



**Uttar Pradesh Core Road Network development Project**  
(Externally Aided Projects, UP PWD, Lucknow India)

Engineering Procurement and Construction for Upgradation Badaun-Bilsi-Bijnour Road (SH-51) from Km. 58.400 to Km.137.820 (Design Chainage from Km. 58.400 to Km. 137.525) in the State of Uttar Pradesh

WORLD BANK FUNDED PROJECT


**ENVIRONMENT AND SOCIAL MANAGEMENT PLAN  
(ESMP)**


BBB Road


SUBMITTED BY

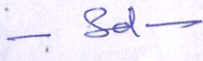
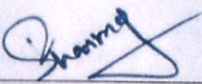
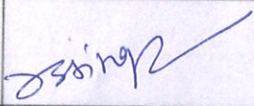
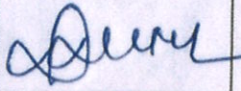
Contractor M/s Gawar Construction Ltd.

**Contract No.** : 117/UPCRNDP/2019-20 dated 05.07.2019

**Authority** :  Uttar Pradesh Core Road Network Development Project.

**Consultant** :  EGIS India Consulting Engineers Pvt.Ltd.

**Contractor** :  M/s GAWAR Construction Limited

Rev.02 10 <sup>th</sup> June- 2020				
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**Contractor's Commitment2**

*The main objectives of the GAWAR CONSTRUCTION LTD. Environment Health and Safety (EHS) activities with reference to all our Projects are to eliminate negative impact on the Environment Health and Safety of all contract and third party personnel and to optimize environmental protection measures in an organized EHS System by visible management commitment.*

*EHS commitment includes the following actions or activities:*

*Demonstrate that all hazards which carry the potential to cause harm, including ill, health, injury, damage to property or the environment, or project reputation, will be identified and that appropriate controls and recovery methods will be in place so that the risks are eliminated or at least minimized.*

*M/s Gawar Construction Ltd. will demonstrate commitment towards EHS by setting personal examples by adherence to EHS rules, attendance at the EHS meetings, Corporate EHS instructions and by complying with Contract's, Client's and AUTHORITY ENGINEER (AE)'s EHS specifications and the country's legislation.*

*The commitment is, in the first place, to prevent all accidents and incidents from happening during our operation. Line management shall be responsible for maintaining safety standards, safety statistics, for assisting in inspections, conducting toolbox meetings, investigations of accidents and incidents, reporting and follow-up. Details are included in this document.*

*The EHS objectives for this Project will be communicated to all GAWAR CONSTRUCTION LTD. personnel and will be implemented at site by line management, through co-operation with the Head Office.*



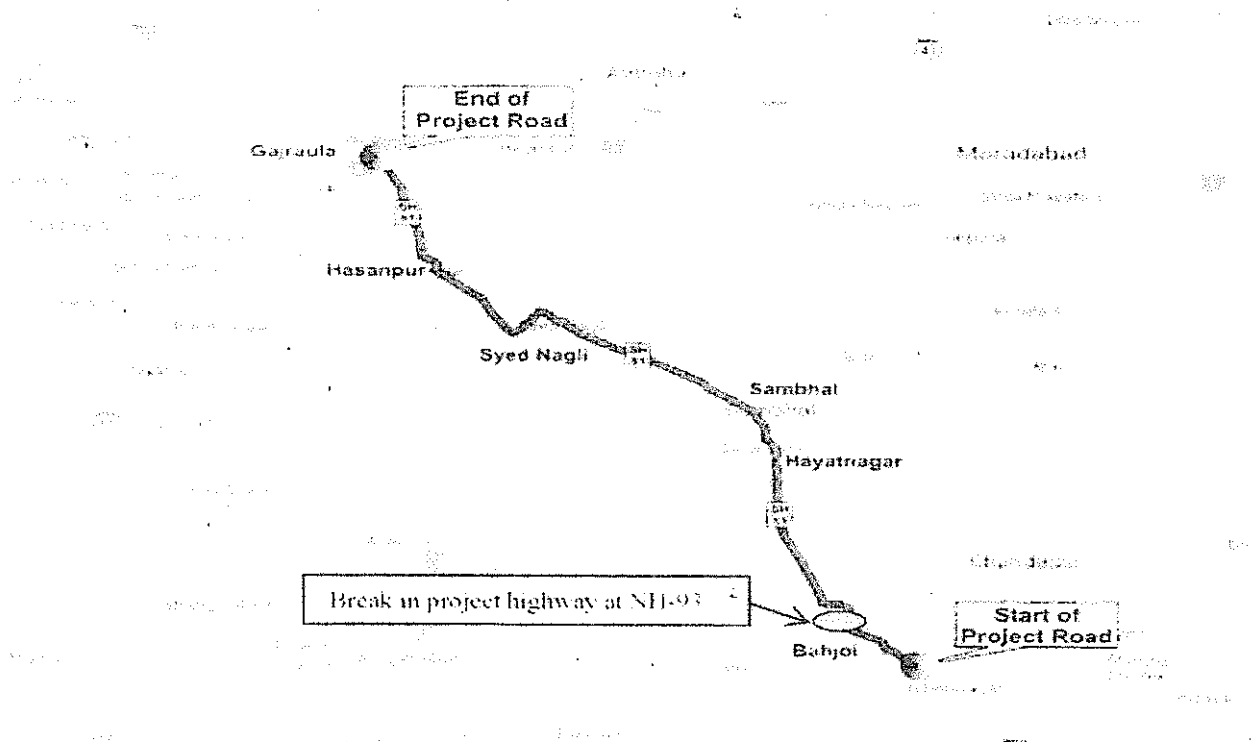
GAWAR CONSTRUCTION LTD.  
Badaun-Bilsi-Bijnour Road contract

## 1.0 Introduction to the Project

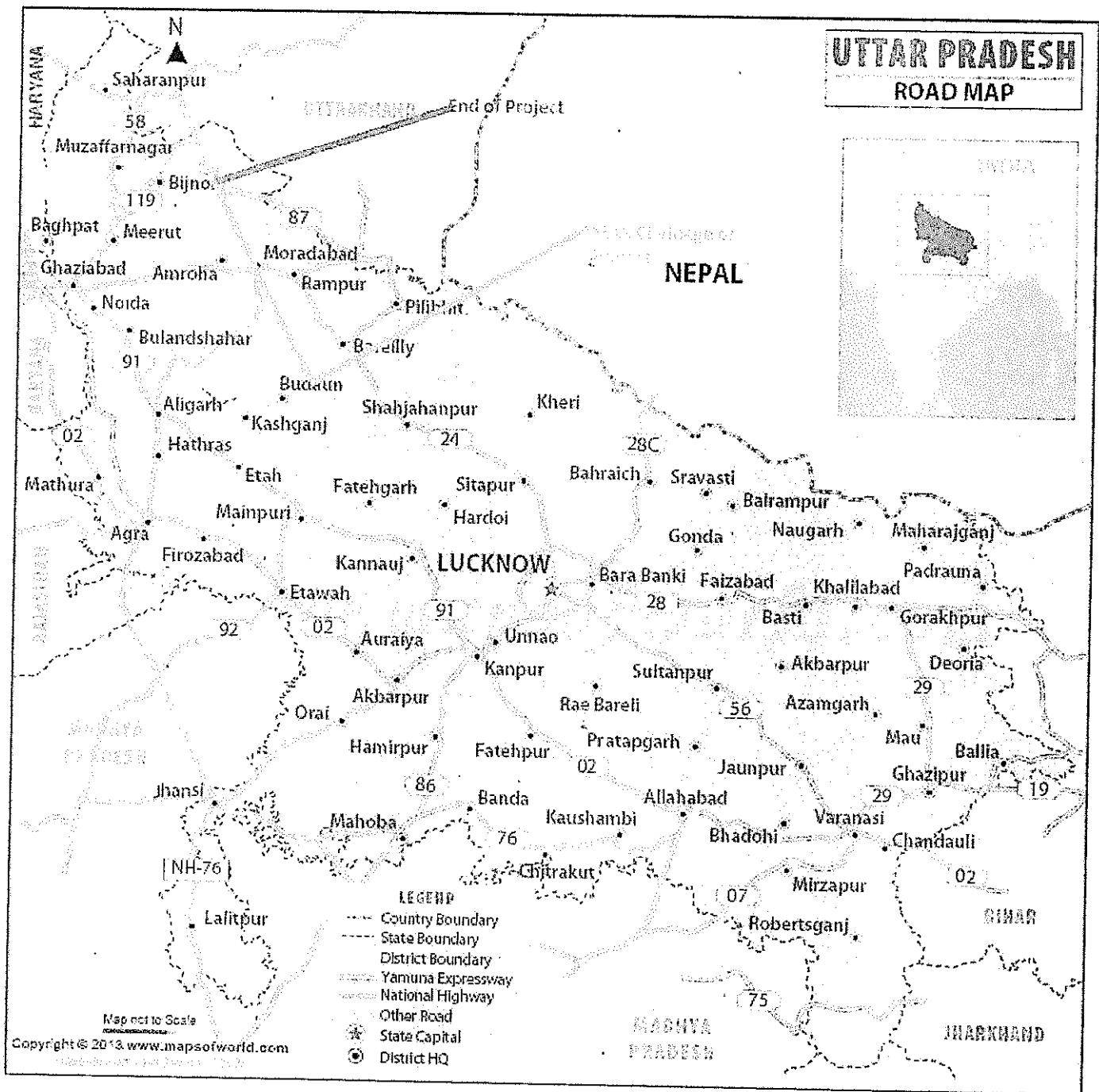
The government of India has requested World Bank for financing rehabilitation, widening and strengthening of State Highways and District Roads in the State of Uttar Pradesh. The Public Works Department Government of Uttar Pradesh "The Authority" has been engaged in the development of State Highway-51. In this regard, it has decided to undertake "Engineering Procurement and Construction for Upgradation Badaun-Bilsi-Bijnaour Road (SH-51), from Km 58.400 to Km 137.820 (Design Chainage from Km 58+400 to Km 137+525). "Public Works Department Government of Uttar Pradesh has awarded the project of M/s Gawar Construction Limited vide LOA no. 1736/1-02/UPCRNDP/CEWB/2017 dated 01.03.2019.

The project scope consists of Engineering Procurement and Construction for Upgradation Badaun-Bilsi-Bijnaour Road (SH-51), from Km 58.400 to Km 137.820 (Design Chainage from Km 58+400 to Km 137+525).

### Project Locations



Uttar Pradesh Core Road Network Project  
Phase-I Road (UPG-04 Badaun-Bilsi-Bijnour Section of SH-51)



## **2.0 Environmental Management Plan (EMP) – Part of Contract Document**

The Environmental Management Plan (EMP) prepared for this road project consists of the set of mitigation, monitoring and institutional measures to be taken during the design, construction and operation stages of the project to eliminate adverse environmental impacts, to offset them, or to reduce them to acceptable levels. The plan also includes the actions needed for the implementation of these measures. The main objective of the Environmental Management Plan is to ensure that the various adverse impacts are mitigated and the positive impacts are enhanced.

The following contract clauses clearly indicate that EMP is part of the contract documents –

**Article 3 “Obligations of the Contractor”** Sub-Clause 3.1.2 provides *“The Contractor shall comply with all Applicable Laws and Applicable Permits (including renewals as required) in the performance of its obligations under this Agreement. The Contractor shall comply with all environmental clearances required during construction and maintenance including implementation of Environmental Management Plan EMP)”*.

**Article 7 “Performance Security”** Sub-Clause 7.1.1 and Sub-Clause 7.6.1 provides *“The Contractor shall, for the performance of its obligations hereunder during the Construction Period, provide to the Authority, within 28 days of the date of LOA, an irrevocable and unconditional guarantee from a Scheduled/ Nationalized Bank in the form set forth in Schedule-G (the “Performance Security”) for an amount equal to 8% of the Contract Price against execution of work and 2% of the Contract Price against Environmental, Social, Safety and Health (ESHS).”*

**Article 9 “Utilities and Trees”** Sub-Clause 9.2 (a) Rehabilitation of Common Property Resources (CPRs) *“The Contractor shall, in accordance with Applicable Laws and with assistance of the Authority, shift any property (religious place etc) to an appropriate location or alignment...The actual cost of such shifting shall be determined on the principle given in Clause 13.2.3 (a) of Article 13.”*

**Article 10 “Design and Construction of the Project Highway”** Sub-Clause 10.1.1 (f) and Sub-Clause 10.1.4 provided to the Contractor to *“Prepare updated Environmental and Social*

*Management Plan (C-ESMP) including the action plan and checklist." And ESMP Management Strategies and Implementation Plans"*

**Article 11 "Quality Assurance, Monitoring and Supervision" provides**

*Sub-Clause 11.18 Protection of Environment*

*Sub-Clause 11.19 Labour Laws*

*Sub-Clause 11.20 Environmental, Social, Health and Safety (ESHS) Reporting*

*Sub-Clause 11.21 Contractor's ESHS Obligations*

### **3.0 Contractor understands of the EMP**

#### **3.1 Environmental Health and safety issues of the project**

##### **Activities with high environmental risk-**

- Realignment / Diversion of the roads through hills
- Realignment / Diversion of the roads through prime agriculture land
- Realignment of sharp Zigs and hair pin bends
- Disposal of Excess earth from hill cutting
- Blasting
- Extraction of material from quarries
- Extraction of ground water and surface water for construction
- Use of heavy machines during construction
- Establishment of workers camp
- Establishment of Hot mix plant

##### **Potential environmental issues -**

- Loss of biodiversity
- Change in land use pattern and Loss of agriculture land
- Loss of soil/ soil erosion
- Impact on drainage pattern



- Impact on community water
- Construction impact –on air water, noise
- Community and workers health and safety.

### **Anticipated adverse Social impacts**

Based on the preliminary surveys and interactions with the various stakeholders including communities in the project area, the following adverse social and economic impacts are envisaged:

- Loss of agricultural, homestead, commercial land
- Loss of trees, crops;
- Loss of structures used for residential, commercial and other purposes e.g. cattle shed, poultry shed, etc.;
- Loss of livelihood i.e., loss of livelihood due to impacts on sources of earning;
- Loss of other properties and assets such as boundary walls, hand pumps, water pipes, ponds etc.;
- Loss of common property resources
- Likelihood of increased accidents due to road widening due to faster movement of vehicles;
- Construction stage impacts leading to temporary disruptions or permanent damages to assets
- Likelihood of increase in HIV/AIDS due to influx of outsiders during construction

Main EHS issues identified in the project road are-

- Loss of trees: Total nos of trees affected = 12292 nos

### **3.2 Contract clauses in contract related to EMP and EHS**

Schedule-D Specification and Standards Appendix A-1 ENVIRONMENTAL AND SOCIAL MANAGEMENT for Badaun-Bilsi-Bijnour Section of SH-51 are identified in the contract document related to the implementation of the Environment Management Plan and Environment Health and Safety Management:

### 3.3 Specific Legal Requirements (permits, consents and licenses)

As per EMP document the legal requirements for the project are following –

#### Environmental Legislation Applicable to the Proposed Project Road

Act	Year	Objective	Applicability to the project	Responsible Institution
Environment (Protection) Act.	1986	To protect and improve the overall environment	The project is classified as Category A, and therefore requires environmental clearance as per the act	MoEF, CPCB
Notification on Environment Impact Assessment of Development projects (and amendments) (referred to as the Notification on Environmental Clearance)	2006 2009 2010 2013	To provide environmental clearance to new development activities following environmental impact assessment	As per EIA notification project is classified as Category A, hence Environmental Clearance will be granted on the basis of on an EIA	MoEF
Wildlife Protection Act	1972	To protect wild animals and birds through the creation of National Parks and	Project road passing through forest area and part of Indo-Burma biodiversity hot spot. Hence need protection of wild life	MoEF

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Water (Prevention and Control of Pollution) Act (and subsequent amendments)	1974	To provide for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water	There is chance of contamination of water bodies during construction, so water bodies need protection from pollution	CPCB
Air (Prevention and Control of Pollution) Act (and subsequent amendments)	1981	To provide for the prevention, control and abatement of air pollution, and for the establishment of Boards to carry out these purposes	During construction and operation air pollution is anticipated, which need to be controlled.	CPCB and Road Authorities
Forest (Conservation) Act	1980	To protect and manage forests	Project requires Forest Clearance, since the proposed widening and improvement of the road will entail diversion of 11.06 Ha of forest land	MoEF
Central Motor Vehicle Act Central Motor Vehicle Rules	1988 1989	To control vehicular air and noise pollution. To regulate development of the transport	Widening and improvement of road will increase movement of heavy vehicles and other passenger vehicles which in turn will	State Transport Department

Noise Pollution (Regulation and Control) rules 2000	2001	Noise pollution regulation And controls	Movement of heavy vehicles and machineries will increase noise in the area. Widening and improvement of road will increase movement of heavy vehicles and other passenger vehicles	MOEF/CPCB
The Land Acquisition Act	1894 & 1989	Set out rule for acquisition Of land by Government.	For widening and improvement of road need additional 39 ha of land which need to be acquired.	Land and Revenue Dept. GOI
Ancient Monuments and Archaeological Sites and Remains Act	1958	Conservation of Cultural and historical remains found in India.	Project road passes through some historical and religious structures.	Archaeological Dept. GOI and Govt. of Mizoram
Ramsar Convention on Wetlands of International Importance	1971	Sustainable utilization of wetlands	Project road passes through riverine forest and community ponds which need to be protected during construction	MOEF/SPCB/ state fishery dept.

