

Environmental Monitoring Report

Third Semiannual Report
September 2016

IND: SASEC Road Connectivity Investment Program – Tranche 1

Prepared by Ministry of Shipping, Road Transport and Highways, Government of West Bengal for the Government of India and the Asian Development Bank.

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CURRENCY EQUIVALENTS

(As of 26 March 2015)

Currency unit – Indian rupee (INR)

INR 1.00 = USD 0.01591

USD 1.00 = INR 62.84

ABBREVIATIONS

AADT	Annual Average Daily Traffic
AAQM	Ambient Air Quality Monitoring
ADB	Asian Development Bank
AH	Asian Highway
ASI	Archaeological Survey Of India
BGL	Below Ground Level
BOQ	Bill of Quantity
CPCB	Central Pollution Control Board
DFO	Divisional Forest Officer
DPR	Detailed Project Report
EA	Executing Agency
EHS	Environment Health and Safety
EIA	Environmental Impact Assessment
EMOP	Environmental Monitoring Plan
EMP	Environmental Management Plan
GOI	Government of India
LHS	Left Hand Side
LPG	Liquefied Petroleum Gas
MOEF	Ministry of Environment and Forests
MORTH	Ministry of Road Transport and Highways
NGO	Non-Governmental Organization
NH / SH	National Highway / State Highway
NOC	No Objection Certificate
NBWL	National Board for Wildlife
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
PUC	Pollution Under Control
PWD	Public Works Department
R & R	Rehabilitation and Resettlement
RCC	Reinforced Cement Concrete
RHS	Right Hand Side
ROB	Road Over Bridge
ROW	Right Of Way
SAARC	South Asian Association for Regional Corporation
SEIAA	State Environmental Impact Assessment Authority
WBSPCB	West Bengal State Pollution Control Board

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1 Introduction

The SASEC Road Connectivity Investment Program (SRCIP) will improve road connectivity and efficiency of the international trade corridor, by expanding about 500km of roads in the North Bengal and North Eastern Region (NB-NER) of India. The project area under SRCIP is a key strategic thoroughfare integrating the regions of South and South East Asia, and bordering the countries of Bangladesh, Bhutan, Myanmar, and Nepal. Improvements in road connectivity in NB-NER will enable efficient and safe transport within India and regionally with other South Asia Subregional Economic Cooperation (SASEC) member countries. Ultimately, SRCIP will pave the way from India and other South Asian countries to Myanmar, and further afield to link with the member countries of the Association of South East Asian Nations (ASEAN).

1.1 Project Objectives

The SRCIP will cover both national highways and state roads. The upgrading will be mainly 2-laning with paved shoulders, together with safety features including construction of flyovers at busy junctions and bypasses for smooth thorough traffic. Some sections will widen to 4 lanes to serve future traffic. Performance-based maintenance will be undertaken for 5 years after the construction. The authority's engineer or the construction supervision consultants were engaged for EPC contracts and item-rate contracts, respectively, at the contract level. In addition, the implementation support consultant (ISC) is engaged to support EAs including (i) external monitoring of safeguard implementation, (ii) third-party maintenance quality, (iii) road safety audit, (iii) financial management and (iv) subsequent PFRs submission to ADB.

1.2 Project Description

The Government of the India has applied for financial assistance from the Asian Development Bank (ADB) towards the cost of SRCIP which is a multi-tranche financing facility (MFF). The first tranche of the SRCIP covers two packages: Asian Highway No. 02 from Panitanki to Banglabandha (about 37km) and Asian Highway No. 48 from Changrabandha to Pasaka (about 91 km).

In Asian Highway No. 02 project corridor, the first 1.2 Km of the road from Kakarbitta in Nepal border is a state highway and then the project road joins NH31 C at Panitanki and takes north-east direction to reach Naxalbari and proceeds in mostly easterly direction to reach the junction with NH 31 at Bagdogra. This section from Panitanki to Bagdogra is NH31C and has a 2 lane carriageway. Periodic maintenance including adding paved shoulder in NH31C (Km 16 to Km 32.75 of NH31C in Panitanki – Bagdogra section) have been taken up recently and is nearly completed. The project road continues on NH 31/31C up to Shivmandir More and then project road turns in a southeast direction along the PWD road taking the Shivmandir More – Medical More – Naukghat – Teenbhatti More – Fulbari Junction to reach the Bangladesh border. The exiting surfacing is a black topped 2 lane road up to Fulbari Junction. The last section of Fulbari Junction to Bangladesh border, about 2 km is concrete road. Fulbari is connected through rail from New Jalpaiguri Station.



Figure 1-1: Project Location Map

The Asian Highway No. 48 project corridor, road starts from Bhutan Border at Phuentsholing and ends at Bangladesh border at Changrabandha comprising of the Phuentsholing – Jaigaon – Hasimara – Dhupguri – Mainaguri – Changrabandha – Burimari (about 91 km) with a proposed Pasaka access road, including one LCS along the Pasaka access road is situated in the State of West Bengal in the North Eastern Part of India.

Table 1-1: Sub – Projects and Their Characteristics

Sl. No.	Name of Road	Road Length (km)	Env. Category	Contractor's name	Date of Start/Date of Completion
1	AH-02, Panitanki – Banglabandha	37.271	A	Dineshchandra R. AgrawalInfraconPvt. Ltd.,	28/5/2015 for 30 months, 23 rd November 2017
2	AH-48, Phuentsholing (Bhutan) ends at Bangladesh border at Changrabandha	90.56	A	Punjj Lloyd India Ltd.,	

Various improvements to the project roads and structures that need to be built in the project are indicated in the **Table 1-2**.

Table 1-2: Project Components

Sl. No.	Description	Unit	AH-02	AH-48
1	Widening to 2 - Lane	Km	24.80	90.586
2	Widening to 4 Lane	Km.	12.4	-

Sl. No.	Description	Unit	AH-02	AH-48
3	Realignment	Km.	1.07	-
4	Bypass	Km.	1.25	10.458
5	Service Road	Km	5.260	-
6	Grade Separator	No.	2	-
7	Major Bridge Repaired and Strengthening/New	Km	2/3	8/0
8	Minor Bridge Repaired, Rehabilitation, widening/ Reconstruction /New	Km	0/4/0	21/2/1
9	Flyover	No.	2	1
10	Cattle and Pedestrian Underpass / VUP	No.	2	4/1
11	Elephant Underpass.	No.	-	3
12	ROB	No.	4	1
13	Gabion Wall	Km.	-	1.754
14	Toe Wall	Km.	1.005	0.740
15	Retaining Wall Location.	Km.	0.100	4.250
16	Reinforced Earth Wall	Km.	4.320	-
17	Widening of Slab Culvert / Pipe Culvert	No	18/2	35/0
18	Pipe Culvert Reconstruction / New Construction.	No.	-	1/1
19	Box Culvert Reconstruction / New Construction.	No.	8/39	18/112
20	Major Intersection	No.	10	10
21	Minor Intersection	No.	24	77
22	Road Side Drain	Km.	2*19.312	2*15.245
23	Bus bays	No.	23	45
24	Truck Lay Bys	No.	1	8

1.3 Scope of the Report

This is the second semi-annual environmental monitoring report for the SRCIP Tranche-1 project. It presents the environmental due diligence from Jan 2016 to June 2016 as per the requirements of the ADB. While the Tranche-1 covers 500 km of roads, this report pertains to the two roads of AH-02 and AH-48 in West Bengal. The report presents a review of the actions taken by various stakeholders in the project for compliance with the ADB environmental safeguard requirements and further states the actions that would be taken in the due course of the project.

2 Project Progress

The project loan is signed in March 2015 and the EPC contractors are appointed in May 2015. The two EPC contractors one for each road i.e., AH-02 and AH-48 are fully mobilized and the construction works are in progress. The details of current progress of works is presented in Table 2-1.

Table 2-1: Progress of Work Upto June 2016

Sl. No.	Description	AH-02	AH-48	Remarks
		Status		
1	Financial progress			
a	Mobilization Advance	1 st Instalment 2% of Contact sum Rs-8,54,50,518 2 nd Instalment 3% of Contract sum Rs-12,81,75,777 3 rd Instalment 5% of Contract sum Rs-21,36,26,295 Total amount of mobilization advance paid to the contractor Rs 42,72,52,590/-	1st R/A bill-1 st Instalment 2% of Contact sum Rs-13,32,00,000 2nd R/A bill -2 nd Instalment 3% of Contract sum Rs-19,98,00,000 4th R/A bill -3rd Instalment 2% of Contact sum (Part-A, Partly Released) Rs-3,00,00,000 6th R/A bill -3rd Instalment 2% of Contact sum (Part-B, Balance Released) Rs-10,32,00,000 Total amount of mobilization advance paid to the contractor Rs 46,62,00,000/-	
a'	Mobilization Advance Recovery	Not Yet Started	Rs12, 85, 24,683 Against 1 st Mobilization Adv. Rs 7,46,64,476 Against 2 nd Mobilization Rs 20,31,89,159 Up-to-date recovery of Mobilization advance.	
b	Stage Payment	1 st R/A bill – Rs 15,13,38,114 recommended by A.E for payable amount Rs.13,31,77,541 2 nd R/A bill– Rs 41,93,25,093/ recommended by A.E for net payable amount of Rs 36,90,06,081 3 rd R/A bill– Rs 08,76,06,230/ recommended by A.E Up to date amount of stage payment certified in IPC Rs 67,10,20,175/- Up to date amount w.r.to CP (%) - 15.71%	3rd R/A bill– (stage payment 1 st) Rs 6,83,23,275 recommended by A.E. and Net Payable amount Rs. 4,52,00,306 5th R/A bill – (stage payment 2 nd) Rs 35,76,39,913 recommended by A.E for net payable amount Rs 23,27,01,826 7 th R/A bill – (stage payment 3 rd) Rs 43,02,26,770 is recommended by A.E. and net payable amount is Rs 23,81,72,325/- Up to date amount certified in IPC Rs 85,61,89,958/- Up to date amount w.r.to	

Sl. No.	Description	AH-02	AH-48	Remarks
		Status		
			CP (%) - 12.85%	
2	Pre-construction Activities			
a	Tree Cutting	Total trees to be cut-3412 nos., Trees felled down-3412 nos., Total stretch have been cleared.	Total trees to be cut-4063 Trees have been cut almost throughout the stretch; except forest areas and last 3 km of the site.	
b	Electric Pole erection/Shifting	Work is in Progress :- 0+750- 8+100, 17+700 -19+600 LHS 27+00 -33+400, Km, 33+400-34+450 & 35+805 36+900 shifting works substantially completed in rest of Km.	Shifting completed	In AH-02 and AH-48 Electrical shifting is entrusted to the contractor as per article 9 as per EPC Contract agreement.
c	Water Pipe Line	Shifting is completed in km 0+00 - 26 +00 km . Substantial shifting is completed in Km 30+00 – km 36+00	Substantially completed	In AH-02 and AH-48 Water Pipe line which is being shifted by entity owing agency.
d	Applicable Insurances	Submitted by contractor as per provision of contract on 02-11-2015	Submitted by contractor	AH-48 , Submitted Car Policy is not enough to cover all provision of article 20 of the contract.
e	Land Acquisition	Land acquisition has been completed for 9.077 ha in Darjeeling District and 0.6253 ha in Jalpaiguri District. Additional land acquisition has been proposed for 0.1618 ha in Darjeeling District and 0.0222 ha in Jalpaiguri district.	3H is fully completed for the entire section. The compensation for the Tea Garden area is processed by the CALA	
3	Applicable Permits			
a	Permission of state Government for Boulder extraction from quarry	Obtained for Third Party	Procuring the material from the Approved quarry holder, third party.	
b	Permission of village panchayat and PCB for Installation of crushers	Obtained for Third Party	NOC obtained from village Panchayat CTE & CTO obtained from PCB	
c	License to use explosives	Acquired by EPC Contractor	Obtained for Camp-2 , Applied for Camp-1	
d	Permission of state government for	Obtained	NOC for bore well has been obtained from village	

Sl. No.	Description	AH-02	AH-48	Remarks
		Status		
	drawing water		Panchayat, No need for reservoirs.	
e	License from inspector of factories / other competent executing agency for setting up batching plant	Permission obtained from PCB.	Permission obtained from PCB.	
f	Clearance from PCB for setting up batching plant	CTE & CTO obtained from PCB	CTE & CTO is yet to be obtained from PCB for WMM plant for both the camp 1 & 2	
g	Clearance of village panchayat and PCB from for setting up asphalt plant	NOC obtained from village Panchayat CTE & CTO obtained from PCB	NOC obtained from village Panchayat CTE& CTO obtained from PCB	
h	Permission of village panchayat and state Government for borrow earth	Permission for extraction of River bed material obtained from E.E. North Bengal investigating Department.	NOC obtained from land owner and from BLLRO. Permission for extraction of River bed material required documents as per the EMAP and as per the guidelines of the Ministry of Environment and Forest are not submitted.	
4	R&R			
a	Affected Structure (excluding common property)	Disbursement of payment to DP's 2713 nos. Amounting to Rs-3169.57 Lacs in Darjeeling Districts - (Km 0+00 -28+950) is completed & Disbursement of payment to DP's 1288 nos. Amounting to Rs-1535.31 Lacs underJalpaiguri District (km (28+950 - 37+270) is completed. Disbursement of 74DP's added due to design requirement at Matigara block is in progress. Out of 2636 nos. grievances received is examined and 1619 nos. disposed in Darjeeling District by GRC.	Coochbehar Districts -107 nos., Jalpaiguri District-910 nos. & Alipurduar District-542 nos. Total-2469 nos., Out of 1832 nos. grievances received is examined and 457 nos. processed for disposal through GRC.	
b	Affected Structure (common property)	Darjeeling Districts -88nos.(Km 0+00 -28+950) &Jalpaiguri District-22 nos. (km (28+950-37+270) Total-110 nos.	Coochbehar Districts, Jalpaiguri District &Alipurduar District Total-140 nos.	As per RP (Jan 2014)

