



Bihar Rural Road
Development Agency



ग्रामीण कार्य विभाग

Rural Works Department, Govt of Bihar



ग्रामीण कार्य विकास योजना

BIHAR RURAL ROAD DEVELOPMENT AGENCY (BRRDA)

F.D.R. PART - A (2021 - 22)

DETAILED ESTIMATE FOR F.D.R. RESTORATION WORK



DISTRICT :	Bhagalpur	BLOCK :	Rangra
NAME OF ROAD :	L041-NH-31 to Sadhua Chapar Village (VR24)		

TOTAL LENGTH OF ROAD	:	1.497	KM
TOTAL COST OF FDR PART-A	:	1.934	LAKH
GST @ 12 %	:	0.232	LAKH
LABOUR CESS @ 1 %	:	0.019	LAKH
SEIGNIORAGE FEE @ 10 %	:	0.061	LAKH
TOTALCOST OF RESTORATION WORK	:	2.246	LAKH

Submitted By:-

Executive Engineer

Rural Work Department
Works Division, Navgachhiya

GENERAL ABSTRACT OF COST

Name of Road : L041-NH-31 to Sadhua Chapar Village (VR24)

District : Bhagalpur

Length (Km) : 1.497

Block : Rangra

Sl. No	Particulars		Details (Km)	Total Cost (in Rs.)
1	Cost of Road Restoration work	:	1.50	193392 193,400.00
2	Add G.S.T @ 12 %	:		23207 23,209.00
3	Add L.C. @ 1 %	:		1,934.00
4	Add 10% S.F. on Basic rate of Mines material	:		6,093.00
	Total Cost of Restoration work	:		224626 224,645.00
			Say,	224,645.00

2,24,645.00

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J.E.

Qendy
21/11/21
A.E.

21/11/21
E.E.
Executive Engineer
R. W. D. to J. Nagachia

Technically Sanctioned to Rs 2,24,645.00 (Rupees Two
lacs twenty four thousand five hundred) only.

Superintending Engineer
Rural Works Department
Works Circle, Bhagalpur

13/10/22

ESTIMATE FOR ROAD RESTORATION WORK

Name of Road: L041-NH-31 to Sadhua Chapar Village (VR24) Block: Rangra District: Bhagalpur Length : 1.497 Km

Sl. No.	SSR Item No.	Description	No	Length (M)	Width (M)	H/D (M)	Qty.	Unit	Rates (in Rs.)	Amount (in Rs.)
1	11.1	Local Sand filling in as per drawing and technical specification Clause 305 3.9								
		As per attached " Annexure - C "					429.55		450.25	192392
							429.55	Cum	450.25	192392
							Total Cost of Flood Protective work =			192392

P. J. E.
J. E.

A. E.
A. E.

R. W. D. W. D. Naugachia
Executive Engineer
R. W. D. W. D. Naugachia

Local Sand Measurement

Name of Road : L041-NH-31 to Sadhua Chapar Village (VR24)

Length (Km) : 1.497

Sr. No.	Chainage (m)	Nos.	Length (m)	Width (m)			Average Width (m)	Depth (m)			Average Depth (m)	Quantity (Cum)
1	0 - 33	1	33.00	1.50	2.50		2.00	0.30	1.20		0.75	49.50
2	35 - 195	1	160.00	1.50	2.60		2.05	0.30	1.10		0.70	229.60
3	440 - 462	1	22.00	1.50	2.60		2.05	0.30	1.10		0.70	31.57
4	462 - 466	1	4.00	1.50	2.40		1.95	0.30	1.30		0.80	8.24
5	483 - 486	1	3.00	1.40	2.50		1.95	0.30	1.20		0.75	4.39
6	490 - 535	1	45.00	1.40	2.50		1.95	0.30	1.20		0.75	65.81
7	1000 - 1010	1	10.00	1.55	2.60		2.08	0.30	1.30		0.80	16.64
8	800 - 810	1	10.00	1.50	2.45		1.98	0.30	1.25		0.78	15.44
9	992 - 1000	1	8.00	1.20	2.50		1.85	0.30	1.10		0.70	10.36
Total =												429.55

S. F.	-	429.55	Cum	@	Rs.	141.85	x	10%	=	Rs.	6,093.00
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N/14
21/11/2021
J. E.

Qmdy
21/11/21
A. E.

