



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 :	Rangra
NAME OF ROAD :	NH-31⁷ Sadhua		

TOTAL LENGTH OF ROAD	:	2.214	KM
TOTAL COST OF FDR PART-A	:	2.280	LAKH
GST @ 12 %	:	0.274	LAKH
LABOUR CESS @ 1 %	:	0.023	LAKH
SEIGNIORAGE FEE @ 10 %	:	0.129	LAKH
TOTALCOST OF RESTORATION WORK	:	2.705	LAKH

Submitted By

Executive Engineer

Rural Work Department
Works Division, Naugachhia

Date:-

1. Name of PII's - E.E. R.W.D(W) Division Nagachhiya.
2. Name of Block/ Road (Rangra chok) NH. 31 To Sadhu.

A. For Road

1. Damage Location/Chainage 0.00 km to 2200 M
2. Damage length - 0.110 km
3. Nature of Damage - Cutting of flank & pot patch of road.
4. Detail of Restoration Works 0.110 km
 - (i) Material being used in Restoration Works: Bricks bats & Ec bags.
 - (ii) Equipment's/ Tools Being used in Restoration Works:
 - (iii) Procedure Taken up in Restoration Works:
 - (iv) Restored Length: 0.110 km

B. For Bridge — N.A —

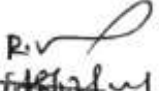
1. Damage Location/Chainage
2. Damage length
3. Nature of Damage
4. Detail of Restoration Works
 - (i) Material being used in Restoration Works:
 - (ii) Equipment's/ Tools Being used in Restoration Works:
 - (iii) Procedure Taken up in Restoration Works:
 - (iv) Restored Length:

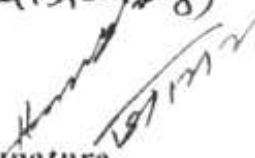
C. Requirement Of New CD/Bridges

- (i) Name of Road:
- (ii) Location/ Chainage
- (iii) Type of CD Work/Length required — N.A —

Notes:-

- Upload one Photograph of damaged portion if available
- Attach minimum Two Photograph (during restoration & after restoration) Photographs should be Geotags and at Least one Photo be captured in selfie mode (nototable work found satisfactory)

Signature of JE/AF/EE  16/12/21 R.V. 
कार्यवाहक अभियन्ता
ग्रामीण कार्य विभाग
कार्य प्रमण्डल नवगाछिया

Signature 
(Name of Inspector)

GENERAL ABSTRACT OF COST

Name of Road : NH-31 Sadhua

District : Bhagalpur

Length (Km) : 2.214

Block : Rangra

Sl. No	Particulars		Details (Km)	Total Cost (in Rs.)
1	Cost of Road Restoration work	:		219253.00 227,955.00
2	Add G.S.T @ 12 %	:		26310.00 27,356.00
3	Add L.C. @ 1 %	:		2193.00 2,200.00
4	Add 10% S.F. on Basic rate of Mines material	:		12,896.00
	Total Cost of Restoration work	:		260652.00 270,486.00
			Say,	270,486.00

2,60,700.00

[Signature]
J.E.

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A.E. 31/11/21

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Rt
31/11/21
कार्यचालक अभियन्ता
ग्रामीण कार्य विभाग
ग्राम प्रमण्डल नवगछिया

Technically Sanctioned for Rs 2,60,700.00 Rupees
two lac sixty thousand seven hundred only.

[Signature]
Superintending Engineer
Rural Works Department
Works Circle, Bhagalpur
13/01/22

ESTIMATE FOR ROAD RESTORATION WORK

Name of Road: NH-31 Sadhua

Block: Rangra

District: Bhagalpur

Length : 2.214 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 "					120.03		1677.56	201355.00
2	5.7.53	Providing sand bag with sand and labour including camage laying, filling etc all complete job as per specification and direction of E/I					120.03	Cum	4750.04	570067.00
		As per attached " Annexure - B "					583	/ bags	30.70	17898.00
										2019
							Total Cost of Flood Protective work =			227,055.00

12/11/2021
 J. E.

Qm 6
3/11/24
A. E.

2,19,253-00
3/11/21
E. E.

