



**Ashoka Sambalpur Bargarh Tollway Ltd.
(ASBTL)**

Environment, Social and Safety Management Plan



(ESSMP)

as per IFC Guideline and SBIM requirement

| | | | | |
|----------------------------|---|---|--|-------------------------|
| |  |  |  | |
| Rev.02 | Prepared by | Reviewed and Recommended By | Approved by | Approved by |
| Date 15.04.2016 | B.Mishra Jr. HSE Officer | Anil Shimpi Head-HSE | Mr. D. Sonawane Toll Manager | Project Director |

| | | | | |
|---------------------|-----------------------------|-------------------------|---|------------------|
| Date 18 Feb-2015 | Pankaj Hinge HSE Officer | Anil Shimpi Head-HSE | Pradeep Nayyar Sr.General Manager | Project Director |
|---------------------|-----------------------------|-------------------------|---|------------------|

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Chapter – I: Brief Introduction of Project

National Highways Authority of India (NHAI) has been entrusted with implementation of developing projects for selected stretches / corridors either through public - private partnership (PPP) basis or its own budgetary sources or with loans from ADB or World Bank etc. Accordingly, National Highways Authority of India (NHAI) has taken-up project preparation for four/six lanning of those selected stretches / corridors of existing National Highways passing through various States of the Country. The Sambalpur-Bargarh- Orissa / Chattisgarh Border Section of NH-6 (Total Length 88 km) is one among such stretches selected in the State of Orissa under NHDP Phase III Programme (Package No: NHDP-III/DL5/08).

The NH-6, which is having a total length of 1949 km connecting Kolkata in West Bengal and Hajira in Gujarat, is an arterial road link in the States of West Bengal, Orissa, Chhattisgarh, Maharashtra, Bihar and Gujarat. NH-6, connecting NH-5 & NH-8 is having a total length of 1949 kms and starting at Kolkata is connecting Kharagpur, Baharagora (in West Bengal), Kendujhargarh, Deogarh, Sambalpur, Bargarh (in Orissa), Raipur, Bhilai, Durg and Rajnandgaon (in Chhattisgarh), Bhandara, Nagpur, Amravati, Akola Jalagaon and Dhule (in Maharashtra) and terminating at Hazira in Gujarat. This NH-6 passing through West Bengal (Length161km), Orissa (Length 462km) and Chhattisgarh (Length 314km), Maharashtra (813km), Bihar (22 Km) and Gujarat (177km) is an important National Highway. The project area is characterized primarily by barren land, agriculture crop land, and a small stretch of 1.85 KM passes through reserved forest from (km 5.350-7.200).

The Contract Features are as follows:

| Sr. No. | Particulars | Description |
|---------|---|---|
| 1 | Name of Contract | Four Lanning of Sambalpur - Bargarh - Orissa / Chhattisgarh border section of NH-6 from Km.0.00 to Km.88.00 in the state of Orissa to be executed as BOT (TOLL) on DBFOT pattern under NHDP phase-III |
| 2 | Authority | National Highways Authority of India |
| 3 | Independent Consultant | Intercontinental Consultants and Technocrats Pvt. Ltd. In association with Theme Engineering Service Pvt. Ltd., Pune |
| 4 | Concessionaire | Ashoka Sambalpur Bargarh Tollway Limited |
| 5 | EPC Contractor | Ashoka Buildcon Limited |
| 6 | Appointed Date | 14 November 2011 |
| 7 | Concession / Construction period of Project | Concession Period is 30 years, including a Construction Period of 30 Months |
| 8 | Completion date of | 11 May 2014 (910 day) |

| | | |
|--|---------------------|--|
| | Construction Period | |
|--|---------------------|--|

The project facilities include the following:

| Sr. No. | Particulars | Description |
|---------|---------------------------|--|
| 1 | Length of Project | 88.00 Kms [2 x (8.75+2)] |
| 2 | Length of Service Road | 27.80 Kms |
| 3 | Major Bridge | 06 Nos. |
| 4 | ROB's | 03 Nos. |
| 5 | Minor Bridge | 13 Nos. |
| 6 | Vehicular Underpass | 04 Nos. |
| 7 | Pedestrian Underpass | 04 Nos. |
| 8 | Culverts | 113 Nos. (Box Culverts = 80 Nos) Pipe Culverts = 33 Nos) |
| 9 | Toll Plaza | 01 No. |
| 10 | Truck Lay bays | 03 Nos. |
| 11 | Bus bays and Bus shelters | 60 Nos. |
| 12 | Rest Area | 01 No. |

Chapter – II : Policy and Objective



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 and occupational health and safety management system performance.
2. Commitment to prevention of pollution, injuries 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.

Chairman

Date: 1st August 2013

This Policy will be implemented by the ASBTL 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



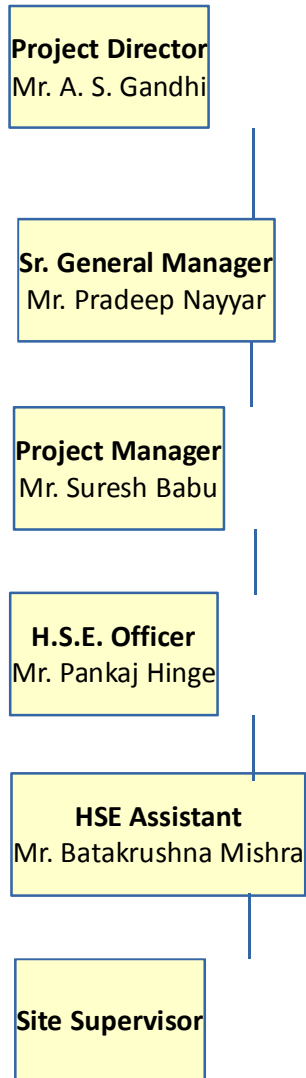
Quality, Health, Safety and Environmental Objectives:

- 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.
- Minimizing Air, Land and Water Pollution and preventing injuries and ill health.

Ashoka Buildcon Limited
Ashoka House, Ashoka Marg, Nashik -422 001, 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. Mockdrill 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 minimise 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 | <i>Monthly</i> |
| 02. | Canteen Committee | Project In-Charge | Base Camp HR In-Charge | <i>Monthly</i> |
| 03. | Grievance Committee | Project In-Charge | Site HR Office/Liaisoning Officer | <i>Quarterly</i> |
| 04. | Emergency Response Team | Camp In-Charge/Project Manager | HSE Officer/HSE Supervisor | <i>Quarterly</i> |

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 ASBTL PROJECT

CHAIRMAN : Mr. P. Nayyar (Sr. G.M.)

MEMBERS : Mr. Suresh Babu (EQA Dept.), Mr. Vipin Kohli (P&M dept),
Mr. Shrikant Malao (EQA Dept), Mr. B. Swain (QA/QC Dept),
Mr. Umakant Barik (EQA Dept), Mr. S. Samantray (QA/QC Dept),
Mr. Ajay Saraf (HR Dept.)

SECRETARY : Mr. Pankaj Hinge (HSE-Officer)

CANTEEN COMMITTEE ASBTL PROJECT

CHAIRMAN : Mr. Pradeep Nayyar (Sr. G. M.)

MEMBERS : Mr. Suresh Babu (EQA Dept.), Mr. Vipin Kohli (P&M dept),
Mr. Shrikant Malao (EQA Dept), Mr. B. Swain (Stores Dept),
Mr. Gopal Shah (Stores Dept.)

SECRETARY : Mr. Ajay Saraf (HR Dept.)

GRIEVANCE COMMITTEE ASBTL PROJECT

CHAIRMAN : Mr. P. Nayyar (Sr. G.M.)

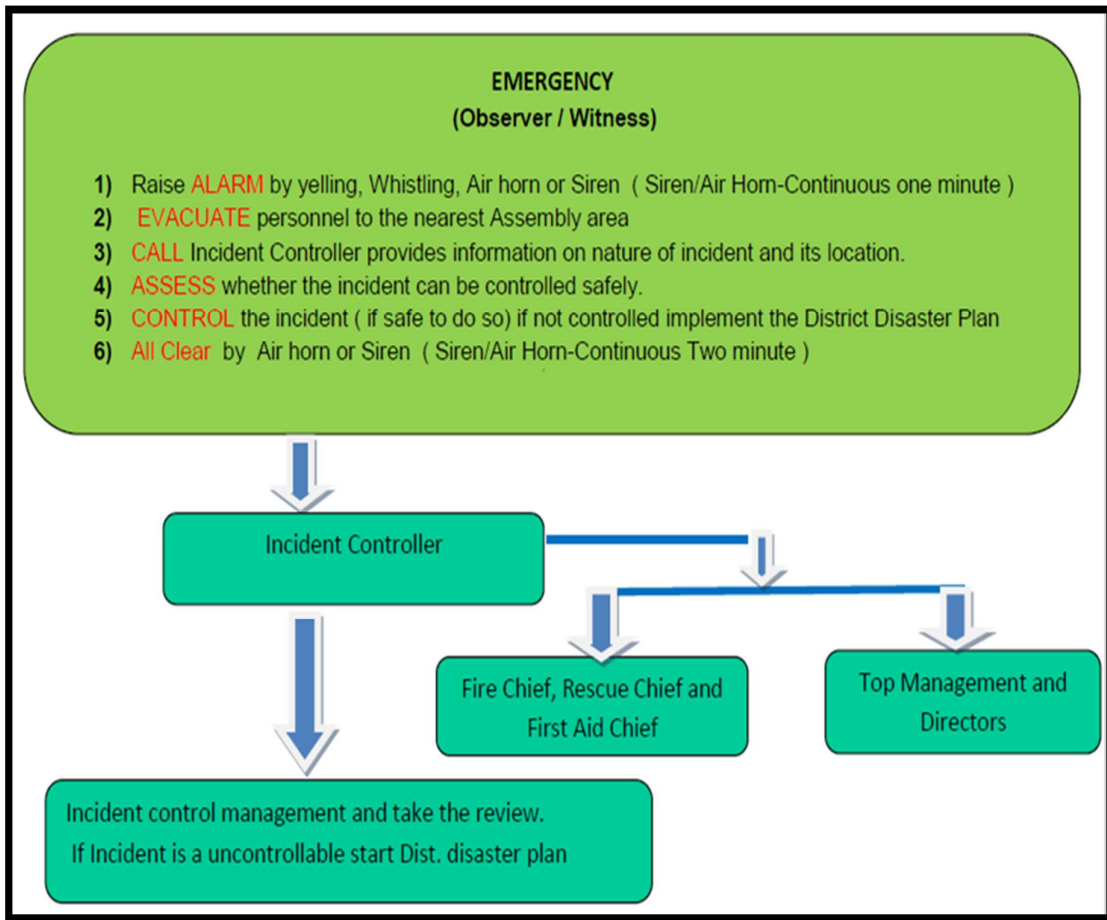
MEMBERS : Mr. Suresh Babu (EQA Dept.), Mr. Vipin Kohli (P&M dept),
Mr. Shrikant Malao (EQA Dept), Mr. B. Swain (QA/QC Dept),
Mr. Umakant Barik, Mr. S. Samantray (QA/QC Dept),

SECRETARY : Mr. Ajay Saraf (HR Dept.)

Emergency Preparedness 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. The Flowchart and the Team Details are displayed in the following pages:



| CAMP – 14 (KANTAPALLI) | | |
|---|---|--|
| Incident Controller (Mr. Suresh Babu Ravuri) Mob. No: 7381087746 | | |
| Fire Fighting Team Leader Mr. Debi Prasad Pattnaik Mob. No: 7381087784 | Rescue Team Leader Mr. Ranjan K. Tripathy (7381037768) | First Aid Team Leader Mr. Bibhudatta Swain (7381037783) |
| Mr.Vijay Kumar Sahu (9437219509) | Mr.Sarbesh Tiwari (7381087771) | Mr.Vijay Kumar Singh (7381037739) |
| Mr.G. D. Kulkarni (7381037714) | Mr. Sanjay Jaiswal (7381037769) | Mr.Pawan Malviya (7381037766) |
| Mr.Manoj Barik (7873954952) | Mr.Satyam Parida (9776016773) | Mr.Yuvraj Singh (7381087732) |
| Mr.Naresh Kunj (7381037760) | Mr.Akraman (8338997255) | Mr.Dinesh Palei (9178915355) |

| CAMP – 40 (BARAHGUDA) | | |
|---|---|---|
| Incident Controller (Mr. S. C. Malao) Mob. No: 7381087749 | | |
| Fire Fighting Team Leader Mr. Manish Kale (7381087707) | Rescue Team Leader Mr. Ajit Shraavan Bagga Mob. No: 7381087711 | First Aid Team Leader Mr. Jaydip S. Banerjee Mob. No: 7381087775 |
| Mr. Gopal Shah (7381087747) | Mr. Santosh Chobey (9090327622) | Mr. Madhusudan Seth (7381037744) |
| Mr Deepak Behera (7381087723) | Mr. Bhupendra Baisal (7381037724) | Mr. S.Q. Ali (7381087760) |
| Mr Manoj Muduli (9583783059) | Mr. Kiran Kumar (9090171711) | Kharag Singh Patle (8596902024) |
| Mr.Dhalchand Manikpuri 7381037704 | Mr.Chandan Behera (7381087731) | Mr. S.D. Mahakul (9938138028) |

| CAMP – 80 (SOHELA) | | |
|---|--|--|
| Incident Controller (Mr. Umakant Barik) Mob. No: 7381087721 | | |
| Fire Fighting Team Leader Mr. Satyanarayan Panda Mob. No: 7381087743 | Rescue Team Leader Mr. Sushanta Jena (7873563929) | First Aid Team Leader Mr. Abhishek Rai (7381037733) |
| Mr. Rajneesh Kumar (7381087764) | Mr. Uttam Nag (9583151365) | Mr. Samsuddin (7381037767) |
| Mr. Chandrabhan Sahu (9090902357) | Mr. Sanjay Haribhau Shende (9090301964) | Mr. Laxmiprasad Patle (7873987990) |
| Mr. Rashmi Ranjan Sahoo (7381087762) | Mr. Santlal Yadav (7381087712) | Mr. Rabindra Ku. Bishoyi (7873984910) |
| Mr. Nabin Budek (8594873323) | Mr. Mukesh (8342902654) | Mr. Digambar Tikaram Khotale (9090352379) |