The state level legislation in the environment and Social sectors of relevance to the projects are -

**For Environmental conservation and protection**

- Uttar Pradesh Forest Regulation of 1891.
- The Moradabad (Forest) Act, 1955 (as passed by District Council).
- Uttar Pradesh Wildlife (Protection) Rules, 1990.

**For Quarrying and Blasting**

Uttar Pradesh Minor Minerals Concession Rules 2000

**For Land and Revenue Administration**

- The Sambhal District (Land & Revenue) Acts,
- The Amroha District (land & Revenue) Rules,



**Environment Clearance:** As per EIA notification 2006 the project received Environment Clearance for MOEF, Government of India in the year 2014

**Forest clearance:** As per Forest (Conservation) Act1980- the project received clearance from Uttar Pradesh State Forest Department for diversion of 3.69 ha of forest plantation land for non forest purpose.

The Contractor will take following key Statutory Clearances from different state authority as pre-construction activity for the project -

Sl. No	Clearance Required for	Statute under which clearance is required	Statutory Authority
1.	Hot mix plants, Crushers and Batch Mix Plants	Air (Prevention and Control of Pollution) Act, 1981 and Noise Pollution (Regulation and Control) Rules, 2000	State Pollution Control Board
2.	Storage, handling and transport of hazardous materials	Hazardous Waste (Management and Handling) Rules, 1989 and Manufacturing, Storage and Import of Hazardous Chemicals Rules, 1989	State Pollution Control Board
3.	Location/ layout of workers camp, equipment and storage yards	Environment Protection Act, 1986 and Manufacturing,	State Pollution Control Board

		Storage and Import of Hazardous Chemicals Rules, 1989	
4.	Quarries (in case of opening of new quarries)	Environment Protection Act, 1986	Dept. of Mining; Concerned District Administration
5.	Discharges from Labor Camp	Water (Prevention and Control of Pollution) Act, 1974	State Pollution Control Board
6.	Permission for withdrawal of groundwater for construction	Environment Protection Act, 1986	State Ground Water Board
7.	Permission for sand mining from river bed	Environment Protection Act, 1986	Irrigation Department; Concerned District Administration and DEAA
8.	Disposal of bituminous wastes	Hazardous Waste (Management and Handling) Rules, 1989	As per state norm/ Local Civic Body

### World Bank Policies

The Following World Bank environmental safeguard policies are applicable in this proposed Road up-gradation.

- Environmental Assessment OP/ BP 4.01
- Natural Habitats OP/ BP 4.04
- Forestry OP 4.36

- Physical Cultural Resources OP 4.11 and
- WBG Environmental, Health, and Safety (EHS) Guidelines

### 3.4 Environmental monitoring

To ensure effective implementation of the EMP, effective environmental monitoring programs has been designed in EMP document which provides basis for evaluating the efficiency of mitigation and enhancement measures and suggest further actions that need to be taken to achieve the desired effect. Contractor is responsible for all types of environmental monitoring.

Environmental Components to be monitored; parameters for monitoring of the above components; monitoring frequency; monitoring standards; has been included in the EMP of the project road has been mentioned in the following table. (As per Contract EMP Table 1.3 Environmental and Social Monitoring Plan).

Environment Component	Project stage	Regular Monitoring Parameters				Institutional Responsibilities			
		Parameters	Standard	Locations	Frequency	Duration	Action plan case criteria exceeds	Implementation	Supervision
AIR	Construction	PM <sub>10</sub> ug/m <sup>3</sup> , PM <sub>2.5</sub> ug/m <sup>3</sup> , SO <sub>2</sub> NO <sub>x</sub> , CO	National Ambient Air Quality Standard (CPCB, 18 <sup>th</sup> Nov. 2009)	Plant site HMP and stone crusher (1 location)	Once in 3 month for 2 years excluding mansoon period	Continuous 24hours	Check and modify control devices like bag filter/cyclones of hot mix plant	Contractor through approved NABL monitoring Agency	PMC & PIU-UPPWD
		PM <sub>10</sub> ug/m <sup>3</sup> , PM <sub>2.5</sub> ug/m <sup>3</sup> , SO <sub>2</sub> NO <sub>x</sub> , CO		Along the project road at 2 location in consultation with PMC	Once in a season excluding the mansoon for 2 years	Continuous 24hours	-	Contractor through approved NABL monitoring Agency	PMC & PIU-UPPWD
	Operation	PM <sub>10</sub> ug/m <sup>3</sup> , PM <sub>2.5</sub> ug/m <sup>3</sup> , SO <sub>2</sub> NO <sub>x</sub> , CO		Along the project road at 2 location in consultation with PMC	In the interval of 4 months excluding the mansoon for 1year	Continuous 24hours	-	Contractor through approved NABL monitoring Agency	PMC & PIU-UPPWD

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Surface Water Quality	Construction	pH Temperature, DO, BOD, COD, Oil & Grease Total suspended Solid Turbidity, Total Hardness Chlorine Iron Total Caliform	Surface water Quality Standard	At identified location (3 locations)	Once in a season excluding mansoon for 2 year	Grab Sampling	Check and modify Oil Interceptor s silt fencing device	Contractor through approved NABL monitoring Agency	PMC & PIU-UPPWD
	Operation	pH Temperature, DO, BOD, COD, Oil & Grease Total suspended Solid Turbidity, Total Hardness Chlorine Iron Total Caliform		At identified location (2 locations)	In the interval of 4 months excluding the mansoon for 1year	Grab Sampling	Check and modify petrol Interceptor silt fencing devices	Contractor through approved NABL monitoring Agency	PMC & PIU-UPPWD
Ground Water Quality	Construction	pH Temperature, TSS, Total Hardness, Suspended Solid, Chlorine, Iron, sulshate Nitrate	Ground Water Quality Standards as per IS: 10500 1991	Construction site (2 locations)	Once in 3 months for 2 year	Grab Sampling	Check and modify petrol Interceptor silt fencing devices	Contractor through approved NABL monitoring Agency	PMC & PIU-UPPWD
Noise level	Construction	Leq dB (A) (Day and Night) Average and Peak values	Ambient Noise Standard (CPCB 2000)	At equipment yards and locations as identified along the project road by PMC (3 locations)	In the interval of 3 months for 2 years	24 hourly recording of Leq	Check and modify equipment and devices used to protect noise level	Contractor through approved NABL monitoring Agency	PMC & PIU-UPPWD
	Operation	Leq dB (A) (Day and Night) Average and Peak values		Locations as identified by PMC (3 locations)	In the Interval of 4 months for 1 year	24 hourly recording of Leq		Contractor through approved NABL monitoring Agency	PMC & PIU-UPPWD
Soil	Construction	Physical Parameter; Texture Grain size Gravel sand, Silt Clay; Chemical Parameter; pH, Conductivity Calcium Mangesium, Sodium, Nitrogen, Absorption Ration		Near Construction sites along the road as indentified by the PMC (3 locations)	In the Interval of 3 month for 2years			Contractor through approved NABL monitoring Agency	PMC & PIU-UPPWD
	Operation			Along the road (2 locations)	In the Interval of 4 months for 1year	1year		Contractor through approved NABL monitoring Agency	PMC & PIU-UPPWD
Tree Plantation/Greenbelt	Construction	Tree survival rate	90% Tree survival rate	Throughout the Project in substantially completed section	Once in a month	1year	Replaceme nt of dead tree with healthy saplings of same species, repairing of tree guards, fencing etc.	Contractor	PMC & PIU-UPPWD



	Operation		80% Tree survival rate	Throughout the project stretch	Once in three months	3year	Replacement dead tree with healthy saplings of same species	Contractor	PMC & PIU-UPPWD
Water Bodies	Construction	Turbidity in Storm water silt load in ponds/Rivers	As specified by the engineer water quality standards	At the drains Ponds along the Project Road	Pre-monsoon and post monsoon season for 3 year	3 years	Inspection and modification of silt fencing/any leakage of drains to these surface water bodies	Contractor	PMC & PIU
	Operation	Turbidity in Storm water silt load in ponds		At major water bodies within the proposed ROW and those located at immediate vicinity of the proposed ROW	3 year before onset of monsoon	3 years	Check and repair catch drains storm water drains and silt trap	Contractor	PMC & PIU

#### 4.0 Comprehensive Site Environmental Plan and Environmental Management Action Plan (EMAP).

#### 4.1 Comprehensive Site Environmental Plan (CEMP)

Preparation of Comprehensive Site Environmental Management Plan is required for formulation, implementation and monitoring of environmental protection measures during commissioning of projects. The plan will describe that how the proposed environment management measures of Contract EMP are to be implemented at site; and/or proposal for additional cost effective measures are to be made which may be required as per site condition during the construction phase.

The Contractor's Site Specific Comprehensive Site Environmental Management Plan (EMP) is a project-specific document prepared for environmental management requirements, as identified in the Contract EMP, will be implemented and managed at site. The CEMP will detail how the various adverse environmental impacts related to road construction will be

mitigated and documented by inspecting, monitoring, verifying, internal auditing and correcting or improving environmental performance.

The Site Specific Environmental Management Action Plan (EMAP) is designed to assist the construction plan and implement effective site-specific strategies that will minimize the environmental impacts associated with execution of the project. The EMAP encompasses plan to address and implementation of all Environment, Safety and Social Safeguard issues of the project area.

The objectives of this CEMP are to achieve the following:

- To put into practical effect the commitment to Environment Health & Safety and Sustainability Policies & Strategies as agreed in contract considering EIA , EMP and EMF as part of the contract document
- Ensure maximum flexibility in meeting the Client's requirements whilst complying with the, relevant national Environmental performance standards
- Ensure a systematic approach to management of Health, Safety and the Environment
- Establish effective controls to minimise environmental impact and control all forms of pollution while seeking ways to conserve natural resources
- Establish training regimes for all staff and operatives appropriate to personal needs and the project requirements
- Provide a structure to ensure that environmental issues are effectively managed in a consistent and integrated manner.
- Ensure the project meets the requirements of all relevant environmental legislation
- Ensure adequate control and co-ordination of all parties to the construction phase of the project with regard the environmental issues
- Generate a culture where everyone, irrespective of his/her position, realises that they have a part to play in ensuring that impact on the environment is minimised.
- To ensure a safe working environment for all those who work on the project

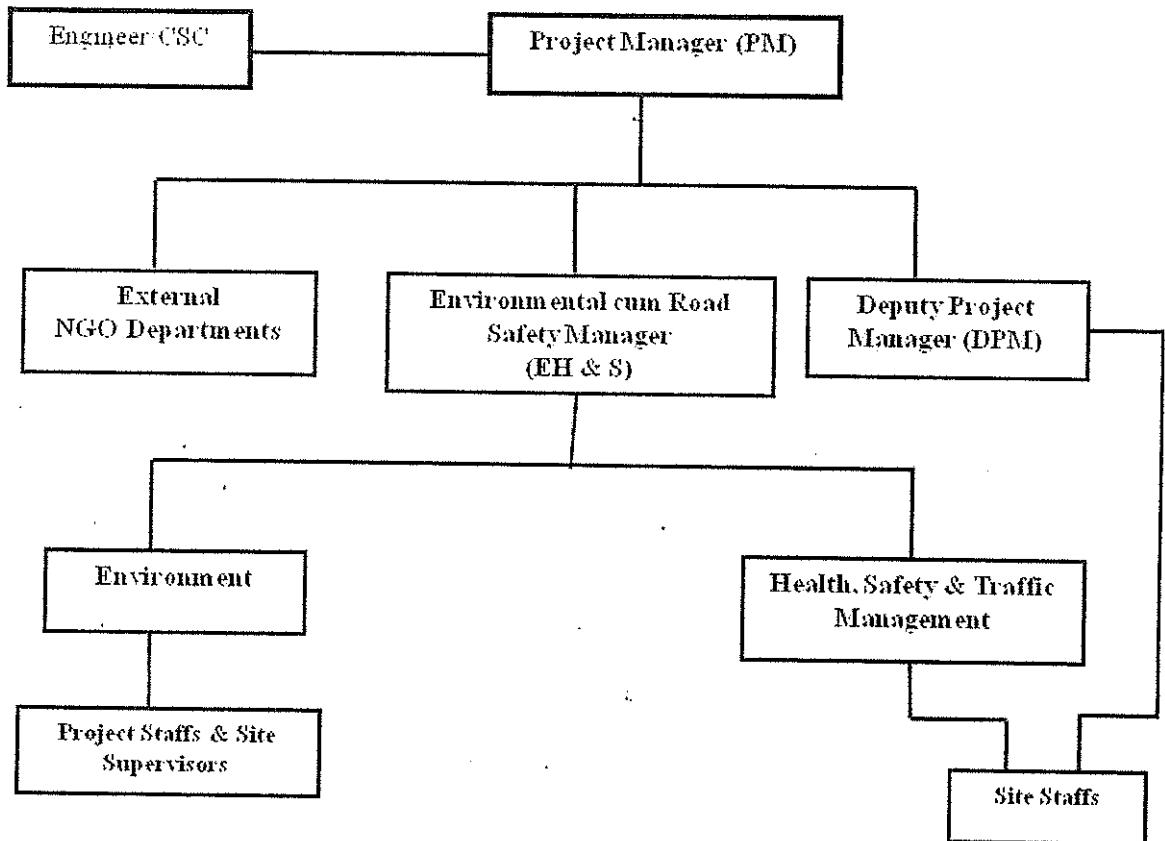
#### **4.3 Organization setup of contractor to implement EMP**

In this present contract M/s Gawar Construction Ltd. an ISO 9001 company is committed to protect and conserve the environment during the road construction activities and make value addition to the environmental and social condition of the project area. The company has practical approach and fully aware of its environmental and social responsibility in protecting and sustaining the environment in line with provisions of Contract Agreement. Each and every staff of Gawar Construction Ltd. employed in this project will adhere to project specific Environmental and Safety Policy. In this contract project Environmental Management Plan (EMP) is a part of contract document. It will be the contractor's contractual obligation to comply with the provisions of Contract and EMP document. Further additional requirements (if any) will be investigated and proposed by the Engineer as per site condition and/or requirement will be implemented.

