

GOVERNMENT OF JAMMU AND KASHMIR



PMGSY DEPARTMENT (J&K)
JAMMU

DETAILED PROJECT REPORT FOR CONSTRUCTION OF
ROADS PROPOSED UNDER
BHARAT NIRMAN (STAGE- I)

IN BLOCK Mahore

DISTRICT REASI

Name of the Scheme

Shikari to Bhallar

(Part-1)

Length = 10.710 Kms

PKG:- JK14-

Cost :- Rs. 706.67 Lacs

719.08

Chief Engineer,
PMGSY (JKRRDA)

1. Introduction

1.1 Objectives of Pradhan Mantri Gram Sadak Yojna (PMGSY)

Rural Road connectivity is a key component of rural development by promoting access to economic and social services and thereby generating increased agricultural incomes and productive employment opportunities. It is also a key ingredient in ensuring poverty reduction.

It was against this background of poor connectivity that the Prime Minister announced in 2000, a massive rural roads program. The Prime Minister's Rural Road Program (Pradhan Mantri Gram Sadak Yojana, PMGSY) set a target of:

- Achieving all-weather road access to every village/habitation with a population greater than 1000 by 2003
- Providing all-weather road access to all villages/habitations of population greater than 500 people [250 in case of hill States (North-Eastern states, Sikkim, Himachal Pradesh, Jammu & Kashmir and Uttaranchal), the desert areas and tribal areas] by the end of the Tenth Five Year Plan, i.e., 2007

1.2 All Weather Road: The road which serves the targetted habitation under all weather conditions.

1.3 Core Network

The rural road network required for providing the 'basic access' to all villages/ habitations is termed as the Core Network. Basic access is defined as one all-weather road access from each village/ habitation to the nearby Market Centre or Rural Business Hub (RBH) and essential social and economic services.

A Core Network comprises of Through Routes and Link Routes. Through routes are the ones which collect traffic from several link roads or a long chain of habitations and lead it to a market centre or a higher category road, i.e. the District Roads or the State or National Highways. Link Routes are the roads connecting a single habitation or a group of habitations to Through Roads or District Roads leading to Market Centers. Link Routes generally have dead ends terminating on habitations, while Through Routes arise from the confluence of two or more Link Routes and emerge on to a major road or to a Market-Centre.

The Core Network may not represent the most convenient or economic route for all purposes. However, since studies show 85-90% of rural trips are to market centres, the Core Network is likely to be a cost-effective conceptual frame work for investment and management purposes, particularly in the context of scarce resources.

The Sub-project road Shikari To Bhallar is a link road with Code jk14L031 in mahore block of Reasi District. This road directly connects the habitations of Shikari with Dubri, Kalar with population of 567,133. Thus this link road serves the total population of 700.

1.4 Geography

Road is in Mountainous terrain and starts from Hamusan having road length 21.185km. Road is in cutting and filling and type of soil is shingle and boulders. The terrain of the road is mountainous with slope varying from 40°-70°.

1.5 Climatic Condition

In summer day temperature rises to max. 35° and in winter night temperature falls to min of -2°C

1.6 The Sub-Project Road

The road passes through MOUNTANEOUS TERRAIN

Road is in cutting and passes through open area. There are no hindrances in construction of road.

Distt; Reasi
Block: Mahore
Road Name: Shikari To Bhallar
Road Code: JK-L031
Package No: JK14-
Road Length: ~~10.77~~ Km 10.710
Start Point: Shikari (latitude 33°06'07" longitude 74°47'26")
End Point: Bhallar (latitude 33°06'26" longitude 74°47'13")

Sl.No.	Habitation benefited	Population benefited		Chaniage	
		Direct	Indirect	From	To
1	Dubri	567			
2	Kalar	133			

10. Design of Cross Drainage Works

10.1 General

On the basis of hydrological survey, 106 new cross drainage structures are recommended for the project road as listed below.

