

Environmental Monitoring Report

Project Number: 38412
Bi-Annual Report
Reporting Period: July–December 2014

India: Assam Integrated Flood and Riverbank Erosion Risk Management Investment Program — Project 1

Prepared by the Flood and River Erosion Management Agency of Assam (FREMAA) for the State Government of Assam and the Asian Development Bank.

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BI-ANNUAL REPORT ON IMPLEMENTATION OF EMP

**Project No 38412
Loan No 2684-IND**

**India: Multitranche Financing Facility –
Assam Integrated Flood and Riverbank Erosion Risk
Management Investment Program**

Reporting Period – July 2014 to December 2014

Submitted by Executing Agency
Flood and River Erosion Management Agency of Assam (FREMAA)

Prepared for FREMAA by Project Management Consultancy (PMC-FREMAA)

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Asian Development Bank

Bi-Annual Report on Implementation of Environmental Management Plan

July 2014 to December 2014

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ABBREVIATIONS

ADB – Asian Development Bank
AIFRERMIP – Assam Integrated Flood and Riverbank Erosion Risk Management Investment Program
CBFRML – Community based flood risk management and livelihood
EIA – Environmental impact assessment
EMP – Environmental management plan
EMoP – Environmental Monitoring Plan
FRERM – Flood and riverbank erosion risk management
FREMAA - Flood and River Erosion Management Agency of Assam
MFF – Multitranche financing facility
MIS – Management information system
MoEF – Ministry of Environment and Forests
GOI – Government of India
NGOs – Nongovernment organizations
PMU – Project management unit
SEIA – Summary environmental impact assessment
SGOA – State government of Assam
SIO – Subproject implementation office
SPCB – State Pollution Control Board
UNDP – United Nations Development Program
WRD – Water Resources Department

LOAN PROCESSING HISTORY

Approval of PPTA 26 September 2008
Fact-finding Mission 27 January-7 February 2009
Management Review Meeting (MRM) 9 October 2009
Appraisal Mission-1 1-16 February 2010
Appraisal Mission (Final) 27 April – 10 May 2010
Staff Review Meeting (SRM) 29 July 2010
Loan Negotiations for MFF and Tranche 1 7-8 September 2010
Board Circulation 29 September 2010
Board Approval 19 October 2010
Project 1 Approval IV October 2010
Loan Agreement Signing November/December 2010
Loan Effectiveness December/January 2010
Physical Completion Date 31 March 2017
Loan Closing Date 30 September 2017

1. Introduction :

ADB's environmental and social safeguards are a cornerstone of its support to inclusive economic growth and environmental sustainability. The objectives of the Safeguard Policy Statement (SPS) are to avoid, or when avoidance is not possible, to minimize and mitigate adverse project impacts on the environment and affected people, and to help borrowers strengthen their safeguard systems and develop the capacity to manage environmental and social risks.

The goal of the ADB's Safeguard Policy Statement (SPS) is to promote the environmental and social sustainability of ADB-supported projects by protecting people and their environment from potential adverse impacts and enhancing the benefits provided. This goal is integral to achieving environmentally sustainable and socially inclusive growth and poverty reduction in Asia and the Pacific, a defining element of ADB's Long-Term Strategic Framework, **Strategy 2020**.

In complying with the SPS requirements :

- (i) environmentally sustainable projects are primarily achieved through a good project design during project preparation and effective environmental management during project implementation;
- (ii) integrating environmental considerations into the project feasibility study and design calls for the incorporation of environmental assessment and management into the economic, financial, institutional, social, and technical analysis of a project; and
- (iii) good environmental assessment and management enables the continued improvement of environmental performance throughout the life of a project, and can lead to enhanced economic, financial, and social outcomes.

The Flood and River Erosion Management Agency of Assam (FREMAA) under the state government of Assam is responsible for the implementation of ADB-financed Assam Integrated Flood and Riverbank Erosion Risk Management Investment Program (AIFRERMIP), as agreed jointly between the SGOA, Government of India and ADB, and in accordance with government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by FREMAA of their obligations and responsibilities for program implementation in accordance with ADB's policies and procedures.

Assam Integrated Flood and Riverbank Erosion Risk Management Investment Program is likely to affect an area larger than the sites or facilities subject to physical works. The project under the program therefore come under Category A. Overall, the two subprojects (Dibrugarh, Palasbari and Gumi) are needed primarily to safeguard the people, property and environment from frequent floods of the Brahmaputra River, and strongly supported by the stakeholders. The AIFRERMIP aims to integrate key Environmental Safeguards at all the levels of planning and implementation so that critical natural ecosystem. The flood plains of Brahmaputra

and the resources, are not destroyed. Nevertheless, close monitoring will be operationalized so that any unforeseen impact will be detected and mitigation measures provided. Possible negative impacts include those associated with construction, which are temporary and can be mitigated through prescribed mitigation measures under the environmental monitoring and management plan to be operationalized under the Project, with the necessary capacity building of the executing agency and outsourcing. This will help in maintaining environmental sustainability along with inclusive economic growth. The FREMAA aims to integrate key Environmental Safeguards at all the levels of planning and implementation so that the natural ecosystem are maintained and are least disturbed.

Structural works of the two subproject areas under Tranche-1 are :

Palasbari Sub Project:
Palasbari Reach

1. Palasbari Erosion Protection under water works below LWL (4.9 Km).
2. Construction of Palasbari Embankment and slope protection work above LWL along Brahmaputra river at Palasbari. (5.1 Km.)

Gumi Reach

3. Construction of under water and Bank Revetment with loose boulder crates over geobag apron including supply of boulders and wire mesh nets for Gumi erosion Protection works along the Brahmaputra river. (4.5 Km)

Dibrugarh Subproject

- (i) Raising, Strengthening Upgradation and Construction of Road Works for Dibrugarh Town protection (DTP) Dyke along the Brahmaputra River in Dibrugarh – 8.53 Km,
- (ii) 1.8 km of bank protection through pro-siltation measures along the town protection dykes, (Fabrication and Launching of Porcupines Lot-1, Lot 2, Lot 3 and Lot 4) and
- (iii) Construction of Revetments, Geobag Aprons for Mothola Oakland Bank Area, Dibrugarh Erosion Protection Works from Ch. 000 to ch 2400m

(Kaziranga Sub Project– shifted to Tranche-2)


1.1. Report Purpose :

This project at two sub project sites (Dibrugarh, Palashbari and Gumi) in Assam is implemented by FREMAA through Water Resource Department, Assam in accordance with ADB's Environmental Policy 2002, ADB's Safeguard Policy statement, 2009 and Ministry of Environment, Forest and Climate Change (GOI) Guidelines so as to ensure that all environmental monitoring measures and when ever applicable Environmental mitigation measures as given in Environmental Impact Assessment and subsequent Environmental Management Plans incorporating all the Environmental concerns of the project.

The principle objectives of the report are to :

- To ensure environmentally compatible project implementation by avoiding and mitigation of negative impacts that are likely to arise from the project
- To ensure that EIA recommendations are adequately followed in EMP and EMoP to meet the Environmental Compliances of statutory requirements of MoEF&CC, GOI.



Dibrugarh sub project 

Palasbari Sub Project 

Project sites in Assam along the river Brahmaputra

The Bi Annual Report on the implementation of Environmental management Plan ending December, 2014 delineates Environmental Monitoring of the project from July 2014 to December, 2014 considering the environmental activities along with environmental compliances of statutory requirements of MoEF&CC, GOI and agreement conditions. This report also highlights the gaps and deficiencies while executing the environmental management.

1.2. Project Implementation Progress :

Although the effectiveness of the loan started from December, 2010 and January 2011, consideration of the environment safeguard of the project started in the early part of 2013. Construction works started in February-2012 in both the subprojects of Dibrugarh and Palasbari and Gumi. Kaziranga subproject could not be started as it still require clearance from the standing committee for National Board of Wildlife, MoEF&CC, GOI. Kaziranga Subproject got environmental clearance in 3rd quarter of 2014 and the work shifted to tranche-2. Several meetings, trainings and workshops were conducted jointly by PMC and FREMAA in the month of April, 2013, May, 2014 and in subsequent months for generating the awareness about the environmental safeguard and stipulations of the contract document on environment.

1.2.1. Provisions for compliance :

The AIFRERMIP also aims to integrate key Environmental Safeguards at all the levels of planning and implementation so that critical natural ecosystem and the resources are not destroyed in this biodiversity hotspot. There is a need for recognition and following the compliance with national and state system and regulations on environmental standards by the contractors. Some of the specific environmental parameters are to be monitored periodically to check the compliance. This helps in maintaining environmental sustainability along with inclusive economic growth. Besides above, for achieving the compliance following specific arrangements are made in the contract.

- The Contractor shall employ one fulltime inspector for supervising compliance with the environmental management plan. The environmental inspector shall keep one set of current environmental standards and regulations at the site at all times, available for consultation. The environmental inspector shall submit an Environmental Management Plan and a monthly environmental report. The report shall be written in English language in a format acceptable to the Engineer.
- Measures for monitoring and preventing pollution of air, water, noise, vehicle,

waste.

- No part of the work shall be started before environmental and safety inspectors and first aid nurse are present at the site.
- Other measures like, Borrow pit management, maintenance of access road, compensatory afforestation, emergency response plan, etc are also under the preview of the environmental safeguard measures under the project.

2. Incorporation of Environmental Requirements into Project Contractual Agreements

Manner by which EMP requirements are incorporated into contractual arrangements, such as with contractors or other parties.

An EMP is a plan of scheduled actions that follows directly from a completed EIA of a project. An EMP is the organized expression of the environmental safeguards for the project. In other words, an EIA and resultant EMP which are project-specific. Each project requires a suite of environmental safeguards defined by impact mitigations and environmental monitoring requirements that are specific to the project type, scale, activities, and location.

The key design considerations and elements of environmental monitoring are incorporated in the contract agreement enabling with ADB's Safeguard Policies and with environmental compliances of statutory requirements of MoEF, GOI.

FIDIC-BASED BID DOCUMENTS

GC 4.18 Protection of the Environment

Contractor shall protect the environment on and off site and limit damage/nuisance to public from water/soil/air pollution, noise and other adverse impacts.

Section 6, Clause 2.1 - Environment

Contractor must submit EMP for approval, employ full time environmental inspector, and submit monthly reports to Engineer and monitor impacts and the success of mitigation measures.

Section 6, Clause 2.3 – Safety Precautions & Medical Attendance

Contractor shall employ a full time safety inspector, provide safety and first aid equipment, access to nurse and doctor, etc

In terms of allowable pollutant values and occupational health and safety, the laws, standards and regulations in force in India will be the references to be adhered to by the Contractor.

Following the above clause of the ADB contract document were prepared.

- **Environmental Management Plan (EMP) Compliance as per Bid Document**

Procurement of Works, Section 6 - Employers Requirements, Subsection 2

2. Environmental Management Plan and Safety at the Site

2.1 Environment

2.1.1 Inspector:

“The Contractor shall employ one fulltime inspector for supervising compliance with the environmental management plan. The environmental inspector shall keep one set of current environmental standards and regulations at the site at all times, available for consultation. The environmental inspector shall submit an Environmental Management Plan and a monthly environmental report. The report shall be written in English language in a format acceptable to the Engineer.”