Gawar Construction Ltd shall apply their Company specific HSE Systems, which are described in subsequent section as the HSE Policy which has also included in HSE statements and Manual. As a Contractor, Gawar Construction Ltd. will manage a project-specific HSE System to the highest standards in order to

- efficiently protect the health of our workforce and of all other personnel
- maintain and improve all safety measures
- protect our environment during all phases of the Project

All the staff and/or workers those who are involved in this project will adhere all the provisions stipulated in the EMP document. The Organization Flow Chart of the Environmental management Team for BBB Road contract package is furnished in **Figure – 3**.



**Figure 3: Organization setup of contractor to implement EMP / EHS**

#### 4.3.1 Roles and responsibilities

##### Project Manager

The Project Manager shall ensure timely and effective implementation of EMP compliance at different stages including pre-construction, construction and post-construction cleaning up activities as per the contract agreement. He will monitor the EMP compliance through EHS officer of the project and review the same in every weekly meeting.

##### Environmental cum Road Safety Manager (EHS officer)

The Environmental Management team of the Contractor is coordinated by the Contractor's Environmental cum Road Safety Manager (EHS officer ) will be responsible for implementation of the EMP at site, he will directly report to the Project Manager for implementation of the EMP and submission of reports to AUTHORITY ENGINEER (AE) duly



signed by the Project Manager. He will be responsible for all types of training related to EMP compliance i.e. Environment Health and Safety issues.

#### **Deputy Project Manager/ Site in- charge**

The Deputy Project Manager / **Site in- charge** for both Highway and Structure for each work section will be responsible for the execution and implementation of this EMP plan and other environmental issues on site as and when they arise. Information and guidance to the sub-contractors and his staff regarding the same is also to be imparted and enforced by the Deputy Project Manager.

#### **Plant Manager/ Equipment engineer/ Mechanical engineer**

He will be responsible for maintenance of the vehicles, crushers, plants and equipment. He has to ensure pollution under control for vehicles, crushers, plants and equipment.

#### **Site Staffs**

It is proposed that every site sectional area, a personnel from the work gang (contractors or sub-contractors) or group will be designated the responsibility to ensure Environmental, Safety and traffic management. The Deputy Project Manager will instruct his staffs for each work section to undertake the completion of the prepared formats / checklists as per the activity operation they are in and ensure that the same is being regularly and properly maintained, the submission or collection of the same is to be made fortnightly to or by the Environmental cum Road Safety Officer.

#### **Doctor/Male Nurse**

The Doctor/Male Nurse will be based at the main camp at or near to the site. His responsibilities will include - attending to all medical cases which come to the clinic, if the medical case is beyond his capacity, to transfer the person to the nearest Govt. Hospital for expert opinion and the necessary follow up action. He will keep a record of medical treatment on a day-to-day basis and will inspect the 'First Aid' boxes at site monthly and maintain a record there of. He will also take part in the monthly hygiene site inspections

and will train / educate staff and the workers to prevent the occurrence of occupational illnesses.

Environment management, Work safety and the improvement of health matters are important aspects of our entrepreneurial business activities. Consequently the Board of Directors supports all measures to upgrade work safety and the health of our workforce. Accidents and health risks can be totally or at least partially avoided if risks and dangers will be managed and countered by an organized implementation of safety measures.

To promote work safety and health improvement is one of the predominant tasks of each Manager. The prevention of accidents on the basis of efficient safety measures is an indispensable proof of qualification.

It is however, only through planned co-operation of all group and company employees that EMP guidelines can be successfully applied in practice in order to further enhance work safety and health issues of our workforce.

#### **4.4 Contractor's Environmental Health and Safety Policy**

Gawar Construction Ltd. Management being an Engineering Procurement and in construction business is committed to a policy of conservation and management of Environment, protecting the health and safety of its own employees, client employees, community and others using the Road /Highway and those who are involved by its operations by complying with Clients and Gawar Construction Ltd. HSE specifications and applicable particular standards.

To achieve this objective, Gawar Construction Ltd. follows a corporate HSE manual which is updated periodically.

Gawar Construction Ltd implements this HSE policy through visible management commitment and individual contributions and support. Gawar Construction Ltd will comply fully with the laws and statutes of state as well as the country. Where our operations are carried out we may apply more stringent standards where ever appropriate.

In doing so, It will be guided by the following principles:

- That HSE is a line Management responsibility
- The continual HSE improvement is being sought through periodical reviews, documentation, implementation & effective monitoring.

- This policy takes equal priority with other supervisory duties as an integral part of all operations.
- HSE is an important part of Gawar Construction Ltd. business and we believe that all accidents are preventable.
- Gawar Construction Ltd. is committed to ensure good occupational health & hygiene conditions for the employees.
- Gawar Construction Ltd. distributes copies of the HSE policy to all concerned including sub-contractors.

#### **4.5 Procedures in the event of failure to comply with the requirements of this plan**

The Contractor is committed to take all precautions for safeguarding the environment during the course of construction of the works. He shall abide by all prevailing laws, rules and regulations governing pollution and environmental protection. In particular, the Contractor shall fully comply with the environmental protection mitigation measures specified in the latest version of the project's specific Environmental Impact Assessment of Environmental Management Plan, as provided by the Engineer. If any activity of the Contractor may cause damage to the environment in ways not envisaged under project-specific documents, then he shall comply with the measures specified in the Environmental Management Framework and in accordance with the country's regulations and World Bank Policies.

The contractor ensure that in the event of failure to comply with the requirements of this CEMP he will abide the action taken by the Engineer under conditions of contract such as -

#### **Article 3 Sub-Clause 3.4.3:**

The Engineer may require the Contractor to remove from the Site of Works, a member of the Contractor's staff or his work force, who (a) persists in any misconduct or lack of care, (b) carries out duties incompetently or negligently, (c) fails to conform with any provisions of the Contract, or (d) Persists in any conduct which is prejudicial to safety, health, or the protection of the environment.

The contractor shall ensure that the person leaves the site within seven days and has no further connection with the work in the contract. The Contractor shall appoint a suitable replacement within 28 days or earlier as may be agreed to between the Engineer and the Contractor.

The contractor also ensures that in the event of failure to comply with the requirements of this CEMP he will take action on his staff. Actions will be -

- Any persons who disregard the safety, health or environmental rules and arrangements detailed in this plan will in the first instance receive a written warning from the Project Manager; subsequent misdemeanours will provoke the removal of the person from site.
- The Project Manager reserves the right to remove from site instantly any person whose acts or omissions in his opinion constitute serious danger to people or property.
- The contractor will give reasonable directions to all sub contractors sharing the site for the purposes of construction (regardless of contractual arrangements) in order for him to comply with duties in CEMP and to take action on their staff on CEMP non compliance.

#### **4.6 Non-conformance and corrective action from contractor**

Project manager, environmental cum road safety Manager (EHS officer) and all the staffs of this contract package will be responsible for the successful implementation of this plan. Enforcement of this Environmental Management Plan is mandatory and all staffs of this project including subcontractor and its staffs are also bound by this plan.

- In case of any non-conformance immediate preventive action will be initiated as per the requirement of site in consultation with Authority and AUTHORITY ENGINEER (AE). The steps which will be followed to overcome non-conformance (if any) are as follows:



- Joint inspection of the non-conformance site along with concerned Authority/AUTHORITY ENGINEER (AE) representatives.
- Investigation for reason of non-conformance during joint site inspection.
- Work out appropriate corrective action in consultation with concerned Authority and AUTHORITY ENGINEER (AE) representatives.
- Immediate implementation of decided corrective action to avoid reoccurrences.
- Submission of the compliance report after rectification of non-conformance.

**4.7 Accidents, Incidents, and corrective and Preventive actions:** The site Manager/ in - charge will immediately informed of any accidents and incidents by telephone /fax/ in person. This will be confirmed in writing by providing the relevant notification report format within one hour. Major accident will be informed to the local administration (Police). The detailed investigations will be undertaken into all accidents and incidents including near misses to establish causes and prevent recurrence. A member of the site health and safety management team will carry out such investigations that will identify the immediate (hazards) leading to the accident and the underlying causes of such hazards. An investigation report will be distributed to the Site project Manager and corporate Chief HSE Manager. The site EHS officer will arrange to forward a copy of the investigation report to the client and Engineer within 24 hours. All incidents & accidents will be recorded in the relevant injury/illness/damage/incident/near miss/near hit report form.

The following classifications shall be used in reporting accidents/ incidents:

- First Aid
- Lost time accident (includes fatality)
- Vehicle accidents
- Other damage accidents
- Environmental incidents
- Fire Incidents
- Near miss incidents
- Other incidents (i.e. theft, etc.)

The Non- Conformances resulting out of Accident Investigation will be reviewed by Project Manager and prepare time bound Action plan in consultation with Site EHS officer. These Corrective & Preventive action plan will further reviewed at project safety committee and Corporate HSE Committee, which meets at every quarter at Head office.

#### **4.8 Co-Ordination, Communication and Liaison**

The successful implementation of this Environment Plan depends upon there being adequate co-ordination, communication and liaison between the various parties. Accordingly the following formal arrangements have been made:-

- The Contractor management team will review Environmental issues as part of their regular planning meetings to discuss compliance with the CEMP and to co-ordinate forthcoming activities. Engineers attending these meetings will ensure that their subordinates are aware of the matters relating the Environment that are discussed to ensure that adequate co-ordination takes place.
- The Client shall be invited to review the implementation of the Environmental parts of the Plan as an agenda item at their progress meeting which will be held monthly.
- Day to day co-ordination and communication of sub - contractors will be carried out by the relevant Section Managers/ Engineers
- Co-ordination and liaison of day-to-day environmental matters shall be carried out between each Contractor's nominated supervisor and engineers from Contractor's team. Each member of the Contractor team shall be responsible for ensuring that appropriate records of such co-ordination and liaison are kept.
- Contractor shall hold daily planning/progress meetings with each site in charge / Engineer where the environment will be the agenda. At these meetings matters related to the assessment of risk or proposed methods of work will be reviewed, as will the interface with other Contractors activities. All current Method Statements and Risk Statements will be reviewed and all future imminent risk assessments and method statements will be submitted and agreed by Project Manager and EHS

officer , in addition all Contractor's weekly safety inspection reports will be reviewed.

- A Safety, Health and Environmental co-ordination meeting to discuss health, safety and environmental matters will be held with all employees of contractor together at least once a month. These meetings will be recorded and the minutes distributed to all Contractors persons. The purpose of this meeting will be to provide an open forum for Contractors persons to discuss such general points as: New employee introduction, Site Rules, Access arrangements, Welfare standards, Storage arrangements, Environmental incidents and trends, Findings of monitoring arrangements (inspections and audits etc) , any views, advice or opinions on H&S and environmental issues raised from the workforce, Changes in hazard/risk or new plant, SHE alerts, Briefings & Circulars , Initiatives or campaigns, New Legislation or Codes of Practice, Good Practice
- The Contractor will ensure that their employees receive adequate and suitable information contained in their risk assessments and method statements by a detailed and specific briefing which will be recorded and include who gave and attended the briefing. Contractor will periodically audit these arrangements.
- In addition, the Contractor will establish a regime of Tool Box Talks such that every employee receives a health, safety & environmental briefing at least once a week. Contractor's supervisors/ EHS officer will responsible for conducting these briefings and their implementation shall be monitored by Contractor. Records must be kept of Tool Box Talks carried out and who attended them.
- Contractors will ensure that Site SHE Rules and necessary procedures issued by Contractor are communicated to and understood by their employees.
- A Safety Committee shall be established (which may also discuss health and environmental issues). It will be representative of the workforce, be as informal as possible, and records maintained. The meetings will be held at least bi-monthly. The suggested agenda will be as per Contractor SHE Procedures & Guidance Manual/ Health safety plan

#### 4.9 Monitoring and review of the CEMP by contractor

##### Inspections

- The contractor Project Manager will carry out formal SHE inspections of all work areas at least every 7 days, be recorded, action within reasonable timescales, and be formally closed out detailing action taken and by whom.
- The contractor Project Manager will ensure that competent persons (Contractor EHS officer) undertake all other statutory inspections at required intervals.
- Contractor Supervisors/ Site Engineer will monitor their work areas SHE conditions and performance daily/routinely.
- Weekly-recorded inspections by the nominated EHS officer of the contractor
- Spot checks of Contractors' inspections and documentation (including registers) verifying compliance by EHS officer
- Sample checks of contractors/ briefing of own team on method statements
- Sample checks on the training of staff by contractors Project Manager
- Periodic audits, checks & inspections by EHS officer and report to Project Manager
- Weekly reviews of risk assessments/method statements by Project Manager
- Sample checks of compliance with Method Statements and Permits to Work by EHS officer
- Periodic Safety tours by off-site senior managers (at least every 3 months)
- Specific site environmental audits, inspections using the site environmental checklist

The Contractor will ensure that their site engineers, supervisors and EHS officer monitor the environmental standards of their activities as a normal part of their duties. In addition the contractor would ensure that a formal record of the environmental inspection is carried out every week. Inspection records would include confirmation that previous remedial actions have been carried out. These reports will be reviewed at the monthly safety meeting.

### **CEMP Review**

- This CEMP will be reviewed as often as is necessary to include the significant changes in risk, circumstances or personalities.
- The review will be conducted using a checklist and will be recorded.
- The suitability of, and performance against, the CEMP will be reviewed to ensure that it remains valid and reflects the arrangements for managing current activities on site.

### **Environmental Performance Reviews**

- Environmental performance will be reviewed throughout the project and discussed at various meetings weekly meetings, fortnightly meetings and monthly progress review meetings
- Performance reviews shall identify trends in accidents giving areas, which will be targeted for improvement.
- Environmental performance will be reviewed and will be recorded on contractor's monthly progress report as a separate chapter / section will be submitted to the Engineer and PWD
- The Contractor's Project Manager / EHS officer will be responsible for environmental performance review of the subcontractor engaged by the contractor.
- Relevant members of the construction team would be consulted during each review.
- The Client will be invited to review the implementation of the Environmental parts of the plan as an agenda item at their progress meeting which will be held monthly.

### **Audits**

- The Contractor's SHE auditor will conduct an audit to examine Health, Safety and Environmental systems and performance standards at the earliest opportunity. It will be undertaken approximately every 4 to 6 months interval after commencement of a project.
- The Contractor's SHE auditor will set Up Audit procedure, guidance and formats as included SHE Procedures & Guidance manual of the contractor. Based on that

guidance Contractor's EHS officer will conduct EHS audit of the site every month and will include his findings in every monthly progress report.

#### **4.10 Induction and competence**

##### **Site Induction – General Operatives**

- All persons engaged on site must undergo a site-specific environmental management induction session prior to starting work on site.
- A site record shall be kept of all health and safety and environmental management inductions. SHE Procedures and Guidance Manual shall be used to ensure the following detail is included:
  - a) Date of Induction
  - b) Who received the induction?
  - c) Who gave the induction?
  - d) Details of information given
  - e) The signature of the inductee
  - f) The signature of the person giving the induction session
  - g) Contractor site management will deliver and record all inductions

##### **Site Induction – Supervisors / Site Engineers**

Supervisors/Managers induction shall to be delivered to all staff (contractors' employees) engaged on the project that hold supervisory or management positions. This is in addition to the mandatory induction training recorded.

##### **Visitors/ Local people induction**

- Visitors / Local people will not generally be permitted onto site without the express permission of the Project / Site Manager. Adequate arrangements will be made to ensure that bona fide visitors to the project receive adequate instruction on Health, Safety and Environmental matters.
- All visitors will be required to sign the visitors' book.
- Visitors will be required to undergo the full site safety induction process unless all the following criteria are met:

- a) They are accompanied at all times by a responsible member of the organisation they are visiting who is familiar with the site.
- b) The responsible person accompanying them has briefed them on the hazards they are likely to encounter, the relevant site emergency procedures and their duty to look after their own environmental duties.
- c) They are wearing protective clothing or equipment that is appropriate to the areas they will visit.