Sl. No.	Description	AH-02	AH-48	Remarks
		Status		
5	Amount Details			
a	Total Entitle Amount (R&R)	The disbursement for R&R in Darjeeling Districts –Rs 3169.57 lac & Jalpaiguri District- Rs1535.31 lac-Total-Rs. 4704.88 lac	The amount paid for the disbursement of compensation is Rs 1957.30 lac	
b	Encroachment	Encroachments removal are to be done at few locations	Encroachments removal are to be done at few locations	
6	Design Review			
a	Plan & Profile	Plan and Profile drawing have been submitted by contractor vide letter no. DRA/AH-02/15-16/27. Date. 28-07-2015. & finalised for 32.42 Km. out of 37.27 Km. and revisions are progressing significantly for change of scope of works.	Finalized for entire road length -90.568	
b	Pavement Design	Reviewed	Finalized for entire road length -90.568 km	
c	Major Br.(3Nos AH-02),	Scope: 3 nos. Reviewed by A.E.	Not in Scope	
d	Grade Separator (Flyover)	Scope : 2 nos. 2 no. Design and drawing reviewed and comments offered by A.E.	Scope (nos.) - 01, Submitted and is under review of A.E.	
e	VUP	Scope: 1 no. Reviewed	Scope (nos.) - 01, Design & Drawings are Reviewed and sent back with observations for compliance.	
f	PUP	-	Scope (nos.) - 04, Reviewed - 03 no. 01 no. not yet submitted by the contractor.	
g	EUP	-	Scope (nos.) - 03, Design and drawings for all three locations are not yet submitted by contractor for review.	
h	Minor bridge	Scope - 5 no. Reviewed - 4 no. Design & Drawing 01 no. not yet submitted by the contractor.	Scope (nos.) - 03, 2 no. reviewed by AE. 1 no. Design and drawings are reviewed and compliance offered was not yet submitted by	

Sl. No.	Description	AH-02	AH-48	Remarks
		Status		
			contractor	
i	RCC Box culverts	Scope: 47 nos. Design & Drawing reviewed	Scope (nos.) - 130, 86 nos. Box culvert design and drawings are reviewed. Remaining 44nos are not yet submitted by contractor	
j	Slab culverts	Scope: 18 nos.(New Construction) Design & Drawing reviewed		
k	H.P. Culvert	Scope: 2 nos. Drawing are yet to be submitted by the Contractor		
l	ROB`s	Scope: 4 nos. 2 nos. Design & Drawing approved by railway authority up to Substructure. 1 no. GAD revised as per railway requirement and submitted to railway. & Remaining 1 no design drawing submitted to Railway for approval.	Design and drawings for one location are not submitted by contractor for review .	
	Retaining wall	Scope: 100 mt. Design and Drawing submitted and reviewed by AE	Finalized	
m	Drain	Design and Drawing reviewed by AE		
7	Environment, Social, Health safety and traffic issue			
a	QAP	QAP submitted by agency and is reviewed by A.E. & ISC Modified EMP submitted by Agency and Reviewed.	QAP submitted by agency; observation by AE & ISC have been offered for compliance. Modified EMP submitted by Agency and Reviewed.	
8	Work Programme	Offered comments by AE & ISC are yet to be complied & modified work programme is yet to be submitted by the Contractor.	Revised work programme submitted to A.E. by contractor, dated 25-03-2016 is under review of A.E.	
9	Construction methodology	Reviewed	Detail not furnished by AE/EPC Contractor	
10	Plant Status			

Sl. No.	Description	AH-02	AH-48	Remarks
		Status		
a	HMP	Commissioned and calibrated	At Camp -1, Km 19+800 (Indira more) Maynaguri. Installation and calibration completed and production started At Camp-2, (Rangalibanza, Alipurduar) , Installation and calibration completed and production started	
b	Concrete Batching Plant	Installation completed and production started.	At Camp -1, Km 19+800 (Indira more) Maynaguri Installation completed and production started. At Camp-2, Km 75+160 (Rangalibanza, Alipurduar) Installation completed and production started	
c	WMM Plant	Installation completed and production started.	At Camp -1, Km 19+800 (Indira more) Maynaguri Installation Completed, Calibration carried out and Production started, AtCamp-2, Km 75+160 (Rangalibanza, Alipurduar) Installation Completed and production started.	
d	Crusher Plant	-	At Camp-2, Km 75+160 (Rangalibanza, Alipurduar) Installation completed and production started	
11	Laboratory Set up	Central Lab established at Naxalbari	Established at Camp 1 and Camp-2 both.	
12	Pre-Cast Works	Proposals for precast Box Culverts & drains are approved. Casting yard Finalized. Precast box culvert segments completed 699 nos. are completed. Precast Drain 3893 nos. segment (2.5 mts.) are completed. RE Panel Segments - 5556 nos. are completed.		
13	Mix Design			
a	Concrete Mix Design	M 10 M15, M20, M25,M30,M35,M40 & M45 has been approved	M15, M20, M25,M30 has been approved	






Sl. No.	Description	AH-02	AH-48	Remarks
		Status		
b	GSB	Mix Design is Approved	Mix Design is Approved	
c	WMM	Mix Design is Approved	Mix Design is Approved	
d	DBM	Mix design is under Finalization	Mix Design is Approved	
14	Civil work			
A	Highway			
a	Clearing and Grubbing (MCW)	22 km. Completed.	39.5 km completed	MCW
	Clearing and Grubbing (Sr. Road)			
c	E/W or Embankment (MCW)	12.371 km. Completed.	36 km completed	
d	E/W or Embankment (Sr. Road)	LHS-5.090 KM, RHS-4.865 KM		
e	Sub grade Top (MCW)	11.2 km. completed	35 km completed	
F	Sub grade Top (Sr. Road)	LHS-4.553 KM , RHS-4.595 KM		
g	GSB (MCW)	7.087 km. completed	29 km completed	
	GSB (Sr. Road)	LHS-3.795 KM, RHS-4.525 KM		
I	WMM –TOP (MCW)	2.1 km. completed	26.879 km completed	
	WMM –TOP (Sr. Road)	LHS-3.550, RHS- 4.370		
i	DBM (MCW)	-	25.870 Km Completed	
	DBM (Sr. Road)	LHS-0.640 KM, RHS-0.595 KM		
B	Structure			
		Work in progress :- Box culvert- 22 nos. partially completed, 15 nos. in progress Slab culvert widening -10 nos. partially completed, 08 no. in progress ROB -02 nos. in progress FOB – 01 no. in progress Minor Bridge (new) – 01 no. is partially completed and other 03 nos. are in progress Fly over work at Ch. 18+790 is in progress.	Construction RCC box culverts completed - 81 Nos. Protections work partially completed. Minor Bridge (New) - 01 no completed & 01 nos. Is in progress Minor Bridge (widening) - 03 no. is in progress /partially completed RCC Cover drain- 9.69 km Retaining Wall work is in progress. - 0.869 km length construction is	

Sl. No.	Description	AH-02	AH-48	Remarks
		Status		
		ROB work at Ch. 7+948 & 32+046 is in progress.	completed.	
C	<u>Survey Work</u>			
15	NGL	35.621 km, Completed for MCW	50 km Completed for MCW	
16	OGL	32.5 km. completed	40 km Completed for MCW	
17	TBM Fixing	37.506 km completed		
18	Centre Line Marking	37.506 km completed	Completed in Km 0.00- 20.400, 36.100 - 88.600 and Pasakha Bypass	
19	Traffic Survey	Completed.	Completed	
20	Milestone I due date 21-11-2015, and progress to be achieved 10 % of the Contract sum (180 th days from the appointed date - 28-05-2015)	Progress 10% achieved on 25/04/2016. It has been confirmed by Project Director AH – 02 vide memo no. ADB/AH-02/ AE-588 A.E. recommended the proposal to P.D. AH-02 for clubbing of Milestone I & Milestone II with schedule progress 30%	Progress 10% achieved The date is yet to be confirmed by A.E. based on the verification for achievement of 10% amount of total contract price, It need to be declared by AE to avoid any contractual complication at later date.	
21	Milestone II. Due date - 01-07-2016, and progress to be achieved 30 % of the Contract sum (400 th days from the appointed date - 28-05-2015)	In Progress, 30% progress of C.P. is not achieved yet. The contractor has requested for extension of time for Milestone II up to December-2016 vide his letter no. DRA/AH-02/16-17/723 of date 16-07-2016 which is under review of A.E.	In Progress, 30% progress of C.P. is not achieved in this month, AH – 48 contractor submitted their request of 1 st EOT for 209 days. It has been reviewed by A.E. and 163 days recommended to the project director AH- 48 on account of available hindrances & delay in site hand over. The project director AH-48 recommended the above 1st EOT vide his letter Memo no. AH-48/10-09/170, dated 08-04-2016 to C.E. Roads (N.H.) for 96 days EOT on ground of continuous & unpredictable rain the rest period of 67 days on delay account will reviewed after competitions of L.A	

Sl. No.	Description	AH-02	AH-48	Remarks
		Status		
			process. With this grace period of 96 days, the Milestone II period will be extended from 30-06-2016 to 04-10-2016 . The Milestone I & Milestone II should be clubbed and contractor achieved the progress of 30% by 04-10-2016 in totality for both the Milestones I & II.	
22	EOT	Not Yet Granted It needs to be finalized at early date for realistic plan by the contractor	Not Yet Granted It needs to be finalized at early date for realistic plan by the contractor	

3 PROJECT ADMINISTRATIVE DETAILS

Implementing the project, its management and safeguards, involve a number of agencies. The roles assigned to the different entities as presented next.

	Overall Coordination and Monitoring: <i>Steering Committee SASEC Road Connectivity Investment Program, Chaired by Joint Secretary, MoRTH</i>
	Executing Agency: MORTH
DUTIES:	(a) inter-ministerial coordination, (b) day-to-day subproject management, (c) sector development implementation, (d) procurement (e) withdrawal applications, (f) project progress reports, (g) maintaining project accounts, (h) Complete loan financial records.
	Implementing Agency: <i>West Bengal Public Works Department (West Bengal PIU, entrusted to WBPWD)</i>
DUTIES:	(a) implement subprojects as MORTH agency, (b) inter-departmental coordination, (c) provide counterpart staff and land facilities, (d) report on progress of subprojects.
	Authority's Engineer: <i>For EPC contracts, MoRTH will recruit the consultants for construction supervision (called "Authority's Engineer") under the terms of reference as given in the standard EPC contract document of Government of India.</i>
DUTIES:	Construction supervision
	Wildlife Conservation Agency: <i>An agency will also be engaged during construction and initial operation periods [Being environmentally a category A project, this is triggered.]</i>
DUTIES:	External monitoring on wildlife conservation activities

4 Environmental Sensitivity and Due Diligence

An EARF prepared for the project has guided procedures for the selection, environmental assessment and implementation of environment safeguards for the subprojects and ensure compliance to relevant laws and policies of the Government of India and the ADB Safeguard Policy Statement (SPS) 2009.

AH-48, passes through a protected area (Jaldhapa National Park) for approximately 2.6 km, government reserved forests for approximately 2 km and includes construction of two new bypass roads totalling about 97km. One of the two bypasses falls within 10 km of the Buxa Tiger Reserve. No environmentally sensitive areas exist in the other subproject AH-02. As per a new notification issued by MOEF on 22 August 2013 (see para 5(i)), both roads do not require an environmental clearance. However, a forest clearance for diversion of forest land to non-forest purpose is required for AH-48 for the sections of about 5 km passing through the national park and government reserved forests.

Environmental Impact Assessment (EIA) reports have been prepared for the two subprojects (AH-2 and AH-48) identified under Tranche I as they are located in environmentally sensitive areas, and fall under category A according to the ADB Safeguard Policy Statement.

4.1 Compliance with respect to Environmental Provisions as per Loan Covenants

As per the Loan Agreement for SRCIP Tranche – 1, the safeguards are to be complied with as per the Schedule 5 to the FFA during implementation of the Facility. ADB's safeguard policies in effect as of the signing of legal agreements for a tranche will be applied with respect to the projects financed under such tranche. Schedule 5 to the FFA describes the environment assessment requirements and authorities responsibilities as below:

Clause and Para No.	Description	Compliance Status
Schedule 5, Para 1	<p>India will ensure, cause the Ministry of Road Transport and Highways (MoRTH), the Manipur Public Works Department (MPWD) and the West Bengal Public Works Department (WBPWD) to ensure, that all the requirements prescribed in this Schedule, and the following social and safeguard frameworks and plans that have been prepared with respect to the Facility and the first tranche and of which ADB has been provided full copies, and which are deemed incorporated herein by reference, are complied with during the processing and implementation of the components/projects under the Facility.</p> <p>(i) Environmental Assessment and Review Framework (ii) Resettlement Framework (iii) Indigenous Peoples Planning Framework (iv) Two Combined Resettlement Plan and Indigenous Peoples Plan for AH-2 and AH-48 and (v) Environmental Impact Assessment for AH-2 and</p>	Complied

Clause and Para No.	Description	Compliance Status
	AH-48	
Schedule 5, Para 2	The frameworks cover the Facility-specific information and requirements in accordance with ADB's safeguard policies: (i) the general anticipated impacts of the components or projects likely to be financed under the MFF on the environment, involuntary resettlement, and indigenous peoples; (ii) the safeguard criteria that are to be used in selecting components, projects; (iii) the requirements and procedure that will be followed for screening and categorization, impact assessments, development of management plans, public consultation and information disclosure (including the 120-day disclosure rule, if required), and monitoring and reporting; and (iv) the institutional arrangements (including budget and capacity building requirements), grievance redress mechanisms and the client's and ADB's responsibilities and authorities for the preparation, review and clearance of safeguard documents.	Complied
Schedule 5, Para 3	Prior to the preparation of each PFR, the applicability and relevance of each safeguard framework for environmental assessment, involuntary resettlement, and indigenous people will be reviewed by India, MoRTH, MPWD and WBPWD and updated to ensure relevance and consistency with applicable country legal frameworks and ADB's Safeguard Policy Statement (2009), as amended from time to time.	Complied
Schedule 5, Para 4	In all cases, for each new PFR preparation, India will cause MoRTH, MPWD and WBPWD to review on-going projects to check on the status of compliance with the social and environment safeguard plans and frameworks, and submit due diligence reports of the earlier PFR to ADB, together with other required safeguard documents and semi-annual monitoring reports relevant to the components/projects included in the tranche being processed. In any case if significant involuntary resettlement and environment issues are identified in the course of the implementation and review of ongoing projects, a corrective action plan will be prepared to address such issues and submitted to ADB.	Implementation is in progress, no significant environmental issues that are not addressed in the EMP are encountered till date. This clause is hence deemed to be Complied.
Schedule 5, Para 5	Semi-annual monitoring reports that describe the progress of the implementation of resettlement and environmental activities and any compliance issues and corrective actions (if any) will be submitted to ADB.	Complied

4.2 Contractors EMP, HSE, Wild life Management Plan etc.,

A site specific EMP for their respective contract packages updating any requirements that are not addressed in the project documents so far was prepared. Both the EPC contractors of AH-02 and AH-48 have submitted the EMP documents, and HSE Plan.