2.1.2 Air and Noise:

“The Contractor shall regularly spray water on dry surfaces to reduce dust problems. The Contractor shall regulate vehicle emission and noise in accordance with current legislation of India. The Contractor shall avoid unnecessary noise, especially at night.”

2.1.3 Land Use:

“The Contractor shall remove and store topsoil for replacement after construction. The Contractor shall restore the surface vegetation in his work areas to the level found before the start of work. This includes the replacement of topsoil removed before construction.”

2.1.4 Pollution:

“The Contractor shall prevent spills of oil and lubricants from vehicles, engines, etc. Used engine oil must be removed in an environmentally acceptable manner in accordance with current legislation of India.”

2.1.5 Disruption of Agricultural Activities:

“The Contractor shall minimize the disruption of any agricultural activities within the flood embankments. To the extent possible, land outside the flood embankments used for construction purposes shall consist of WRD property. Any disruption of private agricultural land used shall be compensated by the Contractor at the current market value.”

2.2 Access Routes

2.2.1 Navigation

“There are important navigation routes along the proposed site. It is the sole responsibility of the Contractor not to block navigation routes, to minimize interference with riverine traffic, and to get all necessary clearances from competent

authorities for the construction of riverbank protection works. All of the Contractor's floating equipment shall follow navigation and safety standards applicable in India. The Contractor shall coordinate any dredging operation with WRD and Inland Waterways Authority as far as it could concern river navigation routes."

2.2.3 Excavation and Filling of Earth in Slope Protection:

"Earth excavation and filling activities shall take place after the area has been surveyed and inspected by the Engineer. The Contractor shall submit a map indicating the areas of planned earth excavation and filling activities; together with cross-sections showing earth cut and fill areas, based on the results of the baseline survey, within one week of survey completion. All earth excavation and fill volumes must be confirmed and revised during the subsequent pre-work survey, before actual excavation and filling work can proceed."

2.2.4 Sand Excavation:

"Sand excavation shall take place in suitable areas inspected by the Engineer prior to the start of the excavation activities and after written approval. The Contractor shall submit a map indicating the areas of planned sand excavation activities, within three weeks of being awarded the contract, and at least one week before starting the work. Sand excavation close to the work site and char inhabitants shall be avoided."

2.3 Safety Precautions and Medical Attendance

2.3.1: "Safety precautions shall include, but are not limited to sound design and measures of Temporary Works, adequate illumination for night operations, instruction in accident prevention for all employees of the Contractor, adequate life protection and life saving equipment (including but not limited to safety helmets and life jackets), adequate traffic control and sign boards, guards, walkways, scaffolds, ladders, bridges, gangways and other safety devices and equipment as may be necessary to prevent accidents or injuries."

2.3.2: "The Contractor shall at all times maintain adequate first aid attendance on the Site including a first-aid nurse. In addition the Contractor shall make necessary arrangements with a qualified medical doctor to be called to the Site when required for routine or emergency consultation. The Contractor shall provide health inspection and vaccination against acute contagious diseases to workers as the situation may warrant."

2.3.3: "The Contractor shall promptly, but in any case within twenty-four (24) hours of the occurrence of any accident at or about the Site, or in connection with the execution of the Works under the Contract, report all accidents to the Engineer or his Representative. The Contractor shall also report all accidents to the competent Authority, whenever such a report is required by law."

2.3.4: *“The Contractor shall employ one full time safety inspector. The inspector shall keep one set of current safety standards and regulations at the site at all times, available for consultation. The Safety Inspector shall supervise the adoption of appropriate safety measures at the construction site and on all floating equipment in compliance with standards and regulations of India. The safety inspector shall submit monthly safety reports. The reports shall be written in the English language in a format acceptable to the Engineer.”*

2.4. Site Installations

2.4.1: The Contractor's preparation of the construction site and of all working and storage areas inside or outside the premises, and transport and assembly of all plant and equipment, complete, as required for the satisfactory execution and completion of the works, shall include but is not limited to the following.

- i) clearing obstructions, grading and improvement of working and storage areas
- ii) protection of existing structure
- iii) protection of trees for their preservation
- iv) construction of temporary road as required
- v) building of furnishing/outfitting of all required offices, workshops, testing laboratories, stores, material sheds, and sanitary facilities
- vi) installation of power, lighting, water, telephone, and any other supply lines, as well as radio communication
- vii) fencing of the site areas and the fixing of all required safety and warning signs, etc
- viii) transport and assembly, ready for use, of all land and water based construction equipment. Survey and diving equipment, generators spare equipment tools, etc.

2.4.2 *“The Contractor must submit to the Engineer on his demand, detailed compilations of all land and water based planned construction equipment with pertinent layout drawings on its set-up location, as well as drawings on the layout of storage and working areas with their approaches.”*

2.4.3 *“The Contractor must provide and maintain reasonable sanitary facilities, proper lighting and adequate protection of the Site against accidents, theft and the like. The Contractor shall organize the disposal of wastes in an environmentally acceptable manner, in accordance with environmental standards and regulations of India.”*

2.4.4 *“The Engineer or his Representative is authorized to check the Site installation at any time, and if required, to demand extensions, additions and special repair or maintenance measures.”*

2.5 Compliance with Environmental Management Plan.

2.5.1: *“The Contractor shall work in strict compliance with the principles of the*

Environmental Management Plan. No part of the work shall be started before environmental and safety inspectors and first aid nurse are present at the site. No part of the work shall be started, or if defects are found later, continued or restarted before complying with all conditions of Sub-section 2 in this Section."

2.5.2 "The Contractor shall remedy any damages resulting from non-compliance of stipulations of this Sub-section 2 at his own cost. All work shall be stopped until compliance is assured."

2.5.3 "If the Contractor is not able or unwilling to start remedial work within five working days after detection of any defect or omission, the Engineer can order remedial works through third parties. The cost for third-party services are to be borne by the Contractor and shall be deducted from the Contractor's invoices or from the Retention Money."

2.6 Measurement and Payment.

2.6.1 Protecting the Environment:

"The Bill of Quantities contains a separate line item to include all costs for protecting the environment. Cost for complying with all requirements related to construction of labour camps/ancillary sites, strengthening and/or repair of roads, rehabilitation of ancillary sites etc. are deemed to be included in the bill of quantities. Cost for specific activities related to the work, such as stripping and replacing top soil (agricultural soil), dust suppression, water supply, sanitation facilities, camp site waste disposal, control of pollution from leakage and spill of oils and lubricants, safety and warning signs/signals etc., should be included in this line item in the bill of quantities. Payments will be made on the basis of available market rates and prevailing schedule of rates of Government of Assam."

3. Summary of Environmental Mitigation and Compensation Measures Implemented

Based on EMP, may include measures related to air quality, water quality, noise quality, pollution prevention, biodiversity and natural resources, health and safety, physical cultural resources, capacity building and others.

3.1. Preparation of site specific EMPs :

Following the contract stipulations Environmental Inspectors prepared the site specific EMPs following the EIA and the EMPs on DTP Dyke works, Mothola Oakland works under Dibrugarh subproject and was approved by the concerned SIO during (July to December, 2014).

Environmental Management Plan

Construction of Revetments, Geo-bag Apron, for Motholla- Oakland bank protection works along Brahmaputra River, Dibrugarh

Assam Integrated Flood and Riverbank Erosion Risk Management Investment Program

Dibrugarh Sub Project



Contract No : AIFRERMA/DIB/M-O/CW/East of 2010/1 & AIFRERMA/DIB/M-O/BPW/East of 2011/1

Date of Commencement :

Date of Completion :

BN Garodia company Address

Environmental Management Plan

Raising, Strengthening, up-gradation and construction of road works for Dibrugarh Town Protection (DTP) dyke, Dibrugarh

**Assam Integrated Flood and Riverbank Erosion Risk Management Investment Program
Dibrugarh Sub Project**



FREMAA/DIB/RSR-DTPD/East of 2013/5

**Mr Jugal Kishore Mahanta
Usha Court, RG Baruah Road
Guwahati - 21**

Environmental Management Plan

Fabrication and Supply of Pre Stressed Concrete Porcupines Lot-3 for use in establishment of anti erosion measures in the critical sections of River Brahmaputra in Dibrugarh district.

**Assam Integrated Flood and Riverbank Erosion Risk Management Investment Program
Dibrugarh Sub Project**

AFRERM(P)/PROJ/23-2010/Pt-II/202 dated 23/12/2013



-: Prepared By :-

**Hemen Kumar Dutta
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Chandmari, Guwahati-781003**

3.2. Measures taken to reduce pollution:

Several measures taken to reduce the environmental pollution, some of them are :

- **Air**
 - Spray water on dry surface to reduce dust in the air
 - Use tarpaulins to cover sand and other loose materials where transported by vehicles
 - Clean wheels and undercarriage of vehicles while leaving the site
 - Certificates on Vehicular Emission of all the vehicles used in the site
 - Checked air quality by PCB approved lab
- **Noise**
 - Plan activities in consultation with SIO, community to reduce noise level
 - Provide information to public about work schedule
 - Horns not used, unless essential
 - Minimize the noise by silencers
 - Do not allow workers to an exposure of 80 dBA or above without ear plug
 - Use of heavy vehicles during specified period of day
 - Use of Generators during specified period of day
 - Checked Noise level by PCB approved lab
- **Surface water quality**
 - Avoid stockpiling of earth fill, especially during monsoon unless covered by tarpaulin or plastic sheets
 - Install temporary silt traps or sedimentation basins along the drainage leading to water bodies
 - Store fuel and lubricants away from the drains
 - Checked surface water quality by PCB approved lab
- **Pollution**
 - Spills of oils on the site and on river regularly checked
 - Specific measures taken to remove the Used engine oils
 - Surface discharges monitored
- **Site Installations**
 - Protection of trees for their preservation
 - temporary roads were constructed
 - environmental friendly waste disposal system properly monitored and executed in the work sites
- **Labour Camps**
 - Minimize the removal of vegetation and donot allow cutting of trees
 - Provide safe drinking water to the camp inhabitants
 - Sanitation facility to the camp inhabitants
 - Solid waste management practiced in the camps
 - before vacating the camp after the work, SIO and fringe community inspect the labour camp sites

3.3. Status of the mechanisms present for the Implementation of EMP

STATUS REPORT ON IMPLEMENTATION OF EMP

Table : 1 . Status of implementation of EMP as on 31.12.14

	Sub Projects according to the contract packages	Environmental Inspector appointed	EMP prepared	EMP approved by SIO	EMoP	Safety Inspector appointed	Monthly Environmental report	First aid Nurse engaged
1	Palasbari Apron	√	√- Submitted to SIO	Approval status not known	√- Submitted to SIO	X	X- Prepared but submitted to SIO	√- Agreement has been made with the local Pharmacy
2	Gumi	√- But never seen in any meeting or site inspections. Same Inspector for both the sites	√- submitted to SIO	√	√- submitted to SIO	X	√- few submitted till October, 2014	√- Agreement has been made with the local Pharmacy
3	Palasbari Embankment	Instructed to PD about all the procedures	X- Not initiated	X- Not initiated	X- Not initiated	X- Not initiated	X- Not initiated	X- Not initiated
4	DTP Dyke	√ – Appointed	√- EMP submitted to SIO	√	√- submitted to SIO	√	√- submitted. Tests yet to be carried out.	Agreement with local nursing home
5	Mothola Oakland	√ – Appointed	√- EMP submitted to SIO	√	√- submitted to SIO	√	√- submitted. Tests yet to be carried out.	Agreement with local nursing home
6	Porcupine Lot-3	Not required	√- Prepared and submitted	√	√- Prepared and submitted	Not required	Tests performed. One consolidated report submitted to SIO	Not required
7	Porcupine Lot-4	Not required	X- Not initiated	X- Not initiated	X- Not initiated	Not required	X- Not initiated	Not required

