Jaora-Nayagaon Toll Road Company Private Limited

Environment, Social and Safety Management Plan (ESSMP)

Rev.00	**Prepared by**	**Reviewed and Recommended By**	**Approved by**
Date 15 July 2015	Amol Deore HSE Officer	Anil Shimpi Head-HSE	Mr. C. B. Dubela Project In-charge

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Chapter – I: Brief Introduction of Project

Brief Information:

Project Name: Strengthening, Up-Gradation and Four Laning of Jaora-Nayagaon Section of SH-31 from km 125.000 to km 252.810 in the state of Madhya Pradesh.

M/s Jaora-Nayagaon Toll Road Company Private Limited

Regd.Office: Shanti Nagar Chock, Near Pink City, Ring Road, Musakhedi, Indore, Madhya Pradesh – 452001

Project section(s) with location:

EPC Contractor	Section	Scope of Work
Ashoka Buildcon Ltd.	Mandsaur Nayagaon Section	From Km. 173 to Km. 252.812

Length of the proposed Road of widening	127.81 Km
Width of proposed new alignment	7.50 m B.T.width with 2.50 m Earthen Hard shoulder

The Jaora - Nayagaon section of SH-31 starts from Jaora. The design length of Jaora - Nayagaon section of the State Highway – 31 is approximately 127.810.

The existing carriageway from km 125.000 to km 252.810 is proposed to be widened from 2 lane to 4-lane.

Details of Bridges, RoBs and Approach roads

Length of service Road	9.560 KM in LHS &10.310 KM in RHS
Junction improvement	45 Nos
Road over Bridge	03 Nos (New construction)
Pipe culvert widening	50 Nos
Pipe culvert Reconstruction	36 Nos
Pipe culvert New construction	44 Nos
Pipe culvert Abandon	03 Nos
Slab culvert widening	24 Nos
Slab culvert Reconstruction	34 Nos
Slab culvert Abandon	10 Nos
Minor Bridge widening	16 Nos
Minor Bridge Reconstruction	24 Nos
Minor Bridge New construction	02 Nos
Minor Bridge Abandon	02 Nos
Major Bridge widening	04 Nos

- Length and width of the existing alignment (proposed to be strengthened) and after widening
-

Length of the existing alignment	-----
Width of the existing alignment	6.00 m to 7.00 m B.T.width with Earthen Hard shoulder

Length of the existing alignment proposed to be strengthened	------

-

- **Number of bridges (major & minor)**

Major Bridges	3 Nos.
Minor Bridges	39 Nos.

Location	No.Of Spans	Length (In m.)	Width (In m.)	Location	No.Of Spans	Length (In m.)	Width (In m.)
177.720	5	21.45	12.00	Mandsaur			
178.900	3	21.80	12.00	175.440	1	7.40	12.00
211.880	6	14.40	12.00	175.785	3	12.60	12.00
B) R.O.B.				186.510	1	20.00	12.00
130.480	1	25.00	12.00	187.125	1	11.10	12.00
155.025	1	28.00	12.00	190.859	1	18.00	12.00
198.400	1	25.00	12.00	192.125	1	16.50	12.00
C) MINOR BRIDGES				193.935	3	10.70	12.00
129.585	1	20.00	12.00	194.375	1	16.50	12.00
130.070	2	16.00	12.00	194.765	1	16.00	12.00
130.850	4	7.40	12.00	196.240	1	11.30	12.00
131.155	1	14.40	12.00	196.510	1	7.40	12.00
136.535	1	16.00	12.00	198.195	1	18.00	12.00
139.140	1	18.00	12.00	202.245	1	10.70	12.00
140.625	1	9.70	12.00	203.420	3	8.50	12.00
149.050	1	11.10	12.00	204.540	1	9.70	12.00
149.150	1	18.00	12.00	204.492	1	16.50	12.00
149.570	1	18.00	12.00	210.900	1	10.70	12.00
152.725	1	16.00	12.00	212.655	1	18.00	12.00
154.610	1	7.40	12.00	215.130	3	18.00	12.00
157.730	2	11.10	12.00	Neemuch			
168.110	2	17.00	12.00	223.335	1	16.05	12.00
169.220	1	20.80	12.00	229.600	2	14.00	12.00
				235.025	1	16.00	12.00
				235.997	1	24.00	12.00
				245.435	1	18.70	12.00

- **Number and length of intersections, railway crossings**

Number of railway crossings	4 Nos.
No. of Intersections / junctions	45 Nos.

- **Number of villages through which alignment passes**

Number of villages / towns through which alignment passes	56 Nos.

-

Chapter – II : Policy and Objective

ASHOKA

QHSE Policy

We, at ASHOKA BUILDCON LTD. are committed to become an icon in infrastructure development, through innovation, professionalism, active leadership in product quality and sustained growth by delivering value to our customers.

We shall conduct our operations in a manner so that we protect people, property and the environment by identifying, controlling and reducing all associated risks to a level As Low As Reasonably Practicable.

This will be achieved by: -

1. Our commitment to continual improvement of quality, environmental, occupational health & safety management system performance.
2. Commitment to prevention of pollution, injury and ill health.
3. Complying with all applicable legal and contractual requirements.
4. Adopting state of art technology available.
5. Communicating and consulting all associated stakeholders for establishing organizational objectives.

Ashok Katariya
Chairman

Date: 1st August 2013

This Policy will be implemented by the project Site and Management prior to commencement of construction of the Project. A copy will be provided to every employee of the company and will form part of the contract with sub-contractors engaged in activities associated with design, pre-construction, construction and operation and maintenance.

Objectives and Targets

ASHOKA

Quality, Health, Safety and Environmental Objectives

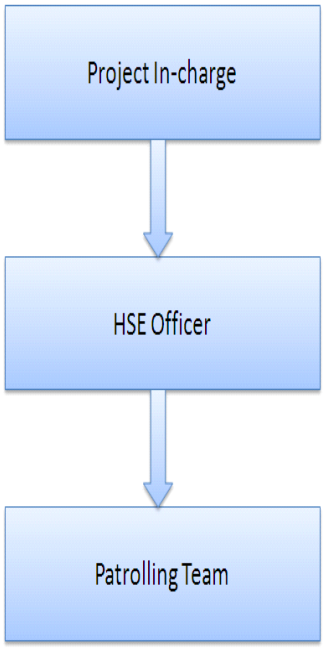
- To improve planning
- To reduce customer complaints
- To enhance motivation of employees
- To improve skills through training
- Complying with all the statutory rules and regulations
- Minimising Air, Land and Water Pollution and preventing injury and ill health.

Ashoka Buildcon Limited

Ashoka House, Ashoka Marg, Nashik 422 011, Maharashtra, India.

Chapter – III : Organizational Set up

Project Site HSE Organization Chart



ROLES & RESPONSIBILITIES

The responsibility of implementation of the Environmental Management Plan rests with the following personnel involved in the implementation of the project.

PROJECT DIRECTOR

The Project Director is responsible for the overall implementation of the project. In the present case, the EPC contractors are also members of the SPV, VHPL, and hence the Project Director is responsible for undertaking the engineering, procurement and construction of the project.

- Guiding the formation of Policy & its Approval
- Giving the guideline for the Budget & its Approval
- Review of the safety & Environment Procedure & its Approval
- To provide guideline for All legal aspect of project & comply all environment legal rules & regulation.
- To provide guidance for the implementation of OHSAS & EMS System

PROJECT INCHARGE / SR. GENERAL MANGER

The Project Incharge / Sr. General Manager is responsible for the overall implementation of the project. The Project Incharge / SGM is responsible for undertaking the engineering, procurement and construction of the project. The SGM shall oversee the implementation of the ESSMP by assigning the necessary resources and periodically review the effective use of the ESSMP on site.

HSE Officer:-

- Implementing the HSE&S Manual, Environment Safety and Social Management Plan, Emergency preparedness plan and EPC HSE - Work Instructions;
- Train the workers and employee as per the training programs;
- Prepare the HSE Training program as per the site specific requirement;
- Provide the Safety & Environmental awareness /Induction training to employee (EPC and subcontract employees) after getting the formal information from the HR & Admin Department;
- Carry out HIRA (Hazard identification and risk assessment) & EAI (Environmental Aspects and its Impacts) and prepare mitigation measures and approve it from Head-HSE&S;
- Identify the IDLH /Risk and guide to process owner of risk for control measures.
- Daily Safety Observation Tour, Work place Monitoring, Safety Findings to be recorded & Informed to site Project Incharge and Process Owners;
- Conducting Safety Committee Meeting including preparation of agenda, near miss & accidents reports & forward to Corporate Office before 3rd of every month;
- Monthly HSE Report sending to be sent HSE- Corporate Manager before 3rd day of every month;
- Emergency preparedness plan and its effectiveness report (i.e. Mock drill Report) on quarterly basis;
- Visit the labour camp, Workers canteen to do the audit on welfare provided and required.
- Accident reporting within 12 hours as per the Corporate guidelines to concern Govt. Authority and Head- HSE & S.

RESIDENT ENGINEER (RE) - ROAD AND BRIDGE WORKS

The Project Engineer - Road Works shall be responsible for implementation of the ESSMP during the construction of the road works. He being responsible for day to day operations with regards to road works shall supervise and oversee construction activities such as site clearances, stripping of top soil, excavations. Filling and laying material etc. which necessitates the operation of construction equipment and machinery at the site.

These activities would have environmental effects in terms of impairment to noise and air quality, tree cutting and severances and hence shall be responsible for implementing the ESSMP in the day to day activities of road construction. The Project Engineer – Bridge Works shall be responsible for implementation of the ESSMP during the construction of bridge works. These activities would necessitate diversion of roads, cutting of trees and diversion to natural drainage paths which would have a bearing on the environmental quality of the area. The RE (bridge works) shall be responsible for implementation of ESSMP with respect to environmental aspects during bridge construction.

SITE ENGINEERS/SUPERVISORS

The site engineers/supervisors report to the RE and are responsible for day to day operations of construction works in their respective areas. They supervise and oversee the construction activities and hence shall be made responsible for ground the ESSMP and minimize the impacts during construction. Some of the key aspects that shall be taken up by the site engineers/ supervisors shall include periodic sprinkling of water in inhabited areas during transportation of material and operation of construction machinery.

SUBCONTRACTORS

Sub contractors shall be sensitized on environmental aspects as they form part of the road construction in terms of transportation, earthwork, concrete and form work.

The environmental effects due to and transportation of material, debris removal and residues shall be properly conducted to minimize damage to the environment. The site engineers/supervisors shall be responsible for monitoring the implementation of ESSMP at this level.

Overall Responsibility - All Employees

Overall responsibility for the environment, social, occupational health and safety management system lies with the Project Head of the SPV who will establish and maintain an organizational structure that defines roles, responsibilities, and authority to implement the ESSMP. This will include the designation of in-house personnel during the different phases of the Project as described below.

The HSE &S activities will be carried out by SPV, EPC and/or O&M contractor and third parties. All these activities will be undertaken under contract with company and will be supervised by company which will ensure that all contracts include terms and conditions requiring contractors to adopt management systems which comply with the ISO 14001, OHSAS 18001 and with the ESSMP requirements.

Various Committees and Working

Project site management has formed various committees to implement the ESSMP smoothly. To address and resolve the issues related to Safety, Health, Environment, mess, labour camp, Employees grievances and public grievances, These committees will meet on following schedules

Sl. No.	Name of Committee	Committee Head/Chairman	Functional Responsibility	Frequency
01	HSE Committee	Project In-Charge	HSE Officer	***Monthly***
02	Grievance Committee	Project In-Charge	Site HR Office/ Liaisoning Officer	***Quarterly***
03	Emergency Response Team	Camp In-Charge/Project Manager	HSE Officer/ HSE Supervisor	***Quarterly***

All the Committees do meet as per the Frequency stipulated and necessary decisions & implementations are monitored strictly by the Committee members. Also the grievances are resolved on priority.

HSE COMMITTEE PROJECT

CHAIRMAN	**:**	**Mr. C.B. Dubela**
MEMBERS	**:**	**Mr. Ramkrit Yadav, Mr. Ramesh Kumar, Mr. Pralay Nikam, Mr. Virendra Kadam, Mr. Balbahadur Singh**
SECRETARY	**:**	**Mr. Abhilash Jain**

GRIEVANCE COMMITTEE PROJECT

CHAIRMAN	**:**	**Mr. C.B. Dubela**
MEMBERS	**:**	**Pralay Nikam, Mr. Virendra Kadam, Mr. Parvez Shami, Mr. Balbahadur Singh**
SECRETARY	**:**	**Mr. Abhilash Jain**

Chapter – IV : Statutory Clearances / License Details

Legal and Regulatory Requirements and Applicable International Standards :
Company and its EPC, Sub-contractors are governed by the various legislative rules and regulation set by Ministry of Environment and Forest (MoEF) and concerned pollution control boards.

