Environmental Monitoring Report

Semi-Annual Report (January-June 2016)
October 2016

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 1 October 2016)

Currency	–	Kyat (K)
unit K1.00	=	$0.000792
$1.00	=	K1,262.5

NOTE

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

REPUBLIC OF THE UNION OF MYANMAR

MINISTRY OF CONSTRUCTION

DEPARTMENT OF HIGHWAYS

MAUBIN PYAPON ROAD REHABILITATION PROJECT

Loan No.: 3199-MYA

ENVIRONMENTAL MANAGEMENT MONITORING

SEMI-ANNUAL REPORT NO. 1

OCTOBER 2016

SMEC INTERNATIONAL PTY LTD IN JOINT VENTURE WITH ORIENTAL CONSULTANTS GLOBAL CO LTD AND PYUNGHWA ENGINEERING CONSULTANTS LTD

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1 *INTRODUCTION*

The report presents the summary of the results of the monthly monitoring undertaken during the first half of 2016 as part of the implementation of the Environmental Management Plan (EMP) of the Maubin-Pyapon Road Rehabilitation Project. The Maubin-Pyapon Road Rehabilitation Project has a total length of 54.450 Km and is divided into two contract packages; (1) ICB-1 Km0+000 to Km 25+500; and (2) ICB-2 Km 25+500 to Km54+450.

This monitoring report is prepared in compliance with the Environmental Management Plan (EMP) for the upgrading of the Maubin-Pyapon Road Link under the Ministry of Construction. The report is likewise meant to comply with the ADB's requirement for semi-annual reporting of results of environmental monitoring.

The monthly monitoring is carried out by the National Environment Specialist (NES) with the CSC's International Environmental Specialist (IES) providing intermittent supervision. The environmental monitoring is carried through regular inspections of the work sites of ICB-1 and ICB-2 as well as offsite work areas. The instrumental environmental baseline monitoring which is part of the Contractors' TOR is yet to be fully complied with.

The regular monitoring relied on informal interviews of affected people and workers and visual inspection aided by a smart phone GPS application that allows, tracking, recording of waypoints and pictures that are geo-tagged and stamped with date and time and allows retrieval and viewing on Google Earth. This system is very appropriate for the "before and after" type of monitoring.

Reference documents used for the preparation of the semi-annual report include the following:

- IEE, March 2014
- EMP, March 2014
- Monthly Environmental Monitoring Reports, (January 2016 to June 2016)
- CEMP ICB-1 and ICB-2
- Traffic Safety Management Plan
- Health and Safety Management Plan
- Contract ICB1-MP and Contract ICB2-MP Volume 2, Technical Specifications

The semi-annual environmental monitoring report includes a summary of (1) the on-going construction works and the observations on the EMP implementation; (2) the trainings and orientations undertaken during the period; (4) Key information of grievances received during the reporting period; and (5) summary of EMP compliance during the reporting period. Attachments to this report includes the tree cutting permit, the tracking list of noted deficiencies, required actions, actions taken and/or commitment of Contractors.

2 SUMMARY OF CONSTRUCTION WORKS AND ENVIRONMENTAL MONITORING RESULTS

2.1 ICB-1

The major works undertaken by the ICB-1 Contractor during the first half of 2016 with the corresponding results of EMP monitoring are described in the following sections.

2.1.1 Construction of stockpiles and asphalt plant site

The construction of the field office, asphalt plant, jetty and aggregate stockpiles were undertaken during the first 6 months of 2016. The office has been completed and so were the jetty and the aggregates stockpiles area. The location of the ICB1 facilities are indicated in the following Google Earth Imagery (Figure 1). The photographs in Figure 2 show the progress of the development of the different ICB1 facilities.

Figure 1. Location of ICB-1 site office and stockpiles area

Jetty during construction in January 2016 and after completion


The filling of the stockpiles area in January 2016 and its completed status


Site office construction and asphalt plant foundation under construction


Construction of access road and bridge across irrigation leading to stockpiles area

Figure 2. Progress of construction of different facilities of ICB-1

The site office and asphalt plant site of ICB-1 generally complies with EMP guideline for site selection. Among the environmental management concerns during development of the camp site and stockpiles areas is the protection of the irrigation ditch during construction of access roads. The dredging of sand near the banks of Pyapon River used for filling the ICB-1 sites raised concern among the village residents leading them to bring the matter to the attention of the Administrative Office of Kyaiklatt. In response, the Administrative Office directed the ICB-1 contractor to cease dredging from the said location.

2.1.2 Clearing of Right of Way

Inventory of trees to be cleared along the ICB-1 section indicated a total of 112 Teak trees and 683 other trees species consisting of Samanea saman, Cassia siamea, Terminalia catappa, Acacia auricoliformes and other common reforestation species.

As of June 2016, 33 Teak trees and 116 other tree species have been removed. Removal of the remaining trees will take place during the succeeding period. The removal of trees and clearing of ROW in particular section of ICB-1 is shown in the following figure.

Figure 3. Clearing of ROW, ICB-1

The cutting of tree has been granted permission (see Attachment 1) and disposal of wood from cut trees is managed by the Forestry Department. There are no EMP concerns noted in this activity during the reporting period.

2.1.3 Road Construction Works

As of the end of the first half of the year, construction works along ICB-1 consisted mostly of stripping and the removal of unsuitable material and filling of sub-base material between Km 19 to 22 and lime stabilization treatment. The following figure shows some of the road construction works undertaken during this reporting period.

Figure 4. Excavation of unsuitable materials Km 19 to 22 and lime stabilization

The environmental management concern noted with the excavation of the widening lane is the flooding of the excavated section during the recent rainy season which

created a road hazard. But with the end of rainy season and resumption of road work, this section has now been drained.

The stripped materials (mixture of soil and vegetation) and unsuitable materials are side casted and used to top up the irrigation dike. With this process, there is no need for disposal sites of stripped and unsuitable materials during this stage of construction.

One important workers' health and safety issue that surfaced during this reporting period is the need for covered temporary rest shelters and portable toilets and for road workers, especially with the presence of women workers. The covered rest shelter is necessary to provide workers protection during inclement weather.

2.1.4 Road Maintenance and repair work

Road maintenance work were undertaken at various locations along ICB-1. Maintenance and repair involved the removal of distressed pavement, spreading of aggregate, compaction with the use of road roller and finally the application of bitumen. These activities are depicted in the photographs contained in Figure 5.

Figure 5.Road repair and maintenance work

As shown at the bottom right photo, the bitumen is heated on site using wood fuel in the premix area (Figure 5).

The environmental management concern with the road repair and maintenance work is the clean-up of the premix site. Rubbish, discarded plastic packaging, bitumen spillage and empty bitumen drums are strewn about the premix site. The Contractor should clean up the site in accordance with Volume 2 Section 116 of the Contract,. Traffic safety concern noted with road repair and maintenance work is the need for additional safety items such as barriers and road signs during repair and maintenance work. Contractor should provide the necessary safety item in accordance with the Traffic Safety Plan.

2.1.5 Realignment of Road Centerline, Km24+049

The curve at km24+049 of the ICB-1section needs adjustment of the horizontal alignment to meet vehicle design speed and safety. The realignment of this section of ICB1 will affect agricultural rice land cultivated to rice alongside the existing road as well as residential structures, vegetable gardens and perennials.

A household maybe affected by the acquisition of new land. The geodetic survey of the new alignment was carried out with the permission of the landowners. Figure 6 documents the meeting with landowners to secure their permission for survey crew to proceed.

Figure 6. Requesting for the permission from land owners for technical surveying works along the curve section of ICB-1.

The adjustment of curve in this section of ICB-1 will require the realignment of the irrigation ditch running parallel to the road. This will require coordination with the Irrigation Department. The Contractor should submit a work plan for the relocation of the irrigation ditch. The work plan should take into account the planting cycles and the period when irrigation service is required (i.e. summer, mid-February to mid-May; and in winter months, November to February).