R
21/11/21
Executive Engineer
H. W. D. V. L. Nagachia

RWD, works Division, Bhagalpur

Executive Engineer (Genl)
Public Works Dept. Bangalore

Assistant Engineer

Robert J. L. Jones
Junior Engineer

Rate Analysis

SDB Sl. No.	DESCRIPTION	Unit	QTY	Rate	Amount in Rs
4.5	Providing and Laying of Brick Bats				
	Placing tractor at loading point loading with front end loader dumpoing ,turning for return trip exluding time for haulage and return trip				
	Unit = cum				
	Taking output = 2.832 cum				
a)	Labour				
	Mazdoor (Unskilled)	day	2.17	292	633.64
b)	Materilas				
	Brick Bats	cum	2.83	1,051.00	2976.33
c)	Carriage				
		cum	2.83		
	Cost for 5.5 cum = a+b+c				4750.04
	Rate per cum = (a+b+c+d)/2.83	cum			1677.54
	Total per cum	cum			1677.54
5.7.9	Labour for fitting and fixing 62 mm to 75 mm dia bamboo runners in position at every verticle pile with 150 mm long nails or 38 swg G. I. wire including cost of G.I. or nails complete job as per specification and direction of E/I				
	Unit = Per mt.				
	Taking Out Put = 30.50 m				
(i)	Materials				
	Cost of 150 mm long nails	Kg	0.50	61.74	30.87
(ii)	Labour				
	Carpenter Gr -II	No.	0.125	351	43.88
	Unskilled Labour	No.	0.25	292	73.00
	Rate for 30.5 m				147.75
					147.75
	Rate for 1 m				4.84
(iii)	Bamboo(2nd class) 75mm dia, 1.8 - 2.5m long	m	1.00	23.58	23.58
	Rate per m			Say.	28.43
5.7.7	Labour for cutting 62 mm to 75 mm dia bamboo piles in size and making shoes and driving etc. complete bob as per specification and direction E/I.				
	Unit = Per m				
	Taking Out Put = 30.50 m				
	Assurning				
	20 no pile sunk 1.525 m deeps				
	Total depth sunk 30.50 m				
(i)	Labour				
	Carpenter Gr -II	No.	0.25	351	87.75
	Unskilled Labour for piling	No.	2.50	292	730.00
					817.75
	Rate for 30.5 m				817.75
	Rate for 1 m				26.81
(ii)	Bamboo(2nd class) 75mm dia, 1.8 - 2.5m long	m	1.00	23.58	23.58
	Rate per m			Say.	50.39
5.7.8	Labour for fitting and and fixing split bamboo woven chachari in position with 20 swg G.I. wire of 75 mm to 100 mm long nails alternatively including cost of G.I. wire or nails complete job as per specification and direction of E/I.				
	(Assuming strip of 3.05x3.05 = 9.30 sqm				
	Unit = per sqm				
	Taking Out = 9.30 sqm				

a	Labour				
	Carpenter Gr -II	No.	1.00	351	351.00
	Mazdoor (Unskilled) for pilling	No.	1.00	292	292.00
b	Materials				
	75 mm to 100 mm long nails	kg	0.25	61.74	15.44
c	Bamboo(2nd class) 75mm dia, 1.8 - 2.5m long	m	11	23.58	259.42
					917.85
	Rate Per Sqm = (a+b+c)/9.30				98.69
10.7.40 WRD	Labour for filling Cement Bag, swing and laying materilas Unit = Per Bag				
A	Supply Empty cement Bag with Sand (2.92+4.82)	No	100	7.74	774.00
	Stiching Roll (Nylon)	No	2	30.00	60.00
				Total (A)	834.00
B	Unskilled Labour for filling stiching and staking	No	1.67	292	487.64
	Unskilled Labour for carrying and Placing at work site	No	3	292	876.00
	Skilled Labour for stiching	No	0.33	370	122.10
	Total per bag			Total (B)	1,485.74
C	Hire charge of Machine				
	Hire charge of Stiching Machine	No	0.33	50	16.50
	Hire charge of Generator 3 K.V.A	No	2.67	74	197.58
	Total per bag			Total (C)	214.08
D	Carriage Cost of Local Sand				
	1.2 Cft = 0.034 m ³	cum	3.40	157.83	536.62
	Total (D)				536.62
	Total cost of (A+B+C+D) =	Bag			3,070.44
	Rate per Bag				30.70
4.1	Granular Sub-base with Well Graded Material (Table 400.1)				
	(By mix in place method) For Grading II Material				
	Construction of granular sub-base by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401.				
(ii)	For Grading II Material				
	Unit = cum				
	Taking output = 300 cum				
a)	Labour				
	Mate	day	0.40	304.00	121.60
	Mazdoor (Skilled)	day	2.00	370.00	740.00
	Mazdoor (Unskilled)	day	8.00	292.00	2336.00
b)	Machinery				
	Tractar mounted grader arrangement for grading @ 100 cum pe	hour	12.00	573.20	6878.40
	Three wheel 80-100 kN static roller @ 10 cum per hour	hour	12.00	803.00	9636.00
	Tractor with Rotavator 25 cum per hour	hour	12.00	573.20	6878.40
	Water tanker 6 kl capacity	hour	5.00	184.00	920.00
c)	Material				
	Well graded granular sub-base material as per Table 400.1				
	26.5 mm to 9.5 mm @ 35 per cent	cum	134.40	604.91	81299.90
	9.5 mm to 2.36 mm @ 25 per cent	cum	96.00	582.80	55948.80
	2.36 mm below @ 40 per cent - Local Sand	cum	153.60	514.58	79039.49
	Water	kl	30.00	40.00	1200.00
	Cost of GSB for 300 cum				244998.59
	A) Cost of GSB without carriage per cum	cum			816.66
e)	CARRIAGE				
	Carriage for GSB material	Cum	0.768	1187.62	912.09
	Carriage for material below 2.36 mm (Local Sand)	Cum	0.512	1187.62	608.06

