-1 and ICB-2 should be given more attention in anticipation of the completion of the project. Given the lengthy process of getting permits, the Contractors should now begin to plan for the acquisition of demolition permits and other necessary permits so that they can implement their Abandonment Plans in a timely manner. The following should be considered in the final Abandonment Plans of the Contractors:
    - i. Gantt Chart of Activities and Timetable for Abandonment, including the securing of permits
    - ii. What to do with the buildings, equipment, spoils, stockpiles, materials (including hazardous ones) and other stuff that need to be disposed, demolished, given away, cleaned up, rehabilitated and / or left behind.
    - iii. Protocols for clean-up of contaminated soils and water, including cleanup of the settling ponds.
    - iv. Final Sampling of Air, Noise and Water Quality for inclusion in the Project Final Report
  - d) The Contractors should inform CSC their schedules of demobilization, dismantling of facilities and equipment, and abandonment of sites before they start doing them.
- 72. With the forthcoming project completion and abandonment of sites by the Contractors, the project comes to an operational mode, and hence the implementation of the EMP during the operational phase of the project will be done by the PMU. There should be discussions made between PMU, CSC and ADB with regard to turnover of the responsibility of implementing the EMP, and the mobilization of PMU staff for the task on hand. CSC should facilitate such turnover and mobilization.

# 9. Annexes

# ANNEX A. Noise Monitoring Results for ICB-1 and ICB-2 for July to December 2018

Maubin - Pyapon Road Rehabilitation Project Contract No. ICB1-MP Rehabilitation of Section: Km. 0+000 - Km. 25+500

JUNG HEUNG

## 09-b: Monthly Monitoring Results

09-b1: Monthly Noise Monitoring Report

( For the Month of July 2018 )

Location : ICB1 Workshop Area

Notice Date : Residential

Notice Date : 30-Jul-2018

Testing Date & Time : 31-Jul-2018

Point	Location		Max: (dBA)	Avg: (dBA)	Min: (dBA)	Baseline (dB)	Standard (dB)	Remark
P1, 1	N 16" 33.401"	E 95' 42,139'	57,70	47.95	38.20	48.11 (38 – 87.6)	45.00	Day Time (Residential)

#### Remark

: The Contractor's Plant and Equipment were not operated because all the major works for ICB1 Project had been completed last May 2018. Hence, the recorded noise was purely domestic noise from the local residences nearby. Point 1 is at the ICB1 Workshop Area.

The noise monitoring for the month of July 2018 was carried out as per the CSC. Team Leader's verbal instruction to continue the test even though the construction activities were completed.

#### Location Map



Record Sheet

09-b1: Monthly Noise Monitoring Report

( For the Month of August 2018 )

Location

: ICB1 Site Office

Noise Source

: Residential

Notice Date

: 30-Aug-2018

Testing Date & Time : 31-Aug-2018

Point	Location		Max: (dBA)	Avg: (dBA)	Min: (dBA)	Baseline (dB)	Standard (dB)	Remark
P1. 1	N 16" 33.441"	E 95' 42 124'	53.23	46,17	39.11	48.11 (38 – 87.6	45.00	Day Time (Residential)

#### Remark

: The Contractor's Plant and Equipment were not operated because all the major works for ICB1 Project had been completed last May 2018. Hence, the recorded noise was purely domestic noise from the local residences nearby. Point 1 is at the ICB1 Site. Office

The noise monitoring for the month of August 2018 was carried out as per the CSC Team Leader's verbal instruction to continue the test even though the construction activities were completed.

#### **Location Map**



Record Sheet

## 09-b1: Monthly Noise Monitoring Report

( For the Month of September 2018 )

Location

: ICB1 Site Office

Noise Source

: Residential

Notice Date

; 26-Sep-2018

Testing Date & Time : 27-Sep-2018

Point	Location		Max: (dBA)	Avg: (dBA)	Min: (dBA)	Baseline (dB)	Standard (dB)	Remark
PI. 1	N 16" 33.431"	E 95' 42.142'	52.48	46.34	40.19	48.11 (38 - 87.6)	45.00	Day Time (Residential)

#### Remark

: The Contractor's Plant and Equipment were not operated because all the major works for ICB1 Project had been completed last May 2018. Hence, the recorded noise was purely domestic noise from the local residences nearby. Point 1 is at the ICB1 Site Office

The noise monitoring for the month of September 2018 was carried out as per the CSC Team Leader's verbal instruction to continue the test even though the construction activities were completed.

#### Location Map



Record Sheet

09-b1: Monthly Noise Monitoring Report

( For the Month of October 2018 )

Location

: ICB1 Site Office

Noise Source

: Residential

Notice Date

; 29-Oct-2018

Testing Date & Time : 30-Oct-2018

Point	Location		Max: (dBA)	Avg: (dBA)	Min: (dBA)	Baseline (dB)	Standard (dB)	Remark
Pt. 1	N 16" 33.429"	E 95' 42 145'	52,57	46.24 30	39,91	48.11 (38 ~ 87.6)	45.00	Day Time (Residential)

#### Remark

: The Contractor's Plant and Equipment were not operated because all the major works for ICB1 Project had been completed last May 2018. Hence, the recorded noise was purely domestic noise from the local residences nearby. Point 1 is at the ICB1 Site Office.

The noise monitoring for the month of October 2018 was carried out as per the CSC Team Leader's verbal instruction to continue the test even though the construction activities were completed.

#### Location Map



Record Sheet

09-b1: Monthly Noise Monitoring Report

( For the Month of: November 2018 )

Location

: ICB1 Site Office

Noise Source

: Residential

**Notice Date** 

; 29-Nov-2018

Testing Date & Time : 30-Nov-2018

Point	Location		Max: (dBA)	Avg: (dBA)	Min: (dBA)	Baseline (dB)	Standard (dB)	Remark
Pt. 1	N 16" 33.431"	E 95' 42 143'	52.65	45.42	38.19	48.11 (38 ~ 87.6)	45.00	Day Time (Residential)

#### Remark

: The Contractor's Plant and Equipment were not operated because all the major works for ICB1 Project had been completed last May 2018. Hence, the recorded noise was purely domestic noise from the local residences nearby. Point 1 is at the ICB1 Site Office

The noise monitoring for the month of November 2018 was carried out as per the CSC Team Leader's verbal instruction to continue the test even though the construction activities were completed

#### Location Map



Record Sheet

09-b1: Monthly Noise Monitoring Report

(For the Month of December 2018)

Location

: ICB1 Site Office

Noise Source

: Residential

Notice Date

; 27-Dec-2018

Testing Date & Time : 28-Dec-2018

Point	Location		Max: (dBA)	Avg: (dBA)	Min: (dBA)	Baseline (dB)	Standard (dB)	Remark
Pt. 1	N 16" 33,442"	E 95' 42 243'	55.23	47.21	39.18	48.11 (38 ~ 87.6)	45.00	Day Time (Residential)

#### Remark

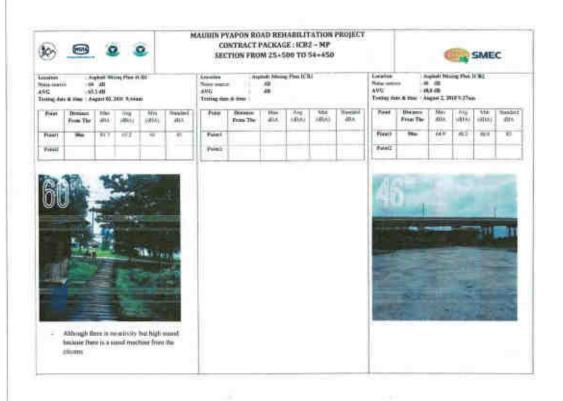
: The Contractor's Plant and Equipment were not operated because all the major works for ICB1 Project had been completed last May 2018. Hence, the recorded noise was purely domestic noise from the local residences nearby. Point 1 is at the ICB1 Site Office.

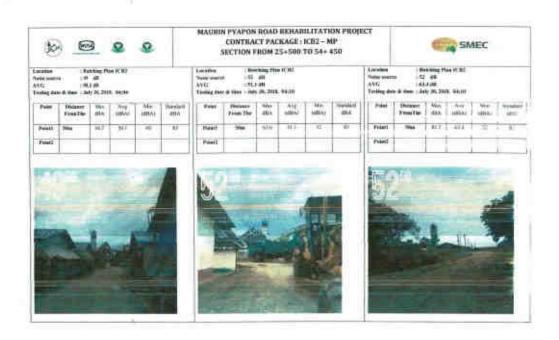
The noise monitoring for the month of December 2018 was carried out as per the CSC Team Leader's verbal instruction to continue the test even though the construction activities were completed

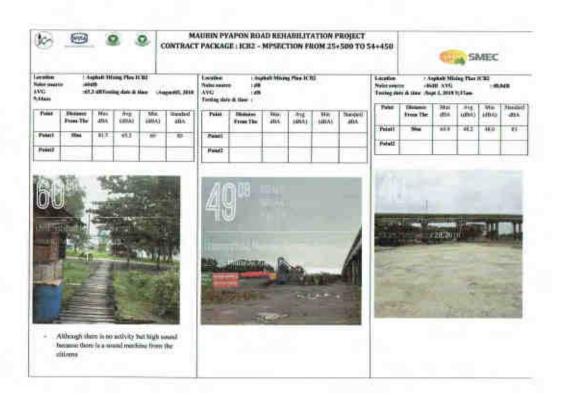
#### Location Map

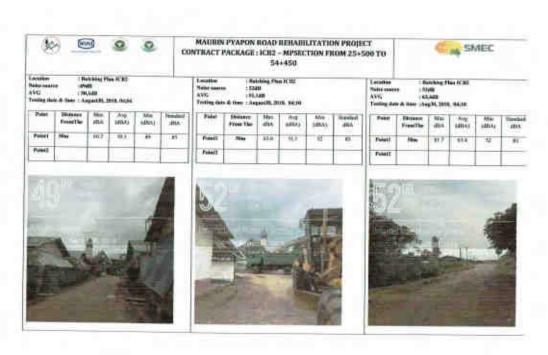


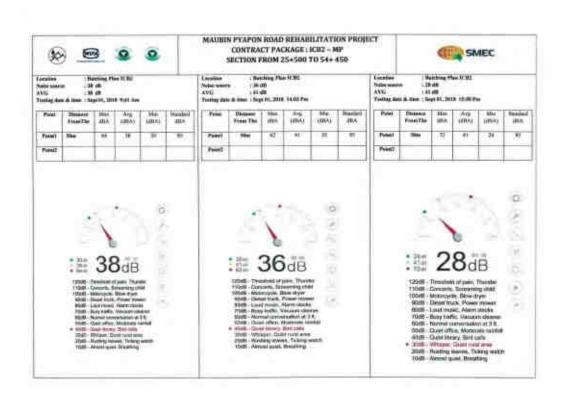
Record Sheet

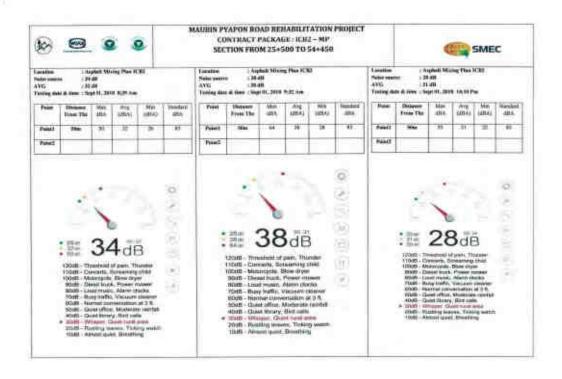


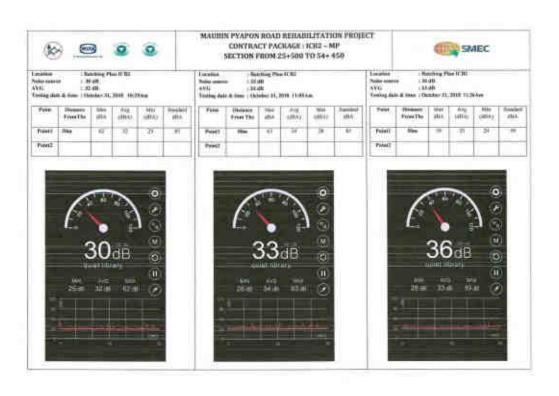


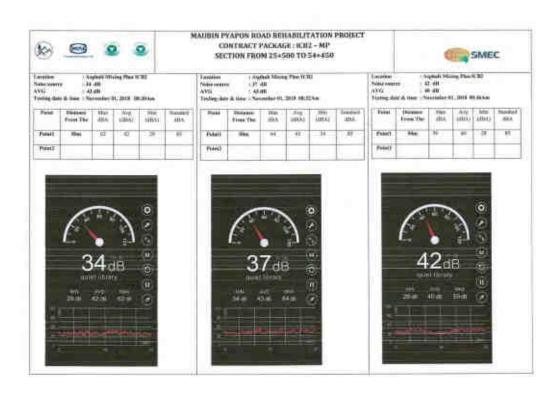


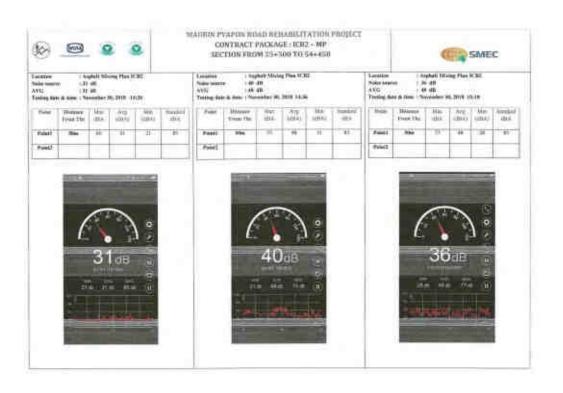


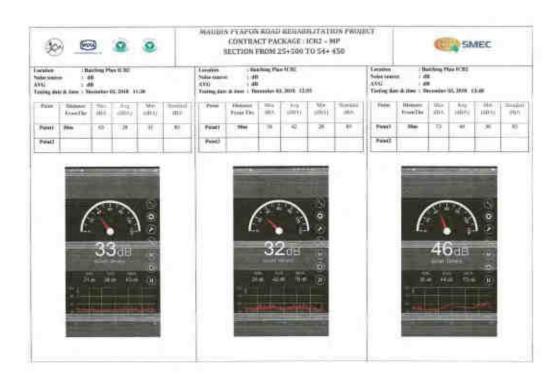


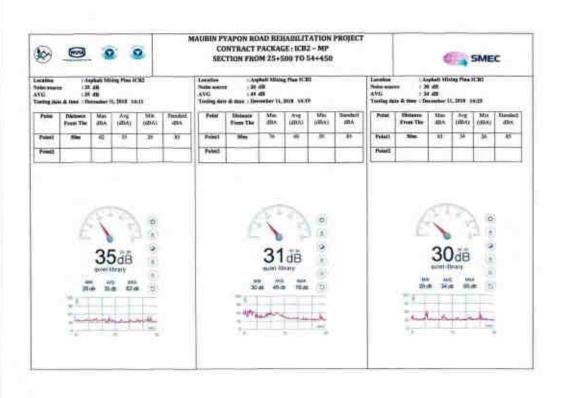


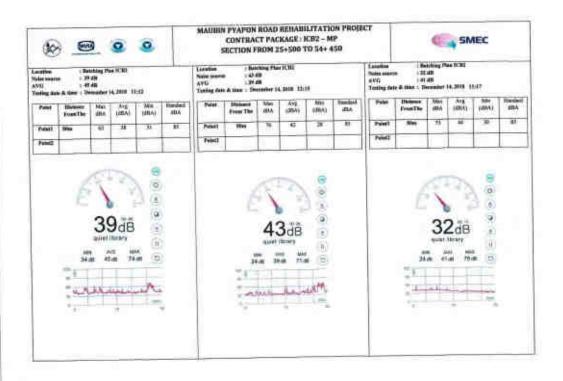












# ANNEX B. Water Quality Monitoring Results for ICB-1 and ICB-2 for July to December 2018

Maubin - Pyapon Road Rehabilitation Project Contract No. ICB1-MP Rehabilitation of Section: Km. 0+000 - Km. 25+500 JUNG HEUNG

## 09-b2: Monthly Water Monitoring Report

( For the Month of: July 2018 )

Notice Date	8	30-Jul-2018	
Testing Date	1	31-Jul-2018	
Parameter	15.	pH	
Measured Result		7 (Approximately)	
Baseline Result	13		
Standard Result	- 6	6 to 9	
(Approved CEMP)			
Remark	È	All paving works were completed on the month of May 2018, hence, the Asphalt Plant is currently idle.	
		The waste water pond was previously cleaned and emptied. Due to the rainy season, the tank was filled with rainwater.	
Photo			

( For the Month of August 2018 )

Notice Date	18	30-Aug-2018	
Testing Date		31-Aug-2018	
Parameter	15	ρH	
Measured Result	Ė	7 (Approximately)	
Baseline Result	13		
Standard Result	1	6 to 9	
(Approved CEMP)			
Remark	10	All paving works were completed on the month of May 2018, hence, the Asphal Plant is currently idle.	
		The waste water pond was previously cleaned and emptied. Due to the rainy season, the tank was filled with rainwater.	
Photo			

( For the Month of: September 2018 )

Notice Date	8	26-Sep-2018	
Testing Date	1	27-Sep-2018	
Parameter	10	ρH	
Measured Result	Ė	7 (Approximately)	
Baseline Result			
Standard Result	1	6 to 9	
(Approved CEMP)			
Remark	200	All paving works were completed on the month of May 2018, hence, the Asphalt Plant is currently idle.  The waste water pond was previously cleaned and emptied. Due to the rainy season, the tank was filled with rainwater.	
Photo			

( For the Month of October 2018 )

Notice Date	8	29-Oct-2018
Testing Date		30-Oct-2018
Parameter	ķ	pH
Measured Result	- 6	7. (Approximately)
Baseline Result		
Standard Result	1	6 to 9
(Approved CEMP)		
Remark	100	All paving works were completed on the month of May 2018, hence, the Asphalt Plant is currently idle.  The waste water pond was previously cleaned and emptied. Due to the rainy season, the tank was filled with rainwater.