2.1.6 Baseline environmental quality survey

Baseline environmental survey is part of the Contractor's TOR. The survey stations for both water quality and air quality including monitoring parameters have been established. ICB-1 will undertake the baseline survey in November 2016.

2.2 ICB-2

2.2.1 ICB-2 Facilities

a. Camp and Concrete Batching Plant

ICB 2's construction Camp and batching plant are located near the boundary of Kyaiklat and Khaing Chaung (near Km 32). The plant and camp were completed during the first quarter of the year and to date, the completion of the site and facilities are still on-going. The camp contains the workers' dormitory (separate quarters for men and women), kitchen and dining hall, office, batching plant and stockpile area, equipment maintenance shop, fuel depot. The dining and toilets are tidy and seemed to be properly looked after. However, the cooking area is open and needs improvement to maintain hygiene during food preparation. The location of the camp is shown in the following Google Earth imagery.

One obvious environmental concern of the batching plant and stockpiles area are the proximity to the community. The separation of the batching plant from the nearest house is only about 50 m (as compared to the EMP guideline of 300 m minimum distance). The other concern with the camp is the inclusion of the community pond within the land leased by the ICB-2 Contractor.

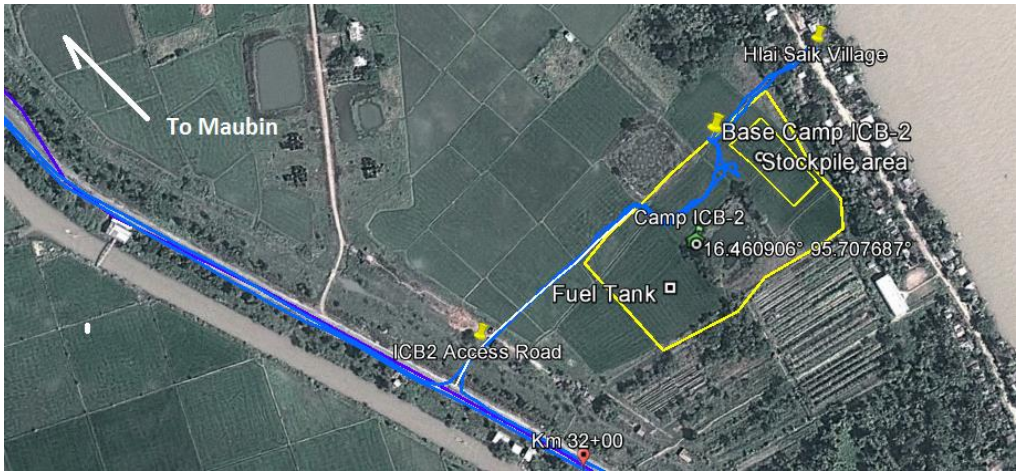

Figure 6. Location of the ICB-2 Camp and batching plant

b. Aggregate Plant

ICB-2's crushing plant site is located in the village of Bon Lon Chaung, township of Kyaiklat. The condition of the site and surrounding area are depicted in the Google Earth imagery in Figure 7.

Figure 7. Location of ICB-2's aggregate crushing plant

The location generally follows the EMP guidelines for distance from nearest community, except for the presence one house along the road located about 130 m from the present position of the crusher (Figure 7). This house will likely be affected by noise when the crusher operates, assuming it generates a noise level of about 90db(A) measured at distance of 10 m from source. Applying the doubling distance rule, i.e noise reduction of 6 db(A) as distance between source and receptor is doubled, the house may experience noise levels of 60 to 70 db(A). The noise maybe attenuated by the placement of a barrier using aggregate stockpile between the crusher and the house. Depending on the actual condition on site, the house may still experience nuisance noise. Noise monitoring at this location should be done during the operations of the crusher plant.

c. Aggregate stockpile and hot mix asphalt plant

ICB-2's asphalt is located at the right of way of the Gonhnyintan Bridge in Daunt Gyi Village, Township of Kyaiklat, occupying the MOC facility within ROW of the Gonhnyintan Bridge. Figure 8 below shows the location of the asphalt plant site and aggregate stockpiles area. The foundation of the asphalt plant has been constructed but was discontinued due to change in the asphalt plant equipment that will be installed. Stockpiling of aggregate at the site is on-going.

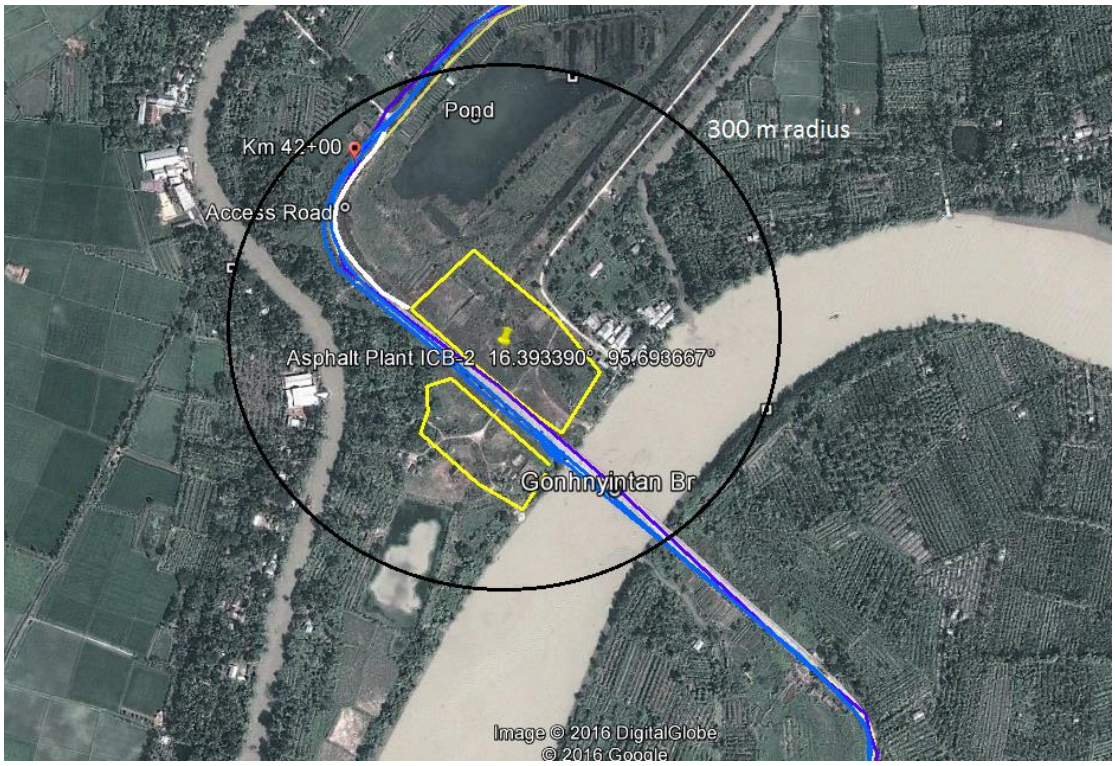

Figure 8. Location of the ICB-2 asphalt and aggregate stockpiles area

Assuming that the asphalt plant will be installed at the previouly identified location (center of circle with 300 m radius shown in Figure 8), a few residences will be within 300 m of the assumed location, but mostly along the periphery. The structures located east of the assumed plant location (see Figure 8) are MOC buildings. The magnitude of the impacts of noise, dust and emissions during operations of the asphalt plant on those residences within 300 m are considered low considering the existing environmental condition. The site is open country, vegetated and sparsely populated. However, monitoring nuisance and other impacts through interview of residences shall be done when the asphalt plant is operational.

