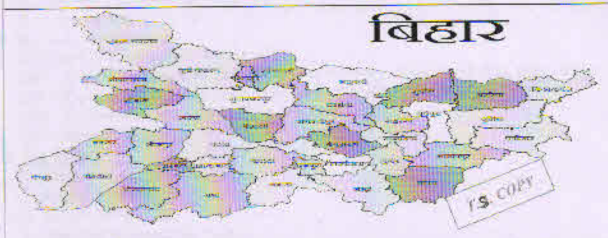
ग्रामीण कार्य विभाग

Rural Works Department, Govt of Bihar

BIHAR RURAL ROAD DEVELOPMENT AGENCY (BRRDA)

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

DETAILED ESTIMATE FOR F.D.R. RESTORATION WORK



DISTRICT :	Bhagalpur	BLOCK :	Navgachhiya
NAME OF ROAD :	Road No-14 Khagra to Kanki tola Via Gonarchak and Shivshahi Tola road		

TOTAL LENGTH OF ROAD	:	2.000	KM
TOTAL COST OF FDR PART-A	:	~~0.409~~ 0.404	LAKH
GST @ 12 %	:	~~0.049~~ 0.048	LAKH
LABOUR CESS @ 1 %	:	0.004	LAKH
SEIGNIORAGE FEE @ 10 %	:	0.016	LAKH
TOTALCOST OF RESTORATION WORK	:	~~0.479~~ 0.472	LAKH

Submitted By :

Executive Engineer

Rural Work Department

Works Division, Navgachhiya

GENERAL ABSTRACT OF COST

Name of Road :	Road No-14 Khagra to Kanki tola Via Gonarchak and Shivshahi Tola road	District :	Bhagalpur
Length (Km) :	2.000	Block :	Navgachhiya

Sl. No	Particulars		Details (Km)	Total Cost (in Rs.)
1	Cost of Road Restoration work	:		40383=- 40,936.00
2	Add G.S.T @ 12 %	:		4846=- 4,912.00
3	Add L.C. @ 1 %	:		404=- 409.00
4	Add 10% S.F. on Basic rate of Mines material	:		1,597.00
	Total Cost of Restoration work	:		47230=- 47,854.00
			Say,	~~47,854.00~~

~~47230=-~~
47,200=-

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J. E.

01-11-2021
A. E.

02/11/2021
E. E

Technically sanctioned for Rs- 47,200=00 (Rupees fourty seven thousand two hundread) only.

2/11/22

Superintending Engineer
Rural Works Department
Works Circle, Bhagalpur
03/01/22

ESTIMATE FOR ROAD RESTORATION WORK

Name of Road: Road No-14 Khagra to Kanki tola Via Gonarchak and Shivshahi Tola road   Block: Navgachhiya   District: Bhagalpur   Length : 2.000 Km

Sl. No.	SSR Item No.	Description	No	Length (M)	Width (M)	H/D (M)	Qty.	Unit	Rates (in Rs.)	Amount (in Rs.)
1	4.5	Providing brick bats including spreading laying hand packing and compacting with C.I. Hammer in layers not exceeding 75 mm thick including cost of light, barriers danger signals chowkidar taxes royalty etc all complete job as per specification and direction of E/I excluding carriage cost of bricks								
		As per attached " Annexure - A "					7.60		1677.59	12749=00
							7.60	Cum	~~1750.04~~	~~13,300.00~~
2	5.7.58	Providing sand bag with sand and labour including carriage laying, filling etc all complete job as per specification and direction of E/I								
		As per attached " Annexure - B "					150	/ bags	30.70	4,605.00
3	11.1	Local Sand filling in as per drawing and technical specification Clause 800 3.0								
		As per attached " Annexure - C "					51.15		450.21	23029=00
							51.15	Cum	450.26	23,031.00
							Total Cost of Flood Protective work =			~~40,936.00~~
										40383=00

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ANNEXURE - " A "

Brick Bat Measurement

Name of Road : Road No-14 Khagra to Kanki tola Via Gonarchak and Shivshahi Tola road — Length (Km) : 2.000

