

Environment and Social Screening Report

May 2019

**Construction / Up-gradation of Amberpora– Haritar Road
in district Baramulla - 2.450 km**

(Jhelum Tawi Flood Recovery-World Bank Project)

Prepared by Jammu & Kashmir Projects Construction Corporation, Government of Jammu & Kashmir for the World Bank

CHAPTER - 1

1. Introduction

In September 2014, J&K experienced torrential monsoon rains in the region causing major flooding and landslides. The continuous spell of rains from September 2-6, 2014, caused Jhelum and Chenab Rivers as well as many other streams/tributaries to flow above the danger mark. The Jhelum River also breached its banks flooding many low-lying areas in Kashmir, including the capital. In many districts, the rainfall exceeded the normal by over 600%.

The unprecedented rainfall the catchment areas were flooded for more than two weeks. The main tributaries of Jhelum river Brengi nallah, Vishav nallah, Lider nallah and Sandran nallah started overflowing. Subsequently, the discharge of the river Suran was 200 thousand cusecs as against an average of 50 thousand cusecs. With the excessive discharge of water, the river Suran affected river basin and also took a different course at various locations causing damages to buildings, equipments of hospitals, education centers, structure, house, road of the surrounding villages which are yet not restored.

A Joint team led by the Department of Economic Affairs (DEA), GoI, with representation from the World Bank visited J&K on October 21, 2014. Subsequently, GoI has sent a request to the World Bank on January 5, 2015 to field a Joint Rapid Damage and Needs Assessment (RDNA) Mission within the State. In response, a mission of the World Bank visited the state during February 1-6, 2015 in order to produce a rapid multi-sectoral assessment report of the damages and needs. The RDNA estimates the total damages and loss caused by floods at about INR 211,975 million, most of them are house, livelihood, and roads and bridges, which combined represented more than 70% of the damages in terms of value.

2. Need of the Project

A major catastrophic devastation took place in the most districts of the J&K state due to unprecedented floods of 2014 as hardly any escape routes were available. The devastation was so large that majority of people are yet unable to cope-up with the situations. In the view of loss due to flood, it was essential to restore the damages and efforts are required to strengthen the infrastructure as such a limit to overcome the future effects due to such natural disaster aftermath, year 2014 as to improve the connectivity disrupted due to damaged roads and bridges. In this attempt “Jhelum-Tawi Flood Recovery Project” come –up with the scope of various project all over the state. In this connection **Amberpora-Haritar Road** has been selected to restore the flood damage (2.450 km) in district Baramulla. As such it has been proposed to upgrade by way of strengthening the existing 3.65 m road width to widen up-to 5.5 m by black-topping and road width from 6 to 7.5m with the shoulder, drainage and retaining wall and other related works as per availability of land along the project road.

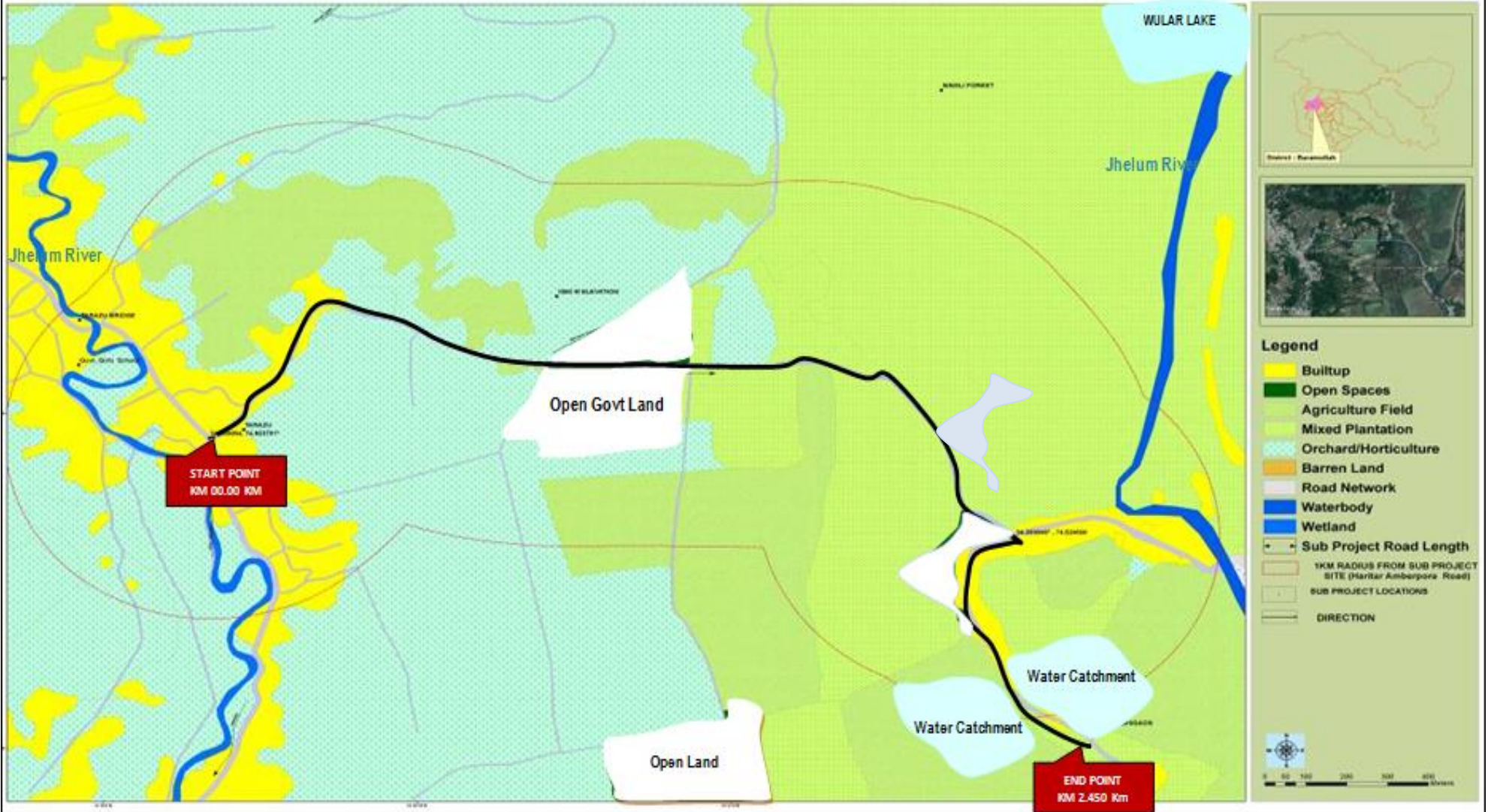
3. Project Location

The project road exists in district Baramulla of Kashmir region. The location in the state of Jammu & Kashmir is illustrated in **Figure-1**. The project road start from Amberpora Chowk (RD=0) and culminates at Haritar covering the length 2.450 Km.

The project road connects a vast area of Baramulla district headquarter to Sopore, besides it being an important loop to provide transportation facilities to local communities of villages Amberpora, Wandakpora, Haritar & Akhanpora flanking on either side. This road constitutes a part of the **Major District** Road that forms an important loop between three Districts of **Baramulla, Ganderbal & Srinagar**.

This existing road with ridding surface of about 3.65 meters passes through majority of built-up areas. There are ten villages passing in route either side of road where significant population exists with their socio economic activities, however the existing physical conditions is distressed which virtually cumber overall development of that area. This road comparatively runs at low contour thereby length of road is inundated during the 2014 floods; therefore, the road was fully damaged in flood. Further, the project road exists in lakeshore of Wular Lake, therefore, the catchment area along the project road remain water lodged pretty long time in the year which damage the road as cross drainage are inadequate.

Environment Screening (Haritar Amberpora Road)



**FIGURE – 1 : PROJECT ROAD – GIS
AMBERPORA– HARITAR ROAD - 2.450 KM**

4. Scope for Environmental Study

The environmental study of project road notifies about nature of impacts on environment due to project implementation.

The length of project road is 2.450 km under selected sub-project for its restoration of damage occurred during the flood. Hence, an Environmental Management Framework has been designed for baseline environmental study, identifying impacts, mitigation measures to avoid, minimize and mitigate negative impacts under the limit of one km radius of the project road. Therefore field survey has been conducted for the study of baseline environmental set-up for one km either side of project road in general and within the Right of Way (RoW) in particular. Accordingly, to minimize negative impacts during the entire project cycle environmental management plan has been developed with roles & responsibility for sound construction management during the project implementation. Furthermore, the report covers major finding of existing environmental, legal and administrative framework, monitoring programme, relative cost for environmental management and evaluation of potential environmental impacts due to the proposed sub-project **Amberpora– Haritar road** in district Baramulla in the state of Jammu & Kashmir.

5. Administrative and Legal Frameworks

The Government through specific legislations regulates the environmental management system. The statutory bodies responsible for ensuring environmental protection due to the project activities are central, state level as well as local authority for which administrative control was made by the following as Ministry of Environment & Forests (GoI), Central Pollution Control Board (CPCB), State Pollution Control Boards (SPCB), Department of Environment in State and Forest & Wild-life division, local bodies as municipal corporation etc. The up-gradation of sub-project **Amberpora – Haritar road** has been undertaken by the Jammu and Kashmir state government and come under the preview of Government of India (GoI), therefore environmental notification, policy, acts & rules are governed pertaining to state and national level. Furthermore, the sub-project are being implemented by the funding of World Bank, therefore, regulations and restrictions on activities to minimize impacts on the environment is also come under the safeguards policy of the World Bank. The project road is 2.450 km length falling in catchment of Wular Lake where the marshy area is converted into plantation, agriculture and public habitation in the course of expansion of villages. This project road is a part of major district road around three 3.0 km away of water reservoir of Wular-lake which links three districts Baramulla, Ganderbal & Srinagar providing transportation facilities to local village, therefore, it does not attract EIA notifications 2006 and its subsequent amendments 22nd August, 2013. As such the environmental clearance is not required. Therefore, rapid environmental assessment has been conducted and environmental management plan is developed under the safeguard policy of World Bank referring to environmental

management framework prepared for the sub- projects of JTFRP. Accordingly, applicable law & acts under the national and state made for environmental protections are put forward which require responsibilities of the project executing agencies to ensure legal requirements in all stages of the sub-project including design, construction and operation which are listed as below:

5.1 Rules, Notifications and Standards

Rules, notifications and standards are particularly relevant to this project are listed below :

SI No	Act , Rules, Policy and Notification	Applicable/ Not Applicable	Remark
1.	Environment (Protection) Act, 1986	Applicable	For environmental safeguards.
2.	Environment (Protection) Rules, 1986 and its amendments.	Applicable	For environmental safeguards.
3.	Noise Pollution (Regulation & Control) Rules, 2003 and its amendments.	Applicable	For regulation on noise nuisance.
4.	National Ambient Air Quality Standards and its amendments.	Applicable	To control the air pollution.
5.	Water (Prevention and control of pollution) Act, 1974 as amended	Applicable	To control the water pollution.
6.	Air (prevention and control of pollution) Act, 1981, as amended	Applicable	To control the air pollution.
7.	Jammu and Kashmir Preservation of Specified Trees Act of 1969 and Rules of 1969. Tree felling permission	Applicable	Protection for felling of trees.
8.	The Hazardous Wastes. (Management and Handling) Rules, 1989	Applicable	Authorization for disposal of hazardous waste like used oil, paint wastes etc)
9.	Labour Act 1970.	Applicable	For labour facilities
10.	Building and Other Construction Workers (Regulation of Employment and Conditions of service) Act of 1996 and Rules 1998	Applicable	provide for regulation of employment and conditions of service
11.	Central Motor Vehicle Act 1988 and Central Motor Vehicle Rules 1989.	Applicable	For PUC
12.	EIA Notification, 19th January 2009 and its amendments on 22 nd August, 2013.	Not Applicable	Environmental Clearance

5.2 Require Statutory Clearances

The details field survey has been conducted for the sub-project **Amberpora–Haritar road** for value ecological component (VEC) of the project wherein information are gathered from the field level study and secondary sources in

order to appraise the requirements for statutory clearance for this project. After the collection of primary and secondary data Environmental features along the project are thoroughly examined for the NOC and the clearances from the concern authority (if any) required which are detailed in subsequent sections.

5.2.1 Environmental Clearances

The up-gradation of Amberpora– Haritar does not attract EIA Notification, 14th September 2006 and its latest amendment 22nd August, 2013 therefore it does not require process of environmental clearance.

5.2.2 Forest Clearances

The sub-project road up-gradation of Amberpora– Haritar is passing through the settlement and agriculture land covering 2.450 km length. Along the entire length there no forest land is involved throughout the project. Therefore, it does not require processing any forest clearance.

5.2.3 NOC from Wildlife Division

There are no National Park, Biosphere reserve and Wildlife sanctuaries exist in & around one km radius either side of the sub-project road. However, the Wular Lake existed at 3 km away the project road which is designated as a Wetland of International Importance under Ramsar Convention in 1990. As the road is a part of the **Major District** Road already existing require the restoration of flood damage mare 2.450 km length by additional protection by proving retaining wall cross drainage works as per requirement for protection of road from future damage, therefore no impacts will cause on Lake Site existed far away the sub-project road. Therefore, it does not require any NOC from wildlife division.

5.2.4 NOC for withdrawal of Ground Water

Any users of ground water desiring to withdraw ground water for the commercial use are advised to get NOC from the Concerned Authority under the Jammu and Kashmir Water Resources (Regulation and Management) Act, 2010 for grant of permit for water withdrawal, and shall not proceed with any activity connected with such sinking unless a permit has been granted by the authority. Furthermore, the any agency wish to get extraction of water from any water source, navigation channel, intake channel, or flood spill channel and for extraction of river bed materials shall be required to obtain permits from the authorized licensing authority of Jammu & Kashmir prior to extraction of water for the use of construction under the J& K Water Resources (R&M) Act, 2010.

5.2.5 Environmental Clearance for stone quarry

The procurement of aggregate shall be made from local authorized agency for the use in road construction total length limits 2.450 km only. In this case, the agency is not required to make process for clearance of quarry mining for requirements of blue metal.

6. Structure of the EIA Report

The selected sub-project of JTFTP **Amberpora-Haritar road** has to up-grade 2.450 km existing in **flood basin of Walur lake** to restore damage caused in year 2014 flood, therefore, rapid environmental impact assessment has been carried –out to minimize impacts by formulation of environmental management plan for sound construction management practices and suggested remedial measures for the resilience features & stability of road to protect it from future loss based on existing environmental features along the project road.

