

CHAPTER – 2

Project Description

2.1 Location

The project road is located between 26° 13' 43" and 26° 56' 38" latitude and 73° 36' 28" and 73° 24' 0" longitude.

It takes off from Chainage Km. 59.700 of NH-112 and runs along SH-86C (Old MDR-90) and passes through Bhawi, Silari, Pipar city, Sathin, Ratkuriya, Bhopalgarh, Palri Ranawat, Lawari Piou, Gajsinghpura Mangeria, Tadawas, Lalawas and finally joins at Km. 217.20 of NH-65. The project highway mainly passes through Jodhpur Distt. except a small length of about 10 km. beyond Mangeria falling in Nagaur Distt. Total length of this project highway is about 97 Km. including common portions with H-II (Palri Ranawat – Lawari piou) and H-III (Pipar - Sathin) and effective length is 83.275.

“Start and end points of the project highway are shown in figure 2.1”



Figure 2.1 : Starting Point (Bhawi)



Figure 2.2: End Point (Khimsar, NH-65, Ch. 217.200)

2.2 Climate

The climate is generally dry and reaches to its extremity a hot and dry in summers (March – June) and very cold in winters (December to February). Maximum temperature in summer reaches to 46⁰-47⁰ C with minimum dry temperature as 40⁰C. During this period sand storm are very common. The minimum temperature in winter dips up to 5⁰C. In monsoon season (July to August) average annual rainfall is approx. 570mm.

2.3 Existing Road

2.3.1 Land Use

The land use along the project highway is mostly agriculture except in inhabited areas. About 92% population either depends on agricultural activities.

2.3.2 Settlements

The details are as given in table 2.1:

Table 2.1 : Settlements

S.No.	Name of Township	Location Ch (km – km)	Length (m)	Pavement type	Remarks
1	Ghana Mangra	5.400 – 6.170	0.77	CC/BT	Partly CC
2	Tilwasni	7.000 – 8.200	1.20	CC/BT	Partly CC
3	Selari	10.480 – 11.500	1.02	CC/BT	Partly CC
4	Pipar	18.500 – 20.850	2.35	CC/BT	Partly CC
5	Ratkuria	41.150 – 42.000	0.85	CC/BT	Partly CC
6	Bhopalgarh	53.900 – 56.900	3.00	CC/BT	Partly CC
7	Surpura	62.100 – 63.100	1.00	CC/BT	Partly CC
8	Gajsinghpur	79.500- 81.100	1.60	CC/BT	Partly CC
9	Mangeria	86.300 – 87.400	1.10	CC/BT	Partly CC
10	Dharnawas	92.150 – 93.000	0.85	CC/BT	Partly CC
11	Lalawas	95.600 – 96.000	0.40	CC/BT	Partly CC

2.3.3 Geology and Soil Type

The geological setup of the district is represented by various igneous metamorphic and sedimentary rocks. Delhi Super litho units are very limited and in the form of isolated pockets. Marwar Super Group of rocks occupies maximum geographical area of the district lying in the central, western and earthen parts of the district. In the entire district, the hard rocks are overlain by this blanket of alluvium and wind-blown sand.

Ground water occur under unconfined to semi-confined conditions in rocks of Delhi Super Group, Jodhpur sand stone, Bilara limestone, Nagaur sand stone, Lathi sand stone and unconsolidated sediment. These form the chief source of ground water in district. Confined conditioned is also met sometimes at deeper levelly in the north western part of the district.

2.3.4 Right of Way (ROW)

As per preliminary survey and the information obtained from various agencies, the ROW available is around 15m throughout. However, after collecting the revenue maps it is noted that the ROW varies 8.0 to 20.0 m

Table: 2.2 : Right of Way

S. No.	Section	Length (Km.)	Existing ROW (Km.)	Proposed ROW (Km.)	Remark
1	Bhawi - Sathin SH-86C	31	15	30	
2	Sathin – Palri- Ranawat SH-86C	41	15	30	
3	Km. 77 - 97 SH-86C	22	15	30	

2.3.5 Intersection

There are 16 intersections existing on the project highway. Most of these intersections lead to nearby villages. The details are as given in Table 2.3:

Table: 2.3 – Intersection

S. No.	Chainage (km)	Type	Width (m)	Type of surface	Direction	Remarks	Minor / Major
1	0+00	T	4-lane	BT	Both	NH-212 (Jodhpur – Nagaur)	Major
2	14+400	4-Leg	3.5	BT	BS	Jaigaon – Chirthani	Major
3	31+050	Y	5.5	BT	RHS	Dodiyan	Minor
4	41+200	Y	3.5	BT	RHS	Khangta	Minor
5	45+800	T	3.5	BT	LHS	Bagoria	Minor
6	52+400	T	3.5	BT	LHS	Sathin	Minor
7	54+550	Y	5.5	BT	BS	Jodhpur – Narkot	Major
8	55+150	Y	3.5	BT	LHS	Shopian	Minor
9	55+650	Y	3.5	BT	BS	Hirdshear	Minor

<i>S. No.</i>	<i>Chainage (km)</i>	<i>Type</i>	<i>Width (m)</i>	<i>Type of surface</i>	<i>Direction</i>	<i>Remarks</i>	<i>Minor / Major</i>
10	62+600	Y	3.5	BT	BS	Kadari – Hingoli	Minor
11	76+280	Y	3.5	BT	RHS	Lawari	Minor
12	80+750	T	3.5	BT	LHS	Khithani	Minor
13	81+000	T	3.5	Cement	RHS	Bhaward	Minor
14	86+480	T	3.5	BT	LHS	Towards NH-65	Minor
15	92+400	T	3.5	BT	LHS	Nagri	Minor
16	97+172	T	7.0	BT	End	NH-65 (Jodhpur – Nagaur)	Major

2.3.6 Alignment

The alignment is passing through Plain terrain in entire length. The land use along the project highway is mainly agriculture and residential in built up area. It can cater to the design speed of about 80 km/hr except in some of the built-up area where it may have to be restricted upto 50-65 km/hr., however, in some portion of the project highway (Km. 41+500 – 42+000) passing through Ratkuriya where geometrics are very bad will need short re-alignment. A proposal for the same has already been prepared and the same approved by the authority. However, topographic survey could not be done due to public agitation. The vertical alignment is generally smooth.

2.3.7 Existing Carriageway and Pavement

The existing road is having single lane carriageway (width 3.0m to 3.75m) mostly except some IL/2L stretches in isolation. Further there is Katcha road in a length of about 5 Km. beyond Mangeria and about 10.0 Km. length from Pipar to Sathin and 4 km. length between Palri Ranawat and Lawari Piou is common with H-III and H-II respectively. There is no existing paved shoulder and the width of earthen shoulders varies from 1.00 to 2.00 m.

Roadway Details are given in Annexure 2.1

The existing pavement is generally BT except in the stretches passing through in-habited areas where it is partly CC. The condition of the pavement varies from good to fair. It is good in about 50% length and fair to poor in 50% length. About 5 Km. road length is presently Katcha.

Km-wise details are in Annexure 2.2

2.3.8 Cross Drainage Structure

There is no existing bridge on the project road. However, there are about 3 culverts (pipe / slab) and 17 causeways. The sub-standard culverts will be reconstructed and causeway will be replaced with culverts suitably.

Details of the CD works are in **Annexure 2.3.**

2.3.9 Railway Crossing

There is one unmanned level crossing single line (Salva - Bilara) at km. 0.800 on the Project Road. There is another manned Railway crossing (Ch. 563 / 3-4) in Km. 39 (Merta – Jodhpur) of project highway. The numbers of train passing at this crossing are about 30 per day and average gate closing time on each occasion is about 10 minutes as per the information collected from the site. The TVU as on 10/13 are 37557 only. Presently the cost of replacement of existing level crossing with ROB has not been included.

2.3.10 Utilities

There are electricity pole, telephone lines and optical fibre cable line within the road boundary in various section of the highway. The exact location proposed for their shifting is given in the utility relocation plan already submitted to the concerned agencies through the authority in the first week of June 2015. The shifting of above utilities or otherwise has been considered as per improvements proposed.

2.3.11 Environment Features

The project road already in operation and will be improved / upgraded, no major changes in ecological and environment features are anticipated. On both sides of the project highway,

there are trees which will need to be cut. The project highway does not cross any minor / major river. However, one short re-alignments (Rathkuriya village) will need to be constructed. The project highway, also, does not pass through any sensitive ecological areas or wild life sanctuary etc.

2.3.12 Land Acquisition Plan

Most of the improvements are proposed to be done within the available land except one short re-alignment (about 2.0Km.) in Rathkuriya Village. Land acquisition plan have already been prepared for this re-alignments as well as for the land to be acquired for making of the existing ROW to 18m throughout.