

RURAL WORKS DEPARTMENT



GOVERNMENT OF BIHAR

NAME OF ROAD:- KHAIRKHA TO YADAV TOLA

DIVISION:- R.W.D, WORKS DIVISION, FORBESGANJ

CIRCLE:- R.W.D, WORK CIRCLE, KISHANGANJ

BLOCK:- FORBESGANJ

ESTIMATED COST

1502509.00

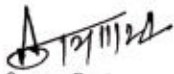
प्रतिवेदन

पथ का नाम :- Kheskaha to yadav tola

कार्य का नाम :- FDR/2024-25

में बाढ़ से क्षतिग्रस्त भाग में यातायात चालू करने का कार्य।

संलग्न प्राक्कलन 2024 को प्रखण्ड में आयी भीषण बाढ़ से क्षतिग्रस्त Kheskaha to yadav tola
..... में बाढ़ क्षतिग्रस्त मरम्मति मद से यातायात चालू करने हेतु तैयार किया गया है जिसकी
प्राक्कलित लागत 1502509 = ₹ है। उक्त पथ
का निर्माण mmsy योनान्तर्गत हुआ है एवं योजना अनुरक्षण अवधि में 8।
पथ के कटे (क्षतिग्रस्त) भाग में आवश्यकता अनुसार Hume Pipe, Bamboo, लोकल बालू एवं
Brick Bats देने के बाद यातायात चालू कराया गया है। पथ के विभिन्न हिस्से में कराये गये कार्य
का विवरणी स्पष्ट रूप से प्राक्कलन में दर्शाया गया है।
प्राक्कलन मदों का दर वर्तमान अनुसूचित दर के अनुरूप है।



कनीय अभियंता,

ग्रामीण कार्य विभाग,

कार्य प्रशाखा, Forbesganj



सहायक अभियंता,

ग्रामीण कार्य विभाग,

कार्य अवर प्रमण्डल, Forbesganj



कार्यपालक अभियंता,

ग्रामीण कार्य विभाग,

कार्य प्रमण्डल, Forbesganj

Inspection Report for Flood Damage Work

Date -

1. Name of P.U.'s:- E. E Forbesganj
2. Name of Block:- Forbesganj
3. Name of Road:- Kherkaha to yadav tola

A. For Road

1. Damage Location/Chainage :- CH- 600-700
2. Damage Length 43.50m
3. Nature of Damage wash out
4. Details of Restoration Works:-
(i.) Material being used in Restoration Works:-
(ii.) Equipments/Tools being used in Restoration works:-
(iii.) Procedure taken up in Restoration works:-
(iv.) Restored Length :-

B. For Bridge

1. Damage Location/Chainage :-
2. Damage Length :-
3. Nature of Damage :-
4. Details of Restoration Works:-
(i.) Material being used in Restoration Works:-
(ii.) Equipments/Tools being used in Restoration works:-
(iii.) Procedure taken up in Restoration works:-
(iv.) Restored Length :-

Signature of JE/AE/EE

Signature

{Name of Inspector}

Abstract of Cost

Name of Work : Estimate for Repairing/Restoration/Making Motorable Roads
Damaged during flood in 2024 in ARARIA District

Name of Road:

KHAIRKHA TO YADAV TOLA

Block: FORBESGANJ

District: ARARIA

Divison : RWD, Works Division, FORBESGANJ

Circle: RWD, Work Circle, KISHANGANJ

Sl No.	Description	Unit	Quantity (m3)	Rate (Rs)	Amount (Rs)
1	Filling of local sand obtained from river bed, watering & ramming, all complete job as per specification & direction of Engineer-in-charge.				
		Cum	921.59	1287.25	1186321.55
2	Labour for cutting 62mm to 75mm dia bamboo piles to size and making shoes & driving by jet machine etc. all complete job as per specification & direction of Engineer-in-Charge.				
		Mtr.	792.00	72.518	57434.26
3	Labour for fitting & fixing 62mm to 75mm 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 wire or nails etc all complete job as per specification & direction of Engineer-in-Charge.				
		Mtr.	198.00	36.179	7163.44



4	Supplying of EC bag, filling of local sand, stitching and placing in position as per the direction of Engineer-in-charge.				
		Per Bags	2172.14	55.882	121383.38
5	Supply and Carriage of brick bats upto 8 km breach and placing in breaches and lying of bats, all complete job.				
		Cum	41.25	2792.877	115206.18
6	Providing of drone service and drone surveying as per I/E				
		PER TRIP	3.00	5000.000	15000.00
	TOTAL AMOUNT =				1502508.81
	SAY TOTAL AMOUNT =				1502508.81

1502509.00

[Signature]
JE

RWD SUB DIVISION-FORBESGANJ

[Signature]
12/11/24
AE
RWD SUB DIV.
FORBESGANJ

[Signature]
16/11/24
EE
RWD WORKS DIV. FORBESGANJ

Technically approved for ₹ 1502509.00 (fifteen lakhs two thousand five hundred and nine) only.