The following Rules and Regulation are applicable for Project :-

- MOEF Requirement Road construction -- EIA Report & Environment clearance from MOEF – Not Applicable
- Environment Protection Act :1986 - – Applicable
- The Water (Prevention & control of pollution) Act, 1974 - – Applicable
- The Water (Prevention & Control of pollution) Cess Act, 1977, including rules, 1978 - – Applicable
- The Air (Prevention & control of pollution) Act, 1984 - – Applicable
- The Hazardous Waste (Management & Handling) Rules, 2000 - – Not Applicable
- Manufacture, Storage & Import of Hazardous Chemicals Rules, 1989 - – Applicable
- Forest clearance for tree cutting (Local, State and Center if required) –- Applicable
- Local authority or *Grampanchyat* permission (NOC) for establishment of plant - – Applicable
- District Industry Center permission for industry - – Applicable
- Factory Act: 1948 (Crusher VSI & HMP) Plant Establishment - – Applicable
- State Factory Rule (Director of Industrial Safety and Health requirement) - – Applicable
- Building and Other Construction worker Act, 1996 –Not Applicable
- The Mines & Minerals Act, 1957 –- Not Applicable
- Mineral Concession Rules, 1960 - – Not Applicable
- Land acquisition Rule-1998 – Not Applicable
- Petroleum Rules, 1976 (Petroleum & Explosive Department) - – Applicable
- The Indian Electricity Rules, 1956 - – Applicable
- Batteries Act, 1989 - – Applicable
- Minimum Wages Act, 1948 - – Applicable

Various Statutory Clearances / Licenses have been obtained. The latest Renewed Copy, Renewal Applications which are under process and the Legal Matrix are attached below:

Legal Matrix (Camps) :

The Quarterly Legal Compliance report under Environment protection Act and Consent to Operate permissions /licenses is also done as per the following Format for the same:

Project Details						
Sr. No.	**Location of camp / Detail Address as per agreement**	**Name of Incharge**	**P &M Details**			
1		Mr. C. B. Dubela				
Sr. No	**Name of the Licensing/ Registration Authority**	**Purpose**	**Number and Date of Registration/ License**	**Date of application**	**Validity Period**	
					From	**To**
1	Labour Office, M.P. Government, Mudassur	Labour License for 70 employees	471/MOS/2015	--	02-06-2015	31-12-2015
2	Employee Compensation Insurance Policy	Employee's Compensation Act, 1923	17043527-11000165	23-06-2015	19-07-2015	18-07-2016

Labour, WC, Minimum Wages, Contractor Labour, Employment License Details:-

The Company, SPV and EPC will base the employment relationship on the principle of equal opportunity and fair treatment, and will not discriminate with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, and promotion, termination of employment or retirement, and disciplinary practices.
The Company takes measures to prevent and address harassment, intimidation, and/or exploitation, especially in regard to women. The Company will ensure that all workers receive notice of dismissal and severance payments mandated by Indian labour law and collective agreements in a timely manner.

Date &Govt. order no. of last minimum wage update	06.04.2015/12028-327
Date of wage payment & Alternate date of wage payment	07th
SKILLED:	336
SEMI-SKILLED	282
UN-SKILLED:	240

All outstanding back pay and social security benefits and pension contributions and benefits will be paid

(i) On or before termination of the working relationship to the workers,
(ii) Where appropriate, for the benefit of the workers, or
(iii) Payment will be made in accordance with a timeline agreed through a collective agreement. Where payments are made for the benefit of workers, workers will be provided with evidence of such payments.

The Company will provide a grievance mechanism for worker to raise workplace concerns. The company will inform the workers of the grievance mechanism at the time of recruitment and make it easily accessible to them. In Project office and Camp area grievance box for easy and immediate communication. The Company will provide a safe and healthy work environment, taking into account inherent risks in its particular sector and specific classes of hazards in the project work areas, including physical, chemical, biological, and radiological hazards, and specific threats to women. The client will take steps to prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, as far as reasonably practicable, the causes of hazards.

We are already in possession with the License for 70 manpower from Assistant Labour Commissioner, Mandsoor, Madhya Pradesh, GOI.

A number of Safety Signage's are on display near Educational Institutions along with several Safety Alert Signage's along the Project Stretch. Also we have provided Hard Barricading near High Risk Areas/Deep Excavation Areas along the Stretch.

Chapter V: All HSE Policies

Further we do follow the Applicable Policies & Guidelines framed by the Management and those are summarized below:

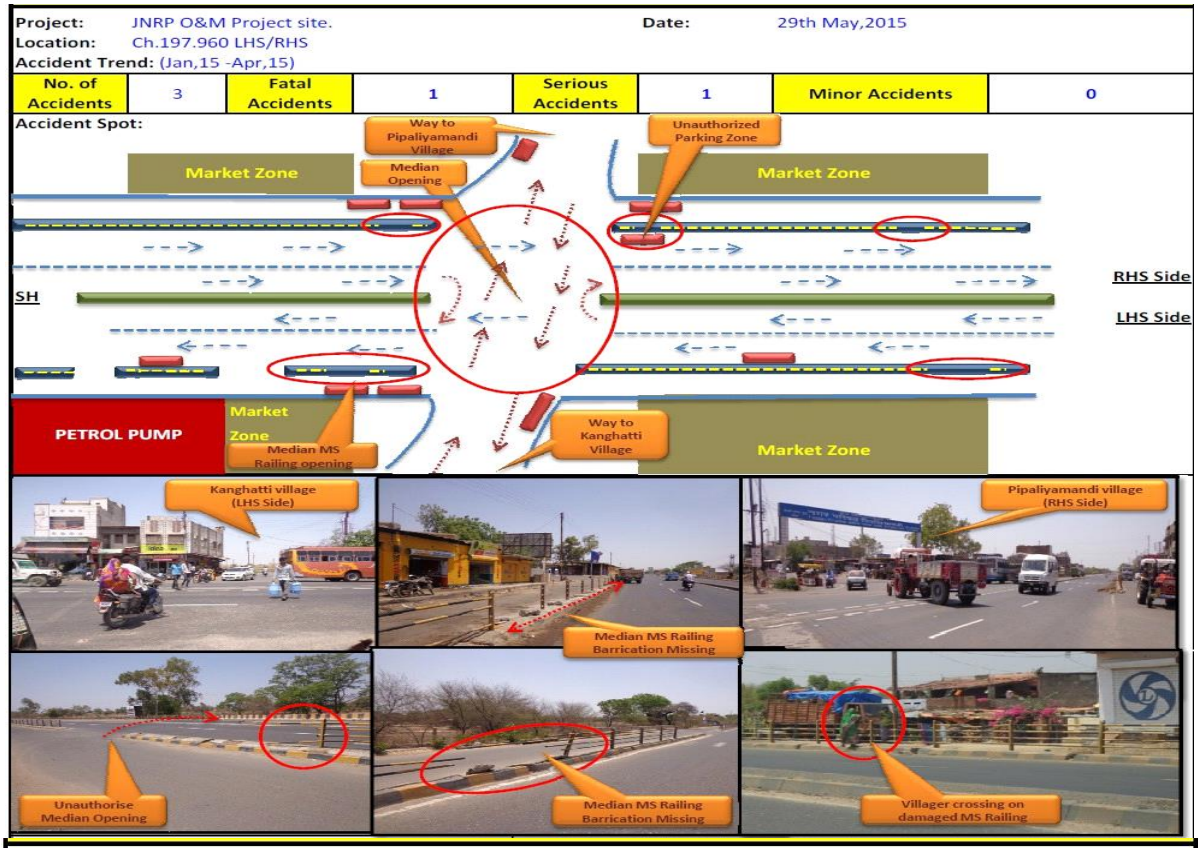
Sr. No.	Document Details	Document Code	Main objective of Document
1	Integrated Management System Manual	ACL/IMS (L-1)	1. Apex manual for IMS and ISO Standard requirement interlinking of clauses. 2. Level One (L-1) Document for all Department heads. In this manual Scope, Company Profile and SPV companies and detailed procedure related to QMS, EMS &OHSAS has been mentioned. 3. ACL Document control procedural guideline.
2	HSE Work Instruction	ACL /IMS/HSE/01	HSE Work Instruction for CO-HSE department, In CO-HSE department is having 10 Process. This Manual is applicable for All ACL-HSE Department with their defined Roles and responsibility.
3	Environment Social &Safety Management System Manual	ACL/ESSMSM (L-2)	1. Guideline for the Environment, Social &Safety Management as per the National Rule and Regulations applicable for the National Highway Projects &IFC Performance Standard. 2. This Manual for ready reference for SPV &EPC contractor for implementation at project site.
4	Environment &Social management Plan - Standard operating Procedure	ACL/ESMP (L-2)	1. Operating procedure for SPV/ EPC to attend the Environment and Social issues related to National Highway Construction. 2. Role &Responsibility has defined to take care of the process related environmental issues and resolve the E&S issue on the priority.

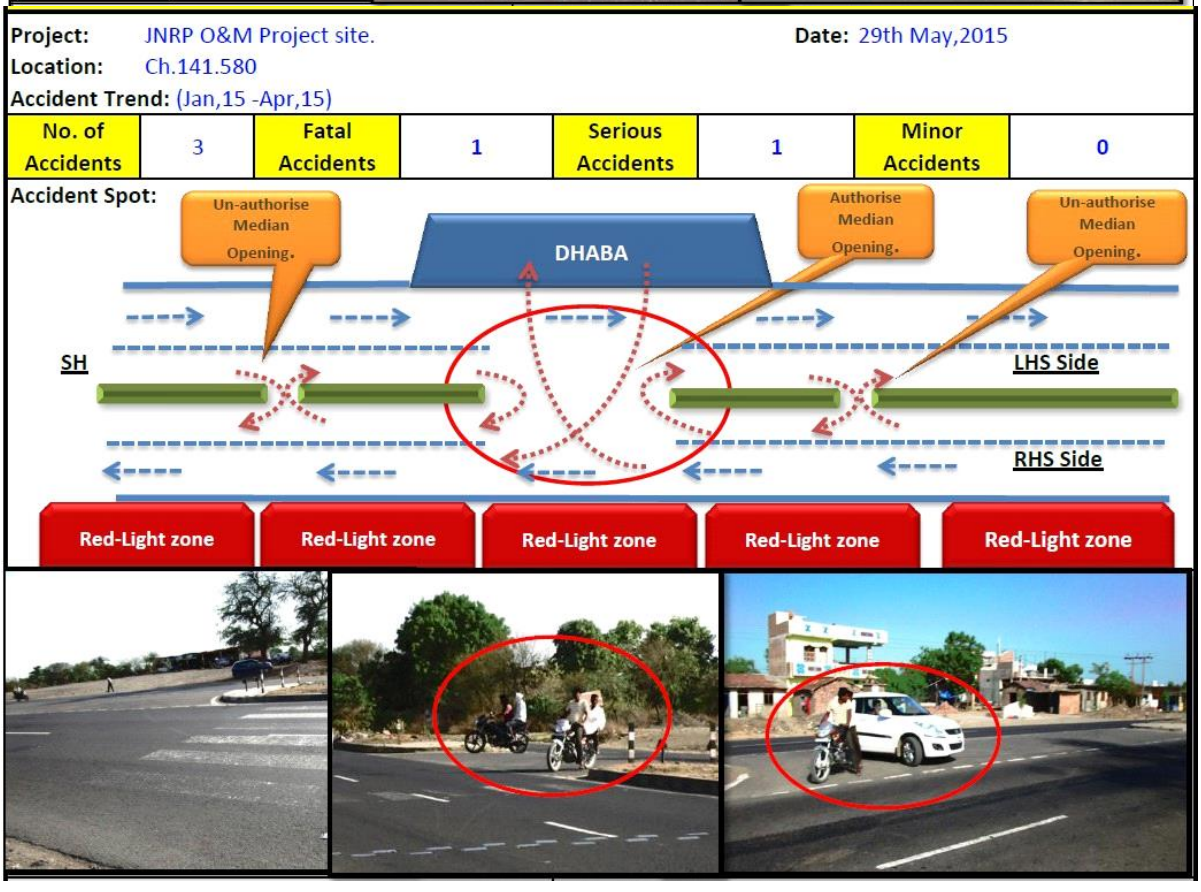
Sr. No.	Document Details	Document Code	Main objective of Document
6	Guideline for Traffic Management Plan	ACL/HSE&S/ESMP/GTMP/01	Safety of road users and project workers is a vital requirement which has to be attended during the contract period under the contract agreement; site design, planning, traffic diversion and procurement management are key controls for reducing the accidents caused by the vehicles.
7	PPE Matrix for road &bridge construction worker	ACL/HSE&S/ESMP/PPE Matrix/01	1. Awareness of employees about the use of PPE's as per theirs working activity.
			2. Information of PPE's about their life, IS Code and approx market rate.
			3. Guidance of process owners and store, purchasing staffs to communication with suppliers and workers
8	Emergency Response Plan	ACL/HSE&S/ERP/01	1. To define and implement an effective organization to respond and manage emergency to protect life, environment and properties
			2. To provide an effective and efficient response to and control emergency that may occur.
			3. To identify the individuals responsible for directing the activities required to contain, control and manage an emergency situation.
9	Tree Plantation Guideline for National Highway Projects	ACL/HSE&S/ESMP-TPGNHP/01	1. Reducing the impacts of air pollution
			2. Natural noise barrier
			3. Arrest of land erosion
			4. Providing much needed shade during the daytime
			5. Prevention of vehicle glare from vehicles coming from opposite direction
			6. Enhancement of an esthetic view of the corridors
			7. Climatic amelioration
			8. Defining of ROW especially at sharp curves during night.