( For the Month of: November 2018 )

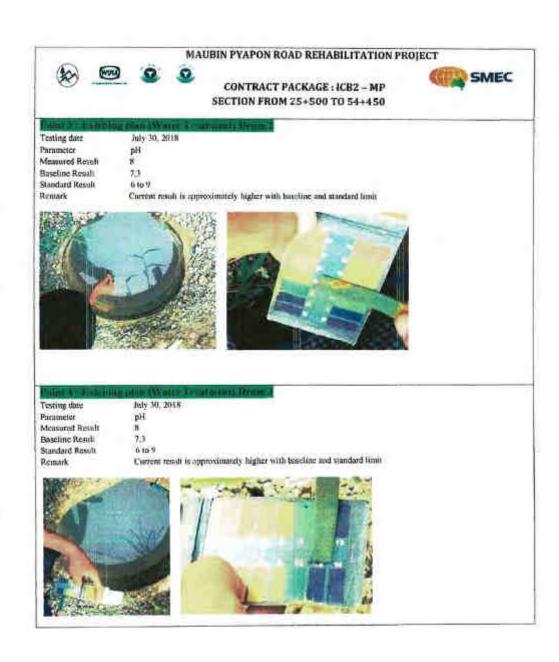
Notice Date	:	29-Nov-2018
Testing Date	3	30-Nov-2018
Parameter	12	PH
Measured Result	:	7 (Approximately)
Baseline Result	- 3	7.55
Standard Result	:	6 to 9
(Approved CEMP)		
Remark	3	All paving works were completed on the month of May 2018; hence, the Asphalt Plant is currently idle.
		The tank is filled with rainwater from the previous month.
Photo	3	

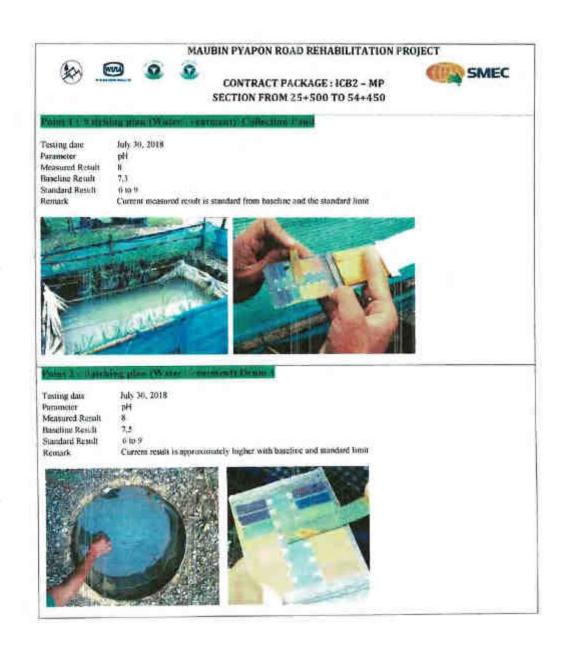
( For the Month of December 2018 )

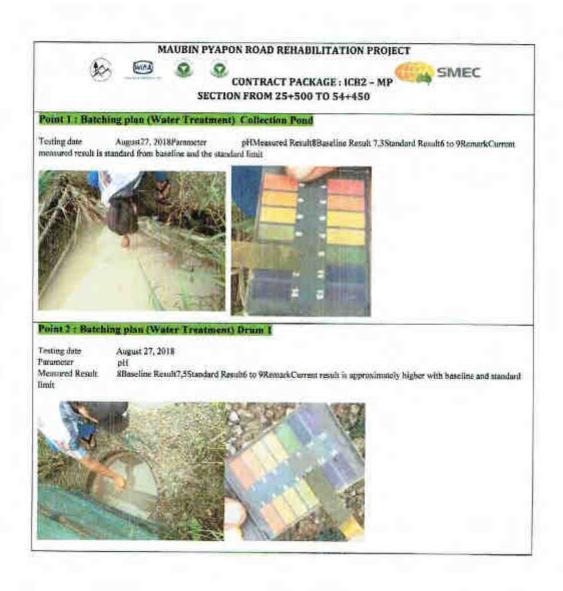
Notice Date	ettlement Water Pond 27-Dec-2018	
Testing Date	28-Dec-2018	
Parameter	PH	
Measured Result	7 (Approximately)	
Baseline Result		
Standard Result	6 to 9	
(Approved CEMP)		
Remark	All paving works were completed Plant is currently idle.	d on the month of May 2018, hence, the Asphalt
	The tank is filled with rainwater f	rom the previous month.
Photo		