Table -2: Environmental Clearances during Construction Stage

Sl. No	Description	Approval from Assam Forest Department	Approval from SIO, WRD	Approval from Pollution Control Board, Assam	Responsibility	Status
1	Camp Site	X	√	X	Contractor	Obtained
2	Borrow area for soil	√	√	√	Contractor	Obtained
3	Stone from Quarry	√	X	√	Contractor	Obtained
4	Borrow area for sand	√	√	X	Contractor	Obtained
5	Top soil monitoring	X	√	X	Contractor	Obtained
6	DG set noise and oil spill monitoring	X	X	√	Contractor	Obtained
7	PUC certificate for Vehicles	X	X	√	Contractor	Obtained
8	Loss of agricultural land	X	√	X	Contractor	Monitored
9	Environment Monitoring	√	√	√	Contractor, SIO, FREMAA	Obtained
		Required	√	Not Required	X	

4. Summary of Environmental Monitoring

4.1. Compliance Inspectors (if relevant)

Following the contract stipulations Compliance Inspectors in the form of Environmental Inspector were deployed by few contractors and Safety Inspectors are in process of recruitment by all the contractors (detail in Table-1).

4.1.1. Summary of Inspection Activities

Environmental Inspectors monitors the day to day environmental safeguards at the site and reports to the SIO. Moreover, FREMAA along with PMC also monitors the implementation of the EMP (Table- 3).

Table 3. Showing the site inspections by FREMAA and PMC during July, 2014 to December, 2014.

Date	Site inspected, Meeting	FREMAA	PMC
30.07.14	Dibrugarh- DTP works and Mothola Oakland works	SIO	√
07.08.14	Dibrugarh- DTP works and Mothola Oakland works	SIO	√
12.08.14	Palashbari embankment works and apron works	√, SIO	√
13.08.14	Gumi works	√, SIO	√
05.11.14	Went to Palasbari and Gumi works	SIO	√
25.11.14	Palasbari Embankment works	SIO	√
25.11.14	Gumi works	√, SIO	√
26.11.14	Kaziranga - Tranche -2 documentation	SIO	√

Inspection activities on Environmental Safeguards are done in several stages :

- Monthly Environmental Reporting Formats were developed at PMC to check the compliance. These reports are to be complied by the Environmental Inspector and to be submitted to the SIO for his approval (Form-1).
- Site Engineers of PMC also monitor the Environmental Safeguards (Form-2).
- SIO also monitor the implementation of EMP during their inspection (Form-3)

Form-1

Assam Integrated Flood and Riverbank Erosion Risk Management Investment Program	
Tranche-1	Sub Project :
Contractor :	Project No : 38412
Date of Agreement :	Contract Period :
Target Date of Completion :	Extended upto :
Name of the Environmental Inspector :	Month : Year:

Monthly Environmental Report			
		Status	Remarks
	Environment		
1	Sources of materials		
1.a	Use quarry sites and sources permitted by Government		
1.b	Verify suitability and approval by SIO		
1.c	Submission of monthly documentation of all material sources		
2	Air		
2.a	Spray water on dry surface to reduce dust in the air		
2.b	Use tarpaulins to cover sand and other loose materials where transported by vehicles		
2.c	Clean wheels and undercarriage of vehicles while leaving the site		
2.d	Certificates on Vehicular Emission of all the vehicles used in the site		
2.e	Checked air quality by PCB approved lab		
3	Noise		
3.a	Plan activities in consultation with SIO, community to reduce noise level		
3.b	Provide information to public about work schedule		
3.c	Horns not used, unless essential		
3.d	Minimize the noise by silencers		
3.e	Do not allow workers to an exposure of 80 dBA or above without ear plug		
3.f	Use of heavy vehicles from to		
3.g	Use of Generators KV from to		
3.h	Checked Noise level by PCB approved lab		
4	Surface water quality		
4.a	Avoid stockpiling of earth fill, especially during monsoon unless covered by tarpaulin or plastic sheets		
4.b	Install temporary silt traps or sedimentation basins along the drainage leading to water bodies		
4.c	Store fuel and lubricants away from the drains		
4.d	Checked surface water quality by PCB approved lab		
5	Land Use		
5.a	Has the contractor preserved the top soil for replacement after construction		
5.b	Status of the surface vegetation on the construction site prior to the initiation of the work (Detail report with number of trees cut and initial photographs of the area)		
5.c	Borrow pit – Rehabilitation of the borrow pit was done		
6	Pollution		
6.a	Spills of oils on the site and on river regularly checked		
6.b	Necessary measures taken to stop it		
6.c	What measures taken to remove the Used engine oils		
6.d	Surface discharges monitored		
7	Disruption of Agricultural activities		
7.a	Any agricultural activity in the flood embankment		
7.b	Any measures taken to minimize the impact on agricultural activity in the flood embankment		
7.c	Land used outside the flood embankment belongs to WRD or private		
7.d	If private agricultural land is used proper compensation is made by the Contractor at current market value		
	Access routes (River)		
a	Whether the Navigation routs are blocked ?		
b	How interference with the riverine traffic is minimized ?		
c	All the floating equipments following navigation standards applicable in India.		

d	All the floating equipments following safety standards applicable in India.		
e	Any dredging operation done ?		
	Road		
a	All the access roads inspected for their appropriateness for moving construction equipments		
b	If found inappropriate, strengthened by Contractor		
c	Due to the movement of the heavy vehicles, the access road is degraded more than normal use		
d	Contractor repaired the degraded access road		
e	Access road for the fringe community is used / blocked and alternate route provided		
f	Conduct the work during light traffic		
	Excavation and filling of Earth in Slope Protection		
a	Whether the area has been surveyed, inspected and approved by the SIO after the identification of excavation and filling site.		
b	Whether contractor has submitted a map indicating the area of earth excavation and filling activities showing the earth cut and fill areas, based on the baseline survey.		
	Sand Excavation		
	Whether the sand excavation area was approved by the SIO in writing.		
b	Whether contractor has submitted a map indicating the area of planned sand excavation		
c	Whether the sand excavation area is close to the work site or to char inhabitants		
	Site Installations		
a	Protection of trees for their preservation		
b	Whether temporary roads were constructed ?		
c	Whether environmental friendly waste disposal system properly monitored and executed in the work sites ?		
	Labour Camps		
a	Consult SIO and fringe community for establishing the temporary office shed, camp and plant		
b	Minimize the removal of vegetation and donot allow cutting of trees		
c	Provide safe drinking water to the camp inhabitants		
d	Sanitation facility to the camp inhabitants		
e	Solid waste management practiced in the camps		
f	Report SIO and fringe community before vacating the camp after the work		
	Agricultural Land and Crop Loss		
a	Any loss or damage of agricultural land and crops due to project construction activities		
	Homestead Loss		
a	Any home stead loss (including loss of trees, ponds, shifting of any other installations)		Addressed by RAP
	Drainage from Adjacent Area		
a	Natural drainage system blocked or disrupted.		
	Wildlife		
a	Sighting of Dolphin (National Aquatic Animal)		
	Fish productivity		
a	Fish productivity increased or decreased (survey in the boat ghats)		
b	Landing facility- Change of Boat Ghats		
	Display Materials		
a	Signs like "Only Staff", "Restricted Area" displayed in relevant area		
b	Safety (including traffic signs), notice board is available		
	Health and Safety		
a	Provision of First Aid and medical service available		
<i>Provide GPS coordinates for most of the descriptions so that map can be prepared.</i>			
5	Additional comments or actions required :		
	Signature by Environmental Inspector	Accepted/ Approved by SIO	
	Date :	Date :	
	Contact Details :	Contact Details :	

Form-2

Environmental Safeguards : Monitoring at site

Location : _____ Month : _____

(Give ✓ as applicable)

	Item	Yes	No	Remarks
1	Environmental Inspector present in all the works carried out at site			
2	EMP			
3	EMoP			
4	Baseline information of environment are present at site office			
5	Relevant Acts and Rules are available at site camps			
6	Air, water and Noise standards present at site			
7a	Air water and noise test results are kept in the site office			
7b	If Yes, Name the company performing the test			
7c	Test conducted			
8	Vehicles are checked in the camp before the work			
9	Oil seepage are checked for generators and motors of boats daily			
10	Oils are stored safely (to avoid soil & water contamination)			
11	Solid waste management practiced at the site			
12	Measures taken to reduce the dust pollution			
13	Access roads and navigation routes obstructed			
14	Access road maintained by the contractor			
15	Sand collected from the chars which are not inhabited			
16	Borrow pit rehabilitation done			
17	Loss of agricultural area if any			
18	Sanitation facility at campus is adequate			
19	Quality of drinking water tested			
20	Quantity of drinking water is sufficient.			
21	Record kept for cutting of trees			
22	Sitting of dolphin, If yes give dates and mention site			
23	Register checked weekly (attendance of Environmental Inspector, PUC certificate of all the vehicles used at site)			
24	Meeting related to awareness on environmental safeguards carried out during the month			
25	Any grievances lodged / discussed during the meeting related to Environment			
26	Monthly environmental report submitted to SIO . If submitted give the date.			

Remarks:

*Take photographs of the important events with date and location,

**Mention any other measures taken to protect the environment and the people.

Date :

Signature

Form-3

SIO CHECKLIST FOR ENVIRONMENTAL SUPERVISION AND MONITORING DURING CONSTRUCTION

Contractor's Name : _____

Month : _____ Dates of Inspection : _____

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

1. Is the Environmental Management Plan being implemented during the construction phase of the river bank protection work ? Yes No
2. Environmental Inspector present during the construction work ? Yes No
3. Are there sufficient measures incorporated in the subproject to prevent water pollution of nearby water bodies ? Yes No
4. Are there adequate erosion control measures to prevent erosion and sedimentation during the riverbank protection works ? Yes No
5. Is the project taking adequate measures to control dust and noise pollution ? Yes No
6. Is the project providing adequate alternative traffic routes (diversion/temporary access roads, etc) during the riverbank protection work ? Yes No
7. Is the subproject avoiding mining of sand from locations adjacent to inhabited char land areas, where applicable ? Yes No
8. Has the contractor used permitted sites for collection of materials (Boulders, Soil, etc) Yes No
9. Has the project resolved issues related to land accusation and compensation under the RAP ? Yes No
10. Have the Labour Camps and project Site Office and storage areas been constructed with sufficient sanitation and water supply facilities and other environmental and social associates with the construction ? Yes No
11. Is the sub project taking adequate measures to avoid spills of oil/lubricants smoke and noise pollution ? Yes No
12. Is the composite generated waste / garbage being disposed in an environmentally acceptable manner ? Yes No
13. Is there sufficient safety looked after by Safety Inspector at the work place and health care facilities (First Aid Nurse, and regular visit by Physician) or clinic close by to composites ? Yes No
14. Is the construction contractor adequately prepared to handle emergency situations like accidents and illness ? Yes No
15. Is the contractor keeping the records of the trees destroyed during the construction work ? Yes No
16. Is the subproject taking adequate measures to preserve the topsoil for later replacement ? Yes No
17. Are there adequate measures to avoid disturbances to the habitat of fish and other aquatic fauna and flora ? Yes No
18. Do the vehicles used in the site has valid PUC certificates ? Yes No
19. Is there any complaints lodged by the local community on environmental issues ? Yes No
20. **Major observations, Conclusion, Recommendations :**

Contractor or his representative

Name and Signature of the Supervisor

Designation _____

Date _____

4.1.2 Mitigation Compliance :

Following measures were taken to meet the compliance.