Sr. No.	Document Details	Document Code	Main objective of Document
10	Guideline for Grievance Redressal Mechanism for SPV/EPC	ACL/HSE&S/ESMP-GGRM/01	1. To establish, maintain and improve the employee-employer relationship. 2. To facilitate for the restoring/improving the living of displaced persons. 3. To anticipate and avoid, or where avoidance is not possible, minimize adverse social and economic impact from land acquisition or restrictions on land use in consultation with the NHAI and State revenue Department.\
11	IT Disaster response plan	ACL/HSE&S/IT-DRP/01	1. To define and implement an effective organization to respond and manage emergency to protect life, environment and properties. 2. To provide an effective and efficient response to and control emergencies that may occur. 3. To achieve the zero down time.
12	Guideline for Disposal of Construction Waste	ACL/HSE&S/ESMP/GDCW/01	1. Guideline for site people to dispose the construction waste during the construction of road activity.
13	Environment Monitoring Plan	ACL/HSE&S/ESMP/GEMP/01	1. Guideline for to monitor the Ambient Air Quality, Noise, Stack monitoring during the construction phase, Normal water &Drinking water quality.
14	Guideline for Tool Box	ACL/HSE&S/TOOL BOX TALK/01	ACL Corporate HSE department has prepared the 67 HSE related training modules for SPV /EPC's HSE Office for the implementation of HSE Training at Working site. One Consolidated Tool Box Talk on 22 Topic has been prepared for SPV /EPC Contractor's HSE Officer for the implementation.
15	Guideline for Monsoon Safety	Soft copy	ACL Corporate HSE department has prepared the Monsoon Safety for SPV /EPC contractor.

Sr. No.	**Document Details**	**Document Code**	**Main objective of Document**
16	HSE Alerts	Soft copy	HSE alerts are prepared on control measures on major risks, Accident /incidents and current global environmental issues. These alerts provide guidelines on major causes, major hazards and risk and corrective / preventive actions for the control of HSE issues. HSE Alerts are prepared monthly and circulated to all concerned persons for implementation.
17	Safety Posters for awareness of SPV and EPC employees	Soft copy	1. Camp Entrance safety posters
			2. Canteen related safety posters
			3. Office Entrance &Premises safety posters
			4. P&M, Workshop &Premises safety posters
			5. P&M, Plant area safety posters
			6. QA/QC Lab related safety posters
			7. Security Cabin related safety posters
			8. Store, storage related safety posters

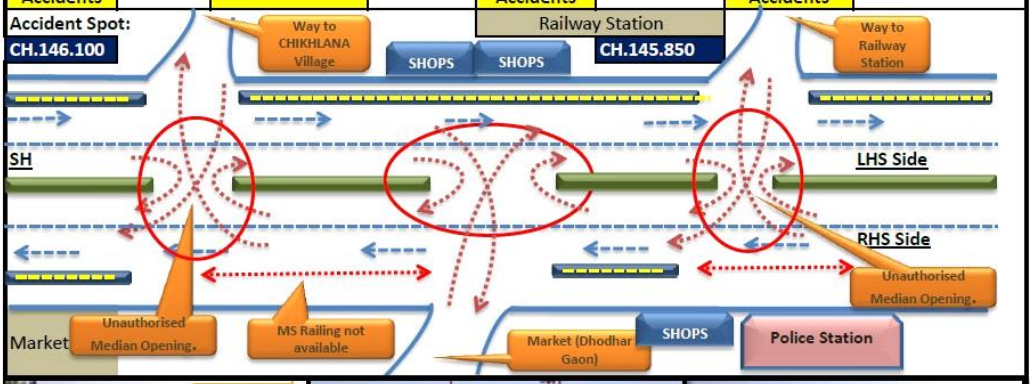
Chapter – VI : Project Chainage wise Hot Spot Challenges:-





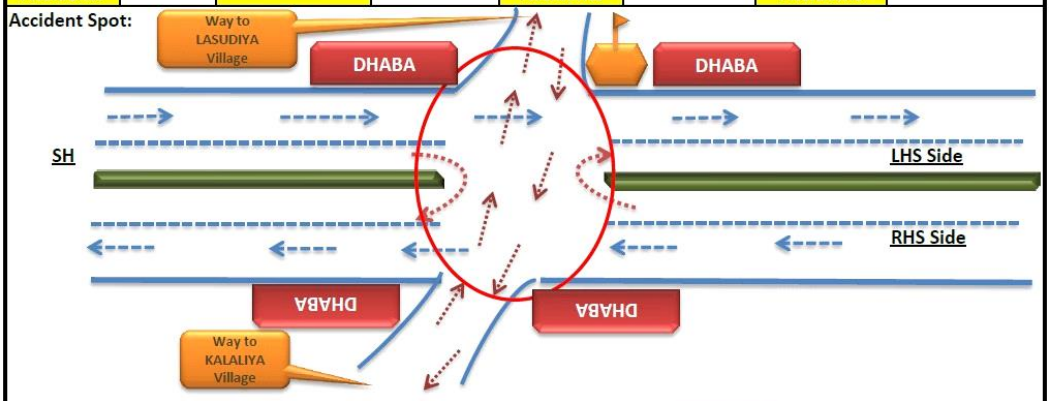
Project: JNRP O&M Project site. **Date:** 29th May,2015
Location: Ch. 146.100, Ch. 145.850
Accident Trend: (Jan,15 -Apr,15)

No. of Accidents	7	Fatal Accidents	0	Serious Accidents	5	Minor Accidents	0



Project: JNRP O&M Project site **Date:** 29th May,2015
Location: Ch. 143.300
Accident Trend: (Jan,15 -Apr,15)

No. of Accidents	5	Fatal Accidents	0	Serious Accidents	4	Minor Accidents	0



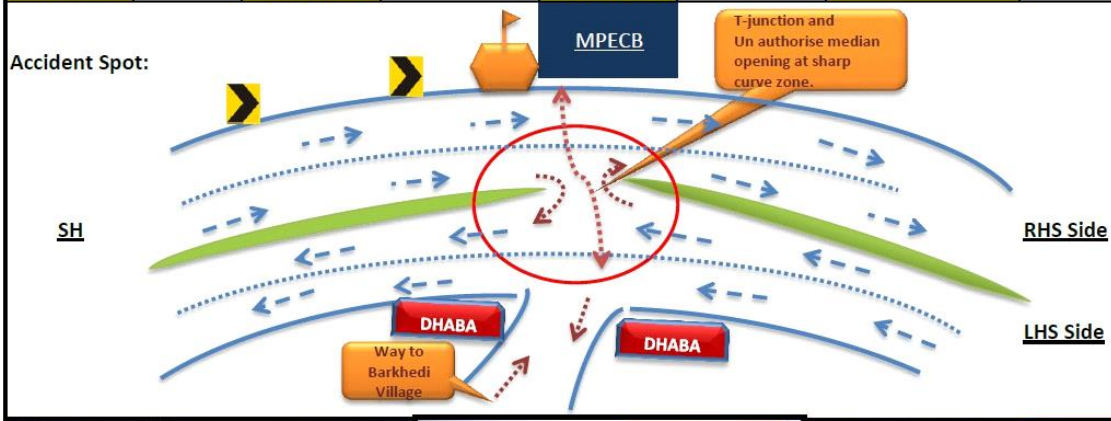
Project: JNRP O&M Project site. **Date:** 29th May,2015

Location: Ch-146.950

Accident Trend: (Jan,15 -Apr,15)

No. of Accidents	4	Fatal Accidents	0	Serious Accidents	3	Minor Accidents	1

Accident Spot:



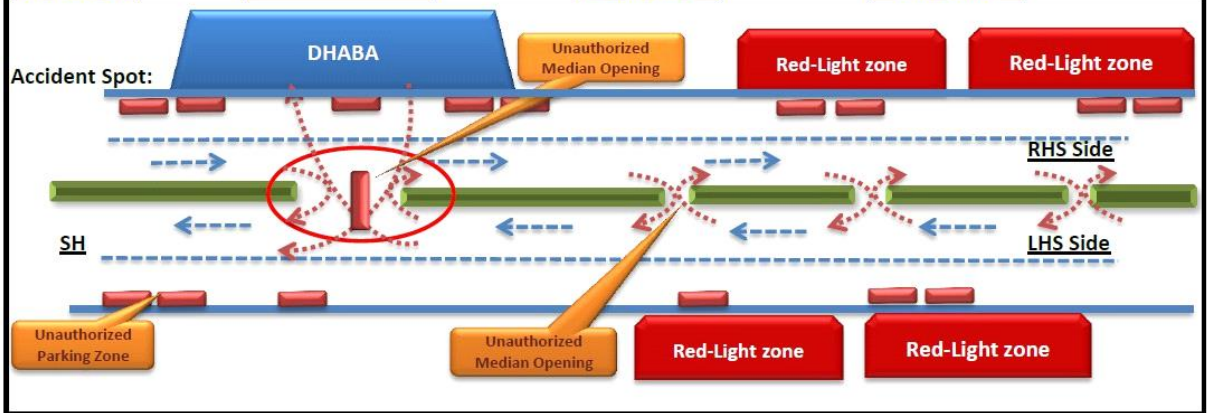
Project: JNRP O&M Project site. **Date:** 29th May,2015

Location: Ch. 151.340 / 900, Ch. 147.900

Accident Trend: (Jan,15 -Apr,15)

No. of Accidents	8	Fatal Accidents	0	Serious Accidents	7	Minor Accidents	0

Accident Spot:



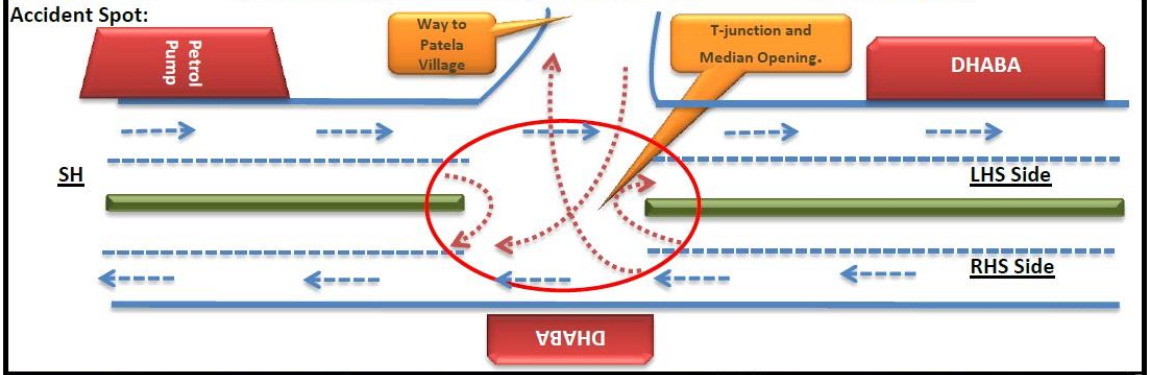
Project: JNRP O&M Project site. **Date:** 29th May,2015

Location: Ch. 162.950

Accident Trend: (Jan,15 -Apr,15)

No. of Accidents	6	Fatal Accidents	0	Serious Accidents	9	Minor Accidents	1

Accident Spot:



Safety Control Measures at Hot Spot

Police Station
Safety precautions at Hot Spots


Provision of Rumblers are ahead sign board


Provision of Do not overtake sign board

Provision of Speed limit 80 km / hr sign board

Provision of stop sign before hot spot zone.

Provision of Police station sign board

Hospital's
Safety precautions at Hot Spots

Provision of Hospital Ahead Sign Board


Provision of Rumblers are ahead sign board


Provision of Do not overtake sign board

Provision of Speed limit 80 km / hr sign board


Provision of Catties installed at padestrian crossing

Provision of stop sign before hot spot zone.


Provision of Solar Blinker before hot spot zone.

School / College =
Applicable preventive measures taken at hot spot location

Provision of School Ahead Sign Board


Provision of Rumblers are ahead sign board


Provision of Do not overtake sign board

Provision of Speed limit 80 km / hr sign board


Provision of Catties installed at padestrian crossing

Provision of stop sign before school zone.


Provision of Solar Blinker before school

Petrol Pump = Safety precautions at Hot Spots

Provision of Petrol pump sign board

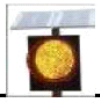

Provision of Rumblers are ahead sign board


Provision of Do not overtake sign board

Provision of Speed limit 80 km / hr sign board


Provision of Catties installed at padestrian crossing

Provision of stop sign before school zone.


Provision of Solar Blinker before school

Chapter – VII : Natural Resources

Minerals, Aggregates and Soil resource management

Land use Change and Loss of productive/top soil

- To the extent non-agricultural areas to be used as borrow areas
- Top soil to be preserved and laid over either on the embankment slope for growing vegetation to protect soil erosion.
- The Stockpile shall be designed such the slope does not exceed 1:2 (Vertical to horizontal) and the height of the pile will be restricted to 2m
- To prevent any compaction of soil in the adjoining productive lands, the movement of construction vehicles, machinery and equipment will restricted to corridor

The stored topsoil will be utilized for:

- Top dressing of the road embankments and fill slopes.
- Filling up of tree pits, proposed part of compensatory plantation.
- The contractor shall be responsible for working out haul roads with the minimal loss of productive soils, in consultation with the Supervision Consultants

Slope protection and Soil erosion due to construction activities, earthwork, and cut and fill etc.