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 ASBTL 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 *Grampanchayat* permission (NOC) for establishment of plant - – Applicable
- District Industry Center permission for industry - – Applicable
- Factory Act: 1948 (Crusher, HMP, RMC & CRMB) 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 by ASBTL. 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:

| Legal Matrix | | | | | | | |
|------------------------|--|------------------------|---|--|--|--|--|
| Project Details | | | | | | | |
| Sr. No. | Location of camp / Detail Address as per agreement | Name of In charge | P & M Details | | | Capacity | |
| 1 | Camp-14/000, Sansigari, Tehsil & Dist: Sambalpur | Mr. Vipan Kohli | Crusher (Puzzolona) Crusher (METSO - Mobile Crusher) WMM HMP CRMB | | | 200 TPH 200 TPH 200 TPH 240 TPH 60 TPH | |
| 2 | Camp-40/000, Barhaguda, Dist- Bargarh | Mr. Suresh Babu Ravuri | RMC | | | 60 M3 | |
| 3 | Camp-80/000, Khairpali, PO: Sohela, Dist: Bargarh | Mr. Umakant Barik | RMC | | | 14 M3 | |

| Sr. No | Name of the Licensing/ Registration Authority | Purpose | Number and Date of Registration /License | Date of application | Validity Period | | Name & Mobile number of Responsible Person | Update on any issue if any |
|--|---|---|--|---------------------|-----------------|------------|--|----------------------------|
| Camp-14/000, Sansigari, Tehsil & Dist: Sambalpur. | | | | | | | | |
| | | | | | From | To | | |
| 1 | O/o The District Magistrate & Collector, Sambalpur | Blasting Permission At Laxmidunguri Forest Hill | Order No-1505, Dt-28.11.2014 | 28.11.2014 | NA | NA | ASHOKA BUILDCON LTD. | |
| 2 | State Pollution Control Board, ODISHA, Sambalpur | NOC FOR WMM PLANT | 2124 /III- CON(NOC)44/2 012-13 | 21.06.2013 | 21.06.2013 | 20.06.2018 | M/S ATR INFRA PROJECT (P) LTD. | |
| 3 | State Pollution Control Board, ODISHA, Sambalpur | Consent to Operate, Order-982 (WMM PLANT) | 1437/III-CON (OPERATE)61, DT-05.05.2014 | 20.01.2014 | 05.05.2014 | 31.03.2015 | Mr. Vipan Kohli | - |
| 4 | State Pollution Control Board, ODISHA, Sambalpur | NOC FOR CRUSHER PLANT | 2594/III- CON(NOC)15/2 012-13 , DT- 29.08.2012 | 28.08.2012 | 29.08.2012 | 28.08.2017 | M/S ATR INFRA PROJECT (P) LTD. | - |
| 5 | State Pollution Control Board, ODISHA, Sambalpur | Consent to Operate, Order- 756 (CRUSHER) | 2362/III-CON (OPERATE)834, DT-11.07.2013 | 28.03.2014 | 17.05.2014 | 31.03.2015 | Mr. Sunil Gomashe | |
| 6 | State Pollution Control Board, ODISHA, Sambalpur | CON(NOC) for HMP | 3208 / III CON (NOC) 53 Dt 28.09.2013 | 28.09.2013 | 28.09.2013 | 27.09.2018 | M/S ATR INFRA PROJECT (P) LTD. | |
| 7 | State Pollution Control Board, ODISHA, Sambalpur | Consent to Operate, Order- 983 (HMP) | 1435/III-CON (OPERATE)62, DT-05.05.2014 | 20.01.2014 | 05.05.2014 | 31.03.2015 | Mr. Vipan Kohli | |
| 8 | Directorate of Factories & Boilers, ODISHA, Bhubaneswar | For Factory Setup (CRUSHER,WMM & HMP) | SB - 331, Serial No- 05700, Dt- 31.08.2013 | 21.10.2013 | 01.01.2014 | 31.12.2014 | Mr. Gourav Anil Gandhi | Applied For Renewal |

| | | | | | | | | |
|---|--|---|------------------------------|------------|-----------------|------------|---------------------------|---------------------|
| 9 | Tahsildar sadar, Sambalpur. | Excavation Permission of sikidi Stone quarry. | Order sheet dated 18.11.2014 | 18.11.2014 | 18.11.2014 4 | 28.02.2015 | Mr. Kaustubha K. Kaserkar | |
| 9 | O/o The Sr. Inspector, Legal Meterology, Sambalpur Sadar, ODISHA | Weighbridge (Cap-80MT) | No-14404 | 12.12.2013 | 12.12.2013 3 | 11.12.2014 | ASHOKA BUILDCON LTD. | Applied For Renewal |

Camp-40/000, Barhaguda, Dist-Bargarh.

| | | | From | | To | | | |
|---|--|--------------------------|---|------------|-----------------|------------|------------------------|---------------------|
| 1 | Directorate of Factories & Boilers, ODISHA, Bhubaneswar | For Factory Setup (RMC) | BA-183, Serial no.-05510, Dt: 10.02.2012 | 23.10.2013 | 01.01.2014 4 | 31.12.2014 | SRI. SANJAY P. LONDHE | Applied For Renewal |
| 2 | State Pollution Control Board, ODISHA, Sambalpur | CON(NOC) for RMC | 2113/III- CON(NOC)/56/2 011-12 Dt: 02.07.2011 | 04.06.2011 | 02.07.2011 1 | 01.07.2016 | Mr. Suresh Babu Ravuri | |
| 3 | State Pollution Control Board, ODISHA, Sambalpur | Consent Order- 436 (RMC) | 1508/III CON (Operate) 586, Dt-17.05.2014 | ----- | 17.05.2014 4 | 31.03.2015 | Mr. Suresh Babu Ravuri | - |
| 4 | O/o The Sr. Inspector, Legal Meterology, Bargarh, ODISHA | Weighbridge (Cap-60MT) | 228755, 18.03.2014 | 14.12.2013 | 18.03.2014 4 | 17.03.2015 | ASHOKA BUILDCON LTD. | - |

Camp-80/000, Khairpali, PO: Sohela, Dist: Bargarh

| | | | From | | To | | | |
|---|--|--|---|------------|-----------------|------------|-----------------------------|---------------------|
| 1 | Directorate of Factories & Boilers, ODISHA, Bhubaneswar | For Factory Setup (CRUSHER, RMC & WMM) | BA-176, Serial no.- 05397, Dt: 23.05.2011 (ABL) | 23.10.2013 | 01.01.2014 4 | 31.12.2014 | SRI. SANJAY P. LONDHE | Applied for Renewal |
| 2 | State Pollution Control Board, ODISHA, Sambalpur | CONSENT ORDER -232 (Crusher, WMM, RMC) | 1056/III CON(OPERATE) 462 Dt- 15.04.2014 | 07.03.2011 | 15.04.2014 4 | 31.03.2015 | Mr. Satish Chiplunkar | |
| 3 | State Pollution Control Board, ODISHA, Sambalpur | CON(NOC) for CRUSHER, WMM & RMC | 241/III CON(NOC)269/2010-11, Dt- 25.01.2011 | 18.12.2010 | 25.01.2011 1 | 24.01.2016 | Mr. Satish Chiplunkar | |
| 4 | O/o The Dy. Chief Labour Commissioner (C), Bhubaneswar, ODISHA | Employment of Contract Labour | L/II/122/2011, Dt-29.06.2011 | 13.08.2014 | 29.06.2014 4 | 28.06.2015 | Mr. Pradeep O. Nayyar (ABL) | |
| 5 | O/o The Divisional Forest Officer, Bargarh | Tree Cutting Permission. | 2-Mem no-5290 dt-7.12.2010 | 03.12.2010 | NA | NA | NA | 9907 Trees |
| 6 | O/o The Divisional Forest Officer, Sambalpur | Tree Cutting Permission. | 1-Memo no- 353 dt- 03.02.2011 | 14.01.2011 | NA | NA | NA | 3538 Trees |
| 7 | O/o The Sr. Inspector, Legal Meterology, Bargarh, ODISHA | Weighbridge (Cap-60MT) | 232735, 30.10.2014 | 30.10.2014 | 30.10.2014 4 | 29.10.2015 | ASHOKA BUILDCON LTD. | |

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.

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.

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.

{See Rule 25(1)}

GOVERNMENT OF INDIA
OFFICE OF THE LICENSING OFFICER
BHUBANESWAR

License No. L/II/122/2011 Dated. 29.06.2011 Fees paid Rs.300/- + 7000 375/-



LICENCE

License is hereby granted to M/s- Ashoka Buildcon Limited, Rep by Vineet Kumar Chaudhary, Ashoka House, Ashoka Marg, Wadala,Nasik (M.S.)-422011 under Section 12(1) of the Contract Labour (Regulation & Abolition) Act, 1970 subject to the conditions specified in the Annexure.

This License is for 4 laning of Sambalpur-Bargarh Odisha/Chhatishgarh border section of NH-6 from Km.0.00 to Km 88.00 in the state of Odisha executed as BOT(Toll) project on DBFOT pattern under NHDP Phase-III in the establishment of Director, Ashoka Sambalpur-Bargarh Tollways Pvt. Ltd., Ashoka House, Ashoka Marg, Ashoka Nagar, Nasik-422011. This License shall remain in force till **28.06.2012 (Valid from 29.06.2011 to 28.06.2012)**

Date: 29.06.2011

Signature and Seal of the Licensing Officer (C)
 Assistant Labour Commissioner (C)
 -Cum-Licensing Officer
 Bhubaneswar

RENEWAL

(Rule - 29)

| Date of Renewal | Fee paid for Renewal | Date of Expiry |
|-----------------------------|----------------------|----------------|
| 17.8.2012 | Rs. 300.00 | 29.6.2013 |
| From 29.6.2012 to 28.6.2013 | | |
| 10.6.13 | Rs. 375.00 | 29.6.14 |
| From 29.6.2013 to 28.6.2014 | | |
| 13.8.14 | Rs. 469.00 | 29.6.2015 |
| From 29.6.14 to 28.6.2015 | | |

Assistant Labour Commissioner (C)
 -Cum-Licensing Officer
 Bhubaneswar

ANNEXURE

The License is subject to the following conditions:

- The License shall be non-transferable.
- The No. of workmen employed as Contract Labour in the establishment shall not, on any day, exceed 300 (Three Hundred) + 300 = 600 (Six Hundred).
- Except as provided in the rules the fees paid for the grant or as the case may be for renewal of the license shall be non-refundable.
- The rates of wages payable to the workmen employed by the Contractor shall not be less than the rates prescribed for the schedule of employment under the Minimum Wages Act, 1948, where applicable, and where the rates have been fixed by agreement, settlement or award not less than the rates so fixed.
- In case where the workmen employed by the Contractor perform the same or similar kind of work as the workmen directly employed by the Principal Employer of the establishment, the wage rates, holidays, hours of work and other conditions of service of the workmen of the contractor shall be the same as applicable to the workmen directly employed by the Principal Employer of the establishment on the same or similar kind of work provided that in the case of any disagreement with regard to the type of work the same shall be decided by the Chief Labour Commissioner (Central), whose decision shall be final.
- In other cases the wage rates, holidays, hours of work and conditions of service of the workmen of the Contractor shall be such as may be specified in this behalf by the Chief Labour Commissioner (Central).
- In every establishment where 20 or more women are ordinarily employed as contract labour there shall be provided two rooms of reasonable dimension for the use of their children under the age of six years. One of such rooms would be used as a play-room for the children and the other as bed-room for the children. For this purpose, the contract shall supply adequate number of toys and games in the play-room and sufficient number of cots and bedding in the sleeping-room. The standard of construction and maintenance of the cots may be such as may be specified in this behalf by the Chief Labour Commissioner (Central).
- The Licensee shall notify any change in the number of workmen or the conditions of the work to the Licensing Officer.
- A copy of the License shall be displayed prominently at the premises where the contract work is being carried on.
- The Licensee shall, within fifteen days of the commencement and completion of each contract work submit a return to the Inspector appointed under Section 28 of the Act intimating the actual date of commencement or, as the case may be completion of such contract-work in form - VI-A.

Labour license details and facility information:-

| Sr. No. | Particulars | Description | | | | | | | | |
|---------------|---|--|----------|-------------------|----------|-----|---------------|-----|-------------|-----|
| 1 | Actual average no of employee / labour employed at site | 308 nos. | | | | | | | | |
| 2 | Labour License No. | L/II/122/2011 | | | | | | | | |
| 3 | As per Labour License no. of workmen employed | 375 nos. | | | | | | | | |
| 4 | Labour License valid till | 29-06-2015 | | | | | | | | |
| 5 | Minimum wage rate for each category | <table border="1" style="width: 100%;"> <thead> <tr> <th>Category</th> <th>Minimum Wage Rate</th> </tr> </thead> <tbody> <tr> <td>Skilled:</td> <td>312</td> </tr> <tr> <td>Semi Skilled:</td> <td>259</td> </tr> <tr> <td>Un Skilled:</td> <td>222</td> </tr> </tbody> </table> | Category | Minimum Wage Rate | Skilled: | 312 | Semi Skilled: | 259 | Un Skilled: | 222 |
| Category | Minimum Wage Rate | | | | | | | | | |
| Skilled: | 312 | | | | | | | | | |
| Semi Skilled: | 259 | | | | | | | | | |
| Un Skilled: | 222 | | | | | | | | | |



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) | <p>1. Apex manual for IMS and ISO Standard requirement interlinking of clauses.</p> <p>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.</p> <p>3. ACL Document control procedural guideline.</p> |
| 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) | <p>1. Guideline for the Environment, Social & Safety Management as per the National Rule and Regulations applicable for the National Highway Projects & IFC Performance Standard.</p> <p>2. This Manual for ready reference for SPV & EPC contractor for implementation at project site.</p> |
| 4 | Environment & Social management Plan - Standard operating Procedure | ACL/ESMP (L-2) | <p>1. Operating procedure for SPV/ EPC to attend the Environment and Social issues related to National Highway Construction.</p> <p>2. Role & Responsibility has defined to take care of the process related environmental issues and resolve the E&S issue on the priority.</p> |

| Sr. No | Document Details | Document Code | Main objective of Document |
|--------|---|-----------------------------|---|
| 5 | 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. |
| 6 | PPE Matrix for road & bridge construction worker | ACL/HSE&S/ESMP/PE Matrix/01 | 1. Awareness of employees about the use of PPE's as per their 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 |
| 7 | 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 emergencies that may occur. |
| | | | 3. To identify the individuals responsible for directing the activities required to contain, control and manage an emergency situation. |
| 8 | 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 |
|---------|---|----------------------------|--|
| 9 | 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 NHA and State revenue Department. |
| 10 | 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. |
| 11 | 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. |
| 12 | 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. |
| 13 | <u>Guideline for Tool Box</u> | 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. |
| 14 | <u>Guideline for Monsoon Safety</u> | 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 |
|---------|---|---------------|--|
| 15 | AVOIDING DANGER FROM OVERHEAD POWER LINES | Soft copy | This guidance is for people who may be planning to work near overhead lines where there is a risk of contact with the wires, and describes the steps you should take to prevent contact with them. It is primarily aimed at employers and employees who are supervising or in control of work near live overhead lines, but it will also be useful for those who are carrying out the work. |
| 16 | Safety Posters for awareness of SPV and EPC employees | Soft copy | <ol style="list-style-type: none"> 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:-