The main social and public safety concern in this site is that the access road of the asphalt plant and stockpiles site joins the main road near the junction of a community access road. It was observed during monitoring that people from the village wait for the buses at this intersection. The people waiting for bus ride congregate underneath a tree at the junction. The movement of trucks and project vehicles in and out of the site when the asphalt plant operates can expose pedestrians to traffic hazards. The Contractor should consult the village people regarding pedestrian and traffic safety and the need for a bus stop away from the intersection.

d. Borrow Pit

ICB-2 has purchase a land for a borrow pit located at about Km19+34. The location of the borrow pit is shown in Figure 9. Materials have been excavated and the pit is presently flooded (see photo in Figure 9). The borrow pit is still active as ICB-2 has still to excavate materials from it. According to ICB2, the site will be filled with sand after the excavation is completed as part of the abandonment plan.

Figure 9. The location and present condition of the borrow pit

e. Materials Testing Laboratory

The ICB-2 materials testing laboratory is in the MOC compound in Kyailat. The laboratory has about 15 staffs and workers. The environmental concern with this laboratory is the lack of proper drainage for the laboratory waste water effluent. The laboratory sink at the moment drains onto the surface outside the laboratory.

The laboratory lacks toilet and this is urgently needed and has been brought into the attention of the ICB2 Contractor but no action or commitment has been made.

2.2.2 Road Construction

- Clearing of ROW and Excavation

The clearing of ROW of ICB-2 included the removal of trees, however, ICB-2 has yet to submit a detailed inventory of trees and the number and kind of trees that have been removed to date. It is reported that a total of 391 Teak trees and 1,710 other trees species need to be removed along the ICB-2 section.

Excavation of the widening section from Km30+00 to 31+00 and lime stabilization was likewise carried out during this period. The following photographs in Figure 10 show clearing of a section of the ROW of ICB-2 during this reporting period.

Km 30+000 to 31+000 Clearing and excavation

Lime stabilization, Km 30

Figure 10.Road works in progress during the period

2.2.3 Bridge Construction

- Oo Yin Chaung Bridge

The construction of Oo Yin Chaung Bridge has commenced with the construction of the temporary bridge before the existing steel bridge is removed. The piers of the temporary bridge have now been installed.

Figure 11. Installation of the piers on the river bank and in the-water for the temporary Oo Yin Chaung Bridge

The approach of Oo Yin Bridge is a village transport hub that connects the river transport with the road transport. River boats ply the Pyapon River and tributaries and dock at Oo Yin Bridge where passengers catch bus rides. The gathering of passengers (small number though) and the picking of passengers by buses at the bridge approach creates a public safety concern now that construction work is on-going. The boat station along the eastern bank of Pyapon River within the construction site has been temporarily relocated immediately downstream of the bridge. But the passengers still wait for the bus at the approach of the bridge. The Contractor needs to consult the village people for the designation of a temporary bus stop safely away from the construction site. Additionally, now that the piers have been installed at the middle of the river, the other concern is navigation safety. For this purpose, the Contractor has set up signages to warn boaters.

Spillage into the river by drilling slurry with bentonite mud and disposal of the drilling waste mixed with bentonite are the environmental concerns associated with the construction of Oo Yin Bridge. The environmental concerns at this site is the spillage of slurry into the river and the disposal of the drilling waste mixed with bentonite.

Contractor has installed temporary retaining wall using flattened bitumen drums which is effectively controlling erosion at the work site along the bank.

- Kyee Chaung Bridge

The construction of Kyee Chaung Bridge has also started during the reporting period. The work included the excavation for the foundation and stockpiling of sand for use as fill materials. The sand is dredged from a site distant from the project, transported by barge and delivered to the site by pumping as slurry. The environmental concern with the activity is the spillage of the sand and blockage of the irrigation canal parallel to the road. Retaining walls using flattened bitumen drums have been installed to protect the work site along the bank from erosion.

2.2.4 Regular Road Repair and Maintenance Work

Regular road repair and maintenance work were ongoing during the reporting period. Repair work consisted of filling potholes, repairing pavement, cleaning drainage, cutting of roadside vegetation, de-silting of existing ditches. The following photos show some of the repair work undertaken by ICB-2 Contractor.

Figure 12. Road repair and maintenance, ICB-2 section

The repair and maintenance work requires the use of asphalt mix for repairing potholes and for this purpose, premix sites are set up. This is where bitumen is heated by open fire using firewood and then mixed with aggregate. The environmental concerns with this activity are the spillage of bitumen into the adjoining areas of the premix site and the general upkeep of the site. Empty bitumen drums, plastic packaging materials and other rubbish are strewn about the premix site. The Contractor should see to it that the workers tidy up the work place, collect and pile up the wastes for collection and disposal. Safety concerns regarding use of PPEs and use of sufficient traffic safety devices were also brought up to the Contractor's attention.

2.2.5 Baseline Environmental Survey

ICB-2 has not carried out the baseline environmental survey within this semi-annual reporting period. The monitoring stations and monitoring parameters have been established.

3 TRAININGS AND ORIENTATIONS CONDUCTED

3.1.1 EIA and EMP Orientation

An orientation on the EIA and CEMP preparation was initially conducted by the IES for MOC and PMU staff. The first orientation was done on 21 January 2016 at the SMEC conference room in Yangon with 17 participants from MOC and ICB1 and ICB2 Contractors. A follow-on orientation for PMU and contractors was done on 27 January 2016 at MOC office in Maubin with 20 participants.

Other follow-on meetings with ICB-1 and ICB-2 HSE officers were carried out last week of January to present the CEMP template and assist the contractors in completing their respective CEMPs. The following photographs document the EIA EMP orientation.

Figure 13. EIA and EMP orientation for MOC and Contractors

3.1.2 . HIV/AIDS Prevention Awareness Campaign

HIV/AIDS prevention awareness campaign was carried out among the project workers during the reporting period for both ICB-1 and ICB-2 workers. A lecturer from the NGO group was invited to lecture on HIV/AIDS prevention.

The objectives of HIV - AIDS Awareness Programme are the following

- to reduce the risk of HIV virus transmission among the Contractor's Personnel and the local community.
- to promote early screening, diagnoses and treatment
- to assist with care and support to infected individuals

The following table lists the schedules of the lectures for ICB-1 and ICB-2 while photographs in Figure 14 documents the lectures.

Table 1. Schedule of HIV/AIDS Awareness Prevention lectures

Contractor	Date	Location	Participants		
			Male	Female	Total
ICB-1	27 May 2016	Maubin	56	35	91

ICB-2	11,12 March 2016	Kyaiklatt MOC Compound	124	83	90+117
ICB-2	7,8 May-2016	Pyapon	138	85	117+106

Figure 14. HIV/AIDS Prevention Awareness presentation ICB-1 and ICB-2

4 GRIEVANCE REDRESS

There were two complaints received during this period. The first complaint was about the village water pond located within the ICB-2 Camp compound. ICB-2 has fenced its camp site, enclosing the community pond as well. Consequently, the village people cannot access the pond which is their water source.

This matter has been brought up to the Contractor's attention and committed to restore the village's access to the water source.

The other complaint pertained to the sand dredging for filling the ICB-1 stockpile and camp site. The specific complaint is sand dredging near the bank of Pyapon River at the Thar Yar Wel village. The complaint was brought to the attention of the Administrative Office of Kyaiklat which ordered the ICB-1 Contractor to stop dredging at that location of the river.

5 SUMMARY ASSESSMENT OF EMP COMPLIANCE DURING REPORTING PERIOD

The outcome of the monthly environmental monitoring from January 2016 to June 2016 indicates that the project implementation is generally compliant with the EMP. While environmental, social and health and safety issues surfaced during this reporting period, none can be considered serious or significant and all are predicted and can be mitigated.

The salient points of EMP compliance are discussed in the following sections and this is followed by Table 2. This table presents the general assessment of compliance by the project during the reporting period with the conditions of the 2014 EMP.

Additionally, the details of the deficiencies in EMP compliance identified during the regular monitoring is presented in Attachment 2. This attachment is a tracking list of the noted deficiencies, the required actions and the commitments and/or actions taken by the Contractors. This tracking list was adopted to document compliance and enhance EMP implementation.