Rate per cum with carriage					
9.3	Providing and Laying Reinforced Cement Concrete Pipe NP3 as per design in Single Row				2336.82
1100	Providing and laying reinforced cement concrete pipe NP3 for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets Clause 1106.				
A.	1000 MM DIA (Double Row)				
a)	Material				
	RCC NP3 pipe including collar	m	15.00	2755.50	41332.50
b)	Labour				
	Mate	day	0.22	304.00	66.88
	Mason (1st class)	day	0.60	351.00	210.60
	Mazdoor (Unskilled)	day	4.80	292.00	1401.60
	Cost for 7.5m = (a+b+c)				4301.58
	A) Basic Cost per m = (a+b+c+d)/7.5	m			5734.88
	CARRIAGE COST				
	NP3 Pipe	m	15.00	482.06	7230.90
	Carriage cost of 7.5 m				7230.90
	B) Carriage cost per m	m			964.12
	Rate per m = (A+B)	m			6699.00
B.	1000 MM DIA (Single Row)				
a)	Material				
	RCC NP3 pipe including collar	m	7.50	2755.50	20666.25
b)	Labour				
	Mate	day	0.09	304.00	27.36
	Mason (1st class)	day	0.25	351.00	87.75
	Mazdoor (Unskilled)	day	2.00	292.00	584.00
	Cost for 7.5m = (a+b+c)				2165.36
	A) Basic Cost per m = (a+b)/7.5	m			2848.71
	CARRIAGE COST				
	NP3 Pipe	m	7.50	482.06	3615.45
	Carriage cost of 7.5 m				3615.45
	B) Carriage cost per m	m			482.06
	Rate per m = (A+B)	m			3330.77
C.	600 MM DIA (Double Row)				
a)	Material				
	RCC NP3 pipe including collar	m	15	1582.72	23740.80
b)	Labour				
	Mate	day	0.04	304.00	12.16
	Mason (1st class)	day	0.12	351.00	42.12
	Mazdoor (Unskilled)	day	0.96	292.00	280.32
	Cost of 7.5m = (a+b+c+d)				24075.40
	A) Basic Cost per m = (a+b)/7.5	m			3210.05
	CARRIAGE COST				
	NP3 Pipe	m	15	194.99	2924.85
	Carriage cost of 7.5 m				2924.85
	B) Carriage cost per m	m			389.98
	Rate per m = (A+B)	m			3600.03
D.	600 MM DIA (Single Row)				
a)	Material				
	RCC NP3 pipe including collar	m	7.50	1582.72	11870.40
b)	Labour				
	Mate	day	0.04	304.00	12.16
	Mason (1st class)	day	0.12	351.00	42.12
	Mazdoor (Unskilled)	day	0.96	292.00	280.32
	Cost of 7.5m = (a+b+c+d)				12205.00
	A) Basic Cost per m = (a+b)/7.5	m			1627.33
	CARRIAGE COST				
	NP3 Pipe	m	7.5	194.99	1462.43

	Carriage cost of 7.5 m				1462.43
	B) Carriage cost per m	m			194.99
	Rate per m = (A+B)	m			1822.32
11.1	Local Sand filling in as per drawing and technical specification Clause 305.3.9				
	Sand filling				
	Unit = cum				
a)	Labour				
	Mate	day	0.01	304.00	3.04
	Mazdoor (Unskilled)	day	0.30	292.00	87.60
b)	Material				
	Sand (assuming 20 per cent voids)	cum	1.20	141.85	170.22
	Rate per cum = (a+b)				260.86
c)	Carriage Cost				
	Sand (assuming 20 per cent voids)	cum	1.20	157.83	189.40
	Rate per cum = a+b+c=	cum			450.26

P/L
 21/11/2021
 J.E.

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