

Environmental Monitoring Report

1st Annual Report

October 2016

BHU: SASEC Road Connectivity Project

Pasakha Access Road

Prepared by the Ministry of Works and Human Settlements (MOWHS), Royal Government of Bhutan for the Asian Development Bank.

CURRENCY EQUIVALENTS

(as of 06 September 2016)

Currency unit	-	Bhutanese Ngultrum (BTN)
BTN 1.00	=	\$ 0.0150
\$1.00	=	BTN66.4703

ABBREVIATIONS

ADB	-	Asian Development Bank
CSC	-	Construction Supervision Consultant
DEC	-	District Environment Committee
PAR	-	Pasakha Access Road
DOF	-	Department of Forest
EC	-	Environment Clearance
EFRC	-	Environment Friendly Road Construction
EMP	-	Environmental Management Plan
ES	-	Environment Specialist
IEE	-	Initial Environmental Examination
NCE	-	National Environment Commission
NRDCL	-	Natural Resource Development Corporation Limited
NWF	-	National Work Fore
OHS	-	Occupational Health and Safety
PC	-	Project Coordinator
PM	-	Project Manager
PMO	-	Project Management Office
RGOB	-	Royal Government of Bhutan
ROW	-	Right-of-way
BHU	-	Basic Health Unit
DGM	-	Department of Geology and Mines

WEIGHTS AND MEASURES

km	-	Kilometer
m	-	Meter

NOTES

In this report, "\$" refers to US dollars

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EXECUTIVE SUMMARY

1. The Royal Government of Bhutan (RGOB) has received a grant from the Asian Development Bank (ADB) to finance part of the cost of South Asian Subregional Economic Cooperation (SASEC) Road Connectivity project and in particular for the improvement of Pasakha Access Road (PAR). The Department of Roads (DOR) under the Ministry of Works and Human Settlement (MoWHS) will implement the widening and rehabilitation of PAR.
2. PAR will consist of improving a 1.2km section of the existing improvement of the road from Phuentsholing to Pasakha and near to proposed additional international border crossing facilities and the associated roads. The 1.2km Pasakha Access Road or PAR is proposed in between Alay Land Custom Station and Pasakha Industrial Estate within Bhutan. It will connect the Indian SASEC Road from Hashimara under West Bengal, India to Alay in Bhutan.
3. PAR construction activities will include i) widening and rehabilitation of 1.2km of the existing access road to Pasakha from Phuentsholing; ii) construction of 50m multi-cellular culvert over Bhawanihora slide zone; iii) 123m span pre-stressed concrete bridge over Bhalujhora river; iv) construction of river training and check dams for minimizing the flow velocity; v) construction of road side drains and culverts; v) road surfacing works; and upstream catchment improvement through bioengineering applications.
4. PAR provides the principal access to the Pasakha Industrial Estate from Thimphu, Phuentsholing and India. The PAR is classified as a primary national highway and is managed by Department of Roads (DOR). The existing road infrastructure from Pasakha to the west needs to be improved because the standards and conditions are inadequate to meet rapidly growing demand for efficient traffic movement.
5. The overall progress of physical works is 7.4% as of August 2016. EMP has been monitored and implemented on a day to day basis by the Environmental Focal Persons from both Contractor's side and from CSC (S.I/ES). Contractor submits monthly EMP to CSC and ES from CSC checks the EMP and further submits to TL. TL incorporates in the monthly reports. Environmental Clearance has been obtained from National Environment Commission, Thimphu as per project's requirements.
6. This report is the first Annual Environmental Monitoring Report of Pasakha Access Road under SASEC Project from September 2015 – August 2016. The environmental safeguard requirements indicated in the Financing Agreement were mostly complied, except for the hiring of qualified and experienced external experts or qualified non-governmental organizations that will verify information produced through the project monitoring process. The environment safeguard conditions in the Project Administration Manual were also mostly complied except for the establishment of Grievance Redress Mechanism (GRM). Civil works contract agreement were complied. Conditions in the environmental management plan were mostly complied except for securing permits for quarry and borrow areas, and the control of erosion and run-off since gabion walls were destroyed due to monsoon rain. Environmental clearance conditions were being complied except for the installation of safety signs.
7. The overall level of compliance to the environmental safeguards is 70% which is satisfactory. Improvements have to be made in areas of Occupational Health and Safety measures. Pits at camp area need to be improved and only biodegradable waste should be thrown into the garbage pit available at site. All other non-biodegradables should be collected and transported for recycling and more dust bins should be provided within site office and camp

area. Contractor shall make sure that all workers use the safety outfits such as helmets, gumboots, safety boots, safety jackets, and breathing masks at all time during construction hours. Water tanker need to be deployed daily during dry season to subside the dust along the project road and within the project premises. Safety signboard need to be erected at the access point to the construction site with details as listed in the Environmental Clearance. Bio-engineering work need to be implemented accordingly on appropriate time of the year. Replantation of trees will have to be implemented as per the direction of ES and Department of Forest.

I. PROJECT DESCRIPTION

A. Project Scope

1. The proposed works will require widening and reconstruction of a 1.2 km section of the existing access road to Pasakha coming from Phuentsholing; reconstruction of the bridge over the Bhalujhora River (123 m) and construction of the multi-cellular culverts over Bhawanihora landslide debris flow.

2. The activities that are included are: i) earthworks to facilitate replacement and upgrading of the PAR carriageway, extended road base, multicellular culvert over the landslide sections of PAR; ii) re-construction of the bridge; iii) renewing and reconstructing culverts across the PAR route, providing better crossing drains and better side drains and lead off drainage facilities; and iv) surfacing works. The scopes of work for PAR connectivity project including Contractor's details are provided in Table 1.

Table 1: Work item, contractor's schedule, date of award and completion date

Sl. No	Work item	Name of Contractor	Contract award date/start date	Contract completion date
1.	Widening and reconstruction of a 1.2 km access road	SPML-Gaseb-Maccaferri JV, Bhutan/India	May 05, 2015/ Sept.1, 2015	August 31, 2017
2.	Construction of bridge over the Bhalujhora river (123 m)			
3.	Construction of multicellular culverts over Bhawanihora			
4.	Construction of Gabion wall/check dams			