Sr. No.	Chainage (m)	Nos.	Length (m)	Width (m)			Average Width (m)	Depth (m)			Average Depth (m)	Quantity (Cum)
1	1200 - 1211.0	1	10.50	3.30			3.30	0.15			0.15	5.20
1	1215 - 1219.0	1	4.00	1.50			1.50	0.40			0.40	2.40
											Total =	7.60

	S. F.	-	7.60	Cum	@	Rs	1051.00	x	10%	=	Rs.	799.00

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ANNEXURE - " B "

E. C. Bags Measurement

Name of Road : **Road No-14 Khagra to Kanki tola Via Gonarchak and Shivehahi Tola road** Length (Km) : 2.000

Sr. No.	Chainage (m)	Nos.	Length (m)	Width (m)			Average Width (m)	Depth (m)			Average Depth (m)	Quantity (Cum)	Quantity (No of bag)
		1st Phase											
1	1200 – 1211.0 RHS	1	8.00	2.50	1.50		2.00	0.20			0.20	3.20	94
2	LHS	1	4.00	2.10			2.10	0.20			0.20	1.89	56
												Total =	150
	S. F.	-	150		Nos	@	Rs.	4.82	x	10%	=	Rs.	72.00

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ANNEXURE - " C "

Local Sand filling Measurement

Name of Road : Road No-14 Khagra to Kanki tola Via Gonarchak and Shivshahi Tola road   Length (Km) : 2.000

Sr. No.	Chainage (m)	Nos.	Length (m)	Width (m)			Average Width (m)	Depth (m)			Average Depth (m)	Quantity (Cum)
1	1200 - 1211.0	1	11.00	6.00	3.30		4.65	1.00			1.00	51.15
											Total =	51.15
	S. F.	-	51.15	Cum	@	Rs.	141.85	x	10%	=	Rs.	726.00

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Carriage Cost of Material via Road

RWD, Works Division, Bhagalpur

Name of Road : Road No-14 Khagra to Kanki tola Via Gonarchak and Shivshahi Tola road Block : Navgachhiya