#### **4.11 Risk Assessments and Method Statements (RAMS) & Other Safe Systems of work**

##### **Contractors RAMS**

- All Contractors and sub contractor persons have a duty to examine their undertakings to establish those operations that pose a significant environmental risk and develop control measures to eliminate or minimise those risks.
- All Contractors and sub contractor persons will submit details of their initial risk assessments and control measures (Method Statements) to Contractor EHS officer 48 hrs in advance of the works commencing.
- As work progresses the risk assessments and control measures will be reviewed and if necessary updated by Contractor and discussed at planning/progress meetings with Contractor. A RAMS Schedule on which to plot risk assessments and method statements will be prepared with reference to the site programme and amended to reflect any changes in activity dates as they occur.
- No works will commence on site unless a site-specific risk assessment and method statement has been submitted and accepted by the Contractor Management Team and the Engineer
- Relevant parts of RAMS will be communicated to all employees carrying out the work or otherwise at risk prior to commencing that activity.
- Once the Contractor RAMS have been approved, the main contents of the RAMS will be summarised in a Work Activity Safety Plan (WASP) which will form the basis of the briefing to those undertaking the work or otherwise at risk.

### **Other Safe Systems of Work**

Other written safe systems of work will be produced in the form of Site Safety Procedures (SSP's), Environmental procedures. These can be procedures to combat a project wide specific hazard like - high hill cutting , working adjacent to ecological fencing, working adjacent to the water body . They may be site generated with reference to particular standards, or be adopted from the client/ Engineer, i.e. permit to work, control of premises etc. They will be included as an Appendix to Work Activity Safety Plan (WASP)

### **4.12 Emergency general procedures and plans (including first aid)**

#### **General**

- The Contractor will identify via their risk assessments any emergency procedures that are required as a result of their work activity. These requirements will then be discussed with Contractor EHS team to assess whether a common procedure is appropriate.
- Such plans and procedures will be reviewed and revised as conditions change or structures become more complicated during construction.

#### **Fire**

The project will conduct a fire risk assessment. This should include both office and site arrangements. Arrangements for fire preparedness & response will be included in Safety plan.

#### **Medical Emergency Response and Treatment Facilities**

Health awareness amongst the workmen will be increased by way of films, posters, etc. The employees will be introduced to a programme of health related subjects to promote awareness, throughout our operations. The subjects will form part of the monthly HSE meetings.

#### **First Aid**

Adequate provision of first aid cover will be made with first aiders clearly identified by for instance the use of stickers on their hard hats. Adequate provision must also be made for



non-employees and contractors. Positioning of first aid boxes means of communication, locations and routes to nearest appropriate medical facility etc. This shall also include trained personnel for working adjacent risky areas.

Training for emergency response

Emergency response training for all employees shall cover:

- Evacuation procedures.
- Evacuation routes
- Location of evacuation assembly points
- Emergency phone numbers
- Emergency response exercises
- Identification of fire extinguishers type, location and mode of operation.
- Location of fire electric supply and location of the main switch.
- Availability of emergency vehicles
- Assistance to First Aid practitioner
- Managing Safety Workshop
- Any training programme conducted by client / AUTHORITY ENGINEER (AE).

### 5.0 Site specific Environment Management action Plan

Site specific Environment Management action Plan based on project EMP has been described in the following tables:-

<b>EMP section PC 1. 1: Loss of Properties</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• The acquisition of Private properties will be carried out in accordance with the RAP and entitlement framework for the project.</li> <li>• Early identification of entitlement for Compensation and Advance planning of Resettlement and Rehabilitation Action plan to Compensate the losses.</li> <li>• All the affected people will be compensated as per RAP of the project before commencement of Construction work.</li> <li>• PIU has to ascertain that any additional environmental and social impacts into the ESMP and other relevant documents.</li> </ul>

Location	Throughout the Project Stretch
Timeframe	Pre-construction Stage
Implementation	PIU-UPPWD, NGOs
Supervision	PMC/PIU-UPPWD

**EMP section PC 1.2 Road Side Trees Cutting**

Mitigation Measures	<ul style="list-style-type: none"> <li>• The Statutory permission for diversion of protected forest and tree felling will be obtained prior to cutting of trees.</li> <li>• All efforts will be made to preserve trees restricting tree cutting within the formation width.</li> <li>• The tree plantation will be carried out the ratio of 1:2 within the ROW along the project highway as compensatory plantation by following guidelines for Landscaping and Tree Plantation <b>(IRC: SP:21-2009)</b>.</li> <li>• A general compensatory plantation scheme should be followed by the contractor presented in <b>Annexure-1</b></li> </ul>
Location	Throughout the Project Stretch
Timeframe	Pre-construction Stage
Implementation	Contractor/PMC -PIU UPPWD
Supervision	PMC/PIU-UPPWD

**EMP section PC 1.3 Relocation of Community Utilities and Common Property Resources.**

Mitigation Measures	<ul style="list-style-type: none"> <li>• All community utilities and properties i.e water supply lines, hand pumps will be relocated before start of construction.</li> <li>• The PIU will relocate threes properties in consultation and written agreement with the agency owner/community.</li> <li>• Environmental and Social consideration with suitable/required actions including health and hygiene aspects will be kept in mind while relocating all community utilities and resources.</li> </ul>
Location	Throughout Corridor wherever these features are located

Timeframe	Pre-construction Stage
Implementation	PIU-UPPWD, NGOs and R&R Unit
Supervision	PMC/PIU-UPPWD, Line Department

<b>EMP section PC 1.4 Relocation of Religious/Culture Properties</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• Alignment selected to minimize loss of cultural property.</li> <li>• Public consultation will be carried out for obtaining opinion for shifting of religious structures.</li> <li>• Relocation of religious structures will be ensured. The relocation site will be decided with the consultation with local population and the related community users.</li> <li>• The PIU/NGO will relocate these properties in consultation and written agreement with the agency/owner community.</li> <li>• Preference of the local community using the structure will be addressed during relocation/renovation of such affected features.</li> <li>• World Bank safeguards policy on OP 4.11 on Physical Cultural Resources and its related guidelines should be followed.</li> </ul>
Location	Throughout Corridor wherever these features are located
Timeframe	Pre-construction Stage
Implementation	PIU-UPPWD, NGOs and R&R Unit
Supervision	PMC/PIU-UPPWD, Line Department

<b>EMP section PC 1.5 Arrangement for temporary land for Establishing Camps/Plants/Temporary diversions, etc</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• The Contractor as per prevalent rules will carry out negotiations with the landowners for obtaining their consent for temporary use of lands, for workers camp, construction sites/hot mix plants/traffic detours etc.</li> <li>• The Contractor will submit the legal agreement/written Consent letter from the owner of the land for using for specific purpose along with its rehabilitation plan as agreed by the owner.</li> <li>• The Contractor will ensure that the site of properly/restored to the satisfaction of the land owner prior to handing over to the owner and shall submit satisfactory certificate from the Land Owner.</li> </ul>

Location	At Temporary camp site, temporary diversion and plant sites
Timeframe	Pre-construction Stage and Post utilization of the land
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

**EMP section PC 1.6 Establishment of Construction/Workers Camp**

Mitigation Measures	<ul style="list-style-type: none"> <li>• The locations of construction camp to be identified by the contractor.</li> <li>• Construction Camps will not be proposed within 500m from the nearest settlement to avoid conflicts and stress over the infrastructure facilities with the local community.</li> <li>• Location for stockyards for construction material will be identified at least 1000m from water sources/and 10km from Wildlife Sanctuary boundary.</li> <li>• The Contractor will submit the legal agreement/written Consent letter from the owner of the land for using for specific purpose along with its rehabilitation plan as agreed by the owner.</li> <li>• The Camp site will be provided with all the necessary facilities as per norms.</li> </ul>
Location	At Temporary camp site, temporary diversion and plant sites
Timeframe	Pre-construction Stage and Post utilization of the land
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

**EMP section PC 1.7 Establishment of Stone Crushers, Hot Mix Plants, WMM Plants, Concrete Batching Plants etc.**

Mitigation Measures	<ul style="list-style-type: none"> <li>• Stone crusher, Hot Mix Plants, WMM plants and Concrete Batching plants will be sited sufficiently away from settlements, agricultural operations and any commercial establishment. Such plants will be located at least 1000m away from the boundary of the nearest village/settlement and forests towards download direction.</li> <li>• The contractor will confirm to the siting and operation requirements of stone crusher unit, Hot mix plants, Batching Plant, WMM Plants are per Environmental and Social (Protection) Rules, 1986.</li> <li>• The Contractor shall submit a detailed layout plan for all such sites and</li> </ul>
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	<p>approval of the Environmental and Social Expert of PMC shall be necessary prior to their establishment.</p> <ul style="list-style-type: none"> <li>• All Plants will be fitted with adequate dust suppression and emission control equipment and facilities.</li> <li>• Specifications of crushers and hot mix plants will comply with the requirement of the relevant current emission control legislation and Consent /NOC for all such plants shall be obtained from the State Pollution Control Board.</li> <li>• The Contractor shall not operate the plants till the required legal clearance are obtained and submitted.</li> <li>• A general guidelines given in Annexure 1.2 will be followed for establishment the plants sites, operation and pollution Control measures to be adopted at site.</li> </ul>
Location	Plant Site
Timeframe	Pre-construction Stage
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

**EMP section PC 1.8 Borrow Area**

Mitigation Measures	<ul style="list-style-type: none"> <li>• Finalizing borrow areas for borrowing earth and all logistic arrangements are well as compliance to environmental and social requirements, as applicable, will be the sole responsibility of the Contractor</li> <li>• The Contractor will not start borrowing earth from select borrow area until the formal agreement is signed between the land owner and the contractor and a copy is submitted to the PMC/PIU-UPPWD.</li> <li>• All the borrow areas will be approved by the Engineer based on both material and environmental and social considerations.</li> <li>• The Contractor will obtain environmental and social clearance for the borrow area as per MoEFCC circular and the conditions stipulated under the environmental and social clearance will be binding on the contractor. The Contractor will submit the copy of clearance letter to the Engineer and PIU before commencement of material extraction.</li> <li>• All the borrow area will be operated in accordance with IRC specification and MoEFCC guidelines. Top soil shall be preserved for re-use.</li> <li>• No earth will be borrowed from within the ROW.</li> <li>• Non-productive, barren lands, raised lands, river beds, waste lands are recommended for borrowing earth.</li> </ul>
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	<ul style="list-style-type: none"> <li>• The unpaved surfaces used for the haulage of borrow material will be maintained properly.</li> <li>• To avoid any embankment slippages, the borrow areas will not be dug continuously, and the size and shape of borrow pits will be decided by the Engineer.</li> <li>• Each borrow area should be rehabilitated within one month after completion of completion of extraction of materials to be satisfactions of the land owner and the Engineer.</li> <li>• A general guideline for Borrow area operation and rehabilitation given in <b>Annexure 1.3</b> will be followed.</li> </ul>
Location	Identified borrow area
Timeframe	Pre-construction Stage
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

**EMP section PC 1.9. Quarry Area**

Mitigation Measures	<ul style="list-style-type: none"> <li>• The quarry material will be obtained from licensed sites only, which operate with proper environmental and social clearances, including clearances under the Air Act.</li> <li>• If the Contractor wants to open a new quarry, then he has to obtain necessary environmental and social clearance from MoEFC and lease license from Directorate of Geology and Mines.</li> <li>• The Contractor will obtain Environmental and Social clearance for the Quarry area as per environmental and social clearance will be binding on the contractor. The Contractor will submit the copy of clearance letter to the Engineer and PIU before commencement of material extraction.</li> <li>• All the quarries will be approved by the Engineer based on both material and environmental and social considerations.</li> <li>• The quarry operations will be undertaken within the rules and regulations in force. All Safety and Environmental and Social concerns will be addresses adequately during quarry operations and transportation of material as per prevailing rules.</li> <li>• Only Controlled blasting shall be carried out, if necessary for extraction of stone materials in strict compliance with the statutory norms and specification.</li> <li>• The restoration of Quarry will be done as per the conditions of the owner before handing over the site back to the owner.</li> </ul>
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	<ul style="list-style-type: none"> <li>General guidelines for Quarry area operation and rehabilitation given in <b>Annexure-1.4</b> will be followed.</li> </ul>
Location	Quarry Sites recommended
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>EMP section PC 1.10 Contractor's Environmental Social and Safety Officers</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>The Contractor has to appoint one Environmental, Social and Safety officers having requisite qualification and has sufficient experience in implementation of Environmental, Social and Safety Safeguards in road Project.</li> </ul>
Location	
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.1 Impact on land and Soil.</b>	
<b>C 1.1 Soil Erosion</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>High embankments will be provided with chutes and drain to minimize soil erosion</li> <li>Stone pitching and retaining walls will be made at high embankments in critical areas.</li> <li>Turfing of low embankments and plantation of grasses and shrubs will be done in slope stabilization.</li> <li>In borrow pits, the depth of the pit will be regulated that the sides of the excavation will have a slope not steeper than 1:2, from the edge of the final section of bank.</li> <li>Soil erosion checking measures as the formation of sediment basins, Slope drains, etc. Will be carried out.</li> </ul>
Location	At all embankment locations, bridge locations and borrow pits

Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.1 Impact on land and Soil.</b>	
<b>C 1.2 Loss of Top Soil</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• Agriculture areas will be avoided for borrowing of materials, unless requested by the land owner.</li> <li>• The topsoil from all areas of cutting and all areas to be permanently covered will be stripped to a specified depth of 150 mm and stored in stockpiles of height not exceeding 2m.</li> <li>• The stored topsoil will be spread back to maintain the soil physic-chemical and biological activity. The preserved top soil will be used for restoration of sites, in landscaping and avenue plantation.</li> </ul>
Location	Throughout Project corridor
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.1 Impact on land and Soil.</b>	
<b>C 1.3 Compaction of Soil</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• Construction vehicles, machinery and equipment will move, or be stationed in the designated area, to avoid compaction of soil.</li> <li>• If operating from temporarily hired land, it will be ensured that the top soil for agriculture remains preserved &amp; not destroyed by storage, material handling or any other construction related activities .</li> </ul>
Location	Throughout Project corridor
Timeframe	During Construction
Implementation	Contractor



Supervision	PMC/PIU-UPPWD,
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<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.1 Impact on land and Soil.</b>	
<b>C 1.4 Contamination of land from fuel and lubricants</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>Impervious platform and oil and grease trap for collection of spillage from construction equipment vehicles maintenance platform will be appropriately provided at construction camp, servicing area and liquid fuel and lubes at storage areas.</li> </ul>
Location	Construction Camp, Vehicle and Equipment Servicing Centre and Construction Site
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.1 Impact on land and Soil.</b>	
<b>C 1.4 Contamination of land from Construction wastes and spoils.</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>All spoils will be disposed off as desired and the site will be fully cleaned before handing over. The non-usable bitumen spoils will be disposed off in a deep trench providing clay lining the bottom and filled with soil at the top (for at least 0.5m).</li> </ul>
Location	All Construction sites, borrow pits camps throughout Project Corridor
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.2 Impact of water Resources</b>	
<b>C 2.1 Drainage and run-off</b>	

Mitigation Measures	<ul style="list-style-type: none"> <li>The Contractor will always clear all the cross drainages structures and natural drainage before onset of monsoon in order to keep all drainage unblocked. Earth, Stones, Wastes and spoils will be properly disposed off, to avoid blockage of any drainage channel.</li> <li>All necessary precautions will be taken to construct temporary or permanent devices to prevent inundation or ponding.</li> </ul>
Location	At locations of CD Structure
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