The contractors have incorporated reporting system recommended by the ISC and EMWCA, which they would follow. The Environmental Monitoring Plan, HSE plan, Waste Management Plan and Traffic Management Plan for both the contracts has been integrated into the EMPs.

During implementation of the EMP, the AH-48 contractor has to implement the Wild Life Management Plan that would be prepared by the EMWCA. The EMWCA is currently in the process of preparation of the Wildlife Management Plan for the project. AH-02 does not require a wildlife management plan as there are no sanctuaries or reserved forests that the AH-02 crosses.

4.3 Compliance Status of Statutory / Regulatory Clearances

As stated in the FFA, MoRTH shall ensure that all subprojects and project facilities under the Facility are assessed, designed, implemented, constructed, operated, maintained, and monitored in accordance with all applicable environmental laws, rules, and regulations of India, the state, ADB's SPS; and the IEE, and the EARF, as applicable statutory clearances need to be obtained. In line with the above requirement, all statutory clearances that are required for the project at various stages of implementation have been assessed. Both the sub-project roads AH-02 and AH-48 do not require Environmental Clearance from MoEF.

Both the Contractors of USRIP-III have obtained labour license and Workmen Compensation Insurance. The Contractors have obtained Consent to Establish (CTE) has been obtained by AH-02 for Ready Mix Concrete Plant, while Consent to Operate (CTO) is under process. CTE and CTO for other equipments are obtained by the contractor for AH-02. All construction equipment of AH-48 i.e., Batch mix Plants, Crushers, and the Hot Mix plant have obtained the CTE and CTO. Status of various clearances and consents are indicated in the Table 4-1. Copies of the clearances obtained are provided as annexures referred in the table.

Table 4-1: Status of Clearances

Sl.No .	Clearances / Consent / Permissions Required	Statutory Authority	Status of Clearance	
			AH-02	AH-48
Clearances by the PIU, WBPWD				
1	Forest Clearance	Regional Office, Forest Department, Bhubaneswar	Not Applicable	Applied and under process to forward to the Regional Office, Bhubaneswar
2	Wildlife Clearance	NBWL, Govt. of India	Not Applicable	Applied and under process with State Chief Wildlife Warden, West Bengal to forward to National Board for Wildlife

Sl.No .	Clearances / Consent / Permissions Required	Statutory Authority	Status of Clearance	
			AH-02	AH-48
3	Tree cutting	State Forest Department, West Bengal, represented by respective DFOs and Range Officers.	<p>Obtained, Ref No. 2452/28-15 dated 24th Nov 2014 for 2434 trees and Ref 1734/8-14 dated 22nd July 2015 for 59 trees from DFO Kurseong Division; and</p> <p>Ref No. NIL dated 28th Nov 2014 for 919 trees from Forest Range Officer, Ambari Range</p> <p>(Annexure - 1)</p>	<p>Obtained., Permit No. 81/MDT 14-15 dated 03rd Jan 2015 for 2350 trees from Range Officer, Madarihat Range</p> <p>Permit No. 74/DLG (NOC), dated 02nd Feb 2015 for 532 trees from Forest Ranger, Dalgaon Range</p> <p>Permit No. 138/MRH of 15-15 dated 04th Feb 2015 for 1420 trees from Forest Range Officer, Moraghat Range</p> <p>Permit No. NIL dated 06th Dec 2014 for 572 trees from Forest Range Officer, Mekhliganj Range</p> <p>Permit No. NIL dated NIL for 101 trees from Forest Range Officer, Hamiltonganj Range</p> <p>(Annexure - 2)</p>
4	Certificate of Registration of Principal Employer	Ministry of Labour & Employment, Govt. of India, represented by Dy. Chief Labour Commissioner (Central), Kolkata	<p>Obtained, Ref No. 46/R(31)/2015-E.2 dated 25th August 2015</p> <p>(Annexure - 3)</p>	<p>Obtained, Ref No. 46/R(30)/2015-E.2 dated 18th Aug 2015</p> <p>(Annexure - 4)</p>
Clearances by the EPC Contractor (Copies provided at Annexure – 9 and Annexure -10)				
5	Consent to Establish (CTE)	West Bengal Pollution Control Board (WBPCB)	<p>Obtained for Batching Plant, and WMM Plant.</p> <p>Ref 1: NOC S.No. N0136456 dated 31st Aug 2015 valid upto 31st July 2020.</p> <p>Obtained for HMP.</p> <p>Ref 2: Memo No. N795/WPB/SRO/NOC/D</p>	<p>Obtained for Batching Plant, WMM Plant, HMP at both Mainagudi and Rangalibazna, CTE for crusher is also obtained.</p> <p>Ref 1: CTE for HMP – N584/WPB/SRO/JAL/ P.178.2015. dated 25th Feb 2015</p>

Sl.No .	Clearances / Consent / Permissions Required	Statutory Authority	Status of Clearance	
			AH-02	AH-48
			AR/D.452.2015 dated November 30 th 2015	Ref 2: CTE for HMP, Batching Plant, WMM Plant, Crusher at Camp 2 (Rangalibazna) – N630/WPB/NOC/SRO/ JAL/P.180.2015 dated 28 th May 2015 Ref 3: CTE for Ready Mix Plant, N780/WPB/SRO/NOC/ JAL/P.192.2015. dated 2 nd Nov 2015 Ref 4: CTE for WMM Plant at Mainaguri, Camp – 1 is applied and awaiting its approval.
5	Consent to Operate (CTO)	WBPCB	Obtained. Ref 1: CTO for Batching Plant and WMM Plant, Consent Memo No. C1032/WPB/SRO/DAR/D .401.205 dated 9 th Dec 2015 Ref 2: CTO for HMP – Consent Memo No. C1083/WPB/SRO/DAR/D .405.2016 dated 28 th Jan 2016	Obtained Ref 1: CTO for Hot Mix Plant Consent Memo No. C857/WPB/SRO/JAL/ P.142.2015 dated 24 th July 2015 at Camp 1, Mainagudi Ref 2: CTO for Crusher, WMM and Hot Mix Plant, Consent Memo No. C1015/WPB/SRO/JAL/ P.143.2015 dated 18 th Nov 2015 at Camp 2, RangaliBazna Ref 3: Obtained CTO for Batching plant vide memo no. C1095/WPB/SRO/Jal/ P-150-286 dated 18 th Feb 2016 for Mainagudu, Camp – 1
6	Labour License		Obtained. Ref: No. 46/L(293)/2015-E.2 dated 3 rd Nov 2015 for not more than 200 heads. Valid upto 2 nd Nov 2016	Obtained, Ref: No. 46/L(240)/2015 E.2 dated 17 th Sept 2015 for not more than 300 heads. Valid upto 10 th Sept 2016
7	Licence for Storage	Petroleum	Obtained, Vide Memo	Applied for permit, Ref

Sl.No .	Clearances / Consent / Permissions Required	Statutory Authority	Status of Clearance	
			AH-02	AH-48
	of Petroleum products	&Explosives Safety Organisation (PESO), Ministry of Commerce & Industry	No. P/EC/WB/14/3080(P3624 97) dated 21.01.2016	No. NIL dated 21 st Sept 2015 for 150,000 lit/month at Camp – 1, Mainagudi
8	Quarry Permissions	North Bengal Investigation Division	Obtained for 25.5 lac cft for various quarry sites to be supplied by M/s Alam Enterprises and DipaThapa	Licences are applied vide ref: 1. AH-48/11- 4/496 dated 14 th October 2015 to Executive Engineer, Teesta Canal Division ref: 2. AH-48/11-4/497 dated 14 th October 2015 to Alipurduar Irrigation Division and ref: 3. AH-48/11-4/497 dated 14 th October 2015 to Cooch Behar Irrigation Division Replies to the above have not been received. It was conveyed verbally by the divisions to the contractors that due to non-availability of quarries no permissions can be provided. In the meantime, RBM and Sub-grade material is being procured from third party who are licenced and paying the Royalty. Copies of the licences have been requested from the contractor to be provided from the third parties for documentation.
9	Borrow area clearance	SEIAA	Not Required as no borrow areas are being used in the project	Not Required as no borrow areas are being used in the project

4.4 Public consultations & Meetings

Local public have been involved in the project right from the project design stage. In the present stage of construction also local public are being consulted on a continuous basis. The EPC contractors are holding consultative meetings to know their overall perception of the project and any grievances they are having. The consultations held in both the packages of AH-02 and AH-48 are listed in along with the brief outcome of the consultations.

Table 4-2: Public Consultation Meetings

Sl.No	Package & Location	Date of Consultation	Agenda	Participants	Brief Outcome
1	AH-02 at km 10+500	15 th Jan 2016	General Awareness about project and request for shifting of temporary business in the ROW	10 persons, local public, and shop owners	<ol style="list-style-type: none"> Public have been informed of the road construction activities and the requirement for vacating the ROW during the construction period to make way for equipment. There was no opposition from the people and they were obliged that widening of the road would provide better facilities. They are willing to undertake their activities away from the construction zone. There is a general positive feedback on the project road construction and there are no grievances on the account of shifting of temporary businesses.

Figure 4-1: Photograph of Public Consultation along AH-02

AH-02, km 10+500



5 Compliance / Status of EMP Implementation

In accordance with the loan covenants, EMP implementation is being taken up during the present stage of the project implementation i.e., the construction stage. The PIU with the coordination with ISC and EMWCA has prepared standard formats for monitoring the implementation of the EMP by the contractors. The monitoring formats provide the information on statutory clearances, status of environmental monitoring, safety of workers at construction sites and camp sites, and measures adopted for pollution control etc.,.

The EMP implementation during the reporting period is as per the final approved EMP for both the AH-02 and AH-48. The EMP Implementation during this period of Jan – Jun 2016 was found to be satisfactory, but needs strengthening in the areas such as work zone safety, management and workers camp facilities and usage of personal protective equipment by the workers.

5.1 EMP Implementation setup in the Project

For the effective implementation and management of the EMP, the Contractors for the respective sub-projects have appointed qualified Environmental and Safety Officers. The PIU have also nominated Assistant Engineers to closely monitor the implementation of the EMP and report to the PD. The task of supervision for EMP implementation is part of the scope of the EMWCA, with overall reporting responsibility of the environmental safeguards to PIU and ADB vests with the ISC. The EMP implementation setup is indicated in the Figure 5-1. The role of each agency in the project is presented in the Table 5-1.

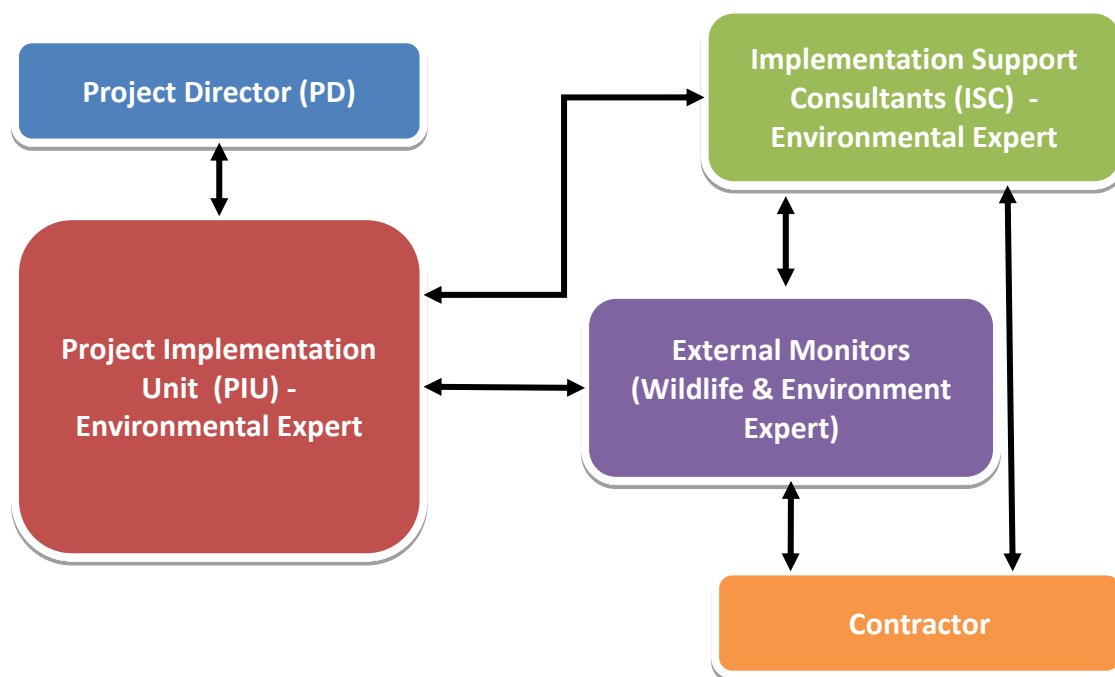


Figure 5-1: EMP Implementation Setup

Table 5-1: Role of Agencies towards EMP Implementation




Agency	Role
Project Implementation Unit (PIU)	<ul style="list-style-type: none"> ◦ Holds Overall responsibility with regard to EMP Implementation ◦ Reporting to various stakeholders (ADB, Regulatory bodies) on status of EMP Implementation ◦ Co-ordinating with Environmental Experts (ISC, SC, Contractors and External Monitors) ◦ Responsible for obtaining Regulatory Clearances ◦ Review of the progress made by Contractors ◦ Ensure the BoQ items mentioned in EMP are executed as per contract provision
Implementation Support Consultant (ISC)	<ul style="list-style-type: none"> ◦ Assisting PIU in overall implementation of EMP ◦ Review of periodic reports on EMP implementation and advising PIU in taking corrective measures ◦ Conducting periodic field inspection of EMP implementation ◦ Assisting PIU and reporting to various stakeholders (ADB, Regulatory bodies) on status of EMP implementation ◦ Conduct environmental training for field officers and engineers of contractor
External Monitor for Wildlife Conservation Activity (EMWCA)	<ul style="list-style-type: none"> ◦ Environment Expert for supervising EMP & EMOP implementation ◦ Wildlife Expert for preparing and supervising implementation of Wildlife Management Plan (WMP) ◦ Responsible for ensuring EMP implementation during construction and effectiveness during operation stage ◦ Maintaining progress reports on EMP implementation ◦ Periodic reporting to PIU about the status of EMP implementation ◦ Work in close co-ordination with Environmental Experts of PIU, ISC and the Contractor
Contractor	<ul style="list-style-type: none"> ◦ Responsible for ensuring the implementation of EMP as per provision in the document ◦ Discussing various environmental / social issues and environmental / social mitigation, enhancement and monitoring actions with all concerned directly or indirectly ◦ To ensure environmentally sound and safe construction practices ◦ Conducting periodic environmental and safety training for contractor's engineer, supervisors and workers ◦ Sensitization on social issues that may be arising during the construction stage of the project ◦ Conduct environmental monitoring and control activities including pollution monitoring, safety ; and ◦ Preparing and submitting monthly reports to SC/ PIU on status of implementation of safeguard measures