Hot spot details and issue Summary Report

Month - JAN 2015

| Sr. No. | Details of Hot spot in ROW | Category | Chainage | Side | Remarks | Status of Resettlement and rehabilitation |
|--|-------------------------------|-----------------------------|--------------|---------------------|--------------------------|---|
| There are no Cultural heritages available within 500 M of ROW | | | | | | |
| There are no Historical Structures available within 500 M of ROW | | | | | | |
| Religious Structures | | | | | | |
| 1 | Ainthapalli lord Shiva Temple | | 0+680 | R/S @ 35.500 | Big | Shifting done by Govt. |
| 2 | Panchgachia Mangala Temple | | 1+730 | R/S @ 10.400 | Small | Shifting done by Govt. |
| 3 | Barehipalli Temple | | 2+410 | L/S @ 13.000 | Small | Shifting done by Govt. |
| 4 | Barehipalli Temple | | 3+300 | R/S @ 11.200 | Big | Shifting done by Govt. |
| 5 | Remed chowk Temple | | 4+570 | L/S @ 18.200 | Big | Shifting done by Govt. |
| 6 | Remed chowk Temple | | 4+700 | R/S @ 7.400 | Big | Shifting done by Govt. |
| 7 | Larponk Basti Temple | | 5+055 | R/S @ 33.000 | Small | Shifting done by Govt. |
| 8 | Durgaplli Biraja Temple | | 5+430 | L/S @ 7.000 | Sheed | Shifting done by Govt. |
| 9 | Hirakud Rly Stn Temple | Religious Structures | 10+040 | R/S @ 6.800 | Small | Shifting done by Govt. |
| 10 | A. Katapalli Temple | | 12+100 | L/S @ 28.500 | | Shifting done by Govt. |
| 11 | Goshala Chowk Temple | | 16+290 | R/S @ 8.500 | Big | Shifting done by Govt. |
| 12 | Babubandh Temple | | 18+900 | L/S @ 4.600 | Small | Shifting done by Govt. |
| 13 | Ghudkatikra Temple | | 19+300 | L/S @ 16.000 | | Shifting done by Govt. |
| 14 | Ladukhai Hanuman Temple | | 20+350 | L/S @ 14.500 | Arnapurna Rice Mill | Resettled by Rice mill owner |
| 15 | Samleswari Temple, Godbhaga | | 22+930 | L/S @ 14.800 | Big (Only Gate & Office) | Payment Paid, Shifting done by Committee. |
| 16 | Chakuli farm Hanuman Temple | | 24+380 | L/S @ 15.000 | Big | Shifting done by Govt. |
| 17 | Attabira Durga Temple | | 29+660 | R/S @ 14.500 | Big | Payment Paid, Shifting in progress |
| 18 | Attabira Hanuman Mandir | | 30+387 | R/S @ 15.000 | Big | Payment Paid, Shifting in progress |
| 19 | Attabira FCI Ram Mandir | | 31+630 | L/S @ 13.200 | Big | Payment Paid, Shifting in progress |
| 20 | Laderpalli devi Temple | | 31+805 | R/S @ 15.600 | Big | Payment Paid, Shifting in progress |
| 21 | Laderpalli Temple | | 31+980 | L/S @ 17.500 | Small House | Shifting done by Committee. Boundary |
| 22 | Laderpalli Vill. Temple | 32+320 | R/S @ 9.600 | Big | Shifting Done | |
| 23 | Laderpalli Vill. Temple | 32+950 | L/S @ 6.000 | Open Place | Shifting Done | |
| 24 | Rengalipalli Temple | 33+507 | L/S @ 12.000 | Open Place | Shifting Done | |
| 25 | Rengalicamp Temple | 33+755 | R/S @ 12.000 | Big | Shifting Done | |
| 26 | Barahgoda Temple | 43+370 | R/S @ 7.200 | Small | Shifting Done | |
| 27 | Tora Temple | 43+520 | R/S @ 31.000 | Big In FCI Boundary | Shifting Done | |
| 28 | Tora Temple | 43+680 | R/S @ 9.600 | Cottage | Shifting Done | |
| 29 | Sayan Temple | 53+200 | L/S @ 10.000 | Small | Shifting Done | |
| 30 | Sayan Shiv Temple | 53+080 | R/S @ 15.000 | Small | Shifting Done | |
| 31 | Gudesira Temple | 55+220 | L/S @ 7.000 | Small | Shifting Done | |
| 32 | Gudesira Temple | 55+230 | R/S @ 10.000 | Small | Shifting Done | |

| | | | | | |
|----|--------------------------------------|--------|--------------|-------|---|
| 33 | Patharla Hanuman Temple | 56+260 | L/S @ 9.000 | Small | Shifting Done |
| 34 | Nua gaon vill. Temple | 58+770 | L/S @ 10.000 | Small | Dismanteled & resettled by Revenue dept. |
| 35 | Nua gaon vill. Temple | 59+520 | L/S @ 15.000 | Small | Shifting done by Govt. |
| 36 | Chakarkend Temple | 61+200 | R/S @ 16.000 | Small | Shifting done by Govt. |
| 37 | Garvana Vill. Temple | 67+100 | L/S @ 18.000 | Small | Dismanteled & resettled by Tahasildar, Sohela |
| 38 | Garvana Vill. Temple | 68+000 | R/S @ 11.000 | Big | Shifting done by Govt. |
| 39 | Garvana Vill. Temple | 68+500 | R/S @ 15.000 | Small | Shifting done by Govt. |
| 40 | Garvana Kali Temple | 70+200 | L/S @ 10.000 | Small | Pending with NHAI/CALA |
| 41 | Sohela thana chhak Temple | 73+110 | L/S @ 11.000 | Big | Pending with NHAI/CALA |
| 42 | Sohela Hanuman Temple | 73+350 | R/S @ 15.000 | Small | Pending with NHAI/CALA |
| 43 | Sohela Masjid, masjid market complex | 73+490 | L/S @ 8.000 | Big | Pending with NHAI/CALA |
| 44 | Sohela Temple | 73+540 | L/S @ 18.000 | Big | Pending with NHAI/CALA |
| 45 | Sohela Temple | 73+560 | R/S @ 10.000 | Small | Pending with NHAI/CALA |
| 46 | Sohela Dargah | 74+700 | R/S @ 22.000 | Small | Pending with NHAI/CALA |
| 47 | Birhipalli Temple | 78+500 | L/S @ 11.000 | Small | Shifting done by Govt. |
| 48 | Madhupur Temple | 78+870 | R/S @ 13.000 | Small | Shifting done by Govt. |
| 49 | Birjupalli Devi Temple | 80+880 | L/S @ 15.000 | Big | Shifting done by Govt. |
| 50 | Karalmal Devi Temple | 83+610 | L/S @ 15.000 | Small | Shifting done by Govt. |
| 51 | Temple | 86+390 | L/S @ 5.000 | Small | Shifting done by Govt. |
| 52 | Pandkipalli Temple | 86+180 | R/S @ 12.500 | Small | Shifting done by Govt. |

II. School

| | | | | | |
|----|--|--------|-------|--------------|---|
| 52 | Larponk School 100m from ROW | 5+220 | L.H.S | | Payment done by CALA Shifting under process |
| 53 | A.Katapalli 300m at From ROW | 12+250 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 54 | Navodaya School At Gosala | 15+900 | L.H.S | | Dismantled & Resettlement done by Govt. |
| 55 | U.P.School At Gosala | 16+080 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 56 | U.P. School at Babubandh | 17+600 | L.H.S | | Payment done by CALA Shifting under process |
| 57 | M. E. School At Ladukhai | 19+780 | L.H.S | | Payment done by CALA Shifting under process |
| 58 | College At Godbhaga | 21+690 | L.H.S | College Area | Dismantled & Resettlement done by Govt. |
| 59 | High School At Godbhaga | 21+900 | L.H.S | | Dismantled & Resettlement done by Govt. |
| 60 | Eng. Medium School at Chakulifarm from Row 200m | 24+380 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 61 | High School at Chakulifarm. | 24+480 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 62 | U.P School at 200m from ROW. | 25+290 | L.H.S | | Dismantled & Resettlement done by Govt. |
| 63 | Govt. High School At ATTABIRA | 28+800 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 64 | Prakalp U.P. School & Girls' U.P. School at ATTABIRA | 29+540 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 65 | Govt. Boys' Primary School At Attabira | 29+750 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 66 | Govt. Girls' High School at Attabira | 30+160 | L.H.S | | Dismantled & Resettlement done by Govt. |
| 67 | College at ATTABIRA | 30+860 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 68 | Bibekananda Vidy mandir At Laderpali | 31+440 | L.H.S | | Dismantled & Resettlement done by Govt. |

| | | | | | | |
|----|---|--------|------------------|-------|---------------------|---|
| 69 | Govt. High School At Laderpali | | 31+920 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 70 | S. V. English.M.school At Rangali Camp | | 32+680 | L.H.S | | Dismantled & Resettlement done by Govt. |
| 71 | Debahal Govt. High School | | 34+000 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 72 | Sebasram School at Debahal. | School | 35+420 | L.H.S | | Dismantled & Resettlement done by Govt. |
| 73 | School From ROW 400m | | 37+000 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 74 | Collage at Kalapani | | 37+750 | R.H.S | College Area | Dismantled & Resettlement done by Govt. |
| 75 | M.E. School at Kalapani | | 38+550 | L.H.S | | Dismantled & Resettlement done by Govt. |
| 76 | Govt. High School at Barahgoda | School | 41+180 | L.H.S | | Dismantled & Resettlement done by Govt. |
| 77 | School From ROW 400m | | 41+500 | L.H.S | | Dismantled & Resettlement done by Govt. |
| 78 | Primary School From ROW 300m | | 43+050 | L.H.S | | Dismantled & Resettlement done by Govt. |
| 79 | Cross road to Vikash EM School & Collage | | 43+382 | L.H.S | College Area | Dismantled & Resettlement done by Govt. |
| 80 | Vikash Group of Institutions. | | 43+640 | L.H.S | Engineering Collage | Dismantled & Resettlement done by Govt. |
| 81 | Haldipalli Prakalp U.P. School | | 51+060 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 82 | Sayan chowk Primary school @ 200 M from PCL | | 53+400 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 83 | Primary School @ 100 M from ROW, sriharinager, Gudesira | | 54+700 | L.H.S | | Dismantled & Resettlement done by Govt. |
| 84 | PKAIET, Engg. School, Hostel area | | 59+160 to 59+380 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 85 | PKACE, Engg. College area | | 59+580 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 86 | Nabajyoti High School, Chakarkend. | | 61+360 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 87 | Matruchhaya- Orphanage for Girls & ladies, Chakarkend | | 61+580 | L.H.S | Orphanage, NGO | Dismantled & Resettlement done by Govt. |
| 88 | U.P. School & M.E. School at Garvana | | 68+900 to 69+020 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 89 | M.E. School on LHS at 200 M, Aurobindo Vidypitha high School on RHS @ 400 M | | 70+900 | B/S | | Dismantled & Resettlement done by Govt. |
| 90 | Govt. High School, Sohela | | 72+030 | L.H.S | | Dismantled & Resettlement done by Govt. |
| 91 | Govt. Girls' High School & M.E. School, Sohela | | 73+090 to 73+150 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 92 | Govt. Girls' Primary School, Sohela | | 73+290 | L.H.S | | Dismantled & Resettlement done by Govt. |
| 93 | Sohela Collage, Sohela | | 75+720 | L.H.S | College Area | Dismantled & Resettlement done by Govt. |
| 94 | Dumberpali, Primary School. | | 77+365 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 95 | Sri Aurobindo Primary School, Primary School @ 120 M from | | 85+440 | R.H.S | | Dismantled & Resettlement done by Govt. |
| 96 | ROW, Luhurachati. | | 85+925 | R.H.S | | Dismantled & Resettlement done by Govt. |

| II. Police Station | | | | | |
|--------------------|--|-----------------------|--------|----------|---|
| 97 | S.P Office & Police station in Ainthapali | | 0+040 | R.H.S | Dismantled & Resettlement done by Govt. |
| 98 | From ROW 80m In Barehipali | | 2+570 | R.H.S | Dismantled & Resettlement done by Govt. |
| 99 | Police out-post At Gosala | | 15+860 | R.H.S | Dismantled & Resettlement done by Govt. |
| 100 | Police out-post, at 300 M from ROW, at Godbhaga. | Police station | 22+055 | L.H.S | Dismantled & Resettlement done by Govt. |
| 101 | Police Station at ATTABIRA | | 29+650 | L.H.S | Dismantled & Resettlement done by Govt. |
| 102 | Bargarh Dist. Police Barrack & way to DIET office | | 58+280 | L.H.S | Dismantled & Resettlement done by Govt. |
| 103 | Sohela Police Station | | 73+050 | L.H.S | Dismantled & Resettlement done by Govt. |
| III. Hospital | | | | | |
| 104 | Govt. Hospital From ROW 200m In | | 1+980 | R.H.S | -- |
| 105 | From ROW 100m | | 22+000 | R.H.S | -- |
| 106 | Pvt. Clinic | | 29+470 | R.H.S | Dismantled. |
| 107 | Pvt. hospital at ATTABIRA, Homeo clinic on RHS | | 29+840 | L.H.S | Payment under Process |
| 108 | Community Health Center at ATTABIRA | | 30+400 | R.H.S | Dismantled. |
| 109 | Primary Health center At Laderpali | | 31+860 | R.H.S | -- |
| 110 | Private clinic, Gudesira | | 55+400 | R.H.S | -- |
| 111 | Primary Health Center, New Patharla. | | 57+140 | L.H.S | -- |
| 112 | Pvt. Clinin at Kendapalli | Hospital | 61+760 | L.H.S | -- |
| 113 | Pvt. Clinin at Dasmile Chowk, PMGSY roads Both side & market area | | 65+320 | R.H.S | -- |
| 114 | Sub-Health center at Garvana | | 68+855 | L.H.S | -- |
| 115 | Ayurvedic Clinic & Library at Garvana | | 68+900 | L.H.S | -- |
| 116 | Ayurvedic Clinic at Haldipalli | | 71+280 | L.H.S | -- |
| 117 | Govt. Hospital, Sohela, Saraswati Vidya mandir etc. at 200 to 300 M on LHS | | 72+990 | L.H.S | -- |
| IV. Intersections | | | | | |
| 118 | PWD Road towards Hirakud Dam & Town | | 4+660 | R.H.S | Work under process as per CA |
| 119 | Rly level crossing / Intersection for HINDALCO Siding | | 5+200 | | Work under process as per CA |
| 120 | PWD Road (Ring road) towards Sambalpur City & Samaleswari Temple. | | 6+200 | L.H.S | Work under process as per CA |
| 121 | PWD Road towards Burla Town & Dam. | Intersections | 8+620 | R.H.S | Work under process as per CA |
| 122 | PWD Road towards Burla Town & Dam. | | 11+300 | R.H.S | Work under process as per CA |
| 123 | ODR- towards Chipilima, Power house. | | 16+200 | L.H.S | Work under process as per CA |
| 124 | Merging point of S.H.-54 , towards Turum, Binika & Sonepur | | 22+055 | L.H.S | Work under process as per CA |
| 125 | Crossing of MDR---- towards Bhatli, Raigarh. | | 49+758 | Crossing | Passing through Proposed Work under process as per CA |