Construction Site Set-Up

- Contractor comply with Section 6, Clause 2.4 – Site installations for construction camp, and all working and storage areas
- Safe drinking water and adequate sanitation facilities to be provided.

Waste Materials

- solid waste were either reused or recycled when practical,
- waste lubricant oils and spent oils will be stored in proper containers in a designated area until recycled or properly disposed offsite.
- general waste (metal, paper, cardboard, plastics, etc) are stored in bins and removed to suitable disposal site
- no hazardous wastes are anticipated to be generated from the site.

Niose

- Major construction activities shall be scheduled during normal daylight working hours and consistent with applicable standards.
- Contractor use equipment that is operated with appropriate noise muffling devices resulting in the least possible noise.

Air Quality and Emissions Management

- all transport vehicles moving soil, granular material and rock to and from the site were covered
- The Contractor implement dust control measures at the source of emissions. The standard method is to wet dry surfaces, over which traffic passes; and encouraged natural re-vegetation or replant as early as practical after the completion of construction
- suitable emission controls and exhaust systems for all equipment will be maintained, and regular inspection and maintenance of trucks were conducted to control pollutants from exhaust fumes

Spills Prevention

- specific sites with barrier protection and impervious pads for fuelling and servicing were established at sites
- fuel, lubricants and chemical products to be kept in special, water tight area, without drainage exit to the river; material to be kept in drums or safe tanks
- use only appropriate pumps and nozzles for refueling. Disconnected hoses will be placed in containers to prevent spills of residual fuel
- off-site spent lubricants will be collected and safely disposed
- storm water that collects in secondary containment areas will be inspected before release

		Explanatory comments
Overall Compliance	Good	<ol style="list-style-type: none"> 1. Sanitary toilets are installed in all the site camps. As most of the labours are local, sanitary toilets are not present at the labour camps. Suggestions has been made to develop the facility in the labour camps particularly at the 'char areas' (Sand bars) in the next working season. 2. Safe drinking water used in all the site camps. 3. Awareness meeting has been carried out on solid waste management in all the camps 4. Generators are used during the daylight hours 5. Contractors use dust control measures 6. Soil and granular materials are covered by tarpaulin during transport 7. Fuel and lubricants are kept far away from river 8. Oil checks of the vehicles and generators are done regularly 9. The environmental standards (Central Pollution Control Board, MoEF&CC, GOI) applicable for the sites are kept at the site for reference.

4.1.3. Mitigation Effectiveness

To monitor the mitigation effectiveness the following parameters were monitored.

Table-4 :Mitigation Effectiveness during July to December, 2014

(Details of the tests and the frequency as per EMP are described in 4.3)

	Palashbari– Embankment (May, 2014) (Reported in Last Biannual Report)	Gumi (May- 2014) (Reported in Last Biannual Report)	Palashbari - Dyke	Dibrugarh – DTP Dyke	Dibrugarh – Mothola	Porcupine (Lot-3) – Fool Bagan, Dibrugarh (20.08.2014)
Ambient Air quality	Within the permissible limit	Within the permissible limit	Works started but yet to start the Test of air, water and noise	Tests are being carried out	Tests are being carried out	Within the permissible limit
Surface Water Quality	Within the permissible limit	Within the permissible limit				Within the permissible limit
Ground Water Quality	Within the permissible limit	Within the permissible limit				Within the permissible limit
Noise level	Within the permissible limit	Within the permissible limit				Within the permissible limit
Pollution level of the vehicles used at site	PUC certificates present	PUC certificates present		PUC certificates present	PUC certificates present	PUC certificates present
Complain lodged by the local residents on nvironmental pollution by the construction activity. July to December, 2014	No complaints lodged	No complaints lodged		No complaints lodged	No complaints lodged	No complaints lodged

During July, 2014 to December, 2014 Tests were conducted on 20th August, 2014, at Dibrugarh.

		Explanatory comments
Mitigation Effectiveness	Good	<ul style="list-style-type: none"> No complaints were lodged to SIO on environmental pollution by any of the fringe villagers, NGO's or other institutions Results of the ambient environmental tests were within the permissible limit of Central Pollution Control Board, MoEF, GOI.

4.2. Emission Discharge (Source) Monitoring Program (if Relevant)

Not relevant to this project..

4.3 Ambient Monitoring Program (if Relevant)

To monitor the ambient environment the following parameters are to be monitored with the frequencies described in the SEIA. All the tests were performed from the Pollution Control Board, Assam and its approved labs..

- **For AirQuality :**
SPM, RSPM, SO₂, NO_x, CO, Pb - With in 100 m of Hot mix plant, construction camp, crusher and near sensitive locations/ settlement – Continuous 24- hourly, twice a week, for two weeks once every year (summer).
- **For Dust & Smoke :**
Details of water sprinkling and frequency of sprinkling per day
- **Vehicular pollution :**
Emission records of vehicular pollution of all the vehicles used
- **Surface Water :**
pH, BOD, COD, TDS, TSS, DO, Oil and Grease – from Brahmaputra River
- Once during the dry season.
- **Ground water :**
pH, BOD,DO, total coliform, As, Cd, Mn and Ground Water levels – Construction site, Rehabilitation site, service areas, - Once at the start of construction
- **Noise :**
Noise Level in dB (A) – Near the construction sites and sensitive locations close to embankment – One day hourly measurement, once in six months

As mentioned in the report, The contractors and SIO's were not acquainted with the safeguard norms of the ADB. Training and workshop were conducted by PMC in association with FREMAA to apprise the contractors and SIO's about the ADB's safeguard procedures. Moreover, meetings were conducted during the field visits about the environmental safeguards including the implementation of EMP (Ref. minutes of the meetings - Appendix-2).

Frequency of the tests to check the ambient environment will be followed as per EMP recommendations in all the subprojects in future and this has been recorded in the minutes.

4.3.1. Summary of Monitoring

Table-5 : Ambient Environment Monitoring Plan

Attribute	Parameter	Special Guidance	Standards	Frequency	Duration	Location	Implementation
Air	SO ₂ , NO _x , SPM, RSPM, CO, Pb	High volume sampler to be located 50m from the river bank site Downwind direction. Use method specified by PCB, Assam for analysis	Air (prevention and Control of Pollution) Rules, CPCB, 2009	Six times	24 hours Sampling	Along the river bank area	Contract or
Surface Water	pH, BOD, COD, TDS, TSS, DO	Grab sample collected from source and Analyse as per Standard Methods for Examination of Water	Indian Standards for Inland Surface Waters (IS: 2296, 1982)	Two times including baseline	Grab Sampling	Along the Surface water sources	Contract or
Ground Water	pH, BOD, DO, Total Coliform, As, Cd, Mn			Two times including baseline			Contract or

Attribute	Parameter	Special Guidance	Standards	Frequency	Duration	Location	Implementation
Noise	Noise levels on dB (A) scale	Equivalent noise levels using an integrated noise level meter kept at a distance of 15 m from the river bank construction area.	MoEF Noise Rules, 2000	One time including baseline	Leq in dB(A) of day time and night time	Along the river bank	Contract or

4.3.2 Results

Results of the specific tests on the selected parameters (during July 2014 to December, 2014), for Air Quality, noise, surface water and ground water from Pollution Control Board approved labs provide some indicators to compare them with the baseline information and national permissible standards. The test results of the samples collected from the porcupine manufacturing plant and from the porcupine launching sites, lies within permissible limits described in the '*Environmental Standards for Ambient Air, Automobiles, Fuels, Industries and Noise, 2000*' (Central Pollution Control Board) and a minor difference between the baseline and the test results during the work being observed, this suggest that the contractor's activity has complied with the contract stipulations on protection of environment.

Table-6. Quality of ambient Air at the site during July- December, 2014

Parameter	Palashbari– Embankment (May, 2014)	Gumi (May, 2014)	Dibrugarh- DTP Dyke	Dibrugarh- Mothola	Porcupine (Lot-3) (20.08.2014)
PM10	56	54	Tests are being carried out	Tests are being carried out	56.4
NO2	33	27			26.3
SO2	13	14			10.4
Pb	0.049	0.056			0.025
Weather	clear	clear			clear

(Ref: Appendix-1)

Table-7. Quality of Surface Water at the site during July- December, 2014

Parameter	Palashbari– Embankment (May, 2014)	Gumi (May, 2014)	Dibrugarh- DTP Dyke	Dibrugarh- Mothola	Porcupine (Lot-3) (20.08.2014)
pH	7	7.1	Tests are being carried out	Tests are being carried out	6.87
Temperature	25 C	25 C			
DO (mg/l)	7	6.8			2.5 mg/L
BOD(mg/l)	0.8	0.8			1.01mg/L
COD(mg/l)	2.86	2.86			10 mg/L
TDS(mg/l)	194	105			60 mg/L
TSS(mg/l)	43	45			0.015mg/L
Oil & Grease	BDL	BDL			0.034

BDL=Below Detectable Limit

(Ref: Appendix-1)

Table-8. Quality of Ground Water at the site during July- December, 2014

Parameter	Palashbari– Embankment (May, 2014)	Gumi (May, 2014)	Dibrugarh- DTP Dyke	Dibrugarh- Mothola	Porcupine (Lot-3)
pH	6.2	6.3	Tests are being carried out	Tests are being carried out	-
Temperature	26 C	24 C			
DO(mg/l)	0.7	0.8			
BOD(mg/l)	1.1	1.2			
As(mg/l)	BDL	BDL			
Cd(mg/l)	BDL	0.001			
Total Coliform (/ml)	NIL	NIL			

BDL=Below Detectable Limit

Table-9. Quality of Noise at the site during July- December, 2014

Param- eter		Palashbari– Embankment (May, 2014)	Gumi (May, 2014)	Dibrugar h- DTP Dyke	Dibrugar h- Mothola	Porcupine (Lot-3) (20.08.2014)
Noise levels on dB (A) scale	At Geo-Bag Dumping Site 10Mtr (Working Activities on)	54.1	55.9	Tests are being carried out	Tests are being carried out	At porcupine launching site (Dibrugarh) – 52
	At Geo-Bag Dumping Site 10Mtr (Working Activities off)	47.2	48.1			At Porcupine manufacturin g site (Boragaon, Guwahati) - 50

		Explanatory comments
Ambient Environment condition	Good	<ul style="list-style-type: none"> For those site where the tests are being conducted, the results are within the prescribed limits of the Central Pollution Control Board, MoEF&CC, GOI. As the surface water at the working site contains grease and oils below the detectable level, it indicates that the contractor is following the environmental norms prescribed to reduce water pollution. All the works are limited within daylight hours.