5.2 EMP Implementation Status

Various measures provided in the EMP for implementation during the pre-construction and construction stages of the project are examined on site. A brief status of the implementation of the major activities specified in the contractors draft EMP are presented in the Table 5-2

Table 5-2: Status of Implementation of the Environmental Management Measures as per the Contractors EMP



Sl. No.	Environmental issues / impacts	Mitigation / Management Actions Proposed in the EMPs	Status of Management Actions	
			AH-02	AH-48
1	Pre-Construction Stage			
1.1	Tree clearance	Enhancement / Mitigation Measures: <ul style="list-style-type: none">Compensatory plantation & additional plantation in available clear space Management Action: <ul style="list-style-type: none">Only marked trees to be felled.Compensatory plantation @ 5 saplings for each tree felled. No. of tree felled will be as per the list approved by DFO for the project site.Removal of trees only within Col after joint verification with forest department.	<ul style="list-style-type: none">Joint verification of trees to be cut has been completed and tree marking is completed for all stretches in the corridorTree clearance has been completed except for two (2 nos.) of isolated trees in the RoW.	<ul style="list-style-type: none">Joint verification of trees to be cut has been completedTrees in non-forest lands have been removed.
1.2	Grubbing & levelling at along Project road	Enhancement / Mitigation Measures: <ul style="list-style-type: none">Removal of remains of trees to facilitate construction and carting away of remains Management Action: <ul style="list-style-type: none">Contractor will carry out the clearing of stumps and levelling.Carting away will be done by the Public Works (Road Directorate) after the stumps are removed from the ground.	<ul style="list-style-type: none">Most of the stump removal is completed there are isolated locations where roots were located.	<ul style="list-style-type: none">Stump removal is completed

1.3	Siting of construction Camp	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Sitting will be finalized after approval of Authority Engineer who will look into the site and planning of the Contractor <p>Management Action:</p> <ul style="list-style-type: none"> Contractor will prepare a site plan. The Contractor will avoid camp site near water courses (Major perennial rivers) Machinery and equipment area will be protected Vehicle refuelling sites will be avoided near water sources 	<ul style="list-style-type: none"> Camp site establishment is completed at km 8+750. Camp site and plant site at and km 9+780 for HMP and RE Panel Casting. Topsoil is preserved. Pre-casting yard is established at km. 3+775 Land Acquisition for the Batching Plant and casting yard at km 22 has been completed and CTE obtained from competent authority. Approval of Authority Engineer for camp / plant site is yet to be issued. Topsoil is preserved at campsite of km 9+777 Photo of Topsoil Preservation: 	<ul style="list-style-type: none"> Camp sites are established at chainage km 19+800 in Mainagudi, km 75+200 at RangaliBazna Topsoil is preserved for reuse at the campsite of RangaliBazna Photographs of Topsoil Preservation:  
2	Construction Phase			
2.1	Borrow pit exploitation causing loss of productive land (Borrow area development)	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Indemnity by contractors to Chief Engineer P-3, MORTH, New Delhi against third party claims. <p>Management Action:</p>	<ul style="list-style-type: none"> No borrow areas are required only RBM is being used. The RBM is procured from licensed third party sources. Their licenses are being checked periodically. 	<ul style="list-style-type: none"> No borrow areas are required only RBM is being used. Request to respective irrigation divisions applied for extraction of RBM but it is yet to be obtained. In the meantime, the RBM is procured from licensed third party sources.

		<ul style="list-style-type: none"> Contractor will verify that enough quantity of borrow materials is available at identified borrow pits. 		<p>Their licenses are being checked periodically</p>
2.2	Erosion/ damage to embankments	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> AH-48: Embankment portion at bridges, High embankment locations and ROB location (0.674 of Hasimara bypass), and locations of raised portions <p>Management Action:</p> <ul style="list-style-type: none"> Appropriate items in specification for retaining wall/ Toe wall of slope stabilization measures, monitoring of compliance during construction of retaining/ Toe wall and appropriate administration of contracts will be ensured. 	<ul style="list-style-type: none"> Shoulder protection measures for protecting from erosion during November 2015 after monsoon have been undertaken 	<ul style="list-style-type: none"> Shoulder protection measures for protecting from erosion during monsoon have been undertaken
2.3	Road side landscape development	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> The positive impact will be on bio-aesthetes and beauty Landscaping and beautification of ponds and access roads will improve aesthetic considerations. <p>Management Action:</p> <ul style="list-style-type: none"> Turfing of the slopes to check soil erosion with grasses etc., Suitable drainage measures will be taken to avoid water 	<ul style="list-style-type: none"> Turfing and landscaping will be carried out immediately after construction works are completed in the section. Test section have been carried out at km 19+000 	<ul style="list-style-type: none"> Turfing work on the slope of the Embankment between Ch. 8+300- 


		logging in adjoining area.		<p>11+00, & 14+500 -16+00. This activity planned just before Monsoon is good initiative by the EPC Contractor as it can restrict the erosion of shoulder and embankment slope soil during rainy season and also environmental friendly in regards of sedimentation control in storm water.</p> <ul style="list-style-type: none"> For rest of the sections, Turfing and landscaping will be carried out immediately after construction works are completed.
2.4	Safe site for construction worker's camp	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> AH:48: Site will be located at least at 500 m downwind from habitations and major water course and at least 4 km away from Jaldapara National Park <p>Management Action:</p> <ul style="list-style-type: none"> Authority Engineer and PIU will approve the site chosen by the contractors condition will be put in contract document for location of site above specified distances. 	<ul style="list-style-type: none"> Camp site layout has in-principial approval from Authority Engineer but needs to be documented as an approval letter. But the location of all equipment and machinery in the campsite are approved by WBSPCB. 	<ul style="list-style-type: none"> Camp site layout has been approved by the Authority Engineer. Location of all equipment and machinery in the campsite are also approved by WBSPCB Camp site of Rangali Bazna at km 75+200 is more than 4 km away from Jaldapara National Park and there are no settlements in the 500 m radius of the camp site
2.5	Sanitation and disposal facilities at construction worker's site	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Proper availability of drinking water and sanitation facilities at worker's camp <p>Management Action:</p>	<ul style="list-style-type: none"> Septic tank is installed for treatment of toilet wastes in Camp 1. But in camp 3, at km 9+780 toilet water is being let out directly into village drains Dust bins are installed for collection 	<ul style="list-style-type: none"> Septic tank is installed for treatment of toilet wastes. Dust bins are installed for collection of solid wastes No compost pits have been provided as Food waste is being

		<ul style="list-style-type: none"> Contractors will install temporary toilets with septic tank/ soak pits. Contractor will provide suitable collection and disposal system for collection of domestic refuse dustbins will be provided. The collected domestic kitchen / food waste shall be recycled as compost and disposed in pits dug in the camp areas. 	<p>of solid wastes</p> <ul style="list-style-type: none"> No compost pits have been provided as Food waste generated at the rate of 30 kg / day is being given to local people daily for use in their piggeries and other farms. 	<p>given to local people daily for use in their piggeries and other farms.</p>
2.6	Cooking fuel at worker's camp	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Workers' should not depend for cooking on fuel wood. <p>Management Action:</p> <ul style="list-style-type: none"> Contractors will ensure availability of kerosene oil/ LPG. 	<ul style="list-style-type: none"> LPG commercial cylinders are being used for cooking in the campsites for all the staff and workers. 	<ul style="list-style-type: none"> LPG commercial cylinders are being used for cooking in the campsites for all the staff and workers.
2.7	Health facilities at worker's camp	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Availability of first aid and Health facilities <p>Management Action:</p> <ul style="list-style-type: none"> The Contractors will ensure presence of first aid boxes in two numbers and make shift dispensary at respective camps. 	<ul style="list-style-type: none"> Ten (10) no's of first aid boxes are placed at the campsites and plant locations at various place to enable fast treatment at the place of work immediately. A dedicated room and vehicle is provided at the campsite at km 8+600 along with a Male nurse at the camp The male nurse would provide timely medical help where needed including along the project road 	<ul style="list-style-type: none"> Three (3) no's of first aid boxes are placed at the campsites i.e., one in each location. Efforts are underway for appointing a doctor to attend to in case of injuries. A first aider is however, available at present
2.8	HIV/ AIDS awareness	<p>Enhancement / Mitigation Measures:</p>	<ul style="list-style-type: none"> HIV / AIDS awareness camp organised in April 2016 onwards. 	<ul style="list-style-type: none"> HIV / AIDS awareness camp is organised in February 2016. A local

	campaign at workers' camp	<ul style="list-style-type: none"> Workers to be made aware of HIV/AIDS and protection measures. Management Action: <ul style="list-style-type: none"> To organize awareness programme every month 	Various NGOs are being explored for engaging them for the purpose of conducting the camps.	NGO working in this sector has been engaged for the purpose.
2.8.1	Provision of Clean drinking water	Enhancement / Mitigation Measures: <ul style="list-style-type: none"> The provision of unhygienic conditions at work place of construction workers. The non-availability of good drinking water Management Action: <ul style="list-style-type: none"> At every work place, the good and sufficient water supply shall be maintained to avoid waterborne diseases and securing the health of worker. Adequate drainage, sanitation and waste disposal to be provided at workplace. Medical care to be provided to workers if falling ill. 	<ul style="list-style-type: none"> Clean drinking water is being supplied to the workers at the camp site by installing the RO filter. All workers carry the water from camp to their respective work sites. All necessary bottles etc., are being provided to the workers for the purpose Drainage and sanitation is provided at the camp site to maintain hygienic conditions Medical care is being provided through a male nurse. Photo of RO system provided 	<ul style="list-style-type: none"> Clean drinking water is being supplied to the workers at the camp site by installing the RO filter. All workers carry the water from camp to their respective work sites. All necessary bottles etc., are being provided to the workers for the purpose Drainage and sanitation is provided at the camp site to maintain hygienic conditions Photo of RO system provided at both the campsites in the project corridor 
2.9	Damage to services running parallel	Enhancement / Mitigation Measures: <ul style="list-style-type: none"> Relocation of any potentially 	<ul style="list-style-type: none"> Utility shifting being carried out by EPC. Electric lines, PHED lines being shifted by PIU. Utility shifting 	<ul style="list-style-type: none"> Utility shifting being carried out by EPC. Electric lines, PHED lines being shifted by PIU

	of across the alignment of project road corridor during construction leading to interruption in supply	<p>affected services prior to commencement of any construction works</p> <ul style="list-style-type: none"> Contractor will be responsible for identifying and safeguarding services adjacent to works and for compensating statutory undertakers for any accidental damage to such services <p>Management Action:</p> <ul style="list-style-type: none"> Potential areas shall be identified and shared with AE 	<p>has been completed in about 12.5 km length and rest is in progress / substantial completion.</p> <ul style="list-style-type: none"> No accidental damage has been reported so far 	<ul style="list-style-type: none"> No accidental damage has been reported so far
2.10	Damage to Archaeological and cultural sites & properties	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> No existence of archaeological sites are reported No monument exists in the corridor <p>Management Action:</p> <ul style="list-style-type: none"> Relocation of cultural properties Religious structures which are falling in the alignment will be suitably relocated in consultation with local people and authorities. 	<ul style="list-style-type: none"> Relocation of cultural properties in the RoW is being handled by the PIU in coordination with the contractor. Affected properties about 47 Nos. have been compensated to the claimants. Affected small shrines have been shifted adjacent to the present location by the contractor with the construction equipment. No archaeological finds have been encountered till date 	<ul style="list-style-type: none"> Relocation of cultural properties in the RoW is being handled by the PIU in coordination with the contractor. Affected properties about 13 Nos. have been compensated to the claimants. Affected small shrines have been shifted adjacent to the present location by the contractor with the construction equipment. No archaeological finds have been encountered till date
2.11	Fire Prevention	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Adopt safe work practices and have adequate fire fighting facilities. <p>Management Action:</p>	<ul style="list-style-type: none"> Necessary fire fighting arrangements including fire extinguishers are installed at the plant sites and camp sites. Fire drills are being conducted to ensure safe handling of the 	<ul style="list-style-type: none"> Necessary fire fighting arrangements including fire extinguishers are installed at the plant sites and camp sites. Fire drills are being conducted to ensure safe handling of the




		<ul style="list-style-type: none"> Provision of adequate fire fighting equipment will be made. 	equipment and undertaking fire fighting appropriately in case of any fire incidence.	equipment and undertaking fire fighting appropriately in case of any fire incidence.
2.12	Presences of contractor's work force increasing pressure on already strained local facilities including health & medical facilities	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Contractor will provide own suitable equipped and staffed site emergency medical facilities <p>Management Action:</p> <ul style="list-style-type: none"> Monitoring of compliances during construction and proper administration of contracts will be ensured. 	<ul style="list-style-type: none"> First aid box available and being replenished regularly. Total 10 boxes have been placed at campsite and plant sites. Hence, no strain on local facilities is being anticipated 	<ul style="list-style-type: none"> First aid box available and being replenished regularly. Total 3 boxes i.e. One each at the campsite and plant sites. Hence, no strain on local facilities is being anticipated
2.13	Incomplete post –use clearance and reinstatement of construction camps leading to loss of land productivity or additional costs for land owners to reinstate land	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Contractor will prepare site restoration plans for approval of authority Engineer and PIU to implement these plans fully prior to demobilization. All temporary work sites to be notified by the contractor prior to use. <p>Management Action:</p> <ul style="list-style-type: none"> Monitoring of compliances during construction and proper administration of contracts will be ensured. All sites will be photographed to record 	<ul style="list-style-type: none"> Site restoration plans are yet to be prepared Pre-use state photographs are taken for all the sites. 	<ul style="list-style-type: none"> Site restoration plans are yet to be prepared Pre-use state photographs are taken for all the sites.