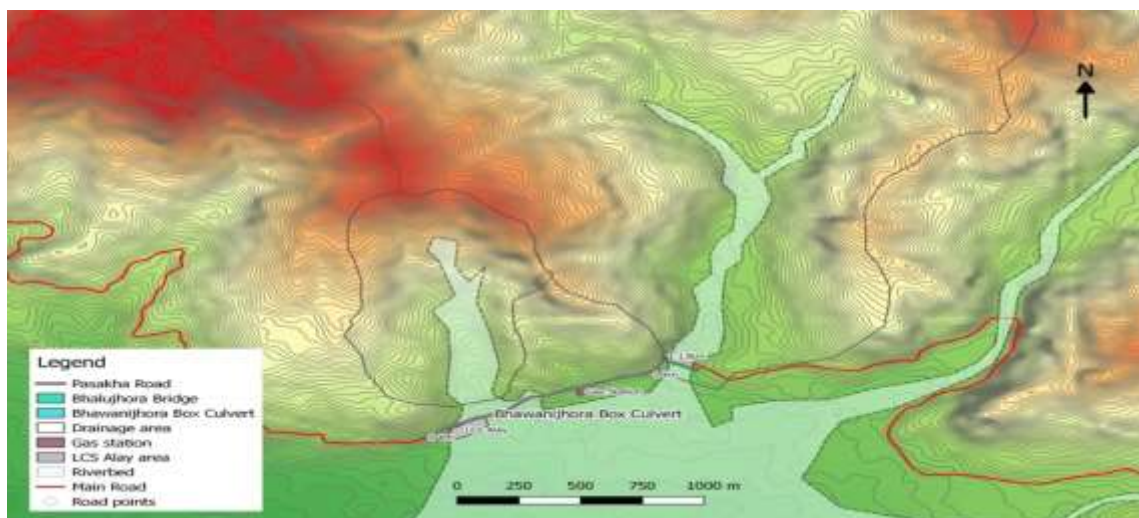


Figure 1: Location of Pasakha Access Road

B. Implementation Arrangement

3. The Department of Roads (DOR) under the Ministry of Works and Human Settlement (MOWHS) is the implementing agency and PAR will be implemented through the Project Implementation Unit (PIU). Under the PIU there will be three Project Implementation Units (PIUs) responsible for day-to-day operation of Pasakha Access Road (PAR).

4. Project Manager (PM) from the PIU will be the environmental focal person for the DOR at the PIU level, who is responsible for ensuring the compliance of environmental conditions of the project. Construction Supervision Consultant (CSC) hired is part of the PIU.

5. CSC includes Team Leader (the Engineer) supported by Survey Engineer, Bridge Engineer, Material Engineer, Quantity Surveyor, Environmental Specialist (ES), Resettlement & Social Specialist (RS), and Resident Engineer (RE) and Site Inspector (SI).

6. RE and SI will be main the persons who will carry out the daily monitoring of construction works; and ensure the implementation of environmental mitigation measures as prescribed in the EMP, by the construction contractor (CC).

7. The contractor through its Project Manager/engineer will be responsible for submission of monthly EMP compliance report. Similarly, RE will also make the monthly project progress report which includes the section on compliance of environmental terms and conditions.

8. Environment Specialist (ES) will carry out intermittent environmental compliance monitoring of the project to ensure the environmental mitigation measures or conditions are adequately addressed. ES will be responsible for compiling and submitting the annual environmental monitoring report to the DOR through PIU; and to the ADB.

9. A District Environmental Committee (DEC) consists of Dzongkhag planning officer, Dzongkhag forest officer, Dzongkhag land record officer, Dzongkhag agriculture officer, Dzongkhag environmental officer, and Dzongkhag engineer. The District Environmental Officer (DEO) is district official of NECS.

10. DEC is responsible for issuing Environmental Clearance to some project activities mandated to the committee and for checking compliance of the projects to which it issues EC periodically. As part of its regular activities, NECS gives general training and orientation to DEOs before sending them to districts. These orientations focus mainly on Bhutan's environmental requirements.

C. Project Implementation Progress

11. The progress of work as of August 2016 is shown in Table 2.

Table 2: Work Progress as of August 2016

Item No.	Activities	% Completed	Remarks
1	Camp and site office establishment	100%	
2	Setting up of batching plant at Bhawanijhora	100%	
3	Pasakha Access Road widening work	0%	
4	Construction of Bhalujhora bridge		Foundation excavation completed but filled by

Item No.	Activities	% Completed	Remarks
			boulders and sand due to monsoon flood
5	Construction of multicellular culverts over Bhawanihora (sub-structure)	38%	
6	Construction of gabion checkdams	2.2%	
Overall project completion		7.4%	

12. An incessant rainfall event occurred from July 22, 2016 for more than a week and caused damages to the completed works, existing bridge and access roads.

13. The gabion check dam has been scoured at its base and partial settlement has occurred. Some gabion crates have been damaged by the falling debris and boulders. The extension of the Check dam No. 12 has partially collapsed.

- i) Evaluation and additional time and cost would be incurred for debris removal and reconstruction of damages.
- ii) While the foundation excavations for the checkdams and retaining walls have been covered with debris, the completed retaining walls near Checkdam No.1 have been completely buried. The rebars installed for the vertical frames of multi-cellular box culvert have been completely covered/silted by the debris.
- iii) The foundation excavations for the piers of Bhalujhora Bridge have been completely buried by the flood. Even existing bridge has been damaged at various sections due to scouring of the footings and structural failure of the bridge members.
- iv) The diversion roads both at Bhawanihora and Bhalujhora were completely washed-out which were made for uninterrupted traffic movements at the construction sites.
- v) The approximate cost of the damages as estimated by the contractor is Nu.3,656,952.00. No restoration or repair works have been taken up as of now because monsoon season is still on and the site is not conducive for carrying out any activity.
- vi) The restoration/reconstruction of the damages due to the recent flood will result in time and cost overruns. Hindrance to the project activities has been claimed by the Contractor during the reporting month which is under review by the DOR.

D. Construction Approach and Methodology

14. PAR widening and reconstruction will be based on Environment Friendly Road Construction (EFRC) Technology with the principle of balanced cut and fill. Excess excavated materials will be disposed in pre-identified approved disposal sites.

15. Civil and bioengineering techniques will be applied to rehabilitate degraded or unstable Bhalujhora area along the road corridor.

E. Climate Change Adaption Measures

16. In the detailed design study, surface geological investigation and subsoil investigation by seismic refraction technique was carried out at Pasakha Access road, across Bhawanijhora debris bed and at entire Bhawanijhora Slide. The slides have been apparently triggered due to the stream cutting at the toe of the slide which is composed of talcosephyllite. Until such time the phyllite layer is completely moved down by the slide, the slope will remain active.

17. Most of the areas at the western slopes towards Phuentsholing show signs of distress mainly due to the stream cutting, steep angle of repose and saturated clay. On the contrary, the eastern side of the slide towards Pasakha is observed to be stable with bed rock of phyllite and quartzitic-phyllite at the base of slope.

18. The geology between Bhawanijhora slide and the stretch of Pasakha road that passes through this slide debris is characterized by sandy gravels, boulders of dark grey and pink quartzite and phyllite. The distance between the road and the base of the slide is almost 1000m. The Bhawanijhora slide covers about 1000m length by 500m width through the active zone. Based on the surface geology and seismic refraction results, presence of loose top soils with debris of alluviums/colluviums at the widespread stream bed for a depth of about 5m is inferred. Below this layer there is possibility of weathered rock (possibly phyllite) and compact colluviums and alluviums of quartzite and phyllite with silt, sand and gravels.