The structure of this report is described as follows:

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Chapter – 1	: Introduction
Chapter – 2	: Project Description
Chapter – 3	: Description of the Environment
Chapter – 4	: Anticipated Environmental Impacts and Mitigation Measures
Chapter – 5	: Environmental Management Plan (EMP)
Chapter – 6	: Environmental Monitoring Programme
Chapter – 7	: Stakeholders Consultation.

List of the Table, Figures and Flow-Charts
Photographs
Annexure

CHAPTER – 2

PROJECT DESCRIPTION

2.1 Introduction

The project road start from from Amberpora Chowk (RD=0) and terminate at Haritar village covering 2.450 Km length in district Baramulla of Jammu & Kashmir. The project road is an important loop to provide transportation facilities to local communities of villages Amberpora, Wandakpora, Haritar & Akhanpora flanking on either side connecting vast area of Sopore sub-division. This road is a part of major district Road that forms an important loop between three Districts of Baramulla, Ganderbal & Srinagar. The road also serve important link to the Pangam Railway Station

2.2 Project details

The project road Amberpora Chowk to Haritar 2.450 Km length in district Baramulla has been proposed for up-gradation with the following features :

Sl. No	Location (State)	Jammu & Kashmir.
1.	District.	Baramulla.
2.	Geographical location at start (Amberpora)	Latitude = 34 ⁰ 15' 57.91" Longitude = 74 ⁰ 30' 9.94"
3.	Geographical location at end (Haritar)	Latitude = 34 ⁰ 14' 52.46" Longitude = 74 ⁰ 31' 50.35"
4.	Total Road Length.	4552m
5.	Length of projected stretch of road.	2450m (Restricted).
6.	Terrain.	Plain (Catchment of Wular lake)
7.	Existing Carriage Way.	3.65 m
8.	Proposed Carriage Way.	5.50 m
9.	Existing road way.	5.00 m
10.	Proposed road way.	7.50 m
11.	Pavement thickness.	
12.	a) Sub grade.	500mm
13.	b) GSB Sub Base.	300 mm
14.	c) Wet mix Macadam.	125 mm thick layer I
15.	d) Wet mix Macadam.	125mm thick layer II
16.	e) Dense Bituminous Macadam.	80mm thick.
17.	f) Bituminous concrete.	40mm thick.
18.	Protection Works.	RCC Retain Walls, RCC Toe Walls, RCC Surface Drain.
19.	Cross Drainage Works.	Box Culverts. 8 Nos. Pipe Culverts. 5 Nos.

20.	Road Furniture.	2 No. Kilometres Stones. Retro reflector type sign boards/ informatory signs, advance direction, destination signs, route marker signs.
21.	Cost of Project Work.	Rs. 837.5 lacs.
22.	Time of Completion.	Two working seasons. (Subject availability of funds)

The Design Standards and guidelines are followed as per IRC and MORTH to avoid any inconsistency in design and provide desired level of service and safety. The basic design is based on the consideration of providing suitable alignment, cross-sectional layout, geometric, safety to cater safe movement of the traffic. The design standards adopted for the project road are briefed as follows:

2.2.1 Terrain

The entire length exists in plan train and region of project sites laying in the catchment of Wular lake.

2.2.2 Pavement Design

The Pavement thickness has been designed as per IRC Pavement Design chart.

2.2.3 Cross Sectional Details

The road width is varies from 6.0 m to 7.5 m. According to availability of land and protective measures from future damage the restoration of road is framed as per actual need under three different cross section following specifications as per the IRC/MORTH illustrated at end of this section. The carriageway width is 5.5 m throughout the length. The total road width from km 0+000 to 1+320 is 6.0m including 0.25m shoulder followed by 0.9m storm water drain either side of road in settlements. The road width from km 1+320 to 1+725 and from km 1+900 to 2+450 is 7.5m including the one meter shoulder either side. The last section of road from km 1+725 to 1+900 is framed 7.5m including one meter shoulders followed by retaining wall along the road. To ensure proper drainage of surface water a cross fall of 2.5% (1 in 40) has been kept.

2.2.4 Horizontal Alignment Design

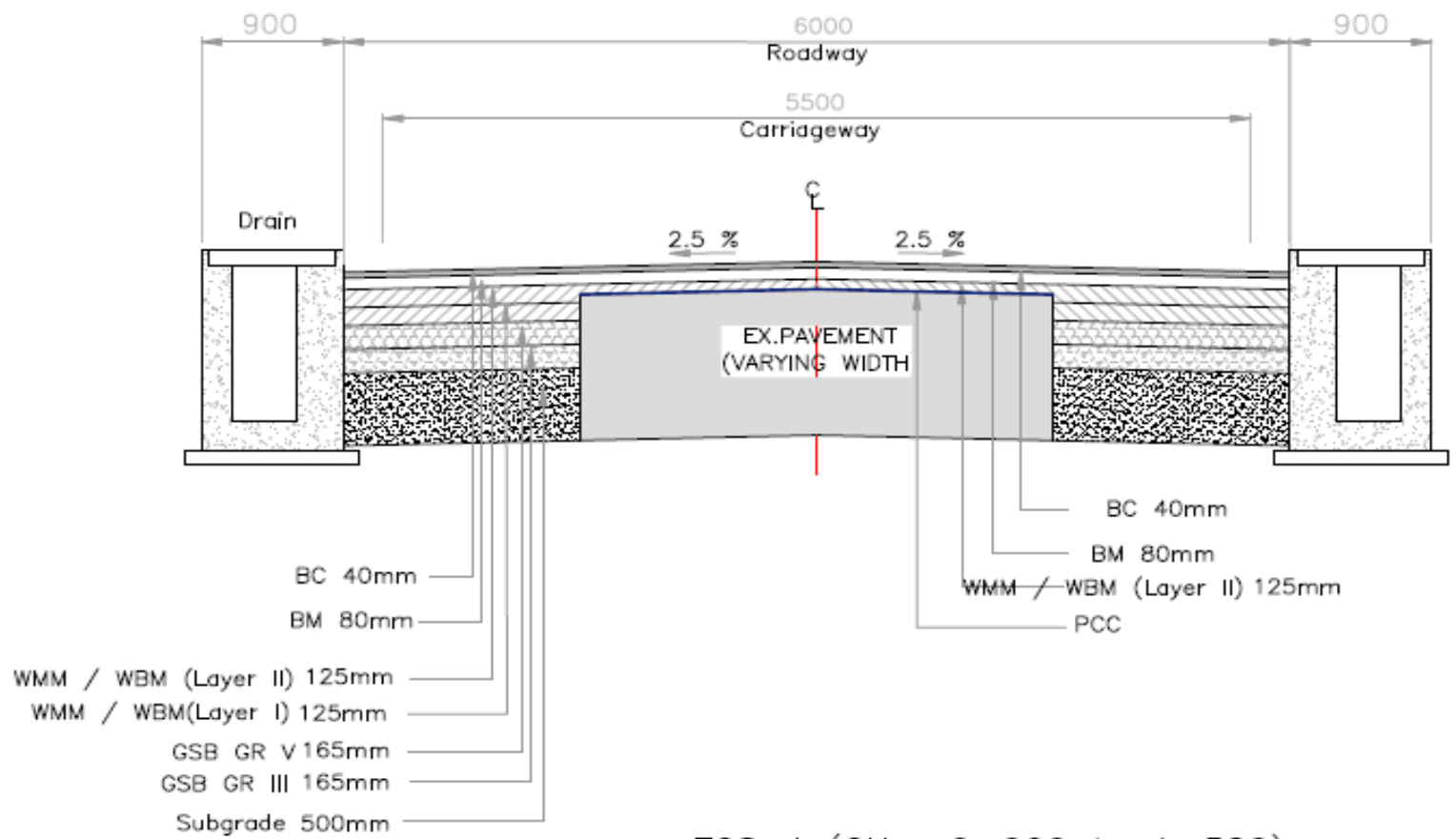
The design speed of 60 km/h of RDS (Ruling Design Speed) adopted to determine the horizontal and vertical alignment for geometric design. A straight alignment has been fixed, however curves of adequate radius for design speed have been proposed. The 7 % cross slope with 0.6 – 0.9 M extra width will be provided at curves

2.2.5 Vertical Profile– Grade

The proposed road is to be constructed as per IRC/MOST specification. The Construction of Granular Sub Base will be carried –out by providing close graded material in uniform layers as per Clause 401 having CBR value. An Aggregate for base course shall be graded stone age of WMM specifications including pre-mixing of WMM material with water at OMC in mechanical mix plant. The Bitumen of grade 80/100 shall be used for macadamization works

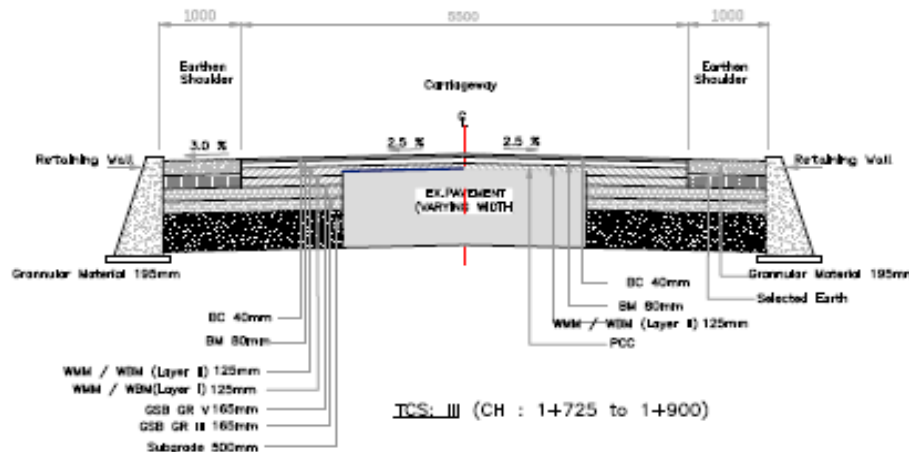
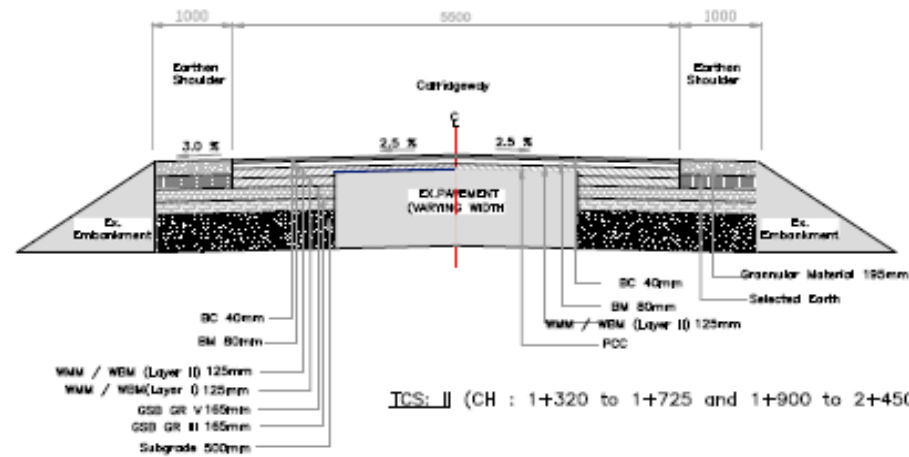
2.2.6 Safety Measures & Devices

To ensure safe movement of traffic and pedestrians safety road signs will be as per IRC: 67-2001. The Thermoplastic road markings are proposed on road surface for traffic safety in accordance with guidelines contained in IRC: 35-1997. In addition Information boards of retro-reflective type will be erected.

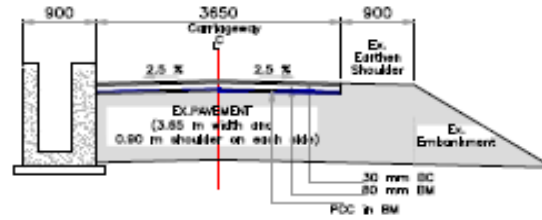


TCS: I (CH : 0+000 to 1+320)

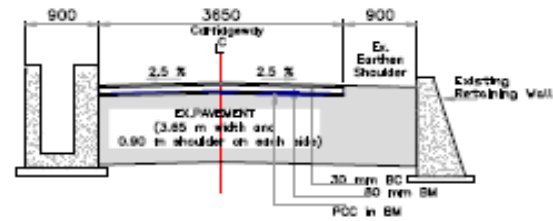
CLIENT: Zensar and Kalbari Project Construction Corporation Ltd (A J&K State Government Undertaking)	PROJECT: Consultancy Service for Road in Kashmir Province Under JICRP for World Bank - Construction/Upgradation of Dabergara Sarthar Akhnoora Road in Baramulla District	CONSULTANT:  Zensar & Kalbari, Sector-18, Opp. IIFA, Indira, Gurgaon-122001, Haryana, India Tel: +91-124-456455, Fax: +91-124-456162 Email: zkal@zkal.co.in, Website: www.zkal.co.in	NO. OF: [] DATE: [] REVISED: [] APPROVED: []	NETWORK: SHEET NO: [] SHEET: []	TYPICAL CROSS SECTION (1:100) (PLAN VIEW)
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CLIENT: Jansen and Kishor Project Construction Corporation Ltd (A S&K State Government Undertaking)	PROJECT: Consultancy Service for Road in Kutch District Under JERSIP for World Bank - Construction/Upgradation of Dabhojpur-Bharat Akhampura Road in Kutch District	CONSULTANT:  Jansen & Kishor Pvt. Ltd., Opp. IIFA, Indira, Gurgaon-122001, Haryana, India Tel: +91-124-4348888, Fax: +91-124-4341943 Email: jkinfo@jksr.com, Website: www.jksr.com	<table border="1"> <tr><td>NO.</td><td></td></tr> <tr><td>REV.</td><td></td></tr> <tr><td>DATE</td><td></td></tr> <tr><td>BY</td><td></td></tr> <tr><td>CHKD</td><td></td></tr> <tr><td>APPD</td><td></td></tr> </table>	NO.		REV.		DATE		BY		CHKD		APPD		SHEET NO. 02 OF 02	TYPICAL CROSS SECTION (CONSTRUCTION)
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CLIENT: Janssen and Kojalair Project Construction Corporation Ltd (A Jharkhand State Government Undertaking)	PROJECT: Competency Service for Road in Kaptai Division Under JIRSP for World Bank - Construction/Upgradation of Dabergama Bazar Akharsingh Road in Burdwan District	CONSULTANT:  2nd/10, B. Block, Sector-18, Opp. IIFA, Indraprastha, Gurgaon-122001, Haryana, India Tel: +91-124-454444, Fax: +91-124-434194 Email: jkplc@jplc.co.in, Website: www.jkplc.co.in	REVIEW <input type="checkbox"/>	CHECKED <input type="checkbox"/>	APPROVED <input type="checkbox"/>	DATE <input type="checkbox"/>	MONTH <input type="checkbox"/>	YEAR <input type="checkbox"/>	TYPICAL CROSS SECTION (UNREPRESENTED)
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CHAPTER – 3

