

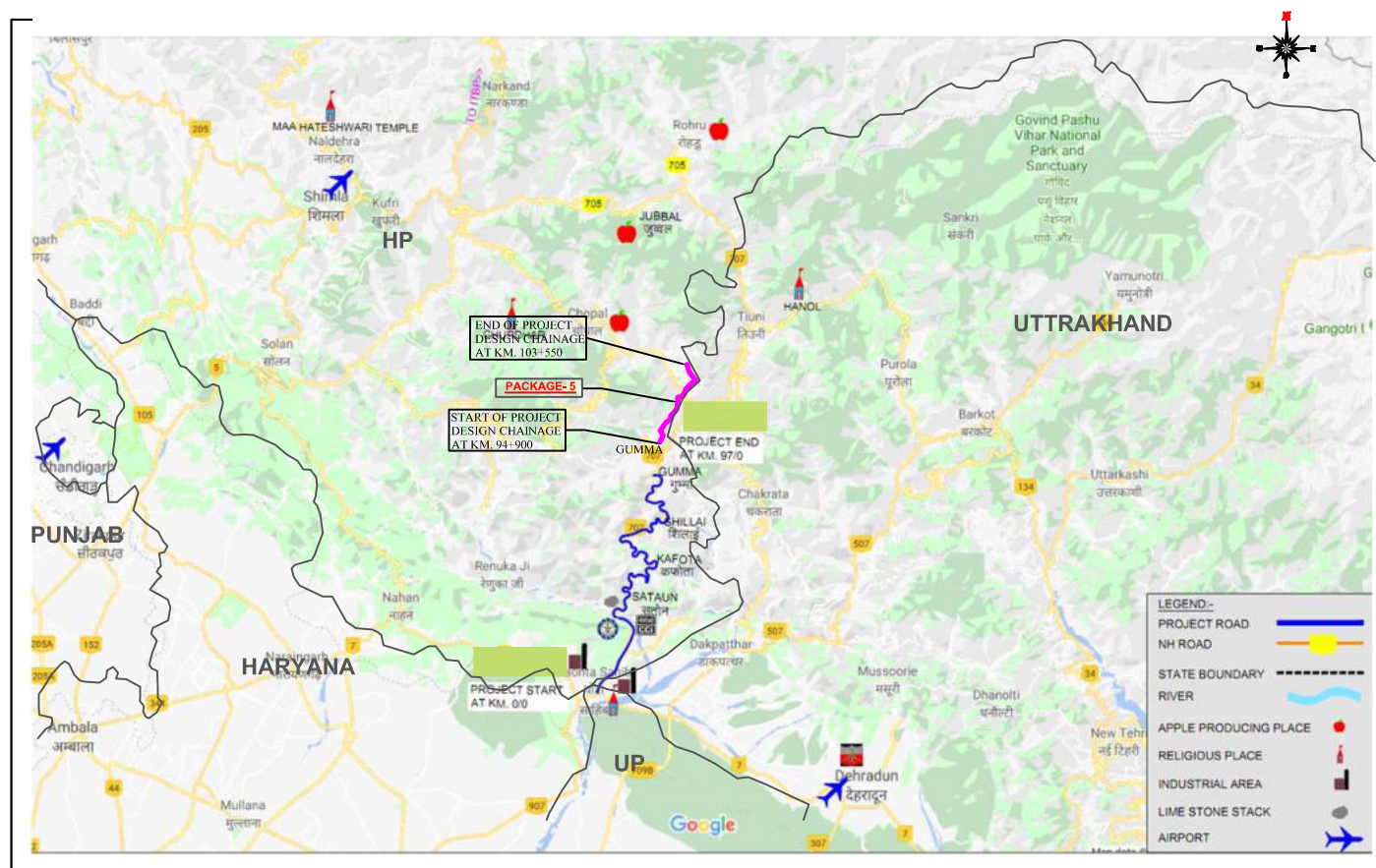
# GOVERNMENT OF HIMACHAL PRADESH



**CONSULTANCY SERVICES FOR PREPARATION OF DETAIL PROJECT REPORT FOR REHABILITATION AND UP-GRADATION TO INTERMEDIATE LANE OF PAONTA SAHIB RAJBAN SHILLAI MEENUS HATKOTI ROAD PORTION BETWEEN Km 97+000 TO Km.106+120 (DESIGN CHAINAGE Km. 94+900 TO Km. 103+550, DESIGN LENGTH=8.650 Km.)**

**GUMMA TO FEDIZ (PACKAGE-V) OF NH 72 B (NEW NH 707) IN THE STATE OF HIMACHAL PRADESH.**

## **DRAFT SOCIAL IMPACT ASSESSMENT AND ABBREVIATED RESETTLEMENT ACTION PLAN (SIA & ARAP)**



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## **ABBREVIATIONS**

<b>B.P.L.</b>	:	Below Poverty Line
<b>B.S.R.</b>	:	Basic Schedule of Rates
<b>COI</b>	:	Corridor of Impact
<b>C.P.R.</b>	:	Common Property Resources
<b>Ch.</b>	:	Chainage
<b>DLC</b>	:	District Level Committee
<b>EP</b>	:	Entitled Person
<b>WHH</b>	:	Women Headed Households
<b>GRC</b>	:	Grievance Redressal Committee
<b>Ha</b>	:	Hectare
<b>Km.</b>	:	Kilometer
<b>LAA</b>	:	Land Acquisition Act
<b>LHS</b>	:	Left Hand Side
<b>m.</b>	:	Meter
<b>MoRT&amp;H</b>	:	Ministry of Road Transport and Highways
<b>NGO</b>	:	Non-Government Organization
<b>NH</b>	:	National Highways



## **EXECUTIVE SUMMARY**

### **A. PROJECT BACKGROUND AND DESCRIPTION**

In coordination with the World Bank, Government of India via Ministry of Road Transport & Highways (MoRTH) has decided to take up the work of upgrading all single lane National Highways to at least 2 Lane/Intermediate Lane standards with provision of paved/earthen shoulders. The basic idea for up-gradation of the corridor is to provide better riding comfort along with safety for the commuters in the long hilly terrain and continuous stretch. There are more than 30 different National Highway stretches selected by Ministry of Road Transport & Highways (MoRTH) with approx. total length of more than 3000 km for up gradation.

The present report pertains to Gumma to Fediz Section which falls entirely in the state of Himachal Pradesh. This project road is a part of the main road which continues from existing RD 96+180 near village Gumma on New NH 707 and ends at Fediz existing RD 104+890 on NH-707 which further leads to state capital Shimla via SH-08 (Sainj -Chopal-Nerwa-Shallu). Total length of the project road as per existing chainage is 8+710 Km. The available ROW of the project road varies from 16 to 35 m. (Avg. 24-25m.). Further, The length of the project road from Gumma (Design Ch. Km.94+900) to Fediz (Design Km. 103+550) is 8.65 Km (as per design).

The latitude and longitude of project road are as follows:

- a) Start Point: Gumma (30°48'1.21"N, 77°43'41.23"E)
- b) End Point: Fediz (30°50'59.34"N, 77°44'40.37"E)



**Figure 1 MAP of Proposed Project Road**

## **I. Need of the Project Road**

The project road is a part of the main road which continues from Km 96+180 (existing chainage) near village Gumma and ends at Fediz Km 104+890 (existing chainage) on NH-707 which further leads to state capital Shimla via NH-705 (Rohru-Hatkoti-Theog). One of the objectives of the Social Impact Assessment is to examine whether the proposed project is a public purpose project? The proposed up-gradation/widening of Gumma-Fediz section road is required for the following reasons:

- This complete NH project road is a vital life line for the people living in interiors of Shimla District. Many villages having substantial population will be directly benefitted from this project road.
- People of this area grow cash crops like Ginger, Potato, Cauliflower, Peas, Capsicum, Tomato, Walnuts etc. Rajmah, Kulth, Maize & Urad lentils of this area are known for their taste. All these produces are transported through this Highway for marketing at New Delhi, Chandigarh and Panchkula.
- On up-gradation of this Highway it is expected that the number of trucks will increase. Presently approx. 500 trucks per day travel on this highway to transport apple crop from Rohru, Jubbal and Chopal to New Delhi via Yamuna Nagar.
- This highway being the shortest route to New Delhi via Yamuna Nagar, a part of the traffic presently using Solan-Parwanoo route, will prefer using this road after widening.
- This highway is important and strategic from defense point of view also, as it connects to the other routes leading towards Indo-China Border. Defense Research and Development Organization has their unit/base at RD 12/0 near Rajban on this highway.

## **II. Key Benefit of The Project**

Key Benefits of the project are:

- Efficient movement of traffic in the project corridor
- Better connectivity among the settlement area,
- Good quality roads
- Reducing the travel time and
- To help the population to have easy accessibility of various basic facilities like health facilities, education facilities etc.

## **III. Objective of SIA and RAP Study**

The implementation of this project is likely to have positive as well as negative impacts on the people. Thus, a Social Impact Assessment (SIA) study has been conducted to identify the positive and negative impact of the project on the people and their socio-economic activities and any impact on the structure along the project road.

Based on the findings of SIA, an Abbreviated Resettlement Action Plan (ARAP) has been prepared to deal with the likely impacts due to project implementation.

Thus, the objective of SIA study and preparation of ARAP is:

- To identify the project activities and assessment of potential impacts associated with these activities
- To conduct stakeholders’ consultation and suggest mitigation measures taking into consideration their feedback
- To propose mitigation and monitoring measures for impacts identified
- To assess the extent of asset loss and undertake the census of the project affected people
- Ensure that the poorest sections of the people in the project area can obtain maximum benefit by accessing the mainstream economy and social infrastructure; and
- Ensure that any aspect of the project does not disadvantage the poorest sections of the local communities.
- To outline the entitlements for the affected persons for payment of compensation and assistance for establishing their livelihoods

## **B. SOCIO -ECONOMIC CHARACTERISTICS OF THE PROJECT AREA**

Project lies in the district Shimla in the state of Himachal Pradesh. Population density per km sq. in Himachal Pradesh is 123, while in project district Shimla is 159. Himachal Pradesh is one of the well literate states in India. Literacy rate among population age seven and above is 83% compared with 73% for India as a whole. The literacy rate is 91% for males and 77% for females. The population living in a village with health facilities is 7% for hospitals and 41% for dispensaries or clinics.

Most of the people in the project area are dependent on the agricultural activities (Cultivators, agricultural labourers). Agriculture/Horticulture provides direct employment to about 70% of the total workers in the State since it is the State where maximum of the population lives in the rural areas. Agriculture and horticulture are the prime economic activities of the project affected district Shimla.

There is micro and small scale industries in the Project influenced state. Attraction in Himachal Pradesh unending natural beauty, pleasing climate and friendly people is a paradise on earth.

## **C. IMPACTS DUE TO PROPOSED PROJECT**

To assess the impacts likely to arise from loss of structures, Land, the detailed Census cum socio-economic Survey was conducted in the month of September, 2019 for each affected household/structure. The requirement of additional land of 3.032 Ha will be for way side amenities, loading-unloading platforms and two dumping sites. Government land is available along the project road for the aforesaid additional requirement and thus, no private land would be acquired for the project.

As per the Census survey, only 5 structures will be impacted due to project activities, out of which 3 are private structures and 2 are Community Property resources (CPRs). All the 3 private structures are encroachers and are within the existing ROW. Out of 3 private structures (2 permanent and 1 is semi-permanent), 2 structures are abandoned and one is Residential cum commercial structure. Summary Project affected structures are given in below table:

**Table 1 Structures to be affected due to proposed Project**

Project	Abandoned	Residential cum Commercial	CPR	Total
Gumma-Fediz Section of new NH 707	02	01	02	05

Tabular presentation for project impacted households is given in the following table:

**Table 2 Number of PAHs, PAFs and PAPs**

Prosed Alignment	Project Affected Households (PAHs)	Project Affected Families (PAFs)	Project Affected Persons (PAPs)
Gumma to Fediz Section of NH-707	03	07	31

It was informed during the census cum socio-economic survey that the owners of these two abandoned structures lives at another location in the village and these structures are no more in use. All the households belong to general category and 1 household is WHH falls under vulnerable category.

#### **D. STAKEHOLDERS CONSULTATION**

Involuntary resettlement creates feelings of insecurity, curiosity and misunderstanding among PAPs. Social assessment and public/community participation helps to remove such uncertainties and at the same time help the project-proponent to incorporate valuable suggestions perceptions of stakeholders. The main objectives of the consultation program were to minimize negative impact in the project area and to make people aware of the project. During the process efforts were made to ascertain the views and preferences of the people.

As part of the Social Impact Assessment process, detailed consultations were conducted with all stakeholders at two locations i.e. at start point Gumma and at Antroli Village.

**Table 3 Detail of Consultations**

Project Corridor	Location	Date	Chainage	No. of participants
<i>Gumma to Fediz Section of NH-707</i>	Near Starting Point Gumma Village	21.09.2019	94+900	16
	Antroli Village	22.09.2019	98+250	18

Most of the issues raised by the community during these two consultations were the same which were majorly related to compensation, road safety and employment opportunities during construction stage. One of the major concerns raised by the local people was related to use of good construction material for the road construction, so that it is durable for long time.

## **E. GENDER ANALYSIS**

Total 17 females are getting affected by the project (54.84% of the total population) out of 31 persons. Only 1 women headed household is being affected by the project. They constitute around 33.33% of the total affected PAHs in the project area. According to the Socio- economic status along the road parameters like literacy rate is higher among women, work force participation rate is low as compare to male population.

## **F. COMPENSATION AND ASSISTANCE**

Compensation will be given for the loss of structures. As per census cum socio-economic survey data, 3 private structures are being affected, out of which 2 are permanent and one is semi-permanent in nature. To calculate the cost of structure, the CPWD Plinth Area Rates, 2019 and HPPWD SOR 2019 were referred.

R&R assistance costs are calculated by using Census cum socio-economic survey data and applicable Entitlement Matrix of Resettlement Policy Framework (RPF). The R&R assistance includes subsistence allowance, shifting allowance, one time rehabilitation amount and assistance to women headed household. Out of 3 affected structures, 2 are abandoned and so no R&R assistance has been calculated for these households. One of the owners of the abandoned structure is a Woman and so apart from structure cost; she will also get an additional assistance under vulnerable category. Also, for CPR an amount of Rs. 3, 00,000/- per hand pump for relocation has been included in the budget.

Total R&R budget including compensation and assistance has been calculated to be 1.46 Cr of which Rs.76.36 lakhs is towards compensation for Structures, Rs.6.6 lakhs for relocation of hand-pumps and Costs for R&R Assistance is 2.73 lakhs including Administrative expenses of 61.05 lakhs. The details is given in below table:

**Table 4 Summary of Total R&R Budget**

<b>Sr. No</b>	<b>Description</b>	<b>Cost (Rs.)</b>
1.	Structure Cost as per Schedule of rates of CPWD/HPPWD with Contingency @ 10%	76,36,888
2.	R&R Assistance as per RPF Entitlement Matrix Inc. Administrative costs	2,73,900
3.	Cost of Common Property resources	6,60,000
4.	Administrative, NGO, Monitoring & other expenses	61,05,000
<b>Total R&amp;R Budget</b>		<b>1,46,75,788</b>

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## **1. INTRODUCTION**

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### **1.1 BACKGROUND**

In coordination with the World Bank, Government of India via Ministry of Road Transport & Highways (MoRTH) has decided to take up the work of upgrading all single lane National Highways to at least 2 Lane/Intermediate Lane standards with provision of paved/earthen shoulders. The basic idea for up-gradation of the corridor is to provide better riding comfort along with safety for the commuters in the long hilly terrain and continuous stretch. There are more than 30 different National Highway stretches selected by Ministry of Road Transport & Highways (MoRTH) with approx. total length of more than 3000 km for up gradation.

The present report pertains to Gumma to Fediz Section (Km 94.900 to Km 103.550) of NH-707 in the State of Himachal Pradesh. The MoRTH intends to rehabilitate and up-grade the existing single lane of 3.65m between Gumma to Fediz Section to intermediate lane of 5.5m with earthen shoulders of 1.5 m on the valley side and hill side. The implementation of rehabilitation and up-gradation of this corridor is likely to be taken up with World Bank assistance. The World Bank has agreed to support this sub-project in-principle provided the implementation conforms to environmental and social safeguard policies of the World Bank and the legal framework of the country.

### **1.2 PROJECT LOCATION**

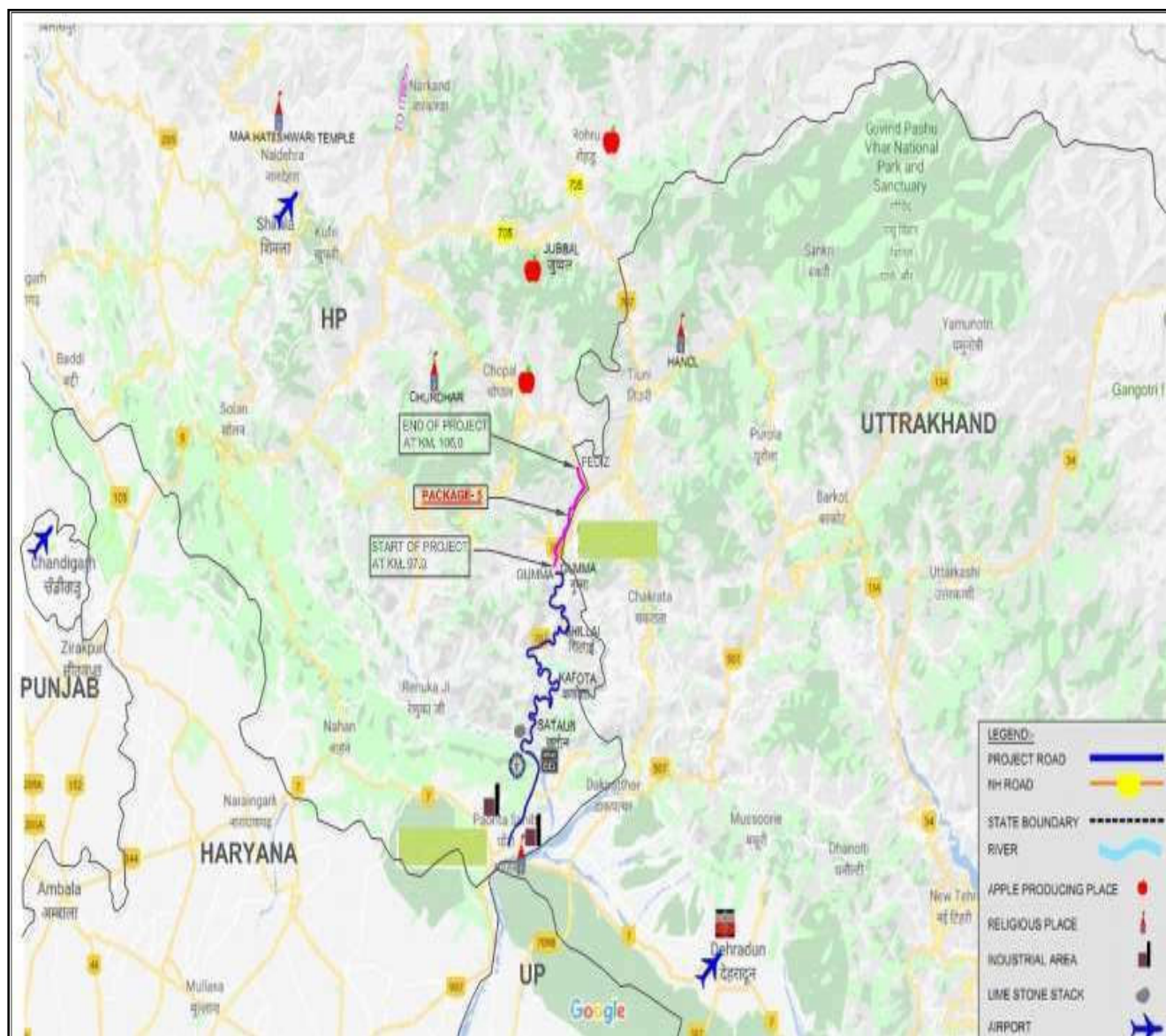
The length of the project road from Gumma (Design Ch. Km.94+900) to Fediz (Design Km. 103+550) is 8.65 Km (as per design) which is a part of NH-707 in the state of Himachal Pradesh. The project road passes through Shimla district of Himachal Pradesh. The latitude and longitude of project road are as follows:

- c) Start Point: Gumma (30°48'1.21"N, 77°43'41.23"E)
- d) End Point: Fediz (30°50'59.34"N, 77°44'40.37"E)

The available ROW of the project road varies from 16 to 35 mtrs (Av. 24-25m)- The existing ROW is sufficient for the widening but land would be required for way side amenities and dumping sites, As per Land survey, the project will not involve any acquisition of private land as government land is available for the wayside amenities and dumping sites. There is a existing bridge at Fediz of 60 m in length which is not included in the scope of the project and will be separately executed by National Highway division of the Himachal Pradesh PWD. The map showing connectivity to different important states and roads is shown below:



**“Rehabilitation and Up-gradation to Intermediate lane of Paonta Sahib Rajban Shillai Meenus Hatkoti road portion between Km 96+180 to 104+890 (Gumma to Fediz) (Design RD 94+900 to 103+550) of NH 707 in the state of Himachal Pradesh”**



**Figure 2 Connectivity of Different Important States and Roads**

### 1.3 NEED AND JUSTIFICATION OF THE PROJECT ROAD

The project road is a part of the main road which continues from Km 96+180 (existing chainage) near village Gumma on New NH 707 and ends at Fediz Km 104+890 (existing chainage) on existing NH-707 which further leads to state capital Shimla via NH-705 (Rohru-Hatkoti-Theog). The complete length of NH-707 has either been improved/upgraded or proposed to be improved/upgraded by MORT&H except this section i.e. from Gumma to Fediz. This complete NH project road is a vital life line for the people living in interiors of Shimla District. Many villages having substantial population will be directly benefitted from this project road besides many other small habitants living in close vicinity of this road since it is the only highway connecting the area for commutation of people.



People of this area grow cash crops like Ginger, Potato, Cauliflower, Peas, Capsicum, Tomato, Walnuts etc. Rajmah, Kulth, Maize & Urad lentils of this area are known for their taste. All these produces are transported through this Highway for marketing at New Delhi, Chandigarh and Panchkula. Presently approx.500 trucks per day travels on this highway to transport apple crop from Rohru, Jubbal and Chopal to New Delhi via Yamuna Nagar.

On up-gradation of this Highway it is expected that the number of trucks will increase. This highway being the shortest route to New Delhi via Yamuna Nagar, a part of the traffic presently using Solan-Parwanoo route, will prefer using this road after widening. . Lime stone mines are situated in this area between (Sataun) Km 18/0 to (Bohrad) Km 48/0. This Highway is used to transport the lime stone to various industrial units all over India.. The project road will further improve the connectivity for tourists visiting various famous destinations like Chanshal Valley Himalayan Raid de, pilgrimage places like Churdhar, Maa Hateshwari Temple, famous Mahasu Temple at Hanol and leading to much famous Chardham yatra.

This highway is important and strategic from defense point of view also, as it connects to the other routes leading towards Indo-China Border. Defense Research and Development Organization has their unit/base at RD 12/0 near Rajban on this highway.

About 71 industrial units are operational along this highway and 17 more industries are expected to become operational along this highway in near future. Planning of setting up a major cement plant at Gumma is in pipeline. This highway will facilitate the transportation of goods to and from these industries. This highway will ease the movement of traffic to Yamunotri, Gangotri etc. With up gradation of this highway, the most backward Chopal area of district Shimla will also get benefitted by way of improvement of their social and economic life. From the above it can be concluded that this project is of utmost importance as it will have direct impact on life of a common man and boost the industries of this area, ultimately leading to multi-dimensional growth of the area and raising the socioeconomic standards of people along this highway.

#### **1.4 OBJECTIVE OF Social Impact Assessment (SIA) AND Abbreviated Resettlement Action Plan (ARAP)**

The objective of the project is to augment capacity for safe and efficient movement of traffic in the project corridor, better connectivity among the settlement area, reducing the travel time and help the population to have easy accessibility of various basic facilities like health facilities, education facilities etc. The implementation of the subproject is likely to have positive as well as negative impacts on the people. Thus, a Social Impact Assessment (SIA) study has been conducted to identify the positive and negative impact of the project on the people and their socio-economic activities and any impact on the structure along the project road. During the SIA, the profiling of the project area has been done for better planning and implementation of the project. Based on the findings of SIA, an Abbreviated Resettlement Action Plan (ARAP) has been prepared to deal with the likely impacts due to project implementation. The Resettlement Action plan aims to mitigate the negative impacts on the people.

Thus, the objective of SIA study and preparation of ARAP is:

- To identify the project activities and assessment of potential impacts associated with these activities
- To conduct stakeholders’ consultation and suggest mitigation measures taking into consideration their feedback
- To propose mitigation and monitoring measures for impacts identified
- To assess the extent of asset loss and undertake the census of the project affected people
- Ensure that the poorest sections of the people in the project area can obtain maximum benefit by accessing the mainstream economy and social infrastructure; and
- Ensure that any aspect of the project does not disadvantage the poorest sections of the local communities.
- To outline the entitlements for the affected persons for payment of compensation and assistance for establishing their livelihoods

## **1.5 APPROACH AND METHODOLOGY**

The social analysis for this project incorporates both qualitative and quantitative data. Besides, the information on the prevailing social issues from the project area, congregated through community consultations and focus group discussions were also used for analysis. The various methods used in the data collection are summarised in the following sub-sections:

### **1.5.1 Census and Socio-economic Survey**

Census and socio-economic survey was carried out in the month of September, 2019 by a team of trained enumerators. To collect the Census and Socio-Economic information, a structured questionnaire was used (attached as **Annexure 1-1**). The objectives of the survey was to generate an inventory of social impacts on the people affected by the project, their structures affected, social profile of the project affected people, their poverty, their views about the project and also their views on various options of rehabilitation and resettlement. It is important to elucidate here that, Economic status of the affected families/persons, source of livelihood, monthly incomes, number of bread earners in family and types of incomes, land/structure ownership etc. have also been calculated. CPRs, govt. structures etc. have been identified.

The census survey includes the following:

- Inventory of the affected assets
- Categorization and measurements of potential loss
- Physical measurements of the affected assets/structures
- Identification of trees and crops
- Household characteristics, including social, economic and demographic profile
- Identification of non-titleholders
- Assessment of potential economic impact

### **1.5.2 Review of Secondary Information**

Apart from collecting primary data through census survey, a preliminary analysis was undertaken of existing statistical records and census data. Published works, research reports, National Human Development reports, State women development cell reports and periodic reviews has been considered to get an overview of the general gender, health, trafficking issues. Secondary sources were relied on preparing the socio-economic profile of project affected area which includes demographic features, population growth, density, sex ratio, vulnerable groups, literacy rates, employment pattern, agricultural profile etc.

### **1.5.3 Stakeholders Consultations**

The consultation was carried out with key informants of the area, affected households, Govt. officials of HPPWD, knowledgeable persons of the village and local people. The affected households were separately consulted also during the census and socio-economic survey.

## **1.6 CUT-OFF DATE**

In case of land acquisition, the date of publication of preliminary notification for acquisition under section 11 of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 will be treated as the cut-off date. For non-titleholders, the cut-off date will be the beginning of the census survey. For this project, the census survey began on 21<sup>st</sup> September, 2019 and it was found that all the affected households are Non-title-holders. So, this date will be considered as the Cut-off date for this project.

## **1.7 STRUCTURE OF THE REPORT**

The SIA study and preparation of ARAP requirement is to assess and analyse the impacts on the properties, people and key stakeholders and prepare a mitigation plan to minimize, mitigate and compensate the affected people for their losses. It thus requires identification of broad categories of affected properties and project-affected people (PAPs) including assessment of beneficial and adverse social impacts. To meet the above requirements, this report has been organized in following Chapters:

**Chapter 1: Introduction** which includes Background of the project and Methodology adopted for the study

**Chapter 2: Project Description** includes details of the project area, existing and proposed improvements details.

**Chapter 3: Socio-Economic Profile of Project Affected Area** includes demographic features, population growth, density, sex ratio, vulnerable groups, literacy rates, employment pattern, agricultural profile etc.

**Chapter 4: Project Impacts** details the level of impact and its type

**Chapter 5: Stakeholder Consultation and Disclosure**, which includes issues and concerns raised by Project affected persons, community, Panchayat officials, local PWD departments etc. Also mitigation measures towards issues have been described in brief.

**Chapter 6: Policy Framework & Entitlement Matrix** details the applicable policy for this project and includes the entitlement matrix that will be followed for this project in case of any impact.

**Chapter 7: Gender Analysis** briefs the type of impact on women due to project activities

**Chapter 8: Institutional Arrangement** details the arrangements made at project level for ARAP Implementation

**Chapter 9: R&R Budget** provides details of the compensation and assistance to be provides to the affected households

**Chapter 10: Monitoring and Evaluation** provide details on the monitoring mechanism to be used to monitor the implementation of ARAP

**Chapter 11: Grievance Redress Mechanism** details the procedure to be followed to address any grievances related to the project.

## **2. PROJECT DESCRIPTION**

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### **2.1 THE PROJECT DESCRIPTION**

The project road is a part of NH-707 which runs through two states Total length of the NH-707 is 161 km., out of which 117 km is in the state of Himachal Pradesh and remaining 42.13 km is in the state of Uttarakhand. This NH takes off from junction with NH-07 at Badripur Chowk near Paonta Sahib and terminates at Hatkoti in Himachal Pradesh. The first section from Km.0.00 to Km.104+890 (Paonta to Fediz) traverses in Himachal Pradesh and it enters Uttarakhand at Fediz. After traversing for a length of about 42.13 Kms in Uttarakhand it re-enters Himachal Pradesh at Snail. Further about 12.75 Km length of this NH from Snail to Hatkoti is in Himachal Pradesh.

This highway connects built-up areas like Rajban, Sataun, Kafota, Shillai, Meenus, Gumma, Antrauli & Fediz in Himachal Pradesh, Tuini in Uttarakhand and Hatkoti in Himachal Pradesh. The section from Km.0.00 to Km.94+900 is proposed to be got executed in four packages. The 5<sup>th</sup> package is from Gumma (Design Ch. Km.94+900) to Fediz (Design Km. 103+550), whose DPR is being prepared now. The detailed project report for widening and up-gradation of section Km.0.00 to Km.96.180 (Design Ch. 94+900) stands already submitted to the MORT&H/World Bank. There is an existing bridge on local nallah at Fediz (at Ch. Km 103+190 to Km 103+250) falling in the present project is not included in the project scope and will be separately executed by National Highway division of the State.

The length of the project road from Gumma (Design Ch. Km.94+900) to Fediz (Design Km. 103+550) is 8.65 Km (as per design).

### **2.2 PROJECT LOCATION**

The project location falls entirely in the state of Himachal Pradesh. This project road is a part of the main road which continues from existing RD 96+180 near village Gumma on New NH 707 and ends at Fediz existing RD 104+890 on NH-707 which further leads to state capital Shimla via SH-08 (Sainj - Chopal-Nerwa-Shallu). Total length of the project road as per existing chainage is 8+710 Km.

### **2.3 ENGINEERING DESIGNS AND IMPROVEMENT PROPOSALS**

#### **2.3.1 Design Standards [Including Geometric Design and Regulation of Access]**

##### **a) Introduction**

The design standards for the project highway has been adopted after reviewing the relevant latest Indian Roads Congress Codes (IRC) such as IRC:SP:48-1998 Hill Road Manual , IRC :37:2018 , IRC:78 - 2014 and international standards such as AASHTO etc.

The various design elements and factors, which govern the functioning of any highway, can be broadly grouped under the following:

- ❖ Geometric Design Standards;
- ❖ Terrain classification & Design Speed
- ❖ Cross sectional Element
- ❖ Horizontal Alignment

- ❖ Vertical Alignment
- ❖ Standards for Interchange elements
- ❖ Subsurface drainage
- ❖ Design parameters for Bridges and Cross drainage Structures

The basic design philosophy is based on the consideration of providing suitable alignment, cross-sectional layout, geometrics, safety and access control to cater to the fast and uninterrupted movement of through traffic. It is also based on the consideration that the widening proposals will be adjusted in the existing ROW to the extent feasible.

#### **b) Terrain Classification & Design Speed**

The design speed is the guiding criteria for correlating features such as sight distance, curvature and super elevation upon which the safe operation of the vehicle depends. The terrain in the project stretch is virtually all mountainous with the general cross slope of the country remaining more than 25 % and less than 60%. The ruling design speed considered in this project is 50 Km/hr as per hill road manual.

#### **c) Existing Right of Way (Row)**

The available Right of Way (ROW) along the existing alignment of the project highway varies from 16.0 m to 35.0 m. Chainage wise detail of ROW is given in **Annexure 2-1**.