		<p>pre-use state.</p> <ul style="list-style-type: none"> BOQ's will include nominated lump sum for reinstatement of temporary sites to pre-use status. 		
2.14	Pollution of land, ground water and surface water arising from sanitary and other wastes and spillage.	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> During construction it will be ensured that contractor does not dispose off debris in water bodies (River and streams being crossed by the project roads) <p>Management Action:</p> <ul style="list-style-type: none"> Monitoring of compliances during construction and strict administration of contracts will be ensured. 	<ul style="list-style-type: none"> Material is being stored close to water body at km 19 and hence sand bags are being used for restraining flow of material into the water body. No work near surface water bodies is underway at present Measures for protection of groundwater from contamination due to sanitary wastes are being taken by providing septic tanks and soak pits 	<ul style="list-style-type: none"> No work near surface water bodies is underway at present Measures for protection of groundwater from contamination due to sanitary wastes are being taken by providing septic tanks and soak pits
2.15	Contamination of soil from fuel and lubricants	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> The impact will be negligible since the chemical nature of the soil will not change much Negligible impact on the growth of vegetation <p>Management Action:</p> <ul style="list-style-type: none"> Vehicles and machines are maintained and refilled in such a fashion that old diesel spillage does not contaminate the soil. Impervious surface will be provided at the refuelling 	<ul style="list-style-type: none"> Waste oil is being collected at the rate of 120 lit / month (Upto date) Impervious surface for collection of waste oil is planned for construction Waste oil is being collected for reuse and recycling through authorised recyclers. Till date about 4000 lit has been collected and stored in the premises for sale to the recyclers 	<ul style="list-style-type: none"> Waste oil is being collected for reuse and recycling through authorised recyclers. The waste oil collected is stored in the premises for sale to the recyclers Impervious surface for collection of waste oil provided 

		<p>sites, bitumen, lubricant, fuel storage sites.</p> <ul style="list-style-type: none"> Fuel storage and refilling sites shall be kept away from cross drainage structure and important water bodies. At spoils shall be disposed off as desired and the site shall be fully cleaned before handing over. 		<ul style="list-style-type: none"> Vehicle wash area is planned for construction
2.16	Contamination of soil from construction wastes	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> The impact will be marginal of the soil quality The growth of vegetation will be partially disturbed Vehicle maintenance and refuelling will be confined to areas under construction yard to trap discarded lubricant and fuel spills. <p>Management Action:</p> <ul style="list-style-type: none"> The construction wastes shall be dumped in selected pits, developed in infertile land Follow the norms of SPCB Borrow pits to be filled by such wastes Ensure vehicles are cleaned, serviced and refuelled in the service area only 	<ul style="list-style-type: none"> All wastes are being disposed in the RoW. Planned to reuse bituminous waste. 	<ul style="list-style-type: none"> Vehicle washing platform is yet to be provided Waste disposal sites are being identified
2.17	Contractor's water abstraction	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Contractor will make suitable 	<ul style="list-style-type: none"> Silt fencing shall be provided for about 300 m along the water bodies 	<ul style="list-style-type: none"> Silt fencing shall be provided along the water bodies that are close to

	resulting in depletion of scarce water resources with local uses and pollution of surface water bodies from construction activities	<p>arrangement for own supply and protection of water bodies from pollution</p> <ul style="list-style-type: none"> Silt fencing will be provided all around the base of the stockpile of materials wherever material is stockpiled near water bodies <p>Management Action:</p> <ul style="list-style-type: none"> Monitoring of compliances during construction and strict administration of contracts will be ensured. 	that are close to the road.	the road.
2.18	Construction traffic causing pavement and structure damage to roads due to overloading increasing congestion and increased road safety hazards	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Contractor will use appropriate vehicles and to comply with legal gross vehicle and axle load limits. Contractor will repair damage at own expense <p>Management Action:</p> <ul style="list-style-type: none"> Monitoring of compliances during construction and strict administration of contracts will be ensured. 	<ul style="list-style-type: none"> No impacts till date have been identified 	<ul style="list-style-type: none"> No impacts till date have been identified
2.19	Road safety hazards associated with temporary traffic diversions	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Contractor will take all reasonable measures to minimize interference with traffic flow and to provide safe transit at diversions. The contractor will maintain two 	<ul style="list-style-type: none"> Traffic management plans are prepared for diversions Road safety measures as per IRC: SP-55 are being followed. 	<ul style="list-style-type: none"> Traffic management plans are prepared for diversions and accordingly, diversions are being carried out on site

		<p>way traffic at diversions and will inform to local traffic police about the traffic diversion.</p> <p>Management Action:</p> <ul style="list-style-type: none"> Monitoring of compliances during construction and strict administration of contracts will be ensured. 		
2.20	Pollution from Hot Mix Plant, Concrete batching Plant, Construction yard and due to movement and operation of construction vehicles and machinery.	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Construction camps will be located in open areas and away from residential complexes. <p>Management Action:</p> <ul style="list-style-type: none"> Monitoring of air pollution and timely action to decrease the pollutant concentration by appropriate measure will be taken up. 	<ul style="list-style-type: none"> Construction camps are more than 500 m away from settlements AAQM is initiated from April 2016 	<ul style="list-style-type: none"> Construction camps are more than 500 m away from settlements AAQM has been initiated in April 2016
2.21	Emission from construction vehicle and machinery	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Effect on human health Dust settled on leaves may reduce growth rate of the plants Crowded market places and construction sites will have higher degree of emission <p>Management Action:</p> <ul style="list-style-type: none"> All vehicles, equipment's and machinery used for construction shall be regularly maintained to 	<ul style="list-style-type: none"> Construction camps are more than 500 m away from settlements AAQM is initiated from March 2016 onwards Pollution under control certificates are being monitored and regularly updated 	<ul style="list-style-type: none"> Construction camps are more than 500 m away from settlements AAQM is initiated in April 2016 Pollution under control certificates are being monitored and regularly updated (Annexure - 5)

		<p>ensure that the pollution emissions levels are as per norms of SPCB</p> <ul style="list-style-type: none"> Monitoring of suspended particles test will be conducted as per the norms of SPCB The human settlements shall be at least 500 m downward wind direction of asphalt mixing plant 		
2.21	Dust and its treatment	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> The impact of dust at construction sites is rather adverse, but localised in nature No serious health problem is likely to be caused <p>Management Action:</p> <ul style="list-style-type: none"> Precautions to reduce the level of dust emissions from the hot mix plants shall be taken The Hot Mix Plants be sited at least 500 m from nearest habitation. The plant will be including the dust extraction unit. Water sprinklers will be provided at the HMP dust collection pits to avoid dust rising. Water should be sprayed in the earth mixing sites, 	<ul style="list-style-type: none"> Sprinkling of water is being done with 4 water tankers for thrice a day.  	<ul style="list-style-type: none"> Sprinkling of water is being done with 8 water tankers for 3 to 4 times a day. 


		<p>asphalt mixing site and service roads. In filling sub grade, water sprayed is needed to solidity the material. After the impacting, water should be sprayed regularly to prevent dust.</p> <ul style="list-style-type: none"> • Vehicles delivering material should be covered. 	<ul style="list-style-type: none"> • Trucks are being covered with tarpaulin while material is transferred 	
2.22	Noise Levels	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> • Construction camps will be located in open areas as far as possible from residential areas. • All equipment will be maintained in good working order, properly designed engine enclosures and inbuilt silencers. • Construction work will be prohibited between 10.00 PM to 6.00 AM near residential areas. <p>Management Action:</p> <ul style="list-style-type: none"> • Contractor to set up the camp site as per the EMP conditions and seek approval of Authority Engineer • Ensure the equipment is maintained in good working 	<ul style="list-style-type: none"> • Construction working times are 8 Am to 5 pm and no working in the night time is being carried out 	<ul style="list-style-type: none"> • Construction times are maintained from 7 am to 7 pm and no working in the night time is being carried out

		<p>condition</p> <ul style="list-style-type: none"> In construction sites within 150m radius where, there are human settlements, construction will be stopped between 10.00 pm and 6.00 am. 		
2.23	Noise from blasting operation	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> The sudden and loud noise of blasting is disturbing and irritating The intense noise may cause partial deafness <p>Management Action:</p> <ul style="list-style-type: none"> People living near such sites will be given prior information of operational hours. Blasting will be undertaken only in day time. 	<ul style="list-style-type: none"> No blasting is being carried out by the contractor as material is being procured from third party sources who are already licenced. 	<ul style="list-style-type: none"> No blasting is being carried out by the contractor as material is being procured from third party sources who are already licenced.
2.24	Relocation of common property resources (CPRs)	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> AH-48: 19 Hand Pump, 12 tube well, 21 passenger sheds and 09 water taps within ROW. These need to be relocated in case of public assets of the owners need to be compensated in case of private asset <p>Management Action:</p> <ul style="list-style-type: none"> All common property resources shall be identified and relocated during the 	<ul style="list-style-type: none"> The CPRs affected by the road works have been compensated. About 60 Nos of CPRs have been affected and the impacts are adequately compensated. 	<ul style="list-style-type: none"> The CPRs affected by the road works have been compensated by the EA.


		course of execution of the civil works but prior to dismantling of the asset.		
2.25	Relocation Utility lines/ Community Utility	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> • Short term negative impact during transitory phase of shifting of utility lines. • No impact on shifting wells, hand pumps etc. <p>Management Action:</p> <ul style="list-style-type: none"> • All utilities to be relocated with prior approval of the concerned agencies • All communities' utilities such as sources of water to be relocated to suitable places 	<ul style="list-style-type: none"> • Relocation of utilities is being undertaken by the EA 	<ul style="list-style-type: none"> • Relocation of utilities is being undertaken by the EA
2.26	Relocation of religious structures	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> • 53 small religious structures are falling in proposed ROW. These needs to be relocated in consultation with locals. <p>Management Action:</p> <ul style="list-style-type: none"> • Local people and authorities will be consulted • Land for relocation will be identified in consultation with them • Process for relocation will be initiated and relocated. 	<ul style="list-style-type: none"> • Assistance for loss of religious structures is being undertaken by the EA. Compensation has been paid for 47 religious structures so far. • Wherever possible shrines have been relocated to their adjacent locations that do not interfere with road works 	<ul style="list-style-type: none"> • Assistance for loss of religious structures is being undertaken by the EA. Compensation has been paid for 13 religious structures so far. • Wherever possible shrines have been relocated to their adjacent locations that do not interfere with road works

2.27	Accidental hazards and Safety	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none">The contractor will prepare a safety manual for all activities at construction as well as activities at construction camps. This manual will have safety measures to be adopted. The safety procedure for transpiration of construction materials will also detailed.The type of accidental risks may be due to ill-maintained machines and vehicles due to poor light conditions at the work place, or due to carelessness and poor management of the work involved <p>Management Action:</p> <ul style="list-style-type: none">Safety Manual prepared and submitted to AE details out the management plansTo ensure safe construction in the temporary accesses during construction, lighting devices and safety signal devices shall be installed. Traffic rules and regulation to be strictly followed.At blasting sites- the blasting time, signal and guarding will be regulated. Prior to blasting	<ul style="list-style-type: none">No fatalities have happened during construction till dateDRA provides treatment for common ailments as well as work related injuries. The month wise number of cases reported are as below: <table><tr><th rowspan="2">Month</th><th colspan="3">No. of Cases</th></tr><tr><th>Diseases</th><th>Injuries</th><th>Fatalities</th></tr><tr><td>Jan-16</td><td>3</td><td>1</td><td>0</td></tr><tr><td>Feb-16</td><td>4</td><td>2</td><td>0</td></tr><tr><td>Mar-16</td><td>2</td><td>Nil</td><td>0</td></tr><tr><td>Apr-16</td><td>6</td><td>1</td><td>0</td></tr><tr><td>May-16</td><td>4</td><td>Nil</td><td>0</td></tr><tr><td>Jun-16</td><td>6</td><td>2</td><td>0</td></tr><tr><td>Total for reportin g period</td><td>25</td><td>6</td><td>0</td></tr></table>	Month	No. of Cases			Diseases	Injuries	Fatalities	Jan-16	3	1	0	Feb-16	4	2	0	Mar-16	2	Nil	0	Apr-16	6	1	0	May-16	4	Nil	0	Jun-16	6	2	0	Total for reportin g period	25	6	0	<ul style="list-style-type: none">No fatalities have happened during construction till dateAll injuries are treated for first aid only and no referrals were needed
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Total for reportin g period	25	6	0																																				

		<p>the site should be thoroughly inspected. Blasting will not be carried out during peak hours.</p> <ul style="list-style-type: none"> • Safety of workers undertaking various operations during construction should be ensured by providing helmets, masks, safety goggles etc. • The electrical equipments should be checked regularly to avoid risks to workers. • At every work place, a ready available first aid unit including an adequate supply of dressing materials, a mode of transport. 		
2.28	Negative impact on Flora due to Cutting of Trees and removal of vegetation	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> • To compensate for 15997 numbers of trees to be cut 79,985 numbers of trees will be planted <p>Management Action:</p> <ul style="list-style-type: none"> • The number of trees felled will be confirmed by PD. To compensate the felled trees adequate number of trees as finalised by the PD will be planted. 	<ul style="list-style-type: none"> • The compensatory afforestation will be taken up after completion of the road construction. Locations for afforestation and landscaping scheme are yet to be identified • About 250 trees have been planted in June 2016 but were drowned during the monsoon due to heavy rains • To avoid such situations, a Tree Plantation scheme will be prepared at finalised locations and accordingly planted. 	<ul style="list-style-type: none"> • The compensatory afforestation will be taken up after completion of the road construction. Locations for afforestation and landscaping scheme are yet to be identified
2.29	Road side plantation	<p>Enhancement / Mitigation Measures:</p>		

		<ul style="list-style-type: none"> Heavy loss of roadside trees leading to increase in air and noise pollution. <p>Management Action:</p> <ul style="list-style-type: none"> Trees will be removed as per the design with prior approval of DFO Five trees will be planted in case of one removed. 		
2.30	Negative impact on Fauna.	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> The compensatory plantation will provide nesting ground to avifauna as this will be done in available space on either side of road. <p>For AH-48 only</p> <ul style="list-style-type: none"> Construction of three underpasses for the elephant crossing in Jaldapara Wild Life Sanctuary at KM 718, KM 86.173 AND KM 86.913. The elephant underpass construction works will be taken up in December to May period when elephant movement is low. Necessary signage on either side of project road will be provided at Jaldapara Wild Life Sanctuary and at locations of elephant 	<ul style="list-style-type: none"> Location of compensatory plantation is yet to be identified. Rest of the items are not applicable for this package 	<ul style="list-style-type: none"> Location of compensatory plantation is yet to be identified. Construction works in the premises near the sanctuary and in forest areas are not initiated yet as the Wild life clearance and forest clearance are yet to be received Measures as required in the EMP will be undertaken prior to initiation of the construction works in the area