- Prepare Construction schedule for bridges during non-monsoon season.
- Bio-turning of embankments to protect slopes.
- Slope protection by providing frames, dry stone pitching, masonry retaining walls, planting of grass and trees.
- The side slopes of all cut and fill areas will be graded and covered with stone pitching, grass and shrub as per design specifications.

Soil erosion at earth stockpiles

- The earth stockpiles to be provided with gentle slopes to prevent soil erosion.
- Retention wall/bund to be provided around the storage areas for excavated soil and other construction material to check the flow of solid with storm water in case of rain;

Borrow Areas and Quarries Management Plan:

- The sources for borrow materials, metal quarry and sand quarry shall identified and samples should be tested to determine their suitability.
- Location of source of supply of materials for embankment of sub-grade and the procedure for excavation or transport of material shall be in compliance with the environmental requirements of the MoRTH and as specified in IRC:10-1961.
- The following precautions have to be taken
- To restrict unauthorized borrowing by the contractor No borrow area shall be

opened without permission of the supervision Consultant.

- The borrowing shall not be carried out from cultivable lands, unless and until, it shall be agreed upon by the supervision consultant that there is no suitable uncultivable land in the vicinity for borrowing or private landowners are willing to allow borrowing on their fields.
- To avoid any embankment slippage, the borrow areas Will not be dug continuously, and the size and shape of borrow pits will be decided by the Supervision Consultant.
- Redevelopment of the borrow areas to mitigate the impacts will be the responsibility of EPC and Sub Contractor.
- Precautionary measures as the covering of vehicles will be taken to avoid spillage
- During transport of borrow materials. The unpaved surfaces used for the haulage of borrow material will be maintained properly.
- The haul roads and borrows areas will be managed and maintained. Since dust rising is the only impact along the haul roads sprinkling of water will be carried out twice a day along such roads during their period of use.

Compaction of soil due to movement of vehicles and equipments.

- Construction vehicles, machinery, and equipment to be stationed in the designated ROW to avoid compaction.
- Approach roads/haulage roads shall be designed along the barren and hard soil area to reduce the compaction.
- Transportation of quarry material to the dumping sites through heavy vehicles shall be done through existing major roads to the extent possible to restrict wear and tear to the village/minor roads.
- Damaged village roads/haul road should be restored immediately;
- Land taken for construction camp and other temporary facility shall be restored to its original conditions;
- Provision of dedicated path within the site for exclusive entry and exit of the construction vehicles;

Contamination of soil due to leakage/spillage of oil, bituminous and non bituminous debris generated from demolition and road construction.

- Construction vehicles and equipment will be maintained and refueled in such a fashion that oil/diesel spillage does not contaminate the soil.
- Fuel storage and refueling sites to be kept away from drainage channels/ water bodies (river, pond lakes, community water resources).
- Unusable construction demolition debris shall be dumped in ditches and low lying areas.
- Waste oil and oil soaked cotton/ cloth shall be stored in containers labeled 'Waste Oil' and 'Hazardous' sold off to MoEF/SPCB authorized vendors;
- Oil, grease, fuel and chemicals should be stored on concrete plat form with HDPE

sheet,

- Non-bituminous wastes to be dumped in borrow pits with the concurrence of landowner and covered with a layer of topsoil conserved from opening the pit.
- Scarified bituminous should be milled and reused on embankment and other rural roads;
- Bituminous wastes will be disposed off in an identified dumping site approved by the State Pollution Control Board
- Soil quality monitoring to be under taken as per monitoring plan, SPCB, MoEF requirements

Contamination due to use of fly ash

- Use and disposal of fly ash as per fly ash notification.
- Fly ash to be used sandwiched between good earth layers after the proper approval from NHAI Consultant / Independent Engineer / NHAI PIU.

Water resource strategy

Construction water

Source the requirement of water preferentially from ground water but with prior permission from the concerned authority.

- Take all precaution to minimize the wastage of water in the construction process/ operation.
- Water intensive activities should not to be undertaken during summer period (April, May June)
- Monitor and Measure the Water

Alteration in surface water hydrology due to embankment

- Existing drainage system to be maintained and further enhanced.
- Provision of adequate size and number of cross drainage structures.
- Sections of the corridor to be raised suitably along flood prone areas with the cross drainage structures and adequate side drains to be built.

Siltation in water bodies due to construction activities/earthwork

- Bridge construction in non-perennial streams to be limited to the dry season.
- Silt/Sediment trap to be provided.
- Embankment slopes to be modified suitably to restrict the soil debris entering water bodies.
- Provision of Silt fencing shall be made at water bodies.
- Silt/sediment should be collected and stockpiled for possible reuse as surfacing of slopes where they have to be re-vegetated;
- Construction material and demolition waste of existing bridges etc shall be periodically removed and no material shall be stored at the river bed during monsoon or water flow in the rivers;

- Natural flow of the river should not be disturbed;
- Earthworks and stone works to be prevented from impeding natural flow of rivers, streams and water canals or existing drainage system.

Deterioration in Surface water quality due to leakage from vehicles and equipments

- No vehicles or equipment should be parked or refueled near water-bodies, so as to avoid contamination from fuel and lubricants;
- Oil and grease traps and fueling platforms to be provided at re-fueling locations.
- All chemicals and oil shall be stored away from water and concreted platform with catchment pit for spills collection;
- Construction material and other waste from river bed/ channel, other water bodies should be removed,
- Storage of material shall be away from the water bodies,
- All equipment operators, drivers, and warehouse personnel will be trained in immediate response for spill containment and eventual cleanup.
- Construction camp to be sited away from water bodies
- Wastes must be collected, stored and taken to approve disposal site only.
- Water quality shall be monitored periodically as per the requirement of SPCB/ MoEF/EIA.

Air Quality improvement

Climate and Air Quality

Site Project In-charge will

- Do Compensatory Plantation (1:3) and as per the guideline of Divisional forest department. Tree Plantation Guideline is attached
- Do the additional plantation on river banks, borrow areas and sensitive locations will also prevent deterioration of the local climatic conditions
- Avoid of use of wood as fuel in labor camps and Project site office etc.
- Make Provision of kerosene and/or LPG gas for cooking at labor camp;
- Do Plantation of pollutant absorbing trees at congestion locations and /or whenever applicable.
- Make Provision of junctions at major intersections and flyovers, ROB for congestion free movement of traffic as per Schedule-B of concession Agreement.

Dust generations due to construction activities and transport, storage and handling of construction materials.

- Site development during construction of Project office, Labor Camps, HMP, WMM, Crusher Plants, Stockyard etc.
- Transportation, loading and unloading of loose and fine materials through covered vehicles.
- Storage areas to be located downwind of the habitation area.
- All stockpiles to be covered while uncovered stockpiles and transfer points will be

periodically water sprinkled to minimize fugitive dust generation.

- Dust generating activities to be avoided in conditions of high wind (particularly during summer season) and loose construction material to be covered at construction site
- Vehicle speed to be restricted to 15 km/hr at site, haul roads to minimize potential for dust generation in the surroundings
- Trucks/ dumpers to be covered by tarpaulin sheets during off site transportation of friable construction materials and spoil
- Water sprinkling on unpaved roads within the Proposed Project site and Haul road to avoid dust generation;
- Housekeeping of the area (Project site, Camp site, Labor camps, Stockyard, etc) to be maintained by deputing sweepers to remove dirt/debris from the floors/sites on daily basis
- Water sprinkling on earthworks, unpaved haulage roads and other dust prone areas at regular interval.
- Development of green belt around Crushers, and other Plants and Machineries
- Provision of PPEs to workers.

Emissions from vehicles, equipment and Machineries

- Regular maintenance of machinery and equipment
- Preventive Maintenance Schedule and All Machinery Should have it own History Sheet
- Ensure that all the vehicles entering the site will have valid PUC (Pollution under control) certificate; Idling should not be allowed. Machinery to be turned off when not in use
- Crusher, RMC Plant, asphalt mixing plants, CRMB Plant at downwind (1km) direction from the nearest settlement.
- All Plant and Machinery Such as Crusher, WMM, HMP, RMC, DG Set & CRMB Plant licensed by the Local Authority, SPCB and Factory Inspectorate shall be used.
- Diesel generators meant for emergency power supply to be regularly maintained so as to ensure that emissions from fuel combustion remain at design levels. Also to ensure stack height of 1.5 m above the roof level of the shed meant for diesel generators to meet the stack height requirement as specified by CPCB;
- Low sulphur fuel to be used for operation of DG set and other plants and machineries.
- Regular Ambient air quality and stack monitoring should be carried out as per the ACL –Environmental Monitoring Plan for Road Project, Camp sites, & Toll Plaza. ACL –Environment monitoring Plan for Air, Water, Soil and Noise is prepared

Noise from construction vehicle, equipment and machinery

- All equipment to be timely serviced and properly maintained & carry out the preventive maintenance of machineries and vehicles.
- Bottlenecks to be removed, major intersections to be provided with interchange /

flyovers as per schedule-B Concessions Agreement.

- Construction equipment and machinery to be fitted with noise silencers and maintained properly.
- Timing of noisy construction activities shall be done during night time and weekends when there are no activities by the sensitive receptor, concurrent noisy operations may be separated to reduce the total noise generated, and if possible re-route traffic during construction to avoid the accumulation of noise beyond standards. Else provision of temporary noise barrier at sensitive locations;
- Initiation of multi-layered plantation, to serve as mitigation option for operation phase
- Provision of rubber puddings/ noise isolators at equipment /machinery used for construction;
- Noise prone activities need to be restricted to the extent possible during night to reduce the noise impact. There is also requirement of providing make shift noise barriers surrounding the high noise generating construction equipment;
- Site workers working near high noise equipment to use personal protective devices to minimize their exposure to high noise levels;
- Honking restrictions near sensitive receptors;
- Noise monitoring should be carried our as per ACL Environmental Monitoring Plan
- In high noise area, use of Ear Plug / Ear Muff is compulsory.

Sr. No.	Particular	Impact	Reason	Mitigation/Enhancement
1	Meteorological factors and climate	Meager Impacts	Conversion of land in to paved surface	• Avenue of tree plantation
2	Dust generation	Short term	Site clearance activities, removal of trees and loading/unloading of construction material	• Sprinkling of water • Use of tarpaulin to cover the fine material • Construction plant will be installed in downwind direction
3	Gaseous pollutants	Long term	Construction plant, vehicles etc.	• All the vehicles should be warranted with Pollution under control certificate. • Proper maintenance of the vehicles.

Plantation

Forest & Plantation:

According to the Environmental Protection Act (enacted by MoEF, GoI), the entire linear stretches of roadside plantation along the state/national highways were declared as protected forest. Although the land is under the control of Public Works department, due to it protected status, approval of Central or State government for using the land for widening and rehabilitation must be granted. The above act was amended in 1980 in an attempt to check the rapid deforestation occurring throughout India. At the State level the Government was empowered to declare reserve and protected forest and was also given

the authority to acquire land for extension and preservation of the forest. The Act was modified in 1998 by the MoEF. The spirit behind the act was conservation of natural forest and not strip plantation lost.
In case of the road side plantation, the clearance now may be given by the concerned regional offices of the MoE&F, irrespective of the area of plantation lost. While issuing the approval, the normal provision of compensatory afforestation, it stipulates a condition that for every tree cut at least two trees should be planted.

Flora and Fauna :

- The trees to be cleared in course of construction should be replaced by double in number.
- Species suitable to the locality and climate should be planted.
- Two-year-old seedlings of fast growing species are chosen. Advance plantation prior to the road construction will help in establishment of the plantations. The species like *Mangifera indica, Azadirachta indica, Acacia auriculiformis, Ficus bengalensis, Ficus religiosa* etc should be planted. The budget for such afforestation should be provided.
- Multi row planting should be encouraged than single row. The vegetal cover along the row near to the settlements should cover at least 10 meters both sides.

Plantation

- Depending on the availability of Right of way, plantation pattern should be as follows:
- 1. The first row along the highways will be of small to medium sized ornamental trees.
- 2. Subsequent rows, depending on the availability of width, will comprise of ornamental and or shade bearing species of more height than those in the first row.
- 3. planting of dwarf shrub in the median, provide glare free travel to the road user during night time.
- 4. Planting of herbaceous species are ground cover in the median , special landscape and the embankment slopes.
- 5. Turfing with grass in the median , special landscape and embankments.