DESCRIPTION OF THE ENVIRONMENT

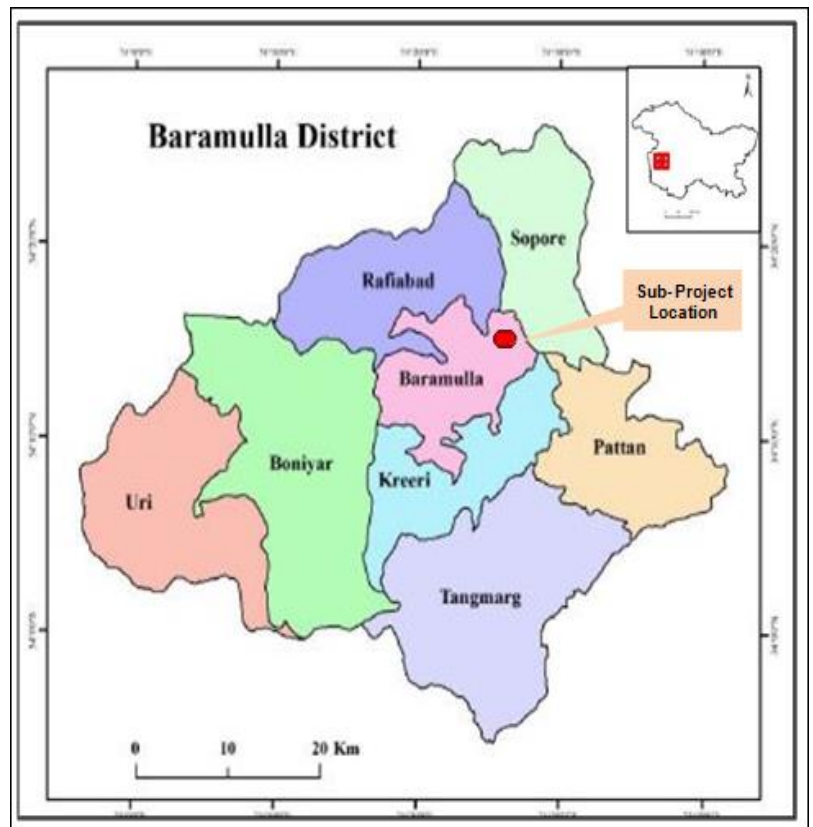
The environmental study is required to conduct where physical changes may be expected in development process. A rapid environmental survey has been conducted as per ESMF prepared for the study of baseline environmental features along the project road for the Jhelum Tawi flood recovery project. The field observations include baseline environmental set-up within 1 Km on either side of the proposed road in general and within the Right of Way (ROW) in particular, as described in subsequent sections.

The baseline environmental features assessed are as follows

- *Physiography*
- *Geology and Soil*
- *Seismicity*
- *Land Use Pattern*
- *Hydrology/Drainage*
- *Wetlands*
- *Forests*
- *Religious and Cultural Property*
- *Ecological Sensitive Areas*
- *Recreation Resources*
- *Archaeological, Historical and Heritage Sites*

3.1 Physiography

The sub-project road falls in Baramulla district in J& K which has average elevation of 1593 meters above sea level. The entire district laying in Kashmir valley surrounded by hills. The sub-project area is bounded by Pattan sub-division from the east to the Rafiabad from west and Sopore sub-division in the north and the sub-division Kreeri in the south of Baramulla district. The sub-project exists in outer catchment of Wular Lake in district headquarter of Baramula in Kashmir valley.



3.2 Geology and Soil

The characteristic of geological features and type of soil in the project area are studied at field level with reference to geological map of project site. The study area exists in Baramulla district under Kashmir valley. Therefore, geological information of J&K state will be discussed to ascertain an appropriate picture of geological features in the study area.

3.2.1 Geology

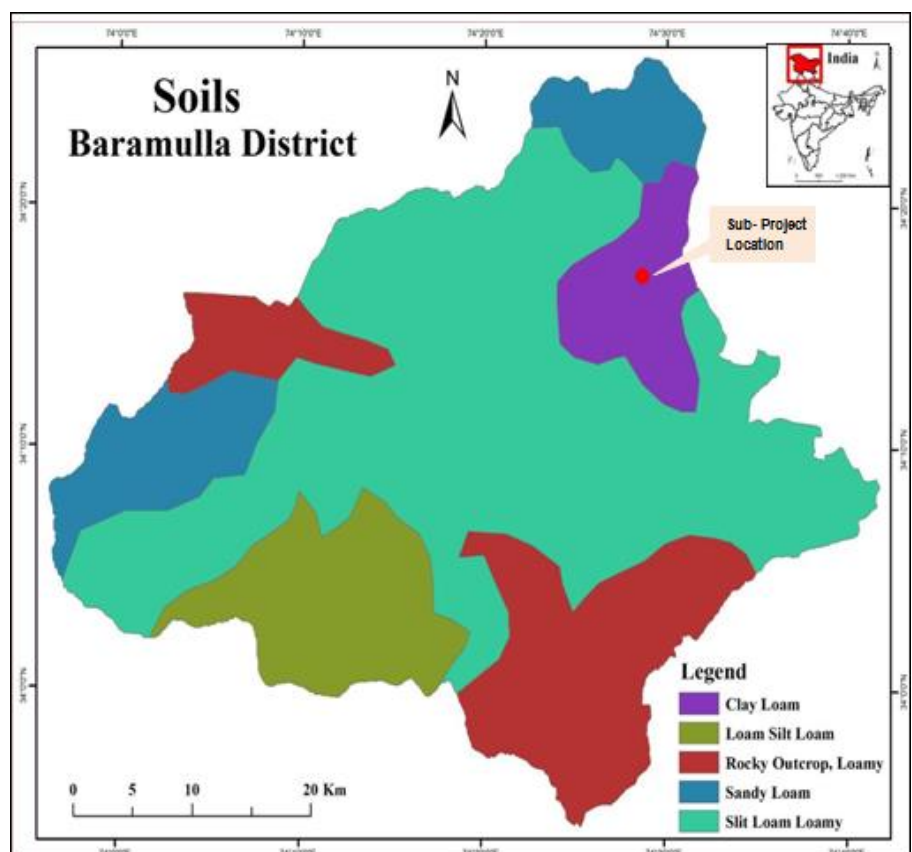
The rock type in Hiily section of study area are defined in Gulmarg range consists of sand stone, shale, trap and slate, while in plain areas are having shale rock defined as Baramulla range. The study area falls in Kashmir valley. The Geomorphologically Kashmir valley holds a unique position in Himalayas. The valley has undergone many changes in geological times. The mountain abruptly rises on the sides which develop varied geological scenery representing in its massive section of quartzite and the west of the Wular Lake Silurian. The foothills of Pirpanjal range and Gulmarg ranges in Baramulla district under project site continue in undulating low lying Karewas intersected by streams. As such the top soil strata consist of mostly intermixed alluvial layers of fine silt clay with large particle of sands and gravel. The most alluvium is geologically very young (Quaternary in age). The Most sedimentary material that fills a basin is alluvial. The recent alluvium occurs in Baramulla district are depositary from river Jhelum which cover a large area.

3.2.2 Soil

The Baramulla district consists of three major soils, namely, Silty Clay Loam, Sandy Loam and Silty Loam as per information obtained from National Bureau of Soil Survey and Land-Use Planning (ICAR), Nagpur. The sub-project site is laying in the Baramulla sub-division in bank of Jhelum River. Therefore, the soil characteristic in sub-project area is clay loam which is stated below

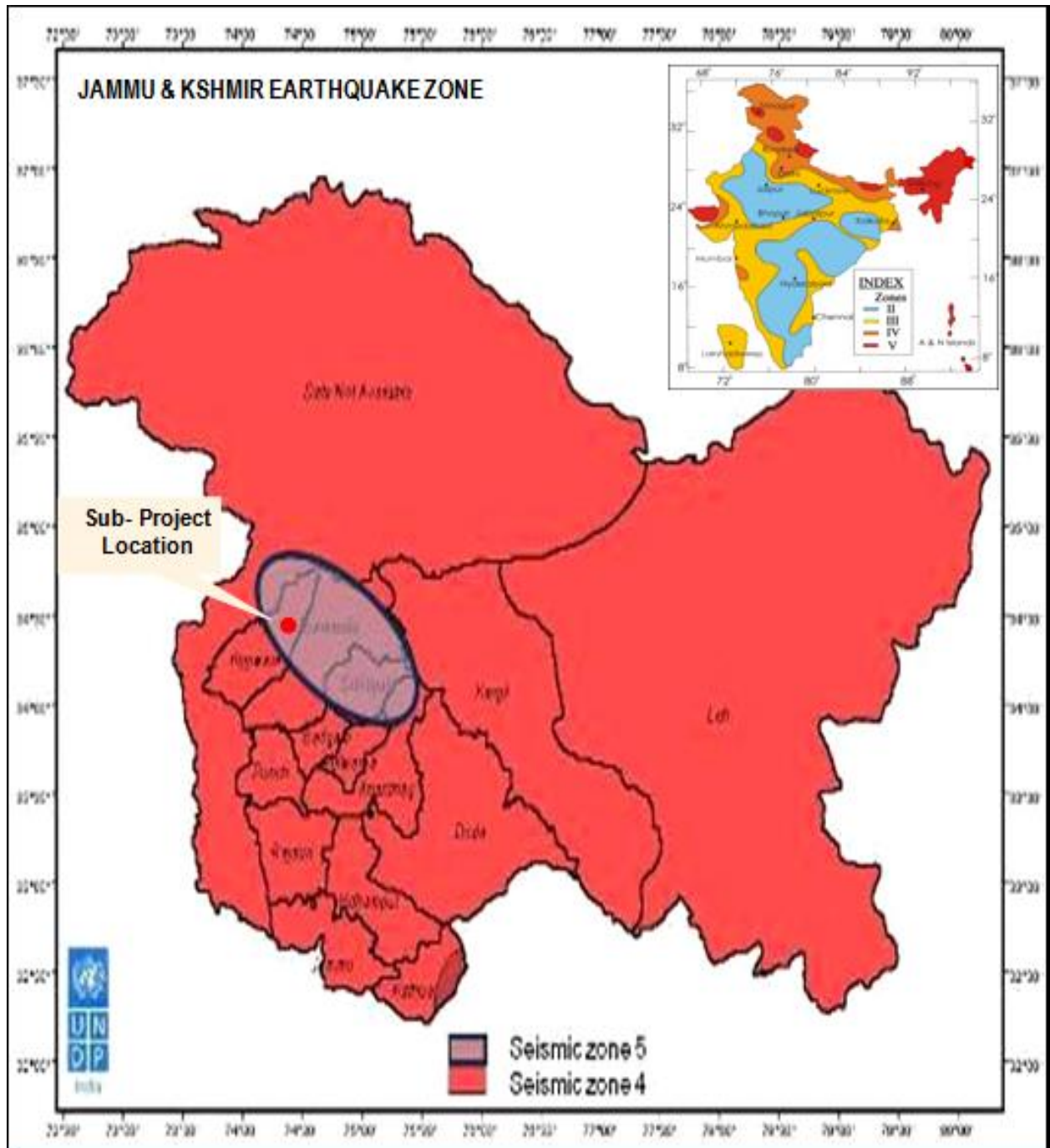
General texture

- Soil type: Clay loam intermixed with sands & gravel.
- Degree of plasticity: Non plastic.
- Degree of cohesiveness: cohesive (MI Group of soil).



3.3 Seismicity

According to GSHAP data, the state of Jammu & Kashmir falls in a region of high to very high seismic hazard. As per BIS Code of practice IS-1893-2002 entire area of Kashmir valley fall in seismic Zone-V and the rest of area fall in seismic Zone-IV in Jammu & Kashmir State. Historically, parts of this state have experienced seismic activity in the **M** 6.0-7.0 range. The map of Seismic hazard Jammu & Kashmir is shown in **Figure 3.1**



**Figure 3.1: Seismic Hazard
Jammu & Kashmir**

3.4 Land Use Pattern

The project road Amberpora - Haritar Road covers 2.450 km length. In total length of project road, there are mainly residential lands comprising with residential cum commercial, plantation and agriculture. The entire section of settlements, agriculture land, plantation and commercial lands are conversion of Wular lake & its associated wetlands in development activities. Therefore, parts of project length are water lodged in its catchment when water level rises in lake during the monsoon.