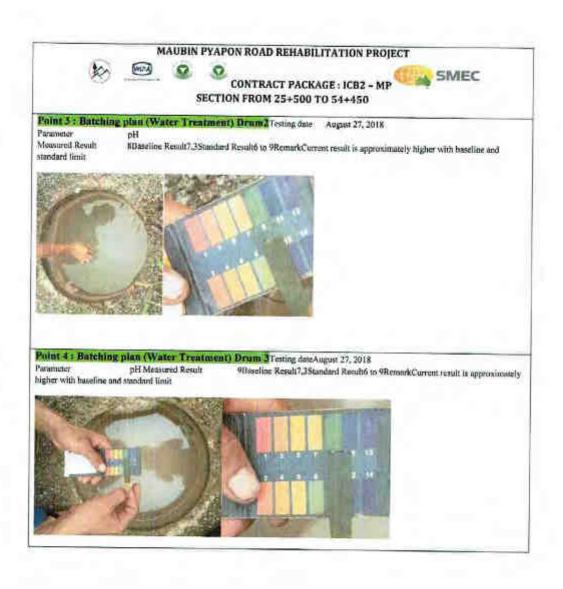


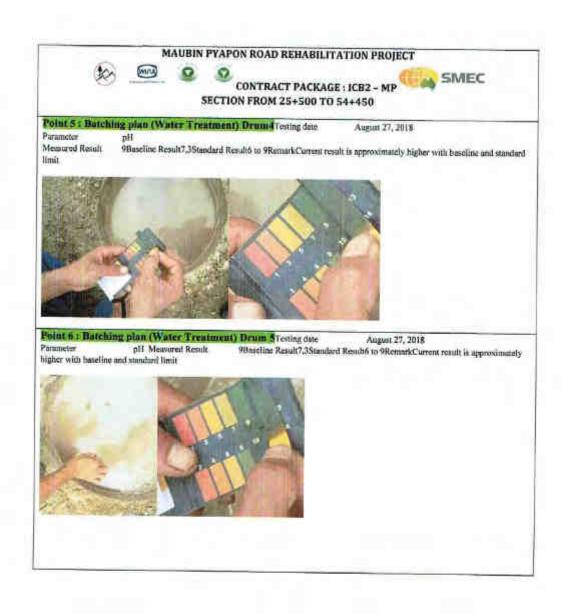


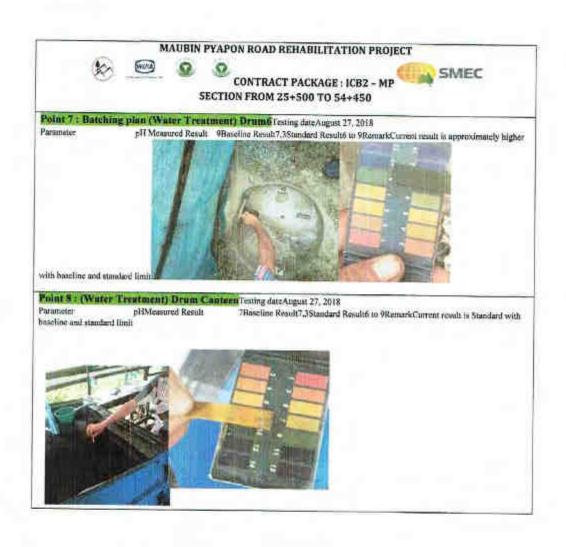


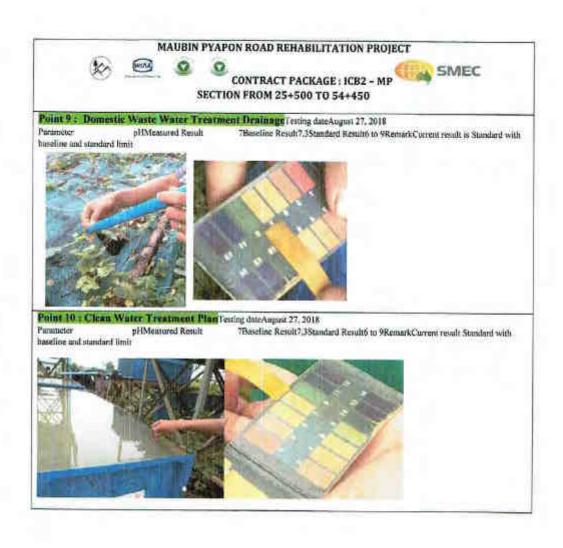






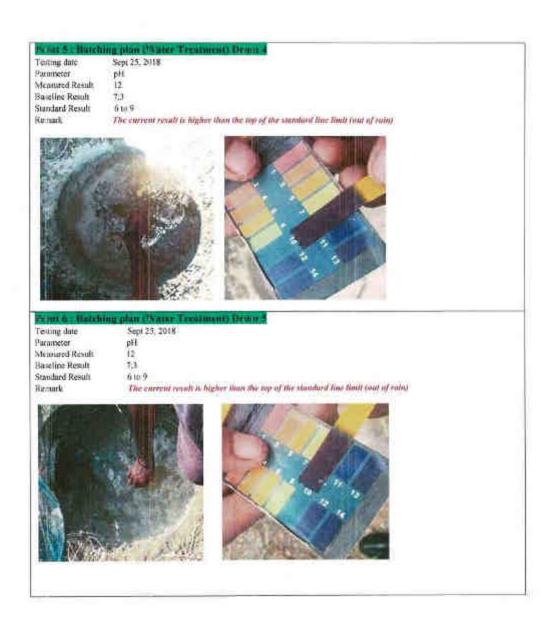




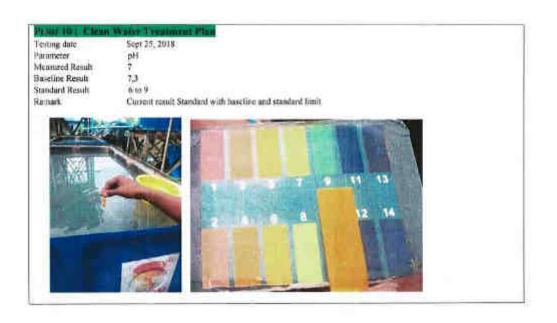


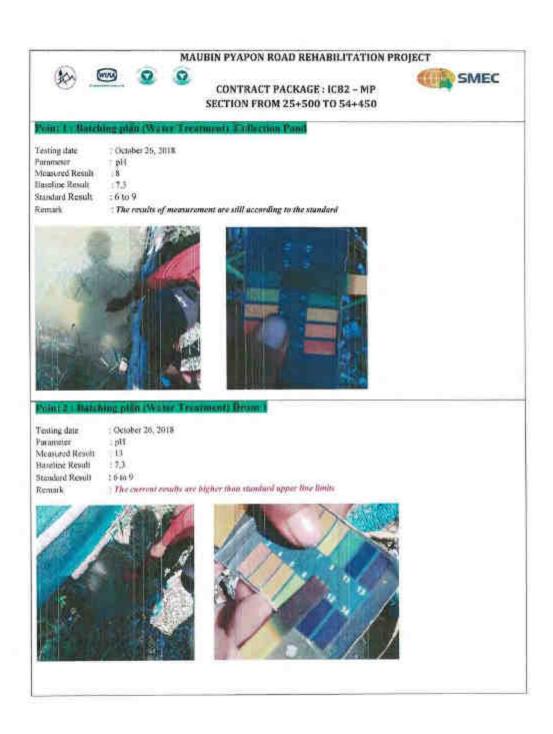


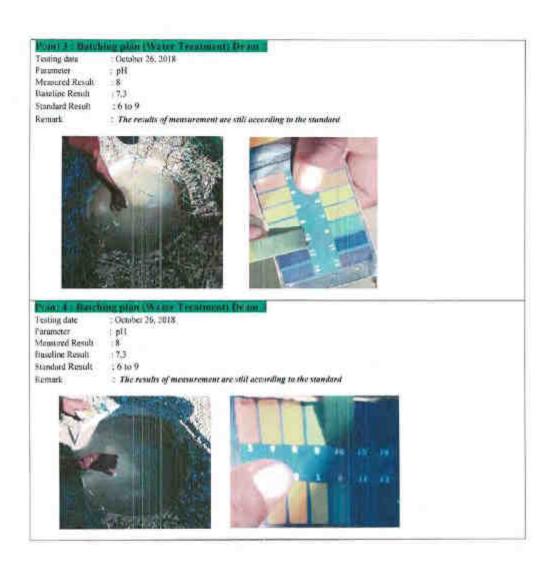


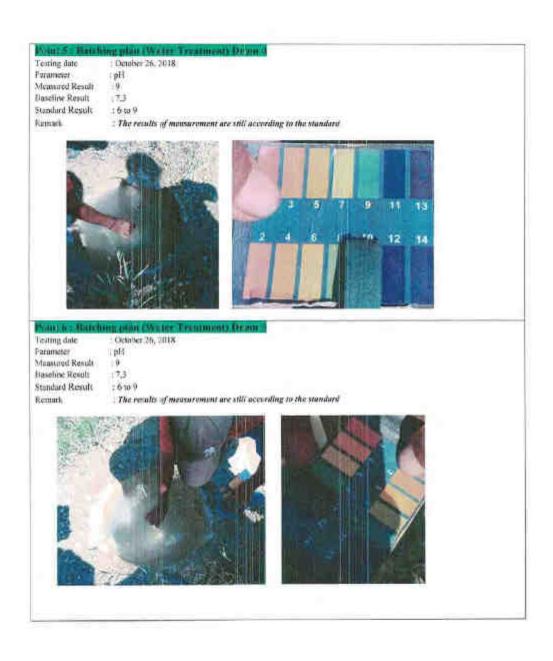




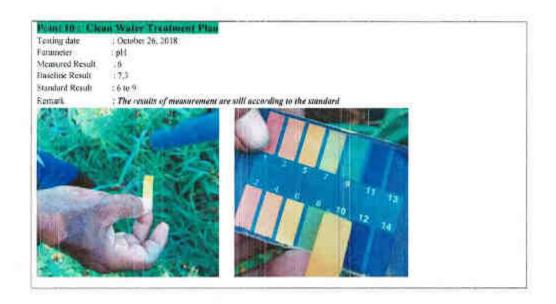


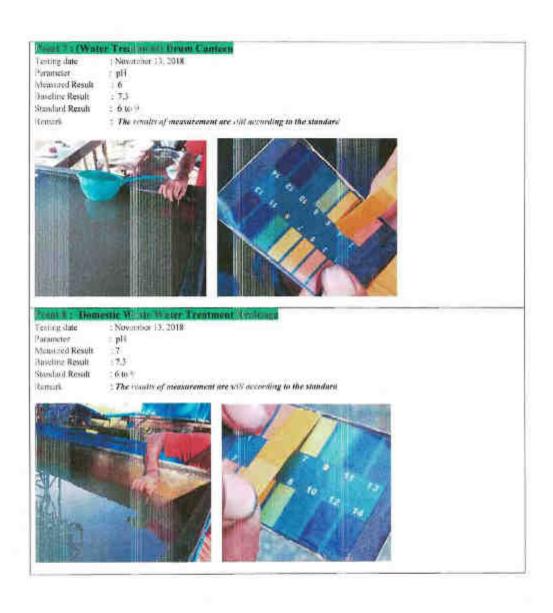




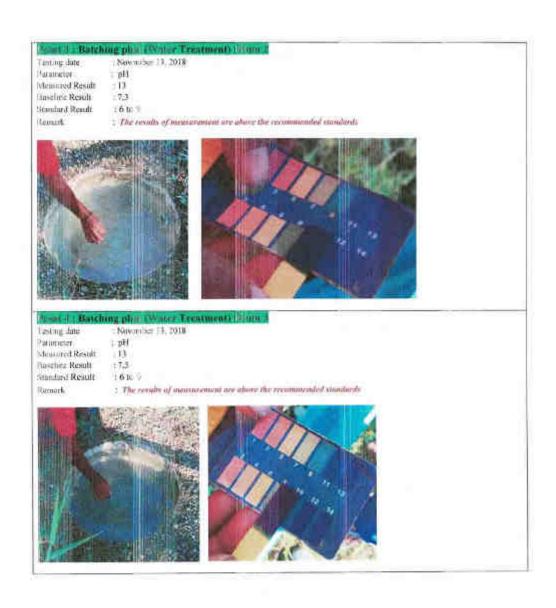




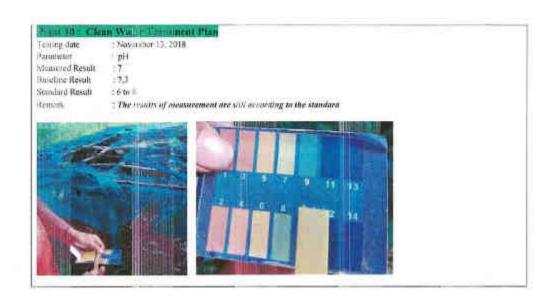


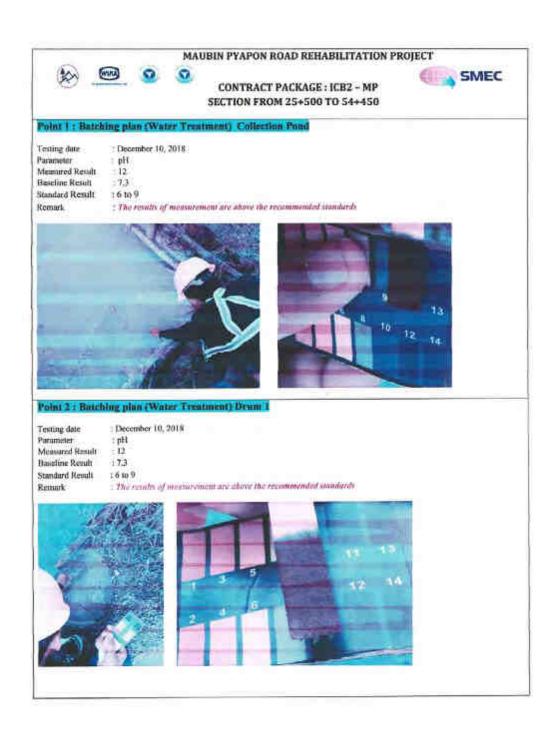


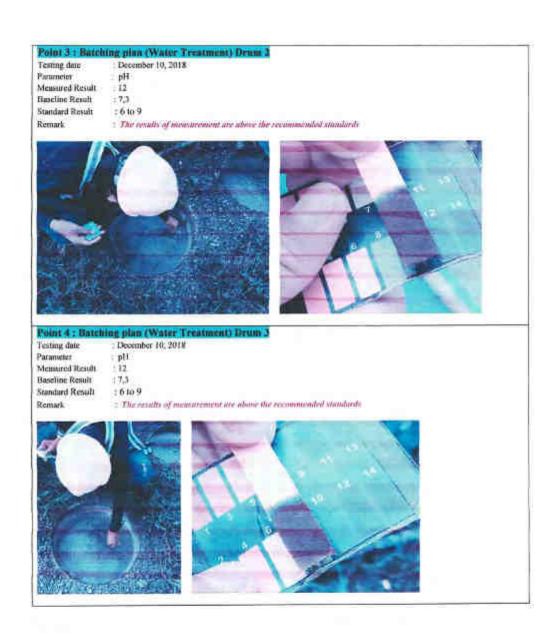


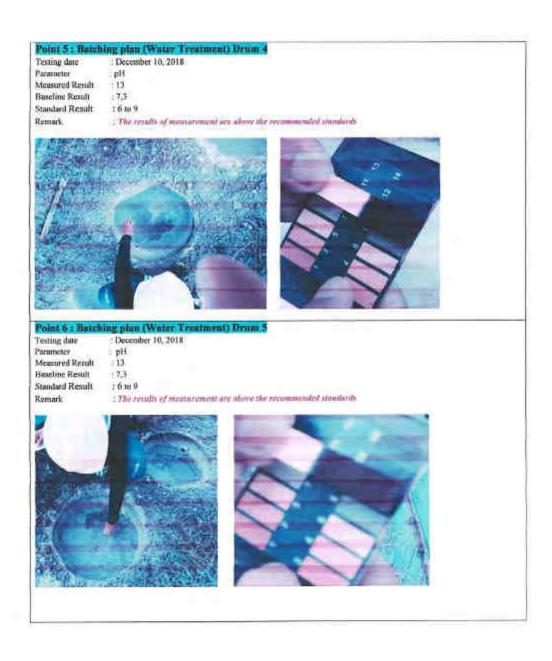


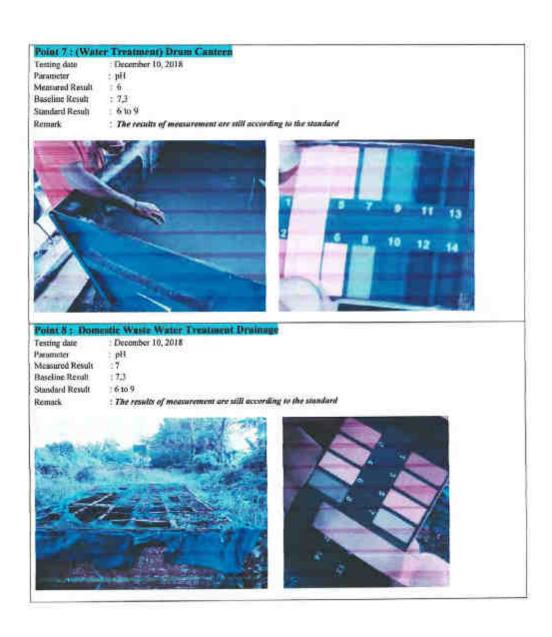


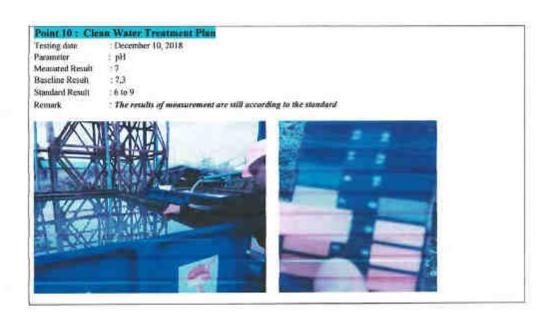












**ANNEX C. Compliance Monitoring of Mitigating Measures** 

POTENTIAL IMPACTS	MITIGATING MEASURES	Compliance	Monitoring
		ICB-1	ICB-2
Improper implementation of the Project EMP	CEMP Preparation	CEMP completed; Update necessary i.e. the addition of the Abandonment and Rehabilitation Plan	CEMP completed; Update necessary i.e. the addition of the Abandonment and Rehabilitation Plan
Lack of consultation with affected people during project implementation	The MOC/Public Works, the CSC, and contractors to conduct public consultation for duration of the road works to inform affected people and to solicit feedbacks /complaints:	Continuing activity of Contractor with the assistance of the NES	Continuing activity of Contractor with assistance of the NES
Complaints due to project- related impacts	Establish GRM, inform public of GRM, publicize GRM and focal persons	Contractor has effectively resolved project related complaints. No complaints during this reporting period	Contractor has effectively resolved project related complaints . No complaints during this reporting period
Disruption of utilities/services	Relocation of utilities done by utilities owner	Utilities relocation done by owner, completed	Utilities relocation done by owner, completed.
Improper disposal of excavation spoils and removed pavement	Old asphalt pavement re-used as base coarse material for both ICB-1 and ICB-2.	Old pavement milled and used as sub-base material, no concern with disposal	Old pavement milled and used as sub-base material; no concern with disposal
Procurement of materials from illegal sources	ICB-1 and ICB-2 Contractors sourcing construction materials from legitimate quarries; Credentials of suppliers submitted / pending submission	Still pending. ICB-1 Supplier of Aggregates Quarry Owner has re-submitted EMP to ECD Mandalay in November 2018	Supplier of Aggregates for ICB- 2: Longlife Mining Co. Ltd and Rehmonya Co. Ltd. ECC already issued by ECD Central Office
Nuisance to nearby receptors and damage to sensitive areas due to proximity of construction related facilities i.e. asphalt batching plants, casting yards, etc.	<ul> <li>a. Secure environmental approvals and permits</li> <li>b. Locate facilities that emit dust and noise levels generating equipment / plant at least 300m from residential/ housing areas and other receptors such as places of worship, medical facilities and at least 100m from watercourses</li> </ul>	a. ICB-1 Contractor constrained to locate at the edge of community because of lack of other suitable site accessible to river transport. Aggregate materials delivered to site via waterways;  b. Plant site location complies.	a. ICB-2 Contractor constrained to locate camp and concrete plant at the edge of community due to lack of land available for leasing within its project corridor;
		b. Plant site location complies with 100 m minimum distance from watercourses; But not with separation criterion for	

		settlements of 300 m or more;	
Tree cutting within the road ROW	a. Obtain tree cutting approval (if necessary) from the Department of Forestry b. Undertake cutting of roadside trees consistent with the requirements of the Department of Forestry (under MOECF). c. Prohibit cutting of trees for firewood and use in Project. d. Ensure that tree cutting is limited to areas that are necessary based on the project design and as approved by the relevant Government agency.	Tree cutting permit issued and tree cutting follows procedures set out by GAD and DOF; Tree replacement under care of MOC/DOF  Tree removal completed	Tree cutting permit issued and tree cutting follows procedures set out GAD and DOF; Tree replacement under care of MOC/DOF  Tree removal completed
	e. Prepare a tree replanting program in consultation with the Department of Forestry (MOC to implement the program upon completion of construction).		
Potential damage to archaeological and cultural assets	a. Cease operations on a road section where artifacts or archaeological finds are discovered and immediately inform the CSC b. The CSC to notify MoC/Public Works, who will notify the relevant Government agency to obtain advice regarding the next steps. c. Work to recommence only after the relevant Government agency has provided official notification accordingly.	Will comply accordingly; protection of physical cultural resource part of CEMP subplans  No archaeological and cultural assets affected so far.	Will comply accordingly; protection of physical cultural resource part of CEMP subplans  No archaeological and cultural assets affected so far.
Damage to watercourses and farms due to disposal of excavation spoils and waste pavement materials		No damage; Very minimal unsuitable materials since the project utilizes lime stabilization method for soil improvement; Removed pavement is milled and used as sub-base material	No damage; Very minimal unsuitable materials side-casted for rehabilitation of outside work areas; Removed pavement is milled and used as sub-base material;
Soil erosion and sediments from construction sites	<ul> <li>a. Restrict the area cleared of vegetation for construction to the minimum required for immediate works.</li> <li>b. Divert storm water flows away from cleared areas.</li> <li>c. Provide sediment control structures at all earthwork construction areas.</li> <li>d. For embankment and drainage structure construction, ensure: <ul> <li>(i) construction of erosion control structures where required</li> <li>(ii) provision of devices to reduce erosion from surface runoff, and</li> <li>e. sedimentation control structures are provided, as directed by the CSC, adjacent to watercourses within the construction area</li> </ul> </li> </ul>	<ul> <li>a. No significant concern on vegetation clearing as clearing is confined within ROW; off-site areas agricultural lands;</li> <li>b. Run-off water from road flows into to the swale and irrigation ditch that parallels the road;</li> </ul>	<ul> <li>a. No significant concern on vegetation clearing as clearing is confined within ROW; off-site areas are agricultural land.</li> <li>b. Run-off water from road flows into the swale and irrigation ditch that parallels the road;</li> </ul>

Damage to productive land and deterioration of water quality due to operation of borrow pits	Requirements for CEMP quarries, crushers and borrow pits are as follow:  a. The contractor will provide the CSC with adequate information regarding borrow pits i.e. locations, scale of operations, method of transport of materials, and schedule of use relative to the overall construction schedule.  b. borrow pits will be covered by required government permits or approvals  d. will not be located within 300 meters of any urban area, protected area or sensitive receptor  e. topsoil will be saved for rehabilitation during closure of the quarries and borrow pits,  f. borrow pits will be provided with drainage and sediment flow controls  g. upon completion of extraction activities borrow pits will be dewatered and rehabilitated; tidy state with stable side slopes and proper drainage	a. b. c. d.	Borrow pit purchased from owner; permits issued. Complies with distance separation criterion; Top soil side-casted; Borrow pit is on flat land and bottom is lower than surroundings, bund installed around the pit to divert run-off away from the pit; Rehabilitation plan already submitted to CSC	a. b. c. d.	Borrow pit purchased from owner; permits issued Complies with distance separation criterion; Top soil side-casted; Borrow pit is on flat land and bottom is lower than surroundings, bund installed around the pit to divert run-off away from the pit; Rehabilitation plan already submitted to CSC
Nuisance from noise and damage due to vibration from construction works and operation of construction equipment and vehicles	<ul> <li>a. Provide prior notification to the community on the schedule of construction activities.</li> <li>b. Whenever possible, completely enclose noisy equipment to reduce noise levels.</li> <li>c. Position any stationary equipment that produces high noise levels (e.g., portable diesel generators, compressors, etc.) as far as is practical from receptors (e.g., houses, pagodas, etc.)</li> <li>d. Construction traffic routes to be defined in cooperation with local communities and traffic police to minimize noise and nuisance.</li> <li>e. When necessary, suitable noise control measures (e.g., noise barriers/walls, noise reflective panels) will be used as determined by the CSC to reduce construction and equipment noise levels to acceptable levels based on the International Finance Corporation's Environment, Health and Safety Guidelines of 2007, or equivalent guideline, in the vicinity of houses, temples, and sensitive receptors.</li> <li>f. Impose speed limits on construction vehicles within the construction sites and through urban areas</li> </ul>	a. b. c. d.	Notification done via consultations; ICB-1 section passes through generally unpopulated section except for the start Km 0+000 and some houses near the road. No issues on noise during road works; Noise mitigation measures implemented as necessary i.e. operation of heavy equipment is limited to 0600H to 1800H. ICB-1 Contractor regularly conducts noise measurements.	a. b. c. d. e. f.	Notification done via consultations ICB-2 section passes through the village centers of Kyaiklat and Pyapon, no complaints received on noise and vibration Works within the populated areas is limited to daytime hours (0600H to 1800H); No issues on noise during road works; Noise mitigation measures are applied as necessary; ICB-2 Contractor regularly conducts noise measurements.

A in a allustica advanta	h. Operation of noisy equipment and construction works during night time (19:00-06:00) in populated areas and where sensitive receptors are found will only be undertaken after prior notification and consultation have been carried out with affected people and local officials, and suitable noise attenuation measures are implemented.  i. Restrict use of vibrating rollers and operation of heavy equipment near vibration sensitive structures.  j. Ensure noise levels do not exceed 55 dB(A) near residential areas during daylight hours and 45 dB(A) during night hours.  k. Undertake noise measurements, as directed by the CSC, to ensure compliance with these requirements.				
Air pollution due to construction activities	<ul> <li>a. Locate plants, materials and spoil stockpiles and other dust sources at least 300 meters away from inhabited areas and sensitive receptors</li> <li>b. Install appropriate air pollution control equipment and other suitable control measures to minimize dust emission, to avoid nuisance and health risks to surrounding communities</li> <li>c. Undertake regular water spraying on roads, work areas and other construction-related facilities near or within populated areas and other sensitive receptors</li> <li>d. Cover or regularly water stockpiles and spoil areas to minimize dust generation</li> <li>f. Provide trucks transporting construction materials with covers to minimize spills and dust emission.</li> <li>g. Impose speed limits for project vehicles to minimize dust emission along populated areas and other sensitive receptors.</li> <li>i. Regularly clean roads used by construction traffic to remove mud, cement, etc.</li> <li>j. Ensure that areas within the project area where there is heavy movement of project vehicles are provided with hard standing and kept clear of loose surface material.</li> <li>k. Ensure that cement and other fine-grained materials that are delivered in bulk are stored in closed containers.</li> </ul>	a. b. c. d.	Plant site and stockpile area are located less than the prescribed separation distance. ICB-1 Contractor undertakes mitigating measures for noise and dust and conducts regular noise monitoring  Dust suppression in asphalt plant using water spray; watering of the aggregate during unloading / handling;  Cement is delivered in bags and stored in covered storage in camp site;  Dust control is carried out in populated areas by watering the road;  With the completion of works, dust problem is abated.	a. b. c.	ICB-2 Asphalt plant site and stockpile area is located away from settlements; but edge of stockpile is less than the prescribed 50 m distance from water bodies; no threat of sedimentation or siltation as the stockpile is rock aggregate; Cement is delivered in bags and stored in covered storage in camp site; Dust control is carried out in populated areas by watering the road; With the completion of works, dust problem is abated.