VUP

| | | | | |
|-----|---|--------|-------|------------------------------|
| 126 | NH-201 Intersection with NH-6, Haldipalli, Bargarh | 51+660 | L.H.S | Work under process as per CA |
| 127 | Merging point of MDR-39A towards Barapalli, Binika | 72+990 | L.H.S | Work under process as per CA |
| 128 | Merging point of S.H.-3 , towards Padmapur, Paikmal, Narsighnath | 73+370 | L.H.S | Work under process as per CA |
| 129 | ODR- towards Baramkela, Chatishgarh | 74+600 | R.H.S | Work under process as per CA |

V. Market Area

| | | | | |
|-----|---|------------------|-----------|-----------------------------|
| 130 | Weekly farmers' market on Sunday | 55+700 | LHS | Resettle by Govt. Authority |
| 131 | Sohela Weekly farmers' market on Saturday | 73+400 to 74+600 | Both Side | Resettle by Govt. Authority |
| 132 | Madhupur Weekly CATTLE market on Thursday | 78+800 | LHS | Resettle by Govt. Authority |
| 133 | Pandikipalli Weekly farmers' market on Wednesday | 87+000 | Both Side | Resettle by Govt. Authority |
| 134 | Vegetable & general goods on Monday | 30+800 | RHS | Resettle by Govt. Authority |
| 135 | A.KATAPALLI, Farmers weekly market for Vegetable & general goods on Wednesday | 12+300 | RHS | Resettle by Govt. Authority |
| 136 | GOSHALA, Farmers weekly market for Vegetable & general goods on Saturday | 15+860 | RHS | Resettle by Govt. Authority |
| 137 | GODBHAGA, Farmers weekly market for Vegetable & general goods on Thursday | 22+800 | LHS | Resettle by Govt. Authority |
| 138 | KALAPANI, Farmers weekly market for Vegetable & general goods on Wednesday | 37+800 | RHS | Resettle by Govt. Authority |

| Details of Structures in ASBTL Project | | | | | | | | | |
|--|--------------|--------|----------------------|------------------|----------|----------------------|------------|--------------|---------|
| Status as on 31.01.2015 | | | | | | | | | |
| SL NO | CHAINAGE | | Type of STR. | SPAN ARRANGEMENT | | Type of construction | Side | Status | REMARKS |
| | AS PER C. A. | Actual | | EXISTING | PROPOSED | | | | |
| 1 | 0.490 | 0.477 | HP | 1 X 1.2 | 1 X 1.2 | Re-con | RHS LHS | Comp Comp | |
| 2 | 0.805 | 0.792 | BOX(RHS) BOX(LHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS LHS | Comp Comp | |
| 3 | 1.225 | 1.225 | BOX(RHS) BOX(LHS) | 3 X 2 | 3 X 2 | Widening | RHS LHS | Comp Comp | |
| 4 | 1.925 | 1.993 | MNB | 2 X 6 | 2 X 6 | Wide | B.S. | Comp | |
| 5 | 2.240 | 2.240 | BOX(RHS) BOX(LHS) | 3 X 2 | 3 X 2 | Widening | RHS LHS | Comp Comp | |
| 6 | 2.564 | 2.556 | BOX(RHS) BOX(LHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS LHS | Comp Comp | |
| 7 | 2.645 | 2.639 | BOX(RHS) BOX(LHS) | 2 X 2 | 2.8X 1.4 | Re-const. | RHS LHS | Comp Comp | |
| 8 | 2.994 | 2.994 | BOX(RHS) BOX(LHS) | 3 X 2 | 3 X 2 | Widening | RHS LHS | Comp Comp | |
| 9 | 3.130 | 3.124 | BOX(RHS) BOX(LHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS LHS | Comp Comp | |
| 10 | 3.290 | 3.284 | BOX(RHS) BOX(LHS) | 2 X 2 | 2 X 2 | Re-const. | RHS LHS | Comp Comp | |
| 11 | 3.468 | 3.460 | BOX(RHS) BOX(LHS) | 3 X 2 | 3 X 2 | Re-const. | RHS LHS | Comp Comp | |
| 12 | 3.588 | 3.583 | BOX(LHS) | 2 X 2 | 2 X 2 | Re-const. | RHS | Comp | |

| | | | | | | | | |
|----|--------|--------|------------|------------------|----------|-----------------|------|------|
| | | | BOX(EXIS) | | | | LHS | Comp |
| 13 | 3.865 | 3.857 | BOX(LHS) | 2 X 2 | 2 X 2 | Re-const. | RHS | Comp |
| | | | BOX(RHS) | | | | LHS | Comp |
| 14 | 4.510 | 4.510 | BOX(RHS) | 6 X 3 | 6 X 3 | Re-const | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 15 | 4.975 | 4.993 | MNB | 3 X 8 | 3 X 10 | Wide | B.S. | Comp |
| 16 | 5.510 | 5.510 | BOX(RHS) | 2 X 3 | 2 X 3 | Re-construction | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 17 | 6.032 | 6.032 | BOX(RHS) | 3 X 4 | 3 X 4 | Re-construction | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 18 | 6.385 | 6.385 | BOX | 2 X 2 | 2 X 2 | REC | RHS | Comp |
| 19 | 6.460 | 6.460 | BOX | 2 X 2 | 2 X 2 | REC | RHS | WIP |
| 20 | 6.725 | 6.725 | BOX | 2 X 3 | 2 X 3 | REC | RHS | WIP |
| 21 | 6.934 | 6.934 | BOX | 2 X 2 | 2 X 2 | Widening | YTS | |
| 22 | 6.980 | 6.980 | HP | 1 X 1.2 | 1 X 1.2 | REC | YTS | |
| 23 | 7.200 | | MJBR(MAHA) | 25X30.4+ 2X10 | 25X33 | | RHS | Comp |
| 24 | 8.340 | 8.340 | HP | 1 X 1.2 | 1 X 1.2 | REC | RHS | Comp |
| 25 | | 8.886 | MJBR(POW) | 1X90 | 2X45 | REC | RHS | Comp |
| 26 | 9.895 | 9.895 | BOX | 2 X 3 | 2 X 3 | Widening | RHS | Comp |
| | | | | | | | LHS | Comp |
| 27 | 10.5 | 10.5 | BOX(RHS) | 3 X 3 | 3 X 3 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 28 | 10.860 | 10.860 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 29 | 11.090 | 11.090 | HP | 1 X 1.2 | 1 X 1.2 | Re-cons | B.S. | Comp |
| 30 | 11.400 | 11.600 | ROB | - | 1X29.08 | NEW | LHS | Comp |
| 31 | 12.555 | 12.555 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 32 | 13.675 | 13.675 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 33 | 14.610 | 14.610 | HP(RHS) | 1 X 1.2 | 1 X 1.2 | Re-cons. | RHS | Comp |
| | | | HP(LHS) | | | | LHS | Comp |
| 34 | 15.150 | 15.150 | HP | 1 X 1.7 | 1 X 1.7 | | B.S. | Comp |
| 35 | 15.325 | 15.325 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 36 | 15.460 | 15.460 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 37 | 16.100 | 16.100 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 38 | 16.200 | 16.180 | PUP(RHS) | - | 5X3 | NEW | RHS | Comp |
| | | | PUP(LHS) | | | | LHS | Comp |
| 39 | 16.260 | 16.260 | HP | 1 X 1.2 | 1 X 1.2 | Widening | B.S. | Comp |
| 40 | 16.510 | 16.510 | HP(RHS) | 2 X 1.2 | 2 X 1.2 | Re-con | YTS | |
| | | | HP(LHS) | | | | YTS | |
| 41 | 16.805 | 16.810 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 42 | 17.150 | 17.207 | MNB | 3 X 3.75 | 1X11.25 | | RHS | Comp |
| | | | | | | | LHS | Comp |
| 43 | 17.605 | 17.605 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 44 | 18.450 | 18.450 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 45 | 18.750 | 18.923 | MNB | 3 X 8 | 3 X 8.75 | | B.S. | Comp |
| 46 | 19.710 | 19.710 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 47 | 19.840 | 19.840 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 48 | 20.775 | 20.775 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 49 | 20.160 | 20.160 | HP | 4 X 1.2 | 4 X 1.2 | Re-construction | B.S. | Comp |
| 50 | 21.260 | 21.260 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 51 | 22.038 | 22.038 | MNB | | | NEW | B.S. | Comp |
| 52 | 22.290 | 22.290 | BOX(RHS) | 3 x 3 | 3 x 3 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |
| 53 | 22.400 | | PUP | 5X3 | | NEW | B.S. | Comp |
| 54 | 22.980 | 22.980 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp |
| | | | BOX(LHS) | | | | LHS | Comp |

| | | | | | | | | | |
|--|--------|--------|------------|----------|---------------|------------------|--------------|------|--|
| 55 | 23.560 | 23.560 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 56 | 23.730 | 23.855 | MNB | 3 X 8 | 3 X 8 | | B.S. | Comp | |
| 57 | 24.000 | | PUP | - | 5X3 | | B.S. | Comp | |
| 58 | 24.390 | 24.390 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 59 | 26.105 | 26.105 | BOX(RHS) | 5 X 3 | 5 X 3 | Widening | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 60 | 27.230 | 27.268 | MJB | 7 X 12 | 7 X 12 | Widening | B.S. | Comp | |
| 61 | 27.550 | 27.550 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 62 | 27.925 | 27.925 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 63 | 28.575 | 28.575 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 64 | 28.960 | 28.960 | HP | 1 X 1.2 | 1 X 1.2 | Re-construction | RHS | Comp | |
| 65 | 29.010 | 29.010 | MNB | 2 x 15 | 2 x 15 | | RHS | Comp | |
| 66 | 29.250 | 29.285 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | YTS | |
| 67 | 29.860 | 29.860 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | Yet to start | | |
| | | | BOX(LHS) | | | | | | |
| 68 | 30.300 | | PUP | 5X3 | | | Yet to start | | |
| 69 | 30.930 | 30.930 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons. | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 70 | 31.300 | | VUP | | | | LHS | Hold | |
| 71 | 31.400 | 31.400 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-construction | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 72 | 33.350 | 33.350 | HP | 1 X 1.2 | 1 X 1.2 | New construction | B.S. | Comp | |
| 73 | 33.545 | 33.545 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-construction | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 74 | 33.760 | 33.726 | MNB | 3 X 6.75 | 3 X 6.75 | Widening | B.S. | Comp | |
| 75 | 35.050 | 35.050 | BOX(RHS) | 6 X 5 | 6 X 5 | Widening | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 76 | 35.350 | 35.350 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-construction | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 77 | 35.805 | 35.805 | BOX(RHS) | 2 X 2 | 2 X 2 | Widening | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 78 | 35.980 | 35.980 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-construction | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 79 | 36.580 | 36.580 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-co | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 80 | 36.760 | 36.760 | BOX(RHS) | 5 X 3 | 5 X 3 | Re-co | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 81 | 36.960 | 36.960 | HP | 1 X 1.2 | 1 X 1.2 | Re-co | B.S. | Comp | |
| 82 | 37.330 | 37.330 | BOX(RHS) | 2 X 3 | 2 X 3 | WIDE | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 83 | 37.700 | 37.700 | HP | 1 X 1.2 | 1 X 1.2 | Re-co | B.S. | Comp | |
| 84 | 39.600 | | MJBR(DANT) | | 11X18 | | RHS | Comp | |
| 85 | 41.610 | 41.610 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 86 | 42.600 | 42.600 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-con | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 87 | 43.240 | 43.240 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-cons | YTS | | |
| | | | BOX(LHS) | | | | | | |
| 88 | 43.460 | 43.460 | BOX(RHS) | 2 X 3 | 2 X 3 | W | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| START OF BARGAR BYPASS @ KM 43.750 Land shall be available by 1/1/2012. | | | | | | | | | |
| 89 | 0.454 | 44.204 | ROB(RHS) | | 1X16.9+1X25.7 | 2X2 L | RHS | Comp | |
| | | | ROB(LHS) | | | | LHS | Comp | |
| 90 | 0.800 | 44.550 | HP | 1 X 1.2 | 1 X 1.2 | New cons | B.S. | Comp | |
| 91 | 1.150 | 44.900 | BOX(RHS) | 2 X 2 | 2 X 2 | New cons | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 92 | 1.540 | 45.290 | VUP(RHS) | | 12X5.5 | NEW | RHS | Comp | |
| | | | VUP(LHS) | | | | LHS | Comp | |
| 93 | 1.880 | 45.588 | BOX(RHS) | | 6 X 5 | New cons | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 94 | 45.600 | 45.612 | MNB(RHS) | | | NEW | RHS | Comp | |
| | | | MNB(LHS) | | | | LHS | Comp | |
| 94 | 2.100 | 45.850 | HP | | 1 X 1.2 | New construction | B.S. | Comp | |