कार्यान्वयन उभयपक्षा
आगंतुक वृत्ति विभाग
कार्य प्रमाणक नवगणित

ANNEXURE - " A "

Brick Bat Measurement

Name of Road : NH-31 Sadhua

Length (Km) : 2.214

Sr. No.	Chainage (m)	Nos.	Length (m)	Width (m)			Average Width (m)	Depth (m)			Average Depth (m)	Quantity (Cum)
1	0 - 100	1	10.00	2.00			3.00	0.30			0.30	9.00
2		1	5.00	2.00			2.50	0.30			0.30	3.75
3		2	15.00	2.50			3.00	0.30			0.30	27.00
4	100 - 200	2	16.00	2.00			2.00	0.30			0.30	19.20
5	900 - 1000	2	5.00	2.00			2.00	0.30			0.30	6.00
6		2	6.00	1.80			1.80	0.30			0.30	6.48
7		2	3.00	2.00			2.00	0.30			0.30	3.60
8	2100 - 2200	1	50.00	0.90			3.00	0.30			0.30	45.00
											Total =	120.03

S. F.	-	120.03	Cum	@	Rs.	1051.00	x	10%	=	Rs.	12,615.00
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Q.14
3/11/21
J. E.

Q.14
3/11/21
A. E.

R.1
3/11/21
E. E.
3/11/21
3/11/21

ANNEXURE - " B "

E. C. Bags Measurement

Name of Road : NH-31 Sadhua

Length (Km) : 2.214

Sr. No.	Chainage (m)	Nos.	Length (m)	Width (m)	Average Width (m)	Depth (m)	Average Depth (m)	Quantity (Cum)	Quantity (No of bag)
1	0 - 36	1	36 00	1 50	1 50	0 20	0 20	10.80	318
2	2100 - 2130	1	30 00	1 50	1 50	0 20	0 20	9.00	265
								Total =	583

S. F.	-	583	Nos	@	Rs.	4 82	x	10%	=	Rs.	281.00
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31/11/2021
J. E.

Q. No. C
31/11/21
A. E.

31/11/21
कार्यपालक अभियन्ता
ग्रामीण कार्य विभाग
कार्य प्रमण्डल नवगछिया

Carriage Cost of Material via Road

RWD, works Division, Bhagalpur

Name of Road :		NH-31 Sadhua		Carriage Cost & Lead in Km				Block		Rangra		Total
Sl No	Item	Unit	Source	Pukka / Surface				Katcha		Loading & Unloading Cost	Carriage By Road	
				8.00	x 7.47	x 83 Km	= Rs 1080.63	8.00	x 18.09	x 0 Km	= Rs 0.00	
1	Stone Metal Gr-II/Via Road	Cum	Mirza Cheuki	4.59				4.59			193.62	1274.25
2	Stone Metal Gr-III / GSB Via Road	Cum	Mirza Cheuki	8.00	x 7.47	x 83 Km	= Rs 994.00	8.00	x 18.09	x 0 Km	= Rs 0.00	1187.62
3	Stone Aggregate / Chips Via Road	Cum	Mirza Cheuki	4.99				4.99			193.62	1187.62
4	Stone Boulder /Via Road	Cum	Mirza Cheuki	8.00	x 7.47	x 83 Km	= Rs 994.00	8.00	x 18.09	x 0 Km	= Rs 0.00	1187.62
5	Coarse Sand/Via Road	Cum	Hamnara	4.80				4.80			193.62	1226.97
6	Mooram/Via Road	Cum	Mirza Cheuki	8.00	x 7.47	x 36 Km	= Rs 431.13	8.00	x 18.09	x 0 Km	= Rs 0.00	536.01
7	Bitumen Barauni/ Via Road	MT	Barauni	6.00	x 7.47	x 83 Km	= Rs 826.68	6.00	x 18.09	x 0 Km	= Rs 0.00	931.56
8	Bitumen Emulsion /Via Road	MT	Patuha	8.00	x 7.47	x 125 Km	= Rs 933.75	8.00	x 18.09	x 0 Km	= Rs 0.00	1298.75
9	Local Sand	Cum	Local	8.00	x 7.47	x 2 Km	= Rs 23.95	8.00	x 18.09	x 1 Km	= Rs 29.00	157.83
10	Brick	000 No/Local	Local	2.00	x 7.47	x 7 Km	= Rs 209.16	2.00	x 18.09	x 1 Km	= Rs 72.36	723.14
11	Cement	MT	Local	8.00	x 7.47	x 7 Km	= Rs 52.29	8.00	x 18.09	x 0 Km	= Rs 0.00	369.93
12	Steel	MT	Local	8.00	x 7.47	x 7 Km	= Rs 52.29	8.00	x 18.09	x 0 Km	= Rs 0.00	389.99
13	Hume Pipe (1000 mm)	M	Godda	10.00	x 7.47	x 68 Km	= Rs 406.37	10.00	x 18.09	x 0 Km	= Rs 0.00	482.06
14	Hume Pipe (600 mm)	M	Godda	8.00	x 7.47	x 68 Km	= Rs 162.55	8.00	x 18.09	x 0 Km	= Rs 0.00	194.99
15	Hume Pipe (300 mm)	M		25.00	x 7.47	x 60 Km	= Rs 67.73	25.00	x 19.82	x 0 Km	= Rs 0.00	100.17
16	Bamboo	Nos	Kursela	8.00	x 7.47	x 42 Km	= Rs 313.74	8.00	x 19.82	x 0 Km	= Rs 0.00	631.38
17	Brick bats	Cum	Local	2.00	x 7.47	x 7 Km	= Rs 209.16	2.00	x 18.09	x 1 Km	= Rs 72.36	475.14
18	Klin Rubbish	Cum	Local	2.00	x 7.47	x 7 Km	= Rs 209.16	2.00	x 18.09	x 1 Km	= Rs 72.36	386.40