[Signature]
16/11/24
Superintending Engineer
Rural Works Department
Works Circle, Kishanganj
Kishanganj
16/11/24
E.O.



Detailed Estimate

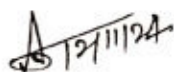
Name of Road:

KHAIRKHA TO YADAV TOLA

No.	Items of Works	Nos.	L (m)	B (m)	D (m) IN (Av.)	Quantity (m3)
	Filling of local sand obtained from river bed, watering & ramming, all complete job as per specification & direction of Engineer-in-charge.					
	CH - 600m - 700m	1	10.00	7.00	$(3.00+5.00+4.00)/3$	280.00
		1	6.00	$(6.00+5.50)/2$	$(4.15+3.50)/2$	131.96
		1	19.00	$(6.00+5.50)/2$	$(4.15+3.10)/2$	396.03
		1	8.00	4.00	$(4.0+3.10)/2$	113.60
					TOTAL=	921.59
					Total Qty =	921.59
2	Labour for cutting 62mm to 75mm dia bamboo piles to size and making shoes & driving by jet machine etc. all complete job as per specification & direction of Engineer-in-Charge.					
		2	6.00	3.00	4.00	144.00
		2	19.00	3.00	4.00	456.00
		2	8.00	3.00	4.00	192.00
					Total Qty =	792.00
3	Labour for fitting & fixing 62mm to 75mm 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 wire or nails etc all complete job as per specification & direction of Engineer-in-Charge.					
		2	6.00	3.00		36.00
		2	19.00	3.00		114.00
		2	8.00	3.00		48.00



Supplying of EC bag, filling of local sand, stitching and placing in position as per the direction of Engineer-in-charge.					
	1	25.00	$(0.45+1.50)/2$	$(0.60+2.50+0.60)/3$	30.06
	1	18.00	$(0.45+1.50)/2$	$(0.60+2.50+0.60)/3$	21.65
	1	7.00	$(0.30+2.70+1.20)/3$	1.00	9.80
				TOTAL=	61.51
Total No. of EC Bags = (61.51×35.315)					2172.14
SAY NO OF BAGE=					2172
Supply and Carriage of brick bats upto 8 km breach and placing in breaches and lying of bats, all complete job.					
	1	25.00	$(6.00+5.00)/2$	0.30	41.25
				Total Qty. =	41.25
Providing of drone service and drone surveying as per I/E					
	1	3.0			3.00
				TOTAL=	3.00