| | | | | | | | | | |
|--|--------|--------|-------------|------------------------------|----------|---------------------|------|------|--|
| 95 | 2.300 | 46.050 | BOX(RHS) | | 2 X 2 | New construction | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 96 | 2.700 | 46.450 | VUP(RHS) | | 12X5.5 | New construction | RHS | Comp | |
| | | | VUP(RHS) | | | | LHS | Comp | |
| 97 | 2.800 | 46.550 | ROB(RHS) | | | New construction | RHS | Comp | |
| | | | ROB(LHS) | | | | LHS | Comp | |
| 98 | 47.553 | 47.553 | MNB(RHS) | 4 X 5.10 | 4 X 5.10 | 2X2 L | RHS | Comp | |
| | | | MNB(LHS) | | | | LHS | Comp | |
| 99 | 48.673 | 48.673 | MNB(RHS) | 2 X 7 | 2 X 7 | 2X2 L | RHS | Comp | |
| | | | MNB(LHS) | | | | LHS | Comp | |
| 100 | 5.500 | 49.250 | BOX(RHS) | 3 X 3 | 3 X 3 | New construction | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 101 | 5.995 | 49.740 | VUP(RHS) | 12X5.5 | | | RHS | Comp | |
| | | | VUP(RHS) | | | | LHS | Comp | |
| 102 | | 50.488 | MJBR(JEERA) | 7X33.5+ 2X10.5 | 7X36.5 | | B.S. | Comp | |
| 103 | 7.050 | 50.800 | BOX(RHS) | 2 X 2 | 2 X 2 | New construction | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 104 | 7.100 | 50.850 | BOX(RHS) | 2 X 2 | 2 X 2 | New construction | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| END OF BARGAR BYPASS @KM 50.850 | | | | | | | | | |
| 105 | 51.030 | 51.030 | BOX(RHS) | 2 X 2 | 2 X 2 | Re- construction | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 106 | 51.330 | 51.330 | BOX(RHS) | 2 X 2 | 2 X 2 | Widening | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 107 | 51.780 | 51.780 | BOX(RHS) | 2 X 2 | 2 X 2 | Re- construction | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 108 | 52.640 | 52.640 | HP | 1 X 1.2 | 1 X 1.2 | Re- construction | B.S. | Comp | |
| 109 | 53.800 | 54.150 | MNB | 1X10+1X 10.45+1 X10.20 | 3 X 10 | Widening | LHS | Comp | |
| 110 | 53.950 | 54.293 | MNB | 5 X 10 | 5 X 9 | Widening | LHS | Comp | |
| 111 | 55.770 | 55.630 | HP | 1 X 1.2 | 1 X 1.2 | New construction | B.S. | Comp | |
| 112 | 57.480 | 57.328 | HP | 1 X 1.2 | 1 X 1.2 | New const. | RHS | Comp | |
| | | | | | | | LHS | Comp | |
| 113 | 58.460 | 58.760 | HP | 1 X 1.2 | 1 X 1.2 | Re-co | RHS | Comp | |
| | | | | | | | LHS | Comp | |
| 114 | 59.095 | 58.380 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-con | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 115 | 59.300 | 59.620 | HP | 1 X 1.2 | 1 X 1.2 | New con | RHS | Comp | |
| | | | | | | | LHS | Comp | |
| 116 | 61.600 | 61.620 | HP | 1 X 1.2 | 1 X 1.2 | New con | RHS | Comp | |
| | | | | | | | LHS | Comp | |
| 117 | 63.440 | 63.440 | HP | 1 X 1.2 | 1 X 1.2 | New con | RHS | Comp | |
| | | | | | | | LHS | Comp | |
| 118 | 64.450 | 64.750 | HP | 1 X 1.2 | 1 X 1.2 | New construction | B.S. | Comp | |
| 119 | 65.665 | 65.970 | HP | 1 X 1.2 | 1 X 1.2 | Re- construction | B.S. | Comp | |
| 120 | 66.940 | 67.329 | MNB | 2 X 7 | 2 X 7.5 | Widening | LHS | Comp | |
| 121 | 67.200 | 67.200 | BOX(LHS) | 2 X 2 | 2 X 2 | Re- construction | RHS | Comp | |
| | | | BOX(RHS) | | | | LHS | Comp | |
| 122 | 67.515 | 67.530 | HP | 1 X 1.2 | 1 X 1.2 | Re- construction | B.S. | Comp | |
| 123 | 67.685 | 67.820 | BOX(LHS) | 2 X 2 | 2 X 2 | Re- construction | RHS | Comp | |
| | | | BOX(RHS) | | | | LHS | Comp | |
| 124 | 67.960 | 67.960 | BOX(LHS) | 4 X 4 | 4 X 4 | Widening | RHS | Comp | |
| | | | BOX(RHS) | | | | LHS | Comp | |
| 125 | 68.050 | 68.160 | HP | 1 X 1.2 | 1 X 1.2 | Re- construction | B.S. | Comp | |
| 126 | 68.855 | 69.160 | BOX(LHS) | 2 X 2 | 2 X 2 | Re- construction | RHS | Comp | |
| | | | BOX(RHS) | | | | LHS | Comp | |
| 127 | 69.150 | 69.460 | BOX(RHS) | 2 X 2 | 2 X 2 | Re- construction | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 128 | 69.860 | 69.860 | HP | 3 X 1.2 | 3 X 1.2 | Re-con | B.S. | Comp | |
| 129 | 70.325 | 70.760 | BOX(LHS) | 3 X 3 | 3 X 3 | Re-con | RHS | Comp | |
| | | | BOX(RHS) | | | | LHS | Comp | |

| | | | | | | | | | |
|------------------------|-------------------|--------|----------|--------------------|---------|--------------------------------|------|------|--|
| 130 | 70.885 | 71.185 | BOX(LHS) | 3 X 3 | 3 X 3 | Re-con | RHS | Comp | |
| | | | BOX(RHS) | | | | LHS | Comp | |
| 131 | 71.572 | 71.940 | BOX(LHS) | 6 X 3 | 6 X 3 | Wide | RHS | Comp | |
| | | | BOX(RHS) | | | | LHS | Comp | |
| 132 | 71.870 | 72.256 | MJB | 7 X 9.2 | 7 X 9.2 | Wide | LHS | Comp | |
| 133 | 72.262 | 72.262 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-co | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | YTS | |
| 134 | 73.300 | 73.300 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-con | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | YTS | |
| 135 | 74.686 | 75.110 | BOX(LHS) | 2 X 2 | 2 X 2 | Re-con | RHS | Comp | |
| | | | BOX(RHS) | | | | LHS | Comp | |
| 136 | 76.200 | 76.540 | HP | 1 X 1.2 | 1 X 1.2 | New con | B.S. | Comp | |
| 137 | 77.160 | 77.480 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-con | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 138 | 77.690 | 78.000 | BOX(RHS) | 2 X 2 | 2 X 2 | Re-con | RHS | Comp | |
| | | | BOX(LHS) | | | | LHS | Comp | |
| 139 | 80.340 | 80.720 | HP | 1 X 1.2 | 1 X 1.2 | New con | RHS | Comp | |
| | | | | | | | LHS | Comp | |
| 140 | 81.160 | 81.460 | HP | 1 X 1.2 | 1 X 1.2 | New con | RHS | Comp | |
| | | | | | | | LHS | Comp | |
| 141 | 83.650 | 83.965 | HP | 1 X 1.2 | 1 X 1.2 | New con | RHS | Comp | |
| | | | | | | | LHS | Comp | |
| 142 | 84.500 | 84.960 | HP | 1 X 1.2 | 2 X 1.2 | New con | RHS | Comp | |
| | | | | | | | LHS | Comp | |
| 143 | 86.484 | 86.484 | BOX(LHS) | 2 X 2 | 3 X 2 | Re-con | RHS | Comp | |
| | | | BOX(RHS) | | | | LHS | Comp | |
| 144 | 86.915 | 86.915 | HP | 3 X 1.2 | 4 X 1.2 | Re-con | B.S. | Comp | |
| Change of scope | | | | | | | | | |
| 145 | 1.967 | 1.967 | BOX(LHS) | | 3 X 2 | New Con | RHS | Comp | |
| | | | BOX(RHS) | | | | LHS | Comp | |
| 146 | 11.200 | 11.200 | VUP(RHS) | | | New Con | RHS | Comp | |
| | | | VUP(LHS) | | | | LHS | Comp | |
| 147 | 47.045 | 47.045 | PUP(RHS) | | | New Con | RHS | Comp | |
| | | | PUP(LHS) | | | | LHS | Comp | |
| 148 | 48.360 | 48.360 | PUP(RHS) | | | New Con | RHS | Comp | |
| | | | PUP(LHS) | | | | LHS | Comp | |
| Sr. NO | Type of CD | | | Total Scope | | Work Completed | | | |
| 1 | Box culvert | | | 82 | | 73 | | | |
| 2 | MNBR | | | 14 | | 14 | | | |
| 3 | MJBR | | | 6 | | 6 | | | |
| 4 | ROB | | | 3 | | 3 | | | |
| 5 | VUP&PUP | | | 10 | | 8 (2 Nos canceled in Attabira) | | | |
| 6 | H.P | | | 33 | | 31 | | | |

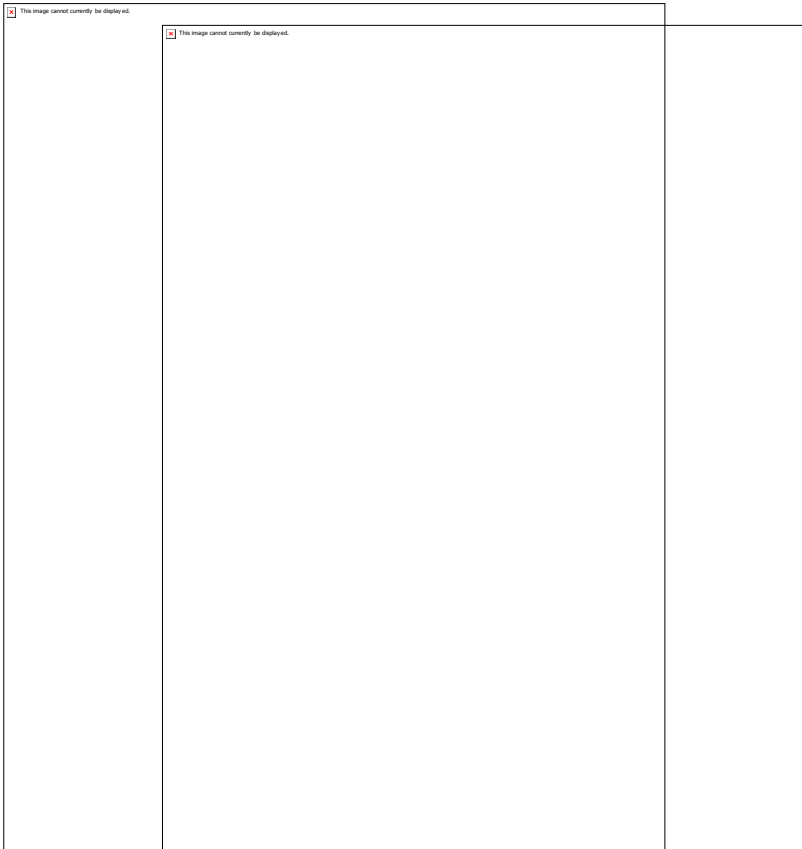
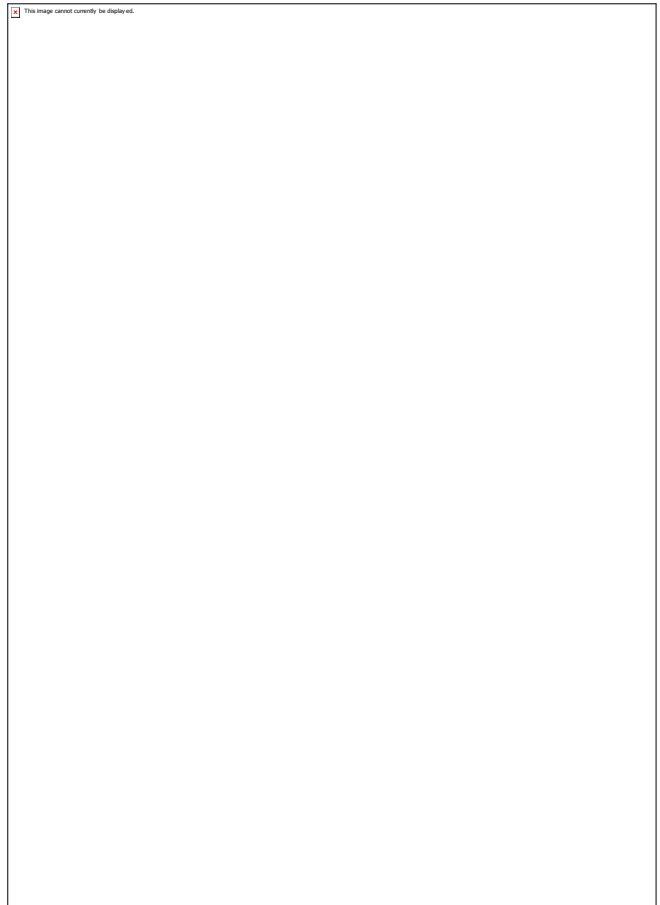
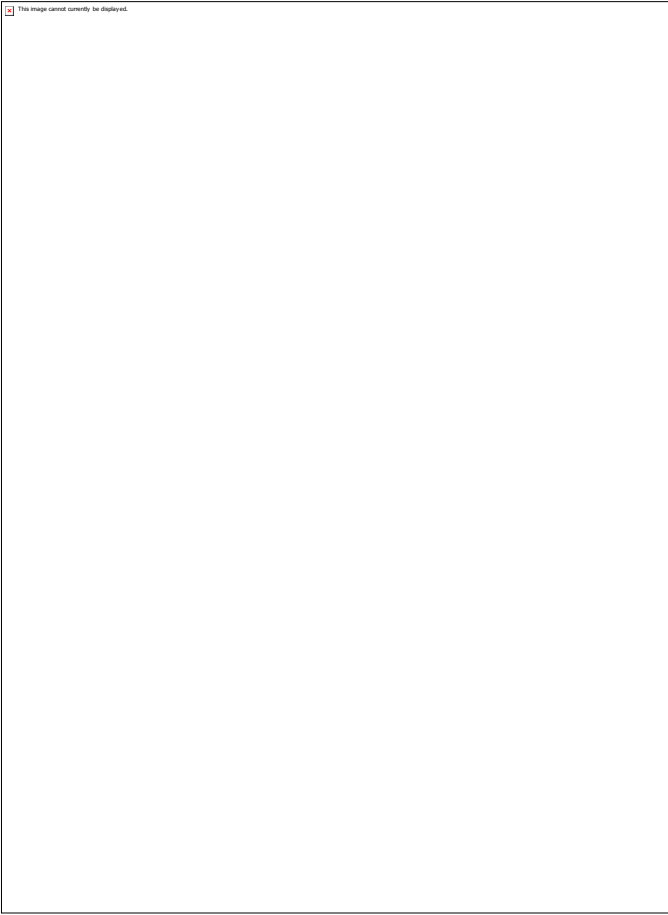
• **Chainage wise water bodies information**

| Sr. No. | Chainage (Km) | Water Bodies | Mitigation measures |
|---------|-------------------|-------------------|--|
| 1 | 1+ 750 | Water Channel | 1.No constructions plants are not allowed to site nearer to this water bodies |
| 2 | 4+900 | Krishna Canel | |
| 3 | 17+300 | Water Streams | 2. water should be drawn from these water bodies for construction activities and labour camp with proper consent from the local people of that region. |
| 4 | 17 + 600 | Kandaleru Canel | |
| 5 | 28+ 800 | Kosthalayer River | 3. Silt fencing is required to prevent the excessive runoff from the construction site and labour camp. |
| 6 | 1+300 to 2+000 | Pallavedu Lake | |
| 7 | 2 + 150 to 2+ 200 | Pond | |

| | | | |
|---|------------------|------|---|
| 8 | 7+050 to 7+100 | Pond | 4. proper utilization of oil interceptor is mandatory at this location. |
| 9 | 11+500 to 11+700 | Pond | |