#### **d) Existing Traffic and Projection for Traffic on the Road**

Existing Traffic and projection Traffic on the Road Is given in following Table:

**Table 2-1 Traffic on the Road**

Road	Existing Traffic	Projection Traffic
Gumma to Fediz Section of New NH 707	1437 AADT	5593

### **2.4 CROSS SECTIONAL ELEMENTS**

The details of cross-sectional elements adopted for the project road are as per Hill road Manual: IRC:SP:48.

#### **e) Carriageway**

The carriageway width in open and built up areas shall be 5.5 m.

#### **f) Shoulders**

The project road is proposed as intermediate lane configuration so the earthen shoulder of 1.5m width proposed on BHS of the carriageway.

#### **g) Cross fall**

- The cross fall shall be unidirectional for either side carriageway sloping towards the shoulder in straight reaches and towards the lower edge on horizontal curves. The camber on the existing road shall be modified to unidirectional cross fall.
- The cross falls for earthen shoulders on straight portions shall be at least 0.5 percent steeper than the slope of the pavement and paved shoulder subject to a minimum of 3.0 percent. On super elevated sections, the earthen portion of the shoulder shall have the same cross fall as the pavement.

#### **h) Typical Cross-Sections**

Broadly typical cross-sections of Project Highway for various locations are given as below:

Typical cross sections (TCS) for various configurations proposed in built up area and open country area in rolling/hilly terrain are shown in section are given below:

**Table 2-2 Type of cross-section**

Sr. No.	Configuration of road	Type of Cross - Section	Existing Chainage		Proposed Chainage		Design Length (km)	Terrain
			from	to	from	to		
1.	Inter-lane carriageway	TCS 1 to TCS 12	96+180	104+890	94+900	103+550	8.650	Steep

**Table 2-3 Detail of Proposed Typical Cross Sections**

Sr. No.	No. of Type of Cross - Section	Length
1	TCS 1	505
2	TCS 2	1810
3	TCS 3	1150
4	TCS 4	3230
5	TCS 5	190
6	TCS 6	1060
7	TCS 7	70
8	TCS 8	180
9	TCS 9	195
10	TCS 10	30
11	TCS 11	150
12	TCS 12	140



**Table 2-4 The Typical cross section**

Sr. No.	Configuration of road	Type of Cross - Section	Design Chainage		Main carriage way width (m)	Earthen shoulders	Design Length (km)	Remarks
			from	to				
1	Inter-lane carriageway	TCS-1 TO TCS 12	94+900	103+550	5.5	1.5 m on BHS	8.650	--

Complete Plan and Profile along with TCS have been provided in separate volume of Drawings.

Drawing of Typical Cross Section has been provided in **Annexure 2-2**

### **i) Intersections**

The existing 01 Nos. of major junction and 5 No. minor junctions are proposed to be developed and the detail of the same is shown in the table below:

**Table 2-5 Details of Major Intersection**

S. No.	Chainage	Type of Junction	Side	Remarks
1	103+250	T	LHS	SH-08

**Table 2-6 Details of Minor Intersection**

S. No.	Chainage	Type of Junction	Side	Remarks
1	94+900	y	LHS	Road to Vill. Bohar
2	95+250	y	RHS	Road to residences
3	97+960	y	LHS	Village road
4	98+350	y	LHS	Road to Vill. Pawana
5	102+750	y	LHS	Road to village

### **j) Improvement Proposals**

These improvements will include widening, realignment, design and strengthening of pavement with the improvements of geometrics; widening and reconstruction of culverts; providing drainage; junction improvements; providing road marking; signs and other safety devices etc. to enable all road users to use the facility without degrading the environment. The summary of improvement proposal is shown in the table below:

**Table 2-7 Summary of Improvement Proposal**

S. No.	Particulars	Details		
1	Length (km)	8.650 Km (Design Chainage from km 94+900 to km 103+550) Flexible Pavement length=7.4 km and Rigid pavement length=1.25 km		
2	Carriageway Width (m)	Carriageway–5.5 m+ Earthen Shoulders–1.5m BHS		
3	Right of Way (m)	16.0-35.0 m (Av. 24-25m)		
4	Junctions:			
A	Major Junction	1 at RD 103+250		
B	Minor Junction	5 Nos. At RD 94+900, RD 95+250, RD 97+960 , RD 98+350 & RD 102+750		
5	Cross Drainage Structure:			
A	Major Bridge	1 No. But not in the scope of this project .Taken separately under NH(O) project		
B	Minor Bridge	Nil		
C	Culverts	2x2 m box culverts in place of existing Hume pipe culverts =29 no. Reconstruction of slab culverts with: Box culvert size 3x3 m=2 no. Box culvert size 4x4 m=1 no Box culvert size 6x6 m=1 no New Construction Box Culverts of size 2x2=4 no. Box culvert size 6x6 m=1 no Total no of culverts=38 no.		
6.	DRAIN	LENGTH ( m)		
	RCC Covered Drain LHS 0.60 x 0.60	760 m		
	RCC Covered Drain LHS 0.80 m x 1.20 m	1250 m		
	V Shaped PCC Drain	6580 m		
	TOTAL LENGTH	8600 m		
	Paver Blocks on shoulders:	From	To	Length

**“Rehabilitation and Up-gradation to Intermediate lane of Paonta Sahib Rajban Shillai Meenus Hatkoti road portion between Km 96+180 to 104+890 (Gumma to Fediz) (Design RD 94+900 to 103+550) of NH 707 in the state of Himachal Pradesh”**

7.	Paver Blocks on BHS of shoulders	99+300	99+450	150x2=300
	Paver Blocks on both side of shoulders	103+050	103+190	140x2=280
			<b>Total length</b>	580 m or 0.58 km
8.	<b>Slope Protection Work:</b>			
A	Breast Wall	3.850 km		
B	Retaining Wall	2.000 km		
C	Bioengineering	Geocell, Hydroseeding, Bamboo Plantation, Hegde Brush Layer		
9.	<b>Road Safety and Appurtenances:</b>			
A	Metal Beam Crash Barriers	km 94+900 to km 103+550 on Valley side		
B	Road Sign	3819 no.		
10	<b>Project Facilities:</b>			
A	Bus lay bye/bus stops	RD 98+375, RD 99+420(RHS), RD 101+700 (RHS), RD 102+125 (RHS) RD 103+115 (RHS)		
B	Passing Place	RD 95+360 (RHS), RD 98+680 (RHS) RD 102+240 (RHS)		
C	Wayside Amenities			
C1	Medical Aid Centre	1 no. at RD 99+300 ON LHS		
C2	Traffic Aid Centre	1 no. at RD 99+300 ON LHS		
C3	Loading -Unloading Platform	1 no. at RD 99+425 ON LHS		
D	Field lab., site office and labour camp	1 no. at RD 98+030 ON LHS		
E	Solar Lighting	In Built up area at RD 98+050-98+400, RD 99+300-99+450		
F	Electric Lighting	At Junction RD 103+260		
G	Solar Panels	At the Roof top Wayside Amenities		

### **k) Roadside Drainage**

Design of drains in plain/rolling terrain has been carried out for self-cleansing velocity, for the runoff it will carry, considering the available fall. For trapezoidal drain on hill side, standard section as given in Hill Road Manual (IRC SP 48) is opted. It has been ensured that there are minimum three nos. of cross drainage structures are present in each km to carry the run-off of the roadside drainage. The detail of roadside drainage is shown in the table below:

**Table 2-8 Summary of Proposed RCC Drain**

S. No.	Type of Cross - Section	Design Chainage		Length (km)	Size	Remarks
1.	Rectangular	97+950	98+340	0.390	0.60 x 0.60 m	LHS
2.	Rectangular	99+220	99+450	0.230	0.60 x 0.60 m	LHS
3.	Rectangular	103+050	103+190	0.140	0.60 x 0.60 m	LHS
4.	Rectangular	99+920	101+170	1.250	0.80 x 1.20 m	LHS
<b>Total</b>		<b>97+950</b>	<b>101+170</b>	<b>2.01</b>	<b>-</b>	<b>-</b>

**Table 2-9 Detail of Proposed V Shaped PCC Drain**

Sr. No.	Design Chainage		Net Length (km)	Remarks
1.	94+900	97+950	3.050	LHS
2.	98+340	99+220	0.880	LHS
3.	99+450	99+920	0.470	LHS
4.	101+170	103+050	1.880	LHS

### **l) Subsurface Drainage**

Subsurface drainage provision, may be taken in seepage area portion exists at design RD from 99.920 to 101.170 which is a length of 1.250 Km. In design, 8 No culverts and RCC box drain of size 0.8 x 1.2 m are proposed in this stretch.

## **2.5 PROJECT FACILITIES**

The project facilities proposed along the project stretch are shown in the below section.

### **a) Bus Shelter**

The location of Bus Shelter is shown in the table below,

**Table 2-10 Details of Proposed Bus Shelter**

S. No.	Design Chainage	Side
1	98+300	RHS improvement of existing Bus Shelter
2	99+420	RHS
3	101+700	RHS
4	102+125	RHS
5	103+115	RHS

### **b) Passing Places**

Passing Places have been proposed for convenience of HCV drivers so that they can park their trucks in some open space for some time for taking short rest or repairs, if need be. Detail of Passing Places is given as below:

**Table 2-11 Detail of Passing Places**

S. No.	Design Chainage	Side
1	95+360	Valley Side
2	98+680	Valley Side
3	102+240	Valley Side

### **c) Wayside Amenities**

The wayside Amenities are proposed to be provided near newly planned vegetable market in Antroli Village. The wayside amenities are given in the sub-section below:

#### **I. Medical Aid Centre and Traffic Aid Centre**

As per proposal, a medical aid center and a Traffic Aid centre are to be equipped with Ambulance, JCB vehicle type at the following location:

**Table 2-12 Details of Medical Aid Centre and Traffic Aid Centre**

S. No.	Design Chainage	Name of the Village	Side
1	99+300	Near Vegetable market, Vill. Antrauli	LHS

## **II. Loading/Unloading Platform**

A platform is proposed to be developed as Loading/Unloading Platform and shown in the table below:

**Table 2-13 Details of Loading/Unloading Platform**

S. No.	Design Chainage	Name of the Village	Side
1.	99+425	Near Vegetable market, Vill. Antrauli	LHS

## **d) Solar Lighting**

Provision for solar lighting will be made in all the built-up areas along the project stretch. The details of the same are shown in the table below:

**Table 2-14 Details of Solar Lighting Location**

S. No.	Name of village/ town	Design Chainage		Lengths (Km)
		From	To	
1	Antrauli	98+050	98+400	0.350
2	Vegetable Market (Subzi Mandi)	99+300	99+450	0.150

The design parameters of the project are given below:

**Table 2-15 Design Parameters of the Project**

Sr. no.	Description	Details
1	Design Speed	30-40 kmph
2	Intermediate lane carriageway	5.5 m
3	Camber	
	i) Carriageway	2.5%
	ii) Earthen shoulders	3.0%
5	Maximum Super Elevation	7.0%
6	Minimum stopping sight distance	45 m
7	Minimum Intermediate sight distance	90 m
8	Minimum radius of horizontal curve	20 m
9	Minimum radius of horizontal curve without Transition	Nil
10.	Ruling vertical gradient	5.0 %
11	Minimum length of Vertical curve	50 m
12	Maximum grade change not requiring vertical Curve	1.2 %
13	Vertical Clearance in mountainous areas	5.0 m



### **3. SOCIO-ECONOMIC PROFILE OF THE PROJECT AREA**

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#### **1.8 INTRODUCTION**

Himachal Pradesh is a mountainous state situated in North India. On the North the state is bordered by Jammu and Kashmir, on the west by Punjab, on the southwest by Haryana, on the southeast by Uttarakhand and Tibet on the east. Shimla is the State capital and the major towns of the state are Dharamshala, Kangra, Kullu, Chamba, Hamirpur, Dalhousie and Manali.

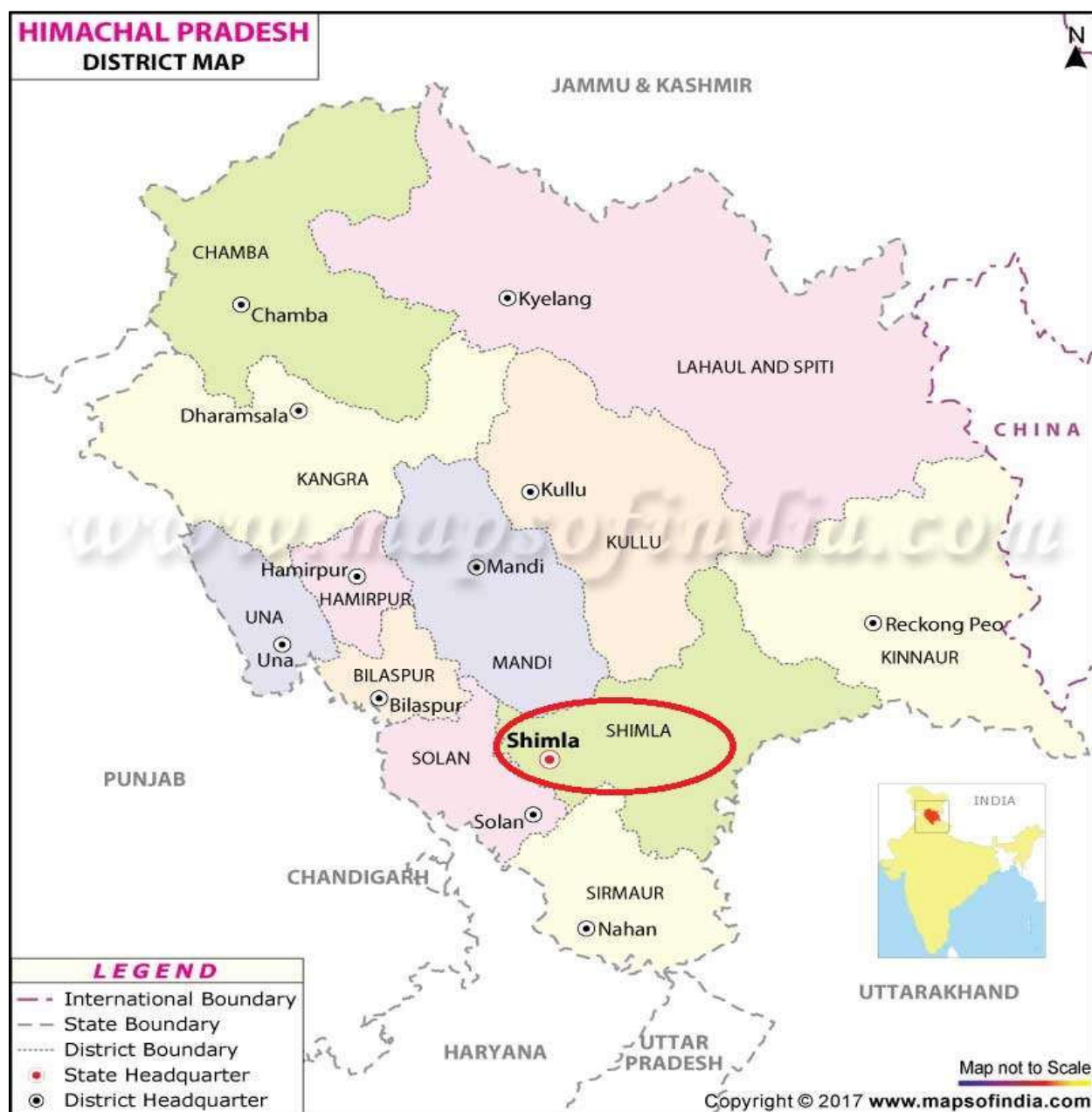
Himachal Pradesh is spread over an area 55,673 (Sq. Km) which is 1.69% of country area. It is located between 30°22' and 30°12' north latitude and between 75°47' and 79°4' east longitude. Himachal Pradesh is almost wholly mountainous with altitudes ranging from 350 meters to 6,975 meters above the mean sea level. It has a deeply dissected topography, complex geological structure and a rich temperate flora in the sub-tropical latitudes.

Population density per km sq. in Himachal Pradesh is 123, while in project district Shimla it is 159. In 2011, the total population of H.P. was about 6,864,602 out of which 3,481,873 were males (50.72 %) and 3,382,729 (49.28%) were females.

Himachal Pradesh is one of the well literate states in India. Literacy rate among population age seven and above is 83% compared with 73% for India as a whole. The literacy rate is 91% for males and 77% for females. Notably the gender gap in literacy in state is not significant as compared to that of India.

The population living in a village with health facilities is 7% for hospitals and 41% for dispensaries or clinics. Overall 60% of women live in village that has some kind of health facility. Average distances from particular health facilities are 6.4 km from a primary Health Centres, 1.5 km from a sub centre, 9.9 km from a hospital and 2.3 km from dispensary or clinic. 8% rural population in Himachal Pradesh needs to travel a maximum 5-9 km in order to reach the nearest health facility.

The state is divided into twelve (12) districts, seventy five (75) Tehsils, fifty seven (57) towns. The map of the State Himachal Pradesh is given in the figure below:



**Figure 3 Map of Himachal Pradesh**

## 1.9 SOCIO-ECONOMIC STATUS OF PROJECT INFLUENCE DISTRICTS

The socio economic study has been conducted in the Project Influence Area. Proposed alignment lies in district Shimla of Himachal Pradesh.

### Project influence District - Shimla

Shimla District lies between 30° 45'48"-30°43'0" North latitude and 76° 59' 22" - 78° 18' 40" East longitude. It is bounded by Kinnaur district in the Northeast, by Kullu and Mandi districts in the Northwest, by Solan and Sirmaur districts in the Southwest and by the State of Uttarakhand in the Southeast. The total area of the present district is 5,131 Sq. Kms. It has a total number of 2,897 villages, of these 2311 villages are inhabited and the remaining is uninhabited. The district comprises of 7 sub-divisions and 17 tehsil and sub tehsil the sub-divisions are, namely Shimla (rural), Shimla (urban), Thog, Rampur, Rohru, Chopal and Dodra Kwar. The tehsil are namely Seoni, Shimla urban, Theog, umarsain, Rampur, Rohru, Kotkhai, Chopal, Jubbal- Cirgaon and Dodra Kwar while Junga, Nankhari, Tikkar, Chela, Nerwa are the Sub- Tehsil. For the rural development, the district has been divided into nine community development Blocks. The topology of the district is hilly and rolling.

### 1.9.1 Population Distribution

There has been an increase in the population of Himachal Pradesh from 60.78 Lakh in 2001 to 68.65 Lakh in 2011 according to Census, 2011. The total population of Himachal Pradesh is 6,864,602 of which males are 3,481,873 and females are 3,382,729. The Details of the population of project influence district in comparison with Himachal Pradesh is given in the table below:

**Table 3-1 Population Distribution**

State and District	Population(2011)			Population(2001)		
	Male	Female	Total	Male	Female	Total
<b>Shimla</b>	425,039	388,971	814,010	380,996	341,506	722,502
<b>Himachal Pradesh</b>	<b>3,481,873</b>	<b>3,382,729</b>	<b>6,864,602</b>	<b>3,087,940</b>	<b>2,989,960</b>	<b>6,077,900</b>

Source: Census of INDIA, 2011

### 1.9.2 Population Growth

The population growth is the increase in the number of people that reside in a country, state or city. In this decade the total population growth of Himachal Pradesh was 12.94 percent while in previous one it was 17.53 percent. The total child population (0-6 Age) for the year 2011 was 777,898 while during 2001 it was 793,137. The information regarding the population growth for the State and the project influence district are given in the tables below:

**Table 3-2 Decadal Growth for the Project Affected District and State**

Sr. No.	State/District	Decadal Growth Rate (%)
1	Shimla	12.67
	<b>Himachal Pradesh</b>	<b>12.94</b>

Source: Census of INDIA, 2011

### 1.9.3 Population Density

Total area of Himachal Pradesh is 55,673 sq. km. Density of Himachal Pradesh is 123 per sq. km. The population density for the Project Influence district i.e. Shimla is 159. The tabular representation of the data is given in tables below:

**Table 3-3 Details of Population Density**

Sr. No.	District/State	Population Density (persons per square km)
1.	Shimla	159
<b>Himachal Pradesh</b>		<b>123</b>

Source: Census of INDIA, 2011

### 1.9.4 Sex Ratio

Sex Ratio is the ratio of males to females in a population. In Himachal Pradesh sex ratio was 972 i.e. for each 1000 male. In 2001, the sex ratio of female was 968 per 1000 males in Himachal Pradesh.

The details of sex ratio for Himachal Pradesh and the Project influenced District is given in the table below:

**Table 3-4 Sex Ratio**

Sr. No.	Districts/State	2011	2001
1	Shimla	915	896
<b>Himachal Pradesh</b>		<b>972</b>	<b>968</b>

Source: Census of INDIA, 2011

### 1.9.5 Vulnerable Groups

The schedule caste population in the project influenced State is approximately 1,729,252 (25.19 %) and schedule tribe population is 392,126 (5.71%). The details of such vulnerable groups in the project influenced district are given in the table below:

**Table 3-5 Details of Vulnerable Groups**

Sr. No.	District/State	Population (2011)		Population in Percent (%)	
		Schedule Caste	Schedule Tribe	Schedule Caste	Schedule Tribe
1	Shimla	215,777	8,755	26.51	1.08
<b>Himachal Pradesh</b>		<b>1,729,252</b>	<b>392,126</b>	<b>25.19</b>	<b>5.71</b>

Source: Census of INDIA, 2011

### 1.9.6 Literacy Rate

Literacy rate in Himachal Pradesh has seen upward trend and is 82.80 percent as per 2011 population census. Of that, male literacy stands at 89.53 percent while female literacy is at 75.93 percent. In actual numbers, total literates in Himachal Pradesh stands at 5,039,736 of which males were 2,752,590 and females were 2,287,146.

The details for the numbers of literates and literacy rate for the Project influenced district is given the table below:

**Table 3-6 Details of Literacy Rate**

Sr. No.	District/ State	Number of Literates			Literacy Rate (in percent)		
		Total	Female	Male	Total	Female	Male
1	Shimla	612,642	269,796	342,846	83.64	77.13	89.59
	<b>Himachal Pradesh</b>	<b>5,039,736</b>	<b>2,287,146</b>	<b>2,752,590</b>	<b>82.8</b>	<b>75.93</b>	<b>89.53</b>

Source: Census of INDIA, 2011

### 1.9.7 Work Participation Rate

The details of workers and non-workers in the project influenced district and state are given table below:

**Table 3-7 Number of Workers and Non-Workers**

Sr. No.	District/ State	Number of Workers			Number of Non workers		
		Male	Female	Persons	Male	Female	Persons
1	Shimla	258,628	172,298	430,926	166,411	216,673	383,084
	<b>Himachal Pradesh</b>	<b>2,043,373</b>	<b>1,516,049</b>	<b>3,559,422</b>	<b>1,438,500</b>	<b>1,866,680</b>	<b>3,305,180</b>

Source: Census of INDIA, 2011

### 1.9.8 Type of workers

There are two classifications for the workers category i.e. main workers and marginal workers. The details of type of workers for the project influenced district are given in the table below:

**Table 3-8 Type of Workers**

Sr. No.	District/State	Type of Workers		
		Main Workers	Marginal Workers	Total Workers
1	Shimla	311,770	119,156	430,926
	<b>Himachal Pradesh</b>	<b>2,062,501</b>	<b>1,496,921</b>	<b>3,559,422</b>

Source: Census of INDIA, 2011

### 1.9.9 Employment Pattern

After categorising the workers in two categories (marginal workers and main workers) they can be further classified into four categories which are cultivators, agricultural labourers, workers in household industry and other workers. The detail of the employment pattern for the state of Himachal Pradesh is given in the table 3-9 below:

**Table 3-9 Employment Pattern**

Industry Classification	Male (%)	Female (%)	Persons (%)
<b>Cultivators</b>	44.35	76.24	57.93
<b>Agricultural Laborers</b>	5.04	4.75	4.92
<b>Household Workers</b>	1.82	1.42	1.65
<b>Other Workers</b>	48.79	17.59	35.5

Source: Census of INDIA, 2011

### 1.9.10 Agriculture Profile

Agriculture is the main occupation of the people of Himachal Pradesh. In the context of economy of the State agriculture plays a vital role. Agriculture/Horticulture provides direct employment to about 70% of the total workers in the State since it is the State where maximum of the population lives in the rural areas. The chief food crops cultivated in Himachal Pradesh agriculture include wheat, rice, maize, seed potato, ginger, mushrooms, olives, hopes and fig. Himachal Pradesh is also known as the ‘Apple State of India’. Himachal Pradesh agriculture provides employment to around 71% of the working population in the state. The project influenced district Shimla is very well known for the apple production.

#### **Project Influence district:**

##### **Shimla:**

Shimla is the totally hilly district of Himachal Pradesh. Agriculture and horticulture are the prime economic activities of the district. The major field crops cultivated in the region include Maize, Paddy, and Wheat, Barley, Pulses (Rajmah/moong/mash) and oil seeds (Mustard/rapeseed).

The horticulture crops and vegetables grown in the area are apple, walnut and dry fruits, citrus, potato, pea (green), cabbage, tomato and other vegetables (cauliflower, French bean, capsicum).

### 1.9.11 Industrial profile of Himachal Pradesh

Himachal Pradesh was predominantly an agrarian economy but with the passage of time it has shown tremendous growth in the sector if establishment of different micro or small scale industries. The growths of registered industries in the State during the last three years have been recorded in district Solan followed by district Sirmaur and Una respectively. The different groups of industries in the area include chemicals, textiles, Electricals, automobiles, foot wears etc.

Industrial progress plays a vital role in determining the economic development of a region. The different industries established in the state are:

- Food processing industries
- Horticulture and Agro
- Aromatic/Medicinal herbs base soap
- Wool and Wool Products
- IT based Industries
- Mineral Water Boiling

There are about the 41 industrial areas established in the State including different regions like Bilaspur, Gwalthai, Garnota, Hatli, Hamirpur, Nadaun, Nagrota Bagwan, Sansarpur Terrace, Nagri, Dhaliara, Bain Attarian, Badhal, Raja Ka-Bag, Nargala Jawali, Shamshi, Reckong Peo, Sauli Khad (Mandi), Ratti, Bhambla, Maigal, Shogi, Maindli, Jais, Jubber Hatti, Paonta Sahib, Kala Amb, Baddi, Barotiwala, Chambaghat, EPIP Baddi(Phase I&II), Banalgi, Mamlig, Katha Bhatoli, Mehatpur, Amb, Tahliwala, Gagret, Jeetpur Bheri and Basal.

**Project Influence districts:**

**Shimla:**

Due to topographical conditions of the district there are very less number of large and medium scale enterprises in the district but In case of micro and small enterprises a steady growth has been observed. The different types of industries in the area include agro based, soda water, cotton textile, woollen, silk & artificial thread based clothes, Jute & Jute Based, ready-made garments & embroidery, leather based etc.

The large scale industries in the region are M/s Adani Agri Fresh Pvt. Ltd, Sainj, district Shimla and M/s HPMC, Shimla (Having Packing Grading and cold stores for apples at Gumma, Kotkhai, Rohru, Odi and Tutu Pani).

### **1.9.12 Tourism in Himachal Pradesh**

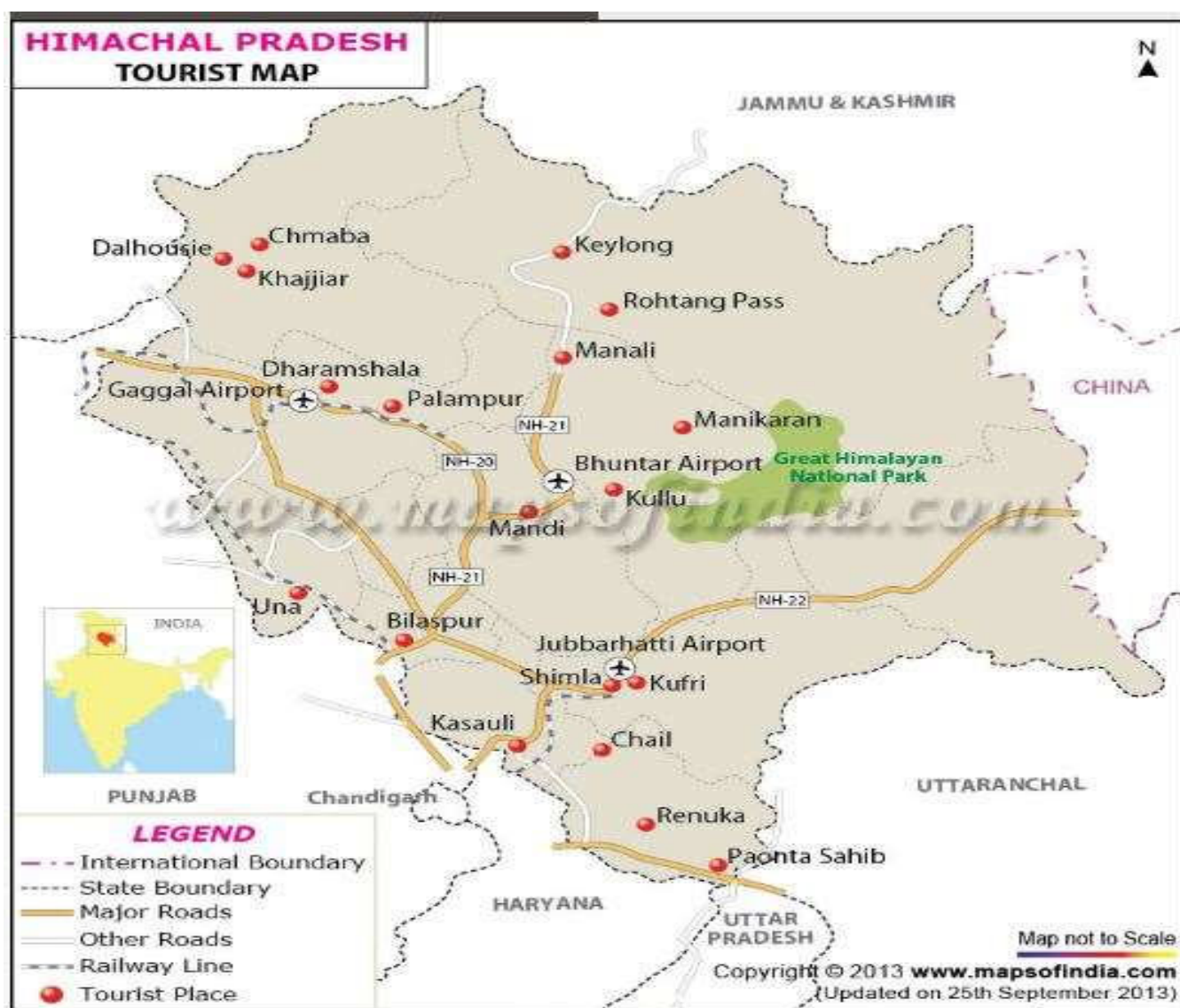
Himachal Pradesh is a northern Indian state in the Himalayas. It's home to scenic mountain towns and resorts such as Dalhousie. Host to the Dalai Lama, Himachal Pradesh has a strong Tibetan presence. This is reflected in its Buddhist temples and monasteries, as well as its vibrant Tibetan New Year celebrations. The region is also well known for its trekking, climbing and skiing areas.

Attraction in Himachal Pradesh unending natural beauty, pleasing climate and friendly people is a paradise on earth. Each and every district has several fine tourism sites in its kitty, which attract people all around the world. The most popular and frequently visited tourist areas in Himachal Pradesh are Rohtang pass, Chamba, Kangra, Shimla, Kullu, Manali and Dalhousie.

Map of the most famous tourist places in the state are given in the figure below:



**“Rehabilitation and Up-gradation to Intermediate lane of Paonta Sahib Rajban Shillai Meenus Hatkoti road portion between Km 96+180 to 104+890 (Gumma to Fediz) (Design RD 94+900 to 103+550) of NH 707 in the state of Himachal Pradesh”**



Source: Maps of INDIA

**Figure 4 Tourist Places in Himachal Pradesh**

The brief description of tourism of the Himachal Pradesh is given in the table below:

**Table 3-10 Tourism in Himachal Pradesh**

S. No.	Year	Foreign	Domestic	Total
1	2005	2.08	69.28	71.36
2	2006	2.82	76.72	79.54
3	2007	3.39	84.82	88.21
4	2008	3.77	93.72	97.49
5	2009	4.01	110.37	114.38
6	2010	4.54	128.12	132.66

**Source:** Directorate of Tourism and Civil Aviation Government of Himachal Pradesh

**Project Influence district Shimla:**

The 'Queen of Hill Stations', Shimla is one of the prominent tourist destinations in north India. There are many places of interest in the city. Some of them are:

Christ Church and St. Michael's Cathedral, Jakhu Hill and Jakhu Temple, Himachal State Museum and Library, The Mall etc.