The land-use pattern along project road is described below while the graphically represented by Figure - 3.1

Table : 3.1 ; Land – use (Amberpora– Haritar)

Land-use Category	Land Use Pattern (% Stretch)
Agriculture	16
Agriculture Cum Commercial land	25
Residential	16
Plantation / Social Forestry	12
Back Water Wular Lake	31
River/Seasonal Stream	0
Forest/ Wild – Life/ Eco-sensitive site	0
Hilly Area	0
Total	100

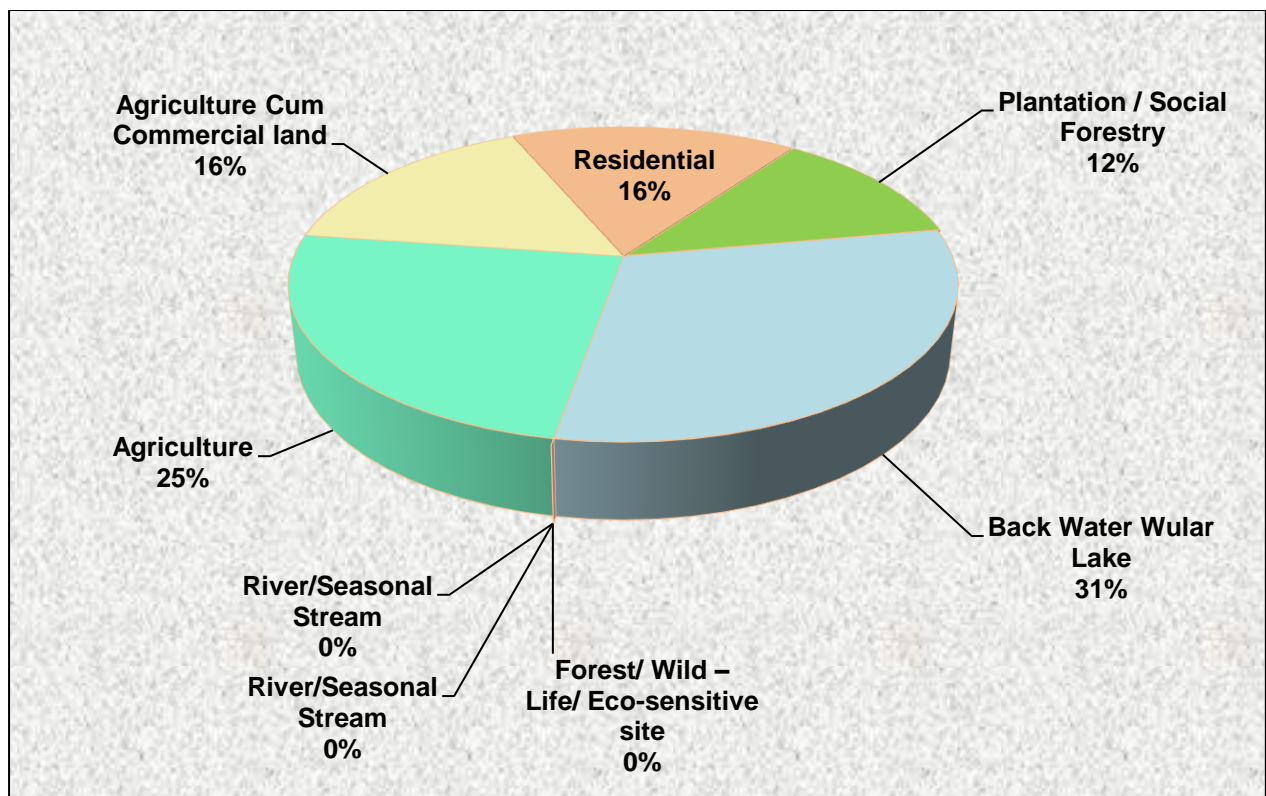


Figure - 3.1 : Land-use

3.5 Hydrology/Drainage

The main hydrological feature in project area is natural drainages flow in proximity of Baramulla city administrative headquarters of the district. The Jhelum River flowing 2.5 km distant away the project road in north and the Wular lake lies about 3.0 km away in north east. Also, there is a number of developed drainage system in the study area. The Ningli Nallah drains into Jhelum River. The Seri Nalla drains into the Wular lake from the west and the Ferozpur Nallah of Gulmarg range drains into the Wular Lake from east. There are other various nallas like Namblan, Salamabad, Dardkot, Urusa feeding the Wular lake arising in Kashmir valley.



**Figure - 3.2 : Natural Drainage
Amberpora – Haritar**

3.6 Air, Water and Noise Environment

The monitoring of various performance indicators pertaining to Air and Noise level had been carried out during the month September, 2017. The sampling of surface water was not taken due to non availability of water reservoir in & around one km radius and along either side in the proximity of sub-project site. The result and evaluation of various performance indicators pertaining to air and noise are presented in following sub-sections.

3.6.1 Monitoring Ambient Air Quality

The samplings of AAQ have been taken as per CPCB guidelines near the settlements area at Amberpora chowk, km 0.200 Km for 24 hrs on 09th Sept, 2017.

The sampling and evaluation was carried –out by the Environmental Monitoring Laboratory of J&K ERA which is recognized through State Pollution Board, J&K.

The results of sampling taken is presented in table below :

Table : 3.2: Air – Quality

Sampling Location : Settlements Area Amberpora chowk; km 0.2000			
Sl. No	Parameter ($\mu\text{g}/\text{m}^3$)	Value Observed	NAAQS Permissible limits
1	RSPM (PM_{10})	58.5	100
2	RSPM ($\text{PM}_{2.5}$)	26.7	60
3	SO _x	6.4	80
4	NO _x	8.6	80

The monitoring results of ambient air quality near settlements at project road observed within the permissible limits of National Ambient Air Quality Standards (NAAQ) pertaining to the parameters of RSPM PM_{10} , $\text{PM}_{2.5}$ and gaseous pollutants under SO_x and NO_x at the proposed sub-project road.

3.6.2 Monitoring of Water Quality

There is none of any water bodies exist in and around the proximity of project road and around one km radius of the sub-project site. Therefore, evaluation of surface water quality is not undertaken during the field study of the project road.

3.6.3 Monitoring of Noise Quality

The length of project road is 2.450 km in the Baramulla city administrative head-quarters of the district. Hence, only one sampling point is selected at settlement area at 00.500 km from start of road. The noise sampling was carried –out in day hrs for 8 hrs as per the CPCB guidelines on date 9th Sept, 2017. The measurements of noise level taken at 10m away the Centerline and conducted by M/S Environmental Monitoring Laboratory, J&K ERA which is recognized by the SPCB.

The 8-Hourly sampling at fixed interval of noise equivalent in day hrs in the project area are given in Table: 3.3 below :

Table : 3.3 ; Noise Level

TIME 11.0Am-7.0 Pm	Amberpora– Haritar Road; Km 00.500 ; dB(A)	Minimum dB(A)	Maximum dB(A)	Leq (8 Hourly Sampling)	Permissible Limit dB(A)
11-12.0	50.6	42.5 dB(A)	52.3 dB(A)	48.5 dB(A)	55 dB(A)
12 -1.0	52.3				
1.0-2.0	49.1				
2.0-3.0	56.3				
3.0-4.0	42.5				
4.0-5.0	45.4				
5.0-6.0	48.8				
6.0-7.0	51.8				

The monitoring results of noise level of 8hrs day sampling shows that project site yet at settlement area where local community are staying are living in desirable limit of noise as 8hrs day noise level equivalent is 48.5 dB(A) only. This is due to low traffics on project road, presently.

3.7 Forests

There is no natural forest (RF, Protected Forest etc) or natural heritage sites of national and international importance along the one km radius of project site.

3.7.1 Local Flora

The local flora on the study area denotes trees along the road, social forestry and any other sites of green cover along either side of project road. The project site exists in Jheum valley of himalayan range. Therefore, vegetations are temperate dry deciduous trees, grass and meadow. As project site lays in Jhelum valley Forest Division in the catchment of wular lake therefore, none of any conifers trees are found in study area. In field study mainly broad leaves tree are encountered as like **Walnut, Chinar, Bird cherry, Willow, Elm (Brenn), Poplar, Birch and Cassia sps.** As per the improvement proposal of up-gradation, the total no of trees which affected which required to be felled are 88 trees (Eighty Eight trees) . All the tree girth is in the range from 90 cm to 140 cm. The number of trees likely to be felled with respect to chainage and side of road are given in Table: 3.4 below:

TABLE : 3.4 ; LIST OF TREES ALONG PROJECT ROAD

Amberpora– Haritar Road	Chainage		Left	Right	Trees species to be felled
	00.00	500	1	2	Brenn =1
500	1000	9		Cassia sps= 1	
1000	1500	11	30	Chinar = 1	
1500	2000	19	15	Poplar =85	
2000	2450	0	0		
Total			41	47	Total trees to be felled = 88 trees

Furthermore, the list of tree species observed in the study area in one km radius of either side of project road with their scientific name is given in table : 3.5 below.

TABLE-3.5: LIST OF FLORA ALONG PROJECT ROAD

SI. No.	Common Name	Scientific name
Tree Species		
1	Walnut	<i>Juglans regia</i>
2	Bird cherry	<i>Prunus padus</i>
3	Willow	<i>Salix alba</i>
4	Elm (Brenn)	<i>Uranus americana</i>
5	Poplar	<i>Populus tremula</i>
6	Birch	<i>Betula sps.</i>
8	<i>Cassia</i>	Cassia Siamea
9	Apple	<i>Malus domestica</i>
10	Mulberry	<i>Morus alba</i>
11	Chinar	<i>Platanus orientalis</i>

3.8 .2 Local Fauna

The project area is outskirts of Wular Lake with full settlements of local communities in course of development of Baramulla city as well available communication and transportation facilities to local communities. After, consultation with local communities brought to our notice that various type of avifauna harbours in area. Further, got information during field visit that terrestrial birds in project area are the Black - eared kite, Sparrow hawk, Short - toed eagle, Himalayan golden eagle, hawks and vultures, Monal pheasant, Chukar partridge, Kiklas pheasant, Blue rock pigeon, Cuckoo, Small cuckoo, Alpine swift, Kashmir roller, Himalayan pied woodpecker, Hoopoe, Common swallow, Golden oriole. Although, the terrestrial fauna are high tolerance of human activities.

3.8 Water Bodies/ Wetlands Sites

There is none of any well known water bodies as like ponds & water catchments along either side as well within one km radius of the project road. Although the project road exist in the outskirts of Wular Lake which is well-known Wetland /Ramsar site of National and International importance.

The entire length of the project is up-gradation of eroded road in 2014 flood. The restoration of road by up-grading with the retaining wall and improved cross drainage for safety of road as to re-establish communication facilities to local communities will not create any major impacts on Wular wetland during up-gradation of mare 2450 km MDR being already used to link with other districts and sub-divisions. Furthermore, the main source of water for the use of public is underground water and local stream flowing in the project area.

3.9 Religious & Cultural Property

The road side religious properties generally include temples, gurudwara, mosques, and cremation grounds; and the cultural properties include as works of art libraries, museums, community place, marriage hall etc.

There are none of any religious & cultural properties exist along either of the sub-project road.

3.10 Ecological Sensitive Areas

Project site is falling in Baramulla under district headquarter in the Kashmir valley.

There is none of any Biosphere Reserve, National Park World Heritage Sites and others Wild –life sanctuaries recognised as an ecological importance in & around one km radius of project site , Amberpora– Haritar Road.

3.11 Communities Properties

The Community properties includes as hand-pumps, tube wells and pasture grounds for the use for local communities. There are none of any such facilities exist which require relocation during the up-gradation of project road.

3.12 Key Environmental Features

The Hot Spots in 2 Km of wide corridor (i.e. 1 Km either side) of the project, which needs attentions for impact analysis is trees only. The other is migratory birds / avifauna harbours in the study area. Further, the attention is required on road embankments by providing suitable measures in design to protect it from future damage from back water of Wular Lake which rose in monsoon. The measures to be taken on flowing local water channel along the side road. Therefore, any residues of construction wastes should not be dumped as to interrupt the water channel.

CHAPTER – 4

Anticipated Environmental Impacts & Mitigation Measures

4.1 Introduction

Environmental study of sub-project under Jhelum and Tawi Flood Recovery Project has been undertaken as per approved environmental & social management framework prepared for impact assessment and mitigation to minimize impacts in all phases of project cycle. Accordingly, study of project site has been conducted for impact assessment at design, construction and operation. As the project road widely used by local communities and come under the major district road which planned to restore damage of 2014 flood by slight up-gradation with resilience features varies width from 5.0m to 7.5 m configuration including shoulder from existing 3.65 m road width, therefore impacts are studies for design and construction phase only. After conducting field surveys and reviewing statutory norms, the major impacts have been identified and assessed for the design and construction phases.

4.2 Environmental Impacts

The impact due to proposed project is broadly described in term of significant and non significant impacts.

4.2.1 Significant Impacts

The significant impacts of proposed project during up-gradation of **Amberpora–Haritar Road** include change of land-use, slight disruption of vegetative cover, existing drainage system which are temporary & reversible in nature.

- Establishment of worker camps significantly affects environment through improper disposal of waste, loss of natural vegetation, ill- effect on public health, unfriendly use of community resources etc.
- Excavation of proposed site, transportation of material will generate dust, noise and pollution to environment creating nuisance to settlements area.
- Transportation of construction materials may cause Inconvenience to common road users

4.2.2 No Significant Impacts

- The sub-project does not have a new alignment. Hence, no significant impact on existing natural environmental is expected.
- There are no historical monuments, cultural properties and other community resources in close proximity of proposed site which shall directly effect on socio-economic environment. Therefore, no significant impacts on property resources are expected.
- There are no natural resources as National park, Biosphere reserve and other eco-sensitive site exist in close proximity of the project. Therefore, no impact on biodiversity is expected.

4.3 Anticipated Environmental Impacts

Furthermore, the negative, positive and potential environmental impacts on physical, ecological and socio- economic environment with respect to the project locations and design have been identified and evaluated under the following sub-sections.

4.3.1 Positive Impacts

As a result of development and improvement there are several benefits to inhabitants and natural environment.

4.3.1.1 Transportation

The traffic density will increase after the construction and up-gradations of road. It shall be benefited for easy communications for destinations.

4.3.1.2 Public Amenities

It also satisfies the public demands by up-gradation of eroded road which presently creating inconvenient to the local communities.

4.3.2 Negative Impacts

Implementation of project has adverse impacts on the environments. Adequate mitigation measures should be planned and it is required to minimize the degree of negative impacts. Impacts subject to the proposed project **Amberpora– Haritar Road** is broadly related to the following.

4.3.2.1 Pre-construction phase - Planning and Design

To minimize the impacts on green covers as well water channel flowing along the road, it is suggested for judicious applications of engineering designs in construction methodology as well as special techniques for minimal impacts on environment at the pre-construction phase.

4.3.2.2 Construction Phase

- Pollution to air, water and noise environments
- Damage & destruction to local communities properties,
- POLs contamination due to plant & machineries,
- Alteration of topography by use of borrows,
- Insanitation, health & hygiene due to Labour camps/ construction camps.
- Loss of green covers
- Death hazards & accidents etc.

4.3.2.3 Operation Phase

The project activities is restoration of damage of major district road on 2014 flood which connect adjoining sub-divisions of district headquarter of Baramulla and other neighboring districts Bandipure and Srinagar. Therefore, impacts prediction and mitigation are not assessed in operation phase.