Summary of Mitigation for impacts on Water Environment:

| Sr. No. | Particular | Impact | Reason | Mitigation/Enhancement |
|---------|--------------------------------------|---------------|---|--|
| 1 | Loss of water bodies | Direct impact | Construction of CD structures across the water bodies | Care should be taken to minimize the land acquisition |
| 2 | Change of existing drainage patterns | Direct impact | Construction of cross drainage structure | Care should be given to maintain the natural drainage system |
| 3 | Water requirement for project | Direct impact | Water requirement for construction activities Water requirement for labour camp | Contractor needs to take consent from the local body and public for utilizing the local water resources |
| 4 | Increased sedimentation | Direct impact | Construction waste, Oil and diesel spills, Excessive runoff from the construction site | Hazardous waste (management and handling) to be enforced oil interceptor will be provided at all construction sites. Silt fencing nearer to the water bodies No construction sites are planned nearer to existing water bodies water bodies /resources along corridor |



Details of Borrow Areas

LOCATION & BORROW AREA QUANTITY (Used in km 0-40)

| B/A no. | LOCATION | SIDE | DISTANCE FROM NH (mtr.) | VILLAGE NAME | Qty. M3 | | | REMARK |
|---------|----------|------|-------------------------|--------------------|----------------|-----------------|-----------------|--------|
| | | | | | Approx Qty. M3 | Consume Qty. M3 | Balance Qty. M3 | |
| 10 | 35+760 | RHS | 2000M | Debahal | 172800 | 172500 | 300 | |
| 11 | 16+340 | LHS | 3000 M | Kalamati | 59000 | 57000 | 2000 | |
| 12 | 16+200 | LHS | 1000 M | Kalappda | 22800 | 22500 | 300 | |
| 25 | 22+020 | RHS | 3500 M | Kendupali | 18500 | 18000 | 500 | |
| 26 | 22+020 | RHS | 3500 M | Kendupali | 22000 | 21000 | 1000 | |
| 28 | 11+310 | RHS | 1200 M | Katapali | 200000 | 193500 | 6500 | |
| 29 | 10+150 | RHS | 1200 M | Katapali | 15000 | 6000 | 9000 | |
| 30 | 20+00 | RHS | 1500 M | Kendupali | 20000 | 18000 | 2000 | |
| 31 A | 5+200 | RHS | 3000 M | Hindalco | 110000 | 108000 | 2000 | |
| 32 | 20+180 | LHS | 1500 M | GUDKA TIKRA | 47000 | 46500 | 500 | |
| 33 | 16+200 | LHS | 2000 M | Badasinghari | 8000 | 7500 | 500 | |
| 34 | 4+800 | RHS | 3500 M | Gajarpali | 32000 | 3000 | 29000 | |
| 35 | 16+200 | LHS | 4000 M | Badasinghari | 4600 | 4500 | 100 | |
| 36 | 16+200 | LHS | 4500 M | Badasinghari | 20000 | 18000 | 2000 | |
| 37 | 10+600 | RHS | 600 M | Hirakud station | 10000 | 9000 | 1000 | |
| 38 | 14+000 | LHS | 2500 M | Over burden quarry | 15000 | 12000 | 3000 | |
| 39 | 14+000 | LHS | 6000 | BAIJA MUNDA | 8000 | 7500 | 500 | |
| 40 | 14+000 | LHS | 6000 | MUNDAGHAT | 8000 | 7500 | 500 | |
| 41 | 14+000 | LHS | 2500 | BAIJA MUNDA | 185000 | 153000 | 32000 | |
| 42 | 22+00 | RHS | 4000 M | KENDUPALLI | 8000 | 7500 | 500 | |
| 43 | 12+300 | LHS | 3400 | KATAPALLI | 13000 | 12000 | 1000 | |
| 44 | 13+500 | LHS | 1000 | KATAPALLI | 8000 | 7500 | 500 | |
| 45 | 22+000 | RHS | 3500 | LAHANDA | 23000 | 22500 | 500 | |
| 46 | 27+050 | LHS | 500 | SARANDAGULAI | 20000 | 18000 | 2000 | |
| 47 | 33+000 | LHS | 500 | LADARPALLI | 30000 | 25500 | 4500 | |
| 48 | 23+800 | RHS | 1200 | GODBHAGA | 223000 | 220000 | 3000 | |
| 49 | 0+000 | RHS | 5000 | SAMBALPUR | 35000 | 33000 | 2000 | |
| 50 | 3+860 | LHS | 300 | RAMAN CHOCK | 8000 | 7500 | 500 | |
| 51 | 14+200 | RHS | 500 | KATAPALLI | 25000 | 24000 | 1000 | |
| 52 | 28+200 | LHS | 500 | ATTABIRA | 60000 | 45000 | 15000 | |

BORROW AREA



Ashoka Buildcon Limited

Project : Four laning of Sambalpur-Baragarh-Orissa / Chhattisgarh Border section of NH6 from km 0.00to km 88.00 in the state of Orissa to be executed as BOT (Toll) project on DBFOT pattern under NHDP Phase III Project

Location of Quarries at NH-6 Site








| <i>Sr. No.</i> | <i>Location of Quarry</i> | <i>Type of Material</i> | <i>Status</i> | <i>Remarks</i> |
|----------------|---|-------------------------|------------------------|----------------|
| 1 | Quarry No. 5 Km 14.00 Sansinghari, District Sambalpur | Bolder & Murrum | Running WIP | |
| 2 | Quarry No. 6 Km 14.00 Sansinghari, District Sambalpur | Bolder & Murrum | Running WIP | |
| 3 | Lamdungri, P.S. Hirakud Km 17.500 | Murrum Quarry | Auction Quarry | Govt. Quarry |
| 4 | Km 27.400 Jhanjore River | Sand Quarry | Auction Quarry | Govt. Quarry |
| 5 | Km 36.900 Danta River | Sand Quarry | Running | |
| 6 | Km 50.00 Danta River | Sand Quarry | Auction Quarry | Govt. Quarry |
| 7 | Private Quarry Mr. Santosh Karna (Jamurda Village Tahasil Bargarh) Km 44.500 RHS | Mrrum Quarry | Pady Field | |
| 8 | Km 45.00 Pradhan pali Village | Murrum Quarry | Talab for Local People | |
| 9 | Private Quarry Mr. Manoj Pradhan (Bargaon Tahasil Bargarh) Km 47.500 | Mrrum Quarry | Pady Field | |
| 10 | Private Quarry Mr. Narayan Pradhan (Bargaon Tahasil Bargarh) Km 47.500 | Mrrum Quarry | Pady Field | |
| 11 | Private Quarry Mr. Tapa Barik (Bardol Tahasil Bargarh) Km 49.500 RHS | Mrrum Quarry | Pady Field | |
| 12 | Private Quarry Mr. Pitambar Meher (Bhudamal Tahasil Bargarh) Km 78.500 RHS | Mrrum Quarry | Pady Field | |
| 13 | Private Quarry Mr. Debanand Sahu (Gobindpur Tahasil Bargarh) Km 55.00 RHS | Mrrum Quarry | Pady Field | |
| 14 | Private Quarry Mr. Ramesh Pradhan (Tentala Tahasil Bargarh) Km 49.00 RHS | Mrrum Quarry | Pady Field | |
| 15 | Km 80.00 Birjupali Tahasil Sohela | Bolder & Murrum | Auction Quarry | Govt. Quarry |

Safety Control Measures at Hot Spot

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



Action Plan for Accident Prone Area. A.S.B.T.L.

| Sl. No. | Date | Ch. No. | Location | Nos Of Fatalities | Action Plan to Prevent Re-Occurrence | Evidence |
|---------|----------|---------|---------------------|-------------------|--|---|
| 1 | 17.12.14 | 75/600 | Block Chowk, Sohela | 1 | Urban Area Ahead Signage place. Emergency Contact Sign has been place. |   |
| 2 | 17.12.14 | 86/200 | Luhurachati | 1 | Hazard Mark Placed in median opening. Urban Area Ahead Signage place. |   |
| 3 | 18.12.14 | 30/600 | Attabira | 1 | Old existing road has been painted with center line. Road side trees & objects are marking with paint and barricaded. |    |

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

- Non-productive, barren lands, upland shall be used for borrowing earth with the necessary permissions/consents from land owner and necessary local authorities.
- Depths of borrow pits to be regulated (should not more than 2 Meter).
- Topsoil to be stockpiled and protected for use at the rehabilitation stage.
- Silted/Sediment Lakes, Ponds should be selected as borrow area;
- Use of fly Ash should be done at embankments and other earth work to reduce the use of Borrow area
- Transportation of earth materials through covered vehicles.
- No Borrow area to be located within ROW

- IRC recommended practice for borrow pits (IRC 10: 1961).
- Borrow areas not to be dug continuously.
- To the extent borrow areas shall be sited away from habituated areas. Borrow areas shall be leveled with salvaged material or other filling materials which do not pose contamination of soil. Else, it shall be converted into fishpond in consultation with land owner/community. Rehabilitation of the borrow areas as per Guidelines for redevelopment of Borrow Areas.

Quarry Operations

- Aggregates will be sourced from existing licensed quarries only.
- Copies of consent/ approval / rehabilitation plan for a new quarry or use of existing source will be verified and their regular compliance to be checked.
- The quarry operations will be undertaken within the rules and regulations in force in the state.

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.

Borrowing of earth shall be carried out at location recommended as follows:

- **Non-Cultivable Lands:** Borrowing of earth will be carried out up to a depth of 2.0 m from the existing ground level. Borrowing of earth shall not be done continuously. Ridges of not less than 8m width shall be left at intervals not exceeding 300 m. Small drains shall be cut through the ridges, if necessary, to facilitate drainage. Borrow pits shall have slopes not steeper than 1 vertical in 4 horizontal.
- **Productive Lands:** Borrowing of earth shall be avoided on productive lands. However, in the event of borrowing from productive lands, under circumstances as described above, topsoil shall be pressed in stockpiles. The conservation of topsoil shall be carried out. At such locations, the depth of borrow pits shall not exceed 45 cm and it may be dug out to a depth of not more than 30 cm after stripping the 15 cm top soil. **Elevated lands:** at locations where private owners desire their fields to be levelled, the borrowing shall be done to a depth of not more than 2 m or up to the level of surrounding fields.
- **Borrow Pits Along Roadside:** Borrow pits shall be located 5m away from the toe of the embankment.
 - Depth of the pit should be such that the bottom of the pit shall not fall within an imaginary line of slope 1 vertical to 4 horizontal projected for the edge of the final section of the bank. Borrow pits should not be dug continuously. Ridges of not less than 8 m width should be left at intervals not exceeding 300 m. Small drains should be cut through the ridges to facilitate drainage.
- **Community/Private Ponds:** Borrowing can be carried out at locations, where the private owners (or in some cases, the community) desire to develop lands (mostly low-lying areas) for pisciculture purposes and for use as fishponds.
- **Borrow Areas Near Settlements:** Borrow pit location shall be located at least 1 km from villages and settlements. If unavoidable, they should not be dug for more than 30 cm and should be drained.

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 NHAH Consultant / Independent Engineer / NHAH 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 fuelling platforms to be provided at re-fuelling 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 approved 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 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 out 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 | <ul style="list-style-type: none"> • Avenue of tree plantation |
| 2 | Dust generation | Short term | Site clearance activities, removal of trees and loading/unloading of construction material | <ul style="list-style-type: none"> • 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. | <ul style="list-style-type: none"> • 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 its 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 :

As per scope of Project we planted Total **52,805** Nos of Avenue Plantation at our Sambalpur Site from Km 0.00 to Km 88.00 till January 2015 the species are as follows:

| Sl. No. | Vernacular Name | Botanical Name |
|----------------|------------------------|----------------------------------|
| 01. | Jamun | <i>Syzygium cumini</i> |
| 02. | Kadamba | <i>Anthocaphalus cadamba</i> |
| 03. | Neem | <i>Azadirachta Indica</i> |
| 04. | Ticama | |
| 05. | Ber | <i>Cicus bengalensis</i> |
| 06. | Babool | <i>Mimisops elengi</i> |
| 07. | Chatiana | <i>Alstonea scholaris</i> |
| 08. | Krushnachusda | <i>Delonix negia</i> |
| 09. | Mango | <i>Mangifera Indica</i> |
| 10. | Peepal | <i>Ficus religiosa</i> |
| 11. | Radhachuda | <i>Peltophorum ferrugineum</i> |
| 12. | Semul | <i>Bombax ceiba</i> |
| 13. | Sirish | <i>Albizzia lebbek</i> |
| 14. | Sissoo | <i>Dalbergia Sissoo/atifolia</i> |

Total Tree cutting at Sambalpur site till January 2015 is 10517 Nos. at Non forest and 309 Nos. at Reserve forest area Sambalpur.

Total median Plantation at Sambalpur Site is **42250 Nos.**



Spill control measures at P&M workshop

Adequate space for Vehicle maintenance with impervious concrete platform.



Proper disposal of waste cotton materials use for vehicle maintenance.



Provision of tray, funnel, pump for spillage controls.



Admixture /Paints/pesticide storage and handling:



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.