There are many more places of interest in Shimla including Jutogh, Tara Devi Temple, Junga, Totu, Kufri, Kali Bari, Potter Hill, Prospect Hill, Elysium Hill and Sankat Mochan temple. For the shopping lovers, there are many shops in Shimla, especially in the Lower Bazaar, Lakkar Bazaar, The Mall and the Tibetan Bazaar. These markets are very popular for goods like handicrafts, metalwork, toys, tweeds, Himachali shawls, caps and many more.

## **4. SOCIAL IMPACTS OF THE PROJECT**

### **4.1 INTRODUCTION**

Based on the available proposed alignment and engineering designs the census and socio-economic survey of the project affected persons (PAPs) falling within the proposed ROW was carried out by using structured questionnaires. The purpose of this exercise was to assess the losses and social impacts due to the proposed project and to gather information on the affected persons.

As per the final design, the construction activities will be confined within the existing ROW and additional land would only be required for wayside amenities, loading-unloading platforms and two dumping sites. Thus, this project do not involve any private land acquisition

In this particular stretch, the impact on land is due to way side amenities, loading-unloading platforms and dumping sites at two locations. In context of the existing available RoW and the encroachments in the RoW, the project-affected structures are owned by non-titleholders. To assess the impacts likely to arise from loss of structures, the detailed Census cum socio-economic Survey was conducted in the month of September, 2019 for each affected household/structure. Information regarding project impacts and socio-economic data is presented in sub-subsequent sections in this chapter.

### **4.2 EXISTING STATUS OF LAND AVAILABILITY**

The project road is Intermediate/Two Lane from Chainage Km 94+900 to Km 103+550. Based on detailed field verification with respect to revenue maps, it has been found that the existing ROW varies between 16 to 35m. The existing ROW details collected from Revenue and PWD department is attached as **Annexure 1-1** (Chapter-1).

### **4.3 ADDITIONAL LAND REQUIREMENT FOR THE PROJECT**

The existing land for the project is 20.187 Ha and the total land required for the project is 23.219 Ha. The requirement of additional land of 3.032 Ha will be for way side amenities, loading-unloading platforms and two dumping sites. Government land is available along the project road for the aforesaid additional requirement and thus, no private land would be acquired for the project. A detail of existing land and land requirement is given in tables Table 5.1 below.

**Table 4-1 Detail of Land Requirement for Proposed Project**

<b>Project</b>	<b>Existing Land (in Hectare)</b>	<b>Land Required (in Hectare)</b>	<b>Total Land (in Hectare)</b>
Gumma-Fediz Section of new NH 707	20.187 Hectare	3.032 Hectare	23.219 Hectare

The activity wise land requirements are given in below table:

**Table 4-2 Activity wise land requirements for Proposed Project**

Particulars	Land required (in Hectare)
Road widening	20.187
Wayside amenities	0.3
Loading and unloading Platforms	
Dumping site at 96+220 to 96350	2.732
Dumping site at 99+050 to 99+250	
<b>TOTAL</b>	<b>23.219</b>

#### 4.4 IMPACT ON STRUCTURES

As per the Census survey, only 5 structures will be impacted due to project activities, out of which 3 are private structures and 2 are Community Property resources (CPRs). All the 3 private structures are encroachers and are within the existing ROW. Out of 3 private structures, 2 structures are abandoned and one is Residential cum commercial structure. It was informed during the census cum socio-economic survey that the owners of these two abandoned structures lives at another location in the village and these structures are no more in use. The census and socio-economic related information for the affected households of these abandoned structures were collected from the neighbours. The nature of activities of residential cum commercial structure is grocery store and cement store. Remaining 2 structures are common property resources as shown in Table 5.2.

**Table 4-3 Category of Structures likely to be affected**

Project	Abandoned	Residential cum Commercial	CPR	Total
Gumma-Fediz Section of new NH 707	02	01	02	05

##### 4.4.1 Ownership Status of Private Structures likely to be affected

As per the census cum socio-economic survey, all the affected private structures are on government land, thus, belonging to Non-titleholders (Encroachers).

**Table 4-4 Ownership of Private Structures**

Project	Non-Title-holders	Total
	Encroachers	
Gumma-Fediz Section of new NH 707	03	03

#### 4.4.2 Type of Construction of Private Structure likely to be affected

Majority of private structures likely to be affected are of Permanent construction (80%). Detail is summarized in Table 5-4.

**Table 4-5 Type of Construction of Private Structures likely to be affected**

Sr. No.	Type of Construction	No. of structures	Area	Percentage
1	Permanent	2	334.75	80.00
2	Semi-Permanent	1	25.00	20.00
<b>Total</b>		<b>3</b>	<b>359.75</b>	<b>100.00</b>

Structure wise area is given in **Annexure 4-1**.

#### 4.4.3 Common Property Resources (CPRs) likely to be affected

Only 2 hand pumps are getting affected due to road widening. Details of CPRs are given in **Annexure 4-2**.

### 4.5 SOCIO-ECONOMIC PROFILE OF PAPs OF STUDY REGION

This section presents socio-economic analysis of the project affected households likely to be affected by the proposed upgrading. The socio-economic details of the affected households were collected during the census cum socio-economic survey which includes information related to social category, household size, occupational pattern, income level etc.

#### 4.5.1 Project Affected Households (PAHs), Project Affected Families (PAFs) and Project Affected Persons (PAPs)

The implementation of the project will affect about 3 households comprising of 7 families and 31 PAPs. The detail of the households is attached as **Annexure-4-3**.

**Table 4-6 Number of PAHs, PAFs and PAPs**

Prosed Alignment	Project Affected Households (PAHs)	Project Affected Families (PAFs)	Project Affected Persons (PAPs)
Gumma to Fediz Section of NH-707	03	07	31

**Source:** Census cum Socio-economic Survey, Sep. 2019

#### 4.5.2 Gender and Age wise project affected Population

The analysis of the census data shows that there are a total of 31 affected persons, the males comprising 14 (45.16%) and the females 17 (54.84%). The following table shows the population in the project area, disaggregated by gender and age.

**Table 4-7 Distribution of Affected Population by Age and Sex**

Sl. No.	Age Group (Years)	Total PAPs	Percentage	Gender Disaggregated Population			
				Male	Percentage	Female	Percentage
1	<18	14	45.16	6	19.35	8	25.81
3	26-40	11	35.49	5	16.13	6	19.35
4	41-55	4	12.90	2	6.45	2	6.45
5	56 & Above	2	6.45	1	3.23	1	3.23
<b>Total</b>		<b>31</b>	<b>100.00</b>	<b>14</b>	<b>45.16</b>	<b>17</b>	<b>54.84</b>

*Source: Census cum Socio-economic Survey, Sep. 2019*

#### 4.5.3 Social Categories of PAHs

It has been enumerated from the screening of survey data that all of the affected households belong to the General Category.

#### 4.5.4 Education and Literacy

Table 5-7 presents the educational level of households, wherein majority of them were found to be literate. As per census cum socio-economic data literacy rate is highest in primary i.e. 41.94 %. The following table shows the gender-disaggregated information on the education and literacy level of the affected people in the project area.

**Table 4-8 Education and Literacy among PAPs**

Sr. No.	Indicators	Total Persons	Percentage	Gender Disaggregated Information			
				Male	Percentage	Female	Percentage
1	Primary	13	41.94	5	16.12	8	25.81
2	Upper Primary	5	16.12	4	12.90	1	3.23
3	Higher Secondary	3	9.68	1	3.23	2	6.45
4	Graduate	2	6.45	1	3.23	1	3.23
5	Illiterate	5	16.13	2	6.45	3	9.67
6	Not Applicable*	3	9.68	1	3.23	2	6.45
<b>Total</b>		<b>31</b>	<b>100.00</b>	<b>14</b>	<b>45.16</b>	<b>17</b>	<b>54.84</b>

*Source: Census cum Socio-economic Survey, Sep. 2019*

*Note: \*Not Applicable includes children below or equal to three (3) years.*

#### 4.5.5 Occupation Pattern of the Affected Persons

Out of 31 PAPs, 10 are from working population and 21 are from the non- working population. Occupation-wise analysis of working and non-working group population is shown in Table 5-9 and 5-10 respectively. As far as occupation of the affected population is concerned, majority of PAPs are engaged in agricultural (90.00%) activities.

**Table 4-9 Occupation Pattern of working population**

Sr. No.	Occupation	Total Number of PAPs in working population	Percentage	Project Affected Persons by Gender			
				Male	Percentage	Female	Percentage
1	Shopkeepers	1	10.00	1	10.00	0	0
2	Farmer	9	90.00	7	70.00	2	20.00
Total		10	100.00	8	80.00	2	20.00

Source: Socio-economic Survey, Sep. 2019

**Table 4-10 Occupation Pattern of Non-working population**

Sr. No.	Occupation	Total Number of PAPs in non-working population	Percentage	Project Affected Persons by Gender			
				Male	Percentage	Female	Percentage
1	Not in Workforce*	15	71.43	6	28.57	9	42.86
2	Household Work	6	28.57	0	0	6	28.57
Total		21	100.00	6	28.57	15	71.43

Source: Socio-economic Survey, Sep. 2019

**Note:** \*Not in the work force. Persons who are neither employed nor unemployed are not in the workforce. This category includes retired persons, students, those taking care of children or other family members, and others who are neither working nor seeking work.

It was also noted that women are largely engaged in household works. Further, the data reveals that no child labour exists along the project road.

#### 4.5.6 Income Pattern of the Affected Households

As per the census survey, none of the households falls under Below Poverty Line (BPL) category. Two households earn between 2-5 Lakh per annum and one earns more than 5 lakh per annum. The incomes have been grouped into categories shown in the Table 5-11.

**Table 4-11 Annual Income of the affected households**

Sr. No.	Annual Income	Number of PAH	Percentage
1	200000 to 500000	2	66.67
2	Above 500000	1	33.33
Total		3	100.00

Source: Socio-economic Survey, Sep. 2019

#### **4.6 VULNERABLE GROUP**

The information on vulnerable groups was also collected during census cum Socio-economic survey. All the affected households belong to general category. Among these households there is only **1 Women Headed Household (WHH)** and can be considered under vulnerable category<sup>1</sup>. This household needs special consideration so that they can be benefitted from the project and do not further get socially and economically marginalised. As per the census and socio-economic survey none of the affected household belongs to ST, BPL, SC and divyang category. Provisions for additional assistance are made in entitlement matrix for any impact on vulnerable groups.

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<sup>1</sup> Vulnerable category includes persons who are physically challenged, widows, persons above sixty years of age, ST, SC, below-poverty line households and woman-headed household



## **5. STAKEHOLDERS CONSULTATION AND DISCLOSURE**

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### **5.1 INTRODUCTION**

Participation is a process, through which stakeholder influence and share control over development initiatives and the decisions and the resources, which affects them. The effectiveness of R&R program is directly related to the degree of continuing involvement of those affected by the project. Participation of persons directly affected by projects is a primary requirement in development of R&R, if its programs are to be suited to the needs of the resettled population. Their involvement vastly increases the probability of their successful resettlement and rehabilitation.

Involuntary resettlement creates feelings of insecurity, curiosity and misunderstanding among PAPs. Social assessment and public/community participation helps to remove such uncertainties and at the same time help the project-proponent to incorporate valuable suggestions perceptions of stakeholders. Consultation with the community and their involvement in different stages of project planning and implementation is often used as a tool to inform and educate the stakeholders about the proposed action. Public consultation has been carried out in this Project with the objectives to inform people about the project interventions and the likely impact due to the project. These consultations also aimed to take suggestions from the local people and to listen and reciprocate on the concerns raised by them.

### **5.2 OBJECTIVE OF CONSULTATION**

As part of the Social Impact Assessment process, detailed consultations were conducted with all stakeholders. The main objectives of the consultation program were to minimize negative impact in the project area and to make people aware of the project. During the process efforts were made to ascertain the views and preferences of the people.

### **5.3 METHODS ADOPTED FOR COMMUNITY PARTICIPATION**

The consultation process used different types of consultation such as in-depth interviews with key informants and meetings. Discussions were held with the following key stakeholders:

- Affected households
- Community members of the villages along the road;
- Government Departments.

### **5.4 SUMMARY OF PUBLIC CONSULTATION**

Public consultations were held at two (2) locations along the project road. The public consultations were also attended by village Sarpanch, Pradhan, representatives from Local PWD Departments.

Overall, majority of the respondents have their apprehensions about the processes of compensation amount and its procedures. The affected households, in general, showed their agreement towards the proposed road widening/improvement. Some of the households were not available at the time of survey as they are residing at some other place and structures are left abandoned.

**“Rehabilitation and Up-gradation to Intermediate lane of Paonta Sahib Rajban Shillai Meenus Hatkoti road portion between Km 96+180 to 104+890 (Gumma to Fediz) (Design RD 94+900 to 103+550) of NH 707 in the state of Himachal Pradesh”**

Most of the issues raised by the community during these two consultations were the same which were majorly related to compensation, road safety and employment opportunities during construction stage. One of the major concerns raised by the local people was related to use of good construction material for the road construction, so that it is durable for long time.

The details of the stakeholder consultations including the date, location, participants, the issues discussed and the outcome / mitigation measures (design) is summarized in table below:

**Table 5-1 Summary of Local level Consultations at Gumma to Fediz Section of NH-707**

Project Corridor	Location	Date	Chainage	No. of participants	Issues/Concerns	Redress Under the Project
<b>Gumma to Fediz Section of NH-707</b>	<b>Near Starting Point Gumma Village</b>	21.09.2019	94+900	16	<ol style="list-style-type: none"> <li>1. Loss of Livelihood – Issue raised by one Household whose shops will be impacted due to proposed improvements on the project road.</li> <li>2. Road Safety was the Major Public concern along the project area.</li> <li>3. Flood and Drainage issues were raised.</li> <li>4. Loss of Trees along the road was concern of Local PWD-NH Division</li> </ol>	<ol style="list-style-type: none"> <li>1. Compensations will be given as per R&amp;R framework.</li> <li>2. Traffic calming measures (at all intersections), crossing points have been proposed for the safety of local people. Hazard markers, RRPM, road marking etc. have also been provided. Crash barrier has also been proposed throughout the alignment.</li> </ol>

**“Rehabilitation and Up-gradation to Intermediate lane of Paonta Sahib Rajban Shillai Meenus Hatkoti road portion between Km 96+180 to 104+890 (Gumma to Fediz) (Design RD 94+900 to 103+550) of NH 707 in the state of Himachal Pradesh”**

					(SDO- Sanjay Agarwal).	3. Total 38 nos. culverts have been provided at various locations. Drainage will also be provided throughout the alignment.
					5. Utilities along the road – Concern were raised by Smt. Sarla Joshi Pradhan of the village – Gumma.	4. Compensatory forestation would be done at the ratio of three trees for each tree to be cut. Local species of trees have been selected for plantation.
					6. Local People were concerned about the Employment during Construction. Local Panchayat persons have raised these concerns or demands in order to provide source of income to local people.	5. All the utilities and basic infrastructures to be impacted will be relocated under the project cost. Utility Shifting Plan is already prepared.
	<b>Antroli Village</b>	22.09.2019	98+250	18	7. Overall the major concern was road should be constructed with good thickness of material for long durability as the Existing roads are in bad condition. Local People, Pradhan and other Panchayat officials raised this concern in common at both Gumma and Antroli village. They are facing problem in daily routine due to bad quality of roads. Issue raised by Pradhan of Village Antroli Smt. Gita Devi	6. The locals will be given preference for employment during construction provided they meet job requirements.
					8. CPRs should be relocated as a concern for village people.	7. Concern is genuine and will be taken care off at the time of construction of the road in order to provide better and good quality roads.
						8. Two CPRs (Hand-pumps) will be impacted throughout the road stretch and will be relocated.

Detailed Attendance sheets of these consultations are presented in **Annexure 5–I**.

Photographs of the Consultations are given below:



**LOCATION: NEAR STARTING POINT GUMMA VILLAGE (94/900)**





**LOCATION: AT ANTROLI VILLAGE (98/250)**



## **5.5 DISCLOSURE**

The SIA and Draft Abbreviated Resettlement Action Plan (ARAP) would be disclosed on MoRTH website as well at the World Bank Info shop/ Public Information Centre. Feedback if any would be incorporated into the final ARAP document, following which the final ARAP will be re-disclosed. Further to enhance transparency in implementation, the list of PAPs for disbursement of benefits shall be separately disclosed at the concerned Panchayat Offices/ Urban Local Bodies, District Collector Offices, Block development Offices, District Public Relations Offices (at the state and district levels), Project office, and any other relevant offices, etc. However there is only livelihood loss of one PAH, none of the titleholders are affected throughout the project road. The Resettlement Policy Framework, Executive Summary of the SIA and ARAP will be placed in vernacular language in the District Collector's Office.

## 6. POLICY FRAMEWORK AND ENTITLEMENT MATRIX

### 6.1 INTRODUCTION

This chapter of the report discusses about the existing law and regulations of the country and state those are applicable to the proposed project. It is imperative to analyze the Acts and bylaws to understand the legalities and procedures in implementing project and identifying the gaps and area where there is a need for strengthening to comply with the World Bank policy on resettlement and rehabilitation of project affected persons.

The aim of the project is to establish and provide better connectivity of various existing National Highways in the country. Most of the infrastructure work planned for this Green National Highway Corridor project will take place within the existing Right of Way (RoW) except at some of the congested villages/settlements where Curve improvements proposed and at locations where minor improvements are required for accommodating road safety measures.

### 6.2 APPLICABLE LEGAL AND POLICY FRAMEWORK

Applicable acts, notifications and policies relevant in the context of this project are discussed in tabular form is given below:-

The Project Authority (MoRTH) will ensure that project activities implemented are consistent with the national, state, local regulatory/legal framework.

**Table 6-1 Applicable Legal and Policy Framework**

Sr. No.	Acts, Notifications and policies	Relevance to this Project	Applicability
1.	<b>RTFCTLARR Act, 2013</b>	Land required, R&R for the project shall be acquired and provided as per the provision of this Act.	Applicable via Himachal Pradesh Relevant Rules
2	<b>The Provisions of the Panchayat (Extension to the scheduled Areas) Act, 1996</b>	One of the important provisions of this act states “the Gram Sabha or Panchayat” at the appropriate level shall be consulted before making the acquisition of land.	Applicable
3	<b>World Bank OP 4.12- Involuntary Resettlement</b>	The project entails land acquisition though, at a low scale for widening, curve improvements, junction improvements etc. It would also adversely affect structures used for various purposes, livelihood of people) mainly earning their livelihood by means of petty shops, and	Applicable

		providing various services). Many of them have been operating from the government land. Thus both title holders and non- title holders alike would be affected as a consequence of the project.	
4	<b>National Highways Act, 1956</b>	Land acquired for the project shall be acquired as per the provision of this act.	Applicable
5	<b>The Right to Information Act, 2005</b>	The Act provides for setting out the practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, the constitution of a central Information Commission and State Information Commissions and for matters connected therewith or incidental thereto.	Applicable

### 6.3 RESETTLEMENT POLICY FRAMEWORK

This RPF for the GNHCP has been prepared based on the findings of Social Survey Report (SSR) covering initial impact assessment and review of applicable legal and policy framework discussed above.

In order to address the adverse impacts of land acquisition and involuntary resettlement, MoRTH, Govt. of India recognised the need for the development of Resettlement Policy Framework. Review of Social Screening Reports (SSRs) reveal that applicable legal and administrative procedures vary from State to State and also there are gaps between Resettlement and Rehabilitation Policies of the country and certain states and the Bank’s Resettlement Policy. Hence, there is a need to understand the critical elements of the existing legal and policy framework and agree on a mechanism that will address the key social issues and formulate a specific policy framework for the project to bridge the major gaps to conform to the provisions of World Bank’s operational policies related to Involuntary Resettlement and Indigenous Peoples. This policy framework will help expedite the process and facilitate consistent preparation of ARAPs across all project roads in different states.

The purpose of preparing a RPF is to:

- Bring commonality in resettlement and rehabilitation benefits under the project.
- Bridge the gap between Bank’s policy on Involuntary Resettlement and LARR, 2013.
- Bring together and built upon the current good practices in terms of procedures to address more systematic and institutional issues.
- Establish institutional arrangements at project, state and central level (MoRTH) for the implementation of ARAP.
- Establish mechanism for Redressal of grievances; and monitoring and evaluation, etc.



### **6.3.1 Definitions**

Following definitions that will be applicable unless otherwise stated specifically.

**Agricultural labourers:** means a person primarily resident in the affected area for a period of not less than five years immediately before the declaration of the affected area, who does not hold any land in the affected area but who earns his livelihood mainly by manual labour on agricultural land therein immediately before such declaration and who has been deprived of his livelihood;

**Agricultural land:** Denotes land used or capable of being used for the purpose of agriculture or horticulture, dairy farming, poultry farming, pisciculture, sericulture, breeding of livestock or nursery growing medicinal herbs, raising of crops, grass or garden produce and land used by an agriculturist for the grazing of cattle, but does not include land used for cutting of wood only;

**Below poverty line (BPL) or BPL family:** means below poverty line families as defined by the Planning Commission of India, from time to time and those included in the BPL list for the time-being in force.

**Corridor of impact (COI):** Refers to the minimum land width required for construction including embankments, facilities and features such as approach roads, drains, utility ducts and lines, fences, green belts, safety zone, working spaces etc. Additional land width would be acquired/purchased or taken on temporary lease if the Corridor of Impact extends beyond the available Right of Way.

**Cut-off date:** Refers to the date on which the census survey of PAPs starts in that road section/stretch. For entitlement purpose, the PAPs would be those who have been in possession of the immovable or movable property within the affected area/zone on or prior to cut off date. However, the cut-off date for land acquisition purpose is the date on which the notification under section 3A will be issued under the NH Act, 1956.

**Encroacher:** A person who has extended their building, agricultural lands, business premises or work places into public/government land without authority.

**Entitled person (EP):** A person who is adversely impacted by the project and is entitled to assistance as per the project entitlement framework is considered to be an Entitled Person.

**Holding:** means the total land held by a person as an occupant or tenant or as both;

**Kiosk:** A kiosk is a booth/stall/cabin/cubicle made of wood or iron or any other building material which could be shifted to another location as a single unit without much damage and is used for carrying out petty business/ commercial activities and has been in operation/existence prior to cut off date.

**“Land acquisition” or “acquisition of land”:** means acquisition of land under the NH Act, 1956 for the time being in force.

**Landowner:** A person who is an allottee or a grantee of any land under any scheme of the Government under which such allotment or grant is to mature into ownership, who has mortgaged his land (or any portion thereof) or who has permanent rights and interest in land.

**Marginal farmer:** Refers to a cultivator with an un-irrigated land holding up to one hectare or irrigated land holding up to half hectare.

**Below poverty line (BPL) or BPL family:** means below poverty line families as defined by the Planning Commission of India, from time to time and those included in the BPL list for the time-being in force.

**Corridor of impact (COI):** Refers to the minimum land width required for construction including embankments, facilities and features such as approach roads, drains, utility ducts and lines, fences, green belts, safety zone, working spaces etc. Additional land width would be acquired/purchased or taken on temporary lease if the Corridor of Impact extends beyond the available Right of Way.

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**Kiosk:** A kiosk is a booth/stall/cabin/cubicle made of wood or iron or any other building material which could be shifted to another location as a single unit without much damage and is used for carrying out petty business/ commercial activities and has been in operation/existence prior to cut off date.

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**Landowner:** A person who is an allottee or a grantee of any land under any scheme of the Government under which such allotment or grant is to mature into ownership, who has mortgaged his land (or any portion thereof) or who has permanent rights and interest in land.

**Marginal farmer:** Refers to a cultivator with an un-irrigated land holding up to one hectare or irrigated land holding up to half hectare.

**Small farmer:** Refers to a cultivator with an un-irrigated land holding up to two (2) hectares or with an irrigated land holding up to one (1) hectare.

**Squatter:** A person who has settled on public/government land, land belonging to institutions, trust, etc. and or someone else’s land illegally for residential, business and or other purposes and/or has been occupying land and building/asset without authority.

**Tenant:** A person who holds / occupies land / structure of another person and is or (but for a special contract) would be liable to pay rent for that land / structure to other person and includes the predecessor and successor-in-interest of such person but does not include mortgage of the rights of a landowner or a person to whom holding has been transferred or an estate or holding has been let in farm for the recovery of an arrear of land revenue or of a sum recoverable as such an arrear or a person who takes from Government a lease of unoccupied land for the purpose of subletting it.

**Titleholder:** A PAP/PAF/PAH who has legal title to land, structures and other assets in the affected zone.

**Vulnerable group:** This includes Scheduled Caste, ST, family/household headed by women/ female, disabled, handicapped, orphans, destitute, BPL, abandoned woman; unmarried girls; widows; and persons above the age of 65 years irrespective of their status of title (ownership). Vulnerable groups would also include those farmers who (after acquisition of land) become small/marginal farmers and also qualify for inclusion in BPL. For such cases, total land holding of the landowner in that particular revenue village will be considered in which land has been acquired.

**Wage earner:** Wage earners are those whose livelihood would be affected due to the displacement of the employer. The person must be in continuous employment for at least six months prior to the cut-off date with the said employer and must have reliable documentary evidence to prove his/her employment.

#### **6.4 RESETTLEMENT PRINCIPLES AND ELIGIBILITY CRITERIA**

Based on the above analysis of government provisions and requirements as per World Bank IR policy the broad resettlement principle for this project shall be the following:

- Proposed highway improvement and strengthening work will take place mostly on the existing alignment and within the available RoW or at locations where curve improvement is necessary to incorporate required safety measures;
- The involuntary resettlement and adverse impacts on persons affected by the project would be avoided or minimized as much as possible exploring viable alternative project design;
- Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits;
- Efforts should be made to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher;
- Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs;
- Replacement land shall be an option for compensation in the case of loss of land. In case of unavailability of replacement land, cash-for-land with compensation on replacement cost option will be made available to the PAPs;
- Compensation for loss of land, structures and other assets will be based on full replacement cost and will be paid before physical displacement of PAPs including transaction costs;
- In the event of necessary relocation, PAPs shall be assisted to integrate into host communities;

- All land acquisition for the project would be done as per the National Highways Act, 1956. Additional assistance would be provided to the PAPs for meeting the replacement cost of the property;
- The uneconomic residual land remaining after land acquisition will be acquired by the project. The owner of such land/property will have the option to seek acquisition of his entire contiguous holding/ property provided the residual land is less than the average land holding of the district;
- Any structure/asset rendered unviable/unsafe because of the project shall also be considered as affected and entitlements shall be extended accordingly;
- The affected persons who does not own land or other properties, but have economic interests or lose their livelihoods will be assisted as per the policy principles described in this document;
- Cut-off date for titleholders will be the date of publication of notification under Section 3A of the National Highways Act, 1956. For non-titleholders who has not any legal holding of the occupied land such as squatters and encroachers the date of project census survey or a similar designated date declared by the executing agency will be considered as cut-off date;
- An entitlement matrix for different categories of people affected by the project has been prepared and provisions will be kept in the budget for those who were not present at the time of census survey. However, people moving in the project area after the cut-off date will not be entitled to any compensation or assistance;
- Vulnerable groups (PAPs below poverty line (BPL), the landless, disabled, elderly persons, women and children, indigenous peoples) will be identified and given additional support and assistance under the project;
- All common property resources (CPR) lost due to the project will be reconstructed or compensated by the project;
- Information related to the preparation and implementation of resettlement plan will be disclosed to all stakeholders and people’s participation will be ensured in planning and implementation;
- Appropriate grievance Redressal mechanism will be established at sub-project, state and central levels to ensure speedy resolution of disputes;
- An effective monitoring and evaluation mechanism will be established to ensure consistent implementation of resettlement activities planned under the project including third party monitoring.

## **6.5 ENTITLEMENT MATRIX**

This entitlement matrix has been developed in accordance with the basic principles adopted in the RPF and analysis of initial identification of project impacts.

In case where a State Government through any Act or Gazette Notification or as approved by any authority of State Government (duly authorized for the purpose) as per their approved procedure has fixed a rate for compensation of land and is higher than the provisions under the project, the same may be adopted by the Competent Authority in determining the compensation for land.

Similarly, in case where a State Government through any Act or Gazette Notification or as approved by any authority of State Government (duly authorized for the purpose) as per their approved

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procedure has fixed a rate for resettlement and rehabilitation assistance and is higher than the provisions under the project, the same may be adopted by the Executing Authority.

**Table 6-2 Entitlement Matrix**

Sl. No.	Impact	Entitled Unit	Entitlement Details
<b>A. Loss of Private Agricultural, Home-Stead &amp; Commercial Land</b>			
1	Loss of Land (agricultural, homestead, commercial or otherwise) within the Corridor of Impact (COI)	Title Holder/ Owner/Families with traditional land right/occupiers)	<p>For all land acquired under NH Act; or Direct Purchase or acquisition of missing land parcels/plot (MORTH circular dated 28<sup>th</sup> December 2017) Compensation/lease amount shall be calculated and payable in accordance with Sections 26 to 30 and Schedule I of RFCTLARR Act 2013.</p> <p>Partial Impact on Land: In case only part of any land plot is affected, and its owner desires the whole plot to be acquired on grounds that the plot has become uneconomical or has been severed due to LA (under Section 94 and Note C), the competent authority can award compensation for remaining part of the plot or award 25% of actual value upto of the remaining land holding as additional compensation, allowing the owner to retain the remaining land plot, if agreeable.</p> <p>For all land acquired NH Act; or Direct Purchase or acquisition of missing land parcels/plot (MORTH circular dated 28<sup>th</sup> December 2017), Rehabilitation and Resettlement Assistance shall be as follows (Schedule II of Act 2013):</p> <ul style="list-style-type: none"> <li>i. If as a result of land acquisition, the land owner becomes landless or is reduced to the status of a “small” or “marginal” farmer, assistance amount of Rs. 6 lakhs</li> </ul> <p style="text-align: center;">OR</p> <p>annuity policies that shall pay not less than two thousand rupees per month for each affected land owner for twenty years with appropriate indexation to the Consumer Price Index for Agricultural Labourers.</p> <ul style="list-style-type: none"> <li>ii. Each land owner shall be given a one-time "Resettlement Allowance" of Rs. 60,000/- only.</li> <li>iii. Refund of stamp duty and registration charges incurred for replacement land to be paid by the project; replacement land must be bought within a year from the date of payment of compensation to project affected persons</li> </ul>
<b>B. Loss of Private Structures (Residential/Commercial)</b>			
2	Structure within the	Title Holder/ Owner	i. Compensation in accordance with Sections 26 to 30 and Schedule I of RFCTLARR Act 2013

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Sl. No.	Impact	Entitled Unit	Entitlement Details
	Corridor of Impact (Col)		ii. Right to salvage material from affected structures iii. Three months advance notice to vacate structure iv. For those losing cattle shed, a one-time assistance of Rs. 28,000/- would be payable v. For each affected family of an artisan or self-employed or own non-agricultural land, that is displaced and must relocate, a one-time assistance of Rs. 28,000/- would be payable; and vi. One-time subsistence grant of Rs. 40,000/- for each affected family who are displaced and require to relocate; vii. One-time financial assistance of Rs. 60,000/- for each displaced family towards shifting/transportation cost for shifting of the family, building materials, belongings and cattle viii. Refund of stamp duty and registration charges for purchase of new alternative houses/shops at prevailing rates on the market value as determined. Alternative houses/shops must be bought within a year from the date of payment of compensation ix. <b>For a house lost</b> , a constructed house shall be provided as per the Indira Awas Yojana specifications or equivalent cost of the constructed house in lieu, shall be payable.  <u>In case of partial impact</u> , 25% additional award to be paid on compensation award for the affected part of the structure to enable damage repair where the owner/occupier of his/her own will, interested to retain the remaining part of the structure, provided the unimpaired continuous use of the such structure is possible without hazards
3	Structure within the Corridor of Impact (Col)	Tenants/ Lease Holders	i. Registered lessees will be entitled to an apportionment of the compensation payable to structure owner as per applicable local laws. ii. One-time financial assistance of Rs. 60,000/- as transportation and relocation cost. iii. Three months' notice to vacate structure.
<b>C. Loss of Trees and Crops</b>			
4	Standing Trees, Crops within the Corridor of	Owners and beneficiaries (Registered/ Un-registered tenants,	i. Cash compensation as estimated under Section 29(3) of Act to be paid at the rate estimated by: <ul style="list-style-type: none"> <li>• The Forest Department for timber trees</li> <li>• The State Agriculture Extension Department</li> </ul>

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Sl. No.	Impact	Entitled Unit	Entitlement Details
	Impact (Col)	contract cultivators, leaseholders & sharecroppers	<p>for crops</p> <ul style="list-style-type: none"> <li>The Horticulture Department for fruit/flower bearing trees.</li> </ul> <p>ii. Three months advance notice to project affected persons to harvest fruits, standing crops and removal of trees, or compensation in lieu as determined above.</p> <p>Registered tenants, contract cultivators &amp; leaseholders &amp; sharecroppers will be eligible for compensation for trees and crops as per the agreement document between the owner and the beneficiaries.</p> <p>Un-registered tenants, contract cultivators, leaseholders &amp; sharecroppers will be eligible for compensation for trees and crops as per mutual understanding between the owner and the beneficiaries</p>
<b>D. Loss of Residential/ Commercial Structures to Non-Title Holders</b>			
5	Structures within the Corridor of Impact (Col) or Govt. land	Owners of Structures or Occupants of structures (Encroachers, Squatters) identified as per Project Census Survey	<p><b>For loss of House</b></p> <ol style="list-style-type: none"> <li>Compensation at PWD BSR without depreciation for structure</li> <li>One-time resettlement cost of Rs. 28,000/-</li> <li>Shifting/transportation assistance of Rs. 60,000/-</li> <li>Encroachers shall be given three months' notice to vacate occupied land or cash assistance at replacement cost for loss of structures.</li> <li>Right to salvage the affected materials</li> </ol> <p><b>For loss of shop<sup>2</sup></b></p> <ol style="list-style-type: none"> <li>Compensation at PWD BSR without depreciation for structure</li> <li>One-time subsistence grant of Rs. 40,000</li> <li>One-time rehabilitation grant of Rs. 28,000/-</li> <li>Shifting/transportation assistance of Rs. 60,000/-</li> <li>Encroachers shall be given three months' notice to vacate occupied land or cash assistance at replacement cost for loss of structures.</li> <li>Right to salvage the affected materials</li> </ol>
6	Loss of employment	Livelihood loser	Subsistence allowance equivalent to Minimum Wages/Minimum Agricultural Wages <sup>3</sup> for 3 months

<sup>2</sup> Small shop includes commercial fixed kiosks and shanties where business is carried out

<sup>3</sup> As per rates issued by Department of Labor, Government of project state for different skills and trades



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Sl. No.	Impact	Entitled Unit	Entitlement Details
	in non-agricultural activities or daily agricultural wages or other wage earners		Only agricultural labourers who are in fulltime / permanent employment of the land owner, or those affected full time employees of the business, will be eligible for this assistance. <i>Seasonal agricultural labourers will not be entitled for this assistance.</i>
<b>E. Additional Support to Vulnerable Group</b>			
7	Families within the Corridor of Impact (Col)	Vulnerable affected families	<ul style="list-style-type: none"> <li>i. One-time Resettlement Allowance of Rs. 60,000/-</li> <li>ii. Training for skill development. This assistance includes cost of training and financial assistance for travel/conveyance and food.</li> <li>iii. Additional Subsistence Grant of Rs. 60,000/- for displaced families belonging to <b>Scheduled Caste and Tribe Category</b></li> <li>iv. Displaced vulnerable households will be linked to the government welfare schemes, if found eligible and not having availed the scheme benefit till date.</li> </ul>
<b>F. Loss of Community Infrastructure/Common Property Resources</b>			
8	Structures & other resources (e.g. land, water, access to structures etc.) within the Corridor of Impact (Col)	Affected communities and groups	Reconstruction of community structure and common property resources, will be done in consultation with community
<b>G. Temporary Impact During Construction</b>			
9	Land and assets temporarily impacted during construction	Owners of land and assets	<ul style="list-style-type: none"> <li>i. Compensation for temporary impact during conversion e.g. diversion of normal traffic, damage to adjacent parcel of land/assets (crops, trees, structures, etc.) due to movement of heavy machinery and plant site</li> <li>ii. Contractor shall bear the cost of compensation of any impact on structure or land due to movement of machinery during construction or establishment of construction plant.</li> <li>iii. All temporary use of land outside ROW, would be done based on written approval/ prior approval landowner and contractor</li> </ul>

## **7. GENDER ANALYSIS**

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### **7.1 INTRODUCTION**

There are two important aspects of project where gender issues require an address. Women are going to experience socio-economic impacts due to loss of structure for the project and during the construction//implementation phase.

