



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 :	L033- T04 to Mushhari Tola via Nandgram (VR12)		

TOTAL LENGTH OF ROAD	:	4.272	KM
TOTAL COST OF FDR PART A	:	0.643	LAKH
GST @ 12 %	:	0.077	LAKH
LABOUR CESS @ 1 %	:	0.006	LAKH
SEIGNIORAGE FEE @ 10 %	:	0.026	LAKH
TOTALCOST OF RESTORATION WORK	:	0.736	LAKH

Submitted By

Executive Engineer

Rural Work Department
Works Division, Navgachhiya

GENERAL ABSTRACT OF COST

Name of Road : L033- T04 to Mushhari Tola via
Nandgram (VR12)

District : Bhagalpur

Length (Km) : 4.272

Block : Navgachhiya

Sl. No	Particulars		Details (Km)	Total Cost (in Rs.)
1	Cost of Road Restoration work	:		62,289.00
2	Add G.S.T @ 12 %	:		7,715.00
3	Add L.C. @ 1 %	:		643.00
4	Add 10% S.F. on Basic rate of Mines material	:		2,640.00
	Total Cost of Restoration work	:		75,287.00
			Say,	75,287.00

75,287.00
73,600.00

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E. E.

Technically sanctioned for Rs- 73,600 = 00 (Rupees Seventy three thousand Six hundred only).

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Superintending Engineer
Rural Works Department
Works Circle, Bhagalpur
01/10/22

ESTIMATE FOR ROAD RESTORATION WORK

Name of Road: L033- T64 to Mushhari Tola via Nandgram (VR12) Block: Navgachhiya District: Bhagelpur Length: 4.272 Km

Sl. No.	SSR Item No.	Description	No	Length (M)	Width (M)	H/D (M)	Qty.	Unit	Rate (in Rs.)	Amount (in Rs.)
1	4.5	Providing brick bats including sanding, 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 cartage cost of bricks.								
		As per attached "Annexure - A"					21.00		1634.54	3520.80
							21.00	Cum	1750.04	3675.00
2	5.7.53	Providing sand bag with sand and labour including cartage, laying, filling etc. all complete job as per specification and direction of E.I.								
		As per attached "Annexure - B"					897	bags	30.70	27,539.00
Total Cost of Flood Protective work =										64,289.00

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ANNEXURE - "A"

Brick Bat Measurement

Name of Road : L033- T04 to Mushhari Tola via Nandgram (VR12)

Length (Km) : 4.272

Sr. No.	Chainage (m)	Nos.	Length (m)	Width (m)			Average Width (m)	Depth (m)			Average Depth (m)	Quantity (Cum)
1	1800 - 1804	1	4.00	1.50			1.50	1.20			1.20	7.20
2	2820 - 2826	1	6.00	3.00			3.00	0.60			0.60	10.80
3	3180 - 3183	1	3.00	1.00			1.00	1.00			1.00	3.00
											Total =	21.00

	S. F.	-	21.00	Cum	@	Rs.	1051.00	x	10%	=	Rs.	2,207.00
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ANNEXURE - " B "

E. C. Bags Measurement

Name of Road : L033- T04 to Mushhari Tola via Nandgram (VR12)

Length (Km) : 4.272

Sr. No.	Chainage (m)	Nos.	Length (m)	Width (m)	Average Width (m)	Depth (m)	Average Depth (m)	Quantity (Cum)	Quantity (No of bag)
1	1800 - 1803.0	1	3.00	1.00	1.00	0.20	0.20	0.60	18
2	2920 - 2924.0	1	3.80	1.00	1.00	1.10	1.10	3.85	113
3	3100 - 3113.0	1	4.00	2.70	1.75	2.00	2.00	14.00	412
4		1	2.00	1.20	1.20	0.30	0.30	0.72	21
5		1	4.00	1.90	1.00	2.00	2.00	8.00	235
6		1	3.00	3.00	3.00	0.20	0.20	1.80	53
7	3160 - 3164.0	1	4.00	1.90	1.50	0.20	0.20	1.52	45
								Total =	897