5.1 Compliance with EMP Guidelines

Non-compliance with EMP guidelines, particularly on separation of contractor's facility from residences and other sensitive receptors has occurred at ICB2. ICB-2's batching plant is only about 60 to 70 m from the nearest house, the EMP guidelines recommends minimum of 300 m. Contractor has been reminded to strictly implement noise and dust control at the facility. Monitoring of impacts through interview of the residents is being undertaken by the NES. So far, no significant impacts have been detected and no major complaint or opposition has been received.

5.2 Pollution and Erosion Control

There is no significant issue on pollution, air or, water reported during the reporting period. Minor spillage of bitumen has occurred at premix sites which the Contractors have been asked to clean up. Minor spills of drilling slurry into the river has occurred at Oo Yin Chaung Bridge and this was attended to by the ICB-2 Contractor. There are no concerns either with erosion and siltation from work sites. Temporary retaining walls have been installed at work sites on the river banks.

The village concern on the impact of sand dredging near the bank of Pyapon River at Thar Yar Wel village for filling the stockpile site of ICB1 was brought to the Kyailat Administrative Office's attention. The Administrative Office ordered the cessation of the dredging and the the Contractor has stopped the dredging at that particular location.

The need for improvement of handling and storage of hazardous materials has been communicated to the Contractors. This concern mostly with the provision of containment walls for above ground fuel tanks and the provision of proper hazardous waste storage facilty.

5.3 Social Impacts

There are several social issues that came up during this reporting period, the most significant of which is the resettlement requirement for the realignment of the curve at Km 24+049. One house will be affected and the owner has already agreed to the compensation package. The adjustment of the curve will also affect the irrigation ditch which will need relocation. The relocation of this ditch will be carried out in a manner that will prevent interruption of services to the farmers.

The other significant social issue that came up during this reporting period is the access to the community water pond located within the ICB-2 camp compound. ICB-2 has fenced its camp site thus, cutting off the community's access to the pond. The Contractor has been informed and committed to open access to the pond.

5.4 Health and Safety Issues

Safety issues that came up during the reporting period relates to the additional requirement for safety devices for road works such as signs and barriers.

The need for temporary covered rest shelter for road workers also came up. The need for the covered shelter was badly felt during the rainy season when workers have no place to seek respite from the inclement weather. There is also a need for Contractors to provide portable toilets with water supply for use of road workers. These requirements have been communicated to the Contractors.

Table 2. General assessment of compliance with the project EMP (2014)

No	Potential Environmental Impacts	ICB-1	ICB-2
	Pre-Construction		
1	Improper EMP implementation	CEMP prepared; Change of HSE officer and replacement has yet to arrive at the site.	CEMP prepared; HSE officer on board;
2	Lack of Consultation	Consultations have been conducted and is a continuing activity	Consultations have been conducted and is a continuing activity
3	Complaints due to project related impacts	GRM adopted for Project includes a project level and village level. Members of village level GRMC have been identified and is in the process of organization;	GRM adopted for Project includes a project level and village level. Members of village level GRMC have been identified and is in the process of organization;
4	Disruption of utilities services	Coordination with the utilities owner / operator is in process; relocation of utilities have yet to be implemented.	Coordination with the utilities owner / operator is in process; relocation of utilities have yet to be implemented.
5	Improper disposal of spoils	Need for spoils disposal during the reporting period is nil. Stripped materials are used for topping irrigation dikes that parallel the road; The existing pavement for removal will be used	Need for spoils disposal during the reporting period is nil. Stripped materials are side casted and used for topping irrigation dikes that parallel the road; The existing pavement for removal will be used as

		as sub-base for the road construction;	sub-base for the road construction;
6	Procurement of materials from illegal sources	Contractor sourcing rock aggregate from existing suppliers and Contractor has yet to present credentials of the suppliers.	Contractor sourcing rock aggregate from existing suppliers and Contractor has yet to present credentials of the suppliers.
7	Nuisance to nearby receptors and damage to sensitive areas	Siting of facilities are generally in compliance with the EMP guideline, i.e distance of pollution sources from sensitive receptors; permits for plant and buildings are in process	Generally compliant with EMP guidelines, except for the batching plant which is located about 60-70 m from nearest house; Monitoring of the impacts on these houses will be carried out. Permits for plant and buildings are in process
	Construction Stage		
8	Tree cutting	Compliant with EMP guidelines	Compliant with EMP guidelines
9	Potential damage to archaeological and cultural assets	Procedure for Chance Find is included in CEMP	Procedure for Chance Find included in the CEMP.
10	Damage to water courses and productive areas due to disposal of spoils and removed pavement material	Need for spoils disposal is nil. Stripped materials are used for topping irrigation dikes that parallel the road; and existing pavement for removal will be used as sub-base for the road construction;	Need for spoils disposal is nil. Stripped materials are used for topping irrigation dikes that parallel the road; and existing pavement for removal will be used as sub-base for the road construction;
11	Soil erosion and sedimentation from construction sites	The management of soil erosion and sedimentation from road works is abetted by the existing physical condition of the road project. The road is paralleled by irrigation ditches on both side	The management of soil erosion and sedimentation from road works is abetted by the existing physical condition of the road project. The road is paralleled by irrigation ditches on both side separated from the road by

		separated from the road by a swale. Hence silted run-off from the road works goes through the vegetated swale allowing silt to separate before water ends up in the canal and irrigation ditches. Further, it is should be noted that background content of suspended sediment in the canals is considerably high making it very turbid.	a swale. Hence silted run-off from the road works goes through the vegetated swale allowing silt to separate before water ends up in the canal and irrigation ditches. Further it is should be noted that background content of suspended sediment in the canals is considerably high making it very turbid.
12	Damage to productive land and deterioration of water quality due to operation of borrow pit and quarries	Location of ICB-1 borrow pit complies with EMP guidelines; Contractor should comply with requirements for closure and abandonment; Contractor has yet to present credentials of suppliers of rock aggregate and permit for sand dredging	ICB-2 has no borrow pit during this reporting period. Contractor has yet to present credentials of suppliers of rock aggregate and permit for sand dredging
13	Nuisance from noise and damage due to vibration from construction works and operation of construction equipment and vehicles	Noise and vibration are not a concern yet during this reporting period as works are all located in isolated stretches of the road; and aggregate and asphalt plants are not yet operational.	Noise and vibration are not a concern yet during this reporting period as works are all located in isolated stretches of the road; and aggregate and asphalt plants are not yet operational.
14	Air pollution due to construction activities	Plant site location complies with EMP guidelines; ICB-1 will not operate concrete batching plant; dust problem not a concern during the reporting period because of absence of plant operations and minimal	Batching plant of ICB-2 potential source of dust and noise impacts due to proximity (60 to 70 m) to houses. In general dust is not a concern during the reporting period because of absence of plant operations and minimal road works, plus the onset of rainy

		road works, plus the onset of rainy season during the later part of the reporting period.	season during the latter part of the reporting period.
15	Oil and other hazardous materials releases	Training on handling of hazardous material has yet to be conducted; ICB-1 has yet to fully complete its site facilities; Contractor has yet to comply with requirements for spill contingency preparedness; Bitumen spillage concern during this period is mostly related to operations of the premix site for road repair and maintenance work. Concerns with bitumen handling not yet a significant concern during reporting period as present requirement for bitumen is limited to road repair and maintenance.	Training on handling of hazardous material has yet to be conducted; Contractor has yet to comply with requirements for spill contingency preparedness; Impervious flooring with containment wall for above ground fuel tank well is yet to be installed by ICB-2; Storage of hazardous waste material needs improvement; Concerns with bitumen handling not yet a significant concern as present requirement for bitumen is limited to road repair and maintenance.
16	Deterioration of water quality due to wastewater discharge from construction works and facilities	ICB-1 asphalt plant has yet to be constructed; No issue with camp waste water as ICB-1 does not operate construction workers' accommodation.	Concrete batching plant waste water retention pond is yet to be constructed by ICB-2; Camp wastewater treatment is needed at ICB-2 camp. The installation of a constructed wetland has been recommended being the most practical method for the site.
17	Drainage obstruction	This is a concern during construction of access	This is a concern during construction of access road