**Global Context:** Violence against women and children takes many forms, including sexual, physical, emotional and economic abuse. It occurs in the home and on the streets and in times of peace and in conflict and crisis. Recent estimates by the World Health Organization indicate that 35 percent, or one in three women worldwide have experienced some form of physical or sexual assault. GBV is an expression of gender inequality that prevents women and their families from escaping poverty, drains public resources and impedes human development and economic productivity.

**National Context:** Women and girls in India today continue to experience multiple forms of violence, across multiple intersections, including of religion, caste, class, abilities and sexual orientation. In India, the global data on gender violence is complemented by NFHS (National Family Health Survey (NFHS4), 2015-16 at the national level which shows that 30 percent of women have experienced physical violence since age 15, and 6 percent have ever experienced sexual violence in their lifetime. 33 percent of ever-married women have experienced physical, sexual, or emotional spousal violence. Despite this, only 14 percent of women who have experienced physical or sexual violence by anyone have sought help to stop the violence.

### **7.2 LEGAL AND POLICY ENVIRONMENT FOR WOMEN’S SAFETY**

#### **7.2.1 International Instruments**

Over the past three decades, the international community has undertaken many measures to make the world a safer place for women and children. Intimate partner violence is the most common and widespread form of gender violence experienced by women globally. A number of studies capture the extent of this violence in different countries.

The international legal and policy framework establishes standards for action by countries to meet their legal obligations and policy commitments to address violence against women. Some of the key International instruments<sup>1</sup> for the protection of women include the following:

**a) United Nations General Assembly, Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW):**

Date of adoption: 18 December 1979.

Under CEDAW, States ensure through competent national tribunals and other public institutions the effective protection of women against any act of discrimination and refrain from engaging in any practice of discrimination against women and to ensure that public authorities and

institutions shall act in conformity with this obligation.

**b) Fourth World Conference on Women, Beijing Declaration and Platform for Action**

Date of adoption: 15 September 1995

The Platform for Action states that ‘women may be vulnerable to violence perpetrated by persons in positions of authority in both conflict and non-conflict situations. Training of all officials in humanitarian and human rights law and the punishment of the perpetrators of violent acts against women would help to ensure that such violence does not take place at the hands of the public officials in whom women should be able to place trust, including police and prison officials and the security forces’ (para. 121).

**c) United Nations General Assembly, Resolution 52/86 on Crime Prevention and Criminal Justice Measures to Eliminate Violence Against Women**

Date of adoption: 2 February 1998.

**d) United Nations Security Council Resolution 1325 on Women, Peace and Security**

Date of adoption: 31 October 2000

UN SCR 1325 is a key document in influencing police organizations to incorporate gender aspects into the reforms. The resolution calls on all actors involved, when negotiating and implementing peace agreements, to adopt a gender perspective, including measures that ensure the protection of and respect for human rights of women and girls, particularly as they relate to the constitution, the electoral system, the police and the judiciary. The Council invites Member States to incorporate the protection, rights and the particular needs of women, as well as the importance of involving women in all peacekeeping and peace-building measures, into their national training programmes for military and civilian police personnel in the preparation for deployment.

### **7.2.2 National Instruments**

Existing gender inequalities in India create conditions of unequal access to the resources between men and women and manifests into violence through the practice of differentiation. Norms such as male pre-eminence, female seclusion, value of male child, honour, chastity, practice of dowry, restricted mobility, and female circumcision and acts of direct violence (rape, wife-beating, dowry death etc.) are manifestations of deep seated gender inequalities across India.

Domestic violence is one of the most common forms of gender-based violence against women and has been recognized since 1983 as a criminal offence under Indian Penal Code 498-A. However, it was not until the enactment of the Protection of Women from Domestic Violence Act 2005 (PWDVA), which came into effect in 2006 that civil protections were afforded to victims of domestic violence. Similarly the laws on sexual violence and rape were amended in 1983 in the Mathura rape case where a 16 year old girl was raped by two policemen in the police station while her relatives were waiting outside. More recently, India amended its Criminal Procedure Code in 2013 and enacted the Sexual Harassment of Women at workplace (Prevention, Prohibition, Redressal) Act.

Some of the key policies and laws pertaining to gender based violence in India include the following

- **National Policy for the Empowerment of Women**<sup>2</sup> Year of adoption: 2001. India has signed and ratified **Convention on Elimination of Discrimination against Women (CEDAW)** <sup>3</sup>. Since then, the national policy for Women 2016 and other policies and amendments on acts has been reflecting the principles highlighted in the related international conventions the goal of this Policy is to bring about the advancement, development and empowerment of women.
- **The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013**, is introduced to prevent and provide Redressal of complaints of sexual harassment. One of the main provisions in this act is that it calls for constituting an Internal Complaints Committee at each office or branch with 10 or more employees/workers.
- The **Protection of Women from Domestic Violence Act, 2005**<sup>4</sup> defines domestic violence, describes the powers and duties of protection officers, service providers and lists the procedures for obtain reliefs.
- **The Dowry Prohibition Act, 1961** makes giving and demanding dowry as a punishable offence. Section 8B identifies Dowry Prohibition Officers who are appointed not only to prevent the offence but also to collect evidence and perform additional functions that are deemed to serve the purpose of the act.
- The **Protection of Children from Sexual Offences Act, 2012**<sup>5</sup> has been framed to strengthen the legal measures for protecting children from any kind of sexual offences. Despite having sexual offences covered under different sections of Indian Penal Code, those existing sections do not entirely cover similar offences against children. Recognizing the children as a person of 18 years or below, the various offences have been clearly defined under this Act. The Act also defines the gravity of certain offences carried out against children and suggests stringent punishments accordingly.
- The **Convention on the Rights of the Children**<sup>6</sup> lays out a universal definition of ‘child’. It articulates how children should be treated in a non-discriminatory manner and calls for action that considers the best interests of the child. While Article 32 keeps in view of protecting the childhood from being engaged as labours, articles 33, 34, 35, 36, 37 and 38 protects children from drug abuse, sexual exploitation, abduction, sale and trafficking, other forms of exploitation, detention and punishment and war and armed conflicts. Article 39 focuses specifically on rehabilitation of child victims who are categorized as neglected, abused, or exploited in any manner. As a signatory to the Convention, India put in place necessary institutional arrangements including strengthening the NGO framework across the country to address survival rights, development rights, protection rights, participation rights. It is noted that as on date India has signed Optional Protocol to CRC on Sale of Children, Child Prostitution and Child Pornography and Optional Protocol to CRC on the involvement of Children in Armed Conflict. The third optional protocol to the Convention on the Rights of the Child on a Communications Procedure is not signed by India as of now. India ratified the Convention for the Suppression of the Traffic in Persons and of the Exploitation of the Prostitution of Others<sup>7</sup> and following that, the country enacted The Immoral Traffic (Prevention) Act in 1956<sup>9a</sup> and punishes trafficking in relation to prostitution.

### **7.3 IMPACT ON WOMEN**

17 females are getting affected by the project (54.84% of the total population) out of 31 persons. Only 1 women headed household is being affected by the project. They constitute around 33.33% of the total affected PAHs in the project area. According to the Socio- economic status along the road parameters like literacy rate is higher among women, work force participation rate is low as compare to male population.

### **7.4 WOMEN HEADED HOUSEHOLD**

Female-headed households are considered a vulnerable group as per these SIA. The resettlement plan ensures that socio-economic conditions, needs and priorities of women in the affected area are identified and the process of land acquisition and resettlement does not disadvantage women. During disbursement of compensation and provision of assistance, priority will be given to female-headed households.

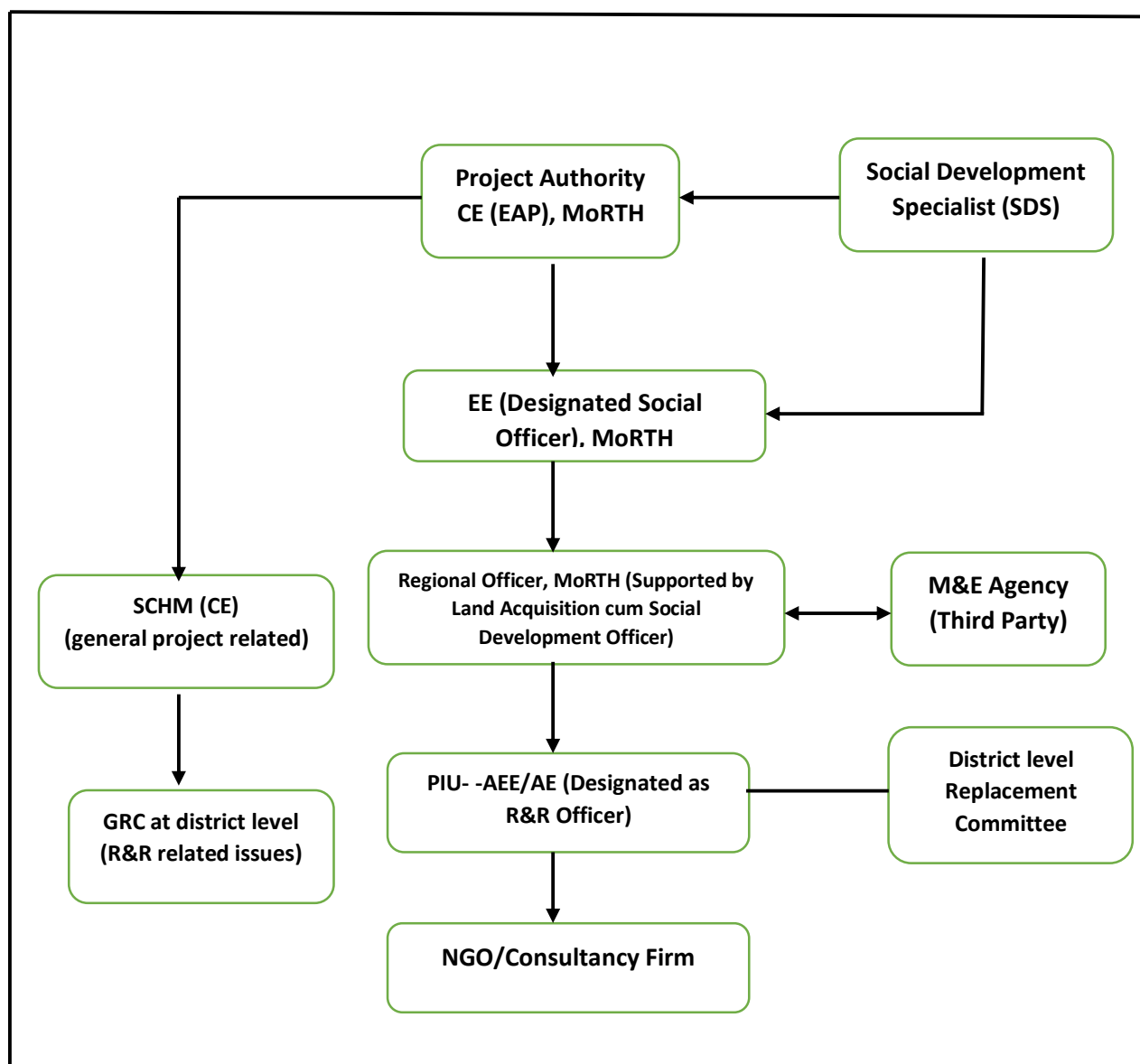
However, one (1) household is women headed along the proposed project area.

## 8. INSTITUTIONAL ARRANGEMENT FOR ARAP IMPLEMENTATION

### 8.1 INTRODUCTION

The key elements of institutional arrangements are co-operation/ support, collaboration and sharing of responsibilities with clearly defined roles, involvement of key stakeholders and vertical and horizontal linkages amongst different agencies. The Institutional Arrangements for implementation of RPF and ARAPs are detailed below. The Institutional Arrangements are required at three levels viz., MoRT&H (Central Govt.), State Level and Sub-Project Level and this is presented in the below figure 8-1.

**Figure 5 Institutional Arrangement for ARAP Implementation**



## **8.2 CENTRAL LEVEL**

At Central Level, the Chief Engineer (EAP), MoRTH, Govt. of India will be overall responsible for the implementation of RPF. CE (EAP) will have all delegated administrative and financial decisions with regard to implementation of the project as well as land acquisition, ARAP including TDP/VCDP implementation. It will include further augmenting the capacity of MoRTH with regard to resettlement and rehabilitation and management of other social issues. CE (EAP) will be assisted by a team comprising EE designated as Social Officer and a suitable number of technical and secretarial staff. MoRTH also will engage a Social Development Specialist (SDS) either as individual consultant or through Project Management Consultant (PMC), to work with EAP and assist Social Officer. The EAP will be responsible for ensuring training, guidance, and recommendations for handling policy and implementation issues at the state and sub-project levels in compliance with RPF. The Social Development Specialist either individually or with PMC will provide policy and strategic assistance to EAP on social issues including land acquisition and rehabilitation and resettlement. The designated Social Officer will be specifically responsible for implementation of ARAP & TDP. The Social Officer will ensure that all social safeguards issues are complied with as per the RPF. The roles and responsibilities of the SDS would broadly include the following:

- i. Ensure adequate staffing at state and sub-project level to ensure timely implementation of ARAP.
- ii. Guide and supervise in matters related to resettlement and rehabilitation & TDP to state and sub-project level offices.
- iii. Ensure preparation and disclosure of SIA, ARAP including TDP/VCDP and Land Acquisition Plan for sub projects as per RPF.
- iv. Ensure free, prior and informed consultation with tribal families along the project and also ensure that sufficient supporting documentation is maintained.
- v. Co-ordinate with state government departments in matters related to implementation of ARAP & TDP.
- vi. Interact with implementation agencies at state and sub-project level on a regular basis.
- vii. Undertake field visits as and when required.
- viii. Facilitate necessary help needed at site with regards to LA and R&R issues.
- ix. Compile data related to resettlement and rehabilitation & TDP activities received from field offices and update Chief Engineer (CE) and suggest suitable measures to be taken.
- x. Ensure budgetary provision for resettlement and rehabilitation of PAPs and relocation, rehabilitation and reconstruction of common property resources (CPRs) and implementation of & TDP.
- xi. Ensure timely release of budget for implementation of ARAP&TDP.
- xii. Monitor implementation of ARAP including TDP carried out by the agency through RRO at subproject level.
- xiii. Ensure third party audit of ARAP & TDP implementation; and
- xiv. Perform other roles and responsibilities related to implementation of ARAP including TDP as assigned by the CE (EAP) from time to time.



### **8.3 STATE LEVEL**

At State Level, a Land Acquisition cum Social Development Officer (LA cum SDO) would be appointed in the Project Coordination Unit (PCU) headed by Nodal Officer. Additional sociologist as individual consultant will also be engaged to assist LA cum SDO in states as required, particularly in states with larger share of sub projects such as Andhra Pradesh, Himachal Pradesh, and Uttar Pradesh etc. The roles and responsibilities of the LA cum SDO would broadly include the following:

- i. Facilitate preparation and implementation of land acquisition and ARAP including TDP in compliance with RPF;
- ii. Ensure consultation and stakeholder participation in finalization of ARAP including TDP;
- iii. Guide and supervise ARAP including TDP implementation at sub-project level;
- iv. Interact with ARAP implementation support agencies and undertake field visits for first-hand information;
- v. Co-ordinate with various government departments in matters related to implementation of ARAP & TDP;
- vi. Check implementation of ARAP including TDP/VCDP carried out by the agency from time to time by undertaking site visits and consultations with PAPs;
- vii. Facilitate and cooperate in third party audit of ARAP & TDP implementation;
- viii. Guide and supervise the ARAP implementing agency to roll out HIV prevention activities;
- ix. Ensure a well -functioning GRM including “confidential” handling of complaints relating to Gender Based Violence;
- x. Compile data on LA progress and ARAP implementation activities received from field offices and update EAP, MoRTH and suggest suitable measures to be taken; and
- xi. Perform other roles and responsibilities related to implementation of ARAP including TDP/VCDP as assigned by the EAP, MoRTH from time to time

### **8.4 SUB-PROJECT LEVEL**

A Project Implementation Unit (PIU) comprising officials of State PWD will be constituted at subproject level and headed by the Superintending Engineer/ Executive Engineer – who will be designated as Project Director. The PIU will be responsible for the project execution including ARAP & TDP/VCDP implementation. There will be a designated or appointed Resettlement & Rehabilitation Officer (RRO) at respective PIUs who will be responsible only for the implementation of ARAP and TDP at site. Additional sociologist as individual consultant will also be engaged to assist RRO as required. RRO will assist Project Director at PIU in all matters related to resettlement and rehabilitation. The roles and responsibilities of the Resettlement and Rehabilitation Officer are as under:

- i. Ensure ARAP including TDP implementation with assistance from implementation agency as per the time line agreed upon.
- ii. Interact with ARAP implementation agency on a regular basis.
- iii. Undertake field visits with implementation agency from time to time.
- iv. Co-ordinate with district administration and other departments in matters related to implementation of R&R.
- v. Facilitate necessary help needed at site with regard to LA and R&R, HIV issues to implementation agency.

- vi. Ensure distribution of Resettlement and Rehabilitation Policy and entitlement matrix for the project to PAPs.
- vii. Ensure preparation and distribution of photo identity cards.
- viii. Ensure and attend meetings organized by implementation agency on thematic areas related to resettlement and rehabilitation policy and entitlements and awareness generation including aspects relating to GBV.
- ix. Ensure inclusion of PAPs who could not be enumerated during census but have documentary evidence to be included in the list of PAPs.
- x. Ensure preparation of identity cards, and approval from the PCU and distribution of the same to PAPs.
- xi. Ensure timely preparation of micro-plan from ARAP implementation agency and approval from PCU.
- xii. Ensure disbursement of resettlement and rehabilitation assistance in a transparent manner.
- xiii. Participate in meetings related to resettlement and rehabilitation issues.
- xiv. Facilitate in opening of joint account of PAPs.
- xv. Ensure release of compensation and assistance before taking over the possession of land for start of construction work.
- xvi. Ensure relocation, rehabilitation and reconstruction of CPRs before dismantling through proper mechanism.
- xvii. Ensure development of resettlement sites, where required.
- xviii. Attend and participate in Grievance Redress Committee meetings for Redressal of grievances of PAPs and other committees involving R&R matters,
- xix. Liaison with government and other agencies for inclusion of PAPs in employment and income generation Programme/scheme.
- xx. Ensure that tribal families get equal opportunity to participate during implementation and become overall beneficiaries in the project.
- xxi. Prepare monthly progress report related to physical and financial progress of implementation of ARAP including TDP & submit to PCU.
- xxii. Provide all necessary information and data related to R&R on monthly basis to designated Social Officer at Central Level through Project Director.
- xxiii. Carry out any other work related to resettlement and rehabilitation that may be entrusted from time to time by the PCU for compliance of R&R.

## **8.5 ARAP IMPLEMENTING SUPPORT AGENCY AT SUB-PROJECT LEVEL**

The Project Authority [CE (EAP), MoRTH to implement ARAP for each of the sub-project, will engage the services of **NGOs/Consultancy firms** having experience in resettlement and rehabilitation issues. Broad roles and responsibilities of implementation agency would be as:

- i. The ARAP implementation agency will be the main link between the Project Authority and PAPs,
- ii. Shall be responsible for verification of PAPs as prepared by the DPR consultants,
- iii. Undertake public information campaign along with RRO at the commencement of the ARAP&TDP,
- iv. Develop rapport with PAPs,

- v. Distribute pamphlets of R&R Policy including Entitlement Matrix to PAPs, Panchayat Raj Institutions, and concerned Govt. Offices in the project area, etc.
- vi. Include PAPs who could not be enumerated during census cum socio-economic survey and certification from R&R Officer,
- vii. Distribute identity cards for PAPs,
- viii. Prepare and submit micro-plan to RRO for approval from PCU,
- ix. Organize consultations at regular interval with PAPs with regard to resettlement and rehabilitation,
- x. Organize training program for skill up gradation of the PAPs,
- xi. Assist PAPs in all matters related to compensation and R&R,
- xii. Assist and facilitate aggrieved PAPs (for compensation and assistance) by bringing their cases to GRC,
- xiii. Facilitate in opening of joint account of PAPs,
- xiv. Generate awareness about the alternative economic livelihood and enable PAPs to make informed choice,
- xv. Consultations with PAPs regarding the choice of resettlement (i.e. self or assisted), development of resettlement site, participation of women, etc.
- xvi. Identify training needs of PAPs for income generation and institutions for imparting training,
- xvii. Undertake outreach activities for HIV prevention for awareness and behavior change as per ARAP,
- xviii. Hold consultations with local people and Panchayat Raj Institutions with regard to relocation, rehabilitation, reconstruction of affected CPRs as well as provision of new facilities under the project,
- xix. Participate in various meetings relating to ARAP and TDP/VCDP preparation and implementation,
- xx. Submit monthly progress report, and
- xxi. Undertake any other activities that may be required for the implementation of ARAP & TDP, etc.

## **8.6 REPLACEMENT COST COMMITTEE AT DISTRICT LEVEL**

A committee at district level will be constituted to fix the replacement cost of land in case of lands acquired through Direct Purchase method or Land lease, structures and other properties (trees, crops and other assets, tube well, hand pump, etc.). The committee may be chaired by the District Collector/ Dy. Commissioner or his designated representative (not below the rank of SDM), Project Director-cum-Executive Engineer of the concerned PIU, District Agriculture Officer, Range Officer (Forest Department, if required), an independent certified valuer, Executive Engineer of the concerned District, elected representative (MLA) of the concerned area and Team Leader of ARAP implementation agency.

The highest value of land obtained by the three methods mentioned in Section 26 and Schedule 1 of RFCTLARR will be presented by the Project Authority and approved by the committee as the replacement cost. Similarly, latest schedule of rates of the concerned districts shall be used for

obtaining replacement cost of structures. For items not available in the schedule of rates, for those items market rates shall be collected from three different sources and then replacement cost shall be fixed by the committee. For replacement costs of crops, trees and other such items similar methods will be followed.

The committee will be constituted through an executive order and or other suitable instrument within one month (30 days) from the date of mobilization of ARAP implementation agency at site.

## **8.7 MECHANISM FOR IMPLEMENTATION OF ARAP, TRAINING AND CAPACITY BUILDING – AT PROJECT AND SUB-PROJECT LEVEL**

Training and development of project staff is an integral part for implementing GNHCP. A training needs identification shall be carried out at Central, Regional and Site level, based on which focused training modules will be developed in the first six months of project implementation;

- Strengthening in house capacity to implement the provisions of RPF/ARAP,
- Creating Awareness, providing the tools for implementation of ARAP, and accompanying set of management procedures to all departments,
- Developing competence within key officials to provide training in their respective level.

Based on skill requirement/improvement at all levels for proper implementation of RPF, a training Programme focusing project implementing partners at Centre, State and field PIUs has been developed which will be implemented by the Project Authority (MoRTH) in the next two years. These training programs, which will be zeroed down after a quick training needs assessment, are to be conducted with the help of local and national training institutions and experts in various aspects of social management. MoRTH will also identify courses offered by the premier institutions in India and abroad on social management and inter-phase these with identified Programme. There is a provision for separate budget for this activity. The budget reported under “institutional” head includes the cost estimates of training programs discussed above.

## 9. REHABILITATION AND RESETTLEMENT BUDGET

### 9.1 R&R BUDGET

Based on the Entitlement Matrix, the R&R budget for Gumma-Fediz section of NH 707 has been finalized and is presented in this chapter. The budget is indicative of outlays for the different expenditure categories and may be required to be updated during the project implementation. The R&R budget includes the cost of structure, R&R assistance to be provided to the affected people, replacement cost of religious and community property etc. The project does not involve any land acquisition and the affected households are non-titleholders. Thus, the R&R budget comprises of only two broad components namely compensation for structures and assistance to the affected families. Compensation for structures and assistances will be given as per entitlement matrix.

### 9.2 COMPENSATION COST FOR STRUCTURE

To calculate the cost of structure, the CPWD Plinth Area Rates, 2019 and HPPWD SOR 2019 were referred (attach as **Annexure 9-1**). The cost estimation is based on current rates which might differ in later stages of the project.

As per census cum socio-economic survey data, 3 private structures are being affected, out of which 2 are permanent and one is semi-permanent in nature. The estimated cost of the properties/ structures based on their construction type is given in **the Table 9-1**.

**Table 9-1 Estimated cost of the structures**

Sl. No.	Details of Structures	Rate	(in Sq. Mt)/ Quantity	Cost (in Rs.)
1.	Permanent Structure (Non-Title Holder)	19,500	334.75	65,27,625
2.	Semi-Permanent Structure (Non-Title Holder)	16,600	25.0	4,15,000
<b>Sub-Total</b>				69,42,625
Contingency @ 10%				6,94,263
<b>Total</b>				<b>76,36,888</b>

### 9.3 R&R ASSISTANCE

R&R assistance costs are calculated by using Census cum socio-economic survey data and applicable Entitlement Matrix of Resettlement Policy Framework (RPF) and are presented in **Table 9-2**. A tentative cost that would be incurred while providing this assistance to the affected household has been calculated to be 2,73,900. The R&R assistance includes subsistence allowance, shifting allowance, one time rehabilitation amount and assistance to women headed household.

Out of 3 affected structures, 2 are abandoned and so no R&R assistance has been calculated for these households. One of the owners of the abandoned structure is a Woman and so apart from structure cost, she will also get an additional assistance under vulnerable category. The details of assistance amount will be updated at the implementation stage.

**Table 9-2 Estimated Cost of the R&R Assistance**

Sr. No.	Item	Unit	Rate	Quantity	Total
A. Loss of Residential/ Commercial Structures to Non-Title Holders					
1	One-time subsistence grant payable over a period of 12 months/ one year- For loss of House	One time	41,000	1	41,000
2	Shifting/transportation assistance- For loss of House	One time	60,000	1	60,000
3	One-time rehabilitation grant for reconstruction of affected shop given to artisans- For loss of shop	One time	28,000	1	28,000
4	Shifting/transportation assistance- For loss of shop	One time	60,000	1	60,000
	Sub-Total-1				1,89,000
B. Additional Support to Vulnerable Group					
5	One-time Resettlement Allowance	One time	60,000	1	60,000
	Sub-Total-2				60,000
Total (Sub-Total 1+2)					2,49,000
Contingency @ 10%					24,900
Total R & R Assistance Cost					2,73,900

## 9.4 RELOCATION AND ENHANCEMENT OF COMMUNITY STRUCTURES

The census cum socio-economic survey showed that about 2 hand pumps are likely to be affected due to the widening of project road. For the relocation of these hand pumps, a lump sum amount of Rs. 3, 00,000/- per hand pump has been included in the budget.

**Table 9-3 Estimated Cost of Common Property resources**

Sl. No.	Details of Structures	Rate/ Sq. Mt/R.M.	(in Sq. Mt/ R.M.)	Cost (in Rs.)
1.	CPR includes Hand Pumps	3,00,000	2	6,00,000
Contingency @ 10%				60,000
<b>Total Cost</b>				<b>6,60,000</b>

## 9.5 ADMINISTRATIVE, NGO, MONITORING & OTHER EXPENSES

The cost related to NGO recruitment will be about 20 Lac, External monitor will be about 10 Lacs, Administrative expenses of PIU will cost around 5 lac, Execution Cost of GBV, LMP & SEP will cost about 10 lacs. The total administrative Cost will be 61.05 lacs. Including other expenses and contingency as indicated in table below.

**Table 9-4 Estimated Administrative Costs**

Sl. No.	Item	Unit	Rate	Quantity	Total
1	NGO Recruitment	LS	20,00,000	1	20,00,000
2	External Monitor	LS	10,00,000	1	10,00,000
3	Administrative Expenses PIU	LS	5,00,000	1	5,00,000
4	Disclosure Expenses	LS	5,000	10	50,000
5	Training for PIU and PMU Staff	LS	1,00,000	5	5,00,000
6	Execution Cost of GBV, LMP & SEP	LS	10,00,000	1	10,00,000
7	Grievance Redressal Mechanism	LS	5,00,000	1	5,00,000
	<b>Sub-Total-3</b>				<b>55,50,000</b>
	<b>Contingency @ 10%</b>				<b>5,55,000</b>
	<b>Total Administrative Cost</b>				<b>61,05,000</b>

## 9.6 COST OF NGO INVOLVEMENT

The involvement of NGOs is required to help in implementation of the project, especially when the compensation is distributed among the affected household. The lump sum budget which includes salary of the key professionals, sub-professionals, office staff, field staff, vehicle cost, vehicle running cost, training and workshop expenses, office equipment expenses, rent of the office, stationery, overhead expenses and miscellaneous expenses etc. for one NGO is Rs. 20,00,000/- for the project road.