	I. Wheel washing will be undertaken in active construction sites so that haul/delivery trucks can be cleaned of mud and dirt as they exit the work area.				
Oil and other hazardous materials releases	<ul> <li>a. Train relevant construction personnel in handling of fuels/hazardous substances and spill control procedures.</li> <li>b. Provide maintenance shops, fuel and oil depot with impermeable flooring and drainage leading to an oil-water separator or sump where oily wash water and sludge can be collected for proper disposal.</li> <li>c. Undertake regular maintenance of oil-water separators/sumps to ensure efficiency.</li> <li>d. Carry out refueling and servicing of equipment only in areas adequately equipped to avoid leaks and spills.</li> <li>e. Limit quantities of chemicals, hazardous substances and fuel on site at any time, and ensure these materials are stored on site in above-ground storage tanks, within an enclosed and covered area that has an impervious floor and impervious surrounding bund, with a capacity at least 110% of the total capacity of the storage capacity.</li> <li>f. Locate storage areas away from water-courses flood-prone areas, workers' camps, populated areas and other sensitive sites.</li> <li>g. Collect oil contaminated refuse and disposed of through recyclers / authorized waste handlers and dispose of it in authorized waste facilities</li> <li>h. Ensure availability of spill cleanup materials specifically designed for petroleum products and other hazardous substances where such materials are being stored and used.</li> <li>i. In case of spills and leaks, immediately implement suitable measures to prevent hazardous materials from spreading. Remove and properly dispose spilled and contaminated materials to avoid further pollution of the environment.</li> <li>j. Ensure all storage containers are in good condition with proper labeling.</li> <li>k. Regularly check containers for leakage and undertake necessary repair or replacement.</li> </ul>	a. b. c. d.	Fuel depot of ICB-1 contractor is on hard standing and with containment wall; Storage area is located away from water body; Hazardous waste materials are placed on plain ground and not covered. Bitumen delivered by supplier in bulk, while emulsion is delivered in 200 liter drums. 200 liter drums for recycling; some temporarily used as traffic barriers.	a. b. c.	Fuel depot at camp on hard standing; but fuel tank at asphalt plant at Gohnytian Bridge was already placed on concrete flooring with containments walls Waste bitumen plastic bags collected and stored in plant site;; ICB-2 together with ICB-1 has met with hazardous waste service provider from Yangon for possible disposal service.

Deterioration of water quality due to wastewater discharge from construction works and facilities	I. Prohibit discharge of oil-contaminated water into the environment.  m. Store waste oil, used lubricant and other hazardous wastes in tightly sealed and properly labelled containers to avoid contamination of soil and water resources.  n. Ensure that the transport and off-site disposal of hazardous wastes complies with applicable laws and regulations, or is in compliance with internationally accepted good practice in the absence of relevant laws and regulations.  o. Ensure that the restoration of temporary work sites includes removal and treatment or proper disposal of contaminated soils.  p. For bitumen transport, ensure the use vehicles are approved by local authorities for the transport of bitumen and are also in accordance with the bitumen supplier's recommendations for such transport.  q. Ensure that truck drivers are familiar with the safe loading and unloading procedures for the bitumen products, including emergency procedures in the event of spillage.  r. Ensure that trucks are provided with tools and materials for handling spills.  a. Prior to operation of concrete batching plants, construct settling/retention ponds with sufficient specifications/capacity for treatment of wastewater.  b. Properly operate and maintain settling/retention ponds to reduce the concentration of total suspended solids to acceptable levels.  c. Ensure that water from dewatering of excavated areas is treated to reduce total suspended solids concentration in	Asphalt plant and batching plant with settling pond; Silt removed from pond should be piled in one location away from water bodies; Water is recycled for cooling; spillage /overflow should be prevented.	<ul> <li>a. ICB-2 installed additional settling pond in response to ADB comments.</li> <li>b. ICB-2 has tidied up the asphalt plant,</li> <li>c. Used oil and grease from the generator and cooking oil from the kitchen have</li> </ul>
Drainage obstruction/ flooding	compliance with applicable government standards.	No environmental concern with	been draining into the canals going to the settling pond.  Sand pumping has caused
Drainage obstruction/ flooding	<ul> <li>a. Provide and maintain temporary drainage to prevent local flooding and waterlogging.</li> <li>b. Ensure watercourses are not obstructed or, if obstruction is unavoidable, provide alternative temporary or permanent channels of sufficient capacity to avoid flow restriction.</li> </ul>	culvert construction: Spillage of material into irrigation canals has occurred but cleaned up by Contractor	sand pumping has caused siltation in irrigation ditches near the bridge sites which were cleaned up; No further concerns

	c. Regularly inspect and maintain all drainage channels to ensure that continue to function as required.		
Water and land pollution due to releases of drilling wastes during bridge works	<ul> <li>a. Collect, process in a closed system acceptable to the CSC, and dispose of bentonite slurry, mud, and other materials from bored pile construction. Ensure these materials are not disposed of in watercourses and do not cause damage/adverse impacts to the environment.</li> <li>b. Remove accidental discharges of bentonite mud and other waste products on agricultural land immediately.</li> </ul>	No concern with drilling wastes for ICB-1	Foundation drilling completed, no further concern.
Vehicular traffic congestion and hindrance to public access	<ul> <li>a. Prepare and, after approval of the CSC, implement, a traffic management and road safety plan for the construction areas and for communities affected by construction.</li> <li>b. Closely coordinate with local authorities for any closure of roads or rerouting of vehicular traffic, if required.</li> <li>c. Ensure access in areas to be closed temporarily by provision of temporary bypass roads.</li> <li>d. Schedule construction activities to take into account local events such as festivities,</li> </ul>	Traffic management plan submitted and accepted by CSC; Traffic management during construction is being implemented, but some motorists ignore the traffic signs and signal men;	Traffic management plan submitted and accepted by CSC; Traffic management during construction is being implemented, but some motorists ignore the traffic signs and signal men;
Pollution due to improper disposal of solid wastes from construction-related activities and workers' camps	<ul> <li>a. Provide garbage bins and facilities within the project site for temporary storage of construction waste and domestic solid waste.</li> <li>b. Separate solid waste into hazardous, non-hazardous and reusable waste streams and store these temporarily on-site prior to final disposal, in secure facilities with weatherproof flooring and roofing, security fencing and access control and drainage systems.</li> <li>c. Ensure that wastes are not haphazardly dumped within the project site and adjacent areas.</li> <li>d. Undertake regular collection and disposal of wastes to sites approved by local authorities.</li> </ul>	Housekeeping still needs to be improved, storage and stacking of bitumen drums not organized; Hazardous materials stored separately Solid waste disposal at the municipal waste facility	Site clean-up undertaken; housekeeping improved, storage and stacking of bitumen drums still not organized Hazardous materials stored separately Solid waste disposal at the municipal waste facility
Damage to properties and community facilities	a. Immediately repair and/or compensate for any damage caused by construction works and activities to existing communities and their property and facilities     b. Maintain access roads used for transport of construction materials and other construction-related activities are maintained	No concern during this reporting period;	No concern during this reporting period

	to ensure that they remain in at least in their pre-project condition for the duration of the project.		
Hazard to public due to construction activities	a. Install barriers to keep pedestrians away from hazardous areas such as constructions sites and excavation sites.  b. Install signage at the periphery of the construction site advising road users that construction is in progress.  c. Strictly impose speed limits on construction vehicles along residential areas and where other sensitive receptors such as schools, pagodas and other populated areas located.  d. Provide adequate lighting at night within and in the vicinity of	Health and Safety and Traffic management plan submitted; Traffic management carried out in work sites;  Safety trainings conducted by CSC	Health and Safety and Traffic management plan submitted; Traffic management carried out in work sites;  Safety training conducted by CSC
Occupational brakks and	construction sites.  e. Provide security personnel in hazardous areas to restrict public access.  f. If necessary, provide safe passageways for pedestrians crossing the construction site and for people whose access has been disrupted due to construction woks.		
Occupational health and safety risks	<ul> <li>a. Perform a hazard assessment of the workplace to identify and eliminate physical and health hazards,</li> <li>b. Provide personnel with appropriate safety equipment such as safety boots, helmets, gloves, protective clothes, welding helmets, dust masks, goggles, ear protection, safety line, fall prevention measures, etc, broadly referred to as personal protective equipment (PPE). and ensure that these are properly used as required.</li> <li>c. Periodically review, update and evaluate the effectiveness of the PPE program.</li> <li>d. Conduct orientation for construction workers regarding health and safety measures, emergency response in case of accidents, fire, etc., and prevention of HIV/AIDS and other diseases</li> <li>e. Provide workers at construction sites over water with buoyancy devices at all times.</li> <li>f. Provide stable footpaths/access with adequate strength guardrails at bridge work sites.</li> <li>g. Comply with relevant laws and regulations on waterway traffic safety during construction.</li> <li>h. Provide first aid facilities that are readily accessible to workers.</li> </ul>	<ul> <li>a. Health and Safety Plan submitted;</li> <li>b. Lack of PPE use a recurring issue</li> <li>c. Workers orientation and induction done including HIV/AIDS prevention and awareness;</li> <li>d. First aid station set up in site;</li> <li>e. ICB-1 has a small camp as most workers are from the site and transport service is provided by the Contractor;</li> <li>f. Office and camp connected to septic tank;</li> <li>g. Fire-fighting equipment provided in camp and offices and plant site</li> </ul>	<ul> <li>a. Health and Safety Plan submitted;</li> <li>b. Lack of PPE a recurring issue;</li> <li>c. Workers orientation and induction done including HIV/AIDS prevention and awareness;</li> <li>d. First aid station set up in site;</li> <li>e. ICB-2 has set up camp for men and women with necessary sanitary facilities; kitchen and mess hall.</li> <li>f. Toilet and bathrooms connected to septic tanks;</li> <li>g. Fire-fighting equipment provided in camp and offices and plant site;</li> </ul>

	<ul> <li>i. Provide fire-fighting equipment at the work areas, as appropriate, and at construction camps Provide adequate drainage in workers camps</li> <li>j. Provide adequate, clean and well-ventilated housing, with separate sleeping quarters for male and female workers, at the workers'/construction camps.</li> <li>k. Provide a reliable supply of potable water and water for washing and bathing purposes at the workers' camps I. Provide separate hygienic sanitation facilities and bathing areas with sufficient water supply for male and female workers</li> <li>l. Ensure that all wastewater emanating from workers' camps, construction camps and other project-related activities and facilities is adequately treated prior to discharge.</li> <li>m. Ensure proper collection and disposal of solid wastes within the workers'/construction camps consistent with local regulations.</li> <li>n. Provide fencing of adequate strength around excavation sites greater than 2 m deep.</li> <li>o. Prohibit workers from entering work sites without the appropriate PPE.</li> <li>p. Ensure reversing signals are installed on all construction vehicles.</li> <li>q. Implement fall prevention and protection measures for heights greater than 2 m, falling into operating machinery or through an opening in a work surface.</li> <li>r. Ensure that objects cannot fall onto people, vehicles, and properties in adjoining areas.</li> </ul>	h. Bottled drinking water provided to workers;	h. Navigational safety measures being implemented in the Oo Yin Chaung Bridge; i. Bottled drinking water provided to workers and camp dwellers
Improper closure of	During demobilization, the contractor will remove all wastes from	Abandonment and rehabilitation	Abandonment and rehabilitation
construction sites	the construction sites and construction-related areas, and will	plan submitted but needs more	plan submitted but needs more
Need for implementation of	undertake restoration of disturbed sites  Implement corrective and/or additional measures to avoid,	details Will implement as needed;	details Will implement as needed;
additional environmental		vviii impiement as needed;	will implement as needed;
additional chimioninental	mitigate or compensate for adverse environmental impacts due		

ANNEX D Environmental Permits of Longlife and Yarmanya Quarries	









Your ref. : +

Ahlone Tower River View Garden Housing. Strand Road, Alone Township, Vangon, Myanmar.

#### SHWE TAUNG - WIKA - TOKYU - STK JOINT VENTURE

Tel: 95-1-211430 Fax: 95-1-212217, 226979, Email: maubinpyapon.stws@gmail.com

Date: August 17th 2018

: MM-ICB2-MP-LT170818-2

Attachment : Permit Document

TEAM LEADER SMEC-OCG-PEC Joint Venture

105 B. Third Floor

Hnin Si Gone Road Saw Yan Paing East

Ahlone

Attn. Mr Jonathan Carroll

SIVIEC CS1		ate: M:/	19. 8 - 20V
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EC.			

Subject

: Approval of Environmental Impact Assessment and Environmental

Management Plan for Aggregate Supplier

Dear Sir

We refer to your approved Environmental Impact Assessment and Environmental Management Plan for aggregate supplier. We would like to submit the approval letter for Yarmanya United Company Limited to produce aggregate, issued by Ministry of Natural Resources And Environmental Conservation. Therefore, we would like to request you to issue the approval letter for contractor to carry on the construction work using Yarmanya United Company aggregate mining material.

Thank you for your kind attention,

Yours faith fully.

WIKA, TOKYU, STK JOINT SHWE TAUNG,

VENTURE

Mauhin-Pyapon Road Rehabsilitation Project

Aung Myint Project Manager

Archive PMU

# THE GOVERNMENT OF THE REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF NATURAL RESOURCES AND ENVIRONMENTAL CONSERVATION ENVIRONMENTAL CONSERVATION DEPARTMENT

Office No. (53), Nay Pyl Taw

Letter No. EIA-2/9 (893/2018)

Date: 14th August, 2018.

To:

#### YARMANYA UNITED COMPANY LIMITED.

Paung Township, Thaton District, Mon State.

Subject: Approval Information upon the Environmental Management Plan presented for Road Paving Stone Excavation/Production by Yarmanya United Company Limited within Block No. (57), Kalama Mountain Forest Reserve, Paung Township, Mon State.

Reference: Letter No. (Forest) 3 (2)/15 (Gagyi) (2850/2018) dated 8-8-2018 of Union Minister's Office, Ministry of Natural Resources and Environmental Conservation.

- Environmental Management Plan (EMP) presented for the Road Paving Stone Excavation/Production Business with Open Pit Mining Method at the Work Site measuring Land Area (300) acres, Block No. (57), Kalama Mountain Forest Reserve, Ohntabin Village, Paung Township, Mon State, has been found out in the scrutinization that it is written/ compiled/stated in accordance with the Procedure.
- 2. Therefore, as it has been written/compiled/presented in accordance with the Procedure of the Environmental Impact Assessment (EIA) under the Order/Remark included in the Reference Letter of the Union Minister for the Road Paving Stone Excavation/Production for the Project Business with Open Pit Mining Method at the Work Site measuring Land Area (300) acres, Block No. (57), Kalama Mountain Forest Reserve, Ohntabin Village, Paurig Township, Mon State, it has been informed that it is approved and it is needed to take care/abide by and accomplish the following stated (14) facts.

- 2

- (a) In implementing the Project, it is to abide by/accomplish the anyironmental, Social and Health Programs to be accomplished and Programs that shall be watched and checked as it is stated in the Report.
- (b) To abide by/accomplish the Principle, Law, By Law, Procedures and Obligations stated in the Report.
- (c) In accomplishing the Temporary Road Construction and Road Paving Stone Piling Field Construction Businesses for entry/exit into the Work Site, it is to avoid/accomplish falling trees in the environment.
- (d) To take care/accomplish so that there shall be no damage of water in the present environment and no sediments because of stone dusts and soil dusts produced from the Project Accomplishment.
- (e) To abide by/accomplish according to business process, such as: Operation Phase and Decommission Phase, as it is stated in Table (14) of the Report of accomplishment programs, to lessen the natural environment and social environment impact, because of noises, vibration, disposed material, disposed water, smell and dusts produced from the Project.
- (f) During Implementation/accomplishment of the Project, it is to accomplish by adding/compiling/implementing the Plan for the socia economy development of the regional populace after collecting/assessing the facts concerning social economy of villages.
- (g) In disposing the discarded stones produced from the Work Site, it is to keep the fencing after firmly constructing the Retaining Walls and Fencings, as it is stated in the Report not to cause impact upon underground water and environment.
- (h) Revealing/announcing the consultations/discussions with the general populace during the Project implementation/accomplishment, so that general populace may clearly know it, it is to implement/accomplish the opinion of regional populace during business accomplishment periods and to fix/ accomplish the Grievance Redress Mechanism, that shall be solved/ accomplished by the Company for the difficulties that shall mount up.
- (1) To abide by/accomplish according to the stated facts in the Report for the watching/looking program and to additionally add and accomplish, if it is not sufficient with the fund, that shall be used.
- (j) So that there shall be no health impact of workers accomplishing the business, it is to add/state in the watching/looking Report of health checking facts.

