

# Construction of Roadbed, Major & Minor Bridges, Track Linking S&T Sarotra to Palanpur

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**Abstract:** - The section Abu Road – Palanpur is a part of the vital link line connecting the Delhi-Ahmedabad, and rich in minerals. Apart from goods traffic, proposed line will be helpful to development of the surrounding regions. Hence, Railway has decided to double the Abu Road to Palanpur of Madar- Palanpur Section. Western Dedicated Freight Corridor is also planned parallel to this section. The section partly lies in Sirohi District of Rajasthan and mostly in Banaskanta district of Gujarat. This work is divided in to two parts i.e. Abu Road to Sarotra Road (24.35 km) and Sarotra Road to Karjoda, (25.75 km). Total length of the proposed new line is 50.1 km and extended upto Palanpur. One more section Swarupganj-Abu Road with 26 km.

**Key Words:-** Roadbed, Major Bridges, Minor Bridges, Track Linking, S&T. etc..

## I. INTRODUCTION

Construction of Roadbed, Major and Minor Bridges and Track Linking, S&T and General Electrical Work ICW Doubling Between Abu Road –Palanpur on Ajmer Division of North Western Railway in Rajasthan and Gujarat State, India (in two packages) and Construction of Roadbed, Major and Minor Bridges and Track Linking, S&T and General Electrical Work ICW Doubling between Swarupganj-Aburoad on Ajmer Division of North Western Railway in Rajasthan State, India (Total Length: 76.1 km).

### A. Objectives of Paper

- To create state of the art rail transport infrastructure to meet the growing demand
- Rehabilitation and up gradation of single line to double line
- To reduce the travel time
- To provide most efficient rail infrastructure
- To provide business development.

### B. Details of Project (Package-II)

Construction of roadbed, major & minor bridges & track linking S&T and general electrical work Sarotra to Palanpur (25.75 km) & in Ajmer division of north western railway in Rajasthan and Gujarat state, India (package-i).

Type of Tender	Item Rate Contract
Client / Employer	Rail Vikas Nigam Limited
Location of Site of work	Package 2 : Sarotra to Palanpur
Estimated Cost of Work	Package1: Rs. 96.64 Cr.
Contract Value	Package1: Rs. 85.56 Cr.
Date of Award & Start	19.10.2011
Completion Period	Package2: (i) ChTRASANI - KARJODA : 24 Months (ii) SAROTRA ROAD - IQBALGARH : 28 Months For Completion Section / work : 30 Months

### C. Salient Features & Major Quantities (Package-II)

Following are the salient feature with the major quantity

**Salient Features:-**

S.N	Item	Package-II
1	Length of Section	25.75 Km
2	Ruling Gradient	1 in 150 (C)
3	Degree of curvature	2.75 Degree
4	Major Bridges	6 No's
5	Minor Bridges	33 No's
6	Stations	4 No's
7	Junction Station	Likely 1
8	LC gates	14 No's
9	Loading Standard	25 t-2008

**Major Quantities:-**

S.N	Item	Package-II
1	E/W in bank	7,25,000 Cum
2	E/W in Cutting	2,04,100 Cum
3	Blanketing	1,19,000 Cum
4	PCC/RCC/PSC	24,491 Cum
5	Stone pitching	5,823 Cum
6	1200 dia Piling	2,760Rmt
7	Ballast	74,438 Cum
8	Cement	2,66,208 Bags
9	Structural Steel	716 M.T
10	Reinforcement Steel	2,207 M.T

**Major Bridges in Package-II:-**

Total thirty-nine (39 Nos.) bridges are in Package-II, among that six (6Nos.) are major bridges. Following are the details of major bridges

No.	BR.NO	Chainage IN KM	EX.SPAN	PR.Span	Remarks
1	829	625.076	4X12.2-PG	4X12.2-PSC G	
2	831	627.753	7X12.2-PG	7X12.2-PSC G	
3	839	634.446	3X12.2-PG	3X12.2-PSC G	
4	843	636.155	2X12.2-PG	2X12.2-PSC G	
5	845	637.890	6X30.5-Steel G	6X30.5-Steel G	Pile foundation
6	848	639.454	2X12.2-PG	2X12.2-PSC G	Pile foundation

**II. CONTEMPLATED ITEMS OF THE PROJECT**

- Providing and maintaining office and rest house accommodation and vehicles for use of Employer, Engineer and their Assistants and Staff.
- Earthworks in formation in banks are to be done with suitable filling / blanketing material. Also required protection works are to be done.
- Construction of Major Bridges, Minor Bridges for the proposed new line including laying of suitable backings for the bridges and earth work in bridge gaps.
- Casting, stressing and launching of PSC girder, pile foundations etc.
- Construction of Buildings & Platforms.
- Laying & Linking of Track (Excluding supply of rails, sleepers and thick web switches)
- Supply & installation of S & T equipment's.

- Supply & Erection of General Electrical works

#### A. Staff deployment

Sr. No	Designation	By IVRCL	By Magadha
1	Sr.Eng / Eng		3 No's
2	Safety Supervisor		2 No's
3	Surveyors		1 No's
4	QC Technicians		2 No's
5	S & T Supervisor		1 No's
6	Supervisors		7 No's
7	Electrician		1 No's
8	Drivers & Helpers		23 No's

#### B. Machinery Deployment

Sr.No	Description	By IVRCL	By Magadha	Remarks
1	Excavators	-	3 No's	-
2	Dumpers	-	9 No's	-
3	Grader	-	2 No's	-
4	Roller	-	3 No's	-
5	Water Tanker	-	2 No's	-
6	Concrete mixer	1 No's	1 No's	-
7	Weigh Batcher	-	1 No's	-
8	Shuttering Plates	-	100 No's	-
9	Adjustable Probes	-	100 No's	-
10	Lab Equipment	1 Set	-	-

#### C. Critical Issues

- Mobilization of Crusher, Batching Plant and Transit Mixer.
- Mobilization QS & Planning Engineer, QC Engineers and Site engineers.
- Finalization of Electrical Contractor, S&T Contractor and Placement of order for electrical cable.
- Mobilization of Carpenters for Bridges, Building works and fabrication of Shuttering Material for PSC Girders.
- Minor bridges -16 no's finalized by RVNL for construction. Balance 17 No's Minor Bridges and 6 Major Bridge Drawings not finalized.
- Starting of Test Pile at Bridge No 845.
- Handover of Site (Forest Land) Km 637.200 to Km 638.400 in Package-II.
- Finalization of site location for Buildings and Relay Rooms in Package-II.

#### III. PICTORIAL VIEWS OF WORK PROGRESS



Fig.1. Earth Work Progress @ Km 625.100



Fig.2. Embankment Progress @ Km 625



Fig.5. Br. No 863 in P-II Barrel portion completed



Fig.3. CNG Progress @ Km 625.5



Fig.6. Br. No 864 in P-II Barrel Portion Completed



Fig.4. Br. No 862 PCC Progress



Fig.7. Solar Panel Erected at Jetti Station In P-II



Fig.8. Solar Module Erected at Korjoda Station

#### IV. CONCLUSION

Indian Railway is the life line of the country and is considered as the principal mode of transport. The Railway network in India not only serves to unify the country but also plays, a vital role in economic development and industrialization of the country. There has been steady increase in the volume of passenger traffic both in terms of number of passenger. By providing the double line we have achieved the objectives of business development and meet the growing demand with reduced the travel time of passenger.

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