## **9.7 TOTAL R&R BUDGET FOR THE PROJECT INCLUDING LAND, STRUCTURES AND ASSISTENCES**

The total Structure and Assistance budget for the project works out to be Rs. 1.46 Crore of which Rs. 76.36 lakhs is towards compensation for Structures and Costs for R&R Assistances is 2.73 lakhs including Administrative expenses of Rs. 61.05 lakhs. The relocation cost of Cost of Common Property resources is 6.60 lakhs. The details of the budget are summarizing in Table 9.5 below:

**Table 9-5 Summary of Total R&R Budget**

<b>Sr. No</b>	<b>Description</b>	<b>Cost (Rs.)</b>
1.	Structure Cost as per Schedule of rates of CPWD/HPPWD with Contingency @ 10%	76,36,888
2.	R&R Assistance as per RPF Entitlement Matrix Inc. Administrative costs	2,73,900
3.	Cost of Common Property resources	6,60,000
4.	Administrative, NGO, Monitoring & other expenses	61,05,000
<b>Total R&amp;R Budget</b>		<b>1,46,75,788</b>

## **10. MONITORING AND EVALUATION**

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### **10.1 INTRODUCTION**

Monitoring and evaluation are important activities of infrastructure development project particularly, those involving involuntary resettlement. It helps making suitable changes, if required during the course of implementation of ARAP and also to resolve problems faced by the PAPs. Monitoring is periodical checking of planned activities and provides midway inputs, facilitates changes, if necessary and provides feedback to project authority for better management of the project activities. Evaluation on the other hand assesses the resettlement effectiveness, impact and sustainability of R&R activities. In other words, evaluation is an activity aimed at assessing whether the activities have actually achieved their intended goals and purposes. Thus monitoring and evaluation of resettlement action plan implementation are critical in order to measure the project performance and fulfilment of project objectives.

The monitoring and evaluation of ARAP implementation will ensure monitoring of key indicators on inputs, outputs, project processes and evaluation of impact indicators. The overall purpose of the monitoring is to keep track of the implementation processes and progress, achievement of performance targets fixed in the annual work plans, learning lessons and taking corrective actions to deal with emerging constraints and issues. Monitoring and evaluation will constitute the following:

- Implementation progress (physical and financial aspects), monitoring of inputs, and outputs;
- Process documentation (case studies and lessons learnt);
- Impact evaluation based on sample survey and consultations; and
- Thematic studies.

### **10.2 INSTITUTIONAL ARRANGEMENT FOR M & E**

The Resettlement Policy Framework (RPF) stipulates hiring services of an external agency (third party) for monitoring and evaluation of ARAP implementation. This means the project authority through an external agency will carry out monitoring and evaluation from the subsequent month of the mobilization of ARAP IA at project site. Internal monitoring will be carried out by the Social Officer of Project Coordination Unit (PCU) with assistance from R&R officer and ARAP IA whereas external monitoring and evaluation will be carried by the third party engaged for the purpose. This will help monitor project activities closely. Regular monitoring by undertaking site visits and consultations with PAPs will help identify potential difficulties and problems faced in the implementation and accordingly help take timely corrective measures including deviations, if needed.

Components of monitoring will include performance monitoring i.e., physical progress of the work and impact monitoring and external evaluation. Indicative indicators to be monitored related to performance are provided in the following sections. In case during the project implementation, if some other indicators are found relevant they will also be considered for monitoring.

### **10.3 MONITORING AND EVALUATION (M&E) AT PROJECT AND SUB-PROJECT LEVEL**

The Resettlement Action Plan contains indicators and benchmarks for achievement of the objectives under the resettlement programme. These indicators and benchmarks will be of three kinds:

- (1) Proposed indicators, indicating project inputs, expenditures, staff deployment, etc.
- (2) Output indicators, indicating results in terms of numbers of affected People compensated and resettled, training held, credit disbursed, etc,
- (3) Impact indicators, related to the longer-term effect of the project on People’s lives.

The benchmarks and indicators will be limited in number, and combine quantitative and qualitative types of data. Some of these indicators may include, percentage of PAPs actually paid compensation before any loss of assets; percentage of PAPs whose incomes after resettlement are better than, or at least same as before resettlement; percentage of assets valued at replacement cost compensation; percentage grievances resolved; and/or percentage of cases to court. The first two types of indicators, related to process and immediate outputs and results, will be monitored to inform project management about progress and results, and to adjust the work programme where necessary if delays or problems arise. The results of this monitoring will be summarized in reports which will be submitted to the World Bank on a regular basis. Provision will be made for participatory monitoring involving the project affected people and beneficiaries of the resettlement programme in assessing results and impacts. The Project Authority will engage services of an external agency (third party), which will undertake independent concurrent evaluations at least twice a year during the project implementation period. At the end of the project an impact evaluation will be carried out as part of the project completion report. Such independent evaluation will focus on assessing whether the overall objectives of the project are being met and will use the defined impact indicators as a basis for evaluation. Specifically, the evaluation will assess: (i) The level of success (including the constraints and barriers) in land acquisition programme, resettlement plan, and income recovery of the PAPs after they have been displaced from the project affected area, and, (ii) the types of complaints/ grievances and the success of the handling of grievance and public complaints towards the construction of project’s infra-structures, means of redress for assets and lands and the amount of compensation, resettlement, and other forms of complaints.

Summarizing, M&E would be carried out for regular assessment of both process followed and progress of the ARAP implementation. The internal monitoring will be carried out by the State PCU by the Land Acquisition cum Social Development Officer with assistance from ARAP Implementation Support Agency and a quarterly report will be submitted to MoRTH. Each quarterly report would also be uploaded on the MoRTH website. The external agency (third party) however, would conduct assessment six monthly for each sub-project by undertaking field visits and all other necessary activities including consultations. The six monthly reports would cover detailed information on process and progress of ARAP implementation. The report would highlight issues, if any that need attention of the Project Authority and suggest corrective measures that may be followed for better implementation of ARAP.

#### 10.4 PROCESS & PERFORMANCE MONITORING

Process monitoring would enable the project authority to assess whether the due process are being followed or not, whereas performance monitoring would mainly relate to achievement in measurable terms against the set targets. Monitoring report will also provide necessary guidance and inputs for any changes, if required during the course of the implementation. A list of indicators is given in Table 13.1.

**Table 10-1 Performance Monitoring for ARAP Implementation**

Sr. No.	Indicators	Target	Status	Achievement (in %)	Remarks
1	Land acquisition (Private)				
	Notification published u/s 3D				
	Award declared u/s ..... for				
	Land area (ha)				
	Land owners (No.)				
	Compensation disbursed by Competent Authority to land owners (No.)				
	Govt. land transfer (ha)				
2	Verification of identified PAPs completed (No.)				
3	New PAPs added, if any (who could not be enumerated at the time of survey)				
4	Consultations held with regard to ARAP (dissemination of information, awareness generation, entitlements, HIV/ AIDS, SCHM, etc.) – No.				
5	Leaflets, containing salient features of ARAP, hand bills, fliers and other awareness materials distributed (No.)				
6	Measurement of structures likely to be affected completed (No.)				
7	Date of formation of DLC				
8	Meetings held by DLC for fixing the replacement cost (No.)				
9	Valuation of affected properties completed (No.)				
10	Micro plan submitted for THs for approval (No.)				
11	Identity cum entitlement card issued to PAPs (No.)				
12	Consultations held with local community regarding relocation or rehabilitation of CPRs (No.)				
13	Estimate submitted for relocation/ rehabilitation of CPRs for approval				
14	Agency to carryout relocation/ rehabilitation of CPRs as agreed by the project authority				
15	R&R assistances disbursed to PAPs (THs – No.				
16	PAPs re-established their shops/ business (No.)				
17	PAPs covered under income generation schemes (No.)				
18	PAPs provided training for alternate livelihood (No.)				
19	CPRs relocated/ rehabilitated (No.)				

20	Grievance/ complaints brought to GRC for Redressal (No.)				
21	GRC meeting held and cases resolved (No.)				
22	Various channels of SCHM used by category (No.)				
23	Consultation meetings held by LA cum SDO of Project Coordination Unit (PCU) (No.)				

## 10.5 EVALUATION

The external agency engaged by the Project Authority shall carry out the evaluation at two stages viz., mid-term and after the completion of ARAP implementation. The evaluation will be carried out under a set term of reference. The evaluation study would involve both quantitative and qualitative surveys and compare results before and after the implementation of the project. It will focus on assessing whether the overall objectives of the project are being met and will use the defined impact indicators as a basis for evaluation. The evaluation study would undertake the following but not limited to:

- Review monthly progress report submitted by ARAP Implementation Agency (ARAP IA);
- Undertake consultations with PAPs in order to assess their point of view with regard to overall process;
- Intensity and effectiveness of information dissemination with regard to RAP implementation covering eligibility of different categories of PAPs, frequency of interactions by ARAP IA personnel with PAPs, deployment of ARAP IA staff, quality of report maintained by ARAP IA personnel with PAPs, capability of ARAP IA personnel, behavior of ARAP IA staff, availability of ARAP IA staff, level of satisfaction as regards the work of ARAP IA, etc;
- Collect information about distribution of awareness generation materials, entitlements, distribution of identity cum entitlement card, adequacy of dissemination of information, consultations meetings with regard to policy and eligibility for entitlement, alternatives and relocation related issues, measurement and valuation of affected properties, understanding and use of grievance procedure, disbursement of assistance, and other R&R related issues, compliance of resettlement policy, etc;
- Conduct sample survey (25% of PAPs) for making comparative analysis substantiated by qualitative surveys and case studies, etc.

It may be noted that one of the key objectives of the project is improvement or at least restoration of economic status of the PAPs to the pre project level. An illustrative list of indicators is given in Table 13.2, which would be measured against the baseline data collected for the preparation of ARAP. The M&E agency would finally select the indicators for the evaluation of the project depending upon the progress of R&R activities.

**Table 10-2 Impact Indicators**

Sr. No.	Indicator	Unit	Before Project Implementation	During/after ARAP Implementation
1	Monthly income of family/household			
2	Consumer durables/material Assets owned			
3	Ownership of Transport and farm implements owned			
4	Occupation of head of Household and other members			
5	Type of dwelling units			
6	Number of Earning members/households			
7	Family under debt			
8	Size of loan			
9	Households purchased loans			
10	Households with various sizes of land			
11	Ownership/tenancy of dwelling units (owner, encroacher, squatter)			
12	Access to water and sanitation facilities			
13	Access to modern sources of lighting and cooking			
14	Animal and poultry birds owned			
15	Migration for employment			

## 10.6 REPORTING

Monthly Progress Reports on the progress of ARAP implementation including mobilization of staff members, opening of site offices, etc. of the project would be prepared by ARAP IA and submitted to the R&R Officer at sub-project level.

Quarterly Monitoring Reports shall be compiled by the LA cum SDO of Project Coordination Unit (PCU) and submitted to MoRTH for review and onward submission to World Bank

Six monthly reports shall be prepared by the M&E agency by undertaking site visits and review of progress report, consultations, etc.

Evaluation Report shall be prepared by the M&E agency at the end of the project implementation as part of the project completion report.

## **11. GRIEVANCE REDRESSAL MECHANISM**

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### **11.1 NEED FOR GRIEVANCE REDRESS MECHANISM**

The Resettlement Policy Framework (RPF) mandates formation of Grievance Redressal Mechanism in order to resolve disputes in an effective manner and at the door steps of the PAPs. Compensation and assistance as per eligibility is provided in the entitlement matrix of the approved RPF. The Grievances will be redressed at the PIU level, if not can be referred to the court by the aggrieved. The first contact person at PIU to review and redress the grievance is the RRO. If not resolved, the aggrieved can reach to the Grievance Redress Committee formed at the PIU level. The decision of the GRC will be binding, unless vacated by court of law.

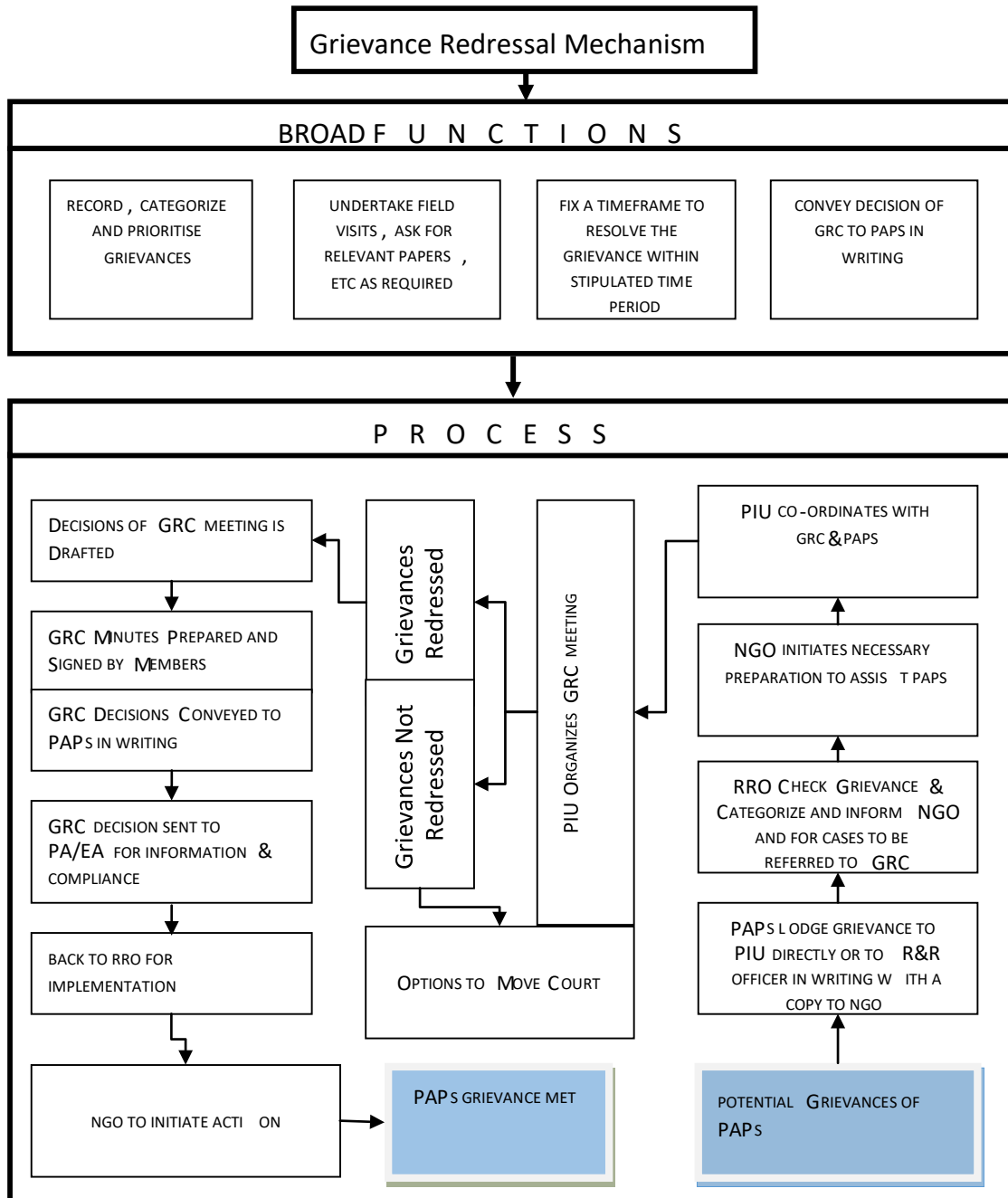
### **11.2 GRIEVANCE REDRESSAL COMMITTEE (GRC)**

The GRC at PIU level will be constituted by the Project Authority with the aim to settle as many disputes as possible on Land Acquisition (LA) and R&R through consultations and negotiation. There will be one GRC for each PIU. The GRC will comprise six members headed by a retired Revenue Officer/Social Welfare Officer not below Group I officer rank. Other members of the GRC will include the concerned Project Director-cum-Executive, a retired PWD Officer (not below the rank of Executive Engineer), RRO, representative of PAPs and Sarpanch (Elected Head of Village) of the concerned village. Grievances of PAPs in writing will be brought to GRC for redressal by the ARAP implementation agency. The ARAP implementation agency will provide all necessary help to PAPs in presenting his/her case before the GRC. The GRC will respond to the grievance within 15 days. The GRC will normally meet once in a month but may meet more frequently, if the situation so demands. A time period of 45 days will be available for redressing the grievance of PAPs. The decision of the GRC will not be binding to PAPs. This means the decision of the GRC does not debar PAPs taking recourse to court of law, if he/she so desires. Broad functions of GRC are as under:

- Record the grievances of PAPs, categorize and prioritize them and provide solution to their grievances related to resettlement and rehabilitation assistance.
- The GRC may undertake site visit, ask for relevant information from Project Authority and other government and non-government agencies, etc. in order to resolve the grievances of PAPs.
- Fix a time frame within the stipulated time period of 45 days for resolving the grievance.
- Inform PAPs through implementation agency about the status
- of their case and their decision to PAPs and Project Authority for compliance.

The GRC will be constituted within 3 months by an executive order from competent authority (centre/ state) from the date of mobilization of ARAP implementation agency. The RRO will persuade the matter with assistance from implementation agency in identifying the suitable persons from the nearby area for the constitution of GRC. Secretarial assistance will be provided by the PIU as and when required. The flow diagram (Figure. xxx) shows the entire process of grievance Redressal.





**Figure 6 Grievance Redressal Mechanism**

PAPs will be fully made aware about the GRM for effective, inexpensive and amicable settlement of claims for compensation and assistance by holding meetings with PAPs, public meetings and distributing leaflets containing salient features and procedures of GRM. The ARAP IA will assist the PAPs in getting their record of rights updated in case of disputes related to land. The RRO with support from ARAP IA will make all possible efforts for amicable settlement. The ARAP IA will document all cases brought to GRC and maintain the records of the proceedings of the grievance redressal committee meetings.

### **11.3 SUGGESTION AND COMPLAINT HANDLING MECHANISM (SCHM)**

The MoRTH recognizes the importance of this and hence intends to establish a SCHM for the GNHCP. The communication channels to report project related complaints/concerns will be disclosed at all levels of institutions—MoRTH, State and Sub-project levels.

Through the Right to Information Act, 2005 an Act of the Parliament of India provides for setting out the practical regime of right to information for citizens. The Act applies to all States and Union Territories of India. Under the provisions of the Act, any citizen may request information from a "public authority" (a body of Government or "instrumentality of State") which is required to reply expeditiously or within thirty days. The Act also requires every public authority to computerize their records for wide dissemination and to pro-actively publish certain categories of information so that the citizens need minimum recourse to request for information formally. In other words under the act, citizens have right to seek information from concerned agencies by following the set procedures. However, it is quite likely that many people may not use the provisions of this Act, only in limited cases covering serious concerns. Being an inter-state project involving several states and large scale of civil works along with R&R and Environment issues, the project is likely to receive many suggestions, complaints, inquiries, etc. through the project implementation period. Therefore, MoRTH has agreed to establish SCHM as a good practice to address public concerns pertaining to various issues. SCHM will report all project related LA and R&R of the PAPs for redressal through the concerned PIU or GRC as appropriate. Several communication channels viz., toll free phone number, dedicated email, mechanism for on line submission of suggestions/complaints/inquiries, provision of suggestion/complaint box (at site and project office), post and other suitable means shall be set up for suggestion and complaint handling.

# **ANNEXURES**

# Annexure 1-1: Census and PAP Asset Survey Schedules

## Census Survey Questionnaires

### PART: 1 – ASSET INFORMATION

Census Survey Code.

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#### GENERAL

A. Questionnaire No: ..... B. Subproject Road Name: .....

C. Village: ..... D. District: ..... E. State: .....

F. Plot No. .... G. Km/Chainage..... H. Side 1. Left 2. Right

☐

I. Name of the person answering to survey.....

J. Relation to the owner:.....

K. Years of Occupation of the Affected Property \_\_\_\_ Years

L. Present Address of the Property: \_\_\_\_\_

---

M. Mother Tongue \_\_\_\_\_ (Hindi-1; Telugu-2; Bengali-3; others -4 in case of others specify.)

#### DETAILS OF LAND

1. Ownership of the Land

1. Private 2. Government 3. Religious 4. Community 5. Others

☐

2. Type of Land

1. Irrigated 2. Non-Irrigated 3. Barren 4. Forest 5. Other

☐

3. Use of Land

1. Cultivation 2. Orchard 3. Residential 4. Commercial

☐

5. Forestation 6. Others 7. No Use/ Barren

4. Affected area of the Land (in square meter) .....

5. Total Area of the Land/Plot (in square meter) .....

6. Rate of the Land (Per sq. m) 1. Market Rate (Rs).....

7. Status of Ownership

1. Titleholder (Pvt Owner) 2. Customary Right 3. Encroacher 4. Squatter

☐

8. Name of the Owner/Occupier: .....

9. Father's Name: .....

10. Name of the owner, if the occupier is tenant.....

11. Total Land Holding (in Acre) .....

12. Any of the following people associated with the Land

A. Agricultural Laborer 1. Yes 2. No

☐

(i). If Yes then How many .....

B. Sharecropper 1. Yes 2. No

☐

(ii). If Yes then How many .....

13. Number of trees within the affected area

1. Total.....2. Fruit Bearing.....3. Non-fruit Bearing.....

**DETAILS OF STRUCTURES (cross check with part III)**

14. Any structure in the Affected Land 1. Yes..... 2. No.....

☐

15. Area of the affected structure (in Square Meter)

a) Length along the road.....b) Width perpendicular to the road.....c) Floor .....

16. Area of the total structure (in Square Meter)

a) Length along the road.....b) Width perpendicular to the road.....c) Floor .....

17. Distance of structure from center line of the road (in mtr.).....

18. Type of Construction of the Structure

1. Temporary (buildings with mud/brick/wood made walls, thatched/tin roof)

☐

2. Semi-Permanent (buildings, with tiled roof and normal cement floor)

3. Permanent (with RCC, Single/ Double storey building)

19. Market Value of the Structure (in Rs.).....

20. Use of the Structure (select appropriate code from below)

☐

**A. Residential Structure** 1 House 2 Hut 3 Other .....

**B. Commercial Structure** 4 Shops 5. Hotel 6 Small Eatery 7 Kiosk 8 Farm House

9 Petrol Pump 10 Clinic 11 STD Booth 12 Workshop

13 Vendors 14 Com. Complex 15 Industry 16. Restaurant

17. Others.....

**C. Mixed Structure**

18 Residential-cum-Commercial Structure

**D. Community Structure**    **19** Comm. Center **20** Club **21** Trust **22** Memorials **23** Other....  
**E. Religious Structure**    **24** Mosque, **25** Shrine **26** Burial **27.** Temple **28.** Other...  
**F. Government Structure**    **29** Govt. Office **30** Hospital **31** School **32** College **33** Other .....  
**G. Other Structure**    **34** Boundary Wall **35** Foundation **36** Cattle Shed **37** Well/Tube Well

21. Status of the Structure

1. Legal Titleholder 2. Customary Right 3. Encroacher 4. Squatter

☐

22. Name of the Owner/Occupier: .....

23. Father's Name: .....

24. Name of the owner, if the occupier is tenant.....

.....

a. Tenure Status..... (Own-1; Rented-2; Leasehold-3)

b. Monthly Rent.....

c. Utility Connection.....(1-Electricity; 2- Water; 3- Sewer)

25. Any of the following people associated with the Structure?

A. Employee/ wage earner in commercial structure 1. Yes 2. No

(i). If Yes, How Many?.....

B. Employee/ wage earner in residential structure 1. Yes 2. No

☐

(ii). If Yes, How Many?.....

26. Number of trees within the affected area

1. Total.....2. Fruit Bearing.....3. Non-fruit Bearing.....

27. Social Category

1. SC 2. ST 3. OBC 4. General 5. Others (specify).....

☐

28. Religious Category

1. Muslim 2. Hindu 3. Other (specify).....

☐

29. Vulnerability Status of the Household:

A. Is it a woman headed household? 1. Yes 2. No

☐

B. Is it headed by physically/mentally challenged person? 1. Yes 2. No

☐

C. Is it a household Below Poverty Line (BPL) 1. Yes 2. No

☐

D. If BPL, provide BPL card number-----

☐

30. Monthly income of the family in (Total of Q.No. 36) Rs.....

**Resettlement and Rehabilitation Option**

**31. Willing to shift** 1. Voluntarily 2. Non-voluntarily

**32. Assistance Option**

- 1. Self Relocation
- 2. Cash for Land loss
- 3. Cash for House/ Shop loss
- 4. Project Assistance


**33. Income Restoration Assistance (The most preferred option)**

- 1. Employment Opportunities in Construction work
- 2. Assistance/ Loan from other ongoing development scheme
- 3. Vocational Training
- 4. Others (specify ..... )

--

**34. Other Support from Project (Specify)**

.....



## **Part II**

### **SOCIOECONOMIC DETAILS (for PAPs with substantial impact)**

**35. Name of the Head of the Household.....**

**36. Number of family members Total.....Male.....Female.....**

Details of Family Members above 18 years of age: (fill appropriate code)

Sl. No	Name of Persons	Relationship with Head of the Household	Sex (M/F)	Age	Marital Status	Educational Qualification	Main Occupation	Monthly Income	Other Occupation	Monthly Income
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										
15.										
16.										

**Marital Status:**

Married-1; Unmarried-2; Divorcee-3; Separate-4; Widowed-5;

**Educational Qualification:**

Illiterate-1; Primary Schooling-2; Upper Primary Schooling-3; High School-4; Graduate-5; Post-Graduate-6; Technical-7

**Occupation :**

Cultivator-1; Agricultural Labourer-2; Daily Wage Earner-3; Salaried-4; Business- 6; Other-7; in case of others specify.

37. Possession of Material /Assets (Please Record Numbers)

Televisi on	Tape Record er	Radio	Refrigerat or	Telepho ne	Vehicles					Cookin g Gas	Any Other (specify )
					Cycles	Three Wheeler	Two- Wheeler	Four Wheeler	Bus / Truck		

37 Live Stock Assets (Please Record Numbers)

Classification	Cows	Buffaloes	Sheep	Goats	Poultry	Others
Give Number						

37. Likely Loss of Other Assets

Tree		Well		Other Category I (Specify) Individual Assets	
No.	Species	No.	Type	No.	

38. Participation in economic activities of family members

S.No.	Economic/Non-economic Activities	Male	Female	Both
1	Cultivation			
2	Allied Activities (Dairy, Poultry, Sheep rearing, etc.)			
3	Collection and Sale of forest products			
4	Trade & Business			

5	Agricultural Labor			
6	Non Agricultural Labor			
7	HH Industries			
8	Service			
9	Households Work			
10	Collection of Water			
11	Collection of Fuel			
12	Others (Specify):			

### 38. Decision making and participation at Household Level

Sl. No.	Subject	Male	Female	Both
1	Financial matter			
2	Education of child			
3	Health care of child			
4	Purchase of assets			
5	Day to day household activities			
6	On social function and marriages			
7	Women to Earn for Family			
8	Land and property			
9	Others			

### 39. Women Participation at Community level

1	Do women of the household participate in decision making processes at community level	Yes- 1 No- 2	
2	Is any member of the household a member or office bearer of village / block / zilla panchayat? Yes – 1; No – 2; If yes whether such member is male or female?	Male	Female
3	Is any women member of the household works as Anganwadi worker or ANM?	Yes	No
4	Is any household member also a member of any self help groups? Yes - ; No -2 If yes, whether male or female?	Male	Female
5	If yes, is that SHG still active?	Yes	No

**40. Employment opportunity in the area**

1. Seasonal 2. Employed throughout the Year 3. None

**41. Do family members migrate for work**

S. No.	Type of Work	In Rs. Per year	Do men migrate for work outside the village Daily -1 Seasonal - 2 Long term – 3 No - 4	Do women also migrate for work outside the village Daily -1 Seasonal - 2 Long term – 3 No - 4
1	Agriculture			
2	Shopkeeper/Business (including petty business)			
3	Employer (industrialist/Factory/Mill owner, etc)			
4	Government Service			
5	Private Service			
6	Wage Labour (Agriculture)			
7	Wage Labour (Non Agriculture)			
8	Self employed (insurance, finance, doctor, engineer, lawyer)			
9	Not employed (income recipient such as retired, remittance, property rent, bank interest, etc)			
10	Household work			
13	Others (specify )			
	Total			

**42. Quality of Life (Consumption Pattern)**

Kindly indicate the consumption/expenditure on different items in last one year

Sl. No.	Particulars	Monthly Expenditure in Rs.	Rank them from highest to lowest
1	Food		
2	Agriculture		

3	Housing		
4	Cooking Fuel		
5	Clothing		
6	Health		
7	Education		
8	Transport		
9	Communication		
7	Social functions		
	Others		

### 43. Loan and Indebtedness

1	Have you taken any loan? 1-Yes, 2-No	
2	Who has taken the loan? 1. Head of the HH; 2. Spouse; 3. Son; 4. Daughter in law; 5.Head and spouse together; 6. Son and Head of the HH; 7. Daughter in law and Mother in law; 8. Other.....	
3	If yes, tell us sources of loan: 1-Bank, 2-NGO, 3-Money lender, 4-Relative/friend, 5-SHG; 6. Others (specify.....)	
4	If yes, Amount of loan (in Rs.)	
5	Could you please tell us the purpose of loan? 1-Productive investment, 2-Purchasing durables, 3-Meeting up emergencies, 4-Marrying of children, 5- Paying off loan, 6-Others (specify.....)	

### 44. Access to facilities

Code	Distance of following facilities/amenities from the location of interview?	Approx. km	Mode to access	Frequency	Trips made by M/F/Both
1	Primary School				
2	Secondary School				
3	College				
4	Regular Market				
5	Commonly visited health service place				
6	Hospital				
7	District Office				
8	Block Office				

**Mode:** Walk-1; Cycle-2; Personal transport-3; Public transport-4;

**Frequency:** Daily-1; Weekly-2; Monthly-3; Very Rare-4;

#### 45. Health Seeking behaviour

<b>1</b>	Has any of your family members suffered from any disease during last 12 months? 1-Yes, 2-No, 3-Don't Know	If yes, who suffered:	Code : Men – 1, Women - 2 Both- 3, Boy child- 4 Girl child – 5, Both children - 6
<b>2</b>	If yes, please specify type of disease?		
<b>3</b>	Type of treatment taken:		1-Allopathic Government, 2-Allopathic Private, 3-Allopathic Govt. & Private both, 4- Homeopathy, 5- Ayurved, 6- Faith healers; 7- quacks; 8-No Treatment, 9-Others (specify.....)
<b>4</b>	Which is the nearest formal medical facility available? PHC – 1; CHC- 2; District Hospital – 3; Private clinic – 4; Private Hospital – 5; Others - 6		
<b>5</b>	Did you avail any health/medical facility (like medicine, routine check-up, advice from doctor etc.) during the last pregnancy?	Yes - 1 No - 2 Has not been pregnant yet - 3	If coded 1 or 3 skip the next question
<b>6</b>	If no, who attended while giving birth to the baby? (Multiple responses possible)	Females neighbor - 1 relatives and friends - 2 Mother-in-law - 3 Sister-in-law - 4 Others specify - 5	
<b>7</b>	Have you heard about HIV/AIDS:	Yes 1; No - 2	
<b>8</b>	If yes, what is the source? Newspaper – 1; TV- 2; radio- 3; NGO camp– 4; Govt. camp – 5;		



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Signature of a person Answering the Survey.....

(Name of the Investigator) Date: .....