		road connecting stockpiles area and office and asphalt plant site to main road due to irrigation ditches that parallel the road; access roads with bridge / culvert have been completed with minimal impact on irrigation canal.	connecting camp and batching plant, borrow site and aggregates plant. Access roads with bridge/culvert were completed with very minimal effect on irrigation canal; Constriction of irrigation ditch occurred during delivery of sand to Kyee Chaung Bridge, but this has been corrected.
18	Water and land pollution due to release of drilling wastes during bridge construction	Not a concern in ICB-1	Drilling at Oo Yin Chaung Bridge approach generally compliant with EMP guidelines but minor spillage of drilling slurry occurred at the river bank; This has been corrected by the Contractor;
19	Vehicular traffic congestion and hindrance to public access	ICB-1 has submitted traffic management plan and accepted by the CSC; Traffic management is being implemented at work sites.	ICB-2 has submitted a traffic management plan and accepted by the CSC; traffic management is being implemented at work sites.
20	Pollution due to improper disposal of solid wastes from construction related activities and workers'	Work areas that require upkeep are the premix sites. Rubbish and discarded bitumen drums are strewn about the premix sites; ICB-1 will also need to implement waste segregation with composting and recovery of recyclables as part of its waste management.	Solid waste management at site is challenging due to the lack of proper government waste disposal facility; Hence, ICB-2 contractor is advised to implement waste segregation to minimize volume of residual waste for disposal. Residual waste disposal can be contracted to the government of the Kyaiklat municipality which operates a disposal site. Empty bitumen drums are being recycled at the site by flattening and re use as

			retaining wall in construction area. Work area that requires upkeep are the premix sites, rubbish and discarded bitumen drums are strewn about in the premix sites.
21	Damage to properties and community facilities	Construction activities are being managed to prevent damage of community facilities such as irrigation ditches, village access roads and tracks.	Construction activities are being managed to prevent damage of community facilities such as irrigation ditches, village access roads and tracks.
22	Hazard to public due to construction activities	Appropriate measures are being carried out for public safety but needs improvement in certain areas, especially where people congregate along the project road;	Appropriate measures are being carried out for public safety but needs improvement in certain areas, especially where people congregate along the project road, e.g. boat landings and bus pick up points.
23	Occupational health and safety risks	ICB-1 Contractor has submitted Health and Safety Plan; PPEs supplied to workers but with need to reinforce workers compliance with PPE use. HIV/AIDS prevention orientation conducted; Other measures that Contractor need to implement for occupational health and safety are covered rest shelters and toilets in work areas including the stockpiles area; Additional PPE, goggles and face mask should	ICB-2 Contractor has submitted Health and Safety Plan; Construction camp with separate facilities for men and women; clean toilets, kitchen and mess hall; the quality of the present domestic water supply though needs to be tested for the protection of workers; bottled drinking water is provided; PPEs supplied to workers; Additional PPE, goggles and face mask should be provided during lime stabilization works to prevent inhalation and eye irritation; There is need to stress workers compliance

		be provided during lime stabilization works to prevent inhalation and eye irritation;	with PPE use. HIV/AIDS prevention orientation conducted; Other measures that Contractor need to implement for occupational health and safety are covered rest shelters and toilets in work areas; also, toilet needs to be provided to the materials laboratory at the MOC compound.
24	Improper closure of construction sites	Contractor will need to submit demobilization and abandonment plan 6 months prior to taking over period and final demobilization plan 6 months prior to end of defects liability period;	Contractor will need to submit demobilization and abandonment plan 6 months prior to taking over and final demobilization plan 6 months prior to end of defects liability period;
25	Need for implementation of additional environmental mitigation measures	As of this reporting period the EMP sufficiently covers all aspects of project implementation	As of this reporting period the EMP sufficiently covers all aspects of project implementation
26	Increased employment opportunities	Local workers are given preference to both men and women	Local workers are given preference to both men and women

Attachment 1 – Tree Cutting Approval

Summary English Translation (unofficial Translation)

1. JUNG HEUNG Construction Company submitted a letter for the approval on clearing of trees those situated in affected area of Maubin-Kyaiklatt-Pyapon road rehabilitation project been funded by ADB Loan. 503 teak trees are marked and to be handled over to Myanmar Timber Enterprise and the other fall down and distributed to nearby villagers with the recommendation of Department of Officials. (Ref-1)

2. The approval was transmitted to Ministry of Construction as stated and suggested to substitution of shelter trees as required. (Ref-2)

3. The approval has been forwarded to the Director General of Ministry of Forestry.

Approval for Tree Cutting

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ
ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနှင့်သစ်တောရေးရာဝန်ကြီးဌာန
သစ်တောဦးစီးဌာန
ညွှန်ကြားရေးမှူးရုံးပို့စ်

စာအမှတ် ၊ လင/အခ/၀၀၇/ဖ (၅၉၄၄ /၂၀၁၄)
ရက် စွဲ ၊ ၂၀၁၆ ခုနှစ် ၊ မတ်လ ၇ ရက်

သို့

ညွှန်ကြားရေးမှူး
သစ်တောဦးစီးဌာန
ရောဝတီတိုင်းဒေသကြီး ၊ ပုသိမ်မြို့

အကြောင်းအရာ ။ JUNG HEUNG Construction နှင့်ရွှေတောင်ကုမ္ပဏီလမ်း အဆင့်မြှင့်တင်ရေးအစွဲမှ လုပ်ငန်းခွင်ဧရိယာအတွင်း မလွတ်ကင်းသည့် သစ်ပင်များအား ဖယ်ရှားခွင့်ပြုပါရန် တင်ပြခြင်း

ရည် ညွှန်း ချက် ။ (၁)ညွှန်ကြားရေးမှူးရုံး ၊ သစ်တောဦးစီးဌာန ၊ ရောဝတီတိုင်းဒေသကြီး၏ ၃-၂-၂၀၁၆ ရက်စွဲပါစာအမှတ် ၊ ၁၈၁၀-၁၃/မ(ဂ)၅
(၂)ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနှင့်သစ်တောရေးရာဝန်ကြီးဌာနပြည်ထောင်စု ဝန်ကြီးရုံး၏ ၄-၃-၂၀၁၆ ရက်စွဲပါစာအမှတ်၊ ၄(၁)/၀၄(ဂ)(၂)/(၄၁၉/၂၀၁၆)

၁။ JUNG HEUNG Construction ကုမ္ပဏီမှ ADB စီမံကိန်းဖြင့် ဆောင်ရွက်မည့် မရေပင်-ကျိုက်လတ်-ဗျာပုံလမ်းအပိုင်းအား အဆင့်မြှင့်တင်ခြင်း လုပ်ငန်းဆောင်ရွက်ရာတွင် ဗျာပုံမြို့အဝင် (၃၃)မိုင်(၂)ဖာလုံနှင့် မိုင်တိုင်အမှတ် (၀/၀မှ၈/၁) အတွင်း မလွတ်ကင်းသည့် လမ်းသားဝဲ/ယာရှိ အပင်များအနက် ကျွန်းပင်(၅၀၃)ပင်အား ပင်ဆောင်ရိုက်မှတ်၍ မြန်မာ့သစ်လုပ်ငန်းသို့ လွှဲပြောင်းခွင့်နှင့် အခြားသစ်မျိုးများအား သက်ဆိုင်ရာဌာနများ၏ ထောက်ခံချက်ရယူပြီး ခုတ်လှဲ၍ နီးစပ်ရာကျေးရွာများသို့ ထင်းဝေငှခွင့် ပြုပါရန် ရည်ညွှန်းစာ(၁)ဖြင့် တင်ပြခဲ့ပါသည်။