- 3 -

- (k) To abide by/accomplish according to the facts included the Rocar for the mine closing of soil refilling, replanting of trees business and to keep/ accomplish the organization for the mine closing accomplishment and fund amount that shall be used and to undertake and accomplish up to the growing and survival of trees in planting back the trees for the regreening of damaged places because of the Project.
- (1) As the proposed Project falls inside the Kalama Mountain Forest Reserve, it is to implement/accomplish by compiling the detailed conservation plan after collecting/scrutinizing the present forest reserves condition, sorts of different bio species conditions.
- (m) As business accomplishment is made within the forest reserve, it is to abide by/accomplish without failure according to the enacted Principles, Laws, By Laws, Procedures, Orders, Directives of the Forest Department.
- (n) To accomplish the watching/looking program during project accomplishment period as it is included in Table (15) of the environmental administration program and to present to the Ministry of Natural Resources and Environmental Conservation the watching/looking report every (5) months.

Sd/- x x x His Maung Thein Director General Sd/- Sd/

AUTHENTICATED, true and correct English translation.



1 7 AUG 2018

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နှန် ကြာမျာခဲ့ ပြည်ထောင်စုသမ္မတဖြန်မာနိုင်ငံတော်အစိုးရ သယ်ဓာတနှင့်သဘာဝပတ်ဝန်းကျင်ထိန်းထိမ်းရေးဝန်ကြီးဌာန ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန ရုံအမှတ် (၅၃)။ နေပြည်တော်

> စာအမှတ်၊ အီးအိုင်အေ-၂/၉ (ဂ၉၃/၂၀၁၀) ရက်စွဲ ၊ ၂၀၁၈ ခုနှစ်၊ ဩဂုတ်လ ၁၄ ရက်

ရာမညယူနိုက်တက်ကုမ္ပဏီလီမိတက် ပေါင်မြို့နယ်၊ သထုံခရိုင်၊ မွန်ပြည်နယ်

သကြောင်းအရာ။ မွန်ပြည်နယ်၊ ပေါင်မြို့နယ်၊ ကုလားတောင်သစ်တောကြိုးဝိုင်း၊ အတွတ် အမှတ်(၅၇)အတွင်း ရာမညယူနိုက်တက်ကုမ္ပဏီလိမ်တက်မှ တမ်းဝင်း ကျောက် တူးဖော်ထုတ်လုပ်မှုအတွက် တင်ပြလာသည့် မတ်ဝနီးကျင်စီမံ ခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan) အပေါ် အတည် ပြု ပြန်ကြားခြင်း

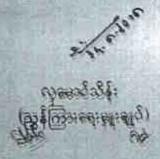
ရည်ညွှန်းချက် ။ သယ်ဇာတ နှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဝန်ကြီးဌာန၊ ပြည်ထောင်စုဝန်ကြီးရုံ၏ စ.၈.၂၀၁၈ ရက်စွဲပါစာအမှတ်၊ (သစ်တော)၃(၂)/ ၁၆ (ဃ)(၂၈၅၀/၂၀၁၈)

၁။ မွန်ပြည်နယ်၊ ပေါင်မြို့နယ်၊ အုန်းတပင်ကျေးရွား ကုလားမတောင် သစ်တောကြိုးဝိုင်း၊ အကွက်အမှတ် (၅၇)ရှိ၊ မြေနေရိယာ (၃၀၀)ဧက ကျယ်ဝန်းသော လုပ်ကွက်တွင် Open Pit Minima Michael ဖြင့် လမ်းဝင်းကျောက်တူးဖော်ထုတ်လုပ်ခြင်း စီမံကိန်းလုပ်ငန်းအတွက် တင်ပြလာသည့် ပက်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan-EMII) သည် ပတ်ဝန်းကျင်တီဖိုက်မှု ဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းနှင့်အညီ ရေးသား ပြန်ကစ်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါသည်။

ျား သို့ဖြစ်ပါ၍ မွန်ပြည်နယ်၊ ပေါင်မြို့နယ်၊ အုန်းတပင်ကျေးရွား ကုလားမတောင် သစ်လော ကြိုးဝိုင်း၊ အကွက်အမှတ် (၅၇ ရှိ၊ မြေခရိယာ (၃၀၀)ကေ ကျယ်ဝန်းသော လုပ်ကွက်တွင် ပါလာ Pit Mining Method ဖြင့် လမ်းဝင်းကျောက် တူးဖော်ထုတ်လုပ်ခြင်း စီမံကိန်းလုပ်ငန်းသလွက် ပြည်ထောင်စုဝန်ကြီး၏ ရည်ညွှန်းစာပါ မိန့်မှတ်ချက်အရ "ပတ်ဝန်းကျင်ထိစိုက်မှုဆန်းစစ်ခြင်း ဆိုင်ရာ လုပ်ထုံးလုပ်နည်းနှင့်အညီ ရေးသား ပြုစုတင်ပြထားပါသဖြင့် အတည်ပြုပါကြောင်းနှင့် အောက်ဖော်ပြပါ အချက်(၁၄)ချက်အား အလေးထားလိုက်နာဆောင်ရွက်ရန် လိုအပ်ပါကြောင်းကို ကိုအကြောင်းကြားအဝိပါသည်-

- (၁၈) စီမံကိန်းကို အကောင်အထည်ဖော်ဆောင်ရွက်ရာတွင် ပတ်ဝန်းကျင်း ကူမူရေးနှင့် ကျန်းမာရေးဆိုပ်ရာ ဆောင်ရွက်မည့် အစီအစဉ်များနှင့် စောင့်ကြင်စန်းသားသည့် အစီအစဉ်များအား အစီရင်ခံစာတွင် ဖော်ပြထားသည့်အတိုင်း လိုက်နာဆောင် ရွက်ရန်း
- (ေ) အစီရင်ခံစာတွင် ဖော်ပြထားသည့် မူဝါဒ၊ ဥပဒေ၊ နည်းဥပဒေ၊ လုပ်ထုံးလုပ်နည်း များ နှင့် ကတိကဝက်များအား လိုက်နာဆောင်ရွက်ရန်၊
- (n) လုပ်ကွက်အတွင်း ဝင်ထွက်ရန် ယာယီလမ်း ဖောက်လုပ်ခြင်းနှင့် လမ်းစင်းကျောက် စုပုံကွင်း ဖောက်လုပ်ခြင်းလုပ်ငန်းများ ဆောင်ရွက်ရာတွင် အနီးဝန်းကျင်ရှိ သစ်ပင် များ ခုတ်လဲမှုကို ရှောင်ရှားဆောင်ရွက်ရန်း
- (ဃ) စီမံကိန်းဆောင်ရွက်မှုမှ ထွက်ပေါ်လာသည့် ကျောက်မှုန်များ၊ မြေစာမှုန့်များကြောင့် လက်ရှိပတ်ဝန်းကျင်ရှိ ရေစီးရေလာများ ပျက်စီးမှုနှင့် နှန်းအနည်ကျမှု မရှိစေရေး အလေးထားဆောင်ရွက်ရန်၊
- (c) စီမံကိန်းမှ ထွက်ရှိသည့် ဆူညံသံ၊ တုန်ခါမှ၊ စွန့်ပစ်ပစ္စည်း၊ စွန့်ပစ်ရေများ၊ အနံ့နှင့် ဖုန်မှုန့်များကြောင့် သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုပတ်ဝန်းကျင်အပေါ် ထိနိုက် နိုင်မှုလျှော့ပါးရေး ဆောင်ရွက်မည့်အစီအစဉ်တို့ကို အစီရင်ခံစာ၏ မယား(၁၄)တွင် တော်ပြထားသည့်အတိုင်း Operation Phase နှင့် Decommission Phase စသည့် လုပ်ငန်းစဉ်အလိုက် လိုက်နာဆောင်ရွက်ရန်၊
- (၈) စီမံကိန်းအကောင်အထည်ဖော်ဆောင်ရွက်စဉ်အတွင်း ကျေးရွာများ၏ လူမှုစီးပွား ဆိုင်ရာ အချက်အလက်များကို ကောက်ယူဆန်းစစ်၍ ဒေသစံပြည်သူများ၏ လူမှု စီးပွားဖွဲ့ပြုံးတိုးတက်စေရေး အစီအမံအား ဖြည့်စွက်ရေးဆွဲ အကောင်အထည်ဖော် ဆောင်ရွက်ရန်၊
- (ဆ) လုပ်ငန်းခွင်မှ ထွက်ရှိသော စွန့်ပစ်ကျောက်များ စွန့်ပစ်ရာတွင် မြေအောက်ရေနှင့် မတ်ဝန်းကျင်အပေါ် ထိခိုက်မှုမရှိစေရေး အစီရင်ခံစာတွင် ဖော်ပြထားသည့်အတိုင်း Retaining Wall နှင့် ခြံစည်းရိုးများကို ခိုင်ခန့်စွာ တည်ဆောက်၍ ကာရန်ထား ရှိရန်။
- (Gnevance Redress Mechanism) ကို ချမှတ်ဆောင်ရွက်ရန်

- ရေး စေးကိုက်ပြုကိုလိုရှိခြင်း အဓိသစဉ်သကွက် အဓိရင်ခံစတွင် မော်ပြထားသည့် အရက်ရေးအဝနိုင်း လိုက်နာမဆာင်စွက်ရန်နှင့် အသုံးပြုမည့် ရန်ပုံရွေဖြင့် လုံလောက် မှမရှိပါက ထပ်ခဲ့ဖြည့်သူင်း ဆောင်စွက်ရန်း
- (ည) လုပ်ငန်းဆောင်ရွက်သည့် လုပ်သားများအား ကျွန်းမာရေးထိရိက်မှု မရှိစေရေး အတွက် ကျွန်းမာရေးစစ်ဆေးသည့် အချက်အလက်များကို စောင့်ကြပ်ကြည့်ရှုဖြင်း အစီရင်ခံစာတွင် ထည့်သွင်းဖော်ပြရန်း
- (န) မိုင်းပိတ်သိမ်းခြင်း အစီရင်ခံစာတွင် မြေပြန်စိုခြင်း၊ သစ်ပင်များ ပြန်လည်စိုက်ပျိုး ခြင်း လုပ်ငန်းများကို အစီရင်ခံစသါ အချက်များအတိုင်း လိုက်နာဆောင်ရွက်ရန်း မိုင်းပိတ်သိမ်းခြင်း ဆောင်ရွက်ရန်အတွက် အသုံးပြုမည့် ရန်ပုံငွေဝမာဏနှင့် ဆောင်ရွက်မည့် အဖွဲ့အစည်းကို ထားရှိဆောင်ရွက်ရန်နှင့် စီမံကိန်းကြောင့် ပျက်စီး သွားသည့် နေရာများကို ပြန်လည်စိမ်းလန်းနေစေရန် သစ်ပင်များ ပြန်လည်စိုက် ပျိုးရာတွင် အပင်များ ရှင်သန်ကြီးထွားသည့်အထိ တာဝန်ယူဆောင်ရွက်ရန်း၊
- (၄) အဆိုပြုစီမံကိန်းအနေဖြင့် ကုလားမတောင်ကြိုးဝိုင်းအတွင်း ကျွတောက်သဖြင့် လက်ရှိ သစ်တောသယ်ခာတများ အခြေအနေ၊ စီဝမျိုးစုံမျိုးကွဲ အခြေအနေတို့ကို ကောက်ယူဆန်းစစ်၍ အသေးစိတ်ထိန်းသိမ်းရေး အစီအမဲရေးဆွဲပြီး အကောင် အထည်ဖော် ဆောင်ရွက်ရန်၊
- (၃) သစ်တောကြိုးဝိုင်းအတွင်း လုပ်ငန်းဆောင်ရွက်ခြင်းဖြစ်၍ သစ်တေညီးရီးဌာနမှ ပြဋ္ဌာန်းထားသည့် မူဝါဒ၊ ဥပဒေ၊ နည်းဥပဒေများ၊ လုပ်ထုံးလုပ်နည်း၊ အမိန့်၊ ညွှန်ကြားရက်များနှင့်အညီ မပျက်မကွက် လိုက်နာအကောင်အထည် ဆောင်ရွက် သွားရန်၊
- (U) ငိမ်ကိန်းဆောင်ရွက်စဉ်ကာလအတွင်း စောင့်ကြပ်ကြည်ရှမှ အစီအစဉ်ကို မတ်ဝန်း ကျင်စိမ်နေ့ခွဲမှုအစီအစဉ်း စယား(၁၅)ပါအတိုင်း ဆောင်ရွက်ရန်နှင့် စောင့်ကြပ် ကြည့်ရှမှုအစီရင်ခံစာကို (၆)လ တစ်ကြိမ် သယ်စာကနှင့် သဘာဝပတ်ဝန်းကျပိ ဝန်ကြီးဌာနသို့တင်ဖြရန်း











Your ref. :-

STAT

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SMILE CS1-MP

INCOMING

Ref: T. 2081 TC82 Flo:

River View Garden Housing, Strand Road, Alone Township, Yangon, Myanmur,

Date: 20-9-2016

Date : September 20th 2018

PMI

#### SHWE TAUNG - WIKA - TOKYU - STK JOINT VENTURE

Tel: 95-1-211430 Fax: 95-1-212217, 226979, Email: maubinpyapon.stws@gmall.com

Our Ref : MM-ICB2-MP-LT200918-3

Attachment : Pennit Document

TEAM LEADER

SMEC-OCG-PEC Joint Venture

105 B. Third Floor Unin St Gone Road Saw Yan Paing East

Ahlone

Astn. Mr Jonathan Carroll

Subject : Approval of Environmental Impact Assessment and Environmental

Management Plan for Aggregate Supplier

Dear Sir.

We refer to your approved Environmental Impact Assessment and Environmental Management Plan for aggregate supplier. We would like to resubmit the approval letter for Long Life Aggregate Mining Co to produce aggregate, issued by Ministry of Natural Resources and Environmental Conservation. Therefore, we would like to request you to issue the approval letter for contractor to carry on the construction work using Long Life Aggregate Mining Co aggregate mining material. We also attached notarial translation of the permit.

Thank you for your kind attention.

Yours faith fully, SHWE TAUNG, WIKA, TO

VENTURE

Maubin-Pyapon Road Rehabsilitation Project

Aung Myint Project Manager

Cc: - Archive - PMU

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## GOVERNMENT OF THE REPUBLIC OF THE UNION OF MYANI MINISTRY OF NATURAL RESOURCES AND ENVIRONMENTAL CONUNION MINISTER'S OFFICE

(State Emblem)

Letter No. (Forest)3(2)/16(Gagyi)(3456/2018) Date: 12<sup>th</sup> September, 2018.

Subject : Approval Information upon the Environmental Impact Assessment

(EIA) of grinded stones excavation/production/distribution business used for construction business that shall be implemented/accomplished in Mon State by Long Life Aggregate Mining Co., Ltd.

Reference: Letter No. LLA-HO/ADM/L004807-2018 dated 26-7-2018 of Long Life

Aggregate Mining Co., Ltd.

As it has been found out in the scrutinization in conformity with the facts included in the Environmental Impact Assessment (EIA) Procedure, Verse (63) by the Ministry of Natural Resources and Environmental Conservation upon the presented Report of the Environmental Impact Assessment (EIA) of construction business use grinded stones excavation/production/distribution business that shall be accomplished on (225) acres of land area within Block No. (47), Kalama Mountain Forest Reserve, Paung Township, Thaton District, Mon State by Long Life Aggregate Mining Co., Ltd, it is informed that the Report is approved and it is needed to carefully abide by/accomplish the following stated facts in implementing/accomplishing the Project.

- (a) To exactly abide by/accomplish the Environmental Conservation Laws, By Laws, Procedures, Directives, Myanmar Existing Laws, International Environmental and Social Standard fixations, stated in EIA Report by the Project Proposer.
- (b) To abide by/implement/accomplish as stated in the approved Report for all matters to be accomplished, including proposed environment of Project, methods that can reduce social and health impacts, environmental management plans, reserved plans related to them and watching methods by the Project Proposer.
- (c) Project Proposer must completely implement the environmental management plan, all the Project obligations and provisions and to completely abide by/ accomplish the concerning Laws, By Laws, Procedures, Environmental Management Plan and Provisions in accomplishing businesses for the Project by all Contractors and Sub-contractors accomplishing the Project on his behalf.