(Signature of the investigator)

### **PART III**

#### **EXTENT OF LOSS**

(NOT TO BE ASKED BUT TO BE ASSESSED BY THE INVESTIGATOR) – To be cross verified by the R&R official

1. Losing Total House
2. Losing Partial House
3. Losing Total House and part of Plot (Aangan or Courtyard)
4. Losing Total Plot and Total House
5. Losing Total Plot and Partial House
6. Losing Partial Plot
7. Losing Total Commercial Structure
8. Losing Partial Commercial Structure
9. Losing Total Commercial Structure and Partial Plot
10. Losing Total Commercial Structure and Total Plot
11. Losing Partial Commercial Structure and Total Plot
12. Losing Total House and Total Commercial Structure
13. Losing Total House, Total Commercial Structure and Total Plot
14. Losing Total House, Total Commercial Structure
15. Losing Total House, Partial Commercial Structure and Part of Plot
16. Losing Partial House, Partial Commercial Structure and Part of Plot
17. Losing Total House and Partial Commercial Structure
18. Losing Total Commercial Structure and Part of House
19. Losing Total Boundary Wall
20. Losing Partial Boundary Wall
21. Losing Total Agricultural Land
22. Losing Partial Agricultural Land
23. Losing Total Cattle Shed
24. Losing Part of Cattle Shed

25. Losing Water bodies  
 26. Losing Total Livelihood for Commercial Tenant  
 27. Others (Specify)

**Status of Occupier of affected property**

1. **Status of Occupier** (Tick in the appropriate box)

Owner	Legal Tenant/sharecropper	Non-title Holders		Vacant
		Squatter	Encroacher	

2. Since how long your family has been using this property (in years) \_\_\_\_\_

3. Do you possess a documentary proof

1. Yes ☐ 2. No. ☐

4. If yes, Type of documentary proof of occupation of affected property

Ration card no \_\_\_\_\_ Voter IC no ☐ Receipt/Bill ☐ Bank/A/c ☐

5. **Land Ownership** (Tick under appropriate type and enter the no. of households under the same)

	Single	Joint	Trust	Community	Government	Forest	Unclear (specify)
5.1 Type of ownership							

	Male	Female
5.2 Ownership by Gender ( if private)		

6. Does the family have legal document to prove ownership of

Structure 1. Yes ☐ 2. No. ☐ RTC No. ☐ Sub No. ☐

land 1. Yes ☐ 2. No. ☐ RTC No. ☐ Sub No. ☐

(to be asked only to the owner)

(If yes, ask for the legal document and check with the Land Revenue Office)

## Measurements

### 2.1 Structure

	Offset From Existing Central Line		Offset from Edge of Asset up to Area Getting Affected	
	Land	Structure	Land	Structure
Starting Meter				
Ending Meter				
Width				
Total Area (in sq.m)				
No. of Floors (G, G+1, G+n)				

### 2.2 land

Sl. No.	Area	Total			Affected		
		Length	Width	Total Area (in sqm)	Length	Width	Total Area (in sqm)
1.	Built up area						
2.	Open Space						
3.	Total Area						

### 2.3 Boundary Wall Details

Sl.	Boundary /	Length	Total length
-----	------------	--------	--------------

No.	Compound Wall		affected (in sqm)
1.	Barbed wire fencing		
2.	Stone Dry Masonry		
3.	Brick / Stone Masonry		
4.	Mud Wall		
5.	Others (Specify)		

#### 2.4 Gate Details

Sl. No.	Type of Gate	Length (in m)	Height (in m)
1.	M S		
2.	Wooden		
3.	Others		

#### 2.5 WATER SOURCES GETTING AFFECTED

Sources (in No.)	User (use code)*	Units to be acquired
Dug Wells		
Tube Wells		
Supply Points		

\*[1.Domestic                      2.Agriculture                      3.Industrial                      4. Others (to be specified)]

#### 6 Diagram of the affected property (*Rough diagram with dimension – Not to scale*)

(PHOTOGRAPH TO BE ATTACHED – STRUCTURE ALONG WITH HEAD OF HOUSEHOLD/ RESPONDENT)

In case the tenancy/ownership is under dispute (legal or otherwise) please make a short note below

Field Supervisor: \_\_\_\_\_ Date: \_\_\_\_\_  
\_\_\_\_\_

Endorsed by:

Revenue Officer: \_\_\_\_\_ Date: \_\_\_\_\_  
\_\_\_\_\_

MoRT&H / PWD Officer: \_\_\_\_\_ Date: \_\_\_\_\_  
\_\_\_\_\_

## **Annexure 2-1**

### **Details of ROW**

**CONSULTANCY SERVICES FOR PREPARATION OF DETAIL PROJECT REPORT FOR REHABILITATION AND UP-GRADATION TO INTERMEDIATE LANE OF PAONTA SAHIB RAJBAN SHILLAI MEENUS HATKOTI ROAD PORTION BETWEEN Km 97+000 to 106+120 (DESIGN Chainage Km 94+900 to 103+550) GUMMA TO FEDIZ OF NH 72 B (NEW NH 707) IN THE STATE OF HIMACHAL PRADESH.**

**GUMMA TO FEDIZ ROW DETAILS AS PER SIZRA PLAN**

SNO	EXISTING CHAINAGE	OFFSET ALONG ROAD	LHS	ROAD	RHS	ROW	DISCRIPTION OF VILLAGE
1	96180	0	14.85	3.65	1.50	20	VILLAGE SHOBAI
2	96196	16	14.85	3.65	1.50	20	
3	96309	113	15.85	3.65	1.50	21	
4	96331	22	14.85	3.65	1.50	20	
5	96375	44	10.85	3.65	1.50	16	
6	96481	106	10.85	3.65	1.50	16	
7	96564	83	15.85	3.65	1.50	21	
8	96684	120	19.85	3.65	1.50	25	
9	96776	92	19.85	3.65	1.50	25	
10	96812	36	19.85	3.65	1.50	25	VILLAGE BHOE
11	96868	56	19.85	3.65	1.50	25	
12	96876	8	19.85	3.65	1.50	25	
13	96896	20	19.85	3.65	1.50	25	
14	96934	38	19.85	3.65	1.50	25	
15	97001	67	19.85	3.65	1.50	25	
16	97033	32	19.85	3.65	1.50	25	
17	97104	71	20.35	3.65	1.00	25	
18	97143	39	20.35	3.65	1.00	25	
19	97205	62	20.35	3.65	1.00	25	
20	97250	45	20.35	3.65	1.00	25	
21	97260	10	20.35	3.65	1.00	25	
22	97270	10	20.35	3.65	1.00	25	
23	97337	67	20.35	3.65	1.00	25	
24	97371	34	20.35	3.65	1.00	25	
25	97441	70	20.35	3.65	1.00	25	
26	97496	55	19.85	3.65	1.50	25	
27	97539	43	19.85	3.65	1.50	25	
28	97666	127	19.85	3.65	1.50	25	
29	97682	16	19.85	3.65	1.50	25	
30	97746	64	18.35	3.65	1.00	23	
31	97764	18	18.35	3.65	1.00	23	
32	97858	94	19.85	3.65	1.50	25	
33	97873	15	19.85	3.65	1.50	25	
34	97935	62	19.85	3.65	1.50	25	
35	98050	115	19.85	3.65	1.50	25	
36	98095	45	18.85	3.65	1.50	24	
37	98183	88	19.35	3.65	1.00	24	
38	98188	5	19.35	3.65	1.00	24	
39	98248	60	17.85	3.65	1.50	23	
40	98274	26	15.85	3.65	1.50	21	
41	98307	33	19.85	3.65	1.50	25	
42	98385	78	19.85	3.65	1.50	25	
43	98434	49	20.35	3.65	1.00	25	

  
 P. Sharma  
 21-8-19  
 Patwar Circle Antrawala  
 Distt. Shimla




SNO	EXISTING CHAINAGE	OFFSET ALONG ROAD	LHS	ROAD	RHS	ROW	DISCRIPTION OF VILLAGE
44	98470	36	19.35	3.65	1.00	24	
45	98514	44	17.35	3.65	1.00	22	
46	98533	19	18.35	3.65	1.00	23	
47	98682	149	20.35	3.65	1.00	25	
48	98711	29	20.35	3.65	1.00	25	
49	98729	18	20.35	3.65	1.00	25	
50	98850	121	20.35	3.65	1.00	25	
51	98980	130	17.35	3.65	1.00	22	
52	99000	20	17.35	3.65	1.00	22	
53	99020	20	19.35	3.65	1.00	24	
54	99052	32	20.35	3.65	1.00	25	
55	99114	62	17.85	3.65	1.50	23	
56	99157	43	12.85	3.65	1.50	18	
57	99291	134	20.35	3.65	1.00	25	
58	99352	61	17.35	3.65	1.00	22	
59	99394	42	19.85	3.65	1.50	25	VILLAGE ANTROLI
60	99464	70	16.35	3.65	1.00	21	
61	99496	32	12.85	3.65	1.50	18	
62	99533	37	19.85	3.65	1.50	25	
63	99554	21	15.85	3.65	1.50	21	
64	99579	25	15.85	3.65	1.50	21	
65	99653	74	20.85	3.65	0.50	25	
66	99669	16	20.85	3.65	0.50	25	
67	99685	16	20.35	3.65	1.00	25	
68	99689	4	20.35	3.65	1.00	25	
69	99700	11	20.35	3.65	1.00	25	
70	99705	5	19.85	3.65	1.50	25	
71	99725	20	17.85	3.65	1.50	23	
72	99818	93	17.85	3.65	1.50	23	
73	99837	19	17.85	3.65	1.50	23	
74	99862	25	17.85	3.65	1.50	23	
75	99955	93	15.85	3.65	1.50	21	
76	99991	36	19.85	3.65	1.50	25	
77	100026	35	19.85	3.65	1.50	25	
78	100049	23	19.85	3.65	1.50	25	
79	100102	53	19.85	3.65	1.50	25	
80	100152	50	19.85	3.65	1.50	25	
81	100249	97	19.85	3.65	1.50	25	
82	100279	30	19.85	3.65	1.50	25	
83	100304	25	19.85	3.65	1.50	25	
84	100369	65	19.85	3.65	1.50	25	
85	100505	136	19.85	3.65	1.50	25	
86	100545	40	19.85	3.65	1.50	25	
87	100604	59	19.85	3.65	1.50	25	
88	100690	86	19.85	3.65	1.50	25	
89	100722	32	16	0	9.00	25	
90	100838	116	16	0	9.00	25	

  
 Patwar 21-9-19  
 Patwar Circle Antrawai  
 Distt. Shimla



SNO	EXISTING CHAINAGE	OFFSET ALONG ROAD	LHS	ROAD	RHS	ROW	DISCRIPTION OF VILLAGE
91	101040	202	20.35	3.65	1.00	25	VILLAGE KIYARLA
92	101074	34	20.35	3.65	1.00	25	
93	101130	56	20.35	3.65	1.00	25	
94	101166	36	20.35	3.65	1.00	25	
95	101203	37	20.35	3.65	1.00	25	
96	101229	26	20.35	3.65	1.00	25	
97	101252	23	20.35	3.65	1.00	25	
98	101269	17	20.35	3.65	1.00	25	
99	101294	25	20.35	3.65	1.00	25	
100	101334	40	20.35	3.65	1.00	25	
101	101360	26	20.35	3.65	1.00	25	
102	101480	120	20.35	3.65	1.00	25	
103	101522	42	20.35	3.65	1.00	25	
104	101559	37	20.35	3.65	1.00	25	
105	101592	33	20.35	3.65	1.00	25	
106	101600	8	20.35	3.65	1.00	25	
107	101683	83	20.35	3.65	1.00	25	
108	101744	61	20.35	3.65	1.00	25	
109	101791	47	20.35	3.65	1.00	25	
110	101885	94	20.35	3.65	1.00	25	
111	101895	10	20.35	3.65	1.00	25	
112	101909	14	12.5	0	12.50	25	
113	101964	55	12.5	0	12.50	25	
114	102002	38	12.5	0	12.50	25	
115	102143	141	12.5	0	12.50	25	
116	102199	56	12.5	0	12.50	25	
117	102229	30	12.5	0	12.50	25	
118	102271	42	12.5	0	12.50	25	
119	102291	20	12.5	0	12.50	25	
120	102354	63	16	3.65	4.50	24	
121	102395	41	20.35	3.65	1.00	25	
122	102419	24	19.35	3.65	2.00	25	
123	102475	56	20.35	3.65	1.00	25	
124	102534	59	19.85	3.65	1.50	25	
125	102586	52	19.85	3.65	1.50	25	
126	102597	11	19.85	3.65	1.50	25	
127	102623	26	19.85	3.65	1.50	25	
128	102743	120	19.85	3.65	1.50	25	
129	102767	24	19.85	3.65	1.50	25	
130	102827	60	17.35	3.65	4.00	25	
131	102847	20	17.35	3.65	4.00	25	
132	102867	20	19.85	3.65	1.50	25	
133	102899	32	19.85	3.65	1.50	25	
134	102944	45	19.85	3.65	1.50	25	
135	103021	77	20.35	3.65	1.00	25	
136	103122	101	17.15	3.65	4.20	25	
137	103202	80	19.85	3.65	1.50	25	

  
 Patwar 31-9-19  
 Patwar Circle Antrawai  
 Distt. Shimla

SNO	EXISTING CHAINAGE	OFFSET ALONG ROAD	LHS	ROAD	RHS	ROW	DISCRIPTION OF VILLAGE
138	103246	44	16.35	3.65	1.00	21	VILLAGE BANDUR
139	103273	27	16.85	3.65	1.50	22	
140	103289	16	19.85	3.65	1.50	25	
141	103318	29	19.85	3.65	1.50	25	
142	103354	36	19.85	3.65	1.50	25	
143	103403	49	19.85	3.65	1.50	25	
144	103433	30	20.35	3.65	1.00	25	
145	103466	33	20.35	3.65	1.00	25	
146	103506	40	20.35	3.65	1.00	25	
147	103542	36	19.35	3.65	1.00	24	
148	103583	41	15.35	3.65	1.00	20	
149	103614	31	18.35	3.65	1.00	23	
150	103700	86	20.35	3.65	1.00	25	
151	103741	41	30.35	3.65	1.00	35	
152	103769	28	29.85	3.65	1.50	35	
153	103822	53	19.85	3.65	1.50	25	
154	103840	18	20.35	3.65	1.00	25	
155	103920	80	19.85	3.65	1.50	25	
156	103975	55	19.35	3.65	2.00	25	
157	104022	47	19.85	3.65	1.50	25	
158	104080	58	20.35	3.65	1.00	25	
159	104151	71	18.85	3.65	2.50	25	
160	104202	51	19.85	3.65	1.50	25	
161	104265	63	19.85	3.65	1.50	25	
162	104407	142	18.85	3.65	2.50	25	
163	104442	35	15.95	3.65	2.40	22	
164	104458	16	16.65	3.65	3.70	24	
165	104489	31	15.9	3.8	3.30	23	
166	104500	11	16.6	3.8	4.60	25	
167	104505	5	0	0	0.00	28	

-104505

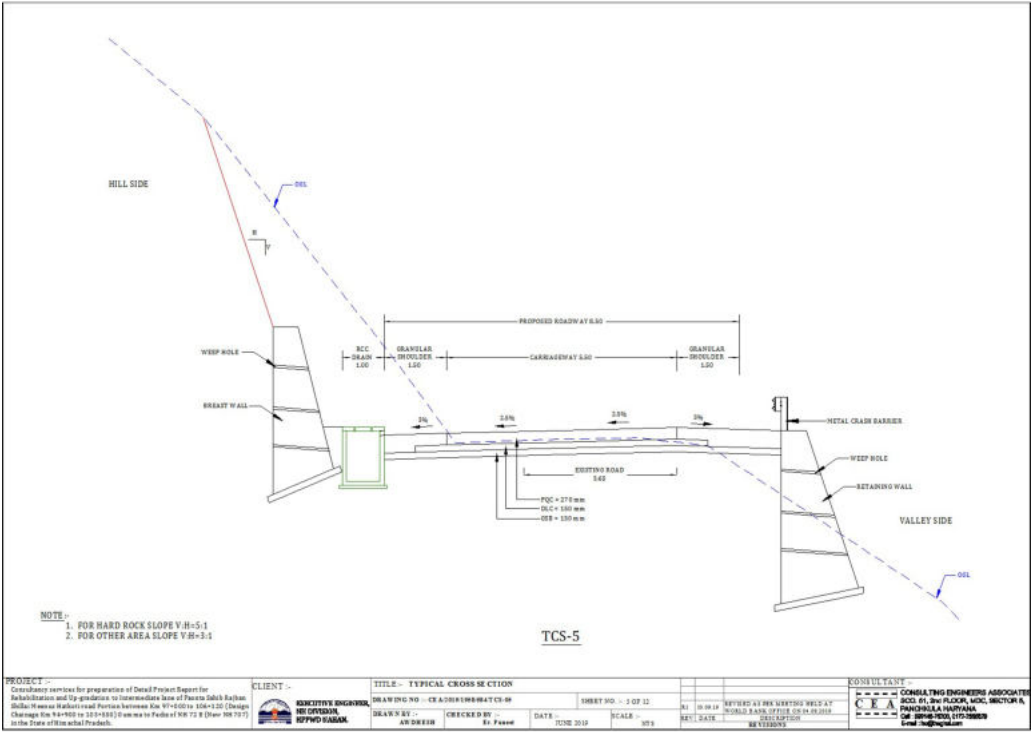
Patwar *V. Sharma*  
 21-9-19  
 Patwar Circle Antrawali  
 Distt. Shimla



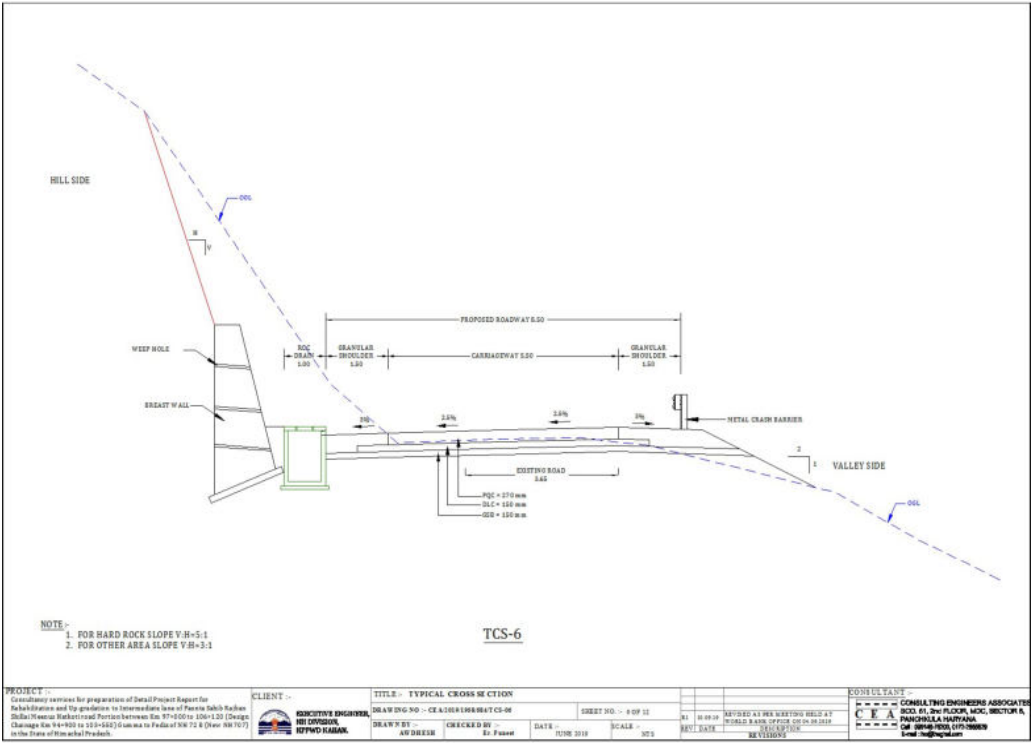
### Drawings of Typical Cross-Section (TCS1-TCS12)







TCS-5



TCS-6









**ANNEXURE 4-1**

Sr. No.	Chainage	District Name	Revenue Village	Type Of Construction Of The Structure 1. Temporary    2. Semi-Permanent 3. Permanent	Area of Effected Structure (in			Use of Structure	
					Length	Width	Area	Residential category 1. House 2. Hut 3. Other	Residential Cum category 1. House 2. Hut 3. Other
1	98+300	Shimla	Antroli	2	5	5	25	2	-
2	98+180	Shimla	Antroli	3	6.5	11.5	74.75	1	-
3	98+300	Shimla	ANTroli	3	26	10	260	-	1

**ANNEXURE 4-2**

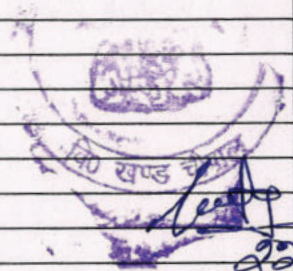
Sr. No.	Chainage	District Name	Revenue Village	Type Of Construction Of The Structure 1. Temporary 2. Semi-Permanent 3. Permanent	Area of Effected Structure (in sqrae meter)			Use of Structure
					Length	Width	Area	Common Propoerty Resources 1. Religious structure 2. Well 3. Handpump
1	97+950	Shimla	Antroli	3	1	2	2	3
2	98+290	Shimla	Antroli	3	1	2	2	3

## ANNEXURE 4-3

Sr. No.	Chainage	Date	District Name	Revenue Village	Location 1. Rural 2. Semi-Urban 3. Urban	Name Head Of Household	Age Of The Hh	Name Of Father/Husband	Total Family Members	Education Of The Hh 1. Illiterate 2. Literate 3. Primary 4. Upper Primary 5. Secondary 6. Senior Secondary 7. Ug 8. Pg 9. Professional	Religion 1. Hindu 2. Muslim 3. Sikh 3. Christian 5. Others	Caste 1. SC 2. ST 3. OBC 4. Gen	May Affect: 1. Land 2. Structure 3. Boundary	Type Of Construction Of The Structure 1. Temporary 2. Semi-Permanent 3. Permanent	Area of Effected Structure (in square meter)			Use of Structure			Vulnerability 1. Flood 2. Whh 3. Sc 4. St 3. Divyang	Ownership Of Property 1. Owner 2. Squatter 3. Tenant 4. Leased 6. Kiosk
															Length	Width	Area	Residential category 1. House 2. Hut 3. Other	Residential Cum Commerical Category 1. House 2. Hut 3. Other	1. Religious structure 2. Well 2. Handpump		
1	98+300	22-09-2019	Shimla	Antroli	1	Geeta Devi	40	Mangat Ram	5	3	1	4	2	2	5	5	25	2	-	-	2	3
2	98+180	22-09-2019	Shimla	Antroli	1	Bhagat Ram	36	Nag Chand	10	3	1	4	2	3	6.5	11.5	74.75	1	-	-	-	3
3	98+260	22-09-2019	Shimla	Antroli	1	Sukh Ram Chauhan	65	Ramthu Chauhan	16	1	1	4	2	3	26	10	260	-	2		-	3
4	97+950	22-09-2019	Shimla	Antroli	1	-	-	-	-	-	-	-	2	3	-	-	-	-	-	3	-	-
5	98+290	22-09-2019	Shimla	Antroli	1	-	-	-	-	-	-	-	2	3	-	-	-	-	-	3	-	-

**Annexure 5-1**  
**Attendance Sheets of**  
**Consultations at Antroli and**  
**Gumma Village**

PUBLIC/STAKEHOLDER'S CONSULTATION MEETING ATTENDANCE SHEET							
Project	Gumma-Fediz section (NH 707) <i>Antolp- Charehyat - Pawan.</i>						
District		Taluka		Block/ward No		GP/MC	
Settlement		PS/Thana		Chainage/km		Venue	
Date	22-09-2019.	Time		Total No. of participants	Male	Female	Total
S. No	Name	Age	Gender	Contact Details	Occupation	Caste	Signature
1.	Virender Singh	32		9805267773			<i>[Signature]</i>
2.	Aml Kumar	30		9894380899			<i>[Signature]</i>
3.	Kewal Ram	33		9805163066			<i>[Signature]</i>
4.	Bhagnel	40		9805730780			<i>[Signature]</i>
5.	Hema Singh	36		8894238891			<i>[Signature]</i>
6.	Pawan Singh	35		9816719060			<i>[Signature]</i>
7.	Prabha Chaudhary	41		9805087490			<i>[Signature]</i>
8.							
9.							
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22/9/19



PUBLIC/STAKEHOLDER'S CONSULTATION MEETING ATTENDANCE SHEET							
Project	Gumma-Fediz section (NH 707)			Antoli - (Panchayat Pannan)			
District		Taluka		Block/ward No		GP/MC	
Settlement		PS/Thana		Chainage/km		Venue	
Date	22-09-2019.	Time		Total No. of participants	Male	Female	Total
S. No	Name	Age	Gender	Contact Details	Occupation	Caste	Signature
1.	सुंदरदास चौधरी	60		9816640730	कृषि		
2.							
3.	मानस चौधरी	61		9816527221	मिशनरी		
4.							
5.	मंगलदास	60			पेयारी		
6.	कृष्ण चौधरी	41		9805087493	"		
7.	जयसुख चौधरी	30		986248374	"		
8.	सुनील चौधरी	35	M.	9816575900			
9.	Tara Chauran	36	F				
10.							
11.	Geeta Devi						
12.	Pradhan A.P. Pannan	40		9816121193			
13.	Mani Ram Sharma	53		8894801372			
14.							
15.	Sure Ram	43		9816311242			
16.							
17.							
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22/9/19



PUBLIC/STAKEHOLDER'S CONSULTATION MEETING ATTENDANCE SHEET							
Project	Gumma-Fediz section (NH 707)						
District		Taluka		Block/ward No		GP/MC	
Settlement		PS/Thana		Chainage/km	94.900	Venue	Gumma - Market
Date	21/09/2019	Time	5:00 PM	Total No. of participants	Male	Female	Total
S. No	Name	Age	Gender	Contact Details	Occupation	Caste	Signature / Issue raised
1.	Ajeet Singh Bhardwaj	65	M.	9816182437	Farmers	24/10/19	AJBhardwaj
2.	Jasvinder	28	M	9885453410	Farmers	24/10/19	Jasvinder
3.	Lachhmi Devi	48	M	9816324811	Farmer	24/10/19	Lachhmi
4.	Rajender Singh	39	Male	8219499947	Business	Rajpoot	Raj
5.	Guram Singh	49	male	9805517500	Business	Rajpoot	Guram
6.	Sanjiv	25	M.	88944/4508	Student	Gen.	Sanjiv
7.							
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इस्तावर 20/09/2019  
निर्वाक 21-9-2019



PUBLIC/STAKEHOLDER'S CONSULTATION MEETING ATTENDANCE SHEET							
Project	Gumma-Fediz section (NH 707)						
District		Taluka		Block/ward No		GP/MC	
Settlement		PS/Thana		Chainage/km	947900	Venue	Gumma - Market
Date	21/09/2019	Time	5:00 PM	Total No. of participants	Male	Female	Total
S. No	Name	Age	Gender	Contact Details	Occupation	Caste	Signature
1.	Rafiq Rom.	58	M.	9816484858			Rafiq Rom.
2.	Ratan Lal	33	M	8219224679			Ratan Lal
3.	अमिताभ	33	M	9816507474			अमिताभ
4.	Surender Kumar	35	M	8278877191			Surender Kumar
5.	Narayan Kumar	42	M	8894548618			Narayan Kumar
6.	Hari Ram	47	M	9805267781			Hari Ram
7.	Lig Ram	60	M	9805878895			Lig Ram
8.	ATENDER SINGH	89	M	8819833143			ATENDER SINGH
9.	SARLA Joshi			9805920333			SARLA Joshi
10.	KARLA						KARLA
11.							
12.							
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स्तावर 21-9-2019  
दिनांक



**Annexure 9-1 CPWD Plinth Area Rates, 2019 and  
HPPWD SOR 2019**



सत्यमेव जयते  
भारत सरकार  
Government of India



# केन्द्रीय लोक निर्माण विभाग CENTRAL PUBLIC WORKS DEPARTMENT



## PLINTH AREA RATES 2019



DIRECTOR GENERAL, CPWD, NIRMAL BHAWAN, NEW DELHI





सत्यमेव जयते

भारत सरकार

Government of India

# **PLINTH AREA RATES 2019**

June 2019

Director General, CPWD, Nirman Bhawan, New Delhi





**PRABHAKAR SINGH**  
Director General



भारत सरकार  
Government of India



केन्द्रीय लोक निर्माण विभाग  
निर्माण भवन, नई दिल्ली-110011  
Central Public Works Department  
Nirman Bhawan, New Delhi-110011  
Tel : 23062556/1317, Fax : 23061884  
E-mail : cpwd\_dgw@nic.in

### Foreword

Plinth Area Rates being published by CPWD from time to time is a comprehensive and useful Technical Document to arrive at preliminary cost of a Project. Apart from CPWD Engineers, this publication is used by most of Engineering Organizations and Builders in the country.

Last Plinth Area Rates were brought out in the year 2012, as such a need was felt to revise them incorporating revised GPRA norms approved by the Ministry of Housing & Urban Affairs in the year 2018.

I wish to place on record the commendable work done by Dr. K.M. Soni, ADG(Tech) Shri M.K. Malik, Chief Engineer (CSQ) (Civil) and team of CSQ (Civil and Electrical) in bringing out the Plinth Area Rates 2019 in a short time.

(Prabhakar Singh)  
Director General



**DR. K. M. SONI**



**ADDITIONAL DIRECTOR GENERAL (TD)**  
**Central Public Works Department**  
**Nirman Bhawan, New Delhi**



## **PREFACE**

Plinth Area Rates are being published by Central Public Works Department from time to time and last were published in 2012. This is a comprehensive and useful technical document being used by CPWD, PWDs, Other Govt. Departments, Public Sector undertakings, Builders, Engineers and Valuation officers for preparation of Preliminary Estimates, Rough Cost Estimates etc. with respect to all kinds of buildings like Offices/Colleges/Schools/Hostels/Hospitals and Residential Buildings. CPWD has been publishing Plinth area rates for long but during post-independence era the first PAR was issued in 1955 with subsequent revisions in 1970, 1976, 1992, 2007, 2010 (2007- reprint) and the last in 2012. From last few years references from various stakeholders were received for revision of these Plinth Area Rates and possible simplifications.

Also in 2013, MoHUA revised the Plinth area norms for General Pool Residential Accommodation (GPRA) vide office Memorandum No. DG/Arch./6 dated 07.08.2013 and thus there has been a need to incorporate them in new Plinth Area Rates.

Considering the above issues, it was decided to issue New Plinth Area Rates – 2019 incorporating new norms of GPRA.

For arriving at some concisely acceptable rates in PAR-2019, data of various recently completed projects from various field units were called. Out of the data received in CSQ unit from various field units for few Non-Residential Buildings and two Residential Buildings, projects were analysed for working out the New Plinth Area Rates. For doing so the completed project costs were segregated and per sqm cost so derived was suitably enhanced by adding relevant cost index between the completion date and the prevailing cost index.

Accordingly, the new plinth area rates are prepared as Plinth Area Rates- 2019, with 01.04.2019 rates being considered as of base 100. Additionally, these are made concise with the following considerations;

I) Use of new technological items do not have much of cost bearing as such nothing extra is added for adoption of new and emerging technologies.



- ii) Rates for office buildings, school buildings and colleges/institutions are merged into Non-Residential buildings. The rates for hostels are merged into residential buildings.
- iii) Plinth area rates for load bearing structures are now not given in separate sub head but at Sl. No. 1.2 (1.2.1 & 1.2.3) in sub head I exceptt Sl. No. 1.3.5 and 1.3.6, other extras for load bearing structures shall remain same as that of RCC framed structures.
- iv) In Annexure-IV(Proforma for calculation of cost index) weightages of items have been slightly modified considering current building technology, specifications and materials being adopted.

The Plinth Area Rates-2019 (with base 01.04.2019 as 100) comprises of following Annexures.

**Annexure-I:** New Plinth Area Rates with base 100 as on 01.04.2019 (for Non-Residential/Residential Buildings in R.C.C. framed & Load bearing structures along with services and development of site components.

**Annexure-II:** Specifications for Residential Buildings, Scale of Amenities, Scale of Sanitary & Water Supply fittings and Elect. Installations in GPRA and Specifications for Non-Residential Buildings.

**Annexure-III:** Guidelines for working out Plinth Area from Plans (for the purpose of calculating plinth area as per IS Code-3861 & as per Memo No. 29/2/58 (WI). Dated Oct. 1983.

**Annexure-IV:** Proforma for calculating cost index for future Cost indices with base 100 as on 01.04.2019 indicating revised weightages.

**Annexure-V:** PAR provisions for specialized E & M Works as on 01.04.2019.

All efforts have been made to compile these Plinth Area Rates-2019 user friendly by incorporating the views and feedback from various stakeholders and the field units and making necessary simplifications.

I would like to acknowledge the lead taken by Sh. M.K. Mallick, Chief Engineer, CSQ(Civil), Sh. C.K. Varma , Chief Engineer (E) (CSQ) and dedicated efforts of Sh. Divakar Agrawal, SE(TAS), Sh. D.K. Tulani, SE (E) TAS, Sh. Ashish Kumar Singh, Director (Finance), Shri M.L. Prasad, EE(TAS-II), Sh. V.K. Khetan, EE(E) TAS, Sh. Naresh Kumar, EE, (P&WA), Sh. D.S. Adhikari, AE(QA), CSQ, Sh. Sanjay Singh, AE(TAS), Shri Patta Madhu Kumar, AE(TAS), Sh. Kommalapati Madhu, AE(E), TAS, Ms. Shahana Shamim, Asstt, Architect O/o CA(NDR), Sh. Mukesh Varma, Chief Estimator (C), DCC-6, Sh. Prabhat Singh, Sr. D/Man, (TAS), other staff of CSQ and field units officers who have provided valuable inputs/data in finalisation of Plinth Area Rates-2019.