19. The proposed mitigation measures are as follows:

- i) Construction of check dams of tentatively 5m high and 50m to 80m length at a spacing of 150m to 200m at the required location on the flood plain. This will help to control the debris flow.
- ii) Construction of about 300m of protection wall at the base of slope starting from the confluence of main Bhawanijhora stream with its tributary from Alay side to the start of the active slide. The slope (below Pradhan's house) is very unstable due to presence of highly weathered talcosephyllite.
- iii) Bio-engineering to be applied at the unstable area with local species of plants and grasses where ever possible especially in the stabilizing zones to prevent reactivation of the slide.

20. Besides mitigation measures, the following Climate Change Adaption measures have been designed:

- i) Design of drainage structures have been based on future predicted design discharge using rational method and Peak flow SCS method.
- ii) Culverts of higher discharge capacity, for example 1200 mm diameter hume pipes have been proposed as compared to 600 mm and 900 mm diameter hume pipe culverts.
- iii) Adequate wing walls and aprons both upstream and downstream, and scour protection works have been included in the design.
- iv) Trapezoidal drains with increased discharge capacity have been proposed in place of L- shaped drains.
- v) Sufficient river training structures, wing walls, aprons and scour protection structures have been considered for bridges and culverts.
- vi) The application of bio-engineering techniques for slope stabilization have been proposed to the maximum extent.

- vii) The drainage capacity of bridges & culverts (increased span and height) and side drains have been increased and number of relief culverts have been proposed according to the site requirement.

F. Project Cost

21. The estimated cost for PAR is Nu. 371.5 million including 5% physical contingencies. As per the detail design costing, the environmental management cost comes to around Nu.10.74 million which is about 3% of the total project cost. The total project cost for SASEC Road Connectivity Project according to the MOU and the Financing Agreement is US\$ 55.75 million, out of which US\$ 10.51 million is ADB grant, US\$ 30.14 million is ADB loan and US\$15.1 million is RGOB counterpart funding.

G. Project Categorization

22. The project is classified as Category B in accordance with ADB's Safeguard Policy Statement (2009), as no significant impacts are envisioned.

II. COMPLIANCE TO SAFEGUARDS PROVISIONS IN AGREEMENTS UNDER THE PROJECT

A. Compliance to Financing Agreement (Special Operations)

23. The environmental safeguard requirements are indicated in Financing Agreement (Loan Number 3149-BHU and Grant Number 0400-BHU) between ADB and Kingdom of Bhutan dated 5 September 2014. These financing agreement provisions and compliance status are provided in Table 3.

Table 3: Status of Compliance to Environmental Provisions of the Financing Agreement

S.N.	Environmental Provision	Compliance Status
1	<p>Schedule 4. Item 6(a): <u>Conditions for awards of contracts</u> 6. The Beneficiary shall ensure that no Works contract which involves environmental impacts is awarded until:</p> <p>(a) the relevant environmental authority of the Beneficiary has granted the final approval of the EIA and/or IEE; and</p> <p>(b) the Beneficiary has incorporated the relevant provisions from the EMP into the Works contract.</p>	<p>Complied. The EC was accorded as per IEE on May 15, 2015 while the civil works contract commenced on Sept.1, 2015.</p> <p>Complied. The EMP prepared and submitted by the Contractor has been approved for implementation which is being monitored from time to time.</p>
2	<p>Schedule 5. Item 2: <u>Counterpart Funds</u> 2. The Beneficiary shall make available the Loan and Grant proceeds to the Project Executing Agencies under appropriate arrangements acceptable to ADB, and shall provide or cause each Project Executing Agency to provide, as necessary, respective counterpart staff, land, facilities, and funding required for timely and effective implementation of the Project, including, without limitation, any funds required (a) to meet any shortfall between cost and revenues for the O&M of Project facilities; (b) to mitigate unforeseen environmental or social impacts; and (c) to meet any additional costs arising from design changes, price escalation in construction costs and/or unforeseen circumstances. The Beneficiary shall cause the relevant Project Executing Agency to make the resources thus required available on an annual basis for each fiscal year.</p>	<p>Complied.</p> <p>The counterpart funding from the RGOB is being disbursed timely for compensation to the affected parties. The Project Coordinator and Project Manager have been appointed as counterpart staff to the project.</p>
3	<p>Schedule 5. Item 5: <u>Environment</u> 5. The Beneficiary shall ensure, or cause the</p>	<p>Complied.</p>

S.N.	Environmental Provision	Compliance Status
	relevant Project Executing Agency to 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 Beneficiary relating to environment, health and safety; (b) the Environmental Safeguards; and (c) all measures and requirements set forth in the EIA, the IEE, the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	The compliance requirements with regard to social and environmental safeguards, health and safety and EMP are being satisfactorily complied
4	Schedule 5. Item 9: <u>Human and Financial Resources to Implement Safeguards Requirements</u> 9. The Beneficiary shall make available, or cause the Project Executing Agencies to make available, necessary budgetary and human resources to fully implement the EMP and the RP.	Complied. DOR has a designated Environment Focal Person who monitors the site from time to time.
5	Schedule 5. Item 10: <u>Safeguards – Related Provisions in Bidding Documents and Works Contracts</u> 10. The Beneficiary shall ensure, or cause the Project Executing Agencies to ensure, that all bidding documents and contracts for Works contain provisions that require contractors to: <ul style="list-style-type: none"> a. comply with the measures relevant to the contractor set forth in the EIA, the IEE, the EMP, the RP and any indigenous peoples plan (to the extent they concern impacts on affected people during design and/or 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; c. provide the Project Executing Agency with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during design, construction, implementation or operation of the Project that were not considered in the EIA, the IEE, the EMP, and the RP; d. adequately record the condition of roads, agricultural land and other 	No indigenous people located within project premises. Only one house has been affected by the project. The compensation for the house is under progress. Complied. The required funds for environmental and social measures are being disbursed on need basis. Impacts to environmental, resettlement or indigenous peoples are not anticipated. No effect on road and agricultural lands. To be implemented upon project completion.

S.N.	Environmental Provision	Compliance Status
	<p>infrastructure prior to starting to transport materials and construction; and</p> <p>e. Reinstall pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</p>	
6	<p>Schedule 5. Item 11: <u>Safeguards Monitoring and Reporting</u> 11. The Beneficiary shall do the following or cause the Project Executing Agencies to do the following:</p> <p>a. submit Annual Safeguards Monitoring Reports to ADB for disclosure on ADB's website and disclose relevant information from such reports to affected persons promptly when requested;</p> <p>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 EIA, 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;</p> <p>c. no later than 3 months from award of the first Works contract, engage or cause to be engaged qualified and experienced external experts or qualified non-governmental organizations under a selection process and terms of reference acceptable to ADB, to verify information produced through the Project monitoring process for environment, resettlement and indigenous peoples (if any), and facilitate the carrying out of any verification activities by such external experts; and</p> <p>d. report any actual or potential breach of</p>	<p>The first environmental monitoring report is being prepared to comply with the clause.</p> <p>N/A (no unanticipated risk have been experienced)</p> <p>N/A (no major environment or social issues are anticipated in the project that warrant engagement of external expert)</p> <p>N/A (the compliance</p>

B. Compliance to Project Administration Manual

24. The Project Administration Manual¹ (PAM), describes how the Department of Roads, and Ministry of Works and Human Settlements will implement the project and deliver the results on time, with quality, within budget, and in accordance with government and Asian Development Bank (ADB) policies and procedures. The PAM is mandatory and serves as the main document describing implementation details. The status of implementing the environmental safeguards requirements set out in PAM is provided in Table 4.