-2-



- (d) Project Proposer has to keep and use sufficient fund for plans the environmental management plan and reserved plans, plans that shall be watched and to farm/ accomplish the organizations implementing/accomplishing those plans.
- (e) To present the Environmental and Social Watch Inspection Report every (6) months to the Ministry of Natural Resources and Environmental Conservation.
- (f) To abide by/accomplish Chapter (9) Watching (Verse 111 to Verse 122) stated in Environmental Impact Assessment Procedure (2015).
- (g) To be known and abide by/exercise the participating/concerning persons in the Project for the emergency prearrangement programme and emergency response programme and to widely and effectively distribute and to make rehearsals.
- (h) Continuously meet/discuss with Stakeholders and to keep care and coordinate their advices and needs.
- If there is change in used area and business process of the Project, it is to inform/present to Environmental Conservation Department.
- (j) To accomplish drilling/mine explosion businesses with expert workers.
- (k) To especially take care/abide by/accomplish the danger free of mine area, security, free of danger at work site by compiling plans.
- (I) To make accomplishment so that the general populace may know the mine explosion area and emergency preparedness plan, emergency response plan.
- (m) If ancient artifacts/ancient caves are found, it is to inform to Archaeological Department (Mawlamyine Branch) through the General Administration Department as stated and Ancient Artifacts Law.
- (n) To especially take care/accomplish to prevent from landslides by constructing land retaining walls, planting trees on hill slopes and not to cause high/steep hill slopes in producing stone.
- (o) In order to be able to effectively use the Silt Traps/Silt Ponds, to make regular checkings.
- (p) To keep care/accomplish so that the flowing water of streams towards the villages may not be polluted becaue of the Project.
- (q) EIA Report including Executive Summary (Translation into Myanmar/English) is to be distributed by the concerning Authority to related territories with Project Area, so that the general populace may know it.

- 3 -

(r) For environmental impact of the accidental process, it is to keep the insurance/ compensation system and undertake/accomplish the environmental impact outcomes up to its completion.

> Sd/- x x x (for) Union Minister (Win Zaw, Deputy Permanent Secretary) Sd/-

Long Life Aggregate Mining Co., Ltd. Plot No. SH-B3 (8), Malikha Housing, Yadanar Road, Thingangyun Township, Yangon.

Copy to-

- Myanmar Investment Commission
- Director General,
   Department of Environmental Conservation





AUTHENTICATED, true and correct English Translation.

> U SOE MOE HITUN (B.A., H.G.P., R.L.) NOTARY PUBLIC

No.42/44, Corner Of Meh Street & Merchant Road, Kyankinda Township, Yangan. The Republic of the Union of Myannan. Ph. 09-443012892, 09-43175023



## ပြည်ထောင်စုသမ္မကမြန်မာနိုင်ငံတော်အစိုးရ သယ်ဇာဏနှင့်သဘာဝမတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန ပြည်ထောင်စုဝန်ကြီးရုံး

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resemble and resemble

Long Life Aggregate Mining Co., Ltd. မှ မွန်ပြည်နယ်တွင် အကောင် အလည်ဖော်ဆောင်ရွက်မည့် ဆောက်လုပ်ရေးလုပ်ငန်းသုံး ခွဲကျောက်များ ဘူးဖော်၊ ထုတ်လုပ်၊ ဖြန့်ဖြူးဖြင်းလုပ်ငန်း၏ မတ်ဝန်းကျင်ထိမိုက်မှု ဆန်းစစ်ဖြင်း (Environmental Impact Assessment - EIA) အပေါ် အတည်ပြုပြန်ကြားမြင်း

ရည် ညွှန်း ချက် ။ Long Life Aggregate Mining Co., Ltd. ၏ ၂၆-၇-၂၀၁၈ ရက်စွဲပါ စာအမှတိ၊ LLA-HO/ADM/L004807-2018

Long Life Aggregate Mining Co., Ltd. မှ ခုန်ပြည်နယ်၊ သထုံခရိုင်၊ ပေါင်မြို့နယ်း ကုလားမတောင်ကြိုးဝိုင်း၊ အကွက်အမှတ်(၄၇)အတွင်း မြေခရိယာ(၂၂၅) ဧကတွင်ဆောင်ရွက်မည့် ဆောက်လုပ်ရေးလုပ်ဝန်းသုံးခွဲကျောက်များ ထူးဖော်၊ ထုတ်လုပ်၊ ဖြန့်ဖြူးခြင်းလုပ်နေး၏ ပတ်ဝန်းကွာင်တီနိုက်မှုဆန်းစစ်ခြင်း (Environmental Impact Assessment-EIA) အစီရင် စိတ္တောင်ပြမှုအသေါ် သယ်ဗာတနှင့် သဘာဝဖက်စန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနအနေဖြင့် စီစစ်ရာ မတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း အပိုဒ် (၆၃) ပါ အချက် များနှင့် ကိုက်ညီမှုရှိကြောင်း စိစစ်တွေ့ရှိရပါသဖြင့် အဆိုပါအစီရင်ခံစာအား အတည်ပြုပါ ကြောင်းနှင့် စိမ်ကိန်းအကောင်အထည်ဖော်ဆောင်ရွက်ရာတွင် အောက်ဖော်ပြပါအချက်များကို အလေးထား လိုက်နာဆောင်ရွက်ရန် လိုအပ်ပါကြောင်း ပြန်ကြားအပ်ပါသည်-

- (m) စီမံကိန်းအအိုပြုသူသည် EIA Report တွင် ဖော်ပြထားသော ပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေများ၊ လုပ်ထုံးလုပ်နည်းများ၊ လမ်းညွှန် ျက်များ၊ မြန်မာနိုင်ငံ၏ တည်ဆဲဥပဒေများ၊ အပြည်ပြည်ဆိုင်ရာ မတ်ဇန်းကျင် နှင့် လူမှုရေးဆိုင်ရာ စံသတ်မှတ်ချက်များကို အတိအကျ လိုက်နှာဆောင်ရွက်ရန်၊
- (a) စီပံကိန်းအဆိုပြုသည် ပတ်ဝန်းကျင်း လူမှုရေးနှင့် ကျန်းမာရေးဆိုင်ရာ ထိခိုက် နိုင်မှုများကို လျှော့ချမည့်နည်းလမ်းများ၊ ဝတ်ဝန်းကျင်စီမံခန့်ခွဲမှ အစီအစဉ်များ၊ ၎င်းနှင့် ဆက်စပ်သည့် အစီအစဉ်ခွဲများ၊ စောင့်ကြပ်ကြည့်ရှမည့် နည်းလမ်းများ အပါအဝင် ဆောင်ရွက်ရမည့် တိစ္စရပ်များအားလုံးကို အတည်ပြုထားသည် အစီရင် စုံစာတွင် စက်ပြုထားသည့်အတိုင်း လိုက်နာအကောင်အထည်ဖက်ဆောင်ရွက်ရန်၊

- (ဂ) စိမ်ကိန်းအဆိုပြုသူသည် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်း စီမံကိန်း ကတိကဖတ် အားလုံးနှင့် စည်းကမ်းရွက်များကို အပြည့်အဝအကောင်အထည်ဖော်ရမည့်အဖြင့် ယင်း၏ကိုယ်စား စီမံကိန်းကို ဆောင်ရွက်ပေးသူ ကန်ထရိုက်တာနှင့် လက်ခွဲ ဆောင်ရွက်ပေးသူ sub-contrictor များအားလုံးက စီမံကိန်းအတွက် လုပ်နေး များ ဆောင်ရွက်ရာတွင် သက်ဆိုင်ရာဥပဒေ၊ နည်းဥပဒေများ၊ လုပ်ထုံးလုပ်နည်း၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် စည်းကမ်းချက်များအားလုံးကို အပြည့်အဝ လိုက်နှာ ဆောင်ငွက်ရန်း
- (ဃ) စိမ်ကိန်းအထိုပြုသူသည် မတ်ဂန်းကျင်စီမံခန့်ဖွဲ့မှုအစီအစဉ်နှင့် အစီအစဉ်ဖွဲ့များ၊ တောင့်ကြပ်ကြည့်စွမည့် အစီအစဉ်များအတွက် လုံလောက်သည့် ရန်ပုံငွေထားရှိ သုံးရွဲရန်နှင့် ၎င်းအစီအစဉ်များကို အကောင်အထည်ဖော်ဆောင်ရွက်မည့် အဖွဲ့ အစည်းများ ဖွဲ့စည်းဆောင်ရွက်ရန်၊
- (c) ပတ်ဝန်းကျင်နှင့်လူမှုရေးဆိုင်ရာ စောင့်ကြည့်စစ်ဆေးမှု အစီရင်စံစာကို (၆) လ တစ်ကြိန် သယ်စာတနှင့် သဘာဝဗတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသို့ တင်ပြရန်း
- (စ) ဖတ်ခန်းကျွင်ထိခိုက်မှုဆန်းစစ်ဖြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း (၂၀၁၅) တွင် ဖော်ပြထားသော အခန်း(၉) စောင့်ကြပ်ကြည့်ရှုဖြင့်း (အပိုဒ် ၁၁၁ မှ အပိုဒ် ၁၂၂) အား လိုက်နာဆောင်ရွက်ရန်း
- (ဆ ) အရေးပေါ်ကြို့တင်ပြင်ဆင်မှ အစီအစဉ်နှင့်အရေးပေါ် တုန့်ပြန်မှု အစီအစဉ်ကို စီမံကိန်းတွင် ပါဝင်ပတ်သက်သူများသိရှိစေရန်နှင့် လိုက်နာကျင့်သုံးရန်၊ ကျယ်ကျယ် ပြန့်ပြန့်နှင့် ထိရောက်စွာဖြန့်ဝေပေးရန်နှင့် ဓာတ်တိုက်လေ့ကျင်မှုများပြုလုပ်ရန်၊
- (a) ဒေသခံပြည်သူများ (stakeholders) နှင့် စဉ်ဆက်မပြတ် တွေ့ဆုံဆွေးနွေးပြီး ၎င်းတို့၏ အကြံပြုချက်နှင့် လိုလားချက်များအား အလေးထားပေါင်းစပ် ဆောင်ရွက်ရန်၊
- (ရ) စီမံကိန်း၏အသုံးပြုရေိယာနှင့် လုပ်ငန်းစဉ်များပြောင်းလဲမှုရှိပါက စတ်ဝန်းကျင်
   ထိန်းသိမ်းရေးဦးစီးဌာနသို့ အကြောင်းကြားတင်ပြရန်၊
- (ည) လွန်ဘူးခြင်း၊ မိုင်းခွဲခြင်းလုပ်ငန်းများကို ကျွမ်းကျင်လုပ်သားများဖြင့် ဆောင်ရွက်ရန်၊
- (ဋ) ပိုင်းဖရိယာဘေးထန္တရာယ်ကင်းရှင်းရေး၊ လုံဖြုံရေး၊ လုပ်ငန်းစွင်ဘေးအန္တရာယ် ကင်းရှင်းရေးတို့ကို အစီအမံများရေးဆွဲ၍ အလေးထားလိုက်နာဆောင်ရွက်ရန်၊
- (၄) နိုင်းခွဲမည့်နှင့်တာနှင့် Emergency Preparedness Plan. Emergency Response Plan ကို အများပြည်သူသိရှိအောင် ဆောင်ရွက်ရန်၊

DESCRIPTION OF THE PARTY OF THE PARTY OF THE PARTY AND THE

- ရှေးဟောင်းပစ္စည်းများ၊ ရှေးဟောင်းဝူများ တွေ့ရှိပါက ရှေးဟောင်းဥပဒေတွင် ဖော်ပြပါရှိသည့်အတိုင်း အထွေတွေအုပ်ချုပ်ရေးဦးစီးဌာနမှတစ်ဆင့် ရှေးဟောင်း သူတေသနဦးစီးဌာန (မော်လမြိုင်ဌာန၌) သို့အကြောင်းကြားရန်၊
- (ဗ) မြေပြိုမှုကို ကာကွယ်ရန် မြေကာန်ရုံများတည်ဆောက်ခြင်း၊ တောင်စောင်းများ တွင် အပင်များနိုက်ပြုံးဖြင်း၊ ကျောက်ထုတ်လုပ်ရာတွင် မြင့်မားမတ်တောက်သော တောင်စောင်းများ မဖြစ်စေရေးတို့ကို အလေးထားဆောင်ရွက်ရန်။
- (m) Silt traps / Silt pond များကို ထိရောက်စွာ အသုံးချနိုင်ရေးအတွက် ပုံမှန် စစ်ဆေးရန်၊
- (တ.) စီမံကိန်းကြောင့် ကျေးရွာများထဲသို့ စီးဆင်းသွားသောမျောင်းရေများ ညစ်ညမ်းမှု မရှိစေရေး အလေးကားဆောင်ရွက်ရန်း
- (ထ) Executive Summary (အင်္ဂလိပ်၊ မြန်မာဘာသာပြန်) ပါဝင်သည့် အတည်မြှ EIA teport အား စိမ်ကိန်းရရိယာနှင့် ဆက်စပ်သည့် ဒေသများလို့ အများ ပြည်သူသိရှိနိုင်ရန် သက်ဆိုင်ရာမှ တဆင့် ဖြန့်ဝေသွားရန်၊
- (3) မတော်တဆဖြစ်စဉ်၏ ပတ်ဝန်းကျင်ထိနိုက်မှုအတွက် အာမစံလျော်ကြေးပေး သည့် စနှစ်ထားရှိရန်နှင့် ပတ်စန်းကျင်ထိခိုက်မှု အကျိုးဆက်များအား ပြီးပြတ် သည်အထိ တာဝန်ယူဆောင်ရွက်ရန်၊

(ဝင်းတော်၊ ဒုတိယအမြဲတမ်းအတွင်းဝန်)

Long Life Aggregate Mining Co., Ltd.

Plot No. SH-B3 (8), Malikha Housing Yandanar Road,

Thingangyun Township, Yangon

မိတ္တာ့ကို

မြန်မာနိုင်ငံရင်းနိုးမြှုပ်နှံမှုကော်မရှင်၊ ဥဒန်ကြားရေးမျိုးချုပ် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန

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## **ANNEX E. Accident Reports**

Sr. No	Date of Event	Section	Case Summary	Status of Injury	Remark	Status or follow up	Reference
1	10 July 2018 (3:15 AM)	ICB-1(Km 19+060) RHS	The Truck (AYY,Plate No.7G-3122) driven by 30 years old driver name Mr. Thiha Zaw (son of Mr.Myint Oo) which carried goods(Rice Noodle) fell down on the shoulder side of the road. The Truck was travelling from Yangon going to Kyaiklat with four passengers. The Driver fall asleep while driving, causing him to run out of the roadway and fell on the shoulder side.	There was no injury to the people caused by that incident.	Public Vehicles	Case was closed.	See Page 1-2
2	21 August 2018 (7:30 AM)	ICB-1(Km 16+800) RHS	A vehicular accident happened at Km. 16+800 (RHS) of the Maubin - Pyapon Road at around 7:30 to 8:00 o'clock in the evening on 21st August 2018. The weather condition was rainy and the road visibility was very poor due to heavy rain and it was night time. A motorbike taxi with Plate No. 21Ya/28245, Model Zhineng-110, was driven by Mr. Kyaw Htet, 26 years old and a resident of 10th Street, Kyaiklat Township. The said motorbike was travelling from Maubin going back to Kyaiklat Township. No other person was riding the motorbike. The motorbike was running at a very high speed and suddenly crashed to the tri-wheel motorbike locally called "Tuktuk" that was parked on the shoulder of the road. The Tuktuk Driver was taking dinner in his house which is just nearby the road during the time of the accident. The local villagers called the Police Station to report the said accident. The Police Officer arrived on the site at around 9:00 PM. Due to the strong crash impact, the motorbike driver, Mr. Kyaw Htet was seriously injured. His nose and ears were bleeding, got cut wound on his right eyebrow and the right foot was injured. Mr. Kyaw Htet was sent to Kyaiklat Hospital. However, he was then sent to Yangon for treatment. As per the information gathered, he passed away. No other person was hurt or injured during the said accident. The damaged motorbike was brought to the Police Station. No debris were found on site during the daytime of 22nd August 2018. A copy of Police Report is attached herewith. As per the Police Report, the cause of the accident was over speeding and reckless driving.	1 Died	Public Vehicles	Case was closed.	See Page 3-8
3	17 Sep 2018 (2:30 PM)	ICB-1(Km 3+290)	The Toyota wish (1M/3632) driven by 37 years old driver name Mr. Nay Oo (son of Mr. Soe Lwin) was travelling from Maubin going to Kyaiklatt, The motorbike (Plate No. 5W/ 16674 Tayan 110) driven by Mr.Saw Lu Tar (son of Mr.Tun Hla) was travelling from Maubin going to Kyaiklatt with two passengers Mr. Moe Myint Hein, 19 years old (son of Mr.Ta Line Ngwe) and Ms.Naw Lu Linn Tar, 5 years old (daughter of Mr.Saw Lu Tar). These two vehicles were running on the same direction of the road. At that time, the motorbike driver suddenly jinked so the Toyota	Due to that accident, totally two motorbike riders Mr.Sae Lu tar and Naw Lu Linn Tar,	Public Vehicles	Due to that accident, the police said that they will act according to the Highway Law.	See Page 9-10

<sup>6&</sup>lt;sup>th</sup> Semi-Annual Environmental Monitoring Report, July to December 2018 Maubin to Pyapon Road Rehabilitation Project