Tree plantation on the road side:

- The first and second row of plantations along the highway, except the last row , should be worked out based on the land availability of the RoW along the various sections. Following are recommended species for Roadside plantation :

Sr. No.	Soil	Botanical Name	Local Name	Flowering month/Colour
1	Normal loamy soil	*Acacia auriculiformis*	Vilayati babool	Sep-Oct/yellow
2		*Bauhinia Sps*	Kachnar	Femar/pink

3		*Cassia fistula*	Amaltas	May/Yellow
4		*Cassia nodusa*	Cassia	May-june/pink
5		*Delonix regia*	Gulmohar	May/yellow
6		*Jacaranda mimosarfolia*	Jacaranda	April/blue
7		*Peltophorum ferrugineum*	peltophorum	Oct/yellow
8	Water logged areas	*Cordial dictma*	lasoda	
9		*Syzygium cumini*	Jamun	
10		*Terminalia arjun*	Arjun	
11	Alkaline soils	*Albizzia lebbek*	Kalasiris	
12		*Pongamia pinnata*	Kanji	
13		*Terminalia arjun*	Arjun	

Species recommended for second and Subsequent row:

Sr. No.	Soil	Botanical Name	Local Name
1	Normal Loamy Soil	*Albizzia lebbek*	kalasiris
2		*Pongamia pinnata*	kanji
3		*Terminalia arjun*	Arjun
4		*Malia azadiracta*	Bakain
5		*Dalbergia sissoo*	Shisham
6		*Gravilea robusta*	Silver Oak

Health & Safety

During the Operational Phase of the project, The worker & labour are working with Crusher, HMP Plant, Quarry operation , The dust is major polluting Parameter. The Worker, labour may suffer from silicosis

Control Measures for Dust.

- *The water sprinkling on Road,*
- *Before Excavation the Land or Road wet the Road or land to be excavated*
- *Crusher is fully equipped with Water sprinkler system.*
- *The HMP Plant is fully equipped with the Bag House (Total No of Bag is 350)*
- *The HMP Plant is fully enclosed with Bucket elevator*
- *We are regularly Monitoring the Health Check-up of Staff, Workers*

- Anticipated safety issues during operational phase of the project

During the Operational Phase of the project, The Number of Unsafe Conditions is more
And as the labours are literate people the chances are accident are more.

Control Measure for Accident & Safety
To avoid the Accidents and Make the Accident free environment, the full-fledged HSE Department is in place, the professional Safety Officers are recruited on

site.

The Zero Accident is our HSE Department Moto
The HSE Department is well equipped with all tools Training Aids and PPE's
The Safety Department are Identify the Hazard during the operational activity
Try to remove that Hazard or Reduce the Risk of Hazard by control it or as follows.

- *Elimination*
- *Substitution*
- *Engineering Control*
- *Administrative Control*
- *Personal Protective Equipment.*

Chapter – VIII : Environment Monitoring / Water Testing

The project site Environmental performance is monitored, measured and verified by the Govt. approved and accredited Environmental Laboratory. Every quarter, the Environmental Analysis (Water, Air & Noise) has been carried out at our Project Site.

1. Ambient Air Quality (SPM, RPM, CO, SO_2, NOx)		
1A	During constructionphase , In the project camp boundry Four Samples from South, North, East and west sides One sample near admin and project office.	Over 24 hours continuous duration, Frequency :- quarterly basis Total five samples
1B	During construcion phase &operation phase, Village, Urban area, Signal etc	Over 24 hours continuous duration, Frequency :- quarterly basis One Sample
1C	During operation phase At Toll plaza surrounding area	Frequency :- quarterly basis One sample
1D	During operation phase At Suitable Intersection	Frequency :- quarterly basis One sample
2.Ambient Noise		
2A	During constructionphase , In the project camp boundry Four Samples from South, North, East and west sides One sample near Admin and proejct office.	Over 24 hours continuous duration, Frequency :- quarterly basis Total five samples
2B	During construcion phase &operation phase, Village, Urban area, Intersection (Signal) etc	Over 24 hours continuous duration, Frequency :- quarterly basis One sample
2C	During operation phase At Toll plaza surrorunding area	Quarterly basis - One sample
2D	DG Set (Above 50 KVA)	Quaterly basis - One Sample
2E	During constructionphase , Crusher	Quaterly basis - One Sample

2F	During constructionphase , HMP Plant	Quaterly basis - One Sample
2G	During constructionphase , WMM Plant	Quaterly basis - One Sample
2H	During constructionphase , RMC Plant	Quaterly basis - One Sample
2I	CRMP Plant	Quaterly basis - One Sample
3. Stack Monitoring (PM,CO, SO_2, NOx) During construcion phase ,		
3A	DG Set (Above 50 KVA)	Quaterly basis - One Sample
3B	Hot Mix Plant - Stack	Quaterly basis - One Sample
4. Water quality (pH, Odour, TDS, TSS, O&G, Sulphide, Sulphate, COD, BOD and O&G, Heavy Metals etc) During constructionphase ,		
4A	RMC Waste water and Treated water	Quaterly basis- One Sample
4B	Down stream of Camp-Leachet	Quaterly basis - One Sample
5.Drinking Water quality as per WHO Standard, During construcion phase, During construcion phase		
5A	Labour camp	Monthly basis - One Sample
5B	Project camp and Office	Monthly basis - One Sample
6.Soil Quality (pH, Alkalinity, Acidity, Sulphite, C, N, P, K etc) During construcion phase		
6A	Labour camp	Half yearly - One Sample
	Project camp and Office	Half yearly - One Sample

Chapter – IX : Safety Performance

PPE Matrix :

ASHOKA

Ashoka Concessions Ltd, Nasik

PPE Matrix for Road & Bridge Construction Worker

Personal Protective Equipment	Working Location details	Life of PPE	IS Code	Approx Prices in Rs
Safety Helmet	Is compulsory for all working activities	One & half year	IS:2925-1984	200 - 350
Safety Shoes	Is compulsory for all working activities	One & half year	IS 1989 –1 986 (Pt.2)	350- 750
Reflective Vest	Is compulsory for all working activities	Three Months		150- 300
Dust Mask	Is compulsory for Crusher, WMM, HMP. CRMB and RMC Workers and employees	Ten Days	IS 9473 – 2002	15- 65
Ear Plug	Is compulsory for Crusher, WMM, and HMP. CRMB, RMC and DG Set Workers and employees	Ten Days	IS 9167 – 1979	10-70
Ear Muff	is compulsory if Noise Level is high greater than 85 dB	Two Year	IS 9167 – 1979	350- 1250
Safety goggle	Is compulsory for Crusher, WMM, and HMP. CRMB, RMC and DG Set Workers and employees	Six Months	IS 8940 – 1978 / IS 1179 – 1967	150 - 350
Cotton Coverall / Dungaree	Petrol pump operator and fuelling operator	One year	IS 8519 – 1977	350 - 500
Hand Gloves	Store Person- Cotton Hand Gloves for Bitumen & Concrete laying – Rubber Hand gloves For Electrical work – Shock proof Hand gloves For Welding Work – Heat proof	Ten Days Six Months One Year One Year	IS 4770 – 1968 / IS 2573 – 1986/ IS 6994 – 1973 part I	10 – 25 30 – 60 150- 450 100- 200
Gumboot (Thermal Proof)	Is compulsory for Bitumen & Concrete laying (Gumboot -Heat proof activity and Concreting activity Rubber-gumboot)	Six Months		300 - 500
Welding Glass	Is compulsory for all welding and cutting activity	One year	IS 8940 – 1978 / IS 1179 – 1967	150- 300
Full Body Harness	Is compulsory for working at height above 1.8 M Should be compulsory for Bridge workers who are working at height.	Two Years	IS 3521 – 1999	750 – 1250

Note: - After issuing the PPE to worker/staff , Self declaration letter should taken from worker/Staff. If Employee/staff/worker found without PPE'S at work zone area or during the working, He will be penalised and warning letter will be issued immediately. Warning letter format is enclosed herewith.

Anilkumar Shimpi

Prepared, Checked and recommended By

Ashish Kataria

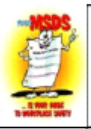
Approved By

Tool Box Talk Form :

Date:	Conducted By :
Project Name:	Location:

Points Discussed :	Job Related Problem Areas/Concerns :
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

election of topic by tick (√):

											
Excavation	Concrete Work Safety	Work With Moving Equipment	Electrical Safety	PPE Matrix	Working At Height	Safety Precautions Of Driving	Work Place Monitoring (Slips And Falls)	Material Safety Data Sheet	Preventive Maintenance Of Vehicles	Material Handling Safety	Flagging Traffic at Work / Flagman Work
(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)

											
Road Barricading And Signage's	Welding Work Safety	Working Near Overhead Lines	Road Maintenance Work	Incident / Accident Reporting	Crane Safety	Lifting & Carrying Safety	Emergency Preparedness	Fire Extinguishers Use	Prevent Oil / Chemical Spillage	5 S System	General First Aid Treatment
(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)	(√)

Attendees:

Sr. No.	Name of Employee	Designation	Sign
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			

Sign of Area Incharge / Supervisor **HSE Officer** **Section Incharge**

HSE Training

Training are given to employees on various aspects of Environment, Safety and Health. Various training modules are prepared and Training are given as per the training calendar prepared by site safety supervisor and corporate HSE Team

List of Training Modules

Sr. no.	Training Topic
1	ROAD WORKER SAFETY DURING WORKING (Hindi Version) DVD DuPont Sustainable Solution
2	LEADER'S GUIDE &POWERPOINT DVD DuPont Sustainable Solution
3	COMMERCIAL DRIVER CERTIFICATION A License To Drive - (Hindi Version) DVD DuPont Sustainable Solution
4	SAFE DRIVING Real, Real – Life - DVD DuPont Sustainable Solution
5	DEFENSIVE DRIVING A Crash Course (Hindi Version) DVD DuPont Sustainable Solution
6	PRO-ACTIVE SAFETY ATTITUDES Looking Out For Number One (Hindi Version) DVD By Coastal safety solutions
7	CONTRACTOR SAFETY General Requirements (Hindi Version) DVD By Coastal safety solutions
8	SAFETY ORIENTATION It Takes a Winning Attitude (Hindi Version) DVD By Coastal safety solutions
9	AWARENESS ON FIRE, FIRE EXTINGUISHERS By CASEFIRE INDUTRIES LTD
10	BREATH OF AIR By VENUS SAFETY &HEALTH PVT.LTD.
11	HSE for Sustainable Growth National Safety Council
12	ESMS:- Standard Operating Procedure ESSMS:- Environment Safety and Social Management System
13	FIRE FIGHTING, RESCUE, SAFETY AND PPE's BY FOREMOST TECHNICO PVT LTD.
14	CONVEYOR SAFETY • General Type • Safe Operating Procedure • Operating Precautions
15	CRANE OPERATING SAFETY PRECAUTIONS
16	5S AWARENESS TRAINING PROGRAMME
17	ELECTRICAL SAFETY AWARENESS TRAINING
18	EMERGENCY RESPONSE PLAN
19	FIRE EXTINGUISHERS AND ITS USE
20	FIRST AID ON ROAD ACCIDENTS
21	AWARENESS ON HIRA
22	TRAINING PROGRAMME ON MSDS
23	SAFETY PRECAUTIONS AT WORK ZONE
24	QHSE MANAGEMENT SYSTEM
25	TRAINING ON MACHINE GAURDING
26	GENERAL SAFETY RULES AND USE OF PPE
27	ENVIRONMENTAL IMPACTS OF CONSTRUCTION ACTIVITY AND SITE CONTROL PRACTICES
28	WORKING AT HEIGHTS
29	SAFE STORAGE AND HANDLING OF GAS CYLINDERS
30	Monsoon Safety Tips
31	IFC HSE Management Systems
32	Environmental Aspects of Construction

IDLH / HIRA and Control Measures

ASHOKA BUILDCON LTD, ASHOKA HOUSE, ASHOKA MARG, ASHOKA NAGAR, NASHIK – 422 011			
Health, Safety and Environment Work Instructions			
Doc. No.: FR/CO/DO/PR/HSE/03	REF.: WI/CO/DO/PR/HSE/27		Pages: 1 of 1
Issue No: 02	Issue Date:1st Aug, 2013	Rev. No.: 00	Revision Date : 1st Aug, 2013
Title : Hazard Identification, Risk Assessment and determining controls (Risk Register)			
SITE:	JNRP		