Table 4: Status of Compliance to Environmental Provisions of the Project Administration Manual

S.N.	Environmental Provision	Compliance Status
1	Schedule VIII. Item 31: <u>Categorization</u> 31. The project is classified as category B in accordance with ADB's Safeguard Policy Statement (2009) (SPS). An Initial Environment Examination (IEE) report has been prepared for PAR	100 % complied.
2	Schedule VIII. Item 32: <u>Implementation of Environmental Management Plan (EMP)</u> 32. DOR will ensure that all environment safeguard requirements under the project will be implemented as required by the IEE for PAR. The EMP with detailed budget estimates are given in IEE for the PAR. An EMP has also been prepared for the PBR, MDP and Alay LCS. However, the detailed designs of PBR and Alay LCS are yet to be prepared, hence the EMPs will be updated by the design consultant in accordance with the detailed design. Since a design and build contract package is to be adopted for the procurement of MDP works, the contract agreement with the contractor for the subproject must include clauses for updating the EMP during the design stage by the contractor and proper implementation of the EMP during construction. For the new section of PAR, necessary clauses on environment safeguards will be included in the main text of the contract documents and the EMP matrix from the final IEE report will be attached to the bidding documents. The contractors will be required to include the costs for implementing the environmental clauses and EMP in their bids.	Complied.
3	Schedule VIII. Item 33: 33. The EMP is a plan for implementation and monitoring of environmental mitigation and enhancement measures during project construction and operation. Specific measures with details on location, time and responsible agency for implementation and monitoring is given in the EMP. Mitigation measures for implementation during the construction stage is implemented by the contractor and during operation stage by DOR and PT through PIU. The Environmental Specialist in the	Complied.

¹<https://www.adb.org/sites/default/files/project-document/81673/39225-034-pam.pdf>

S.N.	Environmental Provision	Compliance Status
	consulting services for both the DOR and PT subprojects will support DOR and PT to guide and monitor implementation of EMPs by contractors including climate adaptation activities. An Environmental Focal Person (EFP) will be appointed in each of the three Project offices under DOR. Similarly, an EFP will be appointed at the site level under the consulting services for conducting day to day monitoring of EMP implementation. An EFP will also be appointed by the contractor for each contract package to ensure proper implementation of the EMP.	
4	Schedule VIII. Item 34: 34. The EMP includes collection of baseline data on air and noise quality during the pre- construction stage. The Environmental Specialist in the consulting services will be responsible for procuring the monitoring equipment and organizing training on operation of the equipment by the supplier for the EFP under the PIUs, consulting services and contractors before the start of construction works. The Environmental Specialist in the consulting services will be responsible for baseline data collection on air, noise, and water quality before construction works begin, during construction and during early stages of operation as given in the EMP. After the construction works are over, the monitoring equipment will be handed over to DOR and PT for use by the EFP for other projects. An initial coordination cum training workshop will be organized by DOR and PT with technical support from consulting services and ADB as necessary	Complied.
5	Schedule VIII. Item 35: 35. All required clearances such as the environmental clearance and forestry clearance must be obtained by the PIUs before start of construction works for all project components.	Complied.
6	Schedule VIII. Item 43: <u>Grievance Redress Mechanism</u> 43. A grievance redress mechanism will be established to receive and facilitate the resolution of concerns, complaints and grievances of affected people and relevant agencies on the social and environmental performance of the project in a time bound and transparent manner. The project specific GRM is not intended to bypass the government's own redress process, rather it is intended to address project affected people's concerns and complaints promptly, making it readily accessible to all segments of affected persons and is scaled to the risks and impacts of the project.	GRM yet to be established.
7	Schedule VIII. Item 44: <u>Monitoring and Reporting</u> 44. Implementation of the EMP will be monitored by PIUs with the support of consulting services. The purpose of monitoring implementation of the RP will be to evaluate and report	Complied.

S.N.	Environmental Provision	Compliance Status
	whether resettlement goals have been achieved. For environment safeguards records on implementation of the mitigation measures on site will be maintained by the contractor. Based on these records and spot checks of at least once a month by PIUs and consultants, monitoring reports will be compiled by the Environmental Specialists in consulting services on an annual basis.	

C. Compliance to Civil Works Contract Agreement

Table 5: Status of Compliance to Environmental Provisions of the Civil Works Contract Agreement

S.N.	Description	Compliance Status
1.	Orientation for Contractors, Workers on environmental and social management	Complied
2.	Loss of vegetation	N/A
3.	Drainage and Hydrological Impacts	Complied
4.	Procurement and storage materials	Complied
5.	Solid waste management	Complied
6.	Noise and Dust pollution	Complied
7.	Excavation and disposal	Complied

III. COMPLIANCE TO ENVIRONMENTAL MANAGEMENT PLAN

25. The environmental management plan (EMP) for the project was provided in Table 6. As per EMP, five environmental management activities were required to be implemented during the pre-construction stage; twenty-three (23) activities are required to be implemented during the construction stage; and three (03) activities are required to be implemented during the operation stage. The following table lists out the status of activities during the pre-construction and construction stage as of August 2016.

Table 6: Status of Compliance to Environmental Provisions of the Environmental Management Plan

SN	Activity	<u>Mitigation measures</u>	Compliance attained (Yes, No, Partial)	Comment/Reasons for Partial or Non-Compliance	Issues for further action and target dates
PRE-CONSTRUCTION					
1	Design measures	<ul style="list-style-type: none"> • IEE for PAR submitted to NEC and environmental clearance is approved. • Public clearance from Phuentsholing Thromde was obtained. • IEE recommendations have been incorporated in the design. • Unnecessary stockpiling of rock and bitumen based materials near road is avoided. • Water and power supply is provided from different source from community. 	Yes		
2	Environmentally responsible procurement	<ul style="list-style-type: none"> • Procured air and noise monitoring equipments. • Contractor engineer is trained at site on day to day basis on environmental dos. 	Yes The equipment for monitoring air and noise were procured in July 2016..... Training was held on September 08, 2016		
3	Environmental capacity development	<ul style="list-style-type: none"> • Environment baseline (air and noise) monitoring equipment and required training on data collection and assessment is conducted recently. • Health awareness campaign on STD/HIV/AIDS has been conducted at contractor's camp area. 	Yes		
4	Protect and re-provision irrigation and utilities	<ul style="list-style-type: none"> • Power, water supply, telecommunications and irrigation systems are not interrupted by project work till now. 	Yes		
5	Tree cutting	<ul style="list-style-type: none"> • -few trees felled only in required area with approval from Department of Forestry. 	Yes		