၂။ အဆိုပါ ကိစ္စနှင့်ပတ်သက်၍ လုပ်ငန်းခွင်ဧရိယာအတွင်း မလွတ်ကင်းသည့် အပင်များအနက် ကျွန်းပင်(၅၀၃) ပင်အား ပင်ဆောင်ရိုက်မှတ်၍ မြန်မာ့သစ်လုပ်ငန်းသို့ လွှဲပြောင်းရန် ၊ အခြားအပင်(၂၃၉၃) ပင်အားစည်ပင်/ထွေအုပ်ဌာန၏ ထောက်ခံချက်ရယူပြီး ခုတ်လှဲဖယ်ရှားရန် ၊ လုပ်ငန်းဆောင်ရွက်မည့် ကုမ္ပဏီမှ အစိုပ်ရသလကာပင်များ ပြန်လည်စိုက်ပျိုးသွားရန် လိုအပ်မည်ဖြစ်ပါကြောင်း ရည်ညွှန်းစာ(၂)ဖြင့် ဆောက်လုပ်ရေးဝန်ကြီးဌာနသို့ သဘောထားမှတ်ချက်ပြုပြန်ကြားခဲ့ပါသည်။

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနှင့်သစ်တောရေးရာဝန်ကြီးဌာန
သစ်တောဦးစီးဌာန
ညွှန်ကြားရေးမှူးရုံး
ဧရာဝတီတိုင်းဒေသကြီး၊ ပုသိမ်မြို့

စကားပြောကြေးနန်း
ညွှန်ကြားရေးမှူး(ရုံး)၂၄၃၂၉
လ/ထညွှန်မှူး (ရုံး) ၂၄၅၁၁
တိုင်းရုံးအုပ်/ Fax ၂၄၅၁၁

တိုင်းသစ်မှူး
ကြေးနန်းလိပ်

စာအမှတ်၊ ၃၂၂၇ - ၃၀ / ဓ၀၁၅
ရက်စွဲ၊ ၂၀၁၆-ခုနှစ်၊ မတ်လ ၁၀ ရက်

ဝိုက်ထောက်ညွှန်ကြားရေးမှူး
သစ်တောဦးစီးဌာန
ပုသိမ်/မြောင်းမြခရိုင်

အကြောင်းအရာ။ **JUNG HEUNG Construction နှင့် ရွှေတောင်ကုမ္ပဏီလမ်း အဆင့်မြှင့်တင်ရေးအဖွဲ့မှ လုပ်ငန်းခွင်ဧရိယာအတွင်း မလွတ်ကင်းသည့် သစ်ပင်များအား ဖယ်ရှားခွင့်ပြုပါရန် တင်ပြခြင်း**

ရည် ညွှန်း ချက် ။ သစ်တောဦးစီးဌာန၊ ညွှန်ကြားရေးမှူးချုပ်ရုံး၏ ၇-၃-၂၀၁၆ ရက်စွဲပါစာအမှတ်၊ လင/စခ/၀၀၇၆(၅၉၄၄/၂၀၁၆)

၁။ ရည်ညွှန်းပါစာမိတ္တူပူးတွဲပေးပို့အပ်ပါသည်။

၂။ သို့ဖြစ်ပါ၍ ကျွန်းပင်(၅၀၃)ပင်အား ပင်ထောင်ရိုက်မှတ်၍ မြန်မာ့သစ်လုပ်ငန်းသို့ လွှဲပြောင်းခွင့်နှင့် အခြားသစ်မျိုးများအား သက်ဆိုင်ရာဌာနများ၏ ထောက်ခံချက်ရယူ၍ ခုတ်လှဲပြီး နီးစပ်ရာကျေးရွာများသို့ ထင်းအဖြစ်ဝေငှခွင့်ပြုပါကြောင်း ထပ်ဆင့်အကြောင်းကြားအပ်ပါသည်။

ညွှန်ကြားရေးမှူး(ကိုယ်စား)
(ကံထွန်း၊ လက်ထောက်ညွှန်ကြားရေးမှူး)

မိတ္တူကို
ဦးစီးအရာရှိ၊ သစ်တောဦးစီးဌာန၊ ဖျာပုံမြို့
မြို့နယ်ဦးစီးဌာနမှူး၊ သစ်တောဦးစီးဌာန၊ မအူပင်မြို့
မျော/ရုံးလက်ခံ

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၃။ ထို့ဖြစ်ပါ၍ ကျွန်းပင်(၅၀၃)ပင်အား ပင်ထောင်ရိုက်မှတ်၍ မြန်မာ့သစ်လုပ်ငန်းသို့ လွှဲပြောင်းခွင့်နှင့် အခြားသစ် မျိုးများအား သက်ဆိုင်ရာဌာနများ၏ ထောက်ခံချက်ရယူ၍ ခုတ်လှဲပြီး နီးစပ်ရာကျေးရွာများသို့ ထင်းအဖြစ်ဝေငှခွင့်ပြုကြောင်းအကြောင်းကြားအပ်ပါသည်။

ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)
{ ခင်မောင်ဝင်း ၊ ဒုတိယညွှန်ကြားရေးမှူး(သဘာဝတော/စိုက်ခင်း)}

မိတ္တူကို-
ညွှန်ကြားရေးမှူးချုပ်ရုံး ၊ သစ်တောဦးစီးဌာန
ဒုတိယညွှန်ကြားရေးမှူးချုပ်(မူဝါဒနှင့်စီမံကိန်း) ၊ သစ်တောဦးစီးဌာန
မျှောစာတွဲ
ရုံးလက်ခံ

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မြို့ နယ် သစ် တော ဦး စီး ဌာ န
ဦး စီး အ ရာ ရှိ ရုံး - ဖျာ ပုံ မြို့
စာ အ မှတ်၊ ၆၇၁-၇၄/ မ (က)၁ ။
ရက် စွဲ၊ ၂၀၁၆ ခုနှစ်၊ မတ် လ (၁၄) ရက်။

သို့
ဘိနယ်တာဝန်ခံ
သစ်တောဦးစီးဌာန
မြို့မ/ကျိုက်လတ်ဘိနယ်

အကြောင်းအရာ။ JUNG HEUNG Construction နှင့် ရွှေတောင်ကုမ္ပဏီလမ်းအဆင့်မြှင့်တင်ရေးအဖွဲ့မှ လုပ်ငန်းခွင် ဧရိယာအတွင်း မလွတ်ကင်းသည့် သစ်ပင်များအား ဖယ်ရှားခွင့်ပြုပါရန် တင်ပြခြင်း။

ရည် ညွှန်း ချက်။ ညွှန်ကြားရေးမှူး၊ သစ်တောဦးစီးဌာန၊ ဧရာဝတီတိုင်းဒေသကြီး၊ ပုသိမ်မြို့၏ (၁၀-၃-၂၀၁၆)ရက်စွဲပါစာအမှတ်၊ ၃၂၂၇-၃၀/မ(ဂ)၅။

၁။ အထက်အကြောင်းအရာပါ ကိစ္စနှင့်ပတ်သက်၍၊ ဖျာပုံခရိုင်အတွင်း မအူပင်-ကျိုက်လတ်-ဖျာပုံ ကားလမ်း အဆင့်မြှင့်တင်ခြင်းလုပ်ငန်းတွင် လုပ်ငန်းခွင်ဧရိယာအတွင်း မလွတ်ကင်းသည့် သစ်ပင်များအား ခုတ်ထွင်ရှင်းလင်းရန် လိုအပ်သဖြင့် ဖယ်ရှားခွင့်ပြုပါရန် တင်ပြခဲ့ခြင်းအပေါ် မြို့မဘိနယ်နှင့် ကျိုက်လတ်ဘိနယ်အတွင်း (၂၃၉၃)ပင်အား သက်ဆိုင်ရာဌာနများ၏ ထောက်ခံချက်ရယူပြီးပါက ခုတ်လှဲပြီး နီးစပ်ရာ ကျေးရွာများသို့ ထင်းအဖြစ် ဝေငှခွင့်ပြုပါကြောင်း၊ ရည်ညွှန်းပါစာဖြင့် အကြောင်းကြားလာပါသည်။