Environmental Monitoring Plan for Toll Plaza, Road & Bridge Project

| Sr.No | Description of Parameters | Schedule and duration of monitoring |
|--|--|--|
| 1. Ambient Air Quality (SPM, RPM, CO, SO₂, NO_x) | | |
| 1A | During construction phase , 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 construction phase , 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 surrournding area | Quarterly basis - One sample |
| 2D | DG Set (Above 50 KVA) | Quarterly basis - One Sample |
| 2E | During construction phase , Crusher | Quarterly basis - One Sample |
| 2F | During construction phase , HMP Plant | Quarterly basis - One Sample |
| 2G | During construction phase , WMM Plant | Quarterly basis - One Sample |
| 2H | During construction phase , RMC Plant | Quarterly basis - One Sample |

| | | |
|-----------|------------|------------------------------|
| 2I | CRMP Plant | Quarterly basis - One Sample |
|-----------|------------|------------------------------|

| 3. Stack Monitoring (PM, CO, SO₂, NO_x) During construction phase , | | |
|--|-----------------------------------|------------------------------|
| 3A | DG Set (Above 50 KVA) | Quarterly basis - One Sample |
| 3B | Hot Mix Plant - Stack | Quarterly basis - One Sample |
| 4. Water quality (pH, Odour, TDS, TSS, O&G, Sulphide, Sulphate, COD, BOD and O&G, Heavy Metals etc) During construction phase , | | |
| 4A | RMC Waste water and Treated water | Quarterly basis- One Sample |
| 4B | Down stream of Camp-Leachet | Quarterly basis - One Sample |
| 5. Drinking Water quality as per WHO Standard, During construction phase, During construction 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 construction phase | | |
| 6A | Labour camp | Half yearly - One Sample |
| | Project camp and Office | Half yearly - One Sample |

Air Quality Monitoring Location

| Sr. No. | Chainage (Km) | Location |
|---------|---------------|-----------------|
| 1 | 14.0 | Camp 14 |
| 2 | 25.0 | Sarandda bypass |
| 3 | 40.0 | Camp 40 |

Consultancy Details for Environmental Monitoring



Address: B-1003, Enviro House, 10th Flr, Western Edge 2, Western Express Highway,
 Borivali East, Mumbai, Maharashtra 400066. **Phone:** 022 2854 1647

Chapter – IX : Safety Performance

PPE Matrix :

| 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 Goggles | 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 Signages | 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 INDUSTRIES 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 1. General Type 2. Safe Operating Procedure 3. 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:1 st Aug, 2013 | | Rev. No.: 00 | | Revision Date : 1 st Aug, 2013 | | |
| Title : Hazard Identification, Risk Assessment and determining controls (Risk Register) | | | | | | | | |
| SITE: | | Road Project | | | | | | |
| 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 | IT | Installation of system and maintenance | Electric Shock | 3 | 2 | 6 | Low | |
| 35 | IT | Programing and support | Visual defect - Radiation Hazard | 3 | 2 | 6 | Low | |
| 36 | IT | 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 | Concreting | 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 | Concreting | 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 | Probability | | | | | High |
| 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 | Con- di- tion | Rating | | | | | | Significance | Control Measures | | | | | |
| | | | | | | | A | B | C | D | E | F | | | | | | | |
| | | | | | | | Legis- lation | Im- pact | Oc- cur- renc e | Con- trol | De- tec- tion | F=BxC xDxE | | | | | | | |
| 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 Biodegradable 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 Contamination | 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 _ Environment Management Manual for RMC Manual the conveyor belt is completely covered) | | | | | |
| 14 | P & M | Diesel Distribution | Leakages, Spillages | D | Land Contamination | AN | N | 2 | 1 | 1 | 1 | 2 | Low | | | | | | |
| 15 | P & M | Depositing of Non-biodegradable waste | Electrical wastages, wire pieces etc. | D | Contamination 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 | D | Land Contamination | N | Y | 1 | 2 | 1 | 1 | 2 | Low | Disposal through Authorized Dealer | | | | | |

| | | | | | | | | | | | | | | |
|----|------------------|--|--|---|-----------------------|----|-----|---|---|---|---|---|------|---|
| | | | container | | | | | | | | | | | |
| 18 | P & M | Maintenance work | Waste Oil generation | D | Land Contamination | 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 conventional 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 _ Environment Management 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 _ Environment Management 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 | | | |
| 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: 4 th Jan, 2014 | Rev. No.: 00 | Revision Date : 4 th Jan, 2014 |
| Title : Violation Letter | | | |
| <p>MEMORANDUM</p> <p>PROJECT: - Memo. No:</p> <p>Department: _____</p> <p>CONTRACTOR/A.B.L.: _____ Date: _____ Time: _____ Ch. No: _____</p> <p>NAME OF EMPLOYEE: _____</p> <p>DESIGNATION/TRADE: _____</p> <p>MEMORANDUM NO: (A) 1st [] (B) 2nd [] (C) 3rd [] (D) 4th []</p> <p>TYPE OF VIOLATION (To be Written by HSE Officer):- (HSE Officer shall attach the evidence of violence such as photograph and IOC issued)</p> <ul style="list-style-type: none"> • Not using the following PPE on duty time. (Use {√} mark as proper violence option below.) 1) SAFETY JACKET. <input type="checkbox"/> 2) SAFETY HELMET. <input type="checkbox"/> 3) NOSE MASK. <input type="checkbox"/> 4) SAFETY SHOES. <input type="checkbox"/> 5) HAND GLOVES. <input type="checkbox"/> 6) GOGGLES. <input type="checkbox"/> 7) EAR PLUG. <input type="checkbox"/> 8) RUBBER HANDGLOVES <input type="checkbox"/> 9) WELDING SCREEN. <input type="checkbox"/> 10) SAFETY BELT. <input type="checkbox"/> 11) GUMBOOT. <input type="checkbox"/> • Any other violence :- • Department Head action against the violator:- <p style="text-align: center;"> Sign of employee Sign. Of DH/ Supervisor Sign of HSE Officer Sign of Project In charge </p> <p style="text-align: center;">HSE & S and HR & Admin. Department</p> <hr/> <p>Head HSE & S Comments:-</p> <p>DGM (HR & Admin.) Comments:-</p> <p>IMS Director Comments:-</p> <p>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.</p> <ol style="list-style-type: none"> 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. <div style="text-align: right; margin-top: 10px;"> <div style="border: 2px solid black; border-radius: 10px; padding: 5px; display: inline-block;"> MASTER COPY ONLY IF IN RED </div> </div> | | | |
| 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: what happened -Attach Incident photographs and Use attachment such as sketch if necessary) | | | (Explain |
| | | | |
| 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 <input type="checkbox"/> | A. Inadequate guards or barriers <input type="checkbox"/> | A. Capability <input type="checkbox"/> | |
| B. Failure to warn / secure / barricading <input type="checkbox"/> | B. Defective tools, equipment, substances <input type="checkbox"/> | B. Lack of Knowledge <input type="checkbox"/> | |
| C. Operating / working at improper speed <input type="checkbox"/> | C. Inadequate tools, equipment, substances <input type="checkbox"/> | C. Lack of Skill <input type="checkbox"/> | |
| D. Defeating / removing a safety device <input type="checkbox"/> | D. Poor access <input type="checkbox"/> | D. Stress <input type="checkbox"/> | |
| E. Using defective equipment <input type="checkbox"/> | E. Inadequate warning system or notice <input type="checkbox"/> | E. Motivation <input type="checkbox"/> | |
| F. Using equipment improperly <input type="checkbox"/> | F. Fire and explosion hazards <input type="checkbox"/> | 4. JOB/SYSTEM FACTORS | |
| G. Failure to use PPE properly <input type="checkbox"/> | G. Substandard housekeeping <input type="checkbox"/> | A. Inadequate Leadership <input type="checkbox"/> | |
| H. Improper loading or positioning <input type="checkbox"/> | H. Hazardous gases, dust, fumes <input type="checkbox"/> | B. Inadequate Engineering <input type="checkbox"/> | |
| I. Improper lifting/loading/Material Handling <input type="checkbox"/> | I. Excessive noise <input type="checkbox"/> | C. Purchasing <input type="checkbox"/> | |
| J. Improper replacement/position for task <input type="checkbox"/> | J. Radiation exposures / Extrem Temperature <input type="checkbox"/> | D. Inadequate Maintenance <input type="checkbox"/> | |
| K. Servicing equipment in operation <input type="checkbox"/> | K. Inadequate ventilation / illumination <input type="checkbox"/> | E. Tools & Equipment <input type="checkbox"/> | |
| L. Horseplay <input type="checkbox"/> | L. Weather conditions <input type="checkbox"/> | F. Procedures & Practices <input type="checkbox"/> | |
| M. Drinkings or drugs <input type="checkbox"/> | M. Other (specify) _____ <input type="checkbox"/> | G. Wear & Tear <input type="checkbox"/> | |
| N. Failure to Comply with PTW <input type="checkbox"/> | | H. Abuse or Misuse <input type="checkbox"/> | |
| O. Others(specify) <input type="checkbox"/> | | I. Inadequate Supervision <input type="checkbox"/> | |
| 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 | | | |

Handwritten signature/initials

MASTER COPY
ONLY IF IN RED

Road accident statistics

| National Highways Authority of India | | | | | | | | | | | | | | | | | | |
|--------------------------------------|------|-------------------------|------------------------|-------------------------|---------------------------------|-------------|--------------------|----------------------|------------------------|-------------------------|-----------------------------|-------------------------|----------|-------|------------------------------------|---|--------------|--|
| National Highway No : 222. | | | | | | | | | | | | | | | | | | |
| Month : Oct-2014 | | | | | | | | | | | | | | | | | | |
| Sr. No. | Date | Time of Accident pm /am | A Accident Location | B Nature of Accident | C Classification of accident | D Causes | E Road features | F Road conditions | G Intersection type | H Weather conditions | I Vehicle Responsibility | No. of affected persons | | | J Nos. of animals killed if any | K Help provided by ambulance / private vehicle | L Remarks | |
| | | | | | | | | | | | | Fatal | Grievous | Minor | | | | |
| 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 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 storm 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 |

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 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.

Details of Probable Emergencies & its emergency equipment are with Contact Details:

| Accident due to Heavy Equipment/Machinery | | | |
|--|----------------------------------|---|---|
| 1. Department involved in this emergency : Plant & Machinery | | | |
| 2. Equipment needs to handle this emergency: Crane, Toe-van, Ambulance, ERT Vehicle etc. | | | |
| 3. Contact Details for this Emergency | | | |
| Sr. No | Equipment Details | Service Supplier Name Name of Driver/In-Charge | Contact Number |
| 1 | Breakdown Service Crane (23 Tn.) | Mr. Atanu Chakrabarty | 07381087053 |
| 2 | Hydra | Mr. Prasant Mishra (Camp-40) | 07381087706 |
| 3 | Toe-Van | Khalsa Breakdown Service, Bargarh, Odisha | 09437148427 07381812848 09937016785 |
| 4 | ERT /Patrolling Vehicle | Ashoka Buildcon Ltd. PCR Van | 07381087741 07381037711 09178166444 |

| | | | |
|---|-----------|--|---|
| 5 | Ambulance | Ashoka Buildcon Ltd. Govt. Hospital Others (Private Party) | 07381087053 108 09438488335 09937119807, 09938375004, 09937000360 |
| 6 | Hospital | Sambalpur Bargarh | 0663 2422222 09438488335 06646233022 |

Accidents due to fly rock during excavations/drilling.

1. Department involved in this emergency : Execution Department, Plant & Machinery
2. Equipment needs to handle this emergency: Ambulance, ERT /Patrolling Vehicle etc.
3. Contact Details for this Emergency.

| Sr. No | Equipment Details | Service Supplier Name Name of Driver / In-Charge (Company has its own equipment) | Contact Number |
|--------|-------------------------|--|--|
| 1 | ERT /Patrolling Vehicle | PCR Van Ashoka Buildcon Ltd. | 09178166444 07381037711 |
| 2 | Ambulance | Ashoka Buildcon Ltd. Govt. Hospital Others (Private Party) | 07381087053 108 09438488335 09937119807 09938375004 09937000360 |

Fire & explosion to fueling station and Store

1. Department involved in this emergency : Store, Execution Department, Plant & Machinery
2. Equipment needs to handle this emergency: Ambulance, ERT /Patrolling Vehicle etc.
3. Contact Details for this Emergency.

| Sr. No | Equipment Details | Service Supplier Name /Name of Driver (Company has its own equipment) | Contact Number |
|--------|----------------------------------|--|--|
| 1 | Breakdown Service Crane (23 Tn.) | Mr. Atanu Chakrabarty | 07381087053 |
| 2 | Hydra | Mr. Prasant Mishra | Hydra |
| 3 | Fire brigade | Bargarh Sambalpur | 06683 223499 0663 2520101 |
| 4 | ERT /Patrolling Vehicle | PCR Van Ashoka Buildcon Ltd. | 09178166444 07381037711 |
| 5 | Ambulance | Ashoka Buildcon Ltd. Govt. Hospital Others (Private Party) | 07381087053 108 09438488335 09937119807 09938375004 09937000360 |
| 6 | Hospital | Sambalpur Bargarh | 0663 2422222 09438488335 06646 233022 |

Road Accident

1. Department involved in this emergency : Store, Execution Department, Plant & Machinery
2. Equipment needs to handle this emergency: Ambulance, ERT /Patrolling Vehicle etc.
3. Contact Details for this Emergency

| Sr. No | Equipment Details | Service Supplier Name /Name of Driver (Company has its own equipment) | Contact Number |
|--------|------------------------|---|---|
| 1 | Crane | Mr. Randhir (Camp-14) | 08339873051 07381087732 |
| 2 | Hydra | Mr. Prasant Mishra | 07381087706 |
| 3 | Fire Brigade | Sambalpur Bargarh | 0663 2520101 06683 223499 |
| 4 | ERT /Patrolling Vehide | PCR Van Ashoka Buildcon Ltd. | 09178166444 07381037711 07381087741 |
| 5 | Ambulance | Ashoka Buildcon Ltd. Govt. Hospital Others (Private Party) | 07381087053 - 108 09438488335 09937119807 09938375004 09937000360 |
| 6 | Hospital | Sambalpur Bargarh | 0663 242222 09438488335 06646233022 |

Chemical Spill

1. Department involved in this emergency : Store, Plant & Machinery
2. Equipment needs to handle this emergency: Chemical Spill Kit, ERT /Patrolling Vehide etc.
3. Contact Details for this Emergency

| Sr. No | Equipment Details | Service Supplier Name /Name of Driver (Company has its own equipment) | Contact Number |
|--------|---|---|----------------|
| 1 | Contaminate drums to collect the chemical Spill | M/s Sairam Enterprises, Sambalpur | 9937102832 |
| 2 | Spill Kit (Absorbent Pillows, Absorbing pads) | M/s Sairam Enterprises, Sambalpur | 9937102832 |

Robbery

1. Department involved in this emergency : Accounts, Store
2. Equipment needs to handle this emergency: Patrolling Vehide etc.