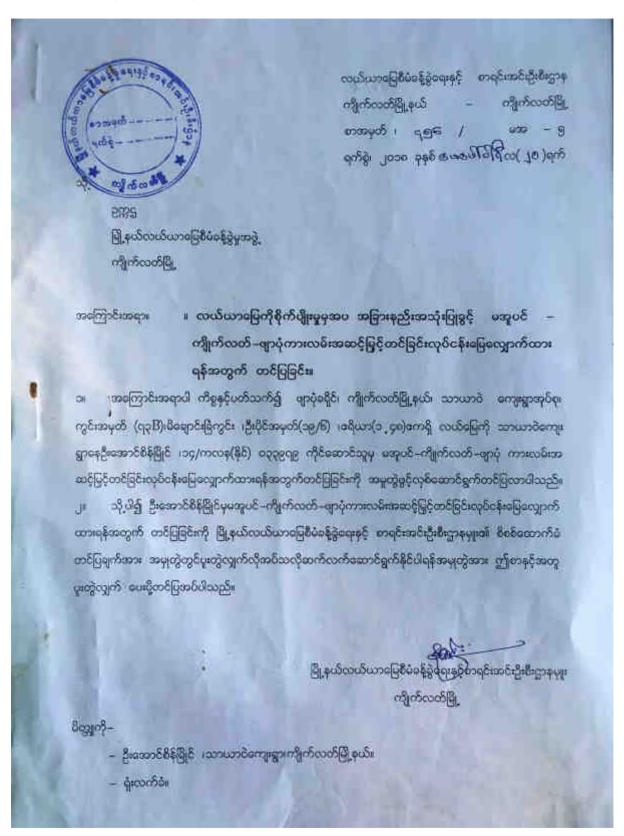
			wish hit the back of the motorbike and fell down to the ground together with the motorbike driver and passengers.	got injured and they were sent to Maubin Hospital for treatment.			
4	27 Sep 2018 (3:15 PM)	ICB-1(Km 0+800) LHS	The Newholland farm track operated by 18 years old operator named Mr. Aung Myint Myat Kyaw (Son of Mr. Myint Soe) was travelling from Maubin going to Kyaiklatt. The Motorbike (Plate No. Under Processing-Haojue 110) driven by Mr. Zaw Win Htut (Son of Mr. Aung Hein) was travelling from Maubin goint to Kyaiklatt with two passengers Mr. Kyi Lwin, 45 years old (Son of Mr. Than Shwe) and Mr. Nyunt Win, 45 years old (Son of Mr. Theik Tun). These two vehicles were running on the same direction of the road. At that time, the farm tract operator suddenly turned to another direction without signal warning so the motorbike hit the back tyre of the farm track.	Due to that accident, total numbers of people from motorbike were injured and they are taking treatment at Maubin Hopspital	Public Vehicles	The Police said that they will act this accident according to the Highway Law	See Page 11-112

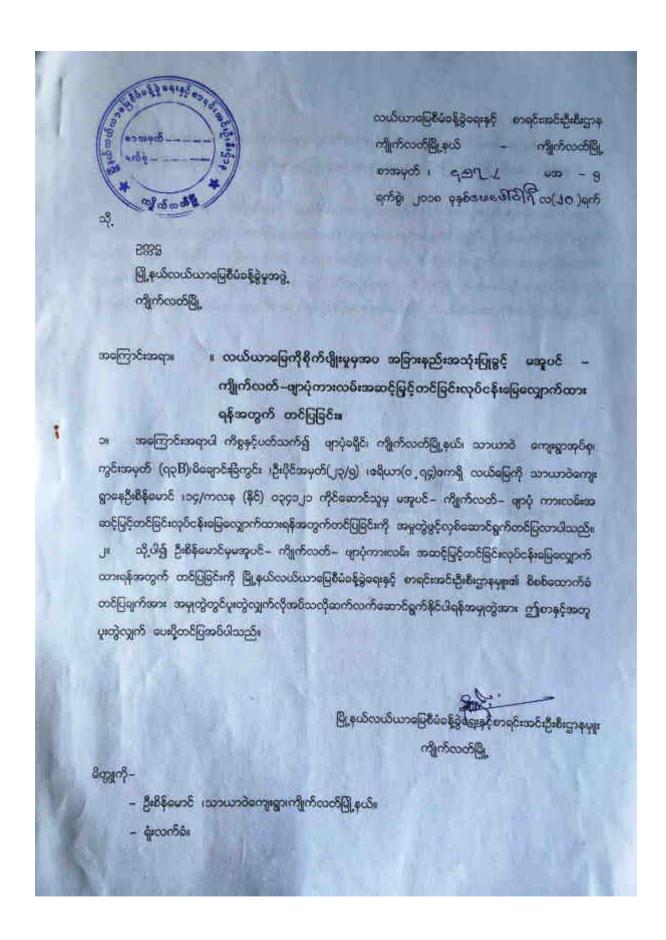
Sr. No	Date of Event	Section	Case Summary	Status of Injury	Remark	Status or follow up	Referen ce
1	18 Sep 2018 (7:30 AM)	ICB-2(KM 29+250)	Public truck with no. 3K/3245 came from Maubin side tried to U turn at KM 29+250 and there is motorcycle which the rider didn't understand with truck driver intention then over took the truck when at the same time the truck move U turn so the motorcycle hit the truck.	Maubin Maubin Hospital with	Public Vehicles	ICB-2 Contractor has not received yet the police report for it.	See Page 13-14

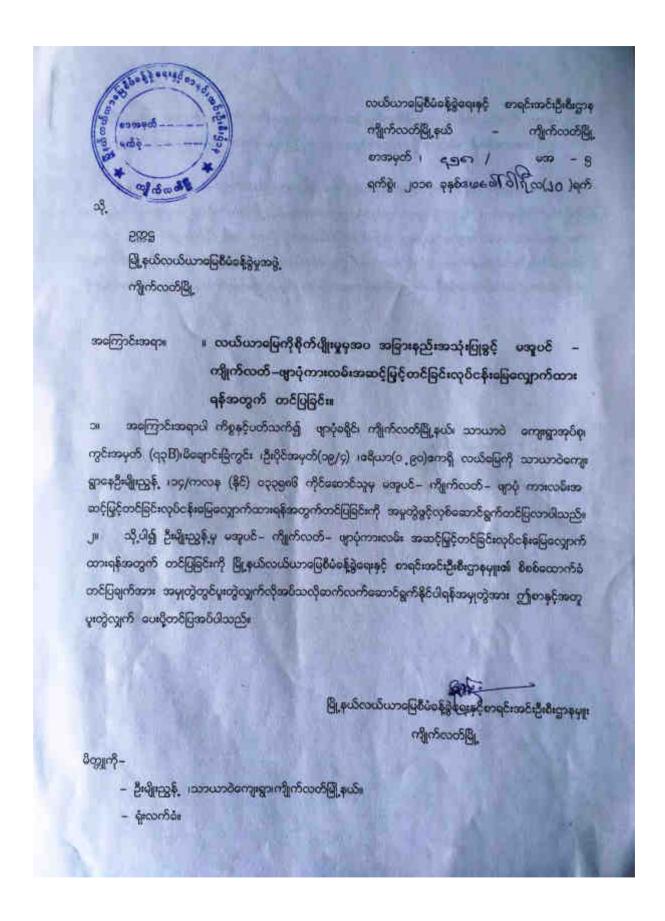
### **ANNEX F. Permits Issued to the Contractor**

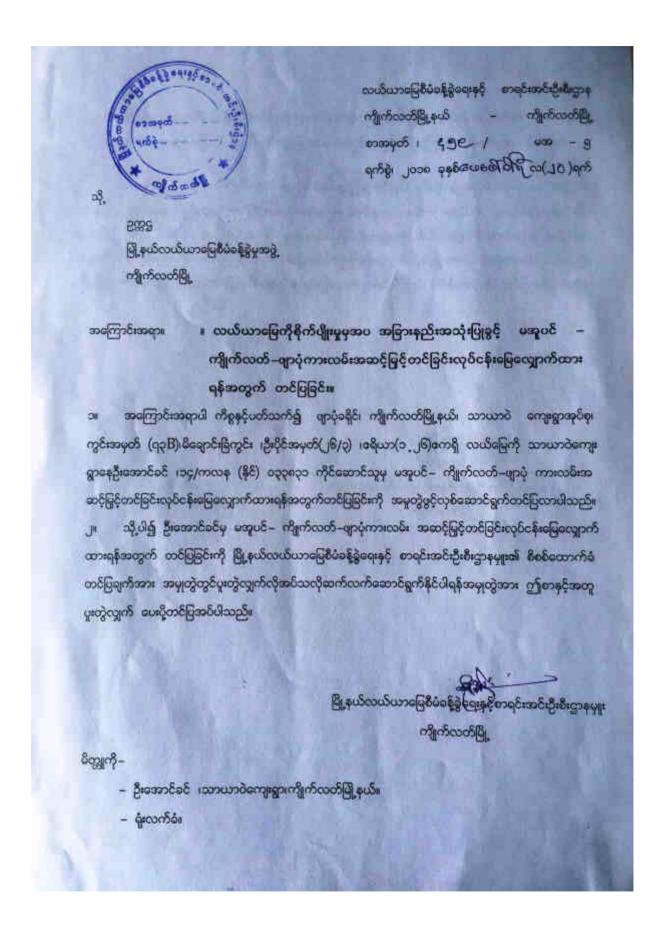
		Permit	Status	Remarks
1	ICB-1	Tree-cutting Permit from the Local Authority or MONREC	Submitted to CSC 22 Aug 2016	Accepted by CSC
2	ICB-1	Asphalt Concrete Batching Plant, Crushing Plant and Soil- Mixing Plant Operating Permit of ICB-1 Contractor	Submitted to CSC 12 Sept 2017	Accepted by CSC
3	ICB-1	Permit / application for sand dredging	Submitted to CSC 12 Sept 2016 (first permit) and 10 May 2018 (renewal permit)	Accepted by CSC
4	ICB-1	River Shingle supplier business permit, mining permit and environmental permit	Submitted to CSC 12 Sept 2016 (first permit) 14 Oct 2017 (renewal permit)	Accepted by CSC
5	ICB-1	Land Use Permit from Local authority / township/ village for site office, stockyard, borrow pit and jetty	Copy of Form 105 Application received by Township Administrative Office submitted in Kyaiklatt 06 Feb 2018	ICB-1 permits was endorsed by the Local Land Use Department but are still pending at the General Administrative Office at Kyaiklatt. ICB-1 needs to follow up
6	ICB-2	Tree-Cutting from the local authorities and MONREC	Submitted to CSC August 2016	Accepted by CSC
7	ICB-2	Credentials of aggregate supplier, e.g. business permit, mining permit; environmental permit	Submitted to CSC 17 August 2018 (Yarmanya) and 30 August 2018 (Longlife)	Yarmanya Accepted by CSC Longlife Accepted by CSC
8	ICB-2	Permit to operate the asphalt plant	.Submitted to CSC 7 Mar 2017	Accepted by CSC
9	ICB-2	Permit for sand dredging	Submitted to CSC 7 Mar 2017	Accepted by CSC
11	ICB-2	Permit for the operation of the crushing plant	Submitted to CSC 7- Mar-2017	Accepted by CSC
12	ICB-2	Land Use Permit from Local for Borrow Pit	Submitted to Township Administrative Office 12 Jan 2018	Contractor's applications are still at the Land Use
13	ICB-2	Land Use Permit for borrow pit at crushing plant		Department.
14	ICB-2	Land Use Permit from Local authority / township/ village for Campsite	.Submitted to CSC 06 Feb 2018	Accepted by CSC
15	ICB-2	Permit for the operation of the Batching plant	Submitted to CSC 09 Feb 2018	Accepted by CSC

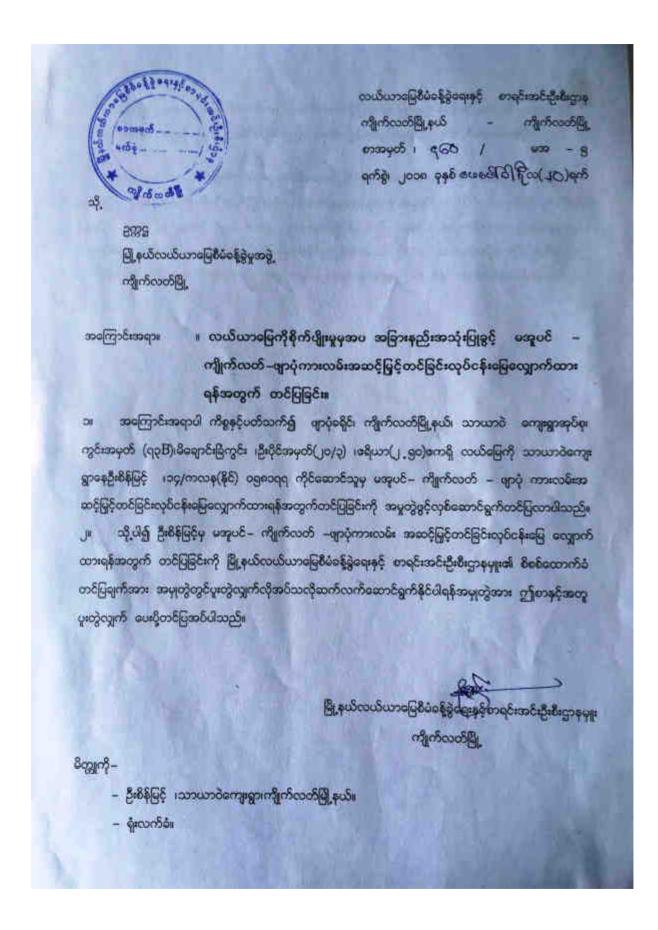
**ANNEX G. Copies of Applications of ICB-1 for Land Use Permits** 