3.3.2. Assessment

Table-10.Comparison of ambient Air, Surface water, Ground water and Noise at the site with the baseline data and National Standards.

	Parameter	National Standard	Palashbari(May, 2014)	Gumi (May, 2014)	Dibrugarh (Porcupine Lot-3) (20.08.2014)
Air	PM10	100 µg/m ³	56	54	56.4
	NO2	80 µg/m ³	33	27	26.3
	SO2	80 µg/m ³	13	14	10.4
	Pb	1.00 µg/m ³	0.049	0.056	0.025
	Weather		clear	clear	clear
Surface Water	pH	6.5-8.5	7	7.1	6.87
	Temperature		25 C	25 C	
	DO	Not less than 5mg/l	7	6.8	2.5
	BOD	2 mg/l	0.8	0.8	1.01
	COD		2.86	2.86	10
	TDS (IS 10500)	500 mg/l	194	105	60
	TSS	25 mg/l	43	45	0.015
	Oil & Grease		BDL	BDL	0.034
Ground Water	pH	6.5 - 8.5	6.2	6.3	-
	Temperature		26 C	24 C	-
	DO		0.7	0.8	-
	BOD	3 mg/l or less	1.1	1.2	-
	As	0.05	BDL	BDL	-

	Cd	0.01	BDL	0.001	-
	Total Coliform	10 /100 ml	NIL	NIL	-
			Results- Class A		
Noise on dB (A) scale	At Geo-Bag Dumping Site 10Mtr (Working Activities on)	75 Industrial area in daytime	54.1	55.9	At porcupine launching site (Dibrugarh) – 52
	At Geo-Bag Dumping Site 10Mtr (Working Activities off)	55 residential area in daytime	47.2	48.1	At Porcupine manufacturing site (Boragaon, Guwahati) - 50

		Explanatory comments
Ambient Environment condition	Good	<ul style="list-style-type: none"> Noise pollution on the barge during the geobag dumping work was 0.9 higher than the prescribe limit of the standards of residential area. But noise level on the bank which is 15 to 20 m apart, was less. Surface Water quality of the river during construction was under category –A (unfiltered Public water supply after approved disinfection) Air quality was within the prescribed standards of residential or rural area.

5. Key Environmental Issues

5.1.1. Key Issues Identified

- Environmental Inspector was not recruited by the contractor in time.
- Preparation of EMP, EMoP, monthly environmental Reports
- Documentation of environmental safeguards.
- Contractors usually do not go through the environment section of the contract document thoroughly.

- Contractors were not aware of the tests to be conducted to know the ambient air quality, surface water quality ground water quality and noise levels.
- Contractors were also not aware of the solid waste management at worksite, Use of vehicles with PUC, etc.
- Monitoring by SIO's should be improved on safeguard issues and they must be trained on ADB's safeguard procedures
- Frequency of monitoring (particularly the Test frequency) were not as described in EMP, which is an serious issue of concern.

5.1.2. Action Taken

- Several meetings and training were organized (Table-3) to aware the contractors on the environmental safeguard of ADB (Strategy and directions), stipulations of the contract document, testing of selected environmental parameters, national environmental standards, acts and rules of MoEF&CC, GOI and Government of Assam.
- Helped in the preparation of EMP and EMoP,
- Assisted in preparation of monthly environmental Reports
- In the training workshop and in all the meetings with contractors and SIO's during field visits and review meetings it has been emphasized to carry out the required numbers of tests as per EMP. Moreover, special efforts has been made so that that the contractors adheres to the EMP norms.

5.1.3. Additional Action Required

- Constant monitoring and providing suggestions on the implementation of the EMP by FREMAA and PMC.
- Awareness on environmental safeguards – contractor, SIO and local residents / fringe communities

6. Conclusion

6.1. Overall Progress of implementation of Environmental Management Measures

		Explanatory comments
Overall Project implementation measures	Good	<ul style="list-style-type: none">• After the training the contractors become aware about the importance of the environmental safeguards.• The contractors after few trainings developed perceptions on the National Acts and Rules and standards.• 5 of them prepared the EMP and rest 2 are in the process of preparing the EMP.• Monthly environmental reporting on the implementation of EMP has started. 4 of the contractors in Palasbari, Gumi and Dibrugarh already prepared the Monthly Environmental Reports and are submitting regularly to SIO.• Test frequency should be improved and it should be as per EMP. Contractors now understood the importance of the tests for physical environment and will follow the EMP.• They also developed few mitigation measures like spraying or water, covering the sand and soil with tarpaulin while transport. Solid waste management at camp sites• Drinking water facility at work site (Porcupine lot-3)

6.2. Problems Identified and Actions Recommended

Problems

- Awareness about the importance of environmental safeguards in the construction works, particularly in this part of India is very poor
- Local people have less knowledge on the environmental issues and environmental standards
- Test Frequency are not as per EMP on the physical environment.

Actions Recommended

- Awareness Training on Environmental Safeguards required for the contractors
- Awareness required for the implementing officers on the ADB's safeguard policy statements

- Awareness and training required to incorporate basic ideas on current environmental safety issues and relate it with the development and economy.
- Use of special enclosures and critical grade silencersto be used to reduce the noise level during geo bag damping.
- SIO's to monitor the test frequencies of the physical environment along with the quality check of the structural measures.

7. Environmental Clearance for Kaziranga Sub Project

The 31st Meeting of the Standing Committee of National Board for Wildlife (NBWL) was held on 12-13 August 2014 in the Ministry of Environment and Forests (MoEF), New Delhi, cleared the project proposal for 'Kaziranga Sub Project of Assam Integrated Flood and River Bank Erosion Risk Management Project'. Kaziranga proposal was pending for approval in the standing committee of wildlife and hence it was shifted to Tranche -2.

Excerpts from the minutes of the 31st meeting.

Proposal for strengthening the existing (embankment) from Moriaholla to Diffalupathar to avoid any breach resulting flash flood in eastern range of Kaziranga NP, Assam.

The Member Secretary briefed the Committee regarding the proposal. The Chief Wildlife Warden, Assam mentioned that the proposal was for strengthening the existing embankment from Moriaholla to Diffalupathar to avoid any breach resulting flash flood in eastern range of Kaziranga National Park and also in order to control flash floods inside the Park.

After discussion, the Standing Committee decided to recommend the proposal as it would help in controlling flash floods inside Kaziranga National Park. The Committee also decided that the following conditions, as stipulated by the State Chief Wildlife Warden be also complied with:

- Entire work shall be executed under close supervision of park authorities.
- Top of the dyke shall be graveled.
- Three new sluice gates shall be constructed in order to regulate flow of water across the dyke.
- All the sluice gates shall be operated during high flood as well lean season jointly by the water Resources Department and Kaziranga National Park officials.
- Material for porcupine works shall be transported through river route only.

Appendix 1

Ambient Monitoring Results 9 Scanned copy of the reports



EASTERN ENVO PROTECT

(RESEARCH AND DEVELOPMENT DIVISION)

AGRO-VET FARM CARE AND ENVIRONMENTAL PROTECTION LABORATORY

Progoti Commercial Complex (Opp. Down Town Hospital)

G.S. Road Guwahati-781022 Assam

AMBIENT AIR ANALYSIS REPORT

Date:	23/08/2014
Ref.No.	ENVOLAB/GHY/257/14-15

Name & Address:

M/s Hemen Kumar Dutta
Class I (A) govt. Regd. Contractor
Nava Giri Road, 1st Bye Lane
Chandmari, Guwahati 781003

Ambient Locations with date:

1. Fool Bagan, Near S.P Office,
Dibrugarh (20.08.2014).

Date of Analysis: 20.08.2014


SR.NO.	PARAMETERS	LIMITS(CPCB)	RESULTS
Duration of Survey (8 hours)			
1.	SPM (microgram / m ³)	200	150.2
2.	RPM (microgram / m ³)	100	56.4
3.	NO _x (microgram / m ³)	80	26.3
4.	SO ₂ (microgram / m ³)	80	10.4
5.	CO (microgram / m ³)	4	1.5
6.	Pb (microgram / m ³)	1	0.025

Method of Analysis Followed: I.S. 5182 Part I to XVIII

Opinion: All Parameters are within permissible limit

Recognized by
Pollution Control Board, Assam

EASTERN ENVO PROTECT, ENVO LAB, R & D DIVISION


(Quality Control Manager)

End of Report

Society Regn. No.RF/KAM/173/C223 of 2005-06, VAT Regn.No.GRN 18520056604, TIN 18770101523, CST No.18259914703

Service Tax Code: AACFE0219KSD001,

Tele-fax #0361-2620902, E-mail: easternenvo@gmail.com, Website: www.easternenvo.com

Quality of Water :



EASTERN ENVO PROTECT

(RESEARCH AND DEVELOPMENT DIVISION)

AGRO-VET FARM CARE AND ENVIRONMENTAL PROTECTION LABORATORY

Progoti Commercial Complex (Opp. Down Town Hospital)

G.S. Road Guwahati-781022 Assam

TEST REPORT

WATER ANALYSIS REPORT

Sample Location:
Fool Bagan, Near S.P Office,
Dibrugarh

Sample Source: Surface
Water

DATE	23/08/2014
REF. NO	ENVOLAB/GHY/256/14-15
T.R No	TR/GHY/119
Date of Collection	20.08.2014
Sample Collected By	Client

SL.NO	PARAMETERS	METHOD USED	LIMITS (as per IS: 10500)	RESULTS
Physical				
1.	Total Suspended Solids(TSS)	IS 3025 (Part 17)	100 mg/L	0.015 mg/L
2.	Total Dissolved Solid(TDS)	IS 3025 (PART 16)	500 mg/L	60 mg/L
3.	pH	IS 3025 (Part 11)	8.5	6.87
4.	Oil & Grease	IS 3025 (PART 39)	0.1 mg/L	0.034 mg/L
Chemical				
5	COD	IS 3025 (PART 58)	30 mg/L	10 mg/L
6	Dissolved Oxygen(DO)	IS 3025 (PART 44)	5 mg/L	2.5 mg/L
7	Biological Oxygen Demand(BOD)	IS 3025 (PART 44)	3 mg/L	1.01 mg/L


Method of Analysis Followed: I.S. 3025

Opinion : All the parameters are under permissible limit.