## CONSTRUCTION STAGE

### EMP section C.2 Impact of water Resources

#### C 2.2 Rainwater Harvesting & Removal of Oil & Grease from Runoff Water

Mitigation Measures	<ul style="list-style-type: none"> <li>The Contractor will construct Rain Water harvesting pits connected with longitudinal drains. The water harvesting structure along shall be provided at an interval of 500 m along both side of the project road.</li> <li>The pits should be at least 5 m above the highest ground water level,</li> <li>The Contractor shall submit a detailed layout plan for all such sites in consultation with Central Ground Water Board and approval of the PMC shall be necessary prior to their establishment.</li> <li>The schematic diagram of Rain Water harvesting pit is presented as <b>Annexure-1.5</b>.</li> <li>The Contractor will provide oil receptors connected with longitudinal drains in a manner that can regulate the runoff water as well as extract the oil and grease from the runoff water before entering the rainwater harvesting pits or nearby water bodies or agriculture fields. A typical schematic plan may be followed by construction oil receptors at strategic location as per Annexure-1.6</li> </ul>
Location	Throughout the stretch
Timeframe	During Construction
Implementation	Contractor in consultation with Ground Water board
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.2 Impact of water Resources</b>	
<b>C 2.3 Contamination of water from construction and allied activities</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• All necessary precautions will be taken to construct temporary or permanent devices to prevent water pollution due to increased situation and turbidity.</li> <li>• The Contractor will take all precautionary measures to prevent the waste water generated during construction from entering into canals, water bodies or the irrigation system and avoid construction works close to canals or water bodies during monsoon.</li> <li>• All wastes arising from the project will be disposed off, as per SPCB norms, so as not to block the flow of water.</li> <li>• No construction materials spoils will be stored along the water bodies and adequate provision will be made for preventing slippage of materials into these water bodies.</li> <li>• Wastes must be collected, stored and taken to approved disposal site.</li> <li>• Water quality to be monitored periodically as per Environmental and Social Monitoring Plan.</li> </ul>
Location	Throughout the Project Corridor where the water bodies located
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.2 Impact of water Resources</b>	
<b>C 2.4 Contamination of Water from Fuel and Lubricants</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• The Contractor will ensure that all construction vehicles parking locations fuels/lubricants storage sites, vehicles, machinery and equipment maintenance sites are located at least 100m away from any water body. The Contractor will also ensure that spillage of fuels and lubricants do not contaminate the ground.</li> <li>• The slopes of embankment leading to water bodies will be modified and re-channelized so that contaminants do not enter the water body.</li> <li>• Oil and grease traps will be provided at fuelling locations to prevent contamination of water.</li> </ul>

	<ul style="list-style-type: none"> <li>The contractor will arrange for collection, storage and disposal of oily wastes to be pre-identified disposal sites (list to be submitted to PMC/PIU-UPPWD) and approved by the Environmental and Social Expert. All spills and collected petroleum products will be disposed off in accordance with statutory guidelines.</li> </ul>
Location	At Construction Camp locations, wherever located along the project corridor
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.2 Impact of water Resources</b>	
<b>C 2.5 Sanitation and Waste disposal in construction camps</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>Garbage tanks and sanitation facilities will be provided at camps.</li> <li>The construction camps will be located away from water sources.</li> <li>Efforts will be made to provide good sanitary conditions at camp to avoid epidemics.</li> <li>The workplace will have proper medical approval by local medical, health or municipal authorities</li> </ul>
Location	Throughout Project Corridor
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.2 Impact of water Resources</b>	
<b>C 2.6 Use of water for Construction</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>The Contractor will use ground water/surface water as a source of water for the construction after taking prior permission from Competent Authority.</li> <li>The Contractor will provide a list of locations and type of source from where water for construction will be used.</li> <li>To avoid disruption/disturbance to other water users, the contractor will</li> </ul>

	<p>extract water from fixed locations. The Contractor will not be allowed to pump water from any irrigation canal and surface water bodies used by the community.</p> <ul style="list-style-type: none"> <li>• The contractor is required to comply with the requirements of the State Ground Water Department and seek its approval for doing so and submit copies of the permission to Environmental and Social Expert of PMC/PIU-UPPWD.</li> <li>• Wastage of water during the construction will be minimized.</li> </ul>
Location	Throughout Project Corridor
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

### CONSTRUCTION STAGE

#### EMP section C.2 Impact of water Resources

##### C 2.7 Community Water Source

Mitigation Measures	<ul style="list-style-type: none"> <li>• Damage to any community water source such as wells, tube-wells, water supply pipelines etc. Due to construction activities in a particular area, will be replaced immediately by the Contractor at their own cost.</li> </ul>
Location	Throughout Project Corridor
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

### CONSTRUCTION STAGE

#### EMP section C.3 Impact of Air Environment

##### C 3.1 Emission from Construction vehicles and machinery

Mitigation Measures	<ul style="list-style-type: none"> <li>• All vehicles, equipments and machinery used for construction will be regularly maintained to ensure that the pollution emission levels conform to the SPCB norms.</li> <li>• The asphalt plants, crushers and the batching plants will be sited at least 1000m in the downwind direction from the nearest human settlement (Boundary of town/village).</li> </ul>
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	<ul style="list-style-type: none"> <li>• Vehicles transporting earth materials will be covered.</li> <li>• Mixing equipment will be well sealed and equipped as per PCB norms.</li> </ul>
Location	Throughout Project Corridor at construction sites, hot mix plant, Concrete Batching Plant
Timeframe	During Construction and after
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.3 Impact of Air Environment</b>	
<b>C 3.2 Emission from Construction Vehicles, Equipment and Machineries</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• Contractor will ensure that all vehicles, equipments and machinery used for construction are regularly maintained and confirm that pollution emission levels comply with the relevant requirement of UPPCB.</li> <li>• The Contractor will submit PUC certificates for all vehicles, equipments/machinery used for the project. Monitoring results will also be submitted to PIU through the Engineer.</li> <li>• Periodical monitoring of fine particulate matters (PM10 and PM2.5) will be carried out as per Environmental and Social Monitoring Plan</li> <li>• Workers at mixing sites will be provided with Good Quality Personal protective equipments (PPE) reduce the chances of ill effect of dust.</li> </ul>
Location	Throughout Project Corridor at construction sites, hot mix plant, Concrete Batching Plant and the equipments and vehicles at sites
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.3 Impact of Air Environment</b>	
<b>C 3.3 Dust Pollution</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• The Contractor will take every precaution to control dust nuisance at all the construction zones and allied sites where works are under progress.</li> <li>• Every equipments and machinery will be fitted with dust suppression</li> </ul>

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.3 Impact of Air Environment</b>	
<b>C 3.3 Dust Pollution</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• The Contractor will take every precaution to control dust nuisance at all the construction zones and allied sites where works are under progress.</li> <li>• Every equipments and machinery will be fitted with dust suppression devices such as water sprinklers, dust bags, cyclone etc. As appropriate.</li> <li>• The Contractor will provide necessary certificates to confirm that all crushers used in construction conform to relevant dust emission control legislation.</li> <li>• At all the construction Zones and unpaved lead roads, earthen temporary diversions and plant premises periodical water sprinkling will be carried out to suppress dust.</li> <li>• Transportation of loose earth, sand will be done in covered vehicles.</li> <li>• Periodical monitoring of fine particulate Matters (PM10 and PM2.5) will be carried out as per Environmental and Social Monitoring Plan</li> <li>• Workers at mixing sites will wear masks to reduce the chances of exposure to fugitive dusts.</li> </ul>
Location	Throughout the Construction zones, plant sites, borrow area/quarry sites, camp site
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C.3 Impact of Air Environment</b>	
<b>C 3.4 Fly ash Handling and utilization</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• The handling and transportation of fly ash will be done as per section 4.6 of IRC-58-2001.</li> <li>• Fly ash from hoppers of silos must be conditioned with water at Power Plant to prevent dusting enroute.</li> <li>• Fly ash will be transportation to the site in covered dump truck to minimize loss of moisture and dust generation.</li> </ul>

	<ul style="list-style-type: none"> <li>The quantity of fly ash will be transported based on utilization as per work plan to avoid stockpiling of excess quantity. However if stockpiling is required then adequate precautions will be taken to prevent dust generation by spraying water on stockpiles at regular intervals.</li> <li>The Stockpiles of Fly ash will be covered with tarpullins or a thin layer of soil or other granular material to avoid dust generation.</li> </ul>
Location	Construction zones and stockyards
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 4 Impact of Noise Pollution</b>	
<b>C 4.1- Noise from vehicles asphalt plants and equipments</b>	
Mitigation Measures	<p>The Contractor will conform the following measures.</p> <ul style="list-style-type: none"> <li>All Plants and equipments used in construction shall strictly conform to the MoEF/CPCB noise standards</li> <li>All vehicles and equipments used in construction will be fitted with exhaust silencers.</li> <li>Servicing of all construction vehicles and machinery will be done for exhaust silences and will be checked and if found defective will be replaced.</li> <li>All Construction sites within 150m of the nearest habitation, noisy construction work such as crushing, concrete mixing will be stopped during the night time between 10.00 Pm to 6:00AM.</li> <li>Monitoring shall be carried out at the construction sites as per the monitoring schedule and results will be submitted to PMC/PIU-UPPWD.</li> <li>Environmental and Social Expert will be required to inspect regularly to ensure the compliance ESMP.</li> </ul>
Location	Throughout Project Corridor and at all construction sites, hot mix plant concrete batching plants.
Timeframe	During construction till the closure of such sites.



Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 5 Impact of Flora</b>	
<b>C 5.1- Loss of damage to vegetation</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• Vegetation will be removed from the construction zone before commencement of construction. All works will be carried out such that the damages or disruption of flora other than those identified for cutting is minimum.</li> <li>• Only ground cover/shrubs that impinge directly on the permanent works or necessary temporary works will be removed with prior approval from the Environmental and Social Expert.</li> <li>• The contractor, under any circumstances will not cut or damage trees.</li> <li>• Trees identified under the project will be cut only after receiving clearance from the Forest Department and after the receipt of written permission from PIU.</li> <li>• Vegetation only with girth of over 30cm measured at a height of 1.0 , above the ground will be considered as trees and shall be compensated @ 1:2 . A total of 15667 trees are likely to be cut.</li> </ul>
Location	Throughout Project Corridor
Timeframe	Just after completion of Construction activity
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 5 Impact of Flora</b>	
<b>C 5.2- Compaction of vegetation</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• Construction vehicles, machinery and equipment will move or be stationed in the designated area only (ROW or CoI, as applicable), to prevent compaction of vegetation outside the ROW.</li> <li>• While operating on temporarily acquired land for traffic detours,</li> </ul>

	storage, material handling or any other construction related or incidental activities, It will be ensured that the trampling of soil and damages to naturally occurring herbs and grasses will be avoided.
Location	Throughout Project Corridor
Timeframe	Just after completion of Construction activity
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 6 Impact of Fauna</b>	
<b>C 6.1- Loss, damages or disruption to fauna</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• Construction workers will be directed not to disrupt or damages the fauna.</li> <li>• State rules for hunting (wild life protection) will be adhered and rules for Bird Catching (Wild life protection ) will be adhered.</li> <li>• Construction vehicles will run along specified access to avoid accidents to cattle.</li> </ul>
Location	Throughout Project Corridor
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 7 Safety and Accident Risks</b>	
<b>C 7.1-Accident risks from construction activities</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• To ensure safe construction in the temporary access during construction, lighting devices and safety sign boards will be installed.</li> <li>• Traffic rules and regulations will be strictly adhered to.</li> <li>• Safety of workers undertaking various operating during construction will be ensured by providing helmets, mask, safety goggles, etc.</li> <li>• The electrical equipment will be checked regularly.</li> <li>• At every camp site, a readily available first aid unit including an</li> </ul>

	<p>adequate supply of dressing materials, a mode of transport (ambulance), para medical staff and attending doctor will be provided.</p> <ul style="list-style-type: none"> <li>• Road Safety education will be imparted to drivers running construction vehicle. In case of negligent driving, suitable action will be taken.</li> <li>• Adequate signage, barriers and persons with flags during construction to control the traffic will be provided.</li> <li>• Communications through newspaper/announcement/radio/TV about the time frame of the project and the activities causing disruptions on road access and the temporary arrangement made to give relief to the public will be undertaken.</li> </ul>
Location	Throughout Project Corridor
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

### CONSTRUCTION STAGE

#### EMP section C- 7 Safety and Accident Risks

#### C 7.2- Occupational Health & Safety of Workers

Mitigation Measures	<ul style="list-style-type: none"> <li>• The Contractor will comply the requirements of the Environmental Social, Health and Safety (EHS), Guidelines of the World Bank Group<sup>28</sup>, April 2007 and the statutory norms of Safety during construction.</li> <li>• The Contractor will provide adequate good quality personal protective Equipments (PPE) to all the workers working at construction zones and Plant site and will ensure that these PPEs are used by workers at all time during works.</li> <li>• Adequate drainage, sanitation and waste disposal will be provided at workplaces.</li> <li>• Proper drainage will be maintained around sites to avoid water logging leading to various diseases.</li> <li>• Adequate sanitation and waste disposal facilities will be provided at construction camps by means of septic tanks, soakage pits etc.</li> <li>• A health care system will be maintained at construction camp for routine check up of workers and avoidance of spread of any communicate disease.</li> </ul>
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	<ul style="list-style-type: none"><li>• Readily available First Aid kit bearings all necessary first aid items will be provided at all the work sites and should be regularly maintained.</li><li>• The Contractor will organize awareness programme on occupational health and safety aspects as well as HIV AIDS and sexually transmitted diseases (STDs) for workers on periodic basis.</li></ul>
Location	Workers camp site and construction Zones
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 7 Safety and Accident Risks</b>	
<b>C 7.3- Accessibility</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>The Contractor will all time provide safe and convenient passage for vehicles, pedestrian and livestock to and from roadsides and property access as connecting the project road. The contractor will also ensure that the existing accesses are not blocked without providing adequate provisions and to the prior stratification of Engineer.</li> <li>The Contractor will take care that the cross roads are constructed in such a sequence so that traffic movement on any given area does not get affected</li> </ul>
Location	At all Construction Zones along settlement stretches and at major intersections
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 7 Safety and Accident Risks</b>	
<b>C 7.4- Planning for Traffic diversion</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>Detailed Traffic Control Plans will be prepared and submitted to the Engineer and PMC/PIU-UPPWD for approval, five days prior to commencement of works of any section of road. The traffic control plan shall be contain details of temporary diversions, traffic safety arrangements of flagmen.</li> <li>The Contractor will provide specific measures for safety of pedestrians and workers at night as a part of traffic control plans. The Contractors will ensure that the diversion /detour is always maintained in running condition, particurly during the mansoon to avoid disruption to traffic flow. The Contractor will also inform local community of changes to traffic routes, condition pedestrian access arrangements with assistance from PMC/PIU-UPPWD.</li> </ul>

Location	At all Construction Zones
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 8 Impact Cultural Properties</b>	
<b>C 8.1- Damage or loss of Cultural properties</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• Relocation of adversely impacted cultural properties</li> <li>• If any valuable or invaluable articles such as fabrics, coins, artefacts, structures, or other archaeological relics are discovered, the excavation will be stopped and Archaeology Department, UP will be intimated.</li> <li>• Construction camps blasting sites and all allied construction activities will be located at least 500m away from the Cultural Property.</li> </ul>
Location	Throughout Project Corridor at all locations of culture properties
Timeframe	Before Construction & During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 8 Impact Cultural Properties</b>	
<b>C 8.2- Chance finding of Archaeological/historical Properties.</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• All fossils, Coins, articles of value of antiquity, structure and other remains or archaeological interests and shall be dealt with as per permissions of the relevant legislation.</li> <li>• The Contractor shall take responsible precaution to prevent his workmen or any other persons from removing and damaging such articles or things.</li> <li>• The Contractor will immediately stop the work at site upon discovery of such articles or things or archaeological importance during construction.</li> </ul>