Sl.No	Item	Unit	Source	Carriage Cost & Lead in Km: Pucka / Surface				Katcha				Loading & Unloading Cost	Carriage By Road	Total
1	Stone Metal Gr-II/Via Road	Cum	Mirza Cheuki	8.00 / 4.59	x 7.47	x 83 Km	= Rs 1080.65	8.00 / 4.59	x 18.09	x 0 Km	= Rs 0.00	193.62	1274.25	1274.25
2	Stone Metal Gr-III / GSB Via Road	Cum	Mirza Cheuki	8.00 / 4.99	x 7.47	x 83 Km	= Rs 994.00	8.00 / 4.99	x 18.09	x 0 Km	= Rs 0.00	193.62	1187.62	1107.62
3	Stone Aggregate / Chips Via Road	Cum	Mirza Cheuki	8.00 / 4.99	x 7.47	x 83 Km	= Rs 994.00	8.00 / 4.99	x 18.09	x 0 Km	= Rs 0.00	193.62	1187.62	1187.62
4	Stone Boulder /Via Road	Cum	Mirza Cheuki	8.00 / 4.80	x 7.47	x 83 Km	= Rs 1033.35	8.00 / 4.80	x 18.09	x 0 Km	= Rs 0.00	193.62	1226.97	1226.97
5	Coarse Sand/Via Road	Cum	Hammara	8.00 / 4.99	x 7.47	x 36 Km	= Rs 431.13	8.00 / 4.99	x 18.09	x 0 Km	= Rs 0.00	104.88	336.01	336.01
6	Mooram/Via Road	Cum	Mirza Cheuki	8.00 / 6.00	x 7.47	x 83 Km	= Rs 826.68	8.00 / 6.00	x 18.09	x 0 Km	= Rs 0.00	104.88	931.56	931.56
7	Bitumen Barauni/ Via Road	MT	Barauni	8.00 / 8.00	x 7.47	x 125 Km	= Rs 933.75	8.00 / 8.00	x 18.09	x 0 Km	= Rs 0.00	365.00	1298.75	1298.75
8	Bitumen Emulsion /Via Road	MT	Fatuha	8.00 / 8.00	x 7.47	x 212 Km	= Rs 1583.64	8.00 / 8.00	x 18.09	x 0 Km	= Rs 0.00	365.00	1948.64	1948.64
9	Local Sand	Cum	Local	8.00 / 4.99	x 7.47	x 2 Km	= Rs 23.95	8.00 / 4.99	x 18.09	x 1 Km	= Rs 29.00	104.88	157.83	157.83
10	Brick	1000 No	Local	8.00 / 2.00	x 7.47	x 7 Km	= Rs 209.16	8.00 / 2.00	x 18.09	x 1 Km	= Rs 72.36	[illegible]	723.14	723.14
11	Cement	MT	Local	8.00 / 8.00	x 7.47	x 7 Km	= Rs 52.29	8.00 / 8.00	x 18.09	x 0 Km	= Rs 0.00	317.64	369.53	369.59
12	Steel	MT	Local	8.00 / 8.00	x 7.47	x 7 Km	= Rs 52.29	8.00 / 8.00	x 18.09	x 0 Km	= Rs 0.00	337.70	389.99	389.99
13	Hume Pipe (1000 mm)	M	Godda	8.00 / 10.00	x 7.47	x 68 Km	= Rs 406.[illegible]	8.00 / 10.00	x 18.09	x 0 Km	= Rs 0.00	75.66	482.06	482.06
14	Hume Pipe (600 mm)	M	Godda	8.00 / 25.00	x 7.47	x 68 Km	= Rs 162.55	8.00 / 25.00	x 18.09	x 0 Km	= Rs 0.00	32.44	194.99	194.99
15	Hume Pipe (300 mm)	M	[illegible]	8.00 / 68.00	x 7.47	x [illegible] Km	= Rs 67.73	8.00 / 68.00	x 19.82	x 0 Km	= Rs 0.00	32.44	100.17	100.17
16	Bamboo	Nos	Kursela	8.00 / 8.00	x 7.47	x 42 Km	= Rs 313.74	8.00 / 8.00	x 19.82	x 0 Km	= Rs 0.00	317.64	349.93	531.38
17	Brick bats	Cum	Local	8.00 / 2.00	x 7.47	x 7 Km	= Rs 209.16	8.00 / 2.00	x 18.09	x 1 Km	= Rs 72.36	193.62	1274.25	475.14
18	Kiln Rubbish	Cum	Local	8.00 / 2.00	x 7.47	x 7 Km	= Rs 209.16	8.00 / 2.00	x 18.09	x 1 Km	= Rs 72.36	104.88	157.83	386.40

01/11/21
Junior Engineer

01-11-2021
Assistant Engineer

01/11/2021
Executive 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 dumpong ,turning for return trip exluding time for haulage and return tirp				
	Unit = cum				
	Taking output = 2.832 cum				
a)	**Labour**				
	Mazdoor (Unskilled)	day	2.17	292	633.64
b)	**Materilas**				2976.43
	Brick Bats	cum	2.832	1,051.00	~~2974.33~~
c)	**Carriage**			402.80	1140.73
		cum	2.832	~~475.44~~	~~1344.65~~
	Cost for 5.5 cum = a+b+c				~~4952.62~~
	Rate per cum = (a+b+c+d)/2.832	cum			~~1750.04~~
	Total per cum	cum			~~1,750.04~~
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				1677.54
	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 WRD	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
[illegible]	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**				
	Tractor 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	6078.40
	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				2336.82
9.3	**Providing and Laying Reinforced Cement Concrete Pipe NP3 as per design in Single Row**				
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)				43011.58
	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)				21365.36
	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 fillling 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***				189.36
	Sand (assuming 20 per cent voids)	cum	1.20	157.88	~~189.40~~
	Rate per cum = a+b+c=	cum			~~**450.26**~~ 450.22

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J.E

01-11-2021
AE

R. 02/11/2021
E.E