3. Contact Details for this Emergency

| Sr. No | Agency /Authority Details | Name and Address of police station | Contact Number |
|--------|---------------------------|---|---|
| 1 | Security Agency Head | Mr. Sarat Singh, Eagle Hunter Security | 9776360785 |
| 2 | Police | Bargarh PCR Sambalpur Sohela | 06646 233020 (Town), 06646 233880 (Sadar) 9178166444 0663 2545192 (Aintha pali), 2481211 (Hirakud), 2430444 (Burla) 06683 220205 |
| 3 | Corporate office | Nashik | 0253 3011705 |
| 4. | NHAI Officials | Project Director, PIU, Sambalpur | +918895563845 |

Important Contact Numbers to rescue of Wildlife:

| Sl. No. | Responsible Person | Contact Details |
|---------|---------------------|---|
| 01. | O/o DFO, Sambalpur | +91 94384 17374 <i>(Asst. Chief Forest Officer)</i> |
| 02. | DFO, Bargarh | +91 94374 94810 |
| 03. | Snake Help Line | +91 73774 35507 +91 97763 13444 |
| 04. | Police Control Room | 06646 233020 (Town), 06646 233880 (Sadar), 0663 2545192 (Ainthapali) |
| 05. | Ambulance | 7381087053 (ABL) 9438488335 (Govt.) 9937119807, 9938375004, 9937000360 (Pvt.) |

| <h1>EMERGENCY PROCEDURES</h1> | |
|--|--------------------------------------|
| <p>REMOVE</p> <p>Anyone in immediate danger</p> | <p>ONLY IF SAFE TO DO SO!</p> |
| <p>ALERT</p> <p>Others in immediate area Fire Wardens Activate Whistle, Air Horn, Bell, Siren etc. 3 times for 30 sec. Other Tenants and Adjacent Neighbours</p> | |
| <p>RING THE EMERGENCY SERVICES</p> <p> Fire Brigade, Police or Ambulance.</p> <ul style="list-style-type: none"> ▪ Advise Site: ▪ Advise address: ▪ Advise nearest cross street: ▪ Provide your Name & phone number..... ▪ Provide details of incident..... <p style="text-align: center; color: red;">DO NOT HANG UP UNTIL THE ADDRESS HAS BEEN REPEATED</p> | |
| <p>CONTAIN THE FIRE</p> <p>Use correct Fire Extinguisher or Fire Hose Reel Turn OFF Electricity, Air Conditioning Close doors and windows to contain fire</p> <p style="text-align: center; color: red;">ALL IF ONLY IF SAFE TO DO SO!</p> | |
| <p>EVACUATE</p> <p>Proceed to the nearest exit. Gather together at Exit, if safe to do so, <i>then</i> Evacuate via exit and proceed to the Assembly Area</p> | |
| <p>ASSEMBLY AREA</p> <p>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.</p> | |

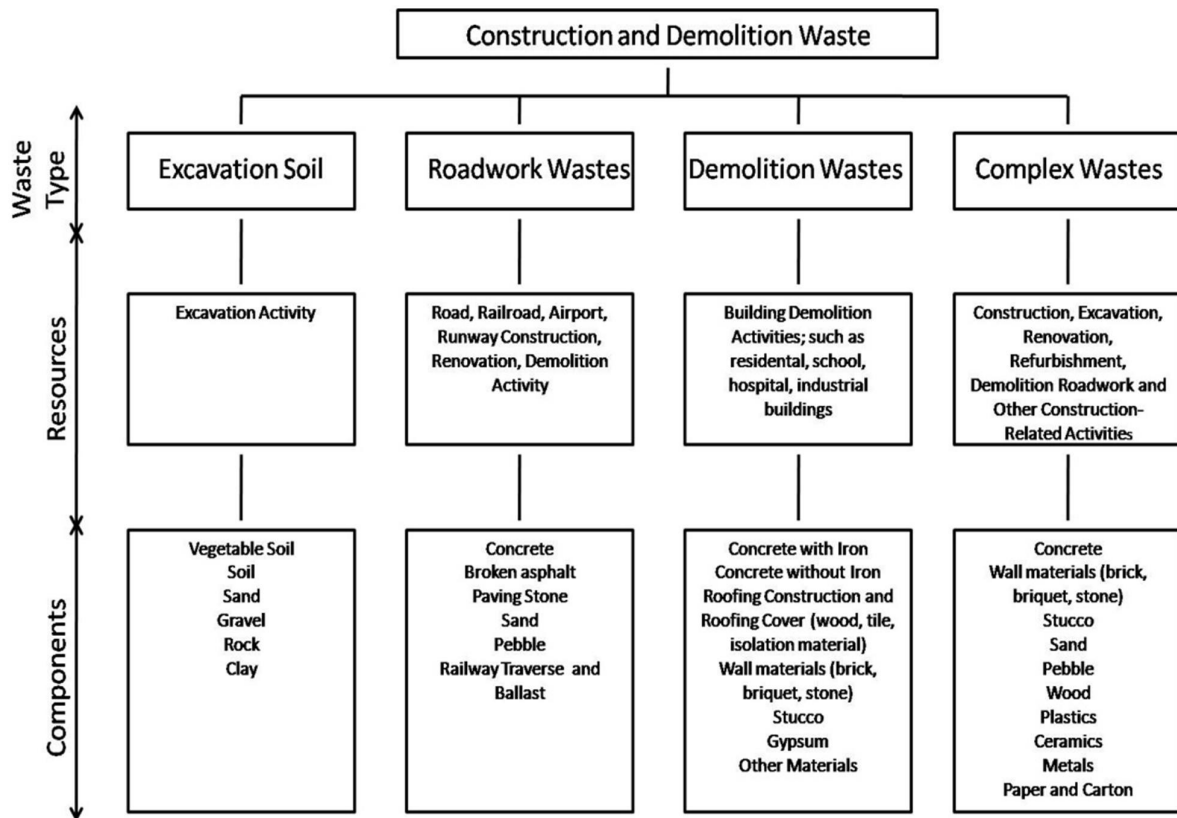
State Disaster Management Plan:

| Natural Calamity | Possibilities | Disaster Contact Numbers | Action to be taken |
|------------------|---------------|--|---|
| Flood | No | <p>Bargarh:</p> <p>Office 06646-232340</p> <p>Residence 06646-230041</p> <p>Fax 06646-231300</p> <p>Mobile 94387-36379</p> <p>Sambalpur:</p> | <p>WHEN INSIDE OFFICE OR HOME If ordered to evacuate or if rising water is threatening, leave immediately and get to higher ground!</p> <p>IF CAUGHT OUTDOORS:</p> <ul style="list-style-type: none"> . 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! <p>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 floodwaters may not be intact,</p> |
| Earthquake | Yes | <p>Office 06646-2411022</p> <p>Residence 06646-2411001</p> <p>Fax 06646-2412116</p> <p>Mobile 97773-55594</p> <p>R.D.C(ND) Sambalpur:</p> | <p>Protection during an earthquake:</p> <ul style="list-style-type: none"> " Know in advance where the safest spots are at home, 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 | <p>Office 06646-2411646</p> <p>Residence 06646-2410975</p> | <p>During the Cyclone:</p> <ul style="list-style-type: none"> - 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 / centre of the cyclone- stay inside! |
| Lightning | Yes | <p>Fax 06646-24115372 06646-2411645</p> <p>Mobile 94370-22770</p> | <p>WHEN INSIDE: Avoid using the telephone (except for emergencies) or other Electrical appliances. Do not take a bath or shower.</p> <p>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.</p> <p>If you are in a wooded area, seek shelter under a thick growth of relatively small trees.</p> |

Camp Dismantling Procedure

After the completion of project work we need to dismantle the plant set-up, camps and offices constructed for project work. There are various environmental impacts during dismantling procedure. Following waste is generated during dismantling procedure and its disposal method is as follows

- | | |
|---|--|
| <ul style="list-style-type: none"> Asphalt Concrete and concrete blocks Brick, tile and masonry materials Ferrous metal Non-ferrous metals: copper, aluminum ... etc Untreated lumber Plywood, OSB and particle board Gypsum wallboard scrap Paper and cardboard Beverage containers Insulation Rigid foam Glass Carpet and pad | <ul style="list-style-type: none"> Trees and shrubs Soil Plumbing fixtures Windows Doors Cabinets Architectural fixtures Millwork, paneling and other similar interior finishes Electric fixtures, motors, switch gear and other similar equipment HVAC equipment, duct work, control systems, switches and other similar equipment Others as appropriate |
|---|--|



STORAGE AND HANDLING:

A. Site Storage

Remove materials for recycling and recovery from the work locations to approved containers or storage area as required. Failure to remove waste or recovered materials will be considered cause for withholding payment and termination of Contract.

Position containers for recyclable and recoverable waste materials at a designated location on the Project Site. If materials are sorted on site, also provide a sorting area and necessary storage containers.

Change-out loaded containers for empty containers, as demand requires.

If recovered materials are stored on-site for project duration provide adequate security from pilferage.

B. Handling

Deposit indicated recyclable, and recoverable materials in storage areas or containers in a clean (no mud, adhesive, solvents, petroleum contamination), debris-free condition. Do not deposit contaminated materials into the containers until such time as such materials have been cleaned.

Insure all recovered materials are made safe for handling and storage.

If the contamination chemically combines with the material so that it cannot be cleaned, do not deposit into the recycle containers. In such case, request resolution by the C&D Quality Manager for disposal of the contaminated material. Directions from the C&D Quality Manager do not relieve the Contractor of responsibility for compliance with all legal and regulatory requirements for disposal, nor shall such directions cause a request for modification of the Contract.

PROJECT CONDITIONS:

A. Environmental Requirements:

Transport recyclable and recoverable waste materials from the Work Area to containers and carefully deposit in the containers without excess noise and interference with other activities, to minimize noise and dust.

The Contractor shall ensure adequate erosion control and storm water control, if required, to prevent or minimize the negative impact to its surrounding environment.

Provide measures to insure the containment of lead-based paint and dust, nails, asbestos-based products and any biological contaminants that may affect environmental health and safety conditions.

B. Site Condition:

Signs and instructions should be clear, and easy to understand. All recycling containers should be clearly labeled and lists of acceptable and unacceptable materials will be posted throughout the site. Whenever possible, they should be in multiple-languages, especially in Spanish, and in graphic symbols.

The Contractor shall ensure the safety of all personnel involved in the C&D process.








A C&D site management plan shall be created including: work areas, materials processing areas, materials storage and disposal areas, worker hand-washing and changing stations, first aid and medical information.

RECYCLED MATERIALS:

The following materials are collected for recycling

| | |
|--|------------------|
| Asphalt | Insulation |
| Concrete and concrete blocks | Rigid foam |
| Tile and masonry materials | Glass |
| Ferrous metal | Carpet and pad |
| Non-ferrous metals: copper, aluminum ... etc | Trees and shrubs |
| Untreated lumber | Soil |
| Plywood, OSB and particle board | |
| Gypsum wallboard scrap | |
| Paper and cardboard | |
| Beverage containers | |

Corrective Measures

| Types of waste generated | Environmental and Health Impact | Photographs | Corrective Actions |
|--|--|--|--|
| Concrete Waste | Land Contamination |  | <ul style="list-style-type: none"> - Opportunities for recovered materials reuse and recycling on site, - Leave no unnecessary or unstable projections. Reduce by periodically spraying demolition works with water. |
| | Air Pollution | | |
| Waste Bricks | Land Contamination |  | <ul style="list-style-type: none"> - Reuse at other locations  |
| Waste Cables | Land Contamination |  | Collection and Sell to Authorized dealer |
| Waste glass, WASTE CONTAINER, SACK, BIN & SKIP | Potential contamination, hazardous materials |  <p style="text-align: center;">(a)</p>  <p style="text-align: center;">(b)</p>  <p style="text-align: center;">(c)</p> | <p>Recovered Materials for reuse on or off site, Opportunities for recovered materials reuse and recycling on site, Surplus recovered materials not being reused or recycled, Pallet or pallet boxes and packaging of recovered materials to leave site for reuse or recycling, Materials,</p> |

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, behaviour and breeding habit. To avoid and minimize the negative impacts of these activities, we do follow strict guidelines as below:

1. 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.
2. Minimum levels of noise during construction activities are maintained.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.

8. 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. | <i>ACL/FR/HSE/01</i> | Environment & Social Management Plan | Quarterly |
| 02. | <i>ACL/FR/HSE/02</i> | Land Acquisition Summary Report | Quarterly |
| 03. | <i>ACL/FR/HSE/03</i> | Hot Spot Details And Issue Report | Quarterly |
| 04. | <i>ACL/FR/HSE/04</i> | Legal Matrix Report | Monthly |
| 05. | <i>ACL/FR/HSE/05</i> | Legal Compliance | Quarterly |
| 06. | <i>ACL/FR/HSE/06</i> | Project Water Consumption Report | Quarterly |
| 07. | <i>ACL/FR/HSE/07</i> | Road Accident Summary Report | Monthly |
| 08. | <i>ACL/FR/HSE/08</i> | ACL-HSE- Monthly Report | Monthly |
| 09. | <i>ACL/FR/HSE/09</i> | Incident Report Format | As and when happen immediate within in 24 hrs |
| 10. | <i>ACL/FR/HSE/10</i> | Tree Plantation | Quarterly |
| 11. | <i>ACL/FR/HSE/11</i> | NCR-HSE Complaint Summary Report | Monthly |
| 12 | <i>ACL/FR/HSE/12</i> | Emergency Report (Mock Drill Report) | Quarterly |
| 13. | <i>ACL/FR/HSE/13</i> | 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. | <i>FR/CO/DO/PR/HSE/01</i> | Environment Aspects & Impacts Register | Monthly |
| 02. | <i>FR/CO/DO/PR/HSE/02</i> | Environment Management Program | Monthly |
| 03. | <i>FR/CO/DO/PR/HSE/03</i> | Hazard Identification, Risk Assessment & Determining Controls (Risk Register) | Monthly |
| 04. | <i>FR/CO/DO/PR/HSE/04</i> | Occupational Health & Safety Management Program | Monthly |
| 05. | <i>FR/CO/DO/PR/HSE/05</i> | Legal Matrix Register | Monthly |
| 06. | <i>FR/CO/DO/PR/HSE/06</i> | Waste Management Register | Monthly |
| 07. | <i>FR/CO/DO/PR/HSE/07</i> | Waste Water Statistics Register | Monthly |
| 08. | <i>FR/CO/DO/PR/HSE/08</i> | Incident/Accident Investigation Report | As and when happen immediate within in 24 Hrs |
| 09. | <i>FR/CO/DO/PR/HSE/09</i> | Monthly HSE Report | Monthly |
| 10. | <i>FR/CO/DO/PR/HSE/10</i> | HSE & S Monthly Meeting Agenda – HSE – MOM Format | Monthly |
| 11. | <i>FR/CO/DO/PR/HSE/11</i> | Weekly HSE Report | Monthly |

Last, but not the least, We are glad enough to declare that our organization is IMS certified with Greenhouse Gases Certification.

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

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

| | | | |
|-----------------------------|--------------|--------------|--------------|
| Registration No: | QMS/R91/0014 | EMS/R91/0014 | OHS/R91/0014 |
| 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 |



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

This certificate is valid for 3 years from the date of certification on the condition that audits are conducted and paid for as per the Certification Agreement. Should this condition not be met, cancellation procedures will be initiated and the client will be removed from the JAS-ANZ register. This Certificate remains the property of International Standards Certifications Pty Ltd and must be returned upon request. It must not be altered in any way. Intentional misuse of this certificate will result in cancellation without prior notification. Certificates can be checked through certcheck@isc-worldwide.com



ISO 14064.1:2006

CERTIFICATE OF VERIFICATION

ISO 14064.1:2006 - Greenhouse Gases Part 1

THIS IS TO CERTIFY THAT
THE GREENHOUSE GASES OF

Ashoka Buildcon Ltd.

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

Organisational Boundaries:

Operations & Maintenance Project
Road Constructions Projects
Power Infrastructure Project
Ready Mix Concrete Plants
Toll Operations

Has undergone the verification process and has been verified as complying with the requirements of the Standard shown above for the following Verification Statement:-

Verification of Greenhouse Gas Emission and Removals at the Organization Level for Quantification and Reporting as per ISO 14064 Part - 1.

Ashoka Buildcon Ltd. has established 2013 as its base year for GHG inventory in accordance with GHG policy of measuring, monitoring and minimizing its GHG inventory. The GHG inventory for the base year is 24,541 Tonnes of CO₂ and 3,257 Tonnes of "CO₂ under Direct Emission and Energy Indirect Emissions respectively" for the period January to December 2013.

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

Registration Number: GHG/R91/0014
Verification Date: 08-Apr-2014

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