	<ul style="list-style-type: none"> <li>The Contractor shall, immediately upon discovery thereof and before removal, acquaint the Engineer of such discovery and carry out the Engineer's instructions for dealing with the same.</li> <li>The Engineer/PWD will seek direction from the respective Archaeology Department before instructing the contractor to recommend the work in the site.</li> </ul>
Location	Along the project stretch and allied sites of excavation
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 9 Impact Site Management</b>	
<b>C 9.1-Labour Camp Facility</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>Contractor will follow all relevant provision of the Factories Act, 1984 and the Building.</li> <li>And the other Construction workers (Regulation of Employment and conditions of Service)</li> <li>Act, 1996 for construction and maintenance of Labour camp.</li> <li>The location, layout and basic facility provision of each labour camp will be submitted to the Engineer and PIU prior to their construction.</li> <li>The Construction will commence only upon the written approval of the Engineer.</li> <li>The Contractor will maintain necessary living accommodation and ancillary facilities in Functional an hygienic manner and as approved by the Engineer.</li> <li>Periodical medical checkup will be ensured for all the workers at least once in 3 months.</li> <li>The Contractor will follow the guidelines of labour influx and construction camp management refer annexure 1.12 for details.</li> </ul>
Location	Camp Site
Timeframe	During Construction
Implementation	Contractor

Supervision	PMC/PIU-UPPWD,
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<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 9 Impact Site Management</b>	
<b>C 9.2-Portable Water</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• The Contractor will provide potable water facilities within the precincts of every workplace in an accessible place.</li> <li>• The Contractor will also guarantee the following:</li> <li>• Supply of sufficient quantity of potable water (as per IS) in every workplace/labour camp at suitable and easily accessible places and regular maintenance of such facilities.</li> <li>• If any water storage tank is provided, the bottom of the tank will be kept at least 1mtr, above from the surrounding ground level.</li> <li>• If water is drawn from any existing well, which is within 30mtr. Proximity of any toilet, drain or other source of pollution, the well will be disinfected before water is used for drinking.</li> <li>• All such wells will be entirely covered and provided with a trap door, which will be dust proof and waterproof.</li> <li>• A reliable pumps will be fitted to each covered well. The Trap door will be kept locked and opened only for cleaning or inspection, which will be done at least once in a month.</li> </ul>
Location	Camp Site & Work Zones
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 9 Impact Site Management</b>	



<b>C 9.3- Sanitation and Sewage System</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• The Contractor will ensure that-</li> <li>• The sewage system for the camp will be designated, built and operated in such a fashion that it should not pollute the ground water or nearby surface water.</li> <li>• Separate toilets/bathrooms, will be arranged for men and women</li> <li>• Adequate water supply is to be provided in all toilets and urinals</li> <li>• All Toilets in workplaces are with dry-earth system (receptacles) which are to be cleaned and kept in strict sanitary condition.</li> <li>• Night soil (Human excreta) is to be disposed off by putting layer of it covered with 15cm, layer of waste or refuse and then covered with a layer of earth for a fortnight.</li> </ul>
Location	Camp Site
Timeframe	During Construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 9 Impact Site Management</b>	
<b>C 9.4- Waste disposal</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• The Contractor will provide segregated garbage bins in the camps and ensure that these are regularly emptied and disposed off in a hygienic manner as per comprehensive Solid Waste Management plan approved by the Environment and Social Expert of PMC/PIU-UPPWD.</li> <li>• Unless otherwise arranged by local municipal Authority, arrangement for disposal of night soils (Human excreta) suitably approved by the local municipal authority or as directed by the Engineer, will be arranged by the Contractor.</li> </ul>
Location	Camp Site
Timeframe	During Construction
Implementation	Contractor

Supervision	PMC/PIU-UPPWD,
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<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 10 Monitoring of Pollution</b>	
<b>C 10.1-Monitoring of Air, Water &amp; Noise Quality Pollution Monitoring</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• The Periodic monitoring of the ambient air quality, noise level, water (both ground and surface water) quality, soil pollution/contamination in the selected locations as suggested in environmental monitoring plan will be responsibility of Contractor.</li> <li>• PIU will appoint MOEFCC/UPPCB approved monitoring agency for this purpose.</li> </ul>
Location	As per Environmental Monitoring Plan (Construction Zones and Plant/Camp Sites).
Timeframe	During Construction
Implementation	Contractor through approved laboratory
Supervision	PMC/PIU-UPPWD,

<b>CONSTRUCTION STAGE</b>	
<b>EMP section C- 11 Site Restoration and Rehabilitation</b>	
<b>C 11.1-Clean up operations, Restoration and Rehabilitation</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>• Contractor will prepare site restoration plan, which will be approved by the Engineer.</li> <li>• The Cleanup and restoration operations are to be implemented by the Contractor prior to demobilization.</li> <li>• The Contractor will clear all the debris material at site, temporary structures, dispose all garbage, night soils and POL waste as per Comprehensive Waste Management Plan and as approved by the</li> </ul>

	<p>Engineer (PMC).</p> <ul style="list-style-type: none"> <li>All disposal pits or trenches will be filled in and effectively sealed off. Residual topsoil, if any will be distributed on adjoining proximate barren land or areas indentified by the PMC in a layer of thickness of 75mm -150mm.</li> <li>All construction zones including river-beds, culvert, road- side areas camp hot mix plant sites, crusher batching plant sites and any other area used/affected by the project will be left clean and tidy, at the contractor's expense to the entire satisfaction of the Engineer (PMC).</li> </ul>
Location	Construction Zones, Camp and other alied sites
Timeframe	After Completion of construction and before demobilization of construction
Implementation	Contractor
Supervision	PMC/PIU-UPPWD,

**OPERATION STAGE**

**O-1 Monitoring of Operation Performance**

Mitigation Measures	<ul style="list-style-type: none"> <li>The PIU-UPPWD will monitor the operational performance of the various mitigation/enhancement measures carried out as a part of the project.</li> <li>The indicators selected for monitoring include the survival rate of trees, utility of enhancement provision for relocated utilities, hand pumps and other relocated structures if any; status of rehabilitation of borrow areas; and noise barriers, which are proposed at different locations</li> </ul>
Location	Throughout the Project Stretch
Timeframe	Operation Stage
Implementation	Contractor till defect liability period/PIU UPPWD
Supervision	PMC/PIU-UPPWD,

**OPERATION STAGE**

**O-2 Maintenance of Drainage**

Mitigation	<ul style="list-style-type: none"> <li>PIU-UPPWD will ensure that all drains (Side drains, cross drains etc.) are periodically cleared especially before mansoon season to</li> </ul>
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Measures	<p>facilitate the quick passage of rainwater and avoid flooding.</p> <ul style="list-style-type: none"> <li>PIU-UPPWD will ensure that all the sediment and oil and grease traps set up at the water bodies are cleared once in every three months.</li> </ul>
Location	Throughout the Project Stretch
Timeframe	Operation Stage
Implementation	Contractor till defect liability period/PIU UPPWD
Supervision	PMC/PIU-UPPWD,

<b>OPERATION STAGE</b>	
<b>O-3 Pollution Monitoring</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>The periodic monitoring of the ambient air quality, noise level, water (both ground and surface water) quality, soil pollution/contamination in the selected locations as suggested in environmental monitoring plan will be the responsibility of contractor.</li> <li>PIU-UPPWD will appoint MOEFCC/UPPBC approved pollution monitoring agency /Laboratory for this purpose.</li> </ul>
Location	As per Environmental monitoring plan
Timeframe	Operation Stage
Implementation	Contractor till defect liability period/PIU UPPWD
Supervision	PMC/PIU-UPPWD,

<b>OPERATION STAGE</b>	
<b>O-4 Contamination of surface water due to traffic movement &amp; Accident</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>Contingency plans will be developed for cleanup of oil spills, fuel and toxic chemicals.</li> </ul>
Location	Throughout the project stretch
Timeframe	Operation Stage
Implementation	Contractor /PIU- UPPWD
Supervision	PIU-UPPWD

<b>OPERATION STAGE</b>	
<b>O-5 Noise Pollution</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>Noise pollution will be monitored as per monitoring plan at different zones.</li> <li>Noise attenuating Tree Specials to be planted along the road.</li> <li>Noise control programs are to be enforced strictly. Monitoring the effectiveness of the pollution attenuation barriers, if there is any, will be taken up.</li> </ul>
Location	Specially inhabitant location
Timeframe	Operation Stage
Implementation	Contractor through approved laboratory
Supervision	PIU-UPPWD

<b>OPERATION STAGE</b>	
<b>O-6 Accident Hazard and Safety</b>	
Mitigation Measures	<ul style="list-style-type: none"> <li>Provision of elaborate system of sign boards and road markings along the whole stretch</li> <li>Provision of suitable lighting arrangement at required locations.</li> <li>Development of Emergency Response and Contingency plan for accidents.</li> <li>Regular highway patrolling</li> </ul>
Location	Throughout the project stretch
Timeframe	Operation Stage
Implementation	Contractor PMC/PIU-UPPWD
Supervision	PIU-UPPWD

### 6.0 Training and Awareness Plan

- All Contractor staff on site will be competent to fulfil their roles as assigned and will have completed environmental training as per the Contractor training programmes which will be organized time to time.

- Contractor shall audit training and skill levels periodically and Contractors shall be required to take prompt remedial action if deficiencies are found.
- Contractors Managers/Supervisors must be able to demonstrate the appropriate level of Safety Health and Environmental Management competence that should include a minimum of two days Environment and safety management training in a month (i.e. fortnightly training )

Time to time Training and Awareness programs are conducted by the company to upgrade and enhance the skills of workers.

### **Induction Training**

After joining every new employee have to undergo an induction training program at project Head Office before proceeding to their worksite. During induction training program an overview of the assigned project, its contract conditions including safety & environmental norms, work procedure/practice to be followed at site will be elaborated to the new employee. Details of the induction training have been discussed in preceding sections.

### **Tool Box Talk**

Periodically Tool Box Talks are conducted at site by Environmental cum Road Safety Manager. During Tool Box Talk the safety precautions which need to be adopted by every site employee or worker during various types of activities in which they are involved are described.

All site workers are informed to use their Personal Protective Equipment's (PPE's) to avoid injury and to take all precautionary measures to reduce the risk during the construction work. In Tool Box Talk site workers are also informed about the First Aid arrangement and its use in case of any accident before contacting safety personnel/team.

### **Environment and Safety Awareness Training**

To enhance Environment and Safety awareness among the workers time to time training program on World Environment Day, Safety Week, HIV/AIDS Awareness, etc. will also be scheduled by the company.

Training proposed for capacity development in EMF, EIA and EMP document of MSRIIRTCP will also be applicable for this project because this project is a component of MSRIIRTCP. In addition to his routine training the contractor will also organize following training programmes with specific context of the roads in Mizoram, focusing on the following issues:

- Conservation of biodiversity
- Slope stability and vulnerability to landslides
- Siting criteria for identification of dumping sites
- Harnessing water resources, including rain water harvesting
- Concepts of bio-engineering and application of bio-engineering techniques for slope protection

## **7.0 Management of Public relations and complains**

### **7.1 Liaison with the local community**

- The contractor will organize village level awareness programme for local residents and will inform them about the work and safety precautions before starting the work with in or near the village. These awareness programmes will be organised in village community hall and also in Churches.
- During construction also contractor will organise such village level awareness programme.
- The contractor EHS team will Visits to the local community and neighbour schools will to advise and inform of the works as well as our mitigation and control plans which will be implemented to minimise the effect to the community.

- Public relations will be managed using the Contractor Group SHE Management System Communication, Public Relations and Complaints Procedure.
- The Strategy for community relations on this project involves;- Signification changes in method and types of works will be communicated to the Local Authority via Letter Drops and notice boards located adjacent to the site
- The site will be covered by the appropriate cautionary safety signages and Environment conservation awareness boards in local languages.
- The contractor's EHS officer and site Public Relations Manager will be responsible for reporting under the Considerate Contractors Scheme and recording any appropriate issues related to the site.
- All enquiries will be monitored and closed out where appropriate by the Public Relations Manager. This information will be reported to the Project Manager and Safety Health and Environmental Co-ordinator for the site.

Like structural safety and workers safety, public safety is a basic requirement during planning, construction as well as during maintenance. The contractor will enhanced community safety / public safety by a slew of safeguards like the following:

- Display of caution signals, boards;
- Design and construction of windows, parapets, railings etc. to concentrate on safety aspects in the matter of height (sill level in the case of windows), strength of elements and size of openings to avoid the danger of accidental falls, especially of children;
- Wells, cut-outs, tanks, pools, accessible roofs etc. to have protective railings/ parapets around them
- Avoiding/ minimizing storage of materials on public roads or public places;
- Preventive measures against damage to adjoining property because of deep excavations;
- Provision of barricading and curtains against fall of construction materials;



- In the case of driven piles, safeguarding adjacent structures and service lines against the
- effect of vibrations;
- Preventing unauthorized and direct access to construction sites;
- Adequate warning signs near danger zones like, high tension lines, deep excavations, blasting areas, deep excavations, etc.;
- Keeping the manholes covered; providing immediate replacement in case of loss or damage;
- Proper fencing of dangerous pits/ excavations, and
- In the case of road and bridge works, providing proper diversions with adequate markings, lights and advance notice boards including their maintenance.

## **7.2 Management of complains**

- The Enquiry and Complaints Procedure will record, where applicable, actions taken to rectify the source of the complaint in accordance with the SHE Management System Communication, Public Relations and Complaints Procedure.
- Details of the complaint will be recorded on the relevant documentation and filed in the Site Environmental file with copies also being sent through to the Contractor Project Manager. If the management of the environmental issue is beyond the control of the Project Manager then the affected person will be advised to appeal to the Environmental Grievance Redressal Cell.
- Number of the Grievance Redressal Cell has been displayed in all the settlements and important community halls, VCP offices and other NGO offices like YMA and MIPHP offices.
- A website will be set up with a Web cam. The aim will be is to provide, live images of the project during construction and also to monitor the EHS implementations
- All information appertaining to complaints shall be responded to within 24 hours
- Environmental grievances will be managed as per instruction received from the Environmental Grievance Redressal Cell.

### **8.0 Implementation of EMP Enhancement Items**

EMP Annexure 1.11 has been considered as item for Environmental Management. Contractor's plan to implement the items has been summarized in the following table.