SI No	Design CH.	Proposed CD	TYPE
1	25	1X1000	HPC
2	302	1 x 6.0 M	SCUPPER
3	525	1X1000	HPC
4	629	1 x 6.0 M	SCUPPER
5	700	1X1000	HPC
6	840	1X1000	HPC
7	902	1X1000	HPC
8	1234	1X1000	HPC
9	1300	1X1000	HPC
10	1414	1X3.0 M	SLAB
11	1796	1X1000	HPC
12	2175	1 x 6.0 M	SLAB
13	2521	1X1000	HPC
14	2850	1X2.0 M	SLAB
15	3175	1X1000	HPC
16	3350	1X1000	HPC
17	3632	1X1000	HPC
18	3758	1 x 6.0 M	SCUPPER
19	4250	1X1000	HPC
20	4340	1X1000	HPC
21	4740	1 x 6.0 M	SCUPPER
22	4930	1X1000	HPC
23	5141	1X3.0 M	SLAB
24	5325	1X1000	HPC
25	5801	1 x 6.0 M	SCUPPER
26	5996	1X1000	HPC
27	6325	1X2.0 M	SLAB
28	6761	1X1000	HPC
29	6780	1 x 6.0 M	SCUPPER
30	6807	1X1000	HPC
31	6915	1X1000	HPC
32	7322	1 x 6.0 M	SCUPPER
33	7496	1X1000	HPC
34	7798	1X1000	HPC
35	8025	1X1000	HPC
36	8225	1X1000	HPC
37	8427	1X1000	HPC
38	8550	1 x 6.0 M	SCUPPER
39	8843	1X1000	HPC
40	8975	1X1000	HPC
41	9150	1X1000	HPC
42	9378	1X1000	HPC
43	9592	1X2.0 M	SLAB
44	9725	1X1000	HPC

10.2 Hydrological Design

The existing structures in poor condition that are proposed for replacement as listed below. Agricultural conduits, which basically act as balancers, have also been provided as listed below.

10.3 Design Feature

Design Standards for culverts has been prepared based on standard codes and guidelines of IRC: SP: 20: 2002 and similar type of ongoing projects. General features of the designed cross drainage structures are given below:

For hume pipe culvert, minimum road width has been taken as {5.00} m,

Width of culvert : 6.00 m with parapet.

10.4 Justification for retaining/widening and replacement of culverts

10.5 Hydraulic calculation for Culvert

The design discharge was calculated by the rational method considering peak runoff from catchment using the formula,

$$Q = 0.028 \times P \times A \times I_c$$

Where P = Coefficient of Run Off for the catchments characteristics, A = Catchments Area in Hectares & I_c = Rainfall Intensity

Causeways and submersible bridges – Design to be done as per SP-20 and SP-82:2005.

Table 10.2 Proposed Culverts

SI No	Design CH.	Proposed CD	TYPE
1	25	1X1000	HPC
2	302	1 x 6.0 M	SCUPPER
3	525	1X1000	HPC
4	629	1 x 6.0 M	SCUPPER
5	700	1X1000	HPC
6	840	1X1000	HPC
7	902	1X1000	HPC
8	1234	1X1000	HPC
9	1300	1X1000	HPC
10	1414	1X3.0 M	SLAB

11	1796	1X1000	HPC
12	2175	1 x 6.0 M	SLAB
13	2521	1X1000	HPC
14	2850	1X2.0 M	SLAB
15	3175	1X1000	HPC
16	3350	1X1000	HPC
17	3632	1X1000	HPC
18	3758	1 x 6.0 M	SCUPPER
19	4250	1X1000	HPC
20	4340	1X1000	HPC
21	4740	1 x 6.0 M	SCUPPER
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29	6780	1 x 6.0 M	SCUPPER
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39	8843	1X1000	HPC
40	8975	1X1000	HPC
41	9150	1X1000	HPC
42	9378	1X1000	HPC
43	9592	1X2.0 M	SLAB
44	9725	1X1000	HPC
45	9800	1X1000	HPC
46	10200	1X1000	HPC
47	10450	1X1000	HPC
48	10625	1X1000	HPC

11. Protective Works & Drainage

11.1 General

One of the very important reasons for a very rapid loss in the level of serviceability of most of the rural roads in the country is the lack of attention to appropriate drainage. It is basically due to the lack of proper drainage that the maintenance requirements of a rural road rise rapidly even during the early years of its service life. The modern trend is to incorporate maintenance considerations at the design stage itself. Ensuring proper drainage during the design life is considered one of the most essential pre-requisites for a satisfactory performance of the road during its service life

11.2 Road side drain

As the insufficient drainage of surface water leads to rapid damage of road, road side drain as shown in drawing volume has been provided particularly on the location of habitation areas. Sketch for a standard roadside drain is attached with.