SN	Activity	Mitigation measures	Compliance attained (Yes, No, Partial)	Comment/Reasons for Partial or Non-Compliance	Issues for further action and target dates
CONSTRUCTION					
1	Orientation for Contractors, Workers on environmental and social management.	<ul style="list-style-type: none"> We oriented our contractor during the monthly meeting and workers at construction site. Awareness campaign has been conducted at camp area on health issues. 	Yes		
2	Loss of vegetation and impacts to fauna	<ul style="list-style-type: none"> Impact on vegetation and fauna is very minimal. 	Yes		
3	Drainage and Hydrological Impacts	<ul style="list-style-type: none"> Provided adequate drainage at construction sites and camps to avoid pounding and flooding. -Implemented agreed designs for bridges and culverts sufficient to control flooding as designed and to dissipate energy of flow to reduce erosion. 	Yes		
4	Materials exploitation and management of quarry and borrow areas	<ul style="list-style-type: none"> -Not required as construction materials are being transported from approved private mines 	No	Not required as the mines/quarry is managed by private individual	
5	Spoil Disposal	<ul style="list-style-type: none"> -Till date there is no spoil disposal issues where we follow Environmental -- Friendly Road Construction method (cut and fill) 	Partial	Excavation work is being carried out	
6	General Construction Waste Disposal	<ul style="list-style-type: none"> -Contractor has made two pits for Organic waste/non organic, sufficient refuse bins within site camps and offices. 	Yes		
7	Use of hazardous substances and hazardous waste disposal	<ul style="list-style-type: none"> No hazardous substances and waste are generated at construction site, Contractor maintains their machines and vehicles in Phuentsholing workshops (7km away from construction site) Project vehicles are fueled from Pasakha fueling station. 	Yes		
8	Asphalt plant rock crushers, bitumen usage and soil contamination	<ul style="list-style-type: none"> As per Contractor's work plan they will not establish asphalt plant and rock crushers. They will source from private firm. Therefore, there would be soil contamination 	Yes		
9	Noise and dust nuisances	<ul style="list-style-type: none"> Noise is very minimal as construction site is away from human settlements. Project vehicles are maintained on time. Water tanker is being deployed by contractor to subside the dust along the 	Yes		

SN	Activity	<u>Mitigation measures</u>	Compliance attained (Yes, No, Partial)	Comment/Reasons for Partial or Non-Compliance	Issues for further action and target dates
		road within project area. <ul style="list-style-type: none"> Air and noise have been monitored by CSC. 			
10	Blasting (if required)	N/A	No	Project did not encounter rock till now.	Might require in future
11	Erosion control / run-off	<ul style="list-style-type: none"> Project has constructed gabion wall at different location within project. Temporary drainage has been constructed. Implementation of bio-engineering work is not applicable as of now. 	Partial	gabion walls constructed but due to monsoon rain, most of gabion walls are buried and damaged	Contractor will restore all the damaged gabion walls within few months time. Bio-engineering work will be implemented by next year (April/May) 2017
12	River protection and bridge repair	<ul style="list-style-type: none"> Bridge work is carried out only in dry season. Rocks and stones will not be disposed to block rivers and streams. Bridge repair and demolition work yet to start. No cofferdams will be constructed. 	Yes		
13	Water quality	<ul style="list-style-type: none"> Camps and site office are located away from Bhalujhora river. No solid wastes from construction are thrown in river. Washing of machinery and vehicles in river is strictly prohibited within project premises. 	No		
14	Water resources	<ul style="list-style-type: none"> Water has been sourced from different source from community. Camps located away from the water source. Contractor brings water by water tanker. 	Yes		

IV. KEY ISSUES

A. On Asphalt Plant

26. The Construction Development Corporation Limited (CDCL) has set up an asphalt plant between the project site office and the construction camp site. The plant which is located just at the entrance of the site which makes it inconvenient for proper mobility of vehicles, especially bigger trucks and also workers and project personnel. However, the bigger issue here is the risks to the health and wellbeing of people living and working in close proximity to the Asphalt plant. Such plants are not suited to be set up in areas close to a human settlement as they emit chemicals to the air during production and also during the loading of the asphalts into trucks. Some of the negative impacts on human and animal health and on the vegetation have already been highlighted.

27. Although the Phuentsholing Thromde had been contacted and informed about these issues, the response is that the air quality is being controlled by the CDCL and also that public clearance has been obtained from the villages around Pasakha. However, the project office and contractor camp site have not been taken into consideration prior to installation and operation of the Asphalt plant.

28. Ever since the plant became operational, complaints from the Construction Supervision Consultants (CSC) and contractor's staff have been coming in with reports of smoke and dust emissions from the plant which has been causing irritation and discomfort to the workers at site.

29. The contract for resurfacing of the roads under Phuentsholing Thromde was awarded to CDCL by Phuentsholing Thromde in 2015. Since the work includes double layering of the entire urban core road (approximately 19kms), an Asphalt Plant was initiated at Pasakha. According to officials from the CDCL, the road works are expected to complete by December 2016. The plant will stop production after December if no other works/contracts are forthcoming according to CDCL. Currently, due to frequent rainfall, the asphalt plant has minimized its operations.

V. COMPLIANCE TO ENVIRONMENTAL CLEARANCE

30. The Environmental Compliance of Pasakha Access Road (PAR) project is prepared as per terms and conditions of EC and implementation of Environmental Management Plan (EMP) of the project. Table 7 contains the compliance requirements and the status compliance of PAR.

Table 7: Compliance with the Terms and Conditions of the Environmental Clearance

No.	Compliance Requirement	Status
1	Any modification of the proposal shall take place only with the prior approval of the NEC	There has been no modification in proposal so far
2	Construction complies with the National Environmental Protection Act 2007, Environmental Assessment Act 2000 and its Regulation 2002, Waste Prevention and Management Act of Bhutan 2009 and its Regulation 2012, and the Water Act 2011	Construction is going on as per the mentioned laws. The site is monitored by the Dzongkhag Environmental Officer, DoR as well as the site supervisor from the consultant firm.
3	Complies with the Environmental Standards 2010	
4	Construction is carried out as per the project's documents submitted for environmental clearance.	Construction is as per the IEE submitted and as per the Environmental Clearance issued
5	Environmental Clearance is valid only for the construction of the road widening and improvement of one point two (1.2) kilometer of Rinchening-Pasakha Highway, construction of 170m bridges and flood retention walls at Pasakha under Chhukha Dzongkhag.	No works other than the road widening and improvement of one point two (1.2) kilometer of Rinchening-Pasakha Highway, construction of 170m bridges and flood retention walls construction is being carried out
6	The construction is confined within the allotted Area	Construction is within the premises of the Pasakha Access Road (PAR) project.
7	Ensure compliance to all conditions of stakeholder clearances	Construction is being carried out as per stakeholder clearances
8	Local residents, households, communities, public, private parties, and any religious, historic and ecologically important sites are not adversely affected by the construction.	The construction does not affect any sites of this nature. However only one household has been affected by the project road and compensation payment is under process.
9	NEC is informed of any chance finds of precious metals or minerals or articles that have economic, religious or ecological significance	There have been no such chance findings yet
10	Holder shall be solely responsible for any disputes	As all disputes and settlements have been made during the IEE stage, the construction phase does not envisage any disputes.
11	Holder shall ensure that the import and use of Secondhand equipment and machineries are strictly prohibited	Equipment used at the site were all found to be in good condition.
12	Construction conforms to Safety Rules and Norms	Contractor has appointed Safety Officer. From PIU, PM takes care of safety issues and from CSC side