**9.0 Monthly E-CSMP-** All Annexure are attached separately.

# UTTAR PRADESH CORE ROAD NETWORK PROGRAM (UPCRNDP)

## Environmental Supervision and Monitoring Schedule – Construction Phase

**TABLE-1: Consolidated Environmental Management Checklist**

*Status As On Date 31.05.2020*

PMC/Authority Engineer : EGIS India Consulting Engineers Pvt.Ltd.  
 Road Section : UPCRNDP (UPG-04)  
 Environmental Features of the Location : Plain Terrain

**TABLE-1**

No.	EMP ISSUES	EMP COMPLIANCE STATUS	
		UPG-04 (BADAU-BILSI)	
		M/s Gawar Construction Ltd.	
<b>1</b>	<b>SITE CLEARANCE</b>		
(i)	Environmental Clearance Status	:	STAGE-I - EC Granted;
(ii)	Tree Cutting Status	:	Identified Trees to cut 12292; Balance-95
(iii)	Proposed Avenue Plantation	:	31334
(iv)	Project Road Length Free from Physical Hindrances	:	
<b>2</b>	<b>EHS SYSTEM</b>		Joint Measurement Sheet- Memorandum Signed and Hindrance free 90% Project Length Available for Work execution
(i)	Project Specific EMP Plan Approved	:	Environmental Management Plan submitted
(ii)	Traffic Management Plan (TMP) Approved	:	Submitted
<b>3</b>	<b>EHS STAFF MOBILIZATION</b>		
(i)	Environment Cell (Employer)	:	yes -available; Mr. Munnihal Verma (EE-PWD) Mrs. Seema Srivastava (Independent Environment Consultant)
(ii)	Supervision Consultant (PMC/AE) at Team Leader Office	:	yes -available; Mr. Devbrat Singh (Sr. Environmentalist)
(iii)	Supervision Consultant (PMC/AE) at Resident Engineer Office	:	yes available; Mr. Shiv Kumar (Jr. Environmentalist)
(iv)	Contractor	:	EHS officer has been appointed before lockdown, due to lockdown he is unable to join recently.
<b>4</b>	<b>CONST.CAMP MANAGEMENT</b>		
(i)	Land Deed with Owner & Permit for Overall Camp Operations	:	Layout Plan submitted
(ii)	Accommodation and provision of facilities (Transport, Drinking Water, Toilet, Lighting, Food, Medical, Securities etc.)	:	Layout Plan submitted
(iii)	Status of Drainage in camp, Soak pit and Pest Control Provisions	:	Drainage in camp- available, soakpit available, Pest control & sanitisation are being carried out
(iv)	First Aid Center and Provision of Medical Health Check-up	:	Detailis submitted and First Aid Box are available at site office and Hospital Tie Up letter has been submitted to AE office for medical Health Check-UP.

**TABLE-1: Consolidated Environmental Management Checklist**

*Status As On Date 31.05.2020*

<b>5</b>	<b>CONST. PLANT MANAGEMENT</b>	
(i)	HMP, RMC, WMM & CRUSHER: Location,	: Copy of CTE & CTO has been submitted to AE office
(ii)	Status of Precaution to prevent Air Pollution and Dust Suppression	: Water sprinkling is being done manually by the water tanker & pipe.
(iii)	Status of Precaution to prevent contamination of soil by Emulsion, Bituminous, Oil & Lubricant	: Solid Platform provided at Oil storage location; Waste collection system to be enhanced
(iv)	Fire (Emergency) & Worker's Safety Provisions	: Fire extinguisher has been installed at camp premises and workers training has organised by HO time to time.
(v)	General Housekeeping Status	: NA
<b>6</b>	<b>BORROW AREA MANAGEMENT</b>	
(i)	Number of Borrow Area Submitted	: 16
(ii)	Number of Borrow Area Approved	: 10
(iii)	Number of Borrow Area Rehabilitated	: 0
<b>7</b>	<b>CONSTRUCTION SITE MANAGEMENT</b>	
(i)	Provisions to cover fugitive/fine construction material & bituminous mix while transporting	: NA
(ii)	PUC taken for all construction vehicles	: Submitted
(iii)	Debris, Spoil & Waste Material Disposal	: Local villager has been hired for disposal
(iv)	Provisions for Dust Suppression	: Water sprinkling activities is being done routine basis.
(v)	TMP implemented & the warning/regulatory Traffic Signs installed	: TMT has been submitted
(vi)	PPE's i.e. helmet, gloves, gumboot, mask, earplugs etc., provided and enforced to use by workers	: Provide to all workers and staff
(vii)	Construction vehicles & machinery - provision of License holder operator, Helper, back mirror, Back Horn, regular maintenance logbook etc.	: Copy of PUC Certificate has been submitted and License of holder operator has maintained our office & regular maintenance logbook has maintained properly.

**UTTAR PRADESH CORE ROAD NETWORK DEVELOPMENT PROGRAM  
UPCRNDP PHASE – I ROADS (WORLD BANK FUNDED PROJECT)**

**Package: Engineering Procurement and Construction for Upgradation and Maintenance of Badaun-Bilsi-Bijnour Section of SH-51 from Km. 58.400 to Km. 137.820 (UPG-04)**

CSC : EGIS India Consulting Engineers Pvt. Ltd.	Client : UPCRNDP/UPPWD	Table-2
CTR : Gower Construction Ltd.	Date : May-20	

**STATUS OF STATUTORY REQUIREMENT**

Sl.No.	Clearance	Department	Responsibility Employer / Client	Location ID Badaun-Bilsi-Bijnour Section of SH-51 from Km. 58.400 to Km. 137.820	Status of Statutory Requirement As Contract Provisions		Remarks
					License / Permit Number	Issue & Validity	
2	Consent to establish the project	KSPCB	Employer / Client	As above	Consent Granted	NA	NA
3	<b>Permission to Establish the Construction Camp/Labour Camp etc.,</b>						
a	Permission/ NOC/ Agreement with Land owner for camp establishment in case of private land;	DC, Gram Panchayat & Revenue Dept. for land conversion, if Agr land	Contractor	Establishment of construction camp	'Ref. GCL/Camp/SH-51/BBB/2019/101 dt.16-01-2020	2 years	Submitted vide letter no.111 dt. 20.01.2020.
b	Permission for Solid Waste/ Night Soil disposal for the construction camp / labour camp etc.,	Local Municipalities and Development Authorities;	Contractor	-	-	-	Local villager hired for solid waste & Night soil disposal
c	Clearance / permission for the use of optical fiber cables of, if required;	Department of Telecommunication	Contractor	-	-	-	NA
d	Permission of State Forest Department for cutting of trees, if any in Camp;	State Forestry department	Contractor	NA	NA	NA	no trees available
e	Permission for electrical connection, if power source is available or DG Set installations for Plants;	State Electricity Board (SEB) or SPCB	Contractor	-	-	Electric Connection No.131318070520WS000 002 . & DG set operational at camp office	
4	<b>Permission to Establish the Construction Plant, BMP, W/M Plant, Hot Mix Plants etc.,</b>						
a	Concrete Batch Mix Plant (CFE & CFO)	UPSPCB & Factory Inspector	Contractor	Badaun-Bilsi-Bijnour Section of SH-51 Base Camp at 95+740 LHS	Ref. GCL/Camp/SH-51/2020/136 dt.14-02-2020		
b	Wet Mix Plant (CFE & CFO)	UPSPCB & Factory Inspector	Contractor	Base Camp at 102+200 LHS; Gata No.644; Vill-Dehpa, Tehsil & Dist: Sambhal, Bhim Nagar	AIR - 86435/UPPCB/Moradabad(UPPCBRO)/CTE/BHIM NAGAR/2020 Dt.11-02-2020		Submitted vide letter no.136 dt. 14.02.2020
c	Hot Mix Plant (CFE & CFO)	UPSPCB & Factory Inspector	Contractor		WATER Ref.86435/UPPCB/Moradabad(UPPCBRO)/CTE/BHIM NAGAR/2020 Dt.11-02-2020		CTO-Under Process
5	<b>Permission to Establish Crushers &amp; Quarries</b>						
a	Quarry Establishment	Dept. of Mines & Geology.	Contractor	Contractor Outsourced Materials from existing approved Quarry	'Ref. GCL/Camp/SH-51/BBB/2020/133	12/2/2020	
b	Quarry Mining permit	DC, SP & Explosive Dept. etc.	Contractor				
c	Aggregate quarry- bharatpur [ra]		Contractor		GCL/Camp/SH-51/BBB/2020/152	5/3/2020	

**UTTAR PRADESH CORE ROAD NETWORK DEVELOPMENT PROGRAM  
UPCRNDP PHASE – I ROADS (WORLD BANK FUNDED PROJECT)**

**Package: Engineering Procurement and Construction for Upgradation and Maintenance of Badaun-Bilisi-Bijnaour Section of SH-51 from Km. 58.400 to Km. 137.820 (UPG-04)**

CSC : EGIS India Consulting Engineers Pvt. Ltd.	Client : UPCRNDP/UPPWD
CR : Gaur Construction Ltd.	Date : May-20

Table-2

**STATUS OF STATUTORY REQUIREMENT**

Status of Statutory Requirement As Contract Provisions

Sl.No.	Environmental Issues			Responsibility	Location ID	Licence / Permit Number	Issue & Validity	Remarks
	Clearance	Department	Department					
d	Third party test report for aggregate quarry source approval	Contractor	Contractor helier third party	Contractor		GCL/Camp/SH-51/BBB/20019/060	23/12/2019	1.Isobarapur perumadara ram nagar utarkhand, 2. Doiwala Bali garh yamuna nagar HR, Chakri dadri mankwas haryana
e	Crusher Establishment (CFE & CFO)	UPPCB and Industrial department		Contractor	Contractor Outsourced Materials from existing approved Crushers	NA	NA	-
6	Permission for withdrawal of Ground water	Irrigation department		Contractor	Camp land. Ch.102+260 (LHS)	GCL/Camp/SH-51/BBB/2020/111	20-Jan-20	Submitted vide letter no. 111 dt. 20.01.2020
7	Permission for use of Surface water for construction			Contractor	NA	NA	NA	NA
8	Pollution Under Control certificates for vehicles and machinery (PUC) certificate	UPSPCB or Road transport department		Contractor				Submitted vide letter no. 203 dt. 04.06.2020
9	License for setting up of diesel pumps	Jt. Chief controller & Explosive Dept.,Agra		Contractor	Base Camp at 102+200 LHS Vill-Dehpa, Tehsil & Dist: Sambhal, Bhim Nagar	Petroleum Rules 2002 formr XIV Approval from PESO license no. P/CC/UP/14/10350 (P455647) for Class B Bulk 35.0 ld	Issued on 09-12-2019 Valid Till: 31-12-2020	Submitted vide letter no. 73 dt. 27.12.2019
10	Permission for employing labour	Labour Department		Contractor	Badaun-Bilisi-Bijnaour Section of SH-51 from Km. 58.400 to Km. 137.820	Labour License No. UPCLAL400340	Issued on 19-11-2019 Valid Till: 19-11-19 to 17-11-20	Submitted vide letter no 52 dt. 13.12.2019.
11	Registration of workers	Executing agency for building and other construction workers.		Contractor	Badaun-Bilisi-Bijnaour Section of SH-51 from Km. 58.400 to Km. 137.820	Registration ID :-D04001898	Period:-04.11.2019 to 03.11.2020	Submitted vide letter no 52 dt. 13.12.2019.
12	road safety potholes & patch report	Executing agency for building		Contractor	Badaun-Bilisi-Bijnaour Section of SH-51 from Km. 58.400 to Km. 137.820	GCL/Camp/SH-51/BBB/2020/144	Issued on 24-02-2020	NA
13	Augment on dust control measures	SDM AMROHA & SAMBHAL		Contractor	Badaun-Bilisi-Bijnaour Section of SH-51 from Km. 58.400 to Km. 137.820	GCL/Camp/SH-51/BBB/2020/128	Issued on 05-02-2020	NA
14	Storage of soil adjacent to construction material at plant site	Executing agency for building		Contractor	Badaun-Bilisi-Bijnaour Section of SH-51 from Km. 58.400 to Km. 137.820	GCL/Camp/SH-51/BBB/2020/125	Issued on 06/02/2020	NA

**UTTAR PRADESH CORE ROAD NETWORK DEVELOPMENT PROGRAM  
UPCRNDP PHASE – I ROADS (WORLD BANK FUNDED PROJECT)**

**Package: Engineering Procurement and Construction for Upgradation and Maintenance of Badaun-Bilsi-Bijnour Section of SH-51 from Km. 58.400 to Km. 137.820 (UPG-04)**

CSC : EGIS India Consulting Engineers Pvt. Ltd.	Client : UPCRNDP/UPP/WD	Table-2
CTR : Gawar Construction Ltd.	Date : /May-20	

**STATUS OF STATUTORY REQUIREMENT**

Sl.No.	Environmental Issues		Status of Statutory Requirement As Contract Provisions		Remarks
	Clearance	Department	Location ID	License / Permit Number	
15	Submission of profile credential of IOCL Mathura (UP) and Panipat(HR) for Bitumin VG-30 & BG-40	IOCL MATHURA AND PANIPAT	Badaun-Bilsi-Bijnour Section of SH-51 from Km. 58.400 to Km. 137.820	GCL/Camp/SH-51/BBB/2020/107	Issued to 18/01/2020  NA
16	Insurance coverage to all labourers Workmen Compensation (WC) Policy	Insurer / Insurance firm		Liberty General Insurance Ltd Policy No. 3611-200101-19-1000294-00-000	Period: 19-11-2019 to 18-11-2020  Submitted vide letter no. 67 dt. 24.12.2019
17	Insurance coverage to all works Contractor's All Risk (CAR) Policy.	Insurer / Insurance firm	Badaun-Bilsi-Bijnour Section of SH-51 from Km. 58.400 to Km. 137.820		Subjected to Premium paid on due dates: 29-11-2019 04-02-2020 04-05-2020 04-08-2020 04-11-2020 04-02-2021 04-05-2021
18				ICICI Lombard General Insurance Company Ltd. Policy No.5004/187381274/00/000	Period: 04-11-2019 to 03-11-2021
19	Insurance coverage to Public liability Insurance or third Party Insurance Policy.	Insurer / Insurance firm	Badaun-Bilsi-Bijnour Section of SH-51 from Km. 58.400 to Km. 137.820		
20	Utilisatiopn of simple soil for road works	SEIAA Department UP Lucknow.	Badaun-Bilsi-Bijnour Section of SH-51 from Km. 58.400 to Km. 137.820	GCL/Camp/SH-51/BBB/2020/181	Issued date: 1 may 2020  Submitted

**UTTAR PRADESH CORE ROAD NETWORK DEVELOPMENT PROGRAM  
UPCRNDP (WORLD BANK FUNDED PROJECT)**

Package: Engineering Procurement and Construction for Upgradation and Maintenance of Badaun-Bilsi-Bijnaour Section of SH-51 from Km. 58.400 to Km. 137.820 (UPG-04)

Table-3

CSC : EGIS India Consulting Engineers Pvt. Ltd.  
CTR : M/s .Gawar Construction Ltd.

Client : UPCRNDP/UPPWD  
Date : May-20

STATUS OF CONSTRUCTION CAMP ESTABLISHMENT			
Sl. No.	Description	Compliance Status	Remarks
1	Name of the Contractor	M/s Gawar Construction Ltd.	-
2	Name of the location	Vill-Dehpa Tehsil & Distt - Shambhal(U.P)	-
3	Nearest road chainage	Ch.102+200 LHS	-
4	Name of the owner & Status of Arrangement	1.Jagvir Singh & Aruna Devi 2. Rajeev Kumar & Seema Devi & Neera Devi 3. Mohd. Ajeem 4. Jameel Ahmad & Jarif Ahmad	-
5	Area involved & Existing land use pattern	22-05-2019 (Agreement Date) 1. Gata No. 277 & 276 2. Gata No. 646,648, 647, 649, 650, 3. Gata No. 643, 644, 645 4. Gata No. 43	Activities Planned: Base Camp Office; Central Lab; Supervisor & Operator's accomodation; Bachelore's Accomodation; HMP/WMM/Mechanical Workshop; Diesel Pump and Material Stock Yard
6	Site layout plan of the construction camp	Plan submitted	
7	Establishment Date	16-Jan-20	-
8	Status of the consents to establish and operate	CTO & CTE has been submitted	
9	Activities planned in the construction camp	yes planned , one cafeteria, meeting room, lab, hr room, toilet, kitchen is fix in camp,	-
10	Labour camp facilities on site	Plan submitted	
11	First Aid / Health facilities	4 first aid facilites available in vehicle and 1 in camp & Tie UP letter has been submitted	
12	Staff strength and details such as contractor staff v/s sub contractors, women labour, migrant v/s local labour and skilled& unskilled labour	30 labour approx and no female working there,	-
13	Safety provision such as fire protection equipment and personal protective measure.	6 fire extinguisher cylinder available at camp	
NOTE:	Sanitization Practices for COVID 19 Pandemic	Complied: camp permises are sanitized; Thermal scanning made mandatory for every one on regular basis; one nose mask + gamcha is provided to each labour and staff, In Camp at 7 to 8 location sanitizers are placed for workers & staffs. Vehicles are sanitized on regularly basis.	Contractor requested to CMO for health checkup camp for their workers and staff w.r.t Covid 19.