၂။ သို့ဖြစ်ပါ၍ အခြားသစ်မျိုးသစ်ပင်များ ခုတ်လှဲပြီး၍ နီးစပ်ရာ ကျေးရွာများသို့ ဆက်သွယ်၍ ထင်းအဖြစ် ဝေငှပေးရန်နှင့် ဆောင်ရွက်ပြီးစီးပါက ဆောင်ရွက်နေသည့် မှတ်တမ်းဓါတ်ပုံ (၅)စုံနှင့်အတူ ပြန်လည်အစီရင်ခံတင်ပြပါရန် အကြောင်းကြားပါသည်။

(အောင်မျိုးမြတ်)
ဦးစီးအရာရှိ
သစ်တောဦးစီးဌာန
ဖျာပုံမြို့

မိတ္တူကို
- JUNG HEUNG Construction
- ရွှေတောင်ကုမ္ပဏီ လမ်းအဆင့်မြှင့်တင်ရေးအဖွဲ့
- မျှောစာတွဲ/ ရုံးလက်ခံ။

မြို့ နယ် ဦး စီး အ ရာ ရှိ ရုံး
(လမ်း ဦး စီး ဌာ န)
ဧ ရာ ဝ တီ တိုင်း ဒေ သ ကြီး
မ အူ ပင် ခ ရိုင် ၊ မ အူ ပင် မြို့ ။
စာအမှတ်၊ အခမ / ၂၀၁၆/ဧရာ(မအပ)/ထွေ/ ၉၁၇ .
ရက်စွဲ၊ ၂၀၁၆ ခုနှစ် ၊ မတ်လ (၂၄) ရက်

သို့

လက်ထောက်ညွှန်ကြားရေးမှူး (မြို့ပြ)
လမ်းဦးစီးဌာန
မအူပင်ခရိုင်၊ မအူပင်မြို့။

အကြောင်းအရာ။ မအူပင်-ကျိုက်လတ်လမ်းအတွင်း မိုင်တိုင် (၀/၀-၈/၁)အထိ လမ်းဘေး ဝဲ - ယာရှိ သစ်ပင်များစာရင်း။

ရည်ညွှန်းချက်။ ဆောက်လုပ်ရေးဝန်ကြီးဌာန၊ ဝန်ကြီးရုံး၏၊ (၈.၃.၂၀၁၆)ရက်စွဲပါစာ အမှတ်၊ ၁၅/ ဌာနခွဲ-၃/၂၀၁၆(စီ ၈၇၆)

အထက်အကြောင်းအရာပါကိစ္စနှင့် ပတ်သက်၍ မအူပင်-ကျိုက်လတ်လမ်း အဆင့်မြှင့်တင် တည်ဆောက်ရာတွင် မိုင်တိုင် (၀/၀-၈/၁)အထိ လမ်းဘေး ဝဲ/ယာရှိ လမ်းနယ်နှင့် မလွတ်ကင်းသည့် သစ်ပင်များစာရင်းအား လိုအပ်သလိုဆောင်ရွက်နိုင်ပါရန် ပူးတွဲပေးပို့တင်ပြအပ်ပါသည်။

ပူးတွဲပါ - သစ်ပင်များစာရင်း (၁)စုံ

ADB File ဒ် ဆရာ
25/3/16

(သိန်းထွန်းဦး)
ဦးစီးအရာရှိ(မြို့ပြ)

မိတ္တူကို
- ရုံးလက်ခံ

မြို့ နယ် ဦး စီး အ ရာ ရှိ ရုံး
(လမ်း ဦး စီး ဌာ န)
စ ရာ ဝ တီ တိုင်း ဒေ သ ကြီး
မ အူ ပင် ခ ရိုင် ၊ မ အူ ပင် မြို့ ။
စာအမှတ်၊ အခမ / ၂၀၁၆/ဧရော(မအပ)/ထွေ/ ၉၁၇ .
ရက်စွဲ၊ ၂၀၁၆ ခုနှစ် ၊ မတ်လ (၂၄) ရက်

ရို

လက်ထောက်ညွှန်ကြားရေးမှူး (မြို့ပြ)
လမ်းဦးစီးဌာန
မအူပင်ခရိုင်၊ မအူပင်မြို့။

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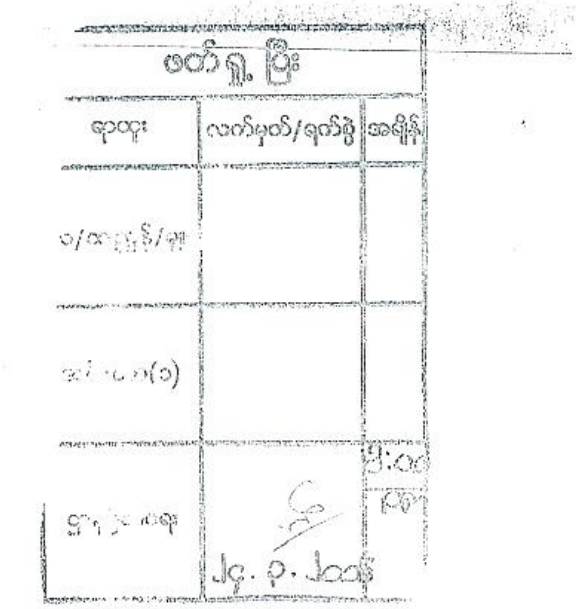
အလေးအကြောင်းအရာပါကိစ္စနှင့် ပတ်သက်၍ မအူပင်-ကျိုက်လတ်လမ်း အဆင့်မြှင့်တင်ဖွံ့ဖြိုးတည်ဆောက်ရာတွင် မိုင်တိုင် (၁/၀-၈/၁)အထိ လမ်းဘေး ဝဲ/ယာရှိ လမ်းနယ်နှင့် မလွတ်ကင်းသည့် သစ်ပင်များစာရင်းအား လိုအပ်သလိုဆောင်ရွက်နိုင်ပါရန် ပူးတွဲပေးပို့တင်ပြအပ်ပါသည်။

ပူးတွဲပါ - သစ်ပင်များစာရင်း (၁)စုံ

(သိန်းထွန်းဦး)
ဦးစီးအရာရှိ(မြို့ပြ)

ဓိတ္တုကို
- ရုံးလက်ခံ



Attachment 2 – ACTIONS TRACKING CHECKLIST

Maubin-Pyapon Road Rehabilitation Project

Km 00+000 to Km 54+450 Contract Package ICB-1 and ICB-2

Monitoring Period: Jan to June 2016

Monitoring by: Myo Min Kyaw - National Environmental Specialist

A. Tracking of noted deficiencies, required actions and actions taken and/or committed by Contractor – **ICB-1 Section**

Sr. No	Location	Issue/Deficiencies	Required Actions	Date Contractor Notified	Status of Action taken by Contractor and Date of completion
1	Camp Site, Stockpile area and Borrow pit etc.,	Land Owner Agreement for Camp Site, Stockpile area and Borrow pit	Submit Land Owner Agreement for Camp Site, Stockpile area and Borrow pit etc.,	March 2016	Completed in June 2016
2	Development of Stockpile Site	• Site Plan • Permit and License of Dredging Contractor	Submit Site Plan and permit and license of Dredging Contractor	Issued February 2016	Site Plan submitted June 2016 Permit and license of dredging contractor has yet to be presented.
3		Revised CEMP	Submit revised CEMP	February 2016	Completed in June 2016