4.3.3 Potential Environmental Impacts

The environmental parameters are broadly classified into three groups as say **Physical Environment** which includes air, water and Noise quality and the land. The holistic approach for safeguard of all components is must for survival of life on earth. The second is **Biological Environment** which are local biota (fauna and flora) including mammals, avifauna and aquatic life will not be affected due to project work activities and the third & last is **Social Environment** which states for the concern of local communities affected due to up-gradation and land requirements. However, the up-gradation is improvements of road with resilience features only on existing land which varies from 5.0m to 7.5 m configuration including shoulder from existing 3.65 m road width. Therefore, land acquisitions are eliminated from the social issues consequently there is nothing any issue of resettlement and rehabilitation (R&R), loss of land at proposed project location. Therefore, the impact study has been undertaken on the construction factor and its related wok activities.

4.3.3.1 Impacts during Construction Phase

The proposed project is up-gradation of road. The total length of up-gradation is 2.450 km which proposed for restoration of damage caused in flood, 2014. The restoration and up-gradation is various widths **from 5.0m to 7.5 m configuration on** existing 3.65m road width as per land available at project site. Therefore, no land requisition and loss of livelihood are expected. Furthermore, It shall not affect any water bodies, forest, cultural sites etc. No major issues therefore expected except for use of construction materials and consideration of legal permits for the execution of project. Hence, the assessment of project impacts is carried –out based on disturbances, damage and loss to environment on the nature of work activities to be undertaken during the project construction & implementation. Accordingly, remedial measures are planned to avoid, minimize and mitigate the impacts on environment.

4.3.3.2 Topography, Geology and Soil

The proposed subproject is up-gradation road; therefore main civil work is required for filling of lands as described in design for embankments and sub-grade layer in road works. Therefore, earth from borrow pits is required and accordingly measures is essential to minimize impacts on alteration of topography of exiting lands. The same can be applied for aggregate as require from quarry.

4.3.3.3 Drainage

There are no Impacts of water channel/local steam in this road construction. However, impacts may arise on un-planned work programme and work execution.

(A) Impacts

- Blockage of existing water channel in course of earth work.
- Obstruction of water channel in construction of embankment.

(B) Mitigation Measures

- Place should be defined and finalized before storage of earth in road works
- Periodical inspection at location of water channel to avoid blockage due to road construction.

4.3.3.4 Water Use

There are various water channel of Wular Lake nearby project road. Therefore, water for the construction is readily available for road work. Furthermore, the road length of sub-project is only 2.450km only therefore limited quantity of water is required for construction.

Hence, impacts on water resource shall be insignificant.

4.3.3.5 Water Quality**A. Impacts**

- Contamination due to indiscriminate disposal of construction wastes in the Water channel flowing nearby the project road.
- Deterioration of water quality due to open discharge from Labour camps & the construction camps.
- Pollution in groundwater due to Oil & Grease contaminations.

B. Mitigation Measures

- The probable estimate of construction wastes should be prepared and solid waste disposal plan should be developed for safe disposal of debris as well hazardous wastes (if any) during the construction.
- Adequate drainage system should be developed at the construction camp to avoid contamination to water Channel.
- To prevent water contamination sanitation, health & hygiene to be maintained at camp as well plan to re-use and periodical inspection of POL storage site.

4.3.3.6 Impacts on Air Quality**A. Impacts**

- Impacts on air quality during construction are generation of fugitive dust due to excavation work.
- Environmental pollution due to haulage of materials for construction. Emission of gaseous pollutants like hydrocarbon, carbon monoxide and other particulate matter due to use of generator for the power supply.
- Dusts are expected to be generated in form of fugitive emissions.

B. Mitigation Measures

- The impact on air quality during construction phase is temporary and site specific. Therefore, Good Environment Management Practices can overcome and reduce the impact to a large extent.
- Construction materials to be stored at defined area with adequate barricading.
- Earth carrying vehicles should be suitably covered with Tarpaulin.
- Dust minimization measures should be followed as per EMP.

-
- Machineries and equipments being used for construction works should be adequately maintained and emission should be within the permissible limits of SPCB norms.
 - Plant & machinery should be established at least 500 m away the settlements.
 - Proper planning and appropriate scheduling in construction for timely completion of work.

4.3.3.7 Noise Quality

The noise is usually generated on movement of vehicles & heavy machineries. However, the noise is temporary and mostly in daytime only. The workforce is more vulnerable with high noise level at work site.

(A) Impacts

- Increase in noise level due to construction activities.
- Noise nuisance are mainly during operations of machineries and increases after movement of vehicles at work site.
- D.G set running openly also a source of noise at work –place.

(B) Mitigation Measures

- Construction camp and labour camp should be away from the source of noise and from the locations of heavy plants & machineries.
- Plant & machineries should be conforming to noise standards.
- Earplugs should be provided to workers & staffs to minimize exposure of noise at workplace.
- The construction equipments & machineries should be in good working, lubricated and maintained to keep noise within permissible limits.
- In the residential area the construction works should be carried out in the day time.
- Machinery yards should be minimum 200 m away from settlements, schools and institutions.

4.3.3.8 Impacts on Local Flora

(A) Impacts

- Loss of tree and vegetative cover due to up-gradation of road.
- Deposition of fugitive dust on vegetation may lead to reduction of photosynthesis and damage the plant.

(B) Mitigation Measures

- Felling of trees to be undertaken up-to the cross- section of carriageway; trees at road - shoulder should be saved. Trees should be protected also on & nearby drain by adequate care & management.
- Green belt should be developed under Forest Conservation Act 1980. The available space should be covered with afforestation scheme.
- Fuel for cooking should be provided to the construction workers to avoid cutting of adjoining trees for fuel- wood.

4.3.3.9 Impacts on Local Fauna

The proposed project is limited to specific designated site. Therefore, no consistent impacts on local fauna at existing project site.

4.3.3.10 Impacts by Solid Wastes

(A) Impacts

- Solid waste disposal from construction camps may cause unhygienic environment.
- Scarified asphalt and construction spoils create pollution problems.
- Unused aggregate, sand and cement in construction create pollution problems.

(B) Mitigation Measures

- Solid wastes disposal plan to be developed for safe disposal of debris, concrete wastes and other residues generated during the construction.
- Scarified asphalts to be suitably re-used in filling along approaches & low lands which effectively sealed off afterwards in order to avoid pollution to environment.
- Earth generated during excavation to be re-used in embankment and other places during the construction.
- Indiscriminate disposal of spoils should be avoided.

4.3.3.11 Social Aspects

As the project up-gradation being carried -out on existing available land only, therefore, none of any religious & cultural properties as well loss of livelihood are accountable due to road up-gradation.

Hence, there are no issue of social concern related to land acquisition.

4.3.3.12 Impact of Construction Camp

A. Impacts

- Influx of construction work-force to construct temporary dwellings.
- Sanitation, health and hygiene due to inflow of domestic wastes in the open fields.
- Spread of pathogenic bacteria due to deterioration of water in open ground on inadequate drainage facilities.
- Pollution to environment due to open defecations due to lack of toilet facilities at work –place for male & female separately.

B. Mitigation Measures

- The temporary camps should be constructed at designated sites with adequate sanitation, drinking water supply.
- Proper accommodation will be provided for the migrant workers as per environmental management plan.
- It should be ensured that the workers are provided with adequate ancillary facilities i.e. sanitation at camps, drinking water lavatories, first-aid facilities and temporary electrification at camp.
- Regular cleanliness should be ensured.

4.3.3.13 Safety Aspects

❖ Arrangements of Safety for road – users

(A) Impacts

- Increase of incidence of accidents due to disruptions of traffics movements, excavated road, and poor safety arrangements.

(B) Mitigation Measures

- Adequate safety measures will be adopted to prevent accidental risks.
- Adequate traffic management should be developed during the construction in accordance with SP-55 – 2014.

❖ Safety for workers at work site; and health & hygiene at Labour camps.

A. Impacts

- Safety risks to workers due to inadequate housekeeping & management, blind spot, open electric wiring, trip & fall and unsafe work practice at work sites.
- Periodical watch & care on electrical wiring system and immediate repair of defective wires at work site.
- Health problems to workers due to insanitation and un-healthy environment at the labour camps due to adequate management.

B. Mitigation Measures:

- Personnel protective equipments should be ensured for all workers at work site as per provisioned under the BOCW –Act, 1986, And Labour Act – 1970.
- Safety measures should be taken following the safety norms.
- Periodical inspection for audit of safety standards at work site accordingly remedies to be taken on defective arrangements for risk free site.
- Adequate penalty on safety lapses should be fixed –up to the concern.
- Health check-up should be conducted to workplace, periodically. And the workers indentified medically unfit / sickness should be sent to hospital for medical treatments. Furthermore, alternate arrangements should be made for replacement with new labours.

4.3.3.14 Impacts during Operation Phase

In this phase, the final closures of environmental issues are discussed only. Hence, entire temporarily structure should be dismantled and the site should be restored to its original ground conditions. The concrete residues, unserviceable materials and other debris should be cleared & cleaned from the entire site. Any scars, borrows (if any) should be redeveloped by adequate filling, grading and levelling the ground as to restore the natural ground condition soon in future. Afforestation programme to be undertaken to recover greenery loss during the project implementation.

CHAPTER – 5

Environmental Management Plan

Environmental Management Measures deals with the management measures and implementation procedure of guidelines recommended to avoid, minimize and mitigate unforeseen environmental impacts during the project implementation. The sub-project road during design, construction and operation shall conform to environmental rules & regulations in force under law & acts and by laws of GoI and J&K state made for environmental safeguards.

The environmental management plan and recommended mitigation measures are required to be followed by the Contractor. However this does not absolve them from performance of good practices for sound construction management and safeguarding the environment. The details of management & mitigation measures to be followed during all the project covers are presented as follows in Table.

Sl. No	Activities	Management Measure
P 1	PRE-CONSTRUCTION BY THE CONTRACTOR	
P 1.1	Appointment of Environment and safety Officer	The contractor shall appoint a qualified and experienced Environment and Safety Officer prior to the commencement of work. He shall be responsible for EMP implementation including occupational health & safety aspects. The project Manager of Contractor shall be responsible for overall implementation of EMP provisions and ensure implementation of said plan with the concerned agencies, stakeholders and internal staffs / workers.
P 1.2	Regulatory / Statutory Clearances/ approvals.	Prior to commencement of construction the contractor shall obtain all requisite statutory clearances / for setting up construction camp including labour camp, plants & equipments, use of material source etc. as per environmental law & acts and regulations that apply to this project. The contractor is required to abide by all conditions laid in the said clearances / consents given by the regulatory authorities. The compliances report shall include the status of permits / consent and measures taken to minimize impacts as per conditions in permit.
P 1.3	Tree felling	Any schedule trees felled -down due to design/ under unavoidable circumstances, permission shall be obtained for felling of trees from the Concern Authority. The Contractor will co-ordinate with the PIU and ensure that all necessary permissions are taken prior to the felling trees.
P 1.4	Construction Camp / Labour camps Locations – Selection and Lay-out	<p><u>Location & Lay-out of the Construction Camp</u> : Lay-out plan of the construction camp shall be approved by the Environmental Specialist of the PIU ensuring clear access & approach, Oil & grease Storage Yards, parking lots, toilet facilities etc. The stockyards, reinforcement yards hoisted to designated place and approved.</p> <p><u>Location and Layout of Labour Camp</u> : The location & layout plan of labour camps must be approved by the environmental Specialist of PIU/PMU prior to start of construction on ground. The Contractor shall follow all relevant provisions of the Labour Act, 1970 and the Building & Other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 for establishment of labour camp.</p>
P 1.5	Construction Materials	The Contractor shall procure materials from J&KPCB authorised Plants/RMC only. The permits of RMC must be submitted to the PIU/PMU for perusal and record.
P 1.6	Sand (all river and stream beds used directly or indirectly for the project)	The sand, aggregate shall be taken from the approved agency only. The Contractor shall furnish the permits/NOC to the PIU/PMU for perusal and record.
P 1.7	Labour Requirements	The contractor shall preferably use labours from the local communities to avoid additional stress on existing facilities as like lands, drainage, medical services, power and drinking water etc.
P 1.8	Contractor Environmental & Social Management Plan (C-ESMP)	The Contractor shall submit supplementary Management Strategies and Implementation Plans as necessary to manage the ESHS risks & impacts within the fifteen days of Contract Agreement. These Management Strategies and Implementation Plans collectively comprise the Contractor's Environmental & Social Management Plan (C-ESMP). The C-ESMP should include a Contractor's proposal with environmental mitigation action plan prepared by the Project Manager of implementing

Sl. No	Activities	Management Measure
		agency will be operationalized by the contractor to their workers/employees. The C-ESMP shall be approved by the Environmental Specialist of PIU/PMU prior to the commencement of construction activities.
P 1.9	Information Dissemination.	Project information Board showing the name of work, project cost, duration, date of commencement, date of completion, executing agency and contact details (including telephone numbers) for providing suggestions / filling grievances shall be displayed prominently in both English and in Vernacular. Further, the advance information and periodic update (once in a month) about construction schedule, safety measures, pollution abatement and other such details shall also be displayed.
C1	CONSTRUCTION STAGE	
C1.1	Generation & disposal of Debris	Scarified asphalts and the other construction wastes shall be appropriately re-used in construction. In case of unable to re-use, a Solid Waste Management Plan to be developed by the Contractor in consultation with the local competent authority, this shall be approval by the Environmental Specialist of the PIU/PMU to ensure the safe disposal.
C1.2	Blue metal/ Material / Aggregate	The Contractor shall obtain materials from the approved quarries only. A copy of the permits for quarry mining must be submitted to the PIU & PMU for the perusal and record.
C1.3	Water Extraction	No extraction of water are allowed from any water source, navigation channel, intake channel, or flood spill channel by the Contractor without prior permit of authorised licensing authority of Jammu & Kashmir. Any user of ground water desiring to withdraw ground water for any purpose shall apply to the prescribed authority for grant of a permit for this purpose, and shall not proceed with any activity connected with such sinking unless a permit has been granted by the authority. The water meter to be installed by the Contractor in case of ground water extraction and abide by the conditions led down under the Jammu and Kashmir Water Resources (Regulation & Management) Act, 2010. The contractor shall minimize wastage of water during the construction
C1.4	Drainage System	The Contractor shall ensure that no construction materials shall block the water flow or create water lodging at the work site. The Contractor shall take remedies to bail-out accumulated water (if any) from construction sites, camp sites, storage yard, excavated areas etc. They shall plan to avoid water- pool besides temporary cross drainage prior to on-set of monsoon.
C1.5	Work-zone Management	Safety The Contractor shall furnish the construction safety plan to ensure safe work zone following IRC: SP: 55:2014 must be approved by the environmental specialist of PIU/PMU prior to start of road works. Temporary barricades shall be provided at the construction zone as well material stack-yards. The construction site and the labour camp (if any) shall be appropriately barricaded to prevent unauthorised entry & exit in order to eliminate any incidents/ accidents. All operational areas should be access controlled. Watch and ward facilities at all times should be provided by the contractor along the entire work site. The warning sign-boards should be installed on access points of link road to regulate the movements of construction machinery and vehicles. In excavations, high visibility warning signage shall be displayed in the vernacular language and the English language both. Entry of unauthorized persons should be restricted. The excavation of 1.5 m deep or greater should be barricaded as to