11.3 Protective Works

Breast Walls and Retaining walls have been proposed at various locations as per soil strata and as per width requirement.

Table 11.1 List of protective works

Sl. No.	Chainage		Type of protective works		Comments
	From	To	LHS	RHS	
1	0	50	-	50	4 mtr R/Wall
2	275	350		75	4 mtr R/Wall
3	950	975	-	25	4 mtr R/Wall
4	1050	1075	-	25	4 mtr R/Wall
5	1300	1375	-	75	4 mtr R/Wall
6	1800	1850	-	50	4 mtr R/Wall
7	2025	2100	-	75	4 mtr R/Wall
8	2225	2300	75	375	4 mtr R/Wall
9	2750	2800	50	-	4 mtr R/Wall
10	3725	3800	75	-	4 mtr R/Wall
11	4650	4700	50	-	4 mtr R/Wall
12	4825	4925	100	-	4 mtr R/Wall
13	9750	9800	50	-	4 mtr R/Wall
14	10700	10750	33	-	4 mtr R/Wall
25	740	800	60	-	2 mtr B/Wall
26	1375	1425	50	-	2 mtr B/Wall
27	4450	4550	110	100	2 mtr B/Wall
28	6200	6300	-	100	2 mtr B/Wall
29	7820	7880	-	60	2 mtr B/Wall
30	9200	9275	-	75	2 mtr B/Wall

18.3 Abstract of Cost

10.71 lacs

Unit rates will be derived by using the "Schedule of Rates for Road Works, Culvert works and Carriage etc. (JKRRDA)". The abstract of Cost estimate is given in the Table below.

S.No	Description of Item	Unit	Quantity	Rate (Rs)	Amount (In Lacs)
1	Earthwork in excavation in hilly terrain				
a.	All kinds of soil	Cum	52873.820 43082	406.00 115.0	54.99 2877 2545
b.	Ordinary rock not requiring blasting	Cum	35940.870 24769.4	183.00 2.01	69.43 45.23 49.78
c.	Hard Rock	Cum	34034.88 24769.4	307.00 343	104.19 7604 84.98
d.	Earth filling in embankment	Cum	3270.21	57.00 58	1.87 1.90
e.	Disposal of excavated mulba including Loading, unloading av. Lead 1km	Cum	12000.00 2050	50.00	.600 6.47
2.	C.D Works				
a.	Const. of 1.0 Mtr Dia HP Culvert	No	34	2.27 2.56	77.18 87.04
b.	Const. of 6.00 Mtr Long Scupper	No	08	4.48 4.91	35.84 39.28
c.	Const. of 2m span RCC Culvert	No	03	6.88 7.51	20.64 22.53
c.	Const. of 3m span RCC Culvert	No	02	9.50 10.39	19.00 20.78
d.	Const. of 6m span RCC Culvert	No.	01	21.36 23.33	21.36 17.68 23.33
3.	Const. of Semi Pucca Walling:-				
a	E/Wall @ 100m/ Km	Rmt	771 600	1566.00	27.73 239 12.09
b.	Semi Pucca R/Wall Av. Height 4.0 m	Rmt	133 700	15125.00 17603.0	171.35 105.87 123.22
c.	Semi Pucca R/Wall Av. Height 3.0 m		685	9960.00 11729.0	68.23 80.34
d.	Semi Pucca B/Wall Av. Height 2.55 m	Rmt	455 1300	5233.00 6201.0	23.81 68.03 80.73 25.52 295.78
4.	Providing & Fixing of PMGSY Boards:-				
a	P/F of Citizen Informatory Board	Each	02 3	13178.00 14499	0.26 0.39 0.43
b	P/F of PMGSY Logo after every 2Km	No.	05 4	10000.00	0.50 0.40
c	P/F Kilo Meter Stones Ordinary	Each	11	1478.00	0.16
d	P/F 200 Mtrs Stones recast	Each	54	417.00	0.23
E	P/F Boundary Pillars In RCC M-15 @ 100 Mtr C/C	Each	107	370.00	0.40
g.	Provision for tracer path cutting including survey and setting out etc.	Km	10.710	0.26 Lacs	2.89 3.74 3.78
h.	Provision for CBR Tests Including Preparation of DPR	LS	-	-	0.06 0.30
				G.TOTAL	206.67 Lacs 635.26 lacs 719.09

(Signature)
A.E.E
E. Babu

TYPICAL CROSS - SECTION