[Signature]
Junior Engineer

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Assistant Engineer

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Executive Engineer अभियन्ता
आर.वि. कार्य विभाग
काय प्रमण्डल भवन, भुवनेश्वर

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 dump on ,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)	Materials				
	Brick Bats	cum	2.832	1,051.00	2976.43
c)	Carriage				
		cum	2.832	402.80	1140.73
	Cost for 5.5 cum = a+b+c				4750.80
	Rate per cum = (a+b+c+d)/2.832	cum			1677.54
	Total per cum	cum			1,677.54
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
	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
	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 for 40	Yes	1.00	251	251.00
	Mason (Unskilled) for piling	Yes	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
					917.86
	Rate Per bag = (a+b+c)/9.36				98.69
10.7.40	Labour for filling Cement Bag, mixing and laying materials Unit = Per Bag				
A	Supply Empty cement Bag with band (1.92-4.42)	Yes	100	774	774.00
	Stretching Rod / Nylon	Yes	2	30.00	60.00
				Total (A)	834.00
B	Unskilled Labour for filling stretching and making	Yes	1.67	292	487.64
	Unskilled Labour for carrying and Placing of work site	Yes	1	292	292.00
	Unskilled Labour for stretching	Yes	4.33	170	735.16
	Total per bag			Total (B)	1,495.74
C	Hire charge of Machine				
	Hire charge of stretching Machine	Yes	0.33	50	16.50
	Hire charge of Generator (3 kVA)	Yes	2.67	74	197.58
	Total per bag			Total (C)	214.08
D	Carriage Cost of Local Sand				
	1.2 Cum = 0.834 m ³	cum	3.40	157.83	536.62
				Total (D)	536.62
	Total cost of (A+B+C+D) =	Bag			1,676.44
	Rate per Bag				30.70
4.1	Granular Sub-base with Well Graded Material (Table 400.3)				
	(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 is achieved (the desired density), complete as per Technical Specifications (Clause 400)				
(a)	For Grading II Material				
	Unit = cum				
	Taking output = 300 cum				
a)	Labour				
	Male	day	0.43	304.00	130.70
	Mason (Skilled)	day	2.00	271.00	542.00
	Mason (Unskilled)	day	8.00	292.00	2336.00
b)	Machinery				
	Tractor mounted grader arrangement for grading at 100 cum per	hour	12.00	573.20	6878.40
	Three wheel 80-100 kVA static roller at 15 cum per hour	hour	12.00	803.00	9636.00
	Tractor with Rotavator 20 cum per hour	hour	12.00	573.20	6878.40
	Water tanker 6 kVA capacity	hour	5.00	1084.00	5420.00
c)	Material				
	Well graded granular sub-base material as per Table 400.3				
	20.5 mm to 4.75 mm at 15 per cent	cum	1.34	604.91	8106.59
	4.75 mm to 2.36 mm at 25 per cent	cum	36.00	502.00	18072.00
	2.36 mm below at 40 per cent - Local Sand	cum	15.16	514.50	7791.66
	Water	lit	30.00	40.00	1200.00
	Cost of GSB for 300 cum				2,44938.59
	A) Cost of GSB without carriage per cum	cum			816.46
a)	CARRIAGE				
	Carriage for GSB material	Cum	0.748	1187.62	892.09
	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
	<u>CARRIAGE COST</u>				
	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
	<u>CARRIAGE COST</u>				
	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
	<u>CARRIAGE COST</u>				
	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
	<u>CARRIAGE COST</u>				
	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

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कार्गोपलक अभियन्ता
ग्रामीण नगर विभाग
काभ्रे प्रमण्डल नवगछिया