ENVO LAB, R & D DIVISION, EASTERN ENVO PROTECT

Tested By

Checked & Approved by


Debashish Das
(Chemist)

Recognized by
Pollution Control Board, Assam


Dr. Mayur Mahanta
(Scientific Officer)

End of Report

Sample PUC

Date of issue 02-05-2014 **Valid up to** 01-11-2014

Vehicle Registration No. AS01EC9874

CO% HC (ppm) SD (HSU) 57.68

M/S BAJRANGVALEE A. E. T. STATION **Licence No. & Seal** 04-03-2001

COMPUTERISED EMISSION TEST CERTIFICATE
AUTHORISED BY GOVT. OF ASSAM
M/S BAJRANGVALEE A. E. T. STATION
BASISTHA CHARIALI, NH-37, NEAR RAJ SERVICE CENTRE, GUWAHATI-29
Phone : 0361-2307146 (OFFICE)

Vehicle Registration No. : AS01EC9874 **SI No. : 54102**
Year of Registration : 2013 **Vehicle Make : TATA**
Engine No. : 8044 **Owner Name : G. SINGH**
Chassis No. : 1793 **Testing Fees : 115.00**
Type of Vehicle : TRUCK **Fuel : DIESEL**
Type of Engine : 6 **Oil Temp : 54**

Test Result : FREE ACCELERATION **Valid Upto : 01-11-2014**

No. Of K	Kval	MinRpm	MaxRpm	Interval	OilTemp	Test Time
1	2.02	745	2272	5.7	54.0	10:31:39AM
2	2.04	795	2129	5.4	54.0	10:31:44AM
3	2.02	796	2269	5.0	54.0	10:31:49AM
4	2.03	715	2329	5.2	55.0	10:31:54AM
5	2.028	715	2349	4.5	55.0	10:31:59AM
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-
K Avg	2.0276					
HSU	57.68					

Valid for 6 Months

Validity : 6 Months **Grade : A**

Name of Authorised Signatory With Signature **Seal of Testing Center**

Machine Operator
M/S BAJRANGVALEE A. E. T. Station
N. H. 37, Guwahati-29

Appendix2: Site Inspection and Monitoring Report

OFFICE OF THE PROJECT MANAGEMENT CONSULTING SERVICES (PMC)
Assam Integrated Flood and Riverbank Erosion Risk Management Investment Program

Project Office: 2nd Floor Nayantara Supermarket Building Six Mile, Guwahati-22, Assam, India

Tel: +91-9085201016 (ITL), +91-8763807521 (NITL), +91-9999981284 (MANAGER), +91-9401659816 (OM),

E-mails: c.stere@runbox.com; skccowes1973@yahoo.co.in; ritesh.singh@tetratech.com; ajit.31oct@gmail.com

MINUTES OF MEETING

Subject	MEETING ON Environmental Safeguard			
Meeting Time:	From: 11:30 AM	To: 18:00 PM	Date: 30.07.14	Remarks:
Meeting Venue:	At WRD office, Dibrugarh			
Attendees (FREMAA):	Not planned			
Attendees (SIO):	1. Mr. Harish Baruah			
Attendees (PMC):	1. Dr. J. Das, NES			
Attendees from Contractors:	1. Mr. H. Alam, Engineer-in-charge, BN Garodia 2. Abhijit Mech, BN Garodia 3. Mr. Amitava Hazarika, Site Engineer, JKM			

On the very onset compliance for the environmental safeguard under the contract documents and ADB's requirement were explained to the contractors in presence of the SIO's representative by Dr. Jayanta Das, NES, PMC. Reference of the earlier correspondence and inputs from the PMC were also discussed. In spite of the repeated requests from PMC, FREMAA and SIO, contractors yet to develop the Environment Safeguard mechanism.

POINTS OF DISCUSSIONS :

1. Environmental Inspector :

There was no full time Environmental Inspector exclusively for monitoring the environmental compliance under both the contractors JKM and BN Garodia. Both the contractors agreed to appoint one Environmental Inspector, following the clause of the Contract Document under section 6 and subsection 2.1.1 with immediate effect.

2. Stipulation of the contract on Environmental Management Plan :

As in the last meeting, stipulations of the contract on environmental safeguards were again demonstrated to the contractors on preparation of Environmental Management Plan and Environmental Monitoring Plan and guidelines for preparation were provided.

PROJECT MANAGEMENT CONSULTANTS TO FLOOD AND RIVER EROSION MANAGEMENT AGENCY OF ASSAM (FREMAA)

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www.tetratechindia.com; www.visioneis.com;

3. Monitoring Environmental Standards :

Baseline information and present values of the Test for selected parameters are required from two sites. Map of the sampling sites with GPS coordinates are to be submitted along with the test results to the SIO. SIO should ensure that the results are dependable and from Pollution Control Board approved labs. Detail of the test institutes and contact were also provided to them by PMC in this meeting.

Contractors were instructed by SIO's representatives to take the necessary measures immediately.

4. Environment Management related documents required at the field site :

- List of Documents to be kept at the field site office of the contractor.
- Environment Management Plan (EMP),
- Environment Monitoring Plan (EMoP),
- EMP Budget,
- EMP Record keeping including photographic records with dates,
- Appointment letter of the Environmental Inspector,
- Relevant Pollution Acts and Rules applicable for the site,
- The environmental standards applicable for the site,
- Pollution Under Control (PUC) certificates for all the vehicles used at site,
- GPS coordinates and maps of
 - a. Sand excavation site,
 - b. Pollution level monitoring and testing sites,
 - c. location of Boat Ghats (original and changed if any), etc;
- Test reports of Air, Water (surface and ground), Noise, Test report of Drinking water of camp sites

5. Register to check the implementation of EMP :

It was also suggest by PMC to maintain a Register at site of work to record the following related to the implementation of EMP.

- a. Location and frequency of tests done under EMoP on selected parameters
- b. Daily water sprinkling schedule to reduce dust pollution
- c. Pollution Under Control (PUC) certificates for all the vehicles used at site, records of validity
- d. Checking of leakage of fuel, lubricants / oil / grease at work site from the vehicles and instruments
- e. Works schedule (Working hours)
- f. Record of accidental contamination of water and soil
- g. Schedule of operation of generator (time of operation, power in KV, etc)
- h. Record of trees in pre construction phase and record of trees during construction – to calculate the loss of trees (wherever applicable)
- i. Details on supply of drinking water at work sites (chars, barge, etc)

- j. Public consultation – date, list of participants, issues discussed, resolutions taken
- k. Daily Attendance Register for the Environmental Inspector

6. Monthly Environmental Reports :

Monthly Environmental Reporting format developed by PMC was discussed in details and one sample form was also filled up during the visit for both the contractors.

Mr. Pegu and Mr. Barua, SIO's representative, WRD, Dibrugarh asked the contractors representatives to follow the Environmental Safeguards as in the contract document and do the needful to meet the compliance as early as possible.

ACTION ITEM SUMMARY:

No.	Discussion Point / Issue	Discussion / Action	Responsibility and Action by	Target Date
1.	Environmental Safety	Full time Environmental Inspector exclusively for this purpose will give better performance and reporting.	JKM, Garodia, SIO	For Garodia - with immediate effect.
2.	Environmental Management Plan	EMP and EMoP will have to be prepared	JKM, Garodia, SIO, FREMAA, PMC	2 weeks
3.	Monitoring ambient environment	Pollution control Board, Dibrugarh office to be contacted for the tests	JKM, Garodia,	Within this week
4.	Monthly Environmental Reporting on the Safeguards	- Both the companies have also been suggested to make the monthly Environmental Reporting to the SIO on the Safeguards by the Environmental Inspectors.	JKM, Garodia, SIO,	From this month (July, 2014)

Prepared by :-

Dr. Jayanta Das
 National Environmental Specialist,
 PMC-FREMAA

MINUTES OF MEETING

Subject	MEETING ON IMPLEMENTATION OF EMP as part of Project Status Monitoring meeting by PMC following the minutes of FREMAA, dated 28.07.14			
Meeting Time:	From: 11:00 PM	To: 12:30 PM	Date: 07.08.14	Remarks:
Meeting Venue:	At WRD office, Dibrugarh			
Attendees (FREMAA):	Not planned			
Attendees (SIO):	1. Mr. H. Baruah 2. Mr. R. Borgohain			
Attendees (PMC):	1. Mr. JR Chattopadhyay 2. Dr. J. Das, NES 3. Mr. S. Khera, Site Engineer, PMC			
Attendees from Contractors:	1. Mr. H. Alam, Engineer-in-charge, BN Garodia 2. Mr. Amitava Hazarika, Site Engineer, JKM 3. Mr. Goswami, Environmental Inspector, JKM 4. Mr. Iswar Neog, Environmental Inspector, BN Garodia			

On the very onset the contractors expressed their grievances on the delay in the payment of their bills. Representatives from the SIO were also not happy with the present system of monitoring. Mr. JR Chattopadhyay explained the role of PMC. Dr. Jayanta Das, NES, PMC explained about the compliance for the environmental safeguard under the contract documents and ADB's requirement to the contractors in presence of the SIO's representative. Reference of the earlier correspondence and inputs from the PMC were also discussed. PMC observed that, contractors yet to develop the Environment Safeguard mechanism in Dibrugarh subproject.

POINTS OF DISCUSSIONS :

1. Environmental Inspector :

This is for the first time both the contractors JKM and BN Garodia, appointed their Environmental Inspectors, following the clause of the Contract Document under section 6 and subsection 2.1.1 with immediate effect. Both of them were present in the

meeting. Mr. Goswami was appointed as Environmental Inspector from JK M and Mr. Iswar Neog was appointed from BN. Garodia to look after the contract clause of Environmental Safeguards.

2. Stipulation of the contract on Environmental Management Plan :

Both the Environmental Inspectors will prepare the Environmental Management Plan and submit to SIO by 30th August, 2014.

3. Monitoring Environmental Standards :

Baseline information and present values of the Test for selected parameters are from two sites were required. Following the last meeting they have already contacted the Pollution Control Board, Guwahati and submitted the letter to carry out the tests. They were suggested to pursue the matter at the Pollution Control Board, Guwahati and do it immediately.

4. Environment Management related documents required at the field site :

- List of Documents as mentioned in the earlier meetings are to be kept at the field site office of the contractor.

5. Register to check the implementation of EMP :

It was also suggest by PMC to maintain a Registers at site of work to record the following related to the implementation of EMP.

- a. Location and frequency of tests done under EMO P on selected parameters
- b. Daily water sprinkling schedule to reduce dust pollution
- c. Pollution Under Control (PUC) certificates for all the vehicles used at site, records of validity
- d. Checking of leakage of fuel, lubricants / oil / grease at work site from the vehicles and instruments
- e. Works schedule (Working hours)
- f. Record of accidental contamination of water and soil
- g. Schedule of operation of generator (time of operation, power in KV, etc)
- h. Record of trees in pre construction phase and record of trees during construction – to calculate the loss of trees (wherever applicable)
- i. Details on supply of drinking water at work sites (chars, barge, etc)
- j. Public consultation – date, list of participants, issues discussed, resolutions taken
- k. Daily Attendance Register for the Environmental Inspector

6. Monthly Environmental Reports :

Monthly Environmental Reporting format developed by PMC was again discussed and the contractors agreed to submit them by 20th August to SIO.

Mr. Barua, and Mr. R. Borgohain SIO's representative, WRD, Dibrugarh asked the contractors representatives to follow the Environmental Safeguards as in the contract document and do the needful to meet the compliance as early as possible.