		<p>underpasses to warn the road users.</p> <ul style="list-style-type: none"> Construction workers shall be trained about safe handling of animals if found by chance. Cost of training built into training component cost. Construction workers will be trained not to go for fishing in water bodies. Noise barrier will be provided in the form of fibre sheet in the entire length of project road portion falling Jaldapara Wild Life Sanctuary (km 85.022 to 87.900) <p>Management Action:</p> <ul style="list-style-type: none"> Necessary training to workers not hunt the animals and birds in Jaldapara Wild Life area. Ensure Elephant underpasses are constructed as per specifications. Noise barrier wall about 3 m height in the form of fibre sheet in entire length of project road falling in Jaldapara Wild Life Sanctuary. 		
2.31	Occupational Safety and Health	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Construction worker will be provided with personal 	<ul style="list-style-type: none"> All construction workers are provided training for use of PPE and tool box meetings are regularly conducted. Few photographs 	<ul style="list-style-type: none"> PPE are being issued on a regular basis to all workers. The number of PPE issued during the reporting period of January 2016 to June

		<p>protective equipment (PPE) such as ear plugs, helmets, safety shoes, gloves etc.</p> <p>Management Action:</p> <ul style="list-style-type: none"> The contractor will ensure adequacy and availability of PPEs 	<p>indicating use of PPE are as below.</p>  <ul style="list-style-type: none"> The number of PPE issued during the reporting period of Jan 2016 to Jun 2016 is provided in the Annexure - 6 	<p>2016 is provided in the Annexure - 6</p>
2.32	Siltation in to water Bodies	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> The siltation will be avoided by not storing the construction waste, excavated earth etc. near the banks of surface water bodies. <p>Management Action:</p> <ul style="list-style-type: none"> Silt fencing using geo textiles will be provided. The details of silt fencing provided in 3900 m.in AH-48 and 300 m in AH-02 	<ul style="list-style-type: none"> Silt fencing shall be provided for about 300 m along the water bodies that are close to the road. 	<ul style="list-style-type: none"> Silt fencing shall be provided along the water bodies (cumulatively for about 3900 m) in stretches that are close to the road. As of now no silt fencing has been provided.
2.33	Water Bodies and water sources	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> The part filling of a ponds will have only negative impact <p>Management Action:</p> <ul style="list-style-type: none"> Any source of water for 	<ul style="list-style-type: none"> Presently source of water is borewell. No surface water sources are being used and no water body is getting affected due to construction works 	<ul style="list-style-type: none"> Presently source of water is borewell. No surface water sources are being used and no water body is getting affected due to construction works

		<p>community such as ponds, wells, tube-wells etc. lost incidentally shall be replaced immediately.</p> <ul style="list-style-type: none"> All desired measures will be taken to prevent temporary or permanent flooding 		
2.34	Drainage and run-off water	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> The flow of runoff water will not be affected largely, excepting certain stretches where the drainage problem already exists. <p>Management Action:</p> <ul style="list-style-type: none"> At cross drainage channels, etc the earth stone or any other construction material shall be properly disposed of so as not to block the flow of water All necessary precaution shall be taken to construct temporary or permanent device to prevent water pollution. 	<ul style="list-style-type: none"> These measures will be undertaken while working close to water bodies 	<ul style="list-style-type: none"> These measures will be undertaken while working close to water bodies
2.35	Contamination of water from construction wastes	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> All measures will be taken to prevent the waste water produced in construction site from entering directly in to water body as directed by Authority Engineer. 	<ul style="list-style-type: none"> These measures will be undertaken while working close to water bodies 	<ul style="list-style-type: none"> These measures will be undertaken while working close to water bodies

		<ul style="list-style-type: none"> Construction works near surface water sources shall be avoided during monsoon The discharge standards promulgated under the Environmental Protection Act, shall be strictly adhered to. <p>Management Action:</p> <ul style="list-style-type: none"> Condition will be included in contract document 		
2.36	Contamination of water from fuel and lubricants	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> The construction wastes may increase the suspended matter and clay in stagnant water bodies There will be very little increase in toxicity The community dependent on such water used for purpose other than drinking may be affected The fuel and lubricants may affect the both component of water bodies <p>Management Action:</p> <ul style="list-style-type: none"> Construction work close to the streams or other water bodies shall be avoided especially during monsoon All waste arising from the project is to be disposed of as per the norms of SPCB Waste products must be 	<ul style="list-style-type: none"> These measures will be undertaken while working close to water bodies Measures for provision of drainage are undertaken as part of the camp site layout for camp site. 	<ul style="list-style-type: none"> These measures will be undertaken while working close to water bodies Measures for provision of drainage are undertaken as part of the camp site layout for camp site. Stream passing close to plant site is isolated through barricades to avoid runoff entering the water body

		<p>collected stored and transferred to disposal location.</p> <ul style="list-style-type: none">• The slopes of embankment landing to water bodies should be modified and re-canalised so that contaminant may not enter the water body.• To avoid contamination from fuel and lubricants the vehicles and equipment shall be properly maintained and refilled																																																																		
2.37	Use of water for construction	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none">• The use of water from sources, already in use by local community may cause scarcity of water for community• The easy availability of underground water will not affect the water tube <p>Management Action:</p> <ul style="list-style-type: none">• Arrangement of supply and storage of water will be made by the contractor in such a way so that the water availability and supply to nearby communities remain unaffected. If a new tube-well is to be bored, proper sanction and approval by	<ul style="list-style-type: none">• Water source for Construction water is borewell at the camp and plant sites. The details of sources of water are as below. These pumps are located at the campsites <table><tr><th>Sl. No</th><th>Location</th><th>Depth (ft)</th><th>Pump Capacity (hp)</th></tr><tr><td>1</td><td>8+750</td><td>260</td><td>7.5</td></tr><tr><td>2</td><td>9+050</td><td>240</td><td>5.0</td></tr><tr><td>3</td><td>9+777</td><td>260</td><td>5.0</td></tr><tr><td>4</td><td>3+750</td><td>240</td><td>5.0</td></tr></table>	Sl. No	Location	Depth (ft)	Pump Capacity (hp)	1	8+750	260	7.5	2	9+050	240	5.0	3	9+777	260	5.0	4	3+750	240	5.0	<ul style="list-style-type: none">• Water source for Construction water is borewell at the camp and plant sites. The details of sources of water are as below. These pumps are located at the campsites <table><tr><th>Sl.No</th><th>Bore dia (in)</th><th>Depth BGL (ft)</th><th>Dsch, lit / min</th></tr><tr><td>1</td><td>6</td><td>155</td><td>30</td></tr><tr><td>2</td><td>4</td><td>65</td><td>15</td></tr><tr><td>3</td><td>4</td><td>55</td><td>15</td></tr><tr><td>4</td><td>4</td><td>60</td><td>20</td></tr><tr><td>5</td><td>4</td><td>60</td><td>20</td></tr><tr><td>6</td><td>4</td><td>60</td><td>20</td></tr><tr><td>7</td><td>4</td><td>60</td><td>20</td></tr><tr><td>8</td><td>4</td><td>60</td><td>20</td></tr><tr><td>9</td><td>4</td><td>60</td><td>20</td></tr><tr><td>10</td><td>6</td><td>60</td><td>35</td></tr></table>	Sl.No	Bore dia (in)	Depth BGL (ft)	Dsch, lit / min	1	6	155	30	2	4	65	15	3	4	55	15	4	4	60	20	5	4	60	20	6	4	60	20	7	4	60	20	8	4	60	20	9	4	60	20	10	6	60	35
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6	4	60	20																																																																	
7	4	60	20																																																																	
8	4	60	20																																																																	
9	4	60	20																																																																	
10	6	60	35																																																																	

		<p>Ground water department shall be obtained.</p> <ul style="list-style-type: none"> The waste of water during the construction shall be minimised. 		
2.38	Environmental monitoring during construction phase	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Ambient air quality, water quality, noise and soil quality as per EMOP to be Monitored Monitoring of construction sites arrangements made for protection measures at storage areas, drainage arrangement and sanitation at construction camp. Inspection of construction camps for sanitation. <p>Management Action:</p> <ul style="list-style-type: none"> Environment monitoring for pollution control shall be as per Environment Monitoring Plan. Record will be maintained for reporting and for future reference. 	<ul style="list-style-type: none"> Monitoring agency having NABL accreditation is engaged in the project. Environmental Monitoring has been initiated from March 2016 onwards. 	<ul style="list-style-type: none"> Monitoring agency having NABL accreditation has been engaged in the project. Environmental Monitoring has been initiated from April 2016 onwards.
2.39	Biodiversity Assessment in Jaldapara Wild Life Sanctuary at Midterm of construction phase	<p>Enhancement / Mitigation Measures:</p> <ul style="list-style-type: none"> Biodiversity Assessment through an external expert at the midterm of construction to assess any damage or changes in the biodiversity in 3 km distance on either side in 	<ul style="list-style-type: none"> Not Applicable 	<ul style="list-style-type: none"> Bio-diversity assessment will be conducted at the required stage of the construction works as per the EMP

		<p>area due to construction</p> <p>Management Action:</p> <ul style="list-style-type: none">• The assessment will help to adopt more strict supervision and monitoring if any damage major changes are observed in comparison to baseline scenario		
--	--	---	--	--

5.3 Pollution Monitoring as per the EMOP

Pollution monitoring for both the packages of AH-02 and AH-48 has been carried out by the EPC contractors in the months of March 2016 and April 2016 respectively. The contractors finalised M/s Mitra S K Private Ltd., a NABL accredited laboratory for conduct of the environmental monitoring in both the packages.

Environmental monitoring has been conducted at 4 locations in AH-02 for Air, noise and water (two each for surface and ground water samples) and 3 locations for soil monitoring. In case of AH-48, the monitoring has been carried out at 6 locations for all parameters of air, noise, water (three each for surface and ground water) and soil. The monitoring locations chosen represent the urban / semi-urban, rural, forest and other sensitive landuses.

The test results for AH-02 indicate the particulate matter concentration at the plant site location to be marginally higher than standards at 120 ug/m³ instead of 100 ug/m³ for PM₁₀ and 71 ug/m³ instead of 60 ug/m³ at shiv mandir area for PM_{2.5}. At other locations the parameter is close to the standard at 97 ug/m³. The noise quality is found to be within the prescribed standards for the respective landuses for all locations. In case of water quality the ground water is found be having high Iron (Fe) values at 0.88 mg/l instead of the desirable standard of 0.3 mg/l. All other parameters are observed to be in acceptable range as per the respective standards for the parameters concerned.

Similarly, the test results for AH-48 indicate the particulate matter concentration at the plant site locations, settlement locations of Dhupguri and Birpada to be higher than standards for PM₁₀ varying from 125 ug/m³ to 195 ug/m³. Notably, the PM_{2.5} values are higher than standards at both these settlement locations at 84 ug/m³ and 94 ug/m³ instead of 60 ug/m³. The noise quality is found to be within the prescribed standards for the respective landuses except at Jaldapara NP which is regarded as a silence zone and has values of 63.4 dBA and 49 dBA instead of 50 and 40 dBA for day and night respectively. In case of water quality the ground water is found be having high Iron (Fe) values at 2.16 mg/l instead of the desirable standard of 0.3 mg/l. While the surface water quality is having high values of both Iron (Fe) and Flouride (FI). All other parameters are observed to be in acceptable range as per the respective standards for the parameters concerned.

Monitored values of all parameters and locations will be incorporated into the final Environmental Monitoring Plan (EMOP) that will be updated by the contractors for implementation as part of the EMP. The test results of environmental monitoring have been provided as **Annexure-7** for AH-02 and **Annexure-8** for AH-48.

5.4 Training & Capacity Building



Training and capacity building is an integral part of the EMP implementation. ISC and EMWCA are involved in training of the contractor's staff, Authority Engineer and PIU environment officers who are designated for supervision of EMP implementation. Two sessions of training have been conducted so far in the project period. First session is conducted by the ISC on Environmental Management and EMP Implementation and second session is conducted by the EMWCA on





wild life management in the project corridors. However, during the reporting period of Jan 2016 to June 2016 no Environment Management related training has been conducted.


5.5 Safety Drills and Tool Box Meetings

Regular safety drill and mock fire fighting sessions are being organised by both the EPC contractors of AH-02 and AH-48. The Environment, Health and Safety officers of both the packages have been adequately staffed to undertake safety measures and fire fighting in case of an incidence. Fire fighting arrangements are in place at the plant sites and camp sites of both the contractors and are found to be maintained in satisfactory and functional condition. Likewise tool box meetings are also being regularly conducted to ensure adequate awareness for the staff, labour and other workers in the project. The details of safety drills and tool box meetings conducted are presented in the Table 5-3

Table 5-3: Details of Safety drills and Tool Box Meetings

Sl. No.	Package / Location / Date of Meeting / Safety Drill	Agenda / No. of Participants	Remarks / Photographs
1.	Package AH-02, Naxalbari Camp, January 18 th 2016,	Fire Safety Mock Drill 17 Nos. from various divisions of the contractor	
2.	AH-48, Mainagudi camp, May 2016	Agenda 1: Fire fighting drill Agenda 2: Tool box talk No. of Participants: 50 – Staff & workers of the contractor	



Sl. No.	Package / Location / Date of Meeting / Safety Drill	Agenda / No. of Participants	Remarks / Photographs
			
3	AH-48, Tool Box Meeting conducted on both camps on periodically, Jan 2016- till date	<p>Agenda 1: Safe driving in construction sites, training to the drivers and operators No. of Participants: 53</p> <p>Agenda 2: Tool box talk on safety during construction site No. of Participants: 67 – workers including subcontractor's laborers</p> <p>Agenda 3: Safety precaution while Working under or near overhead power lines No. of Participants: 84</p> <p>And weekly TBT conducted on various topics and emphasized to follow safety rules and regulations as per work conditions and work situations.</p>	  




Sl. No.	Package / Location / Date of Meeting / Safety Drill	Agenda / No. of Participants	Remarks / Photographs
			

5.6 Cleanliness Drives / Campaigns on Environment

As it has been realised over the last few years of working on several construction projects, that “a clean site is a safe site”, several efforts have been undertaken to ensure cleanliness across all construction sites as well as camp sites. Cleanliness drives and safety campaigns are organised by the contractors of AH-02 and AH-48 to implement the above motto. In addition, to increase the awareness of the environment and safety amongst the workers and staff of the project, World Environment Day on June 05th 2016 has also been organised by the AH-48 environment and safety staff. Details of the campaigns conducted are indicated in the Table 5-4 below.