No.	Compliance Requirement	Status
		Environmental Focal Person monitors this
.13	Felling of trees is done upon obtaining approval from the Divisional Forest Office	There are hardly any trees within the project area. Forest permit shall be obtained if necessary.
14	Excavated material is dumped at pre-identified Sites	Excavated materials have been dumped in designated dumping site and moreover cut and fill method is being implemented at site for minimizing disposal of excavated materials.
15	Spillage and roll over of excavated materials is Avoided	Due to the flat terrain excavated materials will not be rolled over.
16	The holder shall ensure that adverse visual impact of construction is minimized	There are no adverse visual effects that need to be covered
17	Safety signs are posted at strategic locations	There are no strategic locations which necessitate specific warning signs. However, the Contractor was advised to erect a sign at the access to the site with the necessary information specified in the Environmental Clearance
18	Ensure that adequate safety gadgets are provided to the workers	Gum boots, helmets, and face masks have been issued to the workers.
19	Adequate sanitation facility is provided to the Workers	There are four toilets at the workers camp. The camp has adequate water for both cooking and washing.
20	Ensure that first Aid kit is available at site	First Aid kit made available at the site. Other than treating simple cuts and wounds at site, workers are taken to the hospital.
21	Copy of the Environmental Clearance is available at the site office	Copy of the EC is made available with the Contractor office

VI. MONITORING ACTIVITIES UNDERTAKEN

A. Air Quality Monitoring

31. Ambient air quality was monitored on 25th March, 2016 by Mr. Karma Chogyel, Environmental Specialist from Engeo Consultancy, Thimphu. The air quality monitoring was conducted over 24 hours at CSC Site Office (Bhalujhora) Pasakha. The results of the air quality monitoring is as shown in table below:

Table 8: Air Quality Monitoring

Location	Date	Time	SPM	PM10	SO2	NO2	CO
Pasakha (Project area)	25.03.2016 to 26.03.2016	4 Pm to 4 Pm	197.9	126.3	BDL	BDL	BDL

32. The results show that the suspended particulate matter (SPM) are below the prescribed level while the respirable particulate matter (RPM, PM10) has exceeded the level prescribed in Environmental Standards, 2010.

B. Noise Level Monitoring

33. Noise level was also monitored on 25th March, 2016 by Mr. Karma Chogyel, Environmental Specialist from Engeo Consultancy, Thimphu. The noise level monitoring was conducted over 24 hours at CSC Site Office (Bhalujhora) Pasakha. The results of the noise level monitoring is as shown in table below:

Table 9: Noise Level Monitoring

Location	Noise level	Permissible limit (Mixed Area)
Day time (Ld) 6Am-10Pm	40.2 dBA	65 dBA
Night time (Ln) 10Pm-6Am	44.3 dBA	55 dBA

34. The results show that the noise levels are below the levels prescribed in Environmental Standards, 2010.

VII. CONCLUSION

35. This SASEC, PAR Connectivity Project annual environmental monitoring report is required to be prepared and disclosed in DoR and ADB website as required by SPS 2009 for the environment category-B project. There are different project component under SASEC, PAR connectivity project, in various stage of civil works.

36. The contract package has been awarded by Department of Roads under Ministry of Works and Human Settlement to SPML-Gaseb-Maccaferi JV Bhutan/India. Overall, the project exhibited standard level of compliance achieving 70% as per EMP implementation.

37. The project is compliant with ADB's requirements as well as RGoB guidelines concerning environment safeguards as provided in IEE and EMP. The baseline data collection for air quality and noise level monitoring was conducted by the M/s Engeo Consultancy on 25th March 2016 at Pasakha Site Office. The training for air quality and noise level was conducted at CSC site office on 8-9th September, 2016 by M/s Engeo consultancy.

38. Almost 80% of foundation excavation was completed which has however been covered by monsoon flood.


39. The Environmental Clearance was obtained by Department of Road from National Environmental Commission, Thimphu for the execution of SASEC/PAR project. The EC is valid till 14th May, 2017. The public clearance was obtained from Phuentsholing Thomde for the construction activities and establishment of labour camps. Project has obtained EC for batching plant establishment.

40. Occupational Health and Safety Measures are complied by issuing the necessary safety outfits like safety hamlet, safety gumboots, safety boots, safety jackets and dust mask. Excavation more than 1m depth is fenced for safety purposes. Water tanker is deployed to sprinkle the water along the project road as and when needed to suppress dust. All the necessary facilities are provided to the labours and staff living within Construction area.


41. In Pasakha Access Road Connectivity project under SASEC, no grievance was received during the reporting period.

42. For monitoring the Construction site and EMP, ES input in the project is limited. Therefore, SI from CSC represents the ES and monitors the Construction site regularly/daily. Mr. Kesang Namgyal (Civil engineer) from Contractor is the Environmental Focal Person cum Safety Officer. Contractor submits the EMPs on monthly basis and the EMP is cross-checked by SI/ES/RE and TL.

APPENDIX 1: ENVIRONMENTAL CLEARANCE FOR PASAKHA ACCESS ROAD



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National Environment Commission
 Royal Government of Bhutan



NECS/ESD/DOR/3122/2015/ 2536 May 15, 2015

ENVIRONMENTAL CLEARANCE

The National Environment Commission Secretariat (NECS) is pleased to issue environmental clearance in respect of Department of Road, Ministry of Works and Human Settlement, Thimphu as per the decision of the Environmental Assessment Technical Committee during its meeting on May 8, 2015 for the **road widening and improvement of one point two (1.2) kilometer of Rinchending-Pasakha Highway, construction of 170m bridges and flood retention walls under Phuentsholing Thormde** with following terms and conditions:

1. As per the Section 28.3 of the Regulation for the Environmental Clearance of Projects, 2002, any modification of proposal/application shall including change in alignment shall take place only with prior approval from NECS;
2. **The holder shall ensure that this environmental clearance is valid only for the road widening and improvement of one point two (1.2) kilometer of Rinchending-Pasakha Highway, construction of 170m bridges and flood retention walls under Phuentsholing Thormde;**
3. The holder shall ensure that activities are in line with the National Environment Protection Act 2007, Environmental Assessment Act 2000 and its Regulation 2002, Waste Prevention & Management Act of Bhutan 2009 and its Regulation 2012 and The Water Act of Bhutan 2011;
4. The holder shall ensure that the activities comply with the Environmental Standards 2010;
5. The holder shall ensure strict compliance to the Undertaking submitted to NECS;
6. The holder shall ensure that the activities are carried out as per the application submitted for environmental clearance;
7. The holder shall ensure compliance to all the terms and conditions of stakeholder clearances at all times;
8. The holder shall be solely responsible for any dispute arising due to the activities;
9. The holder shall ensure that local residents, households, communities, public, private parties and any religious, cultural, historic and ecologically important sites are not adversely affected by the activities;
10. The holder shall ensure that NECS and any other relevant authorities are informed of any unanticipated or unforeseen chance-find of any precious metals or minerals or articles, that have economic, cultural, religious or ecological importance;
11. The holder shall ensure that Environmentally Friendly Road Construction (EFRC) techniques are adopted for the widening of this road to minimize adverse environmental impacts;
12. The holder shall ensure that excavated materials are never pushed downhill but are loaded, hauled and dumped at the pre-identified/approved spoil dumpsites to avoid downstream environmental damages
13. The holder shall ensure that activities does not lead to blockage, storage or diversion of river, stream, irrigation channel, waterfall, underground water source or any other water resource or water course;
14. The holder shall ensure that no effluents or wastes of any kind are discharged into water resources or water bodies;
15. The holder shall ensure that adequate trenches and barriers such as check dams, log barriers or boulder barriers are constructed at the spoil dumpsites and other required areas

NEC, PO Box 466, Thimphu, Bhutan

Tel: (975-2) 323384/325856/324323/326993 Fax: (975-2) 323385

Handwritten notes:
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- depending on the site condition prior to dumping and excavations;
16. The holder shall ensure that drains and channels are constructed within and around the dumpsites for channeling of surface runoff water to avoid erosion of dumped materials which may cause corresponding downstream environmental damages;
 17. The holder shall ensure that dumpsites are stabilized and vegetated with local plant species to prevent potential soil erosion and to blend with the surrounding environment;
 18. The holder shall ensure that all disturbed areas along the widening of the road are re-vegetated by adopting different bioengineering techniques depending on the site conditions;
 19. The holder shall ensure that adequate bioengineering activities are carried out on the roadside slopes immediately after widening to minimize soil erosion and improve visual impacts;
 20. The holder shall ensure that side drains, cross drains, causeways, culverts and other supporting structures such as retaining and breast walls are constructed at all required areas to prevent soil erosion/landslide, improve usability and sustainability of the road infrastructure as proposed in environmental clearance application;
 21. The holder shall ensure that felling of trees, if required are done only upon obtaining approval from the concerned Division of the Department of Forest and Park Services;
 22. The holder shall ensure that adequate safety gadgets and outfits such as safety helmets, eye goggles, breathing masks, ear muffs, safety boots, etc. are provided to all workers and any other person entering the work site;
 23. The holder shall ensure that specific travel time is fixed and publicly announced in case the widening activity deters the movement of people and vehicles to avoid traffic disturbance at all times;
 24. The holder shall ensure that wastes generated from labour camps and site offices are managed as required under the Waste Prevention and Management Act of Bhutan 2009 and its Regulation 2012;
 25. The holder shall ensure that littering is avoided at all times;
 26. The holder shall ensure that first aid-kits are available at the site at all times;
 27. The holder shall ensure that underage workers are not employed for the activities;
 28. The holder shall ensure that safety signs are posted at strategic locations, including signboards indicating areas where specific safety gadgets are required;
 29. The holder shall ensure that signboard is erected at the take-off point/initial widening point displaying the name of the Project, length of road and contact address of the implementing agency;
 30. The holder shall ensure that a copy of this environmental clearance is available at the work site at all times;
 31. The holder shall develop contingency plan to deal with unforeseen environmental risks, hazards & accidents and submitted to NECS within **three (03) months** from the date of issue of this environmental clearance;
 32. The holder shall ensure that NECS is informed at least one (01) month prior to the completion of the activity along with a copy of the environmental clearance and report on the implementation of its terms and conditions;
 33. The holder shall ensure that renewal of this environmental clearance is processed at least one (01) month prior to its expiry along with a copy of environmental clearance and a report on the implementation of its terms and conditions;
 34. The holder shall develop detailed implementation plan focusing on implementation of the environmental terms and conditions and submit to NECS within **three (03) months** from the date of issue of environmental clearance; and

35. The holder shall ensure strict implementation of the terms and conditions of this environmental clearance at sites at all times.

Failure to comply with any of the above terms and conditions shall constitute an offence under the Environmental Assessment Act 2000, its Regulations 2002, the National Environment Protection Act 2007 and any other relevant laws. Penalties for such offences shall include but not limited to suspension and/or revocation of environmental clearance in part or whole without any liability on the part of the Royal Government.

This environmental clearance is valid up to May 14, 2017 and is subject to periodic review and changes.


X Chief Environment Officer
Environment Services Division


To,

The Director,
Department of Roads,
Ministry of Works and Human Settlement,
Thimphu

Copy to:


1. The Offg. Secretary, NECS for kind information.
2. The Dasho Thrompon, Phuentsholing Thromde for kind information.
3. The Chief Environment Officer, Compliance Monitoring Division, NECS, Thimphu for necessary action.
4. The Environment Officer, Dzongkhag Administration, Chukha for necessary action.
5. Guard file (DOR), ESD, NECS for record.

APPENDIX 2: ENVIRONMENTAL CLEARANCE FOR BATCHING PLANT AT BHALUJHORA



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ROYAL GOVERNMENT OF BHUTAN
DZONGKHAG ADMINISTRATION
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CDA/ DEC-06/2015/ **3277** 10th December 2015

ENVIRONMENTAL CLEARANCE

The Dzongkhag Environment Committee (DEC) is pleased to issue environmental clearance in respect of Department of Roads, Ministry of Works and Human Settlement, Phuentsholing for installation and operation of concrete batching plant at Bhalujhora, Pasakha under Phuentsholing Thromde, Chukha Dzongkhag with the following terms and conditions:

1. As per section 28.3 of the Regulation for the Environmental Clearance of Projects 2002, any modification of proposal/ application shall take place only with prior approval from DEC;
2. The holder shall ensure that installation and operation of batching plant and mini stone crushing unit is in line with the National Environment Protection Act 2007, Environment Assessment Act 2000 and its Regulation 2002, Waste Prevention & Management Act of Bhutan 2009 and its Regulation 2012 and the Water Act of Bhutan 2011 and its Regulation 2014;
3. **The holder shall ensure that the environmental clearance is valid only for installation and operation of concrete batching plant at Bhalujhora, Pasakha under Phuentsholing Thromde, Chukha Dzongkhag;**
4. The holder shall ensure that the installation and operation of concrete batching plant complies with the Environmental Standards 2010;
5. The holder shall ensure compliance to all the terms and conditions of stakeholder clearances at all times;
6. The holder shall ensure that installation and operation of concrete batching plant is carried out as per the project proposal submitted;
7. The holder shall ensure that installation and operation of concrete batching plant is strictly confined within the allocated area;
8. The holder shall be solely responsible for any dispute arising due to installation and operation of concrete batching plant;
9. The holder shall ensure that import and use of second hand equipment and machineries are strictly prohibited;
10. The holder shall ensure that adverse visual impacts due to installation and operation of concrete batching plant is minimized at all times;
11. The holder shall ensure that water sprinklers within the premises are installed to suppress dust emissions;
12. The holder shall ensure that the plant is adequately barricaded/ fenced to ensure safety and minimize the adverse visual impacts on the area;
13. The holder shall ensure to construct sedimentation ponds for collecting waste discharge from the plant;
14. The holder shall ensure to store cement in closed warehouse;
15. The holder shall ensure that the waste generated from labor camps and site offices are managed as required under Waste Prevention and Management Act of Bhutan 2009 and its Regulation 2012;
16. The holder shall ensure that 3R (Reduce, Reuse and Recycle) principle is adopted for waste management;
17. The holder shall ensure that littering is avoided at all times;

Pm. SABB

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ROYAL GOVERNMENT OF BHUTAN
DZONGKHAG ADMINISTRATION
Ngoedrup-Tse Dzong: Chhukha



18. The holder shall ensure that adequate sanitation facilities are provided to workers and employees;
19. The holder shall ensure that adequate safety gadgets and outfits such as safety helmets, eye goggles, breathing masks, ear muffs, safety boots, etc are provided to all workers and any other person entering the worksite;
20. The holder shall ensure that under aged workers are not employed for the proposed activity;
21. The holder shall ensure that first aid- kit is made available at the worksite;
22. The holder shall ensure that sign boards are erected at appropriate locations stating the name of the project and contact address of the implementing agency;
23. **The holder shall ensure that once the project is completed, concrete batching plant shall be removed immediately;**
24. The holder shall ensure that a copy of the environmental clearance is available at the work site at all times;
25. The holder shall ensure to inform DEC at least 01 (one) month prior to the completion of the proposed activity with a copy of environmental clearance and a report on the implementation of its terms and conditions;
26. **The holder shall ensure the renewal of this environmental clearance is processed at least 01 (one) month prior to its expiry along with a copy of environmental clearance and a report on the implementation of its terms and conditions;**
27. The holder shall ensure strict implementation of the terms and conditions of this environmental clearance at all times;

Failure to comply with any of the above terms and conditions shall constitute an offence under Environmental Assessment Act 2000, its Regulation 2002, the National Environment Protection Act 2007 and any other relevant laws. Penalties for such offences shall include but not limited to suspension and/or revocation of environmental clearance in part or whole without any liability on the part of the Royal Government.

The environmental clearance is valid till 9th December 2017 and is subjected to periodic review

(Chairman)
Dzongkhag Environment Committee

Project Coordinator,
SASEC Road Connectivity Project,
Regional Office DoR, Phuentsholing

Cc:

1. Director, Department of Roads, Ministry of Works and Human Settlement, Thimphu for kind information
2. Dungpa, Phuentsholing Dzongkhag for kind information
3. Chief Environment Officer, Environment Services Division, National Environment Commission Secretariat, Thimphu for information

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 ROYAL GOVERNMENT OF BHUTAN
 PHUENTSHOLING THEROMDE
 POST BOX NO. 72 PEEKHEL LAM
 འབྲུག་



Date: 12/02/2015

**SANCTION (or) REFUSAL OF DEVELOPMENT/
Building Permit**

Pasakha, Pling

With reference to your application for grant of permit for the new construction/ Re-erecton / Material alteration of semi-permanent single storied labour camp on lease land (LPGT-88) located at Bhalujhora, Pasakha, Phuentsholing, we are pleased to inform that the approval has been **GRANTED / REFUSED** subject to the following conditions:

1. The approval is accorded only for the **construction as specified above:**
2. Always follow the corrected drawings marked with **red ink** at the time of construction. That in case of any discrepancies, the matter shall be brought to the notice of PT for a joint verification and acceptable solution.
3. You will need to dismantle the structure without any reservation and compensation from Thromde as and when Thromde issues notification upon the completion of lease term.
4. Should the adjoining plot owners have any issues and affects their boundary, you shall dismantle the structure affecting the plots without compensation at your own cost.
5. It is not the obligation of Thromde to provide alternative site for relocation when you vacate the leased land any time.
6. Traditional architectural features shall be incorporated with correct proportion at the time of construction.
7. The plot has to be demarcated prior to commencement of works at site.
8. Workers safety and construction ethics shall be observed at all times.
9. The proponent shall ensure that a Civil Engineer/Architect is deployed for supervision of the construction work to avoid any sort of deviation from the approved plan.
10. The proponent shall **take necessary precautions** against accidents, damages or inconvenience to the public and workers or adjacent property directly or indirectly during the execution of the work.
11. The construction debris and excavated earth shall be disposed off to a proper location identified by our Building Inspectors.
12. Since this office is not involved in the execution of work, PT shall not be held responsible in case of failure of any structure(s) or untoward incident at site.

Kindly collect your approved proposals from the Development Control Division upon non-refundable payment of Nu.1000/- (Ngultrum One thousand) only as a building plan processing fees.

Yours Sincerely,

(Offg. Head, DCD)

- 1) The Thrompon/The Executive Secretary, PT for information
- 2) Head, Environment Div, PT for connection of temporary water supply.
- 3) The Building Control and Monitoring Section, PT for necessary action.
- 4) The Survey Officer, Survey Section, PT for demarcation of the plot if not demarcated before.
- 5) The Divisional Manager, Bhutan Power Corporation Limited, Phuentsholing for temporary connection of electricity line.
- 6) The Plot file/land record: **LPGT-88**
- 7) Office copy

Phone: Main Office EPABX# 00975-05-252168/252759/254645 Fax# 252882, Water Supply (O)# 252877, Sewerage (O) # 253306,
Town Maintenance (O) # 253636. Email: pccplg@druknet.bt

APPENDIX 4: PHOTOLOG

Picture 1: Batching Plant at Bhalujhora



Picture 2: Contractors trucks at site



Picture 3: Safety signboard at Construction site.



Picture 4: Labours with safety outfits



Picture 5: Fire extinguisher at CSC site office



Picture 6: Contractor's site office



Picture 7: Labour camp at Bhawanihora



Picture 8: Water tanker at construction site



Picture 9: Health awareness campaign on
AIDS/HIV



Picture 10: Dust bin at CSC site office



Picture 11: Drain behind labour camps



Picture 12: Toilet at camp area



Picture 13: Siltation of work site due to flooding at Bhawanijhora



Picture 14: Siltation of work site due to flooding at Bhawanijhora



Picture 15: Bhalujhora bridge damaged by floods



Picture 16: Gabion checkdams damaged by flash flood