S. F.	-	897	Nos.	0%	Rs.	4.82	x	10%	=	Rs.	433.00
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01/11/2017

Carriage Cost of Material via Road

RAWA, Warthe District, Bhagatpur

Name of Road :			1033-104 to Muchhart Tola via Nandigram (VR12)			Block : Navgachhiya		
Sl No	Item	Unit	Source	Carriage Cost & Load to Km		Loading & Unloading Cost	Carriage By Road	Total
				Pucka / Surface	Katcha			
1	Stone Metal Gr-II/Via Road	Cum	Mirza Chakla	8.00 4.99	7.47 x 101 Km = 750.00.53	3.00 1.59	8.00 x 10.50 = 84.00	1754.47
2	Stone Metal Gr-III / CSB Via Road	Cum	Mirza Chakla	8.00 4.99	7.47 x 103 Km = 769.94.30	3.00 1.59	8.00 x 10.50 = 84.00	1187.52
3	Stone Aggregate / Chippo Via Road	Cum	Mirza Chakla	8.00 4.99	7.47 x 83 Km = 620.94.30	3.00 1.59	8.00 x 10.50 = 84.00	1187.52
4	Stone Boulder /Via Road	Cum	Mirza Chakla	8.00 4.99	7.47 x 82 Km = 618.33.33	3.00 1.59	8.00 x 10.50 = 84.00	1226.97
5	Coarse Sand/Via Road	Cum	Hammara	8.00 4.99	7.47 x 36 Km = 269.31.15	3.00 1.59	8.00 x 10.50 = 84.00	556.01
6	Mosambi/Via Road	Cum	Mirza Chakla	8.00 4.99	7.47 x 103 Km = 769.94.30	3.00 1.59	8.00 x 10.50 = 84.00	931.56
7	Ornament Brackets/Via Road	Mt	Baramul	8.00	7.47 x 125 Km = 933.75	3.00	8.00 x 10.50 = 84.00	1299.75
8	Ornament Emblems/Via Road	Mt	Palaha	8.00	7.47 x 112 Km = 836.64	3.00	8.00 x 10.50 = 84.00	1918.64
9	Local Sand	Cum	Local	8.00 4.99	7.47 x 12 Km = 89.64	3.00 1.59	8.00 x 10.50 = 84.00	157.88
10	Brick	1000 Sq Local	Local	7.50	7.47 x 16 Km = 120.52	2.50	8.00 x 10.50 = 84.00	733.14
11	Cement	Mt	Local	8.00	7.47 x 1 Km = 7.47	0.00	8.00 x 10.50 = 84.00	298.46
12	Steel	Mt	Local	8.00	7.47 x 1 Km = 7.47	0.00	8.00 x 10.50 = 84.00	399.99
13	Iron Pipe (1000 mm)	M	Gandla	10.00	7.47 x 68 Km = 697.96	0.00	8.00 x 10.50 = 84.00	462.50
14	Iron Pipe (600 mm)	M	Gandla	25.00	7.47 x 68 Km = 1705.56	0.00	8.00 x 10.50 = 84.00	194.59
15	Iron Pipe (300 mm)	M	Gandla	50.00	7.47 x 68 Km = 3428.16	0.00	8.00 x 10.50 = 84.00	100.17
16	Bamboo	Sqr	Burgesa	8.00	7.47 x 62 Km = 463.14	0.00	8.00 x 10.50 = 84.00	431.38
17	Brick bala	Cum	Local	8.00	7.47 x 7 Km = 52.29	0.00	8.00 x 10.50 = 84.00	1276.23
18	615m Reddish	Cum	Local	8.00	7.47 x 7 Km = 52.29	0.00	8.00 x 10.50 = 84.00	305.40

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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 (umpong), turning for return trip excluding time for haulage and return trip.				
	Unit = cum				
	Taking output = 2.832 cum				
(a)	Labour				
	Mazdoor (Unskilled)	day	2.17	292	633.64
(b)	Materials				2076.93
	Brick bats	cum	2.832	3,051.00	3974.33
(c)	Carriage				
		cum	2.832	482.50	1146.73
	Cost for 5.5 cum = a+b+c			475.14	1444.65
	Rate per cum = (a+b+c+d)/2.832				4952.62
	Total per cum	cum			1750.04
5.7.9	Labour for fitting and fixing 62 mm to 75 mm dia bamboo runners in position at every vertical 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				1673.59
	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 Cr-II	No.	0.125	351	43.88
	Unskilled Labour	No.	0.25	292	73.00
	Rate for 30.5 m				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 job as per specification and direction E/I.				
	Unit = Per m				
	Taking Out Put = 30.50 m				
	Assuming				
	20 no pile sunk 1.525 m deeps				
	Total depth sunk 30.50 m				
(i)	Labour				
	Carpenter Cr-II	No.	0.25	351	87.75
	Unskilled Labour for piling	No.	2.50	292	730.00
	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 chebari 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 piling	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, sowing and laying materials Unit = Per Bag				
A	Supply Empty cement Bag with Sand (2.92+4.82)	No	100	7.74	774.00
	Stitching Roll (Nylon)	No	2	30.00	60.00
				Total (A)	834.00
B	Unskilled Labour for filling, stitching and stacking	No	1.67	292	487.64
	Unskilled Labour for carrying and Placing at work site	No	3	292	876.00
	Skilled Labour for stitching	No	0.33	370	122.10
	Total per bag			Total (B)	1,485.74
C	Hire charge of Machine				
	Hire charge of Stitching 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				
	Misc	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 per hour	hour	12.00	573.20	6878.40
	Three wheel 80-100 kN static roller @ 10 cum per hour	hour	12.00	003.00	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 cum	cum	134.40	604.91	81299.90
	9.5 mm to 2.36 mm @ 25 per cum	cum	96.00	582.80	55948.80
	2.36 mm below @ 40 per cum - 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
1000	Providing and Laying Reinforced Cement Concrete Pipe NP3 as per design in Single Row				
1000	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	41382.50
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)				24975.80
	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
B.	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				
12	Labour				
	Mate	day	0.01	304.00	3.04
	Mazdoor (Unskilled)	day	0.30	292.00	87.60
13	Material				
	Sand (assuming 20 per cent voids)	cum	1.20	141.85	170.22
	Rate per cum = (a+b)				260.86
14	Carriage Cost				
	Sand (assuming 20 per cent voids)	cum	1.20	157.88	189.46
	Rate per cum = a+b+c=	cum			450.26

Done
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