Table 5-4: Details of Cleanliness Drives

Sl. No.	Package / Location / Date of Cleanliness Drives / Campaigns	Agenda / No. of Participants	Remarks / Photographs
1.	Package AH-02, Naxalbari Camp, December 8 th 2015,	Cleanliness campaign 5 Nos. from various divisions of the contractor	
2	Package AH-48, World Environment Day, June 05 th 2016	Training and awareness amongst the project staff on environment and safety. Participated by Approx – 244 Nos of participants across various divisions of the	





Sl. No.	Package / Location / Date of Cleanliness Drives / Campaigns	Agenda / No. of Participants	Remarks / Photographs
		contractor	
3	Package AH-48, Camp 1 & camp 2, March 07.03.2016, and continual improvement.	Cleanliness campaign 14 nos. participants engaged in Housekeeping and sanitation in both camps on periodical interval.	 

5.7 Health Camps / HIV / AIDS Campaigns

Health of workers is given utmost priority in the project. The contractors have also been responding appropriately by conduct of health camps for regular health checks. Spreading of HIV / AIDS awareness amongst the workers is also very much important to safeguard them from the risk of contracting or transferring the infections including STDs. Contractors of AH-02 are identifying the NGOs who can conduct the awareness campaigns on a regular basis. It is anticipated that the HIV / AIDS awareness campaigns will be initiated from January 2016

onwards in the AH-02. The contractor of AH-48 have organised health camps and HIV / AIDS Campaigns in their respective packages. The details of these camps are indicated in the Table 5-5 below.

Table 5-5: Details of Health Camps and HIV / AIDS campaigns

Sl. No.	Package / Location / Date of Health Camps / HIV AIDS Campaigns	Agenda / No. of Participants	Remarks / Photographs
1.	Package AH-02, Naxalbari Camp, January 17 th 2016	HIV / AIDS Awareness campaign	
2.	Package AH-02, February 28 th 2016	HIV / AIDS Awareness campaign	 
3.	Package AH-02, March 12 th 2016	HIV / AIDS Awareness campaign	

Sl. No.	Package / Location / Date of Health Camps / HIV AIDS Campaigns	Agenda / No. of Participants	Remarks / Photographs
			
4.	Package AH-02, April 30 th 2016	HIV / AIDS Awareness campaign	
5.	Package AH-48, Mainagudi camp, March 15 th 2016	HIV / AIDS Awareness campaign	 
6.	Package AH-48, RangaliBazna camp, March 16 th 2016	HIV / AIDS Awareness campaign	

Sl. No.	Package / Location / Date of Health Camps / HIV AIDS Campaigns	Agenda / No. of Participants	Remarks / Photographs
7.	Package AH-48, RangaliBazna camp, June 6 th 2016	HIV / AIDS Awareness campaign	 

5.8 Any other Environmental Aspects / Impacts Observed that are not covered earlier

There are no environmental impacts or other environmental aspects that have not been addressed in the EMP have been encountered so far in any of the contract packages.

6 Details of Public Complaints / Grievances and their addressal

Public complaints and grievances in both the packages mostly relate to the compensation and assistance provided to the affected persons. The contractors have been advised however, to maintain a complaint register and display a notice for the same for public to register their grievance with them in case of any complaints. Any complaints if received in the due course of the project with respect to environment will be duly summarised and presented in the semi-annual environmental monitoring reports.

7 Follow up Actions and Conclusions

It has been observed that most of the measures suggested in the EMP are being implemented by the contractors. Some of the measures related to provision of basic amenities by the contractors and their sub-contractors have to be strictly implemented for better living conditions of the labourers. Follow up actions would be taken to implement these measures. Further, implementation of the Wildlife Management Plan will also need to be undertaken with its finalisation and submittal. Stronger documentation of the EMP implementation shall be insisted upon to reflect the measures that are being implemented. This will provide better evidence and accountability towards the environment and EMP implementation.

Annexures

Annexure 1: Tree Cutting Permit of AH-02



Government of West Bengal
Directorate of Forests
Office of the Divisional Forest Officer
Kurseong Division, Darjeeling 734204

Phone No: 0354-2332200; Fax No: 0354-2332200; Email: dfokgndowhill@gmail.com

No: 2452 / 28-15

Dated, Kurseong the, 24-11-2014

From :: The Divisional Forest Officer
Kurseong Division

To :: The Executive Engineer
N.H. Division No.IX
Public Works (Roads) Directorate
Siliguri, Dist Darjeeling.

Sub :: Widening of Kakarbhatta-panitanki-Fulbari-Changrabandha Road (Asian Highway-2) to 2/4 laning with Financial Assistant from Asian Development Bank (ADB).

Ref :: Our office letter No.2418/8-14, dated 20.11.2014.
Your office memo no. A-57/1368, dated 21.11.2014.

In continuation to the above mentioned letters, marking of trees under the jurisdiction of Bagdogra and Tukriajhar Range has been completed.

Felling permission for 1043 trees under Tukriajhar Range (179 trees under Block Land and Land Reform Officer, Khoribari and 864 trees under Block Land and Land Reform Officer, Naxalbari) and 1391 trees under Bagdogra Range (514 trees under Block Land Reform Officer, Naxalbari and 877 trees under Block Land and Land Reform Officer, Matigara) is hereby accorded.

The new marking list prepared by us and cross checked is enclosed for ready reference and taking necessary action.

Sd/-
Divisional Forest Officer, N.H. Div.
Kurseong Division.

No.

Dated, Kurseong the 24-11-2014.

Copy forwarded for information and taking necessary action to:

1. The District Magistrate, Darjeeling.
2. The Sub-Divisional Land and Land Reform Officer, Siliguri.
3. The Block Land and Land Reform Officer, Khoribari, Naxalbari, Matigara.
4. The Range Officer, Tukriajhar Range.
5. The Range Officer, Bagdogra Range.

Sd/-
Divisional Forest Officer,
Kurseong Division.



Government of West Bengal
Directorate of Forests
Office of the Divisional Forest Officer
Kurseong Division, Darjeeling 734204



Phone No: 0354-2332200; Fax No: 0354-2332200; Email: dfokgndowhill@gmail.com

No. / / Kurseong, the 2015.

From :: The Divisional Forest Officer
Kurseong Division

✓ To :: The Project Director(AH-02)
Project Implementation Unit-II
P.W.(Roads) Directorate.

Sub :: Permission for trees felling (addl) for trees in ROW for widening and strengthening of akarbhatta-Panitanki-Phulbari-Banglabandhan Road (AH-2)-reg.

Ref :: Your memo no. ADB/AH-2/Tree/191, dated 12.06.2015.

With reference to above, marking of 59 trees has been completed by the Range Officer Tukriajhar Range.

Felling Permission for 59 trees under Tukriajhar Range is hereby accorded. You are requested to pay the Marking cost of 2493 trees (2434 trees earlier marked and 59 trees) @ Rs 25 amounting to RS. 62325/- (Rupees Sixty two thousand three hundred twenty five) only to the undersigned. The security cost of 2493 trees @ RS 40 /per trees amounting RS. 99720/- (Rupees ninety nine thousand seven hundred twenty) only has to be paid to the undersigned. The total amount 162045/- (Rupees one lakh sixty two thousand forty five) only has to be paid to us.

This for you information and taking necessary action.

Sd/-
Divisional Forest Officer,
Kurseong Forest Division.

No. 1734 / 3 / 15 / Kurseong, the 22.7 2015.

Copy forwarded for information and taking necessary action to:

1. The Addl. Principal Chief Conservator of Forest North Bengal.
2. The General Manager, Siliguri, Forest Development Corporation Division.
3. The Chief Conservator of Forest, Hill Circle, West Bengal.
4. The Sub- Divisional Land and land Reform Officer, Siliguri
5. The Block land and Land Reform Officer, Naxalbari
6. The Range Officer, Tukriajhar Range.

Adm. Secy

30/7

File

Tree

Sd/-
Divisional Forest Officer,
Kurseong Forest Division.

2014

Permit No - 32 / AM of 2014-15

THE KOLKATA GAZETTE, EXTRAORDINARY, FEBRUARY, 9, 2007

FROM III

Form for Permission for Felling / Disposing of Trees in Non - Forest Areas
[See Rule 5 (2)]

Permit No Dated :

Whereas the applicant, Sri / Smt / Messrs. Acting Project Director,
Address : SBEFC Road Connectivity Project, Project Implementation Unit,
P.W. (Roads) Directorate, S. Hguri, has
submitted an application with the prescribed fee on For permission for felling /
Disposing of trees for the purpose of at the following site :

(a) Location : Kaukaghat Bridge to Bangladesh Border, (Banglabandha Road),
(b) Details of Plot (s) of Land : Both Side

.....

AND Whereas the undersigned is satisfied with regard to the legality of documents towards the proof of ownership or lease of the land on which such tree stands ;

AND Whereas the purpose for which the trees are required to be felled is in conformity with rule 4 (1) of the West Bengal Trees (Protection and Conservation in Non - Forest Areas) Rules , 2006 :

AND Whereas an inquiry in the prescribed manner has been carried out on and the undersigned has examined the inquiry report with due care ;

AND Whereas the land in question belongs to the Tea Garden and the applicant has produced a specific scheme under the provisions of the Plantations Labour Act , 1951 for utilizing the sale proceeds strictly for the purpose of welfare of the labourers ;

AND Whereas the applicant is a developer who has already obtained a Certificate of Clearance No. dated Issued by the undersigned and sanction of the building / construction plan by the sanctioning authority , viz vide his letter No Dated

AND Whereas it is found on inquiry that the proposed felling will not alter nature or character or mode of use of the land .

OR

The Applicant has produced the required permission under section 4C of the West Bengal Land Reforms Act , 1955 .

Annexure of Form II

List of trees recommended for felling.

Name of the Applicant :

Application Number

Date :

[illegible]

ABSTRACT

Species

A. _____
B. Misc Tree
C. _____
D. _____
E. _____

Total No of Trees

919 mg.

Grand Total 919 (Nine hundred nineteen only.)

(Signature of the Competent Authority)

Name Sri. T. Sarkar

Designation : FR

Official Seal :

Range Officer
AMBARI RANGE

Place : Ambari.

Date : 28.11.2014.

Annexure 2: Tree Cutting Permit of AH-48

(11)
Form III

Form for permission for felling/ disposing of trees in non-forest areas
[See Rule 5 (2)]

Permit No. 138/Ann - of 15-15 Dated: 1/2/15

Whereas the applicant, Sri/Smt./Messrs Project Director
Address: Asian High Way 1A Project and Executive Engineer has
Submitted an application with the prescribed fee on Construction of New State Project - P.W.D. Roads for permission for
felling/disposing of trees for the purpose of Construction of Road at the following site:

(a) Location: Jhansi to Karna Bridge
(b) Details of plot(s) of land: N/A

AND whereas the undersigned is satisfied with regard to the legality of documents towards the proof of ownership or lease of the land on which such tree stands;

AND Whereas the purpose for which the trees are required to be felled is in conformity with rule 4 (1) of the west Bengal trees (protection and conservation in non-forest areas) rules, 2006:

AND whereas an inquiry in the prescribed manner has been carried out on
And the undersigned has examined the inquiry report with due care;

AND whereas the land in question belongs to the Tea garden and the applicant has produced a specific scheme framed under the provisions of the plantations labor act, 1951 for utilizing the sale proceeds strictly for the purpose of welfare of the laborers;

AND Whereas the applicant is a developer who has already obtained a certificate of clearance on
Dated..... Issued by the undersigned and sanction of the building/construction plan by the sanctioning authority, viz Vide his letter no
Dated

AND whereas it is found on inquiry that the proposed felling will not alter nature or character or mode of use of the land.

OR

The Applicant has produced the requisite permission under section 4C of the West Bengal Land reforms Act, 1955.

AND whereas the applicant has deposited the prescribed security amount for plantation trees to the undersigned.

OR

The applicant has been exempted by the undersigned from the obligation of plantation of trees under sub-rule (2) of rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2006.

OR

The applicant has expressed his inability to undertake the plantation to trees by himself and has deposited to the undersigned the amount for the designated agency as prescribed under sub-rule (3) of rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2007.

OR

The applicant is a developer and not required to deposit the security amount.

- Strike off if not applicable.
- Strike off the option which is not applicable.

Now, therefore in persons to the power conferred under sub-section(1) of section 5 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006, the undersigned permits the applicant to undertake the filling of the Trees as included in the Annexure.

The undersigned also permits the applicant (not a developer) under the first proviso to section 8 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006 to plant only number of trees instead of the number prescribed under sub-rule (1) of rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) rules 2007. OR permits the applicant to plant Number of trees over different plots (s) of land (as indicated in condition No. 3 below) because (give reasons)

Which is in conformity with sub-rule (2) of rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2007.

The permission as given above is subject to the following conditions:

This permit is non transferable and valid only up to 55 (Fifty Five) days.

1) The applicant (if a developer) shall take up plantation of trees in accordance within Month(s) from the date of sanction of the building / construction plan by the sanctioning authority.

2) The applicant (if not developer) shall take up plantation of 2840 number of trees over the plot(s) No. 6/1000 Land. Within 1 month months from the date of issue of this permit.

(13)

- 3) As provided in section 10 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act 2006 the applicant (if not a developer) shall start preparatory work for plantation within sixty days from the date of receipt of directions from the undersigned as the case may be and shall undertake plantation for trees in accordance with such directions.
- 4) The applicant shall inform the undersigned in writing immediately on completion of the plantation of trees.
- 5) The applicant shall within a week of carrying out felling of trees submit a report to the undersigned indicating the total number of logs and firewood produced against each species.
- 6) Stumps of the felling trees shall be retained for a last one month from the date of felling.
- 7) The felling and carriage of trees shall not be carried out after the sun-set and before the sun-rise.
- 8) This permission is subject to the provisions of the West Bengal forest (establishment and Regulation of saw mills and other wood-based industries) Rules, 1982 and the West Bengal Forest Produce Transit Rules, 1959.
- 9) This permit should be produced for inspection on demand to the undersigned or any of the authorities specified in section 15 and 17 of the West Bengal Trees (Protection and Conservation in Non-Areas) Act, 2006.

Treelist- As per Annexure

Scheduled tree- 97 Nos

Non-scheduled tree- 1323 Nos.