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4	SCALE OF SANITARY AND WATER SUPPLY FITTING FOR GENERAL POOL RESIDENTIAL ACCOMODATION	11
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8	PROFORMA FOR CALCULATION OF BUILDING COST INDEX – ANNEXURE - IV	19-20
9	STATEMENT OF COST INDICES OF DELHI/NCR SINCE 1955	21
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**PLINTH AREA RATES AS ON 01.04.2019****ANNEXURE – 1**

Sl. No.	Description	Non-Residential Buildings		Residential Buildings
		Office/School /College	Hospital	Hostels/Quarters (Type- I to Type-VI Qtrs.) & Bungalows (Type-VII & VIII)
		(Rates in Rupees Per Sqm.)		
1.0	BUILDING COST (Specifications as per Annexure-II)			
1.1	RCC FRAMED STRUCTURE (Upto Six Storeys)			
1.1.1	Floor ht. 3.60 m.	25500	26800	-
1.1.2	Floor ht. 2.90 m.	-	-	19500
1.2	LOAD BEARING STRUCTURE (Upto Four Storeys)			
1.2.1	Floor ht. 3.60 m.	21700	22800	
1.2.2	Floor ht. 2.90 m.	-	-	16600
1.3	EXTRA FOR			
1.3.1	Extra for every additional storey over six storeys upto twelve storeys (For RCC Framed Structure only)	580		
1.3.2	Every 0.3 m. additional/lesser height of floor above normal floor height of 3.60 m./2.90 m.	335		
1.3.3	Every 0.3 m. higher plinth over normal plinth height of 0.45 m. (on G.F. area only )	335		
1.3.4	Every 0.30 m. deeper foundations over normal depth of 1.20 m. (on G.F. area only)	160		
1.3.5	Making stronger foundations to take load of one additional floor at a later date (on area of additional floor only)	1470 (For RCC framed structures only)		550 (For load bearing structures only)
1.3.6	Resisting Earthquake forces	1200 (For RCC framed structures only)		800 (For load bearing structures only)
1.3.7	R.C.C. Raft foundations (Ground floor only)	5150		
1.3.8	Pile foundation (On ground floor area only)	16600		
1.3.9	Stronger structural members to take heavy load above 500 Kgs./sqm. upto 1000 Kgs./Sqm.	1660		
1.4	BASEMENT FLOOR			
1.4.1	Floor ht. upto 3.35 m. with Kota Stones/HDPE membrance i/c integral crystalline water proofing.	30000		
1.4.2	Add or deduct for every 0.30 m. height against normal height of 3.35 m.	900		
1.5	FIRE FIGHTING			
1.5.1	With wet riser system	800		
1.5.2	With wet riser and sprinkler system	1200		

Sl. No.	Description	Non-Residential Buildings	Residential Buildings
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		Office/School /College	Hospital	Hostels/Quarters (Type- I to Type-VI Qtrs.) & Bunglows (Type-VII & VIII)
		(Rates in Rupees Per Sqm.)		
1.6	<b>FIRE ALARM SYSTEM</b>			
1.6.1	Manual Fire Alarm System			250
1.6.2	Automatic Fire Alarm System			600
1.7	Pressurized mechanical ventilation system in the basements with Supply duct of exhaust blowers (on basement area only)			1050 (For RCC frame structures only)
1.8	<b>STILT PORTION</b>			
1.8.1	Stilt Portion of Multistorey RCC framed structure (up to ht. of 3.60m) Applicable area only			8000
1.8.2	Every 0.30 m. additional height (above 3.60 m.)			200

**Note :- 1) The rates for items are applicable on entire plinth area except items no. 1.3.3, 1.3.4, 1.3.5, 1.3.7, 1.3.8, 1.5.1, 1.5.2, 1.6.1, 1.6.2, 1.7, 1.8.1, 1.8.2.**

**2) The rates mentioned above are inclusive of all taxes, but excluding statutory provisions.**

		Non-Residential Buildings			Residential Buildings	
Sl. No.	Description	Office & College	Hospitals	Schools	Hostels	(Type- I to Type-VIII Qtrs.)
<b>2.0</b>	<b>SERVICES</b>					
2.1	Internal Water Supply & Sanitary Installations	4%	10%	5%	12% with attached toilets, 8% with common toilets.	9%
2.2	External Service connections					
2.2.1	Electrical External Service Connections	3.75%	3.75%	3.75%	3.75%	3.75%
2.2.2	Civil External Service Connections	1.25%	1.25%	1.25%	1.25%	1.25%
2.3	Internal electric installations	12.5%	12.5%	12.5%	12.5%	12.5%
2.6	<b>EXTRA FOR</b>					
2.6.1	Power wiring and plugs	4%	4%	4%	4%	4%
2.6.2	Central Call bell system	0.5%	0.5%	0.5%	0.5%	-
2.6.3	Lightning conductors	0.25%	0.25%	0.25%	0.25%	-
2.6.4	Telephone conduits	0.25%	0.25%	0.25%	0.25%	-
2.6.5	Centralized Intercom system	-	-	-	-	1%
2.6.6	Third Party Quality Assurance	1%	1%	1%	1%	1%

Note:-

1. Third Party Quality Assurance charge of 1% shall be taken in estimate only when client department request for TPI.
2. For modular furniture to be provided in offices etc. extra provision for raceways, conducting and LAN shall be made as per requirement.
3. LED fitting/fixtures are inclusive in Internal Electrical Installation rates. No separate provision shall be made.
4. Percentage mentioned above means the percentage of building cost as per item 1.1/1.2.

Sl. No.	Type of lift	Capacity/ Persons	Weight	Speed in M/Sec.	Travel	Doors	Control	Price (Rs. In lacs)	Addl. Price for each additional floor (Rs. )
1	2	3	4	5	6	7	8	9	10
<b>3.0</b>	<b>LIFTS</b>								
3.1	<b>Passenger lifts</b>								
3.1.1	Passenger lift	8	544 Kg.	1.0	G+4	Power operated	ACV VVF	16	90,000
3.1.2	Passenger lift	8	544 Kg.	1.5	G+5	Power operated	ACV VVF	18	90,000
3.1.3	Passenger lift	13	884 Kg.	1.0	G+4	Power operated	ACV VVF	18	90,000
3.1.4	Passenger lift	13	884 Kg.	1.5	G+5	Power operated	ACV VVF	20	90,000
3.1.5	Passenger lift	16	1088 Kg.	1.0	G+4	Power operated	ACV VVF	24	1,10,000
3.1.6	Passenger lift	16	1088 Kg.	1.5	G+5	Power operated	ACV VVF	26	1,10,000
3.1.7	Passenger lift	16	1088 Kg.	2.5	G+12	Power operated	ACV VVF	70	1,10,000
3.1.8	Passenger lift (Bed lift)	20	1360 Kg.	0.75	G+4	Power operated	ACV VVF	24	1,10,000
3.1.9	Passenger lift	20	1360 Kg.	1.5	G+5	Power operated	ACV VVF	27	1,10,000
3.1.10	Passenger lift	20	1360 Kg.	2.5	G+12	Power operated	ACV VVF	75	1,10,000
3.2	Goods lifts (2 speed )								
3.2.1		1 Ton	-	0.5	G+4			26	85,000
3.2.2		2 Ton	-	0.5	G+4			33	85,000
3.2.3		3 Ton	-	0.25	G+4			41	1,00,000

Note:- 1. ACV VVF=AC variable voltage variable frequency.

2. Provision for lift may also be taken for the buildings having floor less than G+4.

Sl. No.	Description	Rates in Rupees
<b>4</b>	<b>WATER TANK (RCC ONLY )</b>	
4.1	Overhead tank without independent staging	18 / Litre.
4.2	Overhead tank upto staging height 20 metres	30/ Litre.
4.3	Overhead tank with staging height between 20 metres and upto 30 metres	35/ Litre.
4.4	Overhead tank with staging height between 30 metres and 40 metres	40/ Litre.
4.5	Underground sump	18 / Litre

Sl. No.	Description	Rates in Rupees
5	<b>DEVELOPMENT OF SITE</b>	
5.1	Levelling	160/ sqm.
5.2	<b>Internal roads &amp; paths</b>	
5.2.1	Internal road with WBM and Bituminous top	175/sqm
5.2.2	Internal road with WMM and Bituminous top	190/sqm
5.2.3	Cement Concrete pavement with vacuum dewatered concrete	85/sqm
5.2.4	Footpath with kerb stone	85/sqm
5.3	Sewer	165/sqm
5.4	Filter Water Supply	
5.4.1	Distribution lines 100 mm dia and below	100/sqm
5.4.2	Peripheral grid 150 mm to 300 mm dia pipes	100/sqm
5.4.3	Unfiltered water supply distribution lines	65/sqm
5.5	Storm water drains	130/ sqm.
5.6	Rain Water Harvesting (RWH)	90/sqm
5.7	Trenches for services	585/meter
5.8	Boundary wall with 1.5 metre. normal height from GL & 0.60 meter high MS grill, and required no. of steel gates/wicket gates etc.	
5.8.1	With load bearing brick wall and plastering on either side and with/without intermediate columns and plinth beams.	9000/metre
5.8.2	With precast RCC columns & 1.80/2.40 metre long, 200/250mm wide and 80 to 100mm thick precast RCC horizontal panels having required foundation footings.	7500/metre
5.9	<b>Horticulture Works</b>	
5.9.1	Horticulture Operations including 30 cm earth filling , grassing, tree plantations/shrubs and potted plants etc.	250/sqm.
5.9.2	Vertical plantations	40/sqm

**Note :-**

- The rates are per sqm. and are to be applied on the entire area of the plinth/plot to be developed.
- These rates will apply to normal conditions and normal layout plans. If any extras are required due to nature of layout involving filling, cutting or bringing services, from large distances, then additional provision should be made.
- Cost of bulk services water supply, sewage disposal e.g.
  - Tube wells, pumps, open wells, treatment plant, extension of lines from source of local bodies, head works at water source etc.
  - Sewage pumps, sewage treatment plants, septic tanks, extension of cut-fall sewer up to point of disposal etc. are not included in these rates. Extra provision depending upon site conditions may be made for these.
- None of the specialize E&M services are included in the above rates and necessary provisions as may be required as per design requirements must be considered and rates as per items provided in Annexure-V of this PAR may be referred.
- The green measures considered for Civil & Electrical works.
  - Over deck insulation and Application of high SRI reflective paint on the roof.
  - Masonry work in super structure with Autoclave Aerated Concrete (AAC) blocks/ fly ash bricks.
  - Window with reflective glass coating / High performance double glazed unit.
  - Paints with low VOC options.
  - Rain water harvesting.
  - Replacement of conventional pillar cock with pillar cock having infrared sensor and foam flow technology (in offices and Hospitals).
  - AC plant with VVVF drives and ECBC compliant chillers, high efficiency motors, plant optimizers etc. (cost of plant not included.)
  - Automated lighting controls with day light sensors and PIRs etc.
  - Dual plumbing system.

## SPECIFICATIONS FOR RESIDENTIAL BUILDINGS

Annexure-II

Annexure-II

Sl. No.	Description	Latest applicable specifications				Remarks
		Type-I, II & III	Type-IV, IV (Spl.)	Type-V & VI	Type-VII & VIII	
1	FOUNDATION					
	Foundation & Structure	As per structural requirements	Same as Type-1, II & III	Same as Type-1, II & III	Same as Type-1, II & III	The design shall vary as per soil conditions
2	SUPERSTRUCTURE					
	For multi-storey framed structure	RCC framed & Filler walls of Aerated Cement Concrete (ACC) / Cellular Concrete Block (CLC) / Brick work / Fly-ash brick	Same as Type-1, II & III	Same as Type-1, II & Type-111	Same as Type-1, II &III	Any other energy efficient suitable local material in consultation with Architect and Structural Engineer.
	For Load bearing Construction	Brick-work/stone wall / ACC /CLC as per requirement /Fly-ash brick	Same as Type-1, II & III	Same as Type-1, II & III	Same as Type-1, II &III	Any other energy efficient suitable local material in consultation with Architect and Structural Engineer.
	Internal Partition	Half brick thick masonry in ACC/CLC/Fly-ash Bricks	Same as Type-1, II&III	Same as Type-1, II &III	Same as Type-1, II & III	Any other energy efficient suitable local material in consultation with Architect and Structural Engineer
3	DOORS AND WINDOWS					
	a) Frames(except of toilet/bath& WC)					
	i) Door	2nd class teak wood/UPVC extruded frame sections with wall thickness minimum 2.0mm / powder coated or anodized aluminum extruded/tubular section/Engineered wood section	Same as type-1, II & III	Same as type-1, II & III	All frames external doors windows must have double rebates for Fixing of mosquito proof wire-mesh shutters on external side.	
	ii)Window	2nd class teak wood / UPVC extruded frame sections with wall thickness minimum 2.0mm/ powder coated or anodized aluminum extruded tubular section / Engineered wood section along with the provision of sub frame of suitable material.	Same as type-1, II & III	Same as type-1, II & III	Any other locally available material, with the approval of concerned Chief Architect.	



iii) Doors & Windows of toilet/bath/ WC	2nd class teak wood/UPVC extruded frame sections with wall thickness minimum 2.0mm / powder coated or anodized aluminum extruded tubular section/ Engineered wood section	Same as Type-1, II & III	Same as Type-I, II & III		
iv) Door /Window frames in servant area	N.A.	For servant quarters same as Type-I to III	For servant quarters same as Type-I to III		
<b>b) Shutters</b>					
i) Main Door/ External Door Shutters	Double shutters one with painted iron grill with stainless steel Grade-304 mosquito proof wire mesh and other 35 mm thick factory made hardwood framed paneled shutter with melamine polish Or 35mm Thick MS tubular box section styles and rails frame with hard wood panels Or Factory made flush door	Same as Type-1 to III except that pre-laminated particle board paneling will be decorative on both sides. Or 35 mm thick factory made exterior grade both side decorative type flush door shutter with natural veneer and melamine polish.	Double shutters one Safety door in Stainless steel frame with mosquito proof S.S. wire-mesh and SS fittings and other with 35mm thick 2nd class teak wood framed paneled with decorative veneer on both sides /35 mm thick factory made exterior grade both side decorative veneered type flush door shutter with melamine polish. Or UPVC extruded section of wall thickness minimum 2.0mm framed glazed/paneled shutters For Servant quarters same as Type-1 to III.	Same as Type-V & VI	
ii) Servant's Area	N.A.	For Servant quarters same as Type-1 to III.		For Servant quarters same as Type-1 to III.	
Kitchen door	35mm thick shutter having 12mm thick pre-laminated (one side decorative and other side balancing) particle board panel at the bottom part and stainless steel wire mesh at upper part.	Same as Type-1, II & III	35mm thick shutter having 12mm thick both side decorative pre-laminated / veneered particle board panel/2 <sup>nd</sup> class teak wood with melamine polish at the bottom part and stainless steel wire mesh at upper part.	Same as Type-V & VI	

	Bath , WC & Toilet Door	35 mm thick, pre-laminated flush door (one side decorative other side balancing) <	Same as Type-1 to III	35 mm thick, pre-laminated flush door (one side decorative other side balancing)	Some as Type-V&VI	
	Other Door	35mm thick hardwood styles and Rails with paneling with both sides' decorative pre-laminated particle board and finish in melamine polish / Factory made flush door	Same as Type 1, II & III	35 mm, thick, 2 <sup>nd</sup> class teakwood Styles & Rails paneled of 12mm thick both side natural wood veneer finish paneled/ Glazed paneled shutter with 5.5 mm thick float glass panes and finished in melamine polish.	Same as Type-V&VI	
	c) Window Shutters Ali windows shutters	Double shutter one with M.S. tubular box section / hardwood framed glazed panel and other with wire-mesh shutter <i>M</i>	Same as Type 1, II & III	Double shutter one with 2 <sup>nd</sup> class teakwood framed glazed pane! and other with wire-mesh shutter Or UPVC extruded section of wall thickness minimum 2.0mm framed glazed / paneled shutters	Same as Type-V & VI	
	Servant's Area (Door & Windows)	N.A.	For servant quarters same as Type Ito III	For servant quarters same as Type Ito III	For servant quarters same as Type Ito II!	Shutters in all respective rooms shall be as per the finishes of Type-1 to III in those rooms
	d) Hardware & Fitting Main Units Servant's Area	Powder coated/ anodized Aluminum S.S. fittings N.A.	Powder coated/ anodized Aluminum S.S. fittings Powder coated M.S fittings.	Same as type-IV & IV special Powder coated M.S fittings.	Stainless Steel / Chromium plated brass/ Nickered Chromium Brass. Powder coated M.S fittings.	Rubberized Door flashing at the bottom rails of all externals doors shall be provided for protection from insects and rainwater etc.
<b>4</b>	<b>FLOORING, SKIRTING &amp; DADO</b>					
	<b>Flooring</b> living/ Drawing Room, Dining & Family Lounge	Vitrified / Ceramic tile flooring of size not less than 400mm x 400mm	Vitrified tile flooring of size not less than 600mm x 600mm	18mm thick gang-saw cut pre-polished granite / marble/ stone of approved shade/ double charged vitrified tile flooring of size not less than 600x600mm Scratch resistant Engineered wood or laminated wooden flooring only in Living /drawing room. Granite, Marble, Stone & Tiles.	Same as Type V & VI	

Office area	N.A.	N.A.	N.A.	Scratch resistant Engineered wood or laminated wooden flooring	
Bedrooms	Scratch resistant Ceramic tiles / Vitrified tiles of size not less than 400mm x 400 mm with joints finished with matching grout	Scratch resistant Ceramic / verified tiles of size not less than 600mm x 600 mm with joints finished with matching grout	Vitrified/double charged vitrified tiles (with water absorption less than 0.08%) of size not less than 600mm X 600mm Scratch resistant Ceramic tiles with joints finished with matching grout. Engineered wood or laminated wooden flooring in one bedroom.	Same as Type-V & VI	
Kitchen	Anti skid vitrified tiles of size no less than 300x300 mm with water absorption less than 0.08% laid with joints finished with matching grout	Same as Type-III & III	Anti skid vitrified tiles of size not less than 400x400mm with water absorption less than 0.08% laid seamless with joints finished with matching grout.	Anti-skid vitrified tiles of size not less than 600x600mm with water absorption less than 0.08% laid seamless with joints finished with matching grout	
Kitchen Counter	Udaipur green marble/granite stone with nosing	Udaipur green marble /granite stone with nosing	18mm thick gang-saw cut pre-polished granite with nosing as per design	Same as Type-V & VI	
Common circulation area	Mirror-polished Kota stone / locally available stone as approved by architect and matching skirting as per architectural drawing.	Same as Type-1, II & Type -III	18mm thick pre-polished granite / Vitrified tiles (with water absorption less than 0.08%) flooring not less than 600mm x 600mm	18mm thick gang-saw cut pre-polished granite / marble stone of approved shade/ vitrified tiles (with water absorption less than 0.08%) size not less than 600x600 mm	
Servant's Area (Flooring)	N.A.	For Servant quarters Same as Type 1 to III	For Servant quarters Same as Type 1 to III \	For Servant quarters Same as Type 1 to III	Finishes in all rooms shall be as per the finishes of Type-1 to III in respective rooms
Common circulation area in servant quarters	N.A.	Mirror-polished Kota stone / locally available stone	Same as Type-IV & Type-IV(Special)	Same as Type-IV & Type-IV(Special)	Use of locally stone shall be as per approval of Chief Architect
Staircase - Main	Pre-polished Kota stone in single length of treads & risers	Same as Type-1, II & III	18mm thick Pre-polished / honed / flamed finish Granite in single length of Treads & Risers	Same as Type-V & VI	Nosing design in treads shall be as per Architectural design

	Fire escape Staircase	Pre-polished Kota stone in single length of tread & risers	Same as Type-1, II & III	Single length pre-polished Kota stone in Tread & Risers	Same as Type V & VI	- Do -
	Toilets / Bathroom/ WC	Glazed ceramic anti-skid of size not less than 300X300 mm. including grouting the joints.	Same as Type-1, II & III	Rectified Ceramic antiskid tiles of size not less than 300X300	Anti-skid vitrified/ Ceramic tiles (with water absorption less than 0.08% not less than 300x300mm Or 18mm thick gang-saw cut pre-polished granite stone	
	Skirting in rooms and other areas	100 to 150 mm high skirting matching the floor material.	100 to 150 mm high skirting matching the floor material.	100 to 150 mm high skirting matching with the floor material.	100 to ISO mm high skirting matching the floor material.	
	b) Dado Kitchen Dado	Ceramic tiles of size not less than 200 x 300 as per design from floor up to full height.	Same as Type-1, II & III	Ceramic tiles of size not less than 300 x 450mm as per design from floor to full height	Ceramic tiles of size not less than 300 x 450mm as per design from floor to full ht.	Must be read with Scale of Amenities in the respective categories
	Toilets/ bathrooms / WC Dado	Glazed ceramic tiles of size not less than 200 x 300 up to full height with decorative bands at certain intervals.	Same as Type-1, II & III	Glazed ceramic tiles of size not less than 300x450 up to full height with bands at certain intervals	Glazed ceramic tiles *of size not less than 300x450mm up to full height with a decorative bands at certain intervals.	1
<b>5</b>	<b>FINISHES</b>					
	Internal Finishes	All walls & ceiling to be treated with 2 mm thick POP (one time only) and painted with low VOC Acrylic washable distemper/ Synthetic enamel paint on all wood works and steel works	All walls & ceiling to be treated with 2 mm thick POP (one time only) & painted with low VOC Acrylic washable distemper/ Synthetic enamel paint on all wood works & steel works	All walls & ceiling to be treated with 6 mm thick POP punning (one time only) and painted with low VOC Premium acrylic Emulsion paints. Synthetic enamel paint on POP and on all wood works and steel works	Premium acrylic emulsion paint with low VOC of approved shade in roller finish over 6 mm thick POP wall punning	
	External Finishes	Quartz reinforced Texture Acrylic paint finish/Premium Acrylic smooth water proof exterior finish / washed mosaic plaster in premium cement. Synthetic enamel paint on all wood work & steel work	Same as Type-1, II & III.	Quartz reinforced texture Acrylic paint finish of approved shade /premium Acrylic smooth water proof exterior finish / washed mosaic plaster in premium cement /exposed brick / stone work/GRC / Designer cement concrete tile cladding/ACP cladding in combination with structural glazing	Same as Type-V & VI	In case of large campus etc., the External finishes of the residences shall match the overall colour & texture finishes within the campus

**SCALE OF AMENITIES FOR GENERAL POOL RESIDENTIAL ACCOMODATION**

ITEM NO.	ITEM	TYPE-I/II /III	TYPE-IV/IV SPECIAL	TYPE-V/VI	TYPE-VII/ VIII	SERVANT QTRS.
<b>1</b>	<b>Kitchen Cabinets</b>					
i)	Cooking Platform	Yes	Yes			Yes
ii)	Stainless steel AISI 304(18/) Kitchen sink as per IS 13983 with drain board	Yes	Yes			Yes
iii)	Built in cupboard without any shelves but with shutters of 18mm thick pre-laminated decorative particle board below cooking platform as per architectural design and specifications.	Yes	Yes, with drawers			
iv)	25mm thick and not more than 400mm wide pre-laminated non decorative particle board/plywood shelves in tiers upto 2.10 meter height covered with pre-laminated decorative particle board shutters along one wall as per architectural design and specifications.	Yes	Yes			Yes
v)	Factory made modular kitchen having sink with double bowl & double drain-board, cooking platform and electric chimney of reputed company.			Yes	Yes	
<b>2</b>	<b>Wardrobes</b>					
	Built in cupboard 650mm wide with 1800 thick pre-laminated non decorative particle board as shelves and 18mm thick pre-laminated decorative particle board as shutters/steel almirahas.	One in each bed room upto ceiling height	One in each bed room upto ceiling height			One upto 7-0" height
	Factory made wardrobe carcasses, shelves, drawers etc. manufactured in 19mm thick particle/block board & finished in emulsion paint and wardrobe shutter in 19mm thick particle/block board/plywood finished with exterior grade post formed lamination/natural veneer with melamine polish as per the approved sample.			One in each bed room upto ceiling height	One in each bed room upto ceiling height	
3	Magic eye in front entry door.	One	One	One	One	One
4	Curtain road with required accessories.	In all windows doors in all rooms except kitchen except kitchen, toilets/bath/ WC	Drapery roads on all windows and doors in all rooms except kitchen, toilets/bath/WC	Same as Type IV & IV (Special)	Same as Type IV & IV (Special)	Same as Type I,II & III
5	Set of pegs.	In all toilets/bath/wc	In all toilets/bath/WC and wardrobes	In all toilets/bath/ WC and wardrobes	In all toilets/bath/ WC and wardrobes	
6	18mm thick projected window sill lining, window jhambs.	Kota stone/green marble	Kota stone/granite	Marble/ Granite	Marble/ Granite	Kota stone

## SCALE OF SANITARY AND WATER SUPPLY FITTING FOR GENERAL POOL RESIDENTIAL ACCOMODATION

S. NO.	ITEM	TYPE-I/II/III	TYPE-IV/IV SPECIAL	TYPE-V/VI	TYPE-VII/VIII	SERVANT QTRS.
1	Orissa WC pan (European style) with low level dual flushing PVC cistern	One	One	One	One	One
2	European type floor mounted/wall-hung WC with seat, lid and low dual flushing PVC cistern.	Yes	Yes	Yes	Yes	
3	Water jet/health faucet with European WC.	Health faucet with each WC	Health faucet with each WC	Health faucet with each WC	Health faucet with each WC	
4	Wash basin with CP brass mixture type for hot & cold water with single lever with quarter turns ceramic cartridges.	One	One in each toilet & one for dining area as per design.	One in each toilet & one for dining area as per design.	One in each toilet & one for dining area as per design.	One
5	Tap (kitchen, toilet, bath & WC) CP brass/PTMT bic cock provided with quarter turns ceramic cartridges.	2 in kitchen 1 in each toilet, bath & WC PTMT in Type-I & II/CP brass in Type-III	2 in kitchen 1 in each toilet, bath & WC-CP brass	2 in kitchen 1 in each toilet, bath & WC-CP brass	2 in kitchen 1 in each toilet, bath & WC-CP brass	2 in kitchen 1 in each toilet, bath & WC-PTMT
6	Shower with CP brass mixture type tap for hot & cold water with single lever, ceramic cartridges quarter turn.	1 in each toilet/bath	1 in each toilet/bath	1 in each toilet/bath	1 in each toilet/bath	
7	Towel rail CP brass/PTMT.	One PTMT in each toilet/bath	One CP brass in each toilet	One CP brass in each toilet	One CP brass in each toilet	One PTMT toilet/bath
8	Mirror with PTMT glass shelf.	600x450mm with each wash basin	600x450mm with each wash basin	As per design with each wash basin.	As per design with each wash basin.	600x450mm with each wash basin
9	CP brass/ceramic toilet paper holder with European WC.	Yes in Type-III only	Yes	Yes	Yes	
10	Soap rack/niche as per architectural design and specification.	One in each bath/toilet	One in each toilet	One in each toilet	One in each toilet	
11	Plumbing for water purifier and geyser.	Yes	Yes	Yes	Yes	Yes
12	Storage tank of capacity as per NBC 2005 provision of separate tank for WC & drinking water.	Separate tanks for kitchen and toilets as per requirements for dual flushing system.	Separate tanks for kitchen and toilets as per requirements for dual flushing system.	Separate tanks for kitchen and toilets as per requirements for dual flushing system.	Separate tanks for kitchen and toilets as per requirements for dual flushing system.	Separate water tanks to be provided for servants in each category.

### SCALE FOR ELECTRICAL INSTALLATION IN GENERAL POOL RESIDENTIAL ACCOMODATION

Sl. No.	Description	Type-I	Type-II	Type-Iii	Type-Iv & Iv (Spcl.)	Type-V	Type-Vi	Type-Vii & Viii	Servant Qtrs.
1	Power Points (15 amp 6 pins)	2 in each room 1 in kitchen 1 in utility area	2 in each room 1 in kitchen 1 in utility area	2 in each room 1 in kitchen 1 in utility area	2 in each room 1 in kitchen 1 in utility area	3 in drawing room 3 in dining room 2 in each bedroom 2 in kitchen 1 in utility area	3 in drawing room 3 in dining room 2 in each bedroom 2 in kitchen 1 in utility area	2 in office 4 in drawing room 3 in dining room 2 in family lounge 2 in each bedroom 2 in kitchen 1 in utility area	Total 2
		<b>Total 6</b>	<b>Total 8</b>	<b>Total 8</b>	<b>Total 12</b>	<b>Total 15</b>	<b>Total 17</b>	<b>Total 22</b>	
2	Plug Points (5 amp)	1 in each room 1 in kitchen 1 in balcony area	1 in each room 1 in kitchen 1 in balcony area	1 in each room 1 in kitchen 1 in balcony area	1 in each room 1 in kitchen 1 in balcony area	1 in each room 1 in kitchen 01 in store 1 in main balcony	1 in each room 1 in kitchen 1 in store 1 in each balcony	1 in office 1 in each room 1 in kitchen 1 in store 1 in each balcony	Total 2
		<b>Total 4</b>	<b>Total 5</b>	<b>Total 5</b>	<b>Total 7</b>	<b>Total 8</b>	<b>Total 9</b>	<b>Total 12</b>	
3	Bracket Lights (with normal fittings excluding lamp/bulb)	1 in each room 1 in kitchen 1 in each toilet 1 in utility	1 in each room 1 in kitchen 1 in each toilet 1 in utility	1 in each room 1 in kitchen 1 in each toilet 1 in utility	1 in each room 1 in kitchen 1 in each toilet 1 in utility	1 in store 1 in each toilet 1 in utility	1 in store 1 in each toilet 1 in utility	1 in store 1 in each toilet 1 in utility	Total 3
		<b>Total 3</b>	<b>Total 4</b>	<b>Total 4</b>	<b>Total 11</b>	<b>Total 10</b>	<b>Total 12</b>	<b>Total 12</b>	
4	Ceiling Fans	1 in living room 1 in each bedroom	1 in living room 1 in each bedroom	2 in living room 1 in each bedroom	2 in living room 1 in dining room 1 in each bedroom	2 in drawing room 1 in dining room 1 in each bedroom 1 in each balcony	2 in drawing room 1 in dining room 1 in family lounge 1 in each bedroom 1 in each balcony	2 in drawing room 1 in dining room 1 in family lounge 1 in each bedroom 1 in each balcony	Total 1
		<b>Total 3</b>	<b>Total 3</b>	<b>Total 4</b>	<b>Total 6</b>	<b>Total 6</b>	<b>Total 12</b>	<b>Total 14</b>	
5	Call Bell Points	1	1	1	2	3	3 (One with image display system)	4 (One with image display system)	
6	Exhaust Fans	1 each in kit & bath & WC	1 each in kit & bath & WC	1 each in kit & bath & WC	1 each in kit & bath & WC	1 each in kitchen & toilets	1 each in kitchen & toilets	1 each in kitchen & toilets	Total 2
7	AC Points (With MCB connected socket outlet with wiring)	1 in each room except kitchen & toilet	1 in each room except kitchen & toilet	1 in each room except kitchen & toilets	1 in each room except kitchen & toilets	1 in each room except kitchen & toilets	1 in each room except kitchen & toilets	1 in each room except kitchen & toilets	



Sl. No.	Description	Type-I	Type-II	Type-III	Type-IV & IV (Spcl.)	Type-V	Type-VI	Type-VII & VIII	Servant Qtrs.
8	Geyser Point (With MCB connected socket outlet with wiring)	1 in bath	1 each in bath & toilet	1 each in toilets	1 in kitchen 1 in each toilet	1 in kitchen 1 in each toilet	1 in kitchen 1 in each toilet	1 in kitchen 1 in each toilet	1 in toilet
9	EDB/MCB Point (single phase)	1	1	1					1
10	EDB/MCB (3 phase)				1	1	1	1	
11	Cable TV point	1 in living room 1 in each bedroom	1 in living room 1 in each bedroom	1 in living room 1 in each bedroom	1 in drawing room 1 in each bedroom	1 in drawing room 1 in each bedroom	1 in drawing room 1 in dining room 1 in each bedroom	1 in office 1 in drawing room 1 in dining room 1 in family lounge 1 in each bedroom	1
12	Telephone Point As per the app. of competent authority	1 in living room	1 in living room	1 in living room	1 in drawing room	1 in drawing room 1 in each bedroom	1 in office 1 in drawing room 1 in dining room 1 in each bedroom	1 in office 1 in drawing room 1 in dining room 1 in family lounge 1 in each bedroom	1
13	Decorative Light Fittings for LED bulbs (without bulbs)					3 in drawing room 3 in dining room 2 in each bedroom 1 in kitchen	3 in drawing room 3 in dining room 2 in each bedroom 2 in kitchen	3 in office 3 in drawing room 3 in dining room 3 in family lounge 2 in each bedroom 2 in kitchen	
						<b>Total 13</b>	<b>Total 16</b>	<b>Total 22</b>	
14	LED tube light fittings (excluding tubes)	1 in each room 1 in kitchen	1 in each room 1 in kitchen	1 in each room 1 in kitchen	1 in each room 1 in kitchen	1 in drawing room 1 in dining room 1 in each bedroom 1 in kitchen	1 in drawing room 1 in dining room 1 in each bedroom 1 in kitchen	1 in office 1 in drawing room 1 in dining room 1 in family lounge 1 in each bedroom	
		<b>Total 3</b>	<b>Total 4</b>	<b>Total 4</b>	<b>Total 6</b>	<b>Total 6</b>	<b>Total 7</b>	<b>Total 9</b>	
15	Modular Switches	---	---	---	---	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	---

**Note:-** All the common area e.g. Lifts & Staircases Lobbies, Connecting Corridors etc. shall have lighting arrangement along with LED light fixtures as per actual design. As far as possible concealed wiring shall be used in all electrical works. LED shall only be used as per directives of competent authority.