Sl. No	Activities	Management Measure
		ensure zero risks at work site. There shall be adequate lighting arrangement at night to prevent any mishaps after construction ceases for the day. The road safety sign- boards should be as per IRC: 55 : 2014 for the safety of road-user during the construction.
C2	Water Pollution Control	
C 2.1	Water Pollution from Construction Wastes	The Contractor shall take all precautionary measures to prevent entering of wastewater into water channel or irrigation system during the construction. The Contractor should not wash his vehicles near the lake, Wular wetland and shall not enter into water channel flowing along road for doing that purpose. The Contractor shall submit all locations and layout plans of disposal sites prior to their establishment and shall be approved by the Environmental Specialist of PIU/PMU. The Contractor shall certify that all liquid wastes disposed off meeting with the discharge standards and non hazardous in nature. The monitoring of Water quality should be conducted by an approved agency as per monitoring schedule.
	Water Pollution from Labour / Construction camps	All precautionary measures shall be taken in accordance with Pollution Control Board guidelines to ensure that wastewater from labour camp or the construction site doesn't contaminate any surface water body or the aquifer.
C 2.2	Water Pollution from Fuel, Lubricants, Chemicals and hazardous materials	<p>The Contractor shall ensure that none of any activities during maintenance of machineries and re-fuelling has PoLs contamination polluting to the environment.</p> <p>All spills and discarded petroleum products shall be disposed off in accordance with MoEF /J&KPCB guidelines.</p> <p>The storage of materials as like cement shall be done in a manner (with impervious layer on bottom and a covered shed on top) that does not contaminate land and ground / surface.</p>
C3	Air Pollution	
C3.1	Pollution to environment	<p>The contractor shall take every precaution to arrest the dust fumes (PM_{2.5} and PM₁₀) at the construction site that include unloading of aggregate, sands and cements etc. The Contractor shall take measures by water sprinkling, mist spray, encapsulation of dust generation source and erection of screen & barriers.</p> <p>The Contractor shall erect the screens of hessian cloth, agro-net and other such barricading where the construction materials are dumped and stock-piled, so that generation of dust can be minimized.</p> <p>The cement will be stored and emptied in covered area to control fugitive dust emissions.</p> <p>Air monitoring shall be conducted as per monitoring schedule by approved agency at designated sites in consultation with the Environmental Specialist of PIU/PMU. The result of various parameters with regard to air quality should be displayed on a board at the project site.</p> <p>All corrective measures for prevention of pollution on account of the construction work (including both on site and off areas) shall be taken as per the requirements / standards of CPCB and SPCB.</p> <p>Roads used by vehicles of the contractor or any of sub-contractor or suppliers will be kept clear from the dust/mud or other extraneous materials dropped by such vehicle.</p>

Sl. No	Activities	Management Measure
C3.2	Emission from Construction Equipment and Machineries	<p>All the vehicles, equipment and machinery for construction will confirm to relevant Bureau of Indian Standard (BIS/CPCB) standards. The discharge standards promulgated under the Environment Protection Act, 1986 and Motor Vehicle Act, 1988 will be strictly adhered to.</p> <p>The contractor shall furnish PUC certificates for all vehicles/equipment/machinery being used at project site.</p> <p>The Diesel Generator to be kept at place approved by Environmental Specialist of the PIU/PMU. The stack height should be $H = h + 0.2$ capacity of DG in KVA ; whereas 'h' stands for height of surrounding building in meter.</p>
C4	Noise Pollution	
C4.1	Noise Pollution: Noise from Construction Equipment and Machineries	<p>The Contractor shall confirm the following :</p> <p>All Construction machineries and equipment used in construction shall strictly conform to CPCB noise standards.</p> <p>All equipments used in construction shall be provided with proper exhaust muffler.</p> <p>A proper routine and preventive maintenance procedure for the DG set should be planned, and the same shall be followed. Further, its record to be kept for observations to the Environmental Specialist of PIU & PMU during the inspection.</p> <p>Acoustic enclosure/ room should be provided for the D.G set for minimum 25dB (A) insertion loss or for meeting the ambient noise standards.</p> <p>The diesel generator sets shall have defined place approved by the Environmental Specialist of PIU/PMU sufficient away the construction site.</p> <p>The Noise monitoring shall be conducted as per schedule by an approved monitoring agency under consultation with Environmental Specialist of PIU/PMU. The result of noise level should be displayed on a board at project site.</p>
C5	Safety (Site Safety & Workers Safety)	
C5.1	Site Safety/ Workers Safety & PPEs Material handling & Painting etc.	<p>The Contractor should demarcate the construction zone with effective barricading approved by the Environmental Specialist of PIU & PMU.</p> <p>Barricades include the use of followings :</p> <ul style="list-style-type: none"> ➤ Channeling devices as barrier by use of Bamboo poles / Green –nets/ corrugated galvanised iron (G. I. Sheets). ➤ Caution Tape/ Signs/ Safety Cones/Barricades; <p>The Contractor should ensure that the barricading items should be approved and it may be improved as per need & requirements as directed by Environmental Specialist of PIU/PMU before fixing it at the construction zone to minimize inconvenience for the road –users.</p> <p>The Contractor shall have designated area for material storage yards as to keep the construction materials (steel, aggregate, sand & cement etc), reinforcement-yards for hand-tool usage, scrap-yards, oil & grease storage-yards, diesel storage for clear access, safe movement and hazard free work sites.</p> <p>They shall have fire – extinguisher at construction camp to minimize any fire hazards at work site.</p>

Sl. No	Activities	Management Measure
		<p>Workers Safety/ PPEs.</p> <p>The Contractor will make sure that during the construction work all relevant provisions of the Building and Other Construction workers (Regulation of Employment and Conditions of service) Act 1996 are adhered to. The Contractor will comply with all the precautions as required for ensuring safety of workmen as per country's labour regulations and International Labour Organization (ILO) Convention No. 62 as far as those are applicable to this contract.</p> <p>All measures shall be taken by the Contractor to ensure safety & health of workers. In this provisions the Contractor shall ensure:</p> <ul style="list-style-type: none"> ➤ Protective footwear, hamlets, safety jacket to all workers engaged in re-enforcement / cutting of iron & steel, asphalts works during the road construction works etc. ➤ All the welders should have protective eye-shields engaged in welding work. ➤ The Contractor shall comply with all regulations for the safety regarding centring in formwork, shuttering, availability of safe ladders, working platforms, gangway, stairwells and safe means of entry and egress for risk free site. ➤ The workers of electrical activities should be provided with insulating (rubber) gloves with leather protectors, safety shoes, insulating sleeves, and flame-resistant (FR) clothing. <p>Labour below the age of 14 years is strictly prohibited for any work.</p> <p>'The Construction Safety Plan' to be prepared by the Contractor during mobilization, the same should be furnished to the Environmental Specialist of PIU/PMU for approval & final acceptance. The Contractor shall fulfil the requirements to enforce compliances for risk free site with zero tolerance.</p>
C5.2	Tool Box Meetings	<p>Tool box meeting shall be conducted at work site every alternate day in order to ensure Personal protective equipment (PPEs), risks free site and safety culture at workplace during the construction.</p> <p>The Contractor shall fix a place of Assembly Points for Toolbox Talk.</p> <p>The meeting should involve groups of workers who work together and face same sort of injury risks at work site.</p>
C5.3	Risk from Electrical Equipment(s)	<p>The Contractor shall take all required precautions to prevent danger from electrical equipments and ensure the followings:</p> <p>All electrical works as like welding, cutting, installation, operation, maintenance and repair works should be performed at designated place as approved by the Environmental Specialist of PIU/PMU. Any electrical wire & cable never be kept haphazard as to cause danger or inconvenience to any person or the public at work place.</p> <p>Avoid the use of worn, damaged or poorly spliced cables, welding gun cables, or torch cables. Make sure all connections are tight, clean and insulated.</p> <p>Any electrical works in wet working environment should be avoided.</p> <p>Molded Circuit Breakers (MCB) to be used as a switch and for over current protection.</p>

Sl. No	Activities	Management Measure
		<p>The extension cords and any such wire being used to be kept away from heat, oil & chemicals, sharp edges and must not be on the path of workers at workplace to avoid any electric hazards. The Contractor shall keep record of Electrical Safety Checklists at work site for the observation of Environmental specialist of PIU/PMU as and when they asked.</p> <p>All machines to be used in the construction shall conform to the relevant Indian Standards (IS) codes, and shall be free from patent defect which should be kept in good working order. It shall be regularly inspected and properly maintained as per IS provisions to the satisfaction of Environmental Specialist of PIU/PMU.</p>
C5.4	First Aid	<p>The contractor shall have a readily available first-aid box with availability of sterilized dressing materials, antiseptic and medicine at the work place as per the Factories Rules.</p> <p>The Contractor shall ensure agreements with nearest hospital with ambulance facilities for medical treatments to workers in emergency on any unforeseen incidents at work site.</p> <p>The Contractor shall ensure a training of Cardio-Pulmonary Resuscitation (CPR) to a Safety Officer for timely first-aid to the victim on the breathing and heartbeat problems.</p>
C5.5	Storage of flammable liquid, Gas Cylinder, diesel & petrol and POLs	<p>The Contractor shall fix a define place for storage of flammable liquid, gas cylinder, diesel & petrol and POLs in well ventilated areas.</p> <p>The collection, disposal and place for storage of flammable materials should be duly approved by the Environmental Specialist of PIU/PMU for the safe use as part of management plan.</p>
C6	Labour Camp Management	
C6.1	Labour Camps & minimum basic facilities	<p>For the dwelling of Labour Camps and basic minimum facilities, sanitation, health and hygiene, the Contractor shall ensure followings :</p> <ol style="list-style-type: none"> 1. Site general requirements: <ol style="list-style-type: none"> a) Levelled ground , drainage, paved, plinth height, soak –pits & septic tanks. b) Dumping ground for garbage or other refuse, and fencing/ security at camp. 2. Minimum Basic facilities at Temporary Labour Camps <ol style="list-style-type: none"> a) 6 sq.mts minimum space per person, b) a separate room for family workers, c) Paving of ground, d) Waste disposal, e) Drinking water, and storage tank f) Washing & bathing place for female separately g) Toilet facilities for male & female separately and marked in hindi and in local language.

Sl. No	Activities	Management Measure
		h) Gas cylinder for Cooking facilities, i) Lighting at camps j) Beds & Cots k) Medical & first aid-facilities,
C6.2	Potable Water	The Contractor shall also ensure the following: a) Supply of sufficient quantity of Potable Water (as per BIS) in every workplace/labour camp. b) If any water storage tank shall be kept as such that the bottom of tank is at least 1.0 m above the ground level. Analysis of water shall be done at six month as per parameters prescribed in IS 10500-2012 for the drinking water.
C6.3	Sanitation and drainage System	The contractor shall ensure that The drainage system are designed, built and operated in such a fashion that no health hazards and pollution problems Adequate water supply in toilets provided with flush facilities. The cleaning of toilets by disinfectant be made every day for sanitation & hygiene, Night soil is to be disposed of by putting layer of it at the bottom of a permanent tank prepared for the purpose and covered with 15 cm layer of waste or refuse and then covered with 30cm layer of earth for a fortnight. Workers shall not be allowed to defecate in the open field. Proper toilets fitted with septic tank and with required hand washing facility will be provided by the Contractor at the labour camp. Waste water generated from the sanitary facilities of labour camp shall be disposed in safe manner in consultation with municipal or discharge in a septic / soak pits. The medical health check-up shall be provided to workers at work place during entire project cycle.
C6.4	Waste Disposal	The contractor shall provide garbage-bins which regularly disposed off hygienically as per Solid Waste Management Plan approved by the Environmental Specialist of PIU/PMU.
C6.5	Environmental Monitoring and Reporting	The contractor will carry out environmental monitoring for ambient air quality, water and noise levels by engaging NABL approved laboratory on six monthly intervals. The reports will be furnished to the PIU/ PMU for the observations. The Contractor will submit Monthly Status Report on EMP Compliance covering all environmental aspects as mentioned above. This includes, but not limited to the following: <ul style="list-style-type: none"> ✓ Deployment of the Environment and Safety Officer. ✓ Methodology and plan for EMP implementation (linked with work program). ✓ Statutory / regulatory clearances and permissions. ✓ Material Sources. ✓ Construction camp and Labour Camp Management. ✓ Plant Site Management.

Sl. No	Activities	Management Measure
		<ul style="list-style-type: none"> ✓ Waste Management (Collection , Disposal). ✓ Waste Water Management. ✓ Water used for construction (including the sources). ✓ Traffic Management and Safety Measures (including the Management Plan). ✓ Workers Safety Measures. ✓ Access provision to adjoining properties during construction. ✓ Information dissemination to public. ✓ Management of grievances, First Aid and Emergency response arrangements. ✓ Management of impact on utilities and services (temporary / during construction). ✓ Pollution Control and Management. ✓ Clean up and restoration of work sites.
C7	Contractor Demobilization	
C7.1	Cleanup Operations, Restoration and Rehabilitation	<p>The Contractor shall prepare site restoration plans prior to the completion of project for the approval to Environmental Specialist of PIU/PMU. The clean-up and restoration should be implemented by the Contractor prior to demobilization.</p> <p>The Contractor shall clear all temporary structures; dispose all garbage, night soils and POL (Petroleum, Oil and Lubricants) wastes as per Comprehensive Waste Management Plan as approved by Environmental Specialist of PIU/PMU.</p> <p>All disposal pits or trenches should be filled -up and effectively sealed off.</p> <p>All facilities at construction sites including construction & labour camps, material storage yards, D.G Sets, and any other area used/affected due to the construction shall be left clean and tidy at the Contractor's costs, to the entire satisfaction of the Environmental Specialist of PIU/PMU.</p>
C7.2	Liabilities	<p>Any liability arising out of Contractor agreements with the land owners / Srinagar Municipal Corporation / local people (including those related to temporary use of land and disposal of debris) should be got it settled and certified before the closure of work by the Contractor.</p>

CHAPTER – 6

ENVIRONMENTAL MONITORING PROGRAMME

6.1 Introduction

An effective monitoring program is necessary to maintain the environmental quality during the construction of Amberpora– Haritar Road proposed for up-gradation in district headquarters of Baramulla. The Monitoring Plan recommends that the work to be carried-out following sound environmental management practices so as minimal loss to environment. Monitoring is categorized into out-put monitoring and out-come monitoring. The output monitoring is programmatic and addresses EMP implementation resulting in implementation report. The outcome monitoring focuses on changes in ambient conditions, ecological functions, and biological communities resulting in environmental status report. This Environmental Monitoring Plan mainly focuses on outcome monitoring.