Total = 1420 Nos.

(Signature of the Competent Authority)

Name : Ajay Kumar Gang

Range Officer

Moraghat-Rang

Official Seal :

Strike off if not applicable.

Application No. 33/DLG (NOC) dt: 10/10/14
 Vide R.T. No. WR/5 798817/7989 dt: 10/10/14.
 Plantation Cost: R.T. No. 24743/248 dt: 02/2/15.

(H)

FORM - III**Form for Permission for Felling / Disposing of Trees in Non Forest Areas**

[See Rule 5(2)]

Permit No. 74/DLG (NOC)Dated: 02/02/2015

Whereas the applicant, Shri/Smt./Messrs Asstg Project Director, Public Works (Road)^{Direct}
 Address: 3rd Floor, Joymoni Bhawan, Hill Road, Siliguri (West Bengal)
 has submitted an application with the prescribed fee on 10/10/14 for permission for
 felling / disposing of trees for the purpose of _____ at the
 following site:

(a) Location: NH.31 Road Side Kalua Bridge to Panamgola Birpara,
 (b) Details of Plot(s) of land: _____

AND Whereas the undersigned is satisfied with regard to the legality of documents towards the proof of ownership or lease of the land on which such tree stands;

AND Whereas the purpose for which the trees are required to be felled is in conformity with rule 4(1) of the West Bengal Trees (Protection & Conservation in Non Forest Areas) Rules, 2007;

AND Whereas an inquiry in the perceived manner has been carried out on _____ and the undersigned has examined the inquiry report with due care;

AND Whereas the land in question belongs to _____ Tea Garden and the applicant has produced a specific scheme framed under the provisions of the Plantations Labour Act, 1951 for utilizing the sale proceeds strictly for the purpose of welfare of the labourers;

AND Whereas the applicant is a developer who has already obtained a Certificate of Clearance No. _____ dated _____ issued by the undersigned and sanction of the building/construction plan by the sanctioning authority viz. _____ vide his letter No. _____ dated _____

✓ AND Whereas it is found on inquiry that the proposed felling will not alter nature or character of mode of use of the land.

OR

The applicant has produced the requisite permission under section 4C of the West Bengal Land Reforms Act, 1955,

AND Whereas the applicant has deposited the prescribed security amount for plantation of trees to the undersigned.

OR

The applicant has been exempted by the undersigned from the obligation of plantation of trees under sub- rule (2) of rule 6 of the West Bengal Trees (Protection and Conservation in Non Forest Areas) Rules, 2007.

OR

✓ The applicant has expressed his inability to undertake the plantation of trees by himself and has deposited to the undersigned the amount for the designated agency as prescribed under sub- rule

(3) of rule 6 of the West Bengal Trees (Protection and Conservation in Non Forest Areas) Rules, 2007.

OR

The applicant is a developer and not required to deposit the security amount.

* Strike off if not applicable.

*Strike off the option which is not applicable.

Now, therefore, in persons to the power conferred under sub-section (1) of section 5 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006, the undersigned permits the applicant to undertake the felling of the trees as included in the Annexure.

The undersigned also permits the applicant (not a developer) under the first proviso to section 8 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006 to plant only _____ number of trees instead of the number prescribed under sub-rule (1) of rule 6 of the West Bengal Trees(Protection and Conservation in Non-Forest Areas) Rules, 2007. **OR** permits the applicant to plant _____ number of trees over different plot(s) of land (as indicated in condition No. 3 below) because (give _____ reasons) _____, which is in conformity with sub-rule (2) of rule 6 of the West Bengal Trees(Protection and Conservation in Non-Forest Areas) Rules, 2007;

The permission as given above is subject to the following conditions:-

This Permit is non-transferable and valid only up to _____.

1. The applicant (if a developer) shall take up plantation of trees in accordance with the approved plantation plan and the Certificate of Clearance within _____ months(s) from the date of sanction of the building / construction plan by the sanctioning authority;
2. The applicant (if not a developer) shall take up plantation of _____ number of trees over the Plot(s) No. _____ within _____ months from the date of issue of this permit;
3. As provided in section 10 of The West Bengal (Protection and Conservation in Non-Forest Areas) Act, 2006, the applicant (if not a developer) shall start preparatory work for plantation within sixty days from the date of permit or the date of receipt of directions from the undersigned, as the case may be, and shall undertake plantation for trees in accordance with such direction;
- ✓ 4. The applicant shall inform the undersigned in writing immediately on completion of the plantation of trees;
- ✓ 5. The applicant shall, within a week of carrying out felling of trees, submit a report to the undersigned indicating the total number of logs and firewood produced against each species;
- ✓ 6. Stumps of the felled trees shall be retained for at least one month from the date of felling;
- ✓ 7. The felling and carriage of trees shall not be carried out after the sun-set and before the sun-rise.

✓8.

This permission is subject to the provisions of the West Bengal Forest (Establishment & Regulation of Saw Mills and Other wood Based Industries) Rules, 1982 and The West Bengal Forest Produce Transit Rules, 1959.

✓9.

This permit should be produced for inspection on demand to the undersigned or any of the authorities specified in sections 15 and 17 of The West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006.



(Signature of the Competent Authority)

Name :

Rajib De ER

Designation :

Forest Ranger

* Strike off if not applicable.

Official Seal :

Forest Range Officer
Bengaluru Range
Jalpaiguri Division

ANNEXURE TO FORM-III

Permit No. 74/DLG (NOC)Dated 02/2/2015

No. of tree.	Location (Plot No.)	Species	DBH (in cms.)	Condition of the Tree
532 Nos				Standing.
Abstract				
1. Sirish = 36 Nos			16. Baur	207 Nos.
2. Palali = 43 "			17. Shagun, Bark = 13 "	
3. Arjun = 44 "			18. Tatal = 07 "	
4. Mahaguni = 33 "			19. Koirishmachun = 12 "	
5. Mingiri = 100 "			20. Robor = 07 "	
6. Mango (Am) = 22 "			21. Boyra = 03 "	
7. Pakur = 39 "			22. Lali = 08 "	
8. Simul = 09 "			23. Korrie = 07 "	
9. Jarul = 40 "			24. Arghamoni = 04 "	
10. Katal = 12 "			25. Chapra = 01 "	
11. Jum = 07 "			26. Shisu = 01 "	
12. Skatim = 12 "			27. Uclaptan = 01 "	
13. Gamar = 05 "				
14. Kukat = 47 "				
15. Mandul = 13 "				

Grand Total 2532 Nos.Place: Birpara

Date:

(Signature of the Competent Authority)

Name:

Designation:

Official Seal:

Forest Range Officer
 Birpara
 District Forest Officer
 Birpara



GOVERNMENT OF WEST BENGAL
DIRECTORATE OF FORESTS
OFFICE OF THE RANGE OFFICER,
MADARIHAT RANGE,
JALDAPARA DIVISION
Ph. 03563-262227

Form - III

Form for permission for Felling / Disposing of trees in Non-Forest areas
[See Rule 5(2)]

Permit No. 81/MDT of 14-15 Dated 03.01.2015.

Whereas the applicant, Sri / Smt / Messrs Executive Engineer, Construction Division
PWD (Roads) Directorate, Ananda Nagar, Maynaguri, Jalpaiguri,
Address Maynaguri, Dist. Jalpaiguri. has
submitted the application with the prescribed fee on Rs. 1000.00 vide D.D. No. 000405 dt. 29.12.14. for permission for
Felling / disposing of trees for the purpose of Making Road Named Asian Highway-48
the

following site:

(a) Location : Birpara to Jaigaon (Except forest Land and Private Land)

(b) Details of plot(s) of land :
km 94.000 to 108.000 (LHS)
104.000 to 108.000 (RHS)
65.550 to 90.000 (LHS)
65.550 to 90.000 (RHS)

AND Whereas the undersigned is satisfied with regard to the legality of documents towards the proof of ownership or lease of the land on which such trees stands.

AND Whereas the purpose for which the trees are required to be felled is in conformity with rule 4(1) of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2006.

AND Whereas an inquiry in the prescribed manner has been carried out onand the undersigned has examined the inquiry report with due care.

AND Whereas the land in question belongs to the Tea. Garden and the applicant has produced a specific scheme framed under the provisions of the Plantations Labour Act, 1951 for utilizing the sale proceeds strictly for the purpose of welfare of the labourers.

AND Whereas the applicant is a developer who has already obtained a Certificate of Clearance No. Dated issued by the undersigned and sanction of the building / construction plan by the sanctioning authority, Viz vide his letter No. Dated

AND Whereas it is found on inquiry that the proposed felling will not alter nature or character or mode of use of the land.

OR

The Applicant has produced the requisite permission under Section 4C of the West Bengal Land Reforms Act, 1995.

AND Whereas the applicant has deposited the prescribed security amount for plantation of trees to the undersigned.

OR

The applicant has been exempted by the undersigned from the obligation of plantation of trees under subrule (2) of rule of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rule 2006.

OR

The applicant has expressed his inability to undertake the plantation of trees by himself and has deposited to the undersigned the amount for the designated agency as prescribed under sub-rule (3) or rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2007.

OR

The applicant is a developer and not required to deposit security amount.

Strike off if not applicable.

Strike off the option which is not applicable.

Now, therefore, in persons to the power conferred under sub-section (1) of section 5 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006, the undersigned permits the applicant to undertake the felling of the trees as include in the Annexure.

The undersigned also permits the applicant the (not a developer) under the first proviso section 8 of the W.B. Trees (Prop. and Conser. In Non-Forest Areas) Act, 2006, to plant only number of trees instead of the number prescribed under sub-rule (1) of the W.B. Trees (Prop. and Conser. In Non-Forest Areas) Act, 2007. **OR** permits the applicant to plant number of trees over different plot(s) of land (as indicate in condition no. 3 below) because (give reason) which is in conformity with sub-rule (2) of rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rule, 2007.

The permission as given is subject to the following condition :

This permit is non-transferable and valid only up to 01 st February / 2015

1. The application (if a developer) shall take up plantation of trees in accordance with the approved plantation plan and the certificate of clearance within month(s) from the date of sanction of the building / construction plan by the sanctioning authority.
2. The applicant (if not a developer) shall take up plantation of number of trees to be plant over the plot(s) No. within months from the date of issue of this permit.
3. As provided in section 10 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2006, the applicant (if not a developer) shall start preparatory work of the plantation within sixty days for. plantation within sixty days from the date for permit or the date of receipt of directions from the undersigned, as the case may be and shall undertake plantation for trees in accordance with such directions.
4. The applicant shall inform the undersigned in writing immediately on completion of the plantation of trees.
5. The applicant shall, within a week of Carrying out felling of trees, submit a report to the undersigned indicating the total number of logs and firewood produced against each species.
6. Stumps of the felled trees shall be retained for at least one month from the date of felling.
7. The Felling and carriage of trees shall not be carried out after the sun-set and before the sunrise.
8. This permission is subject to the provisions of the West Bengal Forest (Establishment and Regulation of Saw Mills and other wood-based Industries) Rules, 1982 and the West Bengal Forest Produce Transit Rules, 1959.

9. This permit should be produced for inspection on demand to the undersigned or any of the authorities specified in section 15 & 17 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006.

(Signature of the Competent Authority)

Name SRI P.K. DAS

Designation FR

Official seal Range Officer
Madarihat Range
Jaldapara Wild life Division

No. 04 /MD-28; Date, Madarihat, the 03.01.2015 2008.

Copy along with- Annexure of Form-III forwarded for information & necessary action to Sri / Smt /

Manager The Executive Engineer, Construction Division, PWD (Roads)
Directorate, Ananda nagar, Mayapuri, Station, Mayapuri
Dist, Jalpaiguri

Range Officer,

Madarihat Range

Jaldapara Division

ANNEXURE OF FORM-IIIPermit No. 81/MDT of 14-15Date 03.01.2015

Number of Tree	Location (Plot No.)	Species	Diameter at Breast Height (in cm)	Condition of the tree

Attached in prescribed format

ABSTRACT

Species	Total No. of Trees
A. <u>Km 65.550 to Km 90.00</u>	<u>LHS 774 NOS.</u>
<u>Km 65.550 to Km 90.00</u>	<u>RHS 790 NOS.</u>
B. <u>Km 94.00 to 108.00</u>	<u>LHS 659 NOS.</u>
C. <u>Km 104.00 to 108.00</u>	<u>RHS 127 NOS.</u>
D. <u> </u>	<u> </u>
E. <u> </u>	<u> </u>

Grand Total 2350 (Two thousand and three hundred fifty)

(Signature of the Competent Authority)

Name SRI P.K. DASDesignation FROffice Seal Range Officer
Madarihat Range
Jaldapara Wild life Division

No permission No.

AH-48(District-Cooch Behar)

Summary of Tree data (km 0-6)

Sr. No.	Chainage (Km)	Tree Name	< 30 cm	30 to 60 cm	60 to 90 cm	90 to 120 cm	Above 120cm	Total
24		< 30 nut 5+Jiga+kathal	1					1
25		< 30 Payara3 + Neem Flower	1					1
26		< 30 Ucaterra Flower	1					1
27		<30 Mango 3 +Tetul Flower	1					1
28		Bamboo Branch	7					7
29		Banana Garden	1					1
30		Bankathali				1 N		1
31		Bon Kathal Flower	1					1
32		Chapa		1 S				1
33		dhop		1 N			1	2
34		Gamari			1 S			1
35		Jalpai			1 N			1
36		Jam		1 N	1 N	1 N	1	4
37		Jarul		2 N	3 N	1 N	1	7
38		Jiga		3 N	7 N	2 N	2	14
39		Jiga 1015 fordewall		1 N				1
40		Kadam		1 N				1
41		Kathal		2 N	9 N		1	12
42		Mango		2 N	7 N	1 N	2	12
43		Neem		1 N	3 N			4
44		Pauya				1 N		1
45		pokul			1 N			1
46		Sheris				1 N		1
47		Shora			1 N			1
48		sisu				3 N	1 S	4
49		Tea Garden	1					1
		Total	39	15	34	11	9	108
		Grand Total	178	119	140	54	81	572

Sch- 3
N/Sch-6

Application fee 100.00
 ① Sch. Tree 19 NO @ 80/- Rs=1520.00
 ② N/Sch. Tree 432 NO @ 40/- Rs=17,280.00
Rs = 18,900.00

Amal
 Forest Range Officer
 Melchiganj Range
 Cooch-Bihar Division
 West Bengal

Hemrlitangung Range : 101 Nos
 (No. Permission No.)