Sr. No.	Dept/ Area	Activity	Hazard	RISK RATING				Control /Remark /SOP
				S	P	Risk Level	Significance	
1	Store	Diesel Store Yard	Fire / explosion	4	3	12	Moderate	SOP No.33
2	Store	Computer Operating	Electric shock due the current leakage	3	2	6	Low	SOP No. 23
3	Store	Storage of Diesel	Fire explosion	4	3	12	Moderate	SOP No. 43
4	Store	Transporting -Internal Truck &dumper	Trap / engulfment	4	3	12	Moderate	SOP No.30
5	Store	Shuttering stacking	Trap / Struck	2	2	4	Low	
6	Store	Cement Bag Stacking	Trap / Engulfment	3	2	6	Low	
7	Store	Consumable Items Stacking	Trap / engulfment	3	2	6	Low	
8	Store	Waste Oil Separation &Storing	Fire / explosion	4	3	12	Moderate	SOP No.34
9	Store	Office work - Office chair &table	Back pain	3	3	9	Low	SOP No.02
10	Store	Office work - Continuous working on Computer	Visual defect - Radiation Hazard	3	3	9	Low	SOP No. 38
11	Q. C. LAB	Testing, usage of chemicals	Inhalation of gases/ vapors	3	2	6	Low	Use of Chemical Mask while Working
12	Q. C. LAB	Handling of cubes	Fall of objects / Body Injury	3	2	6	Low	SOP No. 02
13	Q. C. LAB	Aggregate Test / Soil Test	Exposure of Dust	3	2	6	Low	Use of Proper PPE (Dust mask, Goggle)
14	Q. C. LAB	Bitumen Test	Exposure of Gas / Dust	3	2	6	Low	Use of Chemical Mask while Working
15	Q. C. LAB	Sample Collection from side	Trap / Struck / Fall hazard	3	2	6	Low	
16	Q. C. LAB	Storage of Chemical	Fall /skin irritation due to Leakage	3	2	6	Low	
17	Q. C. LAB	Working on the CBR Machine	Exposure of High Noise / Vibration	3	2	6	Low	Use of Proper PPE (Ear plug / muff if needs)
18	Q. C. LAB	Heating of Chemical &material on Hot plate	Exposure of Heat	3	2	6	Low	
19	Q. C. LAB	Handling of Benzene &Flammable Chemicals in Laboratory	Fire / Explosion	3	3	9	Low	SOP No.28, Follow MSDS
20	Q. C. LAB	Bitumen dry material	Inhalation / skin irritation	3	2	6	Low	
21	Q. C. LAB	Handling Bitumen Cube	Burn / Injury	2	2	4	Low	
22	HR &Admn.	Office work - Office chair &table	Back pain	3	3	9	Low	SOP No.38
23	HR &Admn.	Office work - Continuous working on Computer	Visual defect - Radiation Hazard	3	3	9	Low	SOP No.38
24	HR &Admn.	Travelling for Out Duty	Accidents	3	3	9	Low	SOP No. 31
25	Canteen	Cooking (Leakage of Gas)	Fire Hazard	3	2	6	Low	Adequate Ventilation
26	P &M	Running of DG Set	Exposure of High Noise	3	3	9	Low	SOP No.38
27	P &M	working at height	Fall Hazard	4	3	12	Moderate	SOP No.5
28	P &M	Electrical maintenance	Slip, Trips &falls, electric shock from electrically operated machines	4	3	12	Moderate	SOP No.24
29	P &M	Maintenance of machines	Minor injury while working with un guarded machines	2	2	4	low	SOP No.10
30	P &M	Vehicle movement (Truck, Dumper, Excavator, Earth movers)	Serious accident while the movement	4	3	12	Moderate	SOP No.16
31	P &M	Material handling Loading / Unloading Process	Falling of material,	4	2	8	low	SOP No.03
32	P &M	Cutting and Welding Operation	FIRE HAZARD	4	3	12	Low	SOP No.23
33	P &M	Cutting and Welding Operation	Electric Shock / gas inhalation/Radiation	3	3	9	Low	SOP No.27
34	I T	Installation of system and maintenance	Electric Shock	3	2	6	Low	
35	I T	Programing and support	Visual defect - Radiation Hazard	3	2	6	Low	
36	I T	Refilling of ink in cartridge	Exposure to Ink	2	2	4	Low	
52	Milling machine	Scratch for exiting road	object from machine	2	2	4	Low	
54	SURVEY	Working along the road site	Struck Hazard	2	3	6	Low	OHSMP No.1
55	SURVEY	Movement on road for Survey	Struck hazard	2	3	6	Low	
56	EQA	Tree Cutting	Falling/ Engulfment	2	2	4	Low	
57	EQA	Wood Transportation	Struck and Trip Hazard	2	2	4	Low	
58	EQA	Excavation	Slippery	2	2	4	Low	SOP NO. 9
59	EQA	Excavation	Cave inn /collapse of sides	2	2	4	Low	Benching or shoring should be provided

60	EQA	Excavation	Radioactive, gases, Vapors	2	2	4	Low	
61	EQA	Concerting	Mechanical	2	2	4	Low	
62	EQA	Loading/unloading of cements	Inhalation of dust particles	3	3	9	Medium	OHSMP No.1
63	EQA	EXCAVATION	Falling of person under the pits, minor injury, injury requiring first aid	2	2	4	Low	SOP NO. 9
64	EQA	Shuttering	Trap hazard	2	2	4	Low	
65	EQA	Centering	Slippery	2	2	4	Low	
66	EQA	Shifting Material	Machine Breakdown	2	2	4	Low	
67	EQA	Concreting	Slippery	2	2	4	Low	
68	EQA	Convency	Firing	2	2	4	Low	
69	EQA	Work at height	Fall of person	2	2	4	Low	safety belt / safety helmet / safety net etc.
70	EQA	Crane installation	Fall down material	3	2	6	Low	
71	EQA	Material handing	Friction / cuts	2	2	4	Low	Hand gloves
72	EQA	scaffolding fixing	Spelt hand	3	2	6	Low	
73	EQA	Diversion	Roads Accidents	3	2	6	Low	Solar Blinker for night .
74	EQA	RE - Wall fixing	Accidents	3	2	6	Low	Fixing for wood box with nut bolts &supports wooden bellies.
75	EQA	H.D.P Pipe work waterline	Fire	2	2	4	Low	Provide fire Extinguisher site security.
76	HOT MIX PLANT	Bitumen unloading	Fire (Due to static Electricity)	2	3	6	Low	
77	HOT MIX PLANT	Bitumen Heating in the tank	Fire (Due to the over heating &leakage))	3	2	6	low	
78	HOT MIX PLANT	Supply of Electrical energy	Short circuit due electrical appliances	4	2	8	Low	
79	HOT MIX PLANT	Inspection &Routine Maintenance	Falling from Height	4	2	8	Low	SOP NO.5
80	HOT MIX PLANT	Loading of Hot mix	Exposure of Heat	4	2	8	Low	
81	LABORATORY	Test Soil Density Gauge	Radiation (NDT Machine)	2	2	4	Low	

Risk Matrix							
Severity	High	4	4	8	12	16	20
		3	3	6	9	12	15
		2	2	4	6	8	10
		1	1	2	3	4	5
	Low	0	1	2	3	4	5
	Low						High
	Probability						

Colour Code	Rating	Risk Level
High	16 to 20	HIGH IMPACT RISK – Must implement extensive risk controls.
Moderate	10 to 15	MODERATE RISK – Conduct formal risk analysis; may require risk controls
Low	< 9	LOW RISK – Some risk controls may still be justified

Environmental Aspect Impact and Control Measures

ASHOKA BUILDCON LTD, ASHOKA HOUSE, ASHOKA MARG, ASHOKA NAGAR, NASHIK – 422 011			
Health, Safety and Environment Work Instructions			
Doc. No.: FR/CO/DO/PR/HSE/01	REF.: WI/CO/DO/PR/HSE/28		Pages : 1 of 1
Issue No: 02	Issue Date:1st Aug, 2013	Rev. No.: 00	Revision Date :
Title : Identification of Environmental Aspects and Impacts and control significant impacts (Environment Aspects register)			
SITE			Road Project

Sr. No	Dept/ Area	Activity	Aspect	Direct / Indirect D/I	Impact		Rating						Significance	Control Measures
						Condition	A	B	C	D	E	F		
							Legislation	Impact	Occurrence	Control	Detection	F=BxCxDxE		
1	HR/ADMIN	House Keeping	Dust Inhalation	I	Air Pollution	N	N	1	2	1	1	2	Low	Chapter No.06 _ Environment Management Manual for RMC Manual Water sprinkling system provided
2	HR/ADMIN	Urinal Facility	Biodegradable waste generation	I	Water Pollution and Land Contamination	AN	N	2	1	1	1	2	Low	SOP No. 44
3	HR/ADMIN	Depositing of Bio-degradable waste	Biodegradable waste generation	D	Contamination of land and water	N	N	1	2	1	1	2	Low	SOP No. 44
4	HR/ADMIN	Usage of Electricity	Usage of Natural Resources	D	Resource wastage	N	N	1	2	1	1	2	Low	Energy Saving Tips
5	EQA	Concreting	Generation of Cement Dust	I	Air Pollution	N	NA	1	2	1	1	2	Low	Chapter No.06 _ Environment Management Manual for RMC Manual Water sprinkling system provided
6	P &M	DG Set Running	Generation of Noise	D	Noise Pollution	N	Y	1	3	2	1	6	HIGH	Chapter N.7, Environment Management Practices / DG Set kept at isolated area, with lock &key
7	P &M	Transportation of vehicles	Generation of Noise	D	Noise Pollution	N	Y	1	3	2	1	6	HIGH	Chapter N.7, Environment Management Practices- Noise Level Management
8	P &M	Drilling / Cutting	Fumes and Sound generation	D	Noise Pollution	AN	NA	1	2	1	1	2	Low	Chapter N.7, Environment Management Practices- Noise Level Management

9	P &M	Welding, Gas Cutting	Fumes and Sound generation	D	Air Pollution	N	NA	1	1	2	1	2	Low	
10	P &M	Preventive Maintenance	Usage of Oil, Diesel	D	Land Contaminatio n	N	YES	2	1	1	2	4	HIGH	Disposal through Authorized Dealer
11	P &M	Running of RMC Plant : Loading of Aggregate to Feeding point by Dozen	Generation of Dust	D	Air Pollution	N	YES	2	1	1	1	2	HIGH	SOP No. 45
12	P &M	Running of RMC Plant : Loading of Aggregate to Feeding point by Dozen	Generation of Noise	D	Noise Pollution	N	YES	2	1	1	1	2	HIGH	
13	P &M	Running of Conveyor Belt Manufacturing of RMC-	Generation of Dust	D	Air Pollution	N	NA	2	1	1	1	2	Low	Chapter No.06 _ Environmen t Manageme nt Manual for RMC Manual the conveyor belt is completely covered)
14	P &M	Diesel Distribution	Leakages, Spillages	D	Land Contaminatio n	AN	N	2	1	1	1	2	Low	
15	P &M	Depositing of Non-bio-degradable waste	Electrical wastages, wire pieces etc.	D	Contaminatio n of land and water	N	N	2	1	1	1	2	Low	
16	P &M	D.G. Set Chimney Operation	Chimney height, air pollution	D	Smoke Emission (Air Pollution)	N	N	1	2	1	1	2	Low	
17	P &M	Maintenance work	Wastage after the maintenance such as Oil soak cotton waste, Engine oil container	D	Land Contaminatio n	N	Y	1	2	1	1	2	Low	Disposal through Authorized Dealer
18	P &M	Maintenance work	Waste Oil generation	D	Land Contaminatio n	N	Y	1	2	1	1	2	Low	Disposal through Authorized Dealer
19	P &M	Transportation of RMC by TM	Dust generation	D	Air Pollution	N	N	1	4	1	2	8	High	EMP. No. 5
20	P &M	TM Cleaning	waste water generation	D	Water pollution	N	Y	1	4	1	2	8	High	As EMP No 1 conventiona l treatment was fail due to this New EMP No.4
21	P &M	Vehicle Movement	Dust generation	D	Air Pollution	N	N	1	4	1	2	8	High	Chapter No.06 _ Environmen t Manageme nt Manual for RMC Manual Water sprinkling system provided
22	RMC-Operation	Manufacturing of RMC-Transportation of Aggregate by Dumper	Generation of Dust	D	Air Pollution	N	NA	2	1	1	1	2	Low	Chapter No.06 _ Environmen t Manageme nt Manual for RMC Manual Water sprinkling system provided

23	RMC-Operation	Manufacturing of RMC-Transportation of Aggregate by conveyor belt	Generation of Dust	D	Air Pollution	N	NA	2	1	1	1	2	Low	Chapter No.06 _ Environment Management Manual for RMC Manual the conveyor belt is completely covered)
24	RMC-Operation	Manufacturing of RMC - Feeding of cement	Generation of Dust	D	Air Pollution	N	NA	2	1	1	1	2	Low	Chapter No.06 _ Environment Management Manual for RMC Manual Water sprinkling system provided
25	RMC-Operation	Manufacturing of RMC - Washing of RMC Plant	Generation of waste water	D	Water Pollution	N	Y	2	2	1	1	4	Low	EMP. No. 1
26	RMC-Operation	Use of Admixtures	Generation of Empty barrels of Admixture	D	Land Contamination	N	Y	1	2	1	1	2	Low	Sending to Authorized Dealer
27	RMC-Operation	Use of Cement Bags	Generation of waste cement bags	D	Land Contamination	N	N	1	2	1	1	2	Low	Clean it is ETP Area, Reuse for store/ sending it to authorized person
28	ROAD MAINTENANCE	Repair Work of Block &Panel Crack	Dust Inhalation	I	Air Pollution	AN	N	2	1	1	1	2	Low	
29	ROAD MAINTENANCE	Concreting	Damage of top Soil	D	Land Contamination	N	N	2	1	1	1	2	Low	
30	STORE	Storage of Chemicals	Leakages, Spillages	I	Land Pollution	AN	YES	3	1	1	1	3	Low	Chapter No. 10 _Environment Management Manual for RMC Manual (Selling to Authorized vender)
31	STORE	Storage of Cement Bags	Generation of Dust	D	Air Pollution	N	YES	2	1	1	1	2	Low	
32	STORE	Transporting	Dust generation	D	Air Pollution	AN	NA	2	1	1	1	2	Low	Chapter No.06 _ Environment Management Manual for RMC Manual (Vehicle Movement)
33	STORE	Transporting	Use of Natural Resource	I	Air/ Natural Resource	N	NA	1	1	1	1	1	Low	
34	STORE	Storage of Diesel	Spillage of diesel	I	Air, Land	N	NA	1	2	1	1	2	Low	Chapter No. 10 _Environment Management Manual for RMC Manual (Selling to Authorized vender)
35	STORE	Cement Loading/Unloading	Generation of Dust	I	Air, Land	N	NA	1	2	2	1	4	Low	