ACTION ITEM SUMMARY:

No.	Discussion Point/ Issue	Discussion / Action	Responsibility and Action by	Target Date
1	Environmental Management Plan	EMP and EMoP will have to be prepared	JKM, Garodia, SIO, FREMAA, PMC	30 th August, 2014
2	Monitoring ambient environment.	Pollution control Board, Guwahati, has been contacted.	JKM, Garodia,	Letter submitted to PCB, Guwahati
3	Monthly Environmental Reporting on the Safeguards	- Both the companies have also been suggested to make the monthly Environmental Reporting to the SIO on the Safeguards by the Environmental Inspectors.	JKM, Garodia, SIO,	Will submit the report by 20 th August to SIO
4	Environment Management related documents	Both the companies have also been suggested to keep Environment Management related documents at sites. PMC will help in this regard.	JKM, Garodia, SIO,	30 th August, 2014
5	Checking of Implementation of EMP	Registers will be maintained at the site to check implementation of EMP	JKM, Garodia, SIO,	30 th August, 2014

Prepared by :-

Dr. Jayanta Das
 National Environmental Specialist,
 PMC-FREMAA

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Meeting at WRD office, Dibrugarh on 07.08.14

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MINUTES OF MEETING

Subject		MEETING ON Environmental Safeguard as a part of PMC Review meeting of the works- PALASHBARI		
Meeting Time:	From: 12.00 AM	To: 14.00 PM	Date: 12.08.14	Remarks:
Meeting Venue:	At BIL office, Palashbari			
Attendees (FREMAA):	Not planned			
Attendees (SIO)	1. Mr. A. Azad, AEE 2. Mr. P.J. Chetia, AEE 3. Mr. J. Kalita, AE 4. Mr. J. Doley, AE 5. Mr. B. Talukder, AE 6. Mr. T. Kalita, JE			
Attendees (PMC):	1. Dr. J. Das, NES 2. Mr. DP Jaishy, Int. Const. Engineer 3. Mr. JR Chattopadhyay, Senior Engineer, PMC 4. Mr. V.K. Singh, SSS 5. Mr. P. Barua, NRS 6. Mr. SC Dutta, Site Engineer 7. Mr. S. Khersa, Sr. Support Engineer			
Attendees from Contractors:	1. Mr. S. Utale, PM, BIL 2. Mr. Amit Dutta, Site Engineer, BIL			

On the very onset compliance for the environmental safeguard under the contract documents and ADB's requirements were explained to the contractors in presence of the SIO's representatives by Dr. Jayanta Das, NES, PMC and Mr. DP Jaishy, International Construction Engineer, PMC. Reference of the earlier correspondence and inputs from the PMC on the above issue were also discussed. In spite of the repeated requests from PMC, FREMAA and SIO, contractors yet to develop the Environmental Safeguard Mechanism.

POINTS OF DISCUSSIONS :

1. Environmental Inspector :

There was no full time Environmental Inspector exclusively for monitoring the environmental compliance under BIL. One person Mr. B. Choudhury was appointed by the BIL long back, but he was not present in any of the PMC's meeting at the project site. Mr. Sachin Utale was rather seen doing most of the documentary works for the BIL instead of Mr. Choudhury, which was against the contract stipulation under section 6 and subsection 2.1.1; as Mr. Utale is the Project Manager of BIL. SIO's representatives were also in the opinion that they have never seen the Environmental Inspector.

2. Stipulation of the contract on Environmental Management Plan :

As in the previous meetings, stipulations of the contract on environmental safeguards were again demonstrated to the contractors on preparation of Environmental Management Plan and Environmental Monitoring Plan and guidelines for preparation were provided to them long back. An EMP was prepared by the Contractor almost 2 months back, but it was not submitted to the SIO till date for the approval. Without an approved EMP environmental monitoring works (like lab testing reports and Monthly environmental reports) have no stand as per contract.

3. Monitoring Environmental Standards :

Baseline information and present values of the Test for selected parameters are required from the sites. Map of the sampling sites with GPS coordinates are to be submitted along with the test results to the SIO. Tests were conducted for the first time on 30th May, 2014 by the Pollution Control Board, Assam in presence of SIO and PMC. BIL received the test reports but they were not submitted along with the summary statement to the SIO till date. Contractors were instructed by SIO's representatives to take the necessary measures immediately.

4. Environment Management related documents required at the field site :

PMC prepared the list of Documents to be kept at the field site office of the contractor and they were given to the contractors. But all the documents were not seen at the sites as per requirement of the bid document.

- Environment Management Plan (EMP), - Approved plan not present at site.
- Environment Monitoring Plan (EMoP), - Approved plan not at site.
- EMP Record keeping including photographic records with dates – Not present.
- Appointment letter of the Environmental Inspector- Present but the Inspector not present at site during visit.
- Relevant Pollution Acts and Rules applicable for the site- not present at site.

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- The environmental standards applicable for the site – not present at site
- Pollution Under Control (PUC) certificates for all the vehicles used at site – present, but register or check list not maintained
- GPS coordinates and maps of
 - a. Sand excavation site,
 - b. Pollution level monitoring and testing sites,
 - c. location of Boat Ghats (original and changed if any), etc; - not present
- Test reports of Air, Water (surface and ground), Noise, Test report of Drinking water of camp sites – Recent test reports are there but not submitted to SIO, Monitoring plan was not approved by SIO
- Baseline information was not present

5. **Register to check the implementation of EMP :** (Register in the form of check sheets were prepared by BIL after suggestions given by the PMC. Documents were present but not approved by SIO)

It was also suggest by PMC to maintain a Register at site of work to record the following related to the implementation of EMP .

- a. Location and frequency of tests done under EMOp on selected parameters
- b. Daily water sprinkling schedule to reduce dust pollution
- c. Pollution Under Control (PUC) certificates for all the vehicles used at site, records of validity
- d. Checking of leakage of fuel, lubricants / oil / grease at work site from the vehicles and instruments
- e. Works schedule (Working hours)
- f. Record of accidental contamination of water and soil
- g. Schedule of operation of generator (time of operation, power in KV, etc)
- h. Record of trees in pre construction phase and record of trees during construction – to calculate the loss of trees (wherever applicable)
- i. Details on supply of drinking water at work sites (chars, barge, etc)
- j. Public consultation – date, list of participants, issues discussed, resolutions taken
- k. Daily Attendance Register for the Environmental Inspector – Not present

6. Monthly Environmental Reports :

Monthly Environmental Reporting format developed by PMC was prepared by the BIL along with the supportive documents. BIL has neither submitted the EMP nor they have submitted the Monthly Environmental Reports to SIO till date.

Mr. A. Azad and Mr. Chetia SIO's representative, WRD, Palashbari asked the contractors representatives to follow the Environmental Safeguards as per the contract document. He also suggested to follow the minimum standard of hygiene in the camp sites.

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ACTION ITEM SUMMARY:

No.	Discussion Point / Issue	Discussion / Action	Responsibility and Action by	Target Date
1.	Environmental Safety	Full time Environmental Inspector exclusively for this purpose will give better performance and reporting. Environmental Inspector should be present during the work and during the site inspections and attend the meetings.	BIL	Immediate effect.
2.	Environmental Management Plan	EMP and EMoP prepared, but not submitted to SIO. Hence not approved by the SIO.	BIL	Immediate effect.
3	Monitoring ambient environment	Baseline information were not take earlier. Test done recently on 30 th May, 2014. Reports available but not submitted to SIO	BIL	Reports should be submitted to SIO immediately
4	Monthly Environmental Reporting on the Safeguards	Format received from PMC. PMC also helped them to demonstrate each points in the format. Documents required for the Monthly report were also explained by PMC. Report prepared and few are approved by the SIO	BIL	From the month of July, 2014, regularly
5	Solid waste Management	Suggestions made in the earlier visits but not followed in the camps	BIL	
6	Sanitation	Sanitary toilets are available in the site office	BIL	
7	Documents to be kept at site on Environmental Safeguards	Required documents were identified by PMC as per the bid stipulations. Few registers are present but documents related to National Acts and Rule and standards were not present at the site.		

Prepared by :-

Dr. Jayanta Das
 National Environmental Specialist,
 PMC, FREMAA

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MINUTES OF MEETING

Subject	MEETING ON Environmental Safeguard as a part of PMC Review meeting of the works			
Meeting Time:	From: 12.00 AM	To: 13.30 PM	Date: 13.08.14	Remarks:
Meeting Venue:	At BIL office, Gumi			
Attendees (FREMAA):	Not planned			
Attendees (SIO)	1. Mr. A. M. Mazumdar, AEE 2. Mr. Babul Rajbangshi, AE			
Attendees (PMC):	1. Dr. J. Das, NES 2. Mr. DP Jaishy, Int. Const. Engineer 3. Mr. JR Chattopadhyay, Senior Engineer, PMC 4. Mr. SC Dutta, Site Engineer			
Attendees from Contractors:	1. Mr. S. Utale, PM, BIL 2. Mr. Alauddin Sheik, Asstt. Engineer, BIL 3. Mr. Ramesh Changmai, Sr. Surveyor 4. Mr. Zakaria Ahmed, Jr. Engineer			

This meeting was a part of the review meeting of the works by the PMC on the compliance for the environmental safeguard. Reference of the earlier correspondence and inputs from the PMC on the above issue were also discussed.

POINTS OF DISCUSSIONS :

1. Environmental Inspector :

There was no full time Environmental Inspector exclusively for monitoring the environmental compliance under BIL. One person Mr. B. Choudhury was appointed by the BIL long back, but he was not present in any of the PMC's meeting at the project site. Mr. Sachin Utale was rather seen doing most of the documentary works for the BIL instead of Mr. Choudhury, which was against the contract stipulation under section 6 and subsection 2.1.1; as Mr. Utale is the Project Manager of BIL.

2. Stipulation of the contract on Environmental Management Plan :

As in the previous meetings, stipulations of the contract on environmental safeguards were again demonstrated to the contractors on preparation of Environmental Management Plan and Environmental Monitoring Plan and guidelines for preparation were provided to them long back. An EMP was prepared by the Contractor almost 2 months back, but it was not submitted to the SIO till date for the approval. Without an approved EMP environmental monitoring works (like lab testing reports and Monthly environmental reports) have no stand as per contract.

3. Monitoring Environmental Standards :

Baseline information and present values of the Test for selected parameters are required from the sites. Map of the sampling sites with GPS coordinates are to be submitted along with the test results to the SIO. Tests were conducted for the first time on 30th May, 2014 by the Pollution Control Board, Assam in presence of SIO and PMC. BIL received the test reports but they were not submitted along with the summary statement to the SIO till date. Contractors were instructed by SIO's representatives to take the necessary measures immediately.

4. Environment Management related documents required at the field site :

PMC prepared the list of Documents to be kept at the field site office of the contractor and they were given to the contractors. But all the documents were not seen at the sites as per requirement of the bid document.

- Environment Management Plan (EMP), - Approved plan not present at site
- Environment Monitoring Plan (EMoP), - Approved plan not at site
- EMP Record keeping including photographic records with dates – Not present
- Appointment letter of the Environmental Inspector- Present but the Inspector not present at site during visit.
- Relevant Pollution Acts and Rules applicable for the site- not present at site
- The environmental standards applicable for the site – not present at site
- Pollution Under Control (PUC) certificates for all the vehicles used at site – present, but register or check list not maintained
- GPS coordinates and maps of
 - a. Sand excavation site,
 - b. Pollution level monitoring and testing sites,
 - c. location of Boat Ghats (original and changed if any), etc; - not present
- Test reports of Air, Water (surface and ground), Noise, Test report of Drinking water of camp sites – Recent test reports are there but not submitted to SIO. Monitoring plan was not approved by SIO
- Baseline Information was not present

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5. **Register to check the implementation of EMP** : (Register in the form of check sheets were prepared by BIL after suggestions given by the PMC. Documents were present but not approved by SIO)

It was also suggest by PMC to maintain a Register at site of work to record the following related to the implementation of EMP.