6.2 Performance Indicators (PIs)

The physical, biological and social components identified for the evolution of environment quality is indicated as Performance Indicators (PIs) to which is listed below.

- *Air quality Monitoring*
- *Water quality Monitoring*
- *Noise level Monitoring*
- *Soil Erosion*
- *Afforestation Programme*
- *Accidental Frequency*
- *Sanitation and Wastes disposal – Asphalts etc.*

6.3 Ambient Air Quality Monitoring

Air quality should be monitoring during construction of sub-project road. The ambient air quality parameters recommended for sampling are PM_{2.5}, PM₁₀, SPM, NO_x and SO₂. The monitoring shall be made at Junction area and near the settlements for this project. Air quality should also be monitored near material storage yards say as aggregates, sands, cements etc and the construction site. It should be monitored on six monthly intervals.

6.4 Water Quality Monitoring

Water quality should be monitored by recognised agency on six monthly intervals. The monitoring will be carried –out for drinking water source at the Construction / labour camps under the standard parameter for drinking water quality standards as per IS: 10500 : 2012. There are no water bodies in & around 1.0 km radius of project road, therefore monitoring of surface water quality is not envisaged due to the Construction.

6.5 Noise Level Monitoring

The measurements of noise levels would be carried-out at settlements area in accordance to Ambient Noise Standards formulated by Ministry of Environment and Forests (MoEF). The noise level would be monitored on eight hourly basis. Noise should be recorded at “A” weighted frequency using a slow time response mode of the measuring instrument.

6.6 Soil Erosion

The soil erosion may be occurred during construction on slops, high embankment near bridges. The soil erosion will need to be checked regularly after the rains.

6.7 Afforestation Programme

In total length of sub-project Amberpora– Haritar Road 88 trees are estimated to be felled –down. The girth is in the range from 90 to 140 cm. The PIU shall plan plantation of double the number of total tree felled in the available land along either side of road or block plantation adjacent to project locations.

6.8 Accident Frequency

Issues with regard to the lapses of safety, in civil work construction, should be taken into considerations. The Contractor should ensure safety arrangement at all work site. The locations of work site at deep cutting, construction at road work activities, diversion (if any) the safety arrangements should be approved by the concern Environmental Expert of PIU / PMU.

Furthermore, periodical site monitoring should be carried –out by the Environmental Expert of PIU for surveillance & maintenance of road safety during the road construction. The brief description of measures has been given in table below :

Sl. No.	Locations of Work Site	Site Safety Measures
1	Construction Sites	Caution boards, Ribbon band, delineator
2	Deep Cutting	The construction zone should be barricaded with G.I Sheet or arrangement to be made as per plan approved by the PIU / PMU. <i>[Provide Safety Sign Boards and Safety Barriers marked with reflective tapes]</i>
3	Temporary Diversion (if any)	Diversion Board, Barricading <i>[Provide ‘Diversion Ahead’ boards at 50m, 100m and 150m ahead of diversions with reflective tape for illumination at night at the all diverted locations]</i>
4	Safety for the Workers	Helmets, Safety-Shoes, Goggles, Dusk mask

6.9 Environmental Monitoring Programme

The monitoring of various performance indicators with regard to air, water and noise is required for evaluation of pollution level during the construction.

Therefore detail monitoring programme with respect to specific parameters, location, frequency and Institutional responsibilities for implementation are given in table below :

ENVIRONMENTAL MONITORING PROGRAMME

Sl. No	Environment	Environmental Monitoring Programme			Institutional Responsibility
	Component	Parameters	Locations	Frequency	Implementation
DURING PROJECT CONSTRUCTION PHASE					
1	Air Quality	PM ₁₀ , PM _{2.5} , SO _x , NO _x , CO	Two suitable locations. i.e. Construction site, and Residential area.	Six month interval and two time in a year. sampling of CO at 8hr.	Contractor
2	Water Quality	As per relevant IS : 10500 for ground water only	Sampling at 1 suitable location from the ground water at construction / labour camps.	Six month interval and two time in a year.	Contractor
3	Noise Level	Noise levels on dB (A) scale Leq dB(A) Day /Night. Days : Max.& Min Night : Max. & Min.	Sampling at 2-suitable locations one at settlements and second sampling at work site of road activities.	Six month interval and two time in a year.	Contractor
4	Compensatory Afforestation	Green Cover	Open available land along either side of road/ Block Plantation.	Comparison should be done for every six months	Environmental Specialist of PIU/PMU

6.10 Institutional Arrangements

The PIU(R&B) /PMU JTFRP and the Contractor will be responsible for ensuring environmental management mitigation measures as stated in environmental management plan for sub-project road. The contractor is responsible for EMP implantation which will be part of bid documents & the contract agreement.

Institutional arrangement and responsibilities for proposed road project has been given in table below :

Institutional Arrangement & Responsibilities

Implementing/ Monitoring Agency	Designation	Responsibilities
JTFRP; PMU and the PIU , (R&B)	The CEO at PMU level and the Project Director at PIU level	<ul style="list-style-type: none"> ✓ Overall responsible for EMP implementation. ✓ Reporting to various stakeholders (World Bank) on status of EMP implementation. ✓ Review of the issues and corrective measures attended by the Contractors. ✓ Joint Inspection along with environmental expert from PMU and TAQAC to address environmental concern and direction to the Contractor for effective EMP implementation. ✓ Reviewing the EMP compliance report, periodically for suitable direction to the Contractor on serious environmental concern
	Environmental Expert of PIU	<ul style="list-style-type: none"> ✓ Periodical monitoring to work site in order to ensure effective implementation of environmental management plan. ✓ To conduct orientation & training programme for awareness of environmental concern among staffs and workers at work site. ✓ Ensuring corrective measures on lapses of environmental & safety concern on the observations of audit finding notified by the TAQAC. ✓ To prepare monthly environmental compliance reports and other reports in specific formats approved by the World Bank. ✓ Periodical co-ordination with the environmental expert of TAQAC.
Contractor	Environment & Safety Officer	<ul style="list-style-type: none"> ✓ Responsible for ensuring implementation of mitigation measures as per provisions made in the EMP document. ✓ To ensure all permits / NOC/ labour licence/ and other statutory requirements require for the project as the Contractor did not contravene the law & acts of Gol made for

		<p>environmental protection.</p> <ul style="list-style-type: none"> ✓ To prepare environmental compliance report and submission to the PIU/PMU as per schedule. ✓ To conduct Tool Box talk to ensure personal safety for workers at work site. ✓ To attend meeting at PIU & PMU and to take corrective measures immediately of serious environmental concern as discussed in meeting. ✓ To conduct mock- drill to ensure preparedness on emergency response at work site for contractor's supervisors and workers along with sensitization on environmental & safety issues that aroused during the construction stage. ✓ To carry-out environmental monitoring and control activities including pollution monitoring.
		<ul style="list-style-type: none"> ✓ To conduct awareness campaign for all construction personnel, staffs and laboures on environmental issues, risks hazards and about HIV/AIDS. ✓ To prepare environmental compliance reports on details of issues and corrective measures in the specified format provided by the PMU/PIU; to furnish other various reports as per schedule.

6.11 Reporting Requirements

The contractor will follow the reporting system for environmental management measures and environmental management indicators. The Contractor will report the PIU of corrective measures taken and implementation status of mitigation measures as per the environmental management plan. The EMP compliance report will comprise with the photographic evidences (with date, time and geo-reference) on implemented mitigation measures in the monitoring report.

The reporting requirements are stated in table below :

Reporting System

Sl. No	Item	Stage	Contractor
			Implementation & Reporting to PIU/PMU
1.	Identification of disposal location for constructional wastes from road project building	Construction	One Time
2.	Monthly EMP Implementation Report	Construction	Monthly
3.	Pollution Monitoring	Construction	Six Monthly
4.	Cleaning and Restoration	On completion of construction of road project	One Time

The contractor will take all reasonable steps to protect the environment on & off the project site and to avoid, minimize and mitigate impacts due to the project activities create pollution to environment and other causes as a consequence of methods of operations.

6.12 Non conformity of EMP and Protection to Environment

The Contractor shall implement necessary mitigation measures as given in the EMP for which they are responsible. Any lapses in implementing the same will attract the damage clause as detailed below:

- Any complaints of public, within the scope of the Contractor, formally registered with the PIU and communicated to the Contractor, which is not properly addressed within the time period intimated by the PIU shall be treated as a major lapse.
- Non-conformity to any of the mitigation measures stipulated in the EMP Report (other than stated above) shall be considered as a minor lapse.
- On observing any lapses, PIU shall issue a notice to the Contractor, to rectify the same.
- Any minor lapse for which notice was issued and not rectified even the first reminder and the second reminders given after ten days from the original notice date and first reminder date respectively shall be treated as a major lapse from the date of issuing the second reminder.
- If a major lapse is not rectified upon receiving the notice PIU shall invoke reduction, in the subsequent interim payment certificate.
- For major lapses, 10% of the interim payment certificate will be withheld, subject to a maximum limit of about 2.0 % of the contract value.
- If the lapse is not rectified within one month after withholding the payment the amount withheld shall be forfeited

6.13 Environmental Management Budget

There are some environmental aspects which addressed as part of good management practices are accounted in the engineering cost. The environmental management budget for the others various environmental measures proposed in the EMP is given in given below.

ENVIRONMENTAL MANAGEMENT BUDGET

Sl. No.	Component	Stage	Item	Unit	Unit Cost	Quantity	Total Cost
1	Monitoring Cost						
	Air	Construction Phase	Two suitable locations. i.e. Construction site, and Residential area.	No	10000/-	2-Points, 24 hr sample, once every six month (For One & half Year) (6 Samples)	60000/-

Sl. No.	Component	Stage	Item	Unit	Unit Cost	Quantity	Total Cost
	Water	Construction Phase	Sampling at 1 location for the ground water at labour camps.	No	10000/-	1-Points, once every six month (For One & half Year) (3 Samples)	30000/-
	Noise	Construction Phase	Sampling at 1-suitable locations at settlements road work site.	No	5000/-	1-Points, As and when necessary (For One & half Year) (3 Samples)	15000/-
(A) Monitoring Cost							1,5000/-
2	Mitigation and Enhancement Cost						
	Green Belt	Trees (In project Implementation Stage)	Open available land along the project road	No	1200/-	200 No	2,40,000/-
(B) Mitigation and Enhancement Cost							2,40,000/-
Total Cost (A+B)							3,45,000/-
Contingency @ 5 %							17,250/-
Total Budget Cost							3,62,250/-

CHAPTER – 7

STAKEHOLDERS CONSULTATION

7.0 Introduction

The public consultation process with various stakeholders has been made a part of this project from the very initial stage. The aim is to understand their viewpoint and concerns, suggestions, etc. early on in the project. This process would help in making the project people oriented and accommodate stakeholder's aspirations and expectations at the very initial stage of the project. Such process would not only make it people's oriented but will have more positive impact by the way of people's cooperation and timely completion.

7.1 Identification of Stakeholders

The public participation process included identifying interested and affected parties (stakeholders); informing and providing the stakeholders with sufficient background and technical information regarding the proposed development creating opportunities and mechanisms whereby they can participate and raise their viewpoints (i.e issues, comments and concerns) with regard to the proposed development of road, receiving the feedback of stakeholders on process findings and recommendations and ensuring compliance with process requirements with regards to the environmental and related legislation.

This sub-project is essentially designed to benefit the community through the provisions of up-grading the existing damaged road. It does not involve any elements, which could have an adverse impact on the community. There is no deprivation of any sort for the residents or displacement of any groups. Particularly, with regard to environmental impacts the sub-project can be characterized as innocuous. In view of this, the need for holding a public hearing is not perceived at this stage. However in compliance with the World Bank's guidelines, focused public consultations were undertaken during the site visits in the sub-project areas. Residents of the area were informed about the proposed sub-project and their views were obtained. People of area raised their concerns about the problems being faced by them due to lack of favourable road and welcomed the proposed reinstatement of distressed existing road and desired an early completion of project.

7.2 Objectives of Consultations

The process of public participation / consultations was taken up as an integral part of the sub-project in accordance with World Bank guidelines and following objectives:

- To educate the general public, specially potentially impacted and stakeholders about the proposed sub-project activities;
- To familiarize the people with technical and environmental issues of sub - project for better understanding;
- Dissemination of information to local communities through the public consultation by briefing the project including its benefits.
- Informal by group consultations in the vicinity of sub-project at field level.
- The environmental concerns and suggestions made by the participants were listed-out, discussed and suggestions were accordingly incorporated in the EMP.

The different procedures of consultation viz., Interviews, public meetings, group discussions etc. with all communities were conducted during the project preparation. Accordingly, the questionnaire was designed and environmental information was collected. Apart from this a periodical public consultation meetings were conducted during the sub-project preparation. The various forms of public consultations (consultation through adhoc discussions on site) have been used to discuss the sub-project and involve the community in planning the design and mitigation measures. The signatures of participants in the public consultation are given in **Annexure-III**

7.3 Impact of land

The proposed sub-project does not involve any land acquisition. For reinstatements with resilience features for protection of damage due to flood (if any) in the coming future the sufficient land is available as per the certified RoW provided by JKPCC (**Annexure-IV**). The concerned Tehsil administration vide letter No. Teh/Khoie/LA/2018/362 dated 04.01.2018 has also certified that sufficient corridor for execution of the sub-project is available and no land acquisition is involved for the purpose (**Annexure-V**).