## SPECIFICATIONS FOR NON - RESIDENTIAL BUILDINGS

ITEM NO.	DESCRIPTION	SPECIFICATION
<b>1.0</b>	<b>FOUNDATION</b>	As per structural design based on soil investigation.
<b>2.0</b>	<b>SUPER STRUCTURE</b>	
2.1	Structure	R.C.C. framed construction with filler walls with fly ash bricks /brick work/ ACC blocks or load bearing construction in /brick work/fly ash bricks/ stone masonry with intermediate columns as per design.
2.2	Internal partitions.	
2.2.1		Light weight auto claved aerated concrete blocks.
2.2.2		Gypsum Blocks.
2.2.3		Non asbestos double skin cement boards.
2.2.4		Fly ash bricks.
<b>3.0</b>	<b>DOORS &amp; WINDOWS</b>	
3.1	Frames	
3.1.1	Door frames	Door frames of 2nd class Indian teakwood or equivalent in officer's room. Anodized/ Powder coated/ Polyester powder coated Aluminium sections/
3.1.2	Window frame	Standard sections of UPVC window frame members/Extruded Aluminium tubular sections
3.2	Door Window Shutters	
3.2.1	Door Shutter	Panelled type in 2nd class teak wood or flush door with teak veneered ply/ commercial ply as per CPWD Specifications/as per design.
3.2.2		Anodized/powder coated/ Polyester powder coated Aluminium shutters with toughened glass glazing/paneling where required.
3.2.3	Frame and shutters in wet area	PVC/FRP door frames & shutters in wet areas.
3.3	Window shutters	Factory made Anodised/ powder coated/ Polyester powder coated 'Z' section aluminium shutters/ standard UPVC section for windows with toughened glass glazing
3.4	Fittings	Anodized aluminium /stainless steel or equivalent.
3.5	Fire check door	As per fire safety specifications
<b>4.0</b>	<b>FLOORING</b>	
4.1	Main entrance hall	Pre polished granite flooring.
4.2	Corridors	Matt finished vitrified tiles/Granite flooring/combination of marble and granite
4.3	Rooms	Granite tiles/Vitrified tiles/Engineered wood flooring (in officers chambers)
4.4	Lavatory Blocks	Granite flooring.
4.5	Flooring in basement	Vacuum dewatered concrete.
4.6	Rest of the area	Kota Stone flooring.
<b>5.0</b>	<b>STAIRCASE</b>	
5.1	Internal staircases	Single piece Granite or marble flooring in treads & risers with dado of matching permanent finish specifications.
5.2	Fire escape staircase	Single piece Kota stone flooring in treads & risers with dado of matching permanent finish specifications.
<b>6.0</b>	<b>RAILING</b>	Stainless steel railings.
<b>7.0</b>	<b>TOILETS</b>	Granite flooring. Glazed tiles of size not less than 300 x 450/400 x 600 mm in dado upto ceiling height. Granite counters. Rimless counter sunk basins/Stainless steel sinks. Mirrors with moulded PVC frame. FRP/PVC doors with frames.

<b>8.0</b>	<b>ROOFING</b>	
8.1	Roof treatment	Coba treatment/over deck insulation with Puf slab.
8.2	False ceiling	False ceiling in office area & toilets to cover the services as per design requirement.
<b>9.</b>	<b>FINISHING</b>	
9.1	External	Dry stone cladding/washed grit plaster/water proof weather coat paints/ Structural Glazing/ ACP cladding conforming to Energy Conservation Building Code.
9.2	Internal	
9.2.1		Gypsum plaster in dry areas.
9.2.2		Cement plaster in wet areas
9.2.3		Dry acrylic distemper in service area & basement.
9.2.4		Acrylic emulsion paint/ Textured paint (low V.O.C)
9.2.5		Wall panelling as per approved Architecture Design upto sill level/1.2 meter, height or ceiling height.
9.3	Painting	Doors & windows – Painting/polishing on wood work as per design requirement.
<b>10.0</b>	<b>PROVISION FOR BARRIER FREE BUILDING</b>	Ramps, toilets for physically challenged, chequered tiles use of Braille signages & lifts etc.GRC (Glass reinforced concrete) tiles in Ramp area.

**Rules for working out plinth area from plans**  
**( for the purpose of calculating plinth areas as per IS Code 3861 & as per Memo No. 29/21/58/WI)**  
**Dated : New Delhi, Oct. 1983).**

## ANNEXURE –III

In order to ensure the adoption of a uniform method of working out plinth areas from plans, the following rules are laid down. These rules are general in nature and should be taken as a guide. They are based on the fundamental principle that the plinth area of a building should present a true picture of the covered floor area provided in the plan.

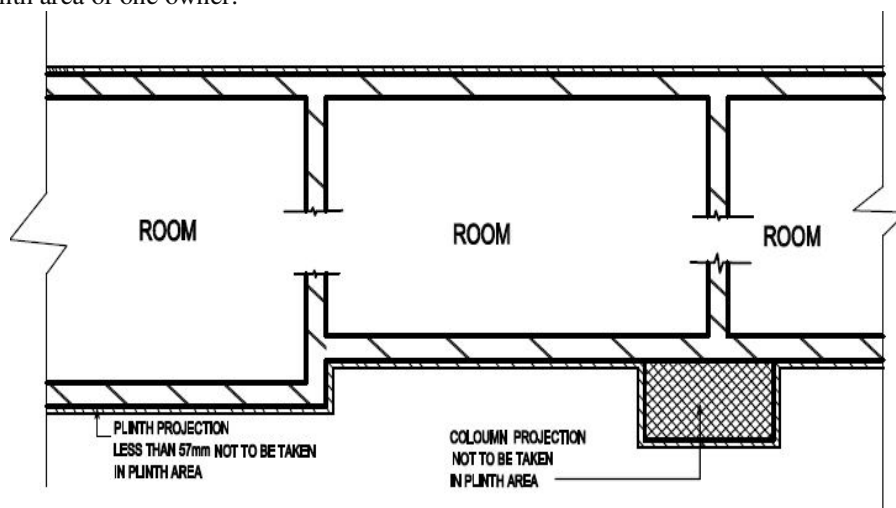
**1. GENERAL**

The total plinth area of a building shall be the sum total of the plinth area at every floor including the basement, if any.

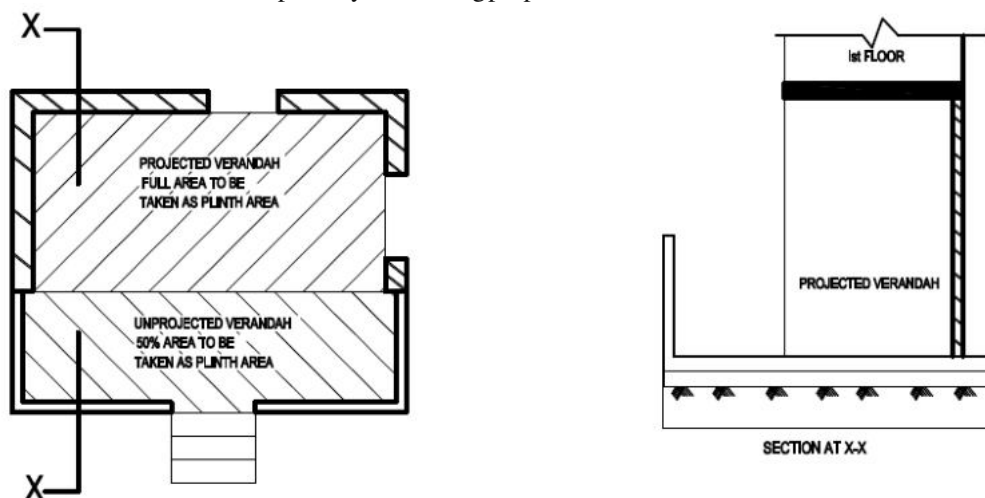
**PLINTH AREA OF GROUND FLOOR**

- (a) The plinth area of the ground floor shall be calculated at the plinth level excluding the plinth off-sets provided such plinth off-sets are not more than 58mm. In cases where the building consists of – columns projecting beyond cladding, the plinth area shall be taken up to the external face of the cladding and shall not be included the projections of the columns.

Note — In case, a common wall is owned jointly by two owners, only half the area of such walls shall be included in the plinth area of one owner.



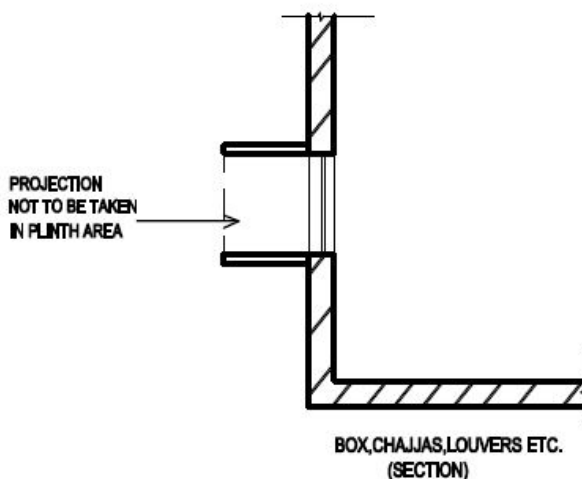
- (b) In case open verandah with parapets are protected at the ground floor projecting out of the building, the full area shall be taken up to the outer line of the external verandah lintel and only 50% of area shall be taken for the unprotected verandah. Open platform without parapets and terraces at ground floor and porches, shall not be included in the plinth area but shall be allowed for separately for costing purposes.



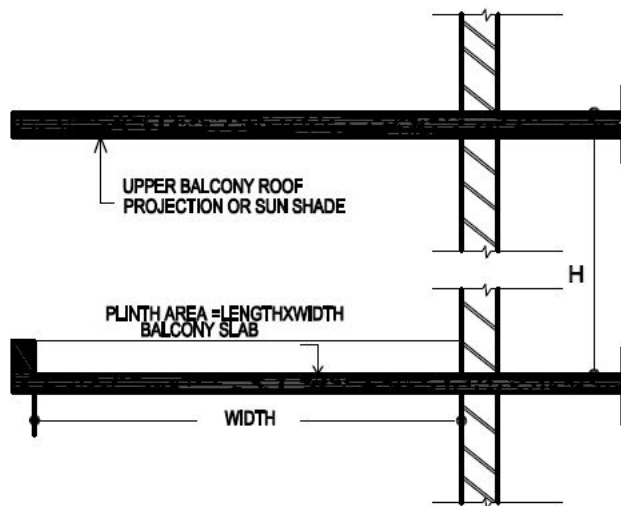
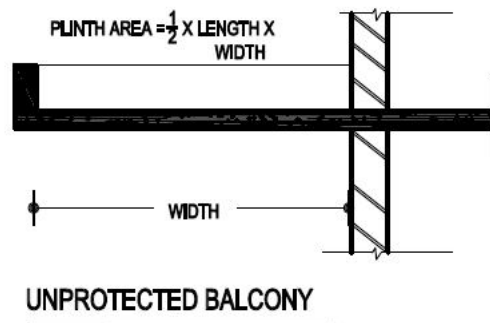
- (c) Shafts for sanitary, water supply installations, garbage chute, telecommunication, electrical, fire fighting, air-conditioning and lifts etc. less than 2.00 sqm. in area shall be included in plinth area whereas the said opening with more than 2.00 sqm. in area shall be excluded from the plinth area.
- (d) Stair case;

**PLINTH AREA AT FIRST AND HIGHER FLOORS**

- (a) The plinth area of first and higher floors shall be calculated at the relevant floor levels. Architectural bands, cornice etc. shall not be included in the plinth area even though they may occur at the floor level, vertical sun breakers or box louvers projecting out also shall not be include in plinth area. See illustrative sketch below.



- (b) In the case of projecting balconies protected to their full width by the shades full width roof projections or by upper in the case of unprotected balconies equivalent area to the extent of 50% of the area of the balconies shall be included in the plinth area. See illustrative sketch given below:

**PROTECTED BALCONY****UNPROTECTED BALCONY**

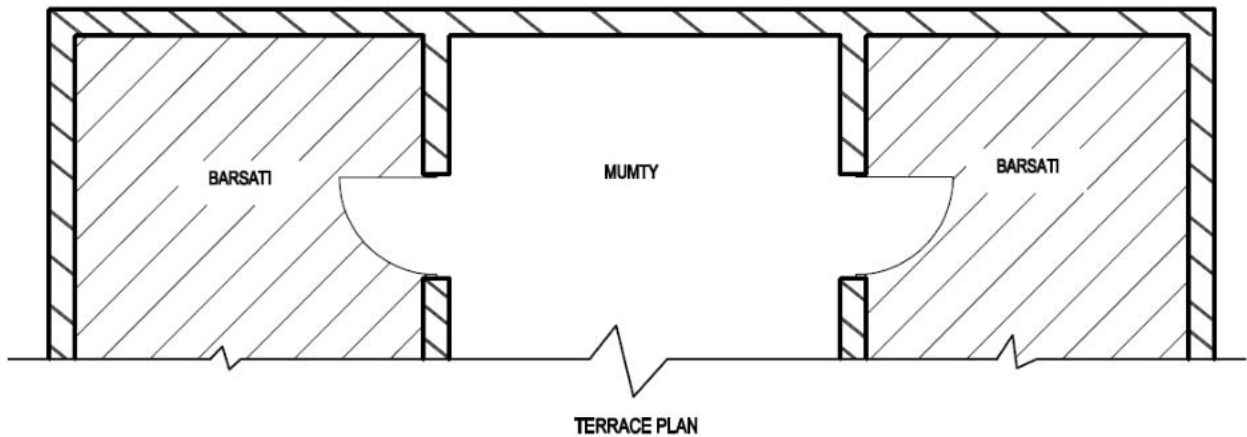
- (c) In case of alcove (box projection like storage below sill level and cupboards etc.) made by cantilevering a slab beyond external wall:
1. 25 percent of the area for the alcove of height up to 1 m,
  2. 50 percent of the area for the alcove of height more than 1m and upto 2 m, and
  3. 100 percent of the area for the alcove of height more than 2 m.

**GALLERIES, MEZZANINE FLOORS, LOFTS.**

- (a) Area of galleries i.e. upper floor of seats in an assembly hall, Auditorium, theatres, etc. shall be fully included in the plinth area.
- (b) Area of mezzanine floor i.e. an intermediate floor introduced between two main floors, shall be included in the plinth area, if no separate provision is made for the same.
- (c) The area of a loft i.e. an intermediate slab just beneath the floor of roof without any direct staircase leading to it and used for storage purpose shall not be included in the plinth area.

**The following shall not be included in the plinth area:**

- a) Area of loft;
- b) Area of architectural band, cornice, etc;
- c) Area of vertical sun breaker or box louver projecting out and other architectural features, for example slab projection for flower pot, etc;
- d) Open platform;
- e) Terrace;
- f) Open spiral/service stair cases; and
- g) Area of mumty, machine room, towers, turrets, domes projecting above terrace level.



# PROFORMA FOR CALCULATION OF BUILDING COST INDEX

## ANNEXURE –IV

Sl. No	Description	Unit	%age	Rates as on 01.04.2019	Proportionate value	Weightage rates	Weight-age of Component	Rates at the time of revision of cost index	Cost Index
1	Bricks (Fly Ash)	1000 Nos.	100%	4400.00	4400.00	4400.00	8.00	-	-
2	Cement (OPC)	Qtl.	100%	600.00	530.00	530.00	14.50	-	-
3	TMT Steel								
a.	8 & 10 mm dia	Qtl.	50%	4300.00	2150.00	4300.00	19.50	-	-
b.	12 & 16 mm dia		50%	4300.00	2150.00			-	-
4	Aggregates 20 mm	Cum	75%	1400.00	1050.00	1312.50	6.50	-	-
	a) Natural sources		25%	1050.00	262.50			-	-
	b) Aggregates 20mm (RCA)								
5	Sand (Coarse Sand)	Cum	75%	1400.00	1050.00	1225.00	3.00	-	-
(a)	Natural Sources		25%	700.00	175.00			-	-
(b)	Sand (Coarse Sand) RA								
6	Flooring Items								
a.	Vitrified tiles	Sqm	50%	660.00	330.00	770.00	5.00	-	-
b.	Ceramic Tiles		20%	260.00	52.00			-	-
c.	Kota Stone		10%	280.00	28.00			-	-
d.	Granite Stone		20%	1800.00	360.00			-	-
7	Paints								
a.	Synthetic Enamel Paint	Litre	33.33%	160.00	53.33	143.33	3.00	-	-
b.	Acrylic Washable distemper		33.33%	50.00	16.67			-	-
c.	Premium acrylic paint		33.33%	220.00	73.33			-	-
8	Door/Windows-Wooden/ uPVC/Aluminium/Steel								
a.	35mm thick flush door shutters both side commercial veneering	Sqm	30.00%	950.00	285.00	1978.60	7.00	-	-
b.	Factory made, standard Z-section steel windows		15.00%	1712.00	258.30				
c.	uPVC windows		20.00%	3295.00	659.00			-	-
d.	Aluminium Window		35.00%	2218.00	776.30			-	-
9	Pipes								
a.	15 mm GI Pipe	Metre	10.00%	85.00	8.50	292.66	2.50		
b.	100 mm CI Pipes		40.00%	630.50	252.22				
c.	20 mm Black Conduits		20.00%	43.00	8.60				
d.	20mm CPVC pipes		30.00%	77.80	23.34				
11	Lamps & Fans								
a.	Ceiling Fans 1200 mm	Each	50%	1500.00	750.00	1318.00	4.50		
b.	1200 mm LED tube lights with fittings		40%	1400.00	560.00				
c.	LED bulbs		10%	80.00	8.00				
12	Electrical Machinery, Motor 7.5 HP (Pump set) 1500 RPM (Kirloskar)	Each	100%	27500.00	27500.00	27500.00	2.50		



13	Wires & Cables								
a.	Copper Wire 1.5 Sq. mm	100 Metre	70%	900.00	630.00	1290.00	4.00		
b.	Copper Wire 4.0 Sq. mm		30%	2200.00	660.00				
14	Labour								
a.	Skilled	Each	50%	710.00	355.00	647.00	20.00		
b.	Unskilled		50%	584.00	292.00				
Total							100.00		

## STATEMENT OF COST INDICES OF DELHI/NCR SINCE 1955

Year	Effective Date	Cost Index	Base 100 of PAR
1955	17.05.1955	100	1955
1962	12.01.1962	118	1955
1962	18.09.1962	131	1955
1966	19.07.1966	148	1955
1969	15.01.1969	157	1955
1969	17.06.1969	168	1955
1969	15.10.1969	181	1970
1970	01.01.1970	100	1970
1971	05.04.1971	120	1970
1972	03.05.1972	134	1970
1973	24.12.1973	166	1970
1975	26.06.1975	180	1970
1976	01.10.1976	180	1970
1976	01.10.1976	100	1976
1977	30.12.1977	113	1976
1978	31.03.1978	116	1976
1979	31.03.1979	130	1976
1980	10.04.1980	176	1976
1981	23.04.1981	200	1976
1982	29.01.1982	217	1976
1982	30.03.1982	221	1976
1983	16.03.1983	245	1976
1984	13.03.1984	274	1976
1985	27.06.1985	312	1976
1986	09.07.1986	340	1976
1987	16.06.1987	370	1976
1988	31.03.1988	397	1976
1988	01.11.1988	421	1976
1989	31.10.1989	494	1976
1990	31.03.1990	521	1976
1991	11.02.1991	564	1976
1991	31.03.1991	595	1976
1992	31.12.1991	664	1976
1992	01.01.1992	100	1992
1992	31.03.1992	104	1992
1994	01.01.1994	117	1992
1995	01.06.1995	132	1992
1996	01.06.1996	142	1992
1997	01.06.1997	145	1992
1998	01.06.1998	148	1992
1999	01.09.1999	158	1992
2000	01.07.2000	162	1992
2001	01.04.2001	166	1992

Year	Effective Date	Cost Index	Base 100 of PAR
2002	01.04.2002	176	1992
2003	01.04.2003	197	1992
2004	01.04.2004	209	1992
2005	01.04.2005	223	1992
2006	01.04.2006	236	1992
2007	01.04.2007	254	1992
2007	01.10.2007	260	1992
2007	01.10.2007	100	2007
2008	01.04.2008	114	2007
2008	01.10.2008	119	2007
2009	01.04.2009	113	2007
2009	01.10.2009	126	2007
2010	01.04.2010	136	2007
2010	01.10.2010	139	2007
2011	01.04.2011	149	2007
2011	01.10.2011	151	2007
2012	01.04.2012	161	2007
2012	01.10.2012	170	2007
2012	01.10.2012	100	2012
2013	01.04.2013	100	2012
2014	01.04.2014	105	2012
2014	01.10.2014	107	2012
2015	01.04.2015	104	2012
2015	01.10.2015	103	2012
2016	01.04.2016	102	2012
2016	01.10.2016	101	2012
2017	01.04.2017	111	2012
2017	01.10.2017	115	2012
2018	01.04.2018	116	2012
2018	01.10.2018	118	2012
2019	01.04.2019	120	2012
2019	01.04.2019	100	2019

1. PAR 1955 base 100 is effective from 17.05.1955
2. PAR 1970 base 100 is effective from 01.01.1970.
3. PAR 1976 base 100 is effective from 01.10.1976.
4. PAR 1992 base 100 is effective from 01.01.1992.
5. PAR 2007 base 100 is effective from 01.10.2007.
6. PAR 2012 base 100 is effective from 01.10.2012.
7. PAR 2019 base 100 is effective from 01.04.2019.

PLINTH AREA RATES FOR SPECIALISED E&M WORKS			
			Annexure-V
Sl. No.	Description of Item	Unit	Rate
	SUB-STATION EQUIPMENTS		
1	Supplying, installation, testing and commissioning of 33kV/0.433kV or 11kV/0.433 kV substation equipments comprising HT Panel, Dry type Transformers, HT cable, Bus trunking from Transformer to LT Panel, LT Panel, Automatic Power factor correction panel, Active Harmonic Filters, TVSS (Transient Voltage suppression system), SPD ( Surge protection system), Essential panel, Earthing, required inter-connections, substation safety equipments including LT cabling from sub station to the buildings fed by the sub station.	per KVA	9000
	DIESEL GENERATING SETS		
2	Supplying, installation, testing and commissioning of Silent Type DG Sets, AMF Panel, Bus Ducting/ Cables from DG Sets to Essential Panel, Synchronizing Panel where required, DG Set enclosure room sound insulation/ventilation/smoke exhaust as required, Earthing of DG Set system, control cabling, Fuel tank/piping, DG set Exhaust piping/ Exhaust Chimney as per CPCB norms, Civil works connected with DG Sets including Foundation as required.	per KVA	11000
	33 KV RECEIVING SUBSTATION AND 33KV/11KV HT CABLING		
3	(i) Supplying, installation, testing and commissioning of 33 kV Substation comprising 33 kV HT Panel, transformers 33kV/11 kV, 11 kV HT Panel, inter connections, 11kV HT UG cabling to the distribution substations on Ring main system, Substation earthing, substation safety equipments.	per KVA	6000
	(ii) Supplying, Installation, testing & Commissioning of 33 kV Switch room comprising of 33 kV HT panel, inter connections, 33 kV HT UG cabling to the distribution substations, on ring main system, earthing, safety equipments.	per KVA	6000
	UNINTERRUPTED POWER SUPPLY		
4	Supplying, installation, testing and commissioning of online 3 phase UPS System with 30 minutes back up including batteries, interconnecting cables, battery racks etc.	per KVA	20000
4.1	Add for every additional 30 minutes backup	per KVA	9000
	Note: For assessment of kVA estimation of a building, Para 4.4 and other relevant Paras of "Guidelines for Substation & Power Distribution Systems of Buildings-2019" which is available on CPWD Website may be referred.		
	CENTRAL AC PLANT		
5	Supplying, installation, testing and commissioning of energy efficient central AC Plant including low side works	per TR	85000
	Extra for stand by chilling units High side	per TR	38000
	VRV/ VRF AC System		
6	Supplying, installation, testing and commissioning of VRV/VRF System including indoor /outdoor units, piping, electrical power distribution/wiring, electrical panel, treated fresh air system etc.	per HP	55000
	PRECISION AIRCONDITIONING SYSTEM		
7	Supplying, installation, testing and commissioning of PRECISION Air Conditioning System including piping, electrical cabling, controller etc. required for the system	per TR	110000

Sl. No.	Description of Item	Unit	Rate
8	<b>SOLAR PHOTO VOLTAIC POWER GENERATION SYSTEM</b>		
	Supplying, installation, testing and commissioning of Grid interactive roof top solar photo voltaic power generation system including space frame	per KWp	65000
9	<b>SOLAR WATER HEATING SYSTEM</b>		
	Supplying, installation, testing and commissioning of solar water heating system with heat exchanger type including electrical heater backup , make up water tank but without piping	100 liters per day	22500
	Note: For higher capacity, multiply the rate		
10	<b>CCTV SYSTEM</b>		
	Supplying, installation, testing and commissioning of IP Based CCTV system for building security comprising of PTZ Fixed camera, cabling, recording , display system and hard ware software support	per sqm.(for Indoor)	200
		per sqm.(for external surveillance of plot area)	200
	Note: Rate includes peripheral IP Based PTZ camera besides indoor camera at reception, corridors, lift lobby etc., wiring upto CCTV room and setting up monitoring unit/ units, as required.		
11	<b>ACCESS CONTROL SYSTEM</b>		
	Supplying, installation, testing and commissioning of Access control system for building security comprising of controller, E&M Locks, Reader, Smart Cards, cabling, recording, display system, hardware and software support as required	per sqm.	200
12	<b>IBMS: INTEGRATED BUILDING MANAGEMENT SYSTEM</b>		
	Supplying, installation, testing and commissioning of Integrated Building Management System for Digital/electronic display and monitoring of all E&M systems like substation, DG sets, Ups, Solar power, Lifts, AC Plants, Ventilation systems, Fire protection systems, Pumps etc. to include cabling, monitors, recording, display system, hardware, software support(upto 10,000 sq.m)	upto 10,000 sqm.	400
12.1	Add extra for built up area above 10, 0000 sq mtr.	per sqm.	125
13	<b>HYDROPNEUMATIC WATER SUPPLY SYSTEM</b>		
	Supplying, installation, testing and commissioning of Hydropneumatic water supply system consisting of pumps, pneumatic tank, Microprocessor based control panel, VFD, inter connecting pipes, valves, cabling, switchgear etc. as required	per LPM	1500
14	<b>LIGHTING AUTOMATION INCLUDING OCCUPANCY SENSORS</b>		
	Supplying, installation, testing and commissioning of lighting automation including occupancy sensors	per sqm.	200
15	<b>BASIC HOME SECURITY FOR RESIDENTIAL COLONY</b>		
	Supplying, installation, testing and commissioning of basic security system in the residential colony to include control room at the gate and intercom connection to each dwelling unit, and basic CCTV system to be installed at the entry and exit points, Parking areas, entry point of each dwelling unit and other common areas as required including CCTV control room, required UG cabling, recording system and monitor/ monitors in the control room		
15.1	Intercom system	per sqm. of residential Area	300
15.2	CCTV system	per sqm. of plot Area	300

Sl. No.	Description of Item	Unit	Rate
16	LAN SYSTEM		
	Supplying, installation, testing and commissioning of LAN System comprising of Core switches & L2 switches with 10 G, 10 Giga SFP modules, WIFI Access points, WIFI controller, Network Management Software, Racks, CAT 6A cable, Patch Panels, OFC etc.	per sqm. of covered area	500
17	IP BASED EPABX SYSTEM		
	Supplying, installation, testing and commissioning of IP based EPABX System comprising of Core switches & L2 switches with 10 G, 10 Giga SFP modules, Industry Standard Appliance Server, Cloud-based, enterprise-grade UC Solution, MID/ENTRY Level IP/SIP Phone with, Dual 1 Gig Ports, Racks, CAT 6A cable, Patch Panels, OFC etc.	per sqm. of covered area	900
	NOTE: It will be economical to use common infrastructure of switches, OFC, CAT 6A cable for both voice and Networking		
18	Conference Hall: Supplying, installation, testing and commissioning of Audio Visual/Conference System	per sqm.	10000
19	Auditorium: Supplying, installation, testing and commissioning of Sound reinforcement, Stage Lighting, Stage curtains	per sqm.	12500
20	STREET LIGHTING WITH LED		
	Supplying, installation, testing and commissioning of LED Street/ Compound/ High mast/ Pathway/ Landscape Lighting for the entire Campus	per sqm. (Plot Area)	150
	Note: This is applicable for plot sizes more than 1 acre. For smaller plot sizes actual requirements may be worked out		
	Note : - Cost for General Façade lighting, if required, with IP 66/67 LED fixtures (RGB/Tunable/Mono) along with controls (hardware and software) and cabling may be assessed on case to case basis.		
21	STP/ETP PLANT		
	Supplying, installation, testing and commissioning of STP/ETP of appropriate technology including Civil Works (except plant room), Tertiary Treatment etc. for the Building/ campus		
21.1	Per Day for Plant size upto 50,000 LPD	per thousand Ltr.	75000
21.2	Per Day for Plant size above 50,000 upto 1,00,000 LPD	per thousand Ltr.	60000
21.3	Per Day for Plant size above 1,00,000 LPD	per thousand Ltr.	50000
22	DRIVER FACE AND AUTOMATIC NUMBER PLATE RECORDING SYSTEM/RECOGNITION SYSTEM		
22.1	Supplying, installation, testing and commissioning of Driver face and automatic number plate recording system / recognition system Including High resolution camera and software set for the driver face capture and automatic number plate recording	per set	725000
23	BAGGAGE SCANNERS		
23.1	Baggage scanner small: computer based multi energy X-Ray Baggage Inspection System mounted on castor wheels capable of passing through bags of dimensions 540 mm (W) X 350 mm (H), belt height 750 mm to 850 mm, 22"/24 LCD Monitor, Input / Output rollers with frames	per unit	2125000
23.2	Baggage scanner Big: computer based multi energy X-Ray Baggage Inspection System capable of passing through bags/parcels of dimension 940mm (W) x 640mm (H) with Belt Height – 750mm –850mm with 22"/24" LCD Monitor, Input/ Output rollers with frames	per unit	3500000

Sl. No.	Description of Item	Unit	Rate
24	DOOR FRAME METEL DETECTOR		
	20 zone or above Door frame Metal detector nominal Size: 760 mm (W) x 2050 mm (H) x 700 mm (D) loaded with necessary software	per set	350000
25	MEDICAL GAS PIPELINE SYSTEM		
	Medical Gas pipeline system (as per international standards) comprising of oxygen, carbon dioxide, nitrous oxide, AGSS, Air-4, Air-7, Vacuum outlets, manifolds, pressure alarms, fully automatic gas control system, Bed head panels, copper piping, cylinder banks, plant equipment such as compressors, Vacuum pumps etc.	per bed	60000
26	MODULAR OPERATION THEATER		
	MOT comprising of walls & ceiling system for operating area, steel framework, static dissipative flooring, laminar flow, double dome OT light, touch screen surgeon's control panel, scrub station, X ray viewing screen, hatch box, automatic sliding doors, anesthesia pendent, surgeon pendent etc.		
26.1	With stainless steel technology	per OT	8500000
26.2	With SMS technology	per OT	12500000
	Note: The above rates are based on minimum OT size of 550 sq ft.		
27	NURSING CALL SYSTEM		
27.1	Nursing call system comprising of VDE 0834/UL approved Nursing call system, System Switch for de-centralized communications, Nurse Station Terminal, Patient Handset, Event Data base Software, Nurse Call Server along with its Integration with LAN and EPBAX, cabling etc.	per Bed	42000
27.2	Nursing call system (INDIAN) comprising of System Switch for de-centralized communications, Nurse Station Terminal, Patient Handset, Event Database Software, Nurse Call Server, Cabling etc.	per Bed	21500
28	BOOM BARRIER		
28.1	Boom Barrier for car: Electromechanical parking barrier with all accessories upto 6 meter length		125000
29	CAR PARKING SYSTEM		
29.1	Sensor based car parking system with controller, display etc. as required. (Cost based on minimum car quantity of 250 cars)	per car	10000
30	EMERGENCY LIGHT & ILLUMINATED SIGNAGES		
30.1	Illuminated signages	per sqm. of covered Area	20
31	MOTORIZED STEEL GATES	per gate upto 5.00 m. Width	500000

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