36	STORE	Diesel Distribution	Leakages, Spillages	D	Land Contamination	AN	NA	1	2	1	1	2	Low	
37	STORE	Storage of LPG cylinders	Leakages, Spillages	D	Air Pollution	E	NA	2	1	1	1	2	Low	
38	STORE	Diesel storage	storage	D	Plant &Machinery.	N	Y	2	1	1	1	2	Low	Chapter No. 10 _Environment Management Manual for RMC Manual
39	STORE	Usage of paper	Improper &unplanned paper consumption	D	Resource wastage	N	N	1	1	1	1	1	Low	
40	STORE	Usage of Electricity	Consumption of Energy	D	Resource wastage	N	N	1	1	2	1	2	Low	

Memorandum :

ASHOKA CONCESSIONS LTD, ASHOKA HOUSE, ASHOKA MARG,ASHOKA NAGAR, NASHIK- 422011			ASHOKA
Health, Safety and Environment Work Instructions			
Doc. No.: ABL/FR/CO/DO/PR/HSE/12	REF.: WI/CO/DO/PR/HSE/23		Pages: Page 1 of 1
Issue No: 01	Issue Date: 4th Jan, 2014	Rev. No.: 00	Revision Date : 4th Jan, 2014
Title : Violation Letter			

MEMORANDUM

PROJECT: - Memo. No:

Department:

CONTRACTOR/A.B.L.: Date: Time: Ch. No:

NAME OF EMPLOYEE:

DESIGNATION/TRADE:

MEMORANDUM NO: (A) 1st [ ] (B) 2nd [ ] (C) 3rd [ ] (D) 4th [ ]

TYPE OF VIOLATION (To be Written by HSE Officer):-
(HSE Officer shall attach the evidence of violence such as photograph and IOC issued)

- **Not using the following PPE on duty time.** (Use {√} mark as proper violence option below.)

1) SAFETY JACKET. ☐ 2) SAFETY HELMET. ☐ 3) NOSE MASK. ☐ 4) SAFETY SHOES. ☐
5) HAND GLOVES. ☐ 6) GOGGLES. ☐ 7) EAR PLUG. ☐
8) RUBBER HANDGLOVES ☐
9) WELDING SCREEN. ☐ 10) SAFETY BELT. ☐ 11) GUMBOOT. ☐

- **Any other violence :-**

- **Department Head action against the violator:-**

Sign of employee Sign. Of DH/ Supervisor Sign of HSE Officer Sign of Project In charge

HSE & S and HR & Admin. Department

Head HSE & S Comments:-

DGM (HR & Admin.) Comments:-

IMS Director Comments:-

1st Violation – Warning and information for employee personal file.
2nd Violation – Counseling by project in charge/safety committee.
3rd Violation – Will be treated as monetary loss one day.
4th Violation – Will be treated as suspension letter or final counseling by IMS director.

I. It should be against the Risk Register, Environmental Impact Register, Risk is IDLH (immediate danger to life and health) and legal requirement.
II. Site HSE Officer should write a report and after comments from DH and project in charge should sent to head HSE & S and DGM - HR & Admin.

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Management Representative	
Issued By	

Incident Reporting :

ASHOKA BUILDCON LTD, ASHOKA HOUSE, ASHOKA MARG,ASHOKA NAGAR, NASHIK –422 011			ASHOKA
Health, Safety and Environment Work Instructions			
Doc. No.: FR/CO/DO/PR/HSE/08	REF.: WI/CO/DO/PR/HSE/32		Pages. 1 of 1
Issue No: 02	Issue Date:1st Aug, 2013	Rev. No.: 00	Revision Date : 1st Aug, 2013
Title: Incident / Accident Investigation Report			

"Incident " Report

Name of Project:-		Report No.:
Location:		Date:

Description of the Incident /Accident /Near miss: (Explain what happened -Attach Incident photographs and Use attachment such as sketch if necessary)

Reported By:	Signature:	Time of incident:		Date:

Estimate of Loss Potential (What injuries / losses might have occurred.)

Injuries: -

Property / Equipment Damage:

Environmental Damage: --

Others: -

IMMEDIATE CAUSES | **BASIC CAUSES**

1. SUBSTANDARD ACTS/PRACTICES		2. SUBSTANDARD CONDITIONS		3. PERSONAL FACTORS	
A. Operating equipment without authority		A. Inadequate guards or barriers		A. Capability	
B. Failure to warn / secure / barricading		B. Defective tools, equipment, substances		B. Lack of Knowledge	
C. Operating / working at improper speed		C. Inadequate tools, equipment, substances		C. Lack of Skill	
D. Defeating / removing a safety device		D. Poor access		D. Stress	
E. Using defective equipment		E. Inadequate warning system or notice		E. Motivation	
F. Using equipment improperly		F. Fire and explosion hazards		**4. JOB/SYSTEM FACTORS**	
G. Failure to use PPE properly		G. Substandard housekeeping		A. Inadequate Leadership	
H. Improper loading or positioning		H. Hazardous gases, dust, fumes		B. Inadequate Engineering	
I. Improper lifting/loading/Material Handling		I. Excessive noise		C. Purchasing	
J. Improper replacement/position for task		J. Radiation exposures / Extrem Tempeture		D. Inadequate Maintenance	
K. Servicing equipment in operation		K. Inadequate ventilation / illumination		E. Tools & Equipment	
L. Horseplay		L. Weather conditions		F. Procedures & Practices	
M. Drinkings or drugs		M. Other (specify) _____		G. Wear & Tear	
N. Failure to Comply with PTW				H. Abuse or Misuse	
O. Others(specify)				I. Inadequate Supervision	

Action/s Taken:

Name of Department Head:-		Signature:	Date /Time:	
Name of Safety Officer:-		Signature:	Date /Time:	

Suggested Further Actions (where appropriate) - To prevent recurrence

HSE committee Secretary:	Signature:	Date:

Comments/Recommendations:

Project Incharge :	Signature:	Date:

Distribution: **Original Copy (Signed)** -with Project site, Scan colour copy:- Head HSE&S, Insurance Head, DGM- HR& Admin

Management Representative	
Issued By	

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Ashoka Concessions Ltd,

Ashoka House, Ashoka Marg Nashik

Format -ACL /FR/HSE/07

National Highways Authority of India

National Highway No : 222. | Month : Oct-2014

Sr. No.	Date	Time of Accident pm /am	A	B	C	D	E	F	G	H	Vehicle Responsible	No. of affected persons				Nos. of animals killed if any	Help provided by ambulance / private vehicle	Remarks
			Accident Location	Nature of Accident	Classification of accident	Causes	Road features	Road conditions	Intersection type	Weather conditions		Fatal	Grievous	Minor	Non injured			
1																		
2																		
3																		
4																		
5																		

A : Urban/Rural and details of surrounding land use.

B : 1) Overturning 2) Head on collision 3) Rear end collision 4) Collision brush side swift 5) Right turn collision 6) Skidding 7) Others (Pl. Specific)

C : 1) Fatal 2) Grievous injury 3) Minor injured 4) Non injury.

D : 1) Drunken 2) Overspeeding 3) Vehicle out of control 4) Fault of driver of motor vehicle/ driver of other vehicle 5) Defect in mechanical condition of motor vehicle.

E : 1) Single lane; 2) Two Lane; 3) Three Lane or more without central divider (median); 4) four lanes or more with central divider.

F : 1) Straight road 2) Slight curve 3) Sharp curve 4) Flat road 5) Gentle incline 6) Steep incline 7) Hump & dip.

G : 1) T Junction 2) Y Junction 3) Four arm junction 4) Staggered junction 5) Junction with more than four arms 6) Round about junction 7) Manned rail crossing 8) Unmanned rail crossing.

H : 1) Fog 2) Mist/fog 3) Cloudy 4) Light Rain 5) Heavy Rain 6) Hail or sleet 7) Snow and strong wind 8) Dust strom 9) Very Hot 10) Other extraordinary weather condition.

Awards

Monthly Safety Awards

Objective-

1. To promote improvements in workplace safety.
2. 100% incident free zone.
3. To create awareness in employees.
4. To change the attitudes and behaviours of employees.
5. To enhance motivation of employees.

Criteria for the monthly safety award to the Employee:		Ranking	
1	100% use of PPE's		
2	Implementation of site safety measures		
3	Positive Attitude- Employee must demonstrate a positive attitude about safety, Health & Environment.		
4	Leadership/Initiative- Employee must possess leadership/initiative, employee actively raises and closed safety issues.		
5	Punctuality- Employee must be in good standing with maintaining Safety Health & Environment policy on time and attendance.		
6	Job Performance- Employee must be fulfil the job requirement.		
7	Promotion of Safety – Innovative ideas created by employee to improve safety, Health & Environment.		
8	Relationships- To maintain good relationship with supervisors, co-workers etc.		
9	Performance- Effectiveness and implementation on safety , Health & Environment & motivate to other employees for safety.		
10	Authorise- Employee should be authorised for the particular work. (eg. Driver should be license holder).		
11	Contribute to safety in the work area- Employee should be participate in safety week or any safety programmes.		
12	Communication- Employee recognizes a recurring safety hazard at work area, and communicates the hazard to their supervisor, Safety officer and others, and takes action to properly secure the area from the hazard.		
13	Reporting- Employee must be report about unsafe act, unsafe condition & identification of Hazard/risk to supervisor, safety officer		
14	Near miss reporting		
15	Employee must be non violating of HSE practices.		

Total Marks obtained

Percentage for wining Safety Awards.

60 % to 70% - Employee failed for award
70% to 75% - Employee nominate for award
75 % to 85 % - Good Employee
85 % to 90% - Best Employee
90% and above - Excellent Employee

HSE Budget :

HSE BUDGET FOR O&M PHASE

Sr.No.	HSE Budget	ccount Categor	
		CAPITAL (C)/ RECURRING (R)	Budget Provided for 2014-2015
1	**Safety(A/C Code : xyz)**		
a	Personal Protective Equipment for considering 100 Employee (Staff + labour) if employee strength increase budget will be increases (PPE- Shoes, Helmet, Reflective jacket, Dust Mask @1300	C	130,000.00
b	Signage's & Boards, with Paints (MS-Metal for Diversions (4 feet * 5 feet) at @ of 5000 for One Diversion (Calculated for 20 Boards)	C	100,000.00
c	Barricading for Road (Temporary & Permanent) Bamboo, Ribbon and Cement Blocks)	R	50,000.00
d	Expenditure in connection with External Road Safety Audit / ISO Certification Audit once in year to improve safety systems, **Only Fee is calculated** (Transporation & Lodging cost is not involoved in this)	R	100,000.00
e	Safety promotional activities such as celebration of Road Safety week, National Safety Day, Environment Day	R	100,000.00
f	Expenditure in connection with usage of emergency External vehicle or ambulance other than ABL /EPC	R	50,000.00
g	Fire-Fighting Facility & maintenance (25 Number of Fire extinguishers) @ 2700	C	67,500.00
	Safety - **Sub Total (1)**		**597,500.00**
2	**Environmental Activities A/C Code : .....xx ...)**		
a	Environmental Monitoring Noise, Air monitoring, Stack Monitoring by Third party @ Rs.17,000 per sample (Calculated for Two Samples for one quarter)	R	34,000.00
b	Fertilizer, Manure for median and avenue plantation	R	30,000.00
c	Maintenace of Strom water drain, Waterwrays of Bridges, Underpasses and culverts during monsoon	R	250,000.00
	Environment --Sub Total (2)		**314,000.00**
3	**Health Hygiene (A/C Code : 00 00)**		
a	Water Purifare One / Toll Plaza	C	17,500.00

HSE BUDGET FOR O&M PHASE

Sr.No.	HSE Budget	ccount Categor	
		CAPITAL (C)/ RECURRING (R)	Budget Provided for 2014-2015
b	Medical Check up (pre & post);100 employee (staff & labour) @ Rs.850	R	85,000.00
	Mosquito Repellent, Snake Repellent or Pest Control / DDT - Toll Plaza, @ 5000 /per visit (Calculated for 4 Times)	R	20,000.00
c	Visiting Doctor @20000/moth	R	240,000.00
	Health Hygiene -Sub Total -03		**345,000.00**
4	**HR (Award & Training)**		
	1. Rewards		
a	1.1 Project Reward Best Managed Toll Plaza (once in year - @ Rs 250 / employee (for 100 Employee) + Trophy	R	30,000.00
b	1.2 Individual Reward Best Employee (One Award / Quaterly - 1st. award-1000)	R	4,000.00
c	**2. Training**		
	Safety Training	R	50,000.00
	Environmental Training	R	25,000.00
	HR -----Sub Total -04		**109,000.00**
	Grand Total (1+ 2+ 3+4)		**1,365,500.00**

Road Operation and Maintence Phas		
HSE Budget		**I**
		Budget Provided for 14-15
Health Hygiene		**345,000.00**
Safety		**597,500.00**
Environment		**314,000.00**
HR (Award & Training)		**109,000.00**
Budget Cost		**1,365,500.00**
Contingency Budget 5% of Total Budget		**68,275.00**
Total Overall Budget		**1,433,775.00**

Chapter – X : Emergency Response Plan / District Disaster Management Plan

The Emergency Response plan is necessary as a moral and legal obligation of management to protect the safety people, property and environment. The objective of this "Emergency Response Plan" is to provide the organizational guidelines and directions to ensure fast and effective response in any emergency situation in order to save life, property and environment.