7.4 Impact on Livelihood

As per the screening study, sub-project does not have impact on the livelihood as the land for execution of the sub-project is free from all encumbrances. The project during the course of its execution will generate employment opportunities for the local people in terms of required labour and for watch and ward purposes. Long term impacts of the project in terms of improved access and better connectivity will bring lasting economic benefits, for the residents along the sub-project area.

7.5 Public Consultation

Public consultation was conducted at the project location on 07-11-2016 with people of the area as part of environment and social screening study. Public Consultation needs to be a continuous process through the project cycle.

7.6 Issues Discussed during Public Consultation

The following information was shared with the people:

- About project and its sources of assistance, its implementation / execution etc.
- Information on perceived benefits from the proposed sub-project including travel time, fuel costs, noise and air pollution.
- Information of perceived losses from the proposed sub-project during execution stage in terms of inconvenience to public, air and noise pollution etc.
- Occurrence of disaster like floods, cloud burst in past.
- Construction activity whether causing any type of health hazard or not? And mitigation measures.
- Discussion among public for sharing of information related to project, environment policy of World Bank, direct and indirect impacts of improvement/ construction work on environment.

-
- Any loss of land/structure/ business or other community property due to construction activity?
 - Any damage to historic or cultural monuments along project road?
 - Any impact on trees and measures to be taken for saving scheduled trees (Chinar, Mulberry, Walnut) in close vicinity of proposed road.
 - Possible type of problems faced by the locals in their daily activities due to construction work.
 - Influx of labour during the construction stage of the project.

7.7 Feedback Received in Public Consultation

During consultation process about the proposed sub-project, people have expressed keen interest about the proposed sub-project. Local people are aware about the upcoming work. People in general were very enthusiastic about the benefits of the sub-project in terms of reduction in travel time and fuel cost. There will be an improvement in the air quality and a reduction in noise levels when the sub-project is completed. The major problems faced by people are related to dilapidated condition of the existing road. People are ready to extend all types of support during execution of the sub-project as their major difficulties will overcome after completion of the sub-project. The sub-project during construction stage will generate employment opportunities for local people and the people are aware of this fact.

The JKPC ensured that the requisite environmental and social management measures shall be incorporated in ESMP and public consultation shall be a regular process during all stages of the sub-project execution to solve any issues arising out of proposed works.

ANNEXURE
SCREENING REPORT

ENVIRONMENT AND SOCIAL SCREENING FORM**Part A: General Information**

1. Name of the sub-project	Construction / Up-gradation of Amberpora-Haritar Road in Baramulla district	
2. Type of proposed activity (tick the applicable option and provide details)		
▪ Road	√	
▪ Bridge		-
▪ Fire Station		-
▪ Hospital/Health Facility		-
▪ Educational Institute		-
▪ Building for Livelihoods		-
▪ Flood Infrastructure Related		-
▪ Other Public Building		-.
▪ Any Other (Please Specify)		-
3. Location of the proposed sub-project		
▪ Name of the Region	Kashmir (J&K State)	
▪ Name of the District	Baramulla	
Name of the Block	Sopore	
▪ Name of the Settlement	Amberpora and Haritar.	
▪ Latitude	Start Amberpora= 34 ⁰ 15'57.91" End Akhonpora = 34 ⁰ 15'28.61"	
▪ Longitude	Start Amberpora= 74 ⁰ 30'10.09" End Akhonpora = 74 ⁰ 32'02.61"	
4a. Proposed Nature of Work (tick the applicable options)		

▪ Minor Repairs	-
▪ Major Repairs/Rehabilitation	√
▪ Upgrading/Major Improvement	-
▪ Expansion of the facility	-
▪ New Construction	-
▪ Any Other	-
4b. Size of the sub-project (approx. area in sq. mt/hac or length in mt/km, as relevant)	2450m
5. Land Requirement (in hac./sq.mt.)	
▪ Total Requirement	Nil
▪ Private Land	Nil
▪ Govt. Land	Nil
▪ Forest Land	Nil
6. Implementing Agency Details (sub-project level)	
▪ Name of the Department/Agency	J&K Projects Construction Corporation Ltd. (JKPCC)
▪ Name of the contact person	Er.Bashir Ahmad War
▪ Designation	Deputy General Manager (DGM)
▪ Contact Number	+91-9419046481
▪ E-mail Id	bashirawar@gmail.com
7. Screening Exercise Details	
▪ Date on which it was carried out	07/11/2016
▪ Name of the Person	Sakib Qadri
▪ Contact Number	+91 94 69 240260
▪ E-mail Id	sakibqadri@gmail.com

Part B (1): Environment Screening

Question	Yes	No	Details
1. Is the sub-project located in whole or part within 1 km of the following environmentally sensitive areas?			
a. Biosphere Reserve	No		
b. National Park	No		
c. Wildlife/Bird Sanctuary		No	
d. Wildlife/Bird Reserve		No	
e. Important Bird Areas (IBAs)		No	
f. Habitat of migratory birds (outside protected areas)		No	
g. Breeding/Foraging/Migratory route of Wild Animals (outside protected areas)		No	
h. Area with threatened/rare/ endangered fauna (outside protected areas)		No	
i. Area with threatened/rare/ endangered flora (outside protected areas)		No	
j. Reserved/Protected Forest		No	
k. Other category of Forest		No	

i. Wetland		No	Project road exists 3km away in the outskirts of Wular Lake . It acts as a huge absorption basin of flood water in Kashmir valley and recognized as a wetland of International importance under Ramsar Convention in 1990.
m. Natural Lakes		No	
n. Rivers/Streams		No	
Question	Yes	No	Details
o. Swamps/Mudflats		No	
p. Zoological Park		No	
q. Botanical Garden		No	
4. Is the sub-project located in whole or part within 500m of any of the following sensitive features?			
a. World Heritage Sites		No	
b. Archaeological monuments/sites (under ASI's central/state list)		No	
c. Historic Places/Monuments/Buildings/Other Assets (not listed under ASI list but considered locally important or carry a sentimental value)		No	
d. Religious Places (regionally or locally important)		No	
e. Reservoirs/Dams		No	
f. Canals		No	

g. Public Water Supply Areas from Rivers/Surface Water Bodies/Ground Water Sources		No	
4. What is the High Flood Level in the sub-project area?	1.5 m above from normal ground level		
5. Is any scheduled/protected tree like Chinar, Mulberry or Deodar likely to be affected/ cut due to the project?	Yes		Brenn =1, Cassia sps= 1, Chinar = 1, Poplar =85, Total scheduled trees is 3 and the non- schedule trees is 85 number which likely to be felled = 88 trees.
6. Is the sub-project located in a landslide/heavy erosion prone area or affected by such a problem?		No	
7. Is sub-project located in an area that faces water paucity or water quality issues?		No	

PHOTOGRAPHS OF SUB-PROJECT SITE



AMBERPORA JUNCTION (START POINT)



AMBERPORA JUNCTION



HABITAT AREA ALONG SUB-PROJECT ROAD



WATER CHANEL ALONG ROADSIDE



CHINAR TREE EXIT SIDE OF ROAD



YOUNG CHINAR TREE ON ROAD SHOULDER



ROAD SIDE WATER CHANNEL



DISTRESSED ROAD IN FLOOD DAMAGE



PUBLIC CONSULTATION IN PROJECT ROAD



PUBLIC CONSULTATION IN PROJECT ROAD



PUBLIC CONSULTATION IN PROJECT ROAD



HARITAR JUNCTION PROJECT END POINT


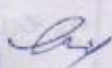

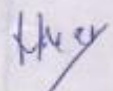
Public Consultation Record:

Dated: 10/11/2016

Dated 10/11/2016.

PUBLIC CONSULTATION RECORD
Litter - Chowdhari Bagh Chakora Road.

S.No	Name and Address	Occupation	Phone details	Signature
1	Farooq Ahmad mir S/o Gk. Ahmad mir R/o Litter pulwama	Cycle mechanic	8803954729	Farooq
2.	Gk. Hassan wami S/o Gk. Qadir wami R/o Litter pulwama	Labour		
3.	wali mehdi mir S/o Ghulam Rasool mir R/o Litter	Retire police officer		Wali
4.	Ali mehdi mir S/o Ghulam mehdi mir R/o Litter pulwama	Farmer	9906412593	Ali
5.	Adil farooq S/o mehdi farooq mir R/o Litter	Student		Adil
6.	Gk. mehdi mir S/o Habibullah mir R/o Ghousia Colony	works supervisor R/o deentol	9697333230	Gk Mehdi

7.	<p>Sameer Gul No Gul-mohd mir No Gausia Colang</p>	Contractor	9419024406	
8.	<p>Feryq Ahmad mir No Bashir Ah. mir No mangpora Litter</p>	Business	9906416514	
9.	<p>mohd Razwan mir No. Mohd Sabir mir No Litter Pulwama</p>	Shopkeeper		
10.	<p>Bashir Ahmad wani No Gh. Hassan wani No Gausia Colang Litter</p>	Works Supervisor R.B. dept.		
11.	<p>Abdul Homeed Sofi No Abdul Aziz Sofi No Astaan pura Woker pulwama</p>	Labour	9906462380	
12.	<p>Abdul Majid wani No Habibullah wani No Astaan pura Litter-chahorra</p>	Farmer	880353667	<u>A.M.W.</u>

ROW TABLE

17	1.600	5.75	5.75	5.6	5.6	Nil	Nil	
18	1.700	6.00	6.25	5.6	5.6	Nil	Nil	
19	1.800	5.00	5.00	4.75	4.75	Nil	Nil	
20	1.900	5.00	5.50	4.75	4.75	Nil	Nil	
21	2.000	5.75	5.70	5.5	5.5	Nil	Nil	
22	2.100	5.75	5.80	5.5	5.5	Nil	Nil	
23	2.200	5.75	5.60	5.5	5.5	Nil	Nil	
24	2.300	5.75	6.00	5.5	5.5	Nil	Nil	
25	2.400	5.75	6.25	5.5	5.5	Nil	Nil	
26	2.500	6.00	5.75	5.5	5.5	Nil	Nil	
27	2.600	5.75	6.00	5.5	5.5	Nil	Nil	
28	2.700	5.75	6.00	5.5	5.5	Nil	Nil	
29	2.800	5.75	6.50	5.5	5.5	Nil	Nil	
30	2.900	5.75	5.80	5.5	5.5	Nil	Nil	
31	3.000	5.75	5.85	5.5	5.5	Nil	Nil	
32	3.100	5.70	5.75	5.5	5.5	Nil	Nil	
33	3.200	5.70	5.75	5.5	5.5	Nil	Nil	
34	3.300	5.60	5.70	5.5	5.5	Nil	Nil	
35	3.400	5.75	5.85	5.5	5.5	Nil	Nil	
36	3.500	5.85	5.80	5.5	5.5	Nil	Nil	
37	3.600	5.50	5.70	5.5	5.5	Nil	Nil	
38	3.700	5.25	5.60	5.25	5.25	Nil	Nil	
39	3.800	5.25	5.70	5.25	5.25	Nil	Nil	
40	3.900	4.00	5.75	4.00	4.00	Nil	Nil	


Name of the project:- Upgradation of Amberpora Akhonpora Road via Haritar

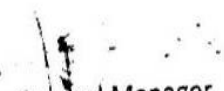
Part b: Right of Way Table (A table giving the availability of government land on both sides of centre line of the road need to be presented at every 100 m interval for the entire road and certified by the concerned Superintending Engineer. Add rows for subsequent Chainages, until end of road / bridge)

S.No	Chainage (Km)	Government Land from Centre line of Road (m)		Proposed Road Base Width		Additional Land Requirement (m)		Remarks
		Left	Right	Left	Right	Left	Right	
1	0.000	3.9	3.9	3.9	3.9	Nil	Nil	
2	0.100	3.9	3.9	3.9	3.9	Nil	Nil	
3	0.200	3.9	3.9	3.9	3.9	Nil	Nil	
4	0.300	3.9	3.9	3.9	3.9	Nil	Nil	
5	0.400	3.9	3.9	3.9	3.9	Nil	Nil	
6	0.500	3.9	3.9	3.9	3.9	Nil	Nil	
7	0.600	4.25	4.25	4.0	4.0	Nil	Nil	
8	0.700	4.5	4.25	4.0	4.0	Nil	Nil	
9	0.800	5.00	4.5	4.0	4.0	Nil	Nil	
10	0.900	4.50	4.30	4.0	4.0	Nil	Nil	
11	1.000	4.25	4.35	4.0	4.0	Nil	Nil	
12	1.100	4.35	4.25	4.0	4.0	Nil	Nil	
13	1.200	4.50	4.25	4.0	4.0	Nil	Nil	
14	1.300	4.50	4.50	4.0	4.0	Nil	Nil	
15	1.400	5.75	5.50	5.5	5.5	Nil	Nil	
16	1.500	5.75	5.5	5.5	5.5	Nil	Nil	

41	4.00	4.00	5.5	4.00	4.00	Nil	Nil	
42	4.100	4.00	5.5	4.00	4.00	Nil	Nil	
43	4.200	4.00	5.75	4.00	4.00	Nil	Nil	
44	4.300	4.00	5.75	4.00	4.00	Nil	Nil	
45	4.400	4.00	5.5	4.00	4.00	Nil	Nil	
46	4.500	4.00	5.5	4.00	4.00	Nil	Nil	
47	4.600	4.00	5.5	4.00	4.00	Nil	Nil	


 Manager Incharge


 Deputy General Manager
 Unit 8th JKPC Baramullah


 General Manager
 JKPC Ltd.

Office of the Tehsildar Khoie.

The Addl. Deputy Commissioner,
Sopore .

No. Teh/Khoie/LA/2018/362
Dated: 07-01-2018

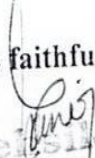
Subject: - Details of land involved in the construction of Amberpora-Akhonpora road and Gogjidaji Tarzoo Bridge.
Reference:- Your office letter No. ADC/Spr/12/2017-18/1098-1100 dated 27-12-2018.

Sir,

In the context of above quote^d subject and reference , it is submitted that as per the report of field staff/Patwari Halqa , Survey No. 3551 is recorded as Sharadaam (Road) under the occupation of R&B . The road in question is 26 Ft. wide at some places and at some places more than that as per the Aks Latha .The road to be constructed is within the available land and there is no need to acquire more land for the purpose. .

Besides no property land is involved in the bridge to be constructed at Gogjidaji by JKPCC. Hence no more land is to be required for this purpose.
Hence , report submitted for further necessary action at your end please .

Yours faithfully,


Tehsildar
Khoie.