**UTTAR PRADESH CORE ROAD NETWORK DEVELOPMENT PROGRAM  
UPCRNDP (WORLD BANK FUNDED PROJECT)**

Package: Engineering Procurement and Construction for Upgradation and Maintenance of Badaun-Bilsi-Bijnaour Section of SH-51 from Km.58.400 to Km. 137.820 (UPG-04)

**Table-4**

CSC : EGIS India Consulting Engineers Pvt. Ltd.  
CTR : M/s Gawar Construction Ltd.

Client : UPCRNDP/UPPWD  
Date : May-20

**STATUS OF TOP SOIL/ UNSERVICEABLE MATERIAL MANAGEMENT**

Sl. No.	Activity	BOQ Qty. (In Hect)	Total Work Done Qty. (In Hect)	Top Soil or Unserviceable Materials Management - Details of Quantity (In Cum)						Remarks
				Estimated Quantity of Top Soil	Top Soil Generated upto Previous Month	Top Soil Generated This Month	Cummulative upto date Top Soil	Preserved Qty	Top Soil Reused	
1	C & G	64 Hect.	28 Hect.	96000 Cum	36000Cum	8000Cum	42000.00	0.00	0.00	
2	Borrow Area		5.6 Hect	250000Cum	7200.00	1200.00	84000.00	0.00	0.00	

**UTTAR PRADESH CORE ROAD NETWORK DEVELOPMENT PROGRAM  
UPCRNDP (WORLD BANK FUNDED PROJECT)**

Package: Engineering Procurement and Construction for Upgradation and Maintenance of Badaun-Bilsi-Bijnour Section of SH-51 from Km.58.400 to Km. 137.820 (UPG-04)

Table-5

CSC : EGIS India Consulting Engineers Pvt. Ltd.  
CTR : M/s Gawar Construction Ltd.

Client : UPCRNDP/UPPWD  
Date : May-20

Sl.	Borrow Area Number	Reference of Approval		Location Details							Redevelopment Plan				Earth Qty (Cum) Details				Present Status (Yet to start/ Under Operation/ Quantity Balance/ Exhausted/ Rehabilitated)	Approved for
		Contractor letter no.	Consultant Letter no.	Chainage	Side	Lead from SH (m Hect)	Extent (m Hect)	Owner Name	Village/Taluka & Revenue Sy.No.	Present Land Use Follow/Agri/Comm on Land	Proposed EMP	Total anticipated approved Qty.	Quantity extracted upto end of previous month	Qty. extracted during this month	Balance quantity remaining					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			
1	BA-1	GCL/Camp/SH-51/BBB/51	Egis India/RE UPG-04/UPCRNDP/034/2019	102+040	LHS	1.9	0.85	Maheepal Singh	gulebpur, dehpaa	AGRI					0		EMB & Subgrade			
2	BA-2	GCL/Camp/SH-51/BBB/51	Egis India/RE UPG-04/UPCRNDP/034/2019	102+040	LHS	1.85	0.193	Maheepal Singh	gulebpur, dehpaa	AGRI					0		EMB & Subgrade			
3	BA-3	GCL/Camp/SH-51/BBB/88	Egis India/RE UPG-04/UPCRNDP/044/2019	102+950	RHS	0.4	1.05	kirpal Singh	dehpaa	AGRI					0		EMB & Subgrade			
4	BA-4	GCL/Camp/SH-51/BBB/88	Egis India/RE UPG-04/UPCRNDP/044/2019	99+750	LHS	6.1	0.399	Upender Kumar & Shelennder Kumar	darvapur, dehpaa	AGRI					0		EMB & Subgrade			
5	BA-5	GCL/CAMP/SH-51/BBB/2020/89	Egis India/RE UPG-04/UPCRNDP/065/2020	118+450	RHS	0.6	0.59	MOHIT KUMAR SHARINI	ISHAPUR SHARINI	AGRI					0		EMB & Subgrade			
6	BA-6	GCL/CAMP/SH-51/BBB/2020/89	Egis India/RE UPG-04/UPCRNDP/065/2020	103+820	RHS	0.6	0.57	REETA	DEHPA	AGRI					0		EMB & Subgrade			
7	BA-7	GCL/CAMP/SH-51/BBB/2020/89	Egis India/RE UPG-04/UPCRNDP/065/2020	105+035	RHS	0.55	0.59	aashkar	fatehpur dev	AGRI					0		EMB & Subgrade			
8	BA-8	GCL/CAMP/SH-51/BBB/2020/89	Egis India/RE UPG-04/UPCRNDP/065/2020	118+450	RHS	0.6	0.6	jastraj	ishapur sarkli	AGRI					0		EMB & Subgrade			
9	BA-9	GCL/CAMP/SH-51/BBB/2020/89	Egis India/RE UPG-04/UPCRNDP/065/2020	103+820	LHS	1.1	0.58	ramash singh	dehpaa	AGRI					0		EMB & Subgrade			
10	BA-10	GCL/CAMP/SH-51/BBB/2020/89	Egis India/RE UPG-04/UPCRNDP/065/2020	102+040	LHS	0.4	0.59	chandrpai singh	dehpaa	AGRI					0		EMB & Subgrade			
11	BA-11	GCL/CAMP/SH-51/BBB/2020/153		121+040	LHS	3.1	1.05	mehmad ali,sarif ahmad,anveri	sultanpur veeran	AGRI					1.05		EMB & Subgrade			
12	BA-12																			
13	BA-13																			
14	BA-14	GCL/CAMP/SH-51/BBB/2020/135		99+750	LHS	3.8	0.88	JAIPAL SINGH	selakhna	AGRI					0		EMB & Subgrade			
15	BA-15	GCL/CAMP/SH-51/BBB/2020/143		102+040	LHS	0.3	1.4	NARENDRA KUMAR,HOMPAL SINGH AND PRADEEP KUMAR	dehpaa	AGRI					0		EMB & Subgrade			
16	BA-16	GCL/CAMP/SH-51/BBB/2020/153		118+080	LHS	0.7	1.71	JAGAT SINGH,BRAHM SINGH,VIAYPAL	khai khara khurd	AGRI					0.8		EMB & Subgrade			
<b>Total</b>												0.00	0.00	0.00	0.00	0.00	0.00	0.00		

CANCEL BECAUSE FARMER NOT AGREE

CANCEL BECAUSE FARMER NOT AGREE

**UTTAR PRADESH CORE ROAD NETWORK DEVELOPMENT PROGRAM  
UPCRNDP PHASE – II (WORLD BANK FUNDED PROJECT)**

Package: UPG-03 Engineering, Procurement and Construction Contract for Up-gradation and Maintenance of Gola - Shahjahanpur Section of SH-93, from Km 1.280 to Km 58.580 (Pkg. No. UPCRNDP/UPG/03/2018)

Table-6

CSC : EGIS India Consulting Engineers Pvt. Ltd.

Client : UPCRNDP/UPPWD

CTR : Gawar Construction Ltd.

Date : May-20

EMP FORMAT FOR STONE QUARRY MANAGEMENT										
Sl. No.	Location (indicate Ch. And distance LHS, RHS)Lead	Extent (In hectares) & Revenue Sy. No.	Village and Taluka	Present Land Use Fallow/Agr/ Common Land	Total Qty. required in MT	Quantity extracted upto end of previous month in MT	Qty. extracted during this month in MT.	Cummulative Qty in MT	Balance quantity remaining in MT.	Remarks
1		3	4	5	6	7	8	9	10	11
1	Ch. 102+260 (LHS)	Copy Submitted	Dehpa	Fallow	1,220,000	119,996	24,516	144,512	1,075,488	Contractor would like to inform that the provided details is lumsturn (Approx).
<b>CUMULATIVE STATUS</b>										
					1,220,000	119,996	24,516	144,512	1,075,488	

**UTTAR PRADESH CORE ROAD NETWORK DEVELOPMENT PROGRAM  
UPCRNDP (WORLD BANK FUNDED PROJECT)**

Package: Engineering Procurement and Construction for Upgradation and Maintenance of Badaun-Bilsi-Bijnour Section of SH-51 from Km.58.400 to Km. 137.820 (UPG-04)  
Table-7

CSC : EGIS India Consulting Engineers Pvt. Ltd.  
CTR : M/s Gawar Construction Ltd.

Client : UPCRNDP/UPPWD  
Date : May-20

EMP FORMAT FOR SCARIFIED BITUMENT STORAGE/ DISPOSAL SITES									
Sl. No.	Location (indicate Ch. And distance LHS, RHS) Lead	Extent (In hectares)	Revenue Sy. No. Village and Taluka	Present Land Use Fallow/Agr/Comm on Land	Total Scarified Qty. in cu.m.	Quantity disposed / stacked upto end of previous month in Cu.m	Quantity disposed / stacked during this month in Cu.m	Balance quantity to be disposed or stacked at disposal site	Remarks
1	3	4	5	6	7	8	9	10	11
1	Camp address at Ch. 102.260 LHS		Village Dehpa	Fallow	5880	3180	0	2700	Balance disposal Scarified material has been utilized for diversion work and road maintenance.

**UTTAR PRADESH CORE ROAD NETWORK DEVELOPMENT PROGRAM  
UPCRNDP (WORLD BANK FUNDED PROJECT)**

**Package: Engineering Procurement and Construction for Upgradation and Maintenance of Badaun-Bilsi-Bijnour Section of SH-51 from Km.58.400 to Km. 137.820 (UPG-04)**

Table-8

Client : UPCRNDP/UPPWD  
Date : May-20

CSC : EGIS India Consulting Engineers Pvt. Ltd.  
CTR : M/s Gawar Construction Ltd.

Month	Police Station	Date	Day	Time	Weather	Location with Ch./ Km	Person status after Accident			Cause of Accident	Type of Vehicle	Remarks
							Minor Injury	Major Injury	Fatal			
1	2	3	4	5	6	7	8	9	10	11	12	13
Nov-19						No Reportable Road Accident	Recorded at site by the Contractor.					
Dec-19						No Reportable Road Accident	Recorded at site by the Contractor.					
Jan-20						No Reportable Road Accident	Recorded at site by the Contractor.					
Feb-20						No Reportable Road Accident	Recorded at site by the Contractor.					
Mar-20						No Reportable Road Accident	Recorded at site by the Contractor.					
Apr-20						No Reportable Road Accident	Recorded at site by the Contractor.					

# Uttar Pradesh Core Road Network Development Program

Contract Agreement Article-16 (EPC)

<b>Project No. :</b>	Package: UPG-04-Engineering Procurement and Construction Contract for Up-gradation and Maintenance of Badau-Bilsi-Bijnaour of SH-51, from Km 58.400 to Km 137.820 in the State of Uttar Pradesh (Pkg. ICB No.UPCRNDP/UPG/04/2018)		
<b>Client :</b>	U.P.Public Works Department, UPCRND-WB Division		
<b>Contractor:</b>	M/s GAWAR CONSTRUCTION LTD.		
<b>Consultant:</b>	M/s EGIS India Consulting Engineer's Pvt. Ltd.		
<b>Contract Provision:</b>			
<b>Date of Inspection :</b>		<b>Name of Contractor Representative:</b>	

Reporting Month: \_\_\_\_\_

Status of Safety during Construction Stage							
SI. No.	Safety Issues	Yes	No	Non Compliance	Corrective Action	Penalty	Remarks
1	Appointment of qualified construction safety officers						
2	Approval for Construction Safety Management Plan by the Engineer						
3	Approval for Traffic Management/control Plan in accordance with IRC: SP: 55-2001						
4	Maintenance of the existing road stretches handed over to the contractor						
5	Provision of Temporary Traffic Barriers/Barricades/caution tapes in construction zones						
6	Provision of traffic sign hoards						
7	Provision for flags and warning lights						
8	Provision of metal drum/empty bitumen drum delineator, painted in circumferential strips of alternate black and white 100 mm wide 2 coats fitted with reflectors						

Contractor's Representative

Consultants Representative

# Uttar Pradesh Core Road Network Development Program

Contract Agreement Article-16 (EPC)

Status of Safety during Construction Stage							
Sl. No.	Safety Issues	Yes	No	Non Compliance	Corrective Action	Penalty	Remarks
	3Nos of 7.5cm diameter						
9	Providing plastic crash barrier						
10	Provision of adequate staging, form work and access (ladders with handrail) for works at a height of more than 3.0 m						
11	Provision of adequate shoring/bracing/barricading /lighting for all deep excavations of more than 3.0 m depth.						
12	Demarcations (fencing, guarding and watching) at construction sites						
13	Provision for sufficient lighting especially for night time work						
14	Arrangements for controlled access and entry to Construction zones						
15	Safety arrangements for, Road users I Pedestrians						
16	Arrangements for detouring traffic to alternate facilities						
17	Regular Inspection of Work Zone Traffic Control Devices by authorized contractor personnel						
18	Construction Workers safety - Provision of personnel protective equipments.						
19	A. Helmets						
	B. Safety Shoe						

Contractor's Representative

Consultants Representative

# Uttar Pradesh Core Road Network Development Program

Contract Agreement Article-16 (EPC)

Status of Safety during Construction Stage							
Sl. No.	Safety Issues	Yes	No	Non Compliance	Corrective Action	Penalty	Remarks
	C. Dust masks						
	D. Hand Gloves						
	E. Safety Belts						
	F. Reflective Jackets						
	G. Earplugs for labour						
20	Workers employed on bituminous works, stone crushers, concrete batching. Plants etc. provided with protective goggles, gloves. gumboots etc.						
21	Workers engaged in welding work shall be provided with welder protective shields						
22	All vehicles are provided with reverse horns.						
23	All scaffolds. ladders and other safety devices shall be maintained in as safe and sound condition						
24	Regular health checkup for Labour/ Contractors personnel						
25	Ensuring the sanitary conditions and all waste disposal procedures & methods in the camps.						
26	The Contractor shall provide adequate circuit tbr traffic flow around construction areas, control speed of construction vehicles through road safety and training of drivers, provide adequate signage, barriers and flag persons for traffic control						
27	Provision for insurance coverage						

Contractor's Representative

Consultants Representative



# Uttar Pradesh Core Road Network Development Program

Contract Agreement Article-16 (EPC)

Status of Safety during Construction Stage							
Sl. No.	Safety Issues	Yes	No	Non Compliance	Corrective Action	Penalty	Remarks
	to the contractor's personnel						

## **Contract Provisions:**

The Contractor shall submit the construction safety check list in the format given below filled up to fourth column **to the Engineer** by **5th of every month**. The Engineer shall fill up the remaining column of the check list and forward **to the Employer within a week period**.

As per EPC Contract:

Sub-clause PC-1.11 The Contractor has to **appoint Environmental, Social and Safety Officers** having requisite qualifications and experience.

Sub-clause PC-1.12 The Contractor will develop and maintain emergency response system in order to address any accidents or other emergency situation or disaster.

Sub-clause C7.1. Accident risks from construction activities – shall be maintain & reported

Sub-clause C7.2 Occupational Health & Safety of Workers – The contractor will all time provide safe and convenient passage for vehicles, pedestrians and livestock.

Sub-clause C7.4 Planning for Traffic diversion – Detailed Traffic Control Plan will be prepared and submitted to the Engineer/ Client for approval, **five days prior** to commencement of works on any section of road.

Sub-clause 11.20.1 Monthly progress report, no later than 10 (ten) days after the close of each month, furnish to the Authority Engineer/Client including ESHS Report.

Contractor's Representative

Consultants Representative