At any time, it may be necessary to minimize harm to personal, the environment and business operations. Please remember that saving life and property is only possible if the emergency response procedure is effectively followed. This plan shall be followed in all cases of emergency. Therefore, it is imperative that every employee must be familiar and knowledgeable of what to do in case of emergency.

We have formed our Emergency Response Team in each Base Camp to combat with the Emergency situations.

EMERGENCY PROCEDURES

REMOVE

Anyone in immediate danger

ONLY IF SAFE TO DO SO!

ALERT

Others in immediate area
Fire Wardens
Activate Whistle, Air Horn, Bell, Siren etc. **3 times for 30 sec.**
Other Tenants and Adjacent Neighbours

RING THE EMERGENCY SERVICES

☎ Fire Brigade, Police or Ambulance.

- *Advise Site:*
- *Advise address:*
- *Advise nearest cross street:*
- *Provide your Name & phone number*
- *Provide details of incident*

DO NOT HANG UP UNTIL THE ADDRESS HAS BEEN REPEATED

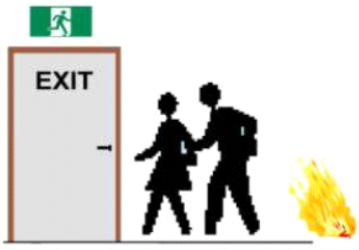
CONTAIN THE FIRE

Use correct Fire Extinguisher or Fire Hose Reel
Turn OFF Electricity, Air Conditioning
Close doors and windows to contain fire

ALL IF ONLY IF SAFE TO DO SO!

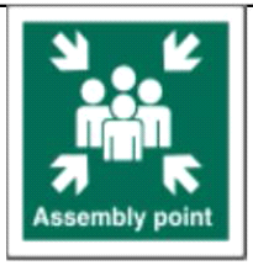
EVACUATE

Proceed to the nearest exit.
Gather together at Exit, if safe to do so, *then*
Evacuate via exit and proceed to the Assembly Area



ASSEMBLY AREA

Conduct Head count, Roll call.
Report to the Emergency Services -Advise missing, provide details of incident.
Do not leave the Emergency Assembly Area or attempt to re-enter the building until given the "All Clear" by the Emergency Services.
Long siren of 1 minute.



First Aid Box

First Aid box
ManankhedaAmbulance
PipliyamandiAmbulance
NayagaonAmbulance
Route Patrol Vehicle-1
Route Patrol Vehicle-2

Fire Points Summary

Fire Extinguisher-3 kg	Fire Extinguisher-5 kg	Fire Extinguisher-25 KG	Oxygen Cylinder
Route Patrol Vehicle-1	Route Patrol Vehicle-1	ManankhedaToll Plaza	Manankheda Ambulance
Route Patrol Vehicle-2	Route Patrol Vehicle-2	PipliyamandiToll Plaza	PipliyamandiAmbulance
	Manankheda Toll Plaza	NayagaonToll Plaza	NayagaonAmbulance
	Pipliyamandi Toll Plaza		
	Nayagaon Toll Plaza		
	Mandsaur Office		

Madhya Pradesh Disaster Management Plan:

Natural Calamity	Possibilities	Disaster Contact Numbers	Action to be taken
Flood	Yes	**STATE DISASTER MANAGEMENT AUTHORITY Telefax:- (0755) – 2770248** **District Collector** **Mandsaur - 07422 235260** **Neemuch - 07423 223063**	**WHEN INSIDE OFFICE OR HOME** If ordered to evacuate or if rising water is threatening, leave immediately and get to higher ground! **IF CAUGHT OUTDOORS:** – Go to higher ground immediately! Avoid small rivers or streams, low spots, canyons, dry riverbeds, etc. – Do not try to walk through flowing water more than ankle deep! – Do not allow children to play around streams, drainage ditches or viaducts, storm drains, or other flooded areas! **IF IN A VEHICLE:** DO NOT DRIVE THROUGH FLOODED AREAS! Even if it looks shallow enough to cross. The large majority of deaths due to flash flooding are due to people driving through flooded areas. Water only one foot deep can displace 1500 Kgs ! Two feet of water can EASILY carry most automobiles! Roadways concealed by flood waters may not be intact,
Earth-quake	Yes		**Protection during an earthquake:** • Know in advance where the safest spots are at Office, at work or at school, so you can go to one of these places as soon as you feel a quake. • Indoors, the safest places are beneath sturdy furniture, beside a solid inside wall, or inside an inner hallway. • Avoid windows. Stay away from heavy objects that can fall from ceilings, shelves and cupboards, or top-heavy furniture that could tip over. Never use 30 an elevator. • If you're outdoors, stay in the open, away from trees, buildings and power lines. • You could be driving when a quake hits. Stop your car away from overpasses, bridges and power lines and stay inside your vehicle. • Once you're in a safe place protect your head and hold on until all motion stops. Lock your wheels if in a wheelchair. • All members of the family – especially children – should know what to do when an earthquake hits. A practice drill once a year is an excellent safety measure.
Cyclone	Yes		**During the Cyclone:** - Continue to listen to your battery-powered radio for all warnings and advice - Stay safe inside and keep yourself and your family calm - Shelter in the strongest part of the building, this is often the bathroom, toilet or hallway - Mattresses and blankets may protect you - Beware of the calm eye / center of the cyclone- **stay inside!**
Lightning	Yes		**WHEN INSIDE:** Avoid using the telephone (except for emergencies) or other Electrical appliances. Do not take a bath or shower. **IF CAUGHT OUTDOORS:** Go to a safe shelter immediately such as inside a sturdy building. A hard top automobile with the windows up can also offer fair protection. If you are boating or swimming, get out of the water immediately and move to a safe shelter away from the water. If you are in a wooded area, seek shelter under a thick growth of relatively small trees.

Chapter – XI : Community Engagement Plan

During the construction phase & operation phase, Project affected family/person (PAF/PAP) may get employment in EPC / SPV as per project requirement. At Road Development Projects there is always requirement of manpower and labours during the construction and operation phase, where PAP can get employment. Whenever there is manpower requirement, the company gives the priority to Local community / PAP / PAF.

Company /EPC / SPVs will make a provision of employment for local community and PAP as per capabilities, education and experience, some trades are as follows:

Security	Cook	Machine Helper
Flagmen	Office Boy/Peon	Skilled Labour
Gardener	Driver/Helper	Unskilled Labour

Chapter – XII : Bio-Diversity

The organization has implemented the directives and guidelines stipulated in environment clearness issued by MoEF and State Pollution Control Board, Govt. of Odisha. During the construction phase, various adverse impacts on the ecosystem are anticipated in the surrounding areas of the project in terms of increased noise levels, land vibrations during tunneling and blasting, release of air and water pollutants, etc. Mammals are the most vulnerable group affected by these negative impacts, which affect their movement, behavior and breeding habit. To avoid and minimize the negative impacts of these activities, we do follow strict guidelines as below:

- Strict instructions (warnings) have been imposed on the workers at project sites to ensure that they do not harvest any species and/ or produce from the forests and cause any danger or harm to the animals and birds at project territory and forest section.

- Minimum levels of noise during construction activities are maintained.

- The fuel wood to the labours are not provided from tree cutting meant for the purpose and/or the provision made for the supply of the free/subsidized kerosene/LPG from the depots being set up for this purpose to avoid forest degradation and destruction of animal habitats.

- To avoid the deterioration of water quality and release of pollutants into the river, proper sanitation facilities and garbage disposal bins have been provided to the workers camp areas.

- The interference of human population would be kept to a minimum in the adjacent forested areas and no labour camps have been set up in the vicinity of forests and wilderness areas.

- We strictly adhere to the rules and regulations of the Wildlife (Protection) Act (1972), Biological Diversity Act (2002), Forest (Conservation) Act (1980), Environment (Protection) Act (1986) and guidelines of State Biodiversity Conservation Strategy Action Plans for the preservation of habitats and protection of wild animals.
- In case any wildlife found having taken up a refugee in any space in project territory, all construction labours have been instructed to leave that place immediately, trained personnel from Department of Forests and Wildlife Warden's office and approved experts shall be intimated for rescue of such wildlife. Any construction activities to be taken up only after any trapped wildlife finds its safe escape.
- It has been ensured that the noise levels are kept as minimum as possible in the project area, particularly where human and wildlife habitats are located. For the strict blasting regime, i.e. controlled blasting under constant and strict surveillance

are being followed:

Some of the implemented methodologies for reduction and mitigation of noise so as to cause as little disturbance to the animals as possible are given below:

- Only well maintained/new equipment that produces lesser noise has been installed at the work sites.
- The best way to control the noise is at source. Certain equipment that needs to be placed permanently at one place like generators, etc. are housed in enclosed structures to cut off the noise.
- The heavy equipments, like rotating or impacting machines, are mounted on anti-vibration mountings.
- Wherever combustion engines are required, they are fitted with silencers.
- There are provisions of wind barrier around three sides of storage piles. All storage piles are wetted and covered with plastic sheets. The grading operation remains suspended when speed of wind is very high.

Chapter – XIII : Cultural Heritage

In this project corridor, there is neither any Tribal Community nor Cultural Heritage in the immediate vicinity of the RoW (up to 500 Mtrs).

Chapter – XIV : Checklist of Report Submitted to HO

The detail descriptions of the Reports submitted to HO as per the Frequency are displayed below:

ACL Formats:

Sr. No.	ACL Format No	Detail Description	Frequency
01.	*ACL/FR/HSE/01*	Environment &Social Management Plan	Quarterly
02.	*ACL/FR/HSE/02*	Land Acquisition Summary Report	Quarterly
03.	*ACL/FR/HSE/03*	Hot Spot Details And Issue Report	Quarterly
04.	*ACL/FR/HSE/04*	Legal Matrix Report	Monthly
05.	*ACL/FR/HSE/05*	Legal Compliance	Quarterly
06.	*ACL/FR/HSE/06*	Project Water Consumption Report	Quarterly
07.	*ACL/FR/HSE/07*	Road Accident Summary Report	Monthly
08.	*ACL/FR/HSE/08*	ACL – HSE Monthly Report	Monthly
09.	*ACL/FR/HSE/09*	Incident Report Format	As and when happen immediate within in 24 hrs
10.	*ACL/FR/HSE/10*	Tree Plantation	Quarterly
11.	*ACL/FR/HSE/11*	NCR-HSE Complaint Summary Report	Monthly
12	*ACL/FR/HSE/12*	Emergency Report (Mock Drill Report)	Quarterly
13.	*ACL/FR/HSE/13*	Road Project GHG Tool	Monthly
14.	*ACL/FR/HSE/14*	Complaint Register	Monthly

HSE Work Instruction Report Formats :

Sr. No.	Work Instruction Format No	Detail Description	Frequency
01	***FR/CO/DO/PR/HSE/01***	Environment Aspects &Impacts Register	Monthly
02	***FR/CO/DO/PR/HSE/02***	Hazard Identification, Risk Assessment &Determining Controls (Risk Register)	Monthly
03	***FR/CO/DO/PR/HSE/03***	Legal Matrix Register	Monthly
04	***FR/CO/DO/PR/HSE/04***	Waste Management Register	Monthly
05	***FR/CO/DO/PR/HSE/05***	Incident/Accident Investigation Report	As and when happen immediate within in 24 Hrs
06	***FR/CO/DO/PR/HSE/06***	Monthly HSE Report	Monthly
07	***FR/CO/DO/PR/HSE/07***	HSE &S Monthly Meeting Agenda – HSE – MOM Format	Monthly

ISO Certificate

CERTIFICATE OF REGISTRATION

THIS IS TO CERTIFY THAT THE
INTERGRATED MANAGEMENT SYSTEMS OF

Ashoka Buildcon Ltd.

Head Office:
Ashoka House, Ashoka Marg,
Nashik Maharashtra 422 011
INDIA

Has been assessed and registered as complying with the requirements of the International Standards shown below for the following Goods and Services: -

Design, Development, Construction of Roads, Bridges, Industrial Buildings , Residential & Commercial Complexes, Production & Sale of Ready-Mix Concrete, Operations & Maintenance of Road Infrastructure Projects, Power Infrastructure Projects.

ISO 9001:2008

ISO 14001:2004

OHSAS 18001:2007

Registration No:	QMS/R9/0014	EMS/R9/0014	OHS/R9/0014
Original Registration Date	10-Dec-2009	22-Oct-2007	15-Jul-2008
Recertification Date:	15-Oct-2013	15-Oct-2013	15-Oct-2013
Expiry Date:	15-Oct-2016	15-Oct-2016	15-Oct-2016

Tony Wilde
Group Chairman
ISC Pty Ltd, A.B.N. 31 245 846 984

ISC INTERNATIONAL STANDARDS CERTIFICATIONS

JAS-ANZ
www.jas-anz.org/register

ISC Pty Ltd., Unit 2/10 Gladstone Road, Castle Hill NSW 2154, Sydney, Australia.

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