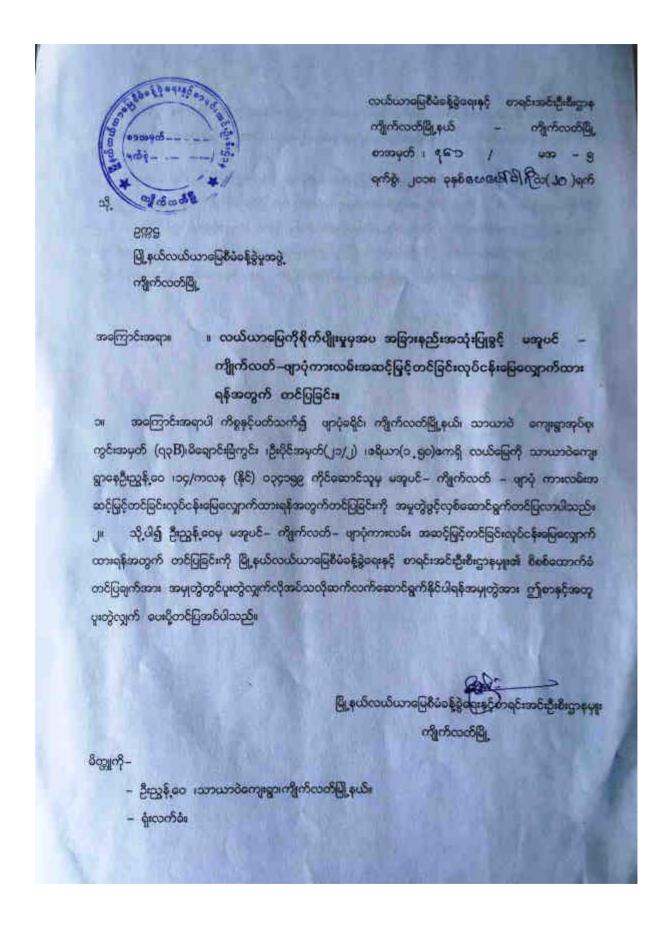


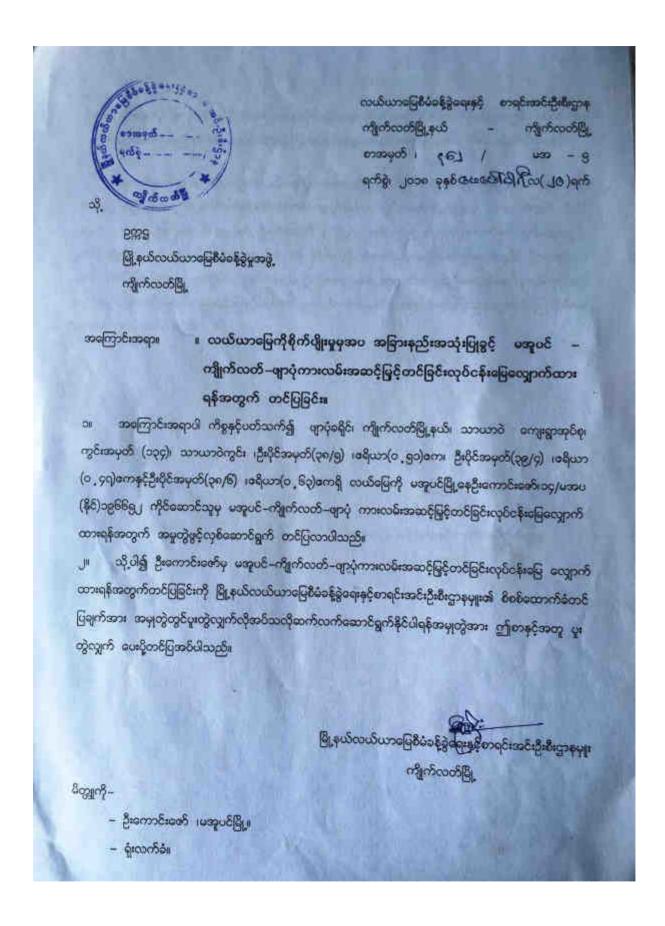


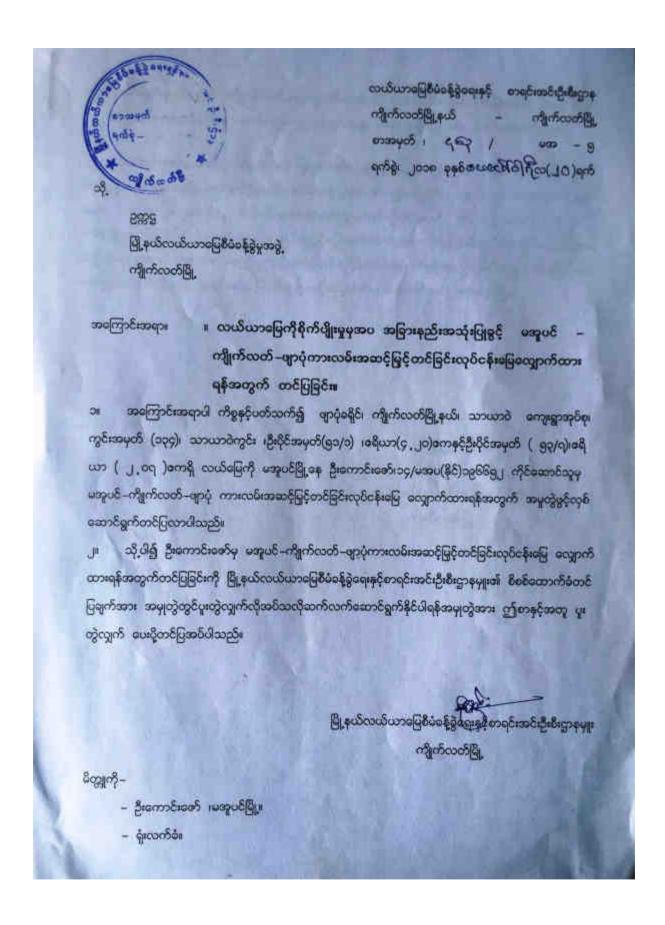


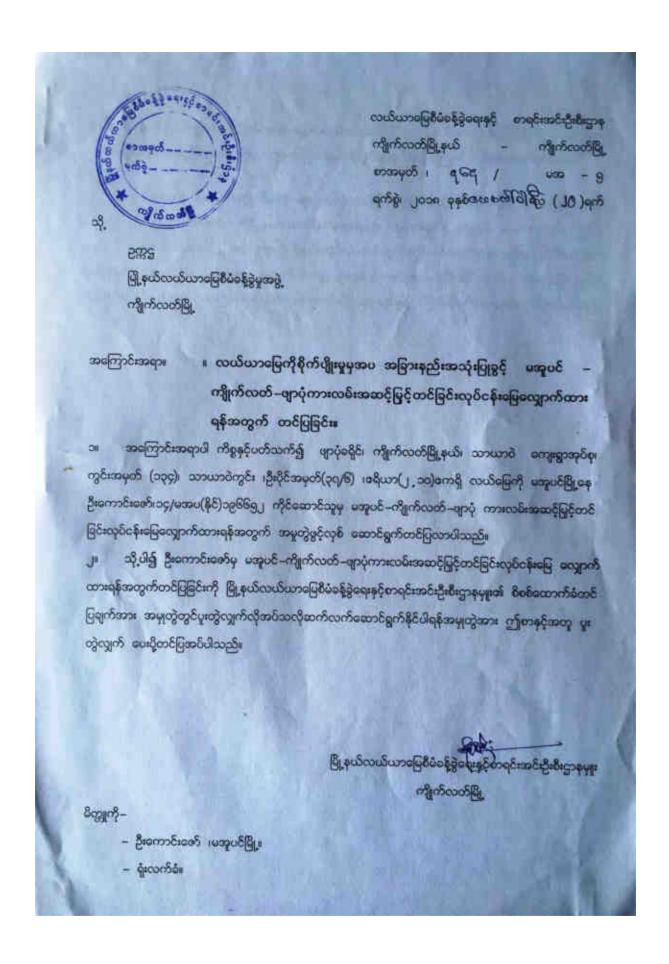












Department of Agricultural Land Management and Statistics Kyaiklatt Township – Kyaiklatt Town Letter No. 456/ Ma Ah – 5 Date (20 Feb 2018)

To President

Board of Agricultural Land Management Kyaiklatt Town

Subject: Land Use Permit Application from the Rice Paddy Field for Maubin – Kyaiklatt – Pyapon Road Rehabilitation Project

- 1. Concerning with the above subject, U Aung Sein Myaing (14/Ka La Na (N) 033979) who live in Tharyarwel Village has applied for Land Use Permit for Maubin Kyaiklatt Pyapon Road Rehabilitation Project, Pyapon District, Kyaiklatt Township, Tharyarwel Village Tract, Plot No. (73 B), Mi Chaung Chan Kwin, Holding of Parcel and Field No. (19/6), Area (1.48) Acre Land Plot and this case has been opened and reported to Department of Agricultural Land Management and Statistics in Kyaiklatt, Pyapon District, Ayeyarwaddy Region.
- 2. Thus, Staff Officer of Township Level of Department of Agricultural Land Management and Statistics in Kyaiklatt has recommended for the proposed application of U Aung Sein Myaing to the President of Board of Agricultural Land Management in Kyaiklatt to proceed with this letter and attached case file.

Copy-

- U Aung Sein Myaing, Tharyarwel Village - Office

Staff Officer of Township Level of Department of Agricultural Land

Department of Agricultural Land Management and Statistics Kyaiklatt Township – Kyaiklatt Town Letter No. 457/ Ma Ah – 5 Date (20 Feb 2018)

To President Board of Agricultural Land Management Kyaiklatt Town

Subject: Land Use Permit Application from the Rice Paddy Field for Maubin – Kyaiklatt – Pyapon Road Rehabilitation Project

- 1. Concerning with the above subject, U Sein Maung (14/Ka La Na (N) 034121) who live in Tharyarwel Village has applied for Land Use Permit for Maubin Kyaiklatt Pyapon Road Rehabilitation Project, Pyapon District, Kyaiklatt Township, Tharyarwel Village Tract, Plot No. (73 B), Mi Chaung Chan Kwin, Holding of Parcel and Field No. (23/5), Area (0.74) Acre Land Plot and this case has been opened and reported to Department of Agricultural Land Management and Statistics in Kyaiklatt, Pyapon District, Ayeyarwaddy Region.
- 2. Thus, Staff Officer of Township Level of Department of Agricultural Land Management and Statistics in Kyaiklatt has recommended for the proposed application of U Sein Maung to the President of Board of Agricultural Land Management in Kyaiklatt to proceed with this letter and attached case file.

Staff Officer of Township Level of Department of Agricultural Land

Management and Statistics in Kyaiklatt

Copy-

- U Sein Maung, Tharvarwel Village, Kvaiklatt Township - Office

Department of Agricultural Land Management and Statistics Kyaiklatt Township – Kyaiklatt Town Letter No. 458/ Ma Ah – 5 Date (20 Feb 2018)

To President Board of Agricultural Land Management Kyaiklatt Town

Subject: Land Use Permit Application from the Rice Paddy Field for Maubin – Kyaiklatt – Pyapon Road Rehabilitation Project

- 1. Concerning with the above subject, U Myo Nyunt (14/Ka La Na (N) 033586) who live in Tharyarwel Village has applied for Land Use Permit for Maubin Kyaiklatt Pyapon Road Rehabilitation Project, Pyapon District, Kyaiklatt Township, Tharyarwel Village Tract, Plot No. (73 B), Mi Chaung Chan Kwin, Holding of Parcel and Field No. (19/4), Area (0.90) Acre Land Plot and this case has been opened and reported to Department of Agricultural Land Management and Statistics in Kyaiklatt, Pyapon District, Ayeyarwaddy Region.
- 2. Thus, Staff Officer of Township Level of Department of Agricultural Land Management and Statistics in Kyaiklatt has recommended for the proposed application of U Myo Nyunt to the President of Board of Agricultural Land Management in Kyaiklatt to proceed with this letter and attached case file.

Staff Officer of Township Level of Department of Agricultural Land

Management and Statistics in Kyaiklatt

Copy-

- U Myo Nyunt, Tharvarwel Village, Kyaiklatt Township - Office

Department of Agricultural Land Management and Statistics Kyaiklatt Township – Kyaiklatt Town Letter No. 459/ Ma Ah – 5 Date (20 Feb 2018)

To President Board of Agricultural Land Management Kyaiklatt Town

Subject: Land Use Permit Application from the Rice Paddy Field for Maubin – Kyaiklatt – Pyapon Road Rehabilitation Project

- 1. Concerning with the above subject, U Aung Khin (14/Ka La Na (N) 033831) who live in Tharyarwel Village has applied for Land Use Permit for Maubin Kyaiklatt Pyapon Road Rehabilitation Project, Pyapon District, Kyaiklatt Township, Tharyarwel Village Tract, Plot No. (73 B), Mi Chaung Chan Kwin, Holding of Parcel and Field No. (26/3), Area (1.26) Acre Land Plot and this case has been opened and reported to Department of Agricultural Land Management and Statistics in Kyaiklatt, Pyapon District, Ayeyarwaddy Region.
- 2. Thus, Staff Officer of Township Level of Department of Agricultural Land Management and Statistics in Kyaiklatt has recommended for the proposed application of U Aung Khin to the President of Board of Agricultural Land Management in Kyaiklatt to proceed with this letter and attached case file.

Staff Officer of Township Level of Department of Agricultural Land

Management and Statistics in Kyaiklatt

Copy-

- U Aung Khin, Tharyarwel Village, Kyaiklatt Township - Office

Department of Agricultural Land Management and Statistics Kyaiklatt Township – Kyaiklatt Town Letter No. 460/ Ma Ah – 5 Date (20 Feb 2018)

To President Board of Agricultural Land Management Kyaiklatt Town

Subject: Land Use Permit Application from the Rice Paddy Field for Maubin – Kyaiklatt – Pyapon Road Rehabilitation Project

- 1. Concerning with the above subject, U Sein Myint (14/Ka La Na (N) 058177) who live in Tharyarwel Village has applied for Land Use Permit for Maubin Kyaiklatt Pyapon Road Rehabilitation Project, Pyapon District, Kyaiklatt Township, Tharyarwel Village Tract, Plot No. (73 B), Mi Chaung Chan Kwin, Holding of Parcel and Field No. (20/3), Area (2.50) Acre Land Plot and this case has been opened and reported to Department of Agricultural Land Management and Statistics in Kyaiklatt, Pyapon District, Ayeyarwaddy Region.
- 2. Thus, Staff Officer of Township Level of Department of Agricultural Land Management and Statistics in Kyaiklatt has recommended for the proposed application of U Sein Myint to the President of Board of Agricultural Land Management in Kyaiklatt to proceed with this letter and attached case file.

Staff Officer of Township Level of Department of Agricultural Land

Management and Statistics in Kyaiklatt

Copy-

- U Sein Myint, Tharvarwel Village, Kvaiklatt Township - Office

Department of Agricultural Land Management and Statistics Kyaiklatt Township – Kyaiklatt Town Letter No. 461/ Ma Ah – 5 Date (20 Feb 2018)

To President

Board of Agricultural Land Management Kyaiklatt Town

Subject: Land Use Permit Application from the Rice Paddy Field for Maubin – Kyaiklatt – Pyapon Road Rehabilitation Project

- 1. Concerning with the above subject, U Nyunt Wai (14/Ka La Na (N) 034159) who live in Tharyarwel Village has applied for Land Use Permit for Maubin Kyaiklatt Pyapon Road Rehabilitation Project, Pyapon District, Kyaiklatt Township, Tharyarwel Village Tract, Plot No. (73 B), Mi Chaung Chan Kwin, Holding of Parcel and Field No. (21/2), Area (1.50) Acre Land Plot and this case has been opened and reported to Department of Agricultural Land Management and Statistics in Kyaiklatt, Pyapon District, Ayeyarwaddy Region.
- 2. Thus, Staff Officer of Township Level of Department of Agricultural Land Management and Statistics in Kyaiklatt has recommended for the proposed application of U Nyunt Wai to the President of Board of Agricultural Land Management in Kyaiklatt to proceed with this letter and attached case file.

Staff Officer of Township Level of Department of Agricultural Land

Management and Statistics in Kyaiklatt

Copy-

- U Nyunt Wai, Tharvarwel Village, Kyaiklatt Township - Office

Department of Agricultural Land Management and Statistics Kyaiklatt Township – Kyaiklatt Town Letter No. 462/ Ma Ah – 5 Date (20 Feb 2018)

To

President

Board of Agricultural Land Management Kyaiklatt Town

Subject: Land Use Permit Application from the Rice Paddy Field for Maubin – Kyaiklatt – Pyapon Road Rehabilitation Project

- 1. Concerning with the above subject, U Kaung Zaw (14/Ma Ah Pa (N) 196652) who live in Tharyarwel Village has applied for Land Use Permit for Maubin Kyaiklatt Pyapon Road Rehabilitation Project, Pyapon District, Kyaiklatt Township, Tharyarwel Village Tract, Kwin Number (134), Holding of Parcel and Field No. (38/5), Area (0.51) Acre, No. (39/4), Area (0.47) Acre, No. (38/6), Area (0.63) Acre Land Plots and this case has been opened and reported to Department of Agricultural Land Management and Statistics in Kyaiklatt, Pyapon District, Ayeyarwaddy Region.
- 2. Thus, Staff Officer of Township Level of Department of Agricultural Land Management and Statistics in Kyaiklatt has recommended for the proposed application of U Kaung Zaw to the President of Board of Agricultural Land Management in Kyaiklatt to proceed with this letter and attached case file.

Copy-

- U Kaung Zaw, Maubin Town - Office

Staff Officer of Township Level of Department of Agricultural Land

Department of Agricultural Land Management and Statistics Kyaiklatt Township – Kyaiklatt Town Letter No. 463/ Ma Ah – 5 Date (20 Feb 2018)

To

President

Board of Agricultural Land Management Kyaiklatt Town

Subject: Land Use Permit Application from the Rice Paddy Field for Maubin – Kyaiklatt – Pyapon Road Rehabilitation Project

- 1. Concerning with the above subject, U Kaung Zaw (14/Ma Ah Pa (N) 196652) who live in Tharyarwel Village has applied for Land Use Permit for Maubin Kyaiklatt Pyapon Road Rehabilitation Project, Pyapon District, Kyaiklatt Township, Tharyarwel Village Tract, Kwin Number (134), Holding of Parcel and Field No. (51/1), Area (4.20) Acre and No. (53/7), Area (2.07) Acre Land Plots and this case has been opened and reported to Department of Agricultural Land Management and Statistics in Kyaiklatt, Pyapon District, Ayeyarwaddy Region.
- 2. Thus, Staff Officer of Township Level of Department of Agricultural Land Management and Statistics in Kyaiklatt has recommended for the proposed application of U Kaung Zaw to the President of Board of Agricultural Land Management in Kyaiklatt to proceed with this letter and attached case file.

Copy-

- U Kaung Zaw, Maubin Town - Office

Staff Officer of Township Level of Department of Agricultural Land

Department of Agricultural Land Management and Statistics Kyaiklatt Township – Kyaiklatt Town Letter No. 464/ Ma Ah – 5 Date (20 Feb 2018)

To

President

Board of Agricultural Land Management Kyaiklatt Town

Subject: Land Use Permit Application from the Rice Paddy Field for Maubin – Kyaiklatt – Pyapon Road Rehabilitation Project

- 1. Concerning with the above subject, U Kaung Zaw (14/Ma Ah Pa (N) 196652) who live in Tharyarwel Village has applied for Land Use Permit for Maubin Kyaiklatt Pyapon Road Rehabilitation Project, Pyapon District, Kyaiklatt Township, Tharyarwel Village Tract, Kwin Number (134), Holding of Parcel and Field No. (37/6), Area (2.10) Acre Land Plot and this case has been opened and reported to Department of Agricultural Land Management and Statistics in Kyaiklatt, Pyapon District, Ayeyarwaddy Region.
- 2. Thus, Staff Officer of Township Level of Department of Agricultural Land Management and Statistics in Kyaiklatt has recommended for the proposed application of U Kaung Zaw to the President of Board of Agricultural Land Management in Kyaiklatt to proceed with this letter and attached case file.

Copy-

- U Kaung Zaw, Maubin Town - Office

Staff Officer of Township Level of Department of Agricultural Land