- a. Location and frequency of tests done under EMoP on selected parameters
- b. Daily water sprinkling schedule to reduce dust pollution
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- d. Checking of leakage of fuel, lubricants / oil / grease at work site from the vehicles and instruments
- e. Works schedule (Working hours)
- f. Record of accidental contamination of water and soil
- g. Schedule of operation of generator (time of operation, power in KV, etc)
- h. Record of trees in pre construction phase and record of trees during construction – to calculate the loss of trees (wherever applicable)
- i. Details on supply of drinking water at work sites (chars, barge, etc)
- j. Public consultation – date, list of participants, issues discussed, resolutions taken
- k. Daily Attendance Register for the Environmental Inspector – Not present

6. Monthly Environmental Reports :

Monthly Environmental Reporting format developed by PMC was prepared by the BIL along with the supportive documents. BIL has not submitted the EMP but they have submitted the Monthly Environmental Reports to SIO and few of them are approved by the SIO.

Mr. A. Mazumdar SIO, Gumi asked the contractors representatives to follow the Environmental Safeguards as per the contract document. He also suggested to follow the minimum standard of hygiene in the camp sites.

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OFFICE OF THE PROJECT MANAGEMENT CONSULTING SERVICES (PMC)
Assam Integrated Flood and Riverbank Erosion Risk Management Investment Program

Project Office: 2nd Floor Nayanara Supermarket Building Six Mile, Guwahati-22, Assam, India

Tel: +91-9085201016 (ITL), +91-8761807521 (NTL), +91-9999981284 (MANAGER) +91-9401659816 (OM),

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ACTION ITEM SUMMARY:

No.	Discussion Point / Issue	Discussion / Action	Responsibility and Action by	Target Date
1.	Environmental Safety	Full time Environmental Inspector exclusively for this purpose will give better performance and reporting. Environmental Inspector should be present during the work and during the site inspections and attend the meetings.	BIL	Immediate effect.
2.	Environmental Management Plan	EMP and EMoP prepared, but not submitted to SIO. Hence not approved by the SIO.	BIL	Immediate effect.
3.	Monitoring ambient environment	Baseline information were not take earlier. Test done recently on 31 st May, 2014. Reports available but not submitted to SIO	BIL	Reports should be submitted to SIO immediately
4.	Monthly Environmental Reporting on the Safeguards	Format received from PMC. PMC also helped them to demonstrate each points in the format. Documents required for the Monthly report were also explained by PMC. Report prepared and few are approved by the SIO	BIL	From the month of July, 2014, regularly
5.	Solid waste Management	Suggestions made in the earlier visits but not followed in the camps	BIL	
6.	Sanitation	Sanitary toilets are available in the site office but not properly maintained	BIL	
7.	Documents to be kept at site on Environmental Safeguards	Required documents were identified by PMC as per the bid stipulations. Few registers are present but documents related to National Acts and Rule and standards were not present at the site.		

Prepared by:-

Dr. Jayanta Das

National Environmental Specialist,
PMC, FREMAA

PROJECT MANAGEMENT CONSULTANTS TO FLOOD AND RIVER EROSION MANAGEMENT AGENCY OF ASSAM (FREMAA)

TETRA TECH INDIA LTD, in association with VISION EIS Consulting Ltd.

Head Office: 511, 5th Floor, D-Mall, Netaji Subhash Place, Pitampura, New Delhi-110034

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MINUTES OF MEETING

Subject	Environmental Audit on Implementation of EMP as part of site Inspection by FREMAA, SIO and PMC on 05.11.2014			
Meeting Time:	From: 12:00 PM	To: 12:30 PM	Date: 05.11.14	Remarks:
Meeting Venue:	At Gumi (Project site)			
Attendees (FREMAA):	1. Mr. BN Thakuria, EO(T) 2. Ms. N. Fardoushi, TO			
Attendees (SIO)	1. Mr. A. Kalita, EE, Guwahati, WR Division 2. Mr. A. M. Mazumdar, AE 3. Mr. B. Rajbangshi, AE 4. Mr. S.A. Ahmed, AE			
Attendees (PMC)	1. Mr. D.P. Jaishy, Int. Const. Engineer 2. Mr. P.M. Das, ID, CE 3. Dr. J. Das, NES 4. Mr. S.C. Dutta, Site Engineer 5. Mr. S. Khersa, Sr. Site Engineer			
Attendees from Contractors:	1. Mr. M. Agarwalla, PM, BIL 2. Mr. Alauddin Sheik, Asstt. Engineer, BIL 3. Mr. Ramesh Changanai, Sr. Surveyor and others			

POINTS OF DISCUSSIONS :

1. Environmental Inspector :

The Environment Inspector was not present at the site. When asked, Project Manager BIL told that the earlier Inspector left BIL and he will appoint the Inspector within 7 days. Under the contract stipulation, section 6 and subsection 2.1.1; Environmental Inspectors, was required during the implementation of the work.

2. Stipulation of the contract on Environmental Management Plan :

The earlier Environmental Inspectors of BIL prepared the Environmental Management Plan and submit to SIO. SIO approved the plan.

3. Monitoring Environmental Standards :

Baseline information and present values of the Test for selected parameters were carried out and results were submitted to SIO, FREMAA and PMC. The tests were conducted by Pollution Control Board, Guwahati. Tests results were within the permissible limit.

4. Environment Management related documents required at the field site :

- As the BIL site camp was not visited, the documents were not verified.

5. Register to check the implementation of EMP :

- As the BIL site camp was not visited, the documents were not verified.

6. Monthly Environmental Reports :

- Monthly Environmental Reporting for the month of October, 2014 was not submitted to SIO.

7. Sprinkling of water :

- Sprinkling of water at the worksite was not carried out and as a result dust were recorded in the air.

ACTION ITEM SUMMARY:

No.	Discussion Point / Issue	Discussion / Action	Responsibility and Action by	Target Date
1.	Environmental Inspector	Environmental Inspector will be appointed soon	BIL, SIO	Within 7 days
2.	Monthly Environmental Reporting on the Safeguards	- Environmental Reporting to the SIO on the Safeguards by the Environmental Inspectors will be done as soon as the Inspector is appointed.	BIL, SIO	
3.	Sprinkling of water	Was not carried out	BIL	Will be done from next day
4.	Environment Management related documents	Are kept at site office of BIL	BIL	
5.	Checking of Implementation of EMP	Are kept at site office of BIL	BIL	

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Dust pollution

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MINUTES OF MEETING

Subject:	Meeting on Implementation of EMP as part of CMM FREMAA, SIO and PMC on 05.11.2014			
Meeting Time:	From: 3:00 PM	To: 4:00 PM	Date: 05.11.14	Remarks:
Meeting Venue:	At BIL's Basin test site (Spanish Villa), Mirza			
Attendees (FREMAA):	1. Mr. BN Thakuria, EO(T) 2. Ms. N. Fardoushi, TO			
Attendees (SIO):	1. Mr. A. Kalita, EE, Guwahati, WR Division 2. Mr. R. Roy Barua, EE, Palasbari, WR 3. Mr. P. Chetia, AEE 4. Mr. A. Azad, AEE 5. Mr. A. M. Mazumdar, AE 6. Mr. B. Rajbangshi, AE 7. Mr. S. A. Ahmed, AE Division			
Attendees (PMC):	1. Mr. D.P. Jaishy, Int. Const. Engineer 2. Mr. P.M. Das, ID, CE 3. Dr. J. Das, NES 4. Mr. S.C. Dutta, Site Engineer 5. Mr. S. Khersa, Sr. Site Engineer			
Attendees from Contractors:	1. Mr. M. Agarwalla, PM, BIL 2. Mr. Barua, PM, SGCL 3. Mr. Alauddin Sheikh, Asstt. Engineer, BIL 4. Mr. Ramesh Changmai, Sr. Surveyor BIL and others			

POINTS OF DISCUSSIONS :

1. Environmental Inspector :

There was no full time Environmental Inspector either for BIL Palashbari site and SGCL Palashbari which was against the contract stipulation under section 6 and subsection 2.1.1. One person Mr. B. Choudhury was appointed by the BIL long back, but he was not present in any of the PMC's meeting at the project site. This issue was also pointed out by SIO Palashbari. Mr Chetia raised the point whether they will allow BIL to work at Palashbari, if Environmental Inspector is not there. But EO(T) FREMAA told SIO to continue the work and instructed PM, BIL to employ Environmental Inspector within 7

days. EO(T) also suggested PM, SGCCCL to take the necessary measures on Environmental safeguards immediately and suggestions may be taken from PMC in this aspect.

2. Stipulation of the contract on Environmental Management Plan :

BIL has submitted the Environment Management Plan for Palashbari site, but it was not approved by the SIO till date. SIO told that Environmental Inspector was not present at site. NES, PMC told PM, SGCCCL to submit the EMP to the SIO soon after appointing Environmental Inspector.

3. Monthly Environmental Reports :

Monthly Environmental Reporting should be submitted to SIO for his approval in the prescribed format monthly, which was not done so far for both the contractors. BIL has showed the monthly reports in PMC but was not approved by SIO.

ACTION ITEM SUMMARY:

No.	Discussion Point / Issue	Discussion / Action	Responsibility and Action by	Target Date
1.	Environmental Inspector	Full time Environmental Inspector exclusively for this purpose will give better performance and reporting. Environmental Inspector should be present during the work and during the site inspections and attend the meetings.	BIL, SIO, SGCCCL	Within 7 days for BIL and for SGCCCL soon.
2.	Environmental Management Plan	EMP and EMoP should be submitted to SIO and get their approval.	BIL, SGCCCL	Immediate effect.
3.	Monthly Environmental Reporting on the Safeguards	Format developed by PMC. Monthly reporting on Environmental safeguard is an essential component of the contract stipulation. Contractors must do the monthly reporting to SIO.	BIL, SGCCCL, SIO	Immediately

Appendix3

Photographs

	
<p style="text-align: center;">Porcupine Lot-3 works</p>	<p style="text-align: center;">Checking of Oil spills of Machine boat in Launching of porcupine- Dibrugarh</p>
	
<p style="text-align: center;">Drinking water facility at work site- Dibrugarh</p>	<p style="text-align: center;">Drinking water facility at work site- Dibrugarh</p>
	
<p style="text-align: center;">Camp Office- Gumi – Fire safety measures</p>	<p style="text-align: center;">Site Camp - Gumi – site developed</p>



Launching of porcupine- Dibrugarh



Field Visit to Kaziranga 26-27 November, 2014 (T-2)



Field Visit to Palasbari 25.11.2014(T-2)



Field Visit to Palasbari 25.11.2014(T-2)



Field Visit to Gumi 25.11.2014(T-2)



Field Visit to Gumi 25.11.2014(T-2)



Gas stove used to reduce firewood collection- Camp Gumi



Sanitary toilets – at camp - Gumi



Tube well installed at camp by the contractor, Gumi