4		Baseline Environmental Quality Monitoring	Conduct Baseline Environmental Quality Monitoring	Monthly Requested Since February 2016 to date	Scheduled for November 2016
5		Used Bitumen Drums	Proper disposal of empty bitumen drums	April 2016	Contractor is re-using flattened empty bitumen drums as retaining wall
7	Tree cutting	Permitt from the Local Authority or MONREC	Submit the Permit from the Local Authority or MONREC (Ministry of Natural Resources and Environmental Conservation)	April 2016	Approval in 22 August 2016
8	Base Camp, Stockpile and Asphalt Plant, Borrow Pit	General Statement on Abandonment Plan, Detailed Plan.	Contractor should provide general statement on abandonment plan	June 2016	For submission 6 months prior to taking over and demobilization
9	Camp Access Road	Obstruction of the existing irrigation ditch	Restore the existing irrigation ditch	April 2016	Completed in June 2016
10	Access Road to Stockpile Site	Obstruction of the existing irrigation ditch	Restore the existing irrigation ditch	April 2016	Completed in June 2016

11	Road Construction Sites	Deficiency of traffic safety measures such as safety barriers, warning sign, traffic signs and directional and safety signs and night lamps. Requirements for HS plan	Provide/install as needed safety barriers, warning sign, traffic signs and directional and safety signs and night lamps. Contractor should comply with the approved HS plan	April 2016	Partial compliance
12		Lack of traffic signs at intersection of camp access road and highway to warn motorists of heavy equipment crossing	Provide/Install traffic warning sign along main road to warn motorists of intersection with camp access road	April 2016	Pending compliance
13	Labor	It was noted during inspection that some workers appear to be minors	Contractor to ensure that all workers are of legal working age	April 2016	For continued monitoring
14	Camp Site, Stockpile area and Borrow pit etc.,	Land Use Permit from Local authority / township/ village	Submit Land Use Permit from Local authority / township/ village	19-8-2016	Completed in 19 August 2016

15	Camp Site, Stockpile area and Borrow pit etc.,	Building permit from Local authority / township/ village	Submit Building permit from Local authority / township/ village	July 2016	Permit in process
16	Safety and Health	Training and Induction relevant construction personnel in handling of fuels/hazardous substances and spill control procedures. Appropriate PPE	Provide the training and induction relevant construction personnel in handling of fuels/hazardous substances and spill control procedures and appropriate PPE to all lobors.	June 2016	Pending compliance
17	Stockpile Area	Toilets facilities	Provide the toilet for workers at stockpile yard	June 2016	Contractor will install toilet

Noted Deficiencies and Additional Mitigation Measures of ICB-2

Sr. No	Target Points	Issue/Deficiencies	Required Actions	Date Contractor Notified	Action taken by Contractor and Date of completion
1	Camp Site, Stockpile area, Asphalt Plant, Crushing Plant Site and Borrow pit etc.,	Land Owner Agreement	Submit Land Owner Agreement	May 2016	Completed June 2016
2	Camp Site, Stockpile area, Asphalt Plant, Crushing Plant Site and Borrow pit etc.,	Local authority / township/ village for Camp Site, Stockpile area, Asphalt Plant and Borrow pit etc., Building permit for Camp Site, Crushing Plant Site and Asphalt Plant	Permit from Local authority / township/ village for Camp Site, Stockpile area, Asphalt Plant and Borrow pit etc., Building permit for Camp Site, Crushing Plant Site and Asphalt Plant	June 2016	Permits in process
3	Batching Plant and Stockpiles	Detailed mitigation plan to prevent dust and noise from affecting adjoining houses	Contractor to implement noise and dust control to prevent impacts on adjoining houses	February 2016	No complaints received during monitoring thru interview of residents
4	Batching Plant	Lined settling pond for batching	Provide lined settling pond for	February 2016	Yet to be installed

		plant and transit mixer waste water	batching plant and transit mixer waste water (Under the planning)		
5	Camp Water Supply	Quality of camp's water supply.	Contractor should carry out bacteriological test of the camp's water supply.	January 2016	Pending compliance
6	Community Water Pond	Monitor impacts on the community water pond within ICB2 camp	Contractor should monitor quality of water of the pond.	February 2016	Pending compliance
7	Camp Site	Drainage and Waste Water treatment	Improve the drainage channel along the camp perimeter Upgrade it into natural treatment pond planted with appropriate vegetation to absorb nutrients and reduce BOD. The camp will require about 200 sq m of surface area of treatment pond.	February 2016	Partial compliance undertaken, still needs improvement
8	Hazard Waste Temporary Storage Point	Should be covered and provided with impervious flooring and containment wall	Compliance with EMP guidelines	March 2016	Temporary storage constructed but insufficient and not properly managed, need improvement

9	Fuel Tank	Above ground fuel tank without impervious flooring and containment wall	Provide impervious flooring and containment wall	February 2016	Pending compliance
10	Bathrooms waste water Drainage	Drainage consist of open ditch that cuts through the camp creating unsanitary condition	Provide covered drainage	February 2016	Partial compliance, still needs improvement
11	Crushing Plant Site	Noise mitigation measure for the lone house along the perimeter of the plant site (130 m away from crusher)	Provide stockpile barrier between house and crusher and monitor for noise impacts	February 2016	Crusher is not yet operational
12	Asphalt Plant	Waiting Area / bus stop Pond which is habitat of wild ducks located near the Asphalt Plant	Consult village for a waiting area away from the junction of the access road with the highway road; Protect wildlife, prohibit hunting of the wild ducks by workers; include wildlife protection in the orientation of workers	February 2016	Pending compliance
13	Health and Safety		Contractor should comply with the approved HS plan Provide safety equipment to all labors in compliance with the	February 2016	Still needs improvement

			Health and Safety Plan		
14	At all intersections of project access roads with main road	No traffic warning sign along main road to warn motorists of intersection with camp access road	Provide/Install traffic warning sign at intersections to warn motorists of intersection with camp access road	April 2016	Pending compliance
15	MOC materials testing laboratory	Toilet Facilities for the people from lab in MOC Compound in Kyaiklatt	Count all toilets in MOC compound and determine if ratio of toilets with number of users is within OHSA guidelines; if ratio is compliant no need for new toilets simply allow access to all toilets in the compound.	May 2016	Pending compliance
16	MOC materials testing laboratory	Settling pond for waste water from the lab	Install settling pond for waste water from the laboratory	May 2016	Pending compliance
17		Permit and License of Dredging Contractor	Submit permit and license of dredging contractor	April 2016	Pending compliance
18	Cutting Trees	the permit of cutting trees from the local authorities or MONREC	Submit the permit of cutting trees from the local authorities or MONREC	April 2016	Issued August 2016
19		Revised CEMP	Resubmit Revised CEMP	February 2016	Completed

					in June
20		Some appear to be under age	Ensure all workers are of inclusive of child l	April 2016	Contractor will
21		Waste Water	Comply with the Environmental guidelines of Myanmar for site runoff and wastewater discharges (construction phase) and Effluent standard for extraction of construction materials – NEQG, 2015	April 2016	Water quality test has yet to be conducted
22	Oo Yin Chaung Bridge	Temporary Alternate Boat Station.	Contractor should meet with local residents / boat operators to agree on a temporary alternate boat station.	February 2016	Completed in April 2016
23	Health and Safety	Electrical Safety Awareness Fire Safety Awareness	Should Provide High Voltage Electricity Hazard Prevention Should Educate and Train the Fire Awareness in Camp Should Provide Adequate Fire Extinguishers in Camp	March 2016	Completed in March 2016
24		Protection of community pond within ICB2 compound	Remove the present pit and move it away from the	February 2016	Completed in April 2016

	Garbage Management	Solid Waste Management	community pond, at least 50 m away. Recover all recyclable materials, like PET plastics, glass bottles and sell to recyclers in Yangon or Maubin Build the garbage pit above the water table		
25		Site Plans of All Facilities	Submit site plans of all facilities	February 2016	Completed in April 2016
26		Baseline Environmental Quality Monitoring	Conduct baseline environmental quality monitoring	February 2016	Doing now and not completed.

Prepared by:

Mr. Myo Min Kyaw

National Environmental Specialist