JE

RWD SUB DIV- FORBESGANJ



AE

RWD SUB DIV. FORBESGANJ



EE

RWD WORKS DIV. FORBESGANJ



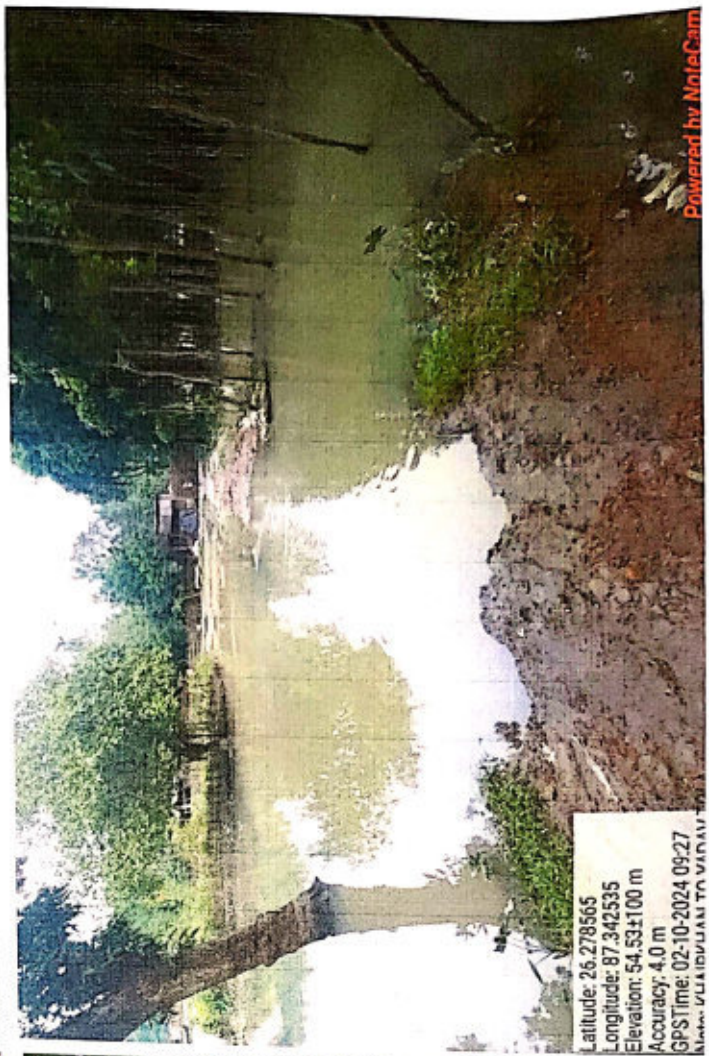
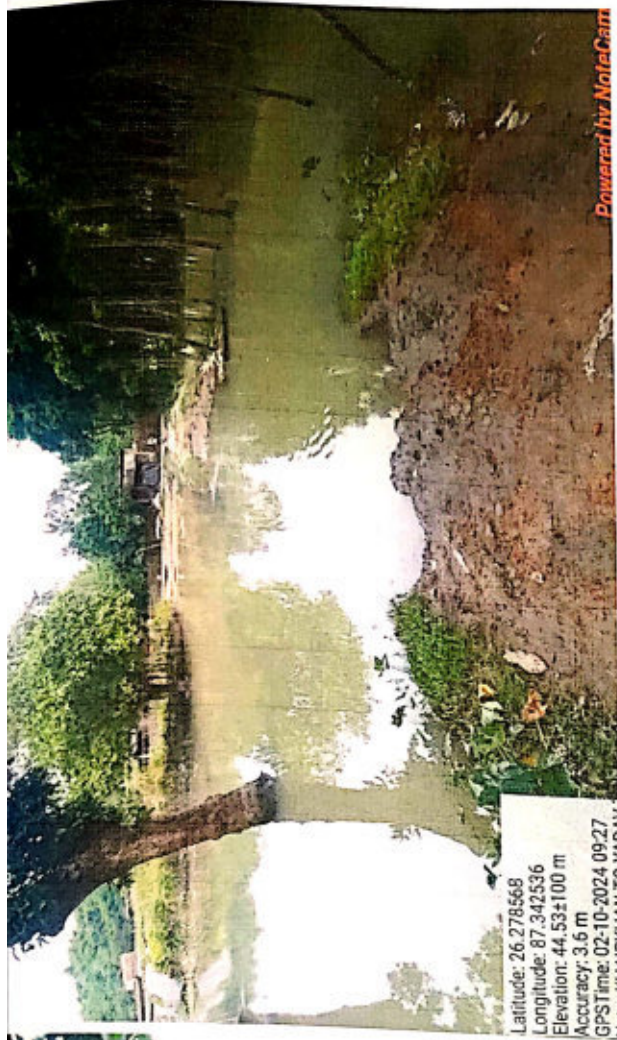
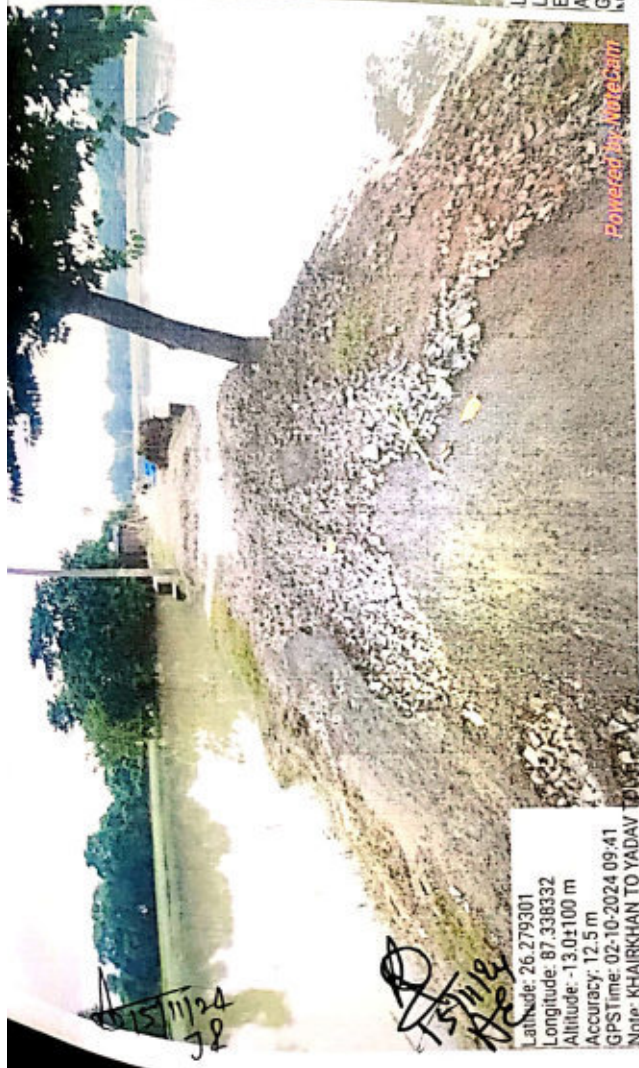


15/11/24
R

15/11/24
BE

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FINAL RATE UNDER WORKS CIRCLE KISHANGANJ

S.No	Discription of Item	Unit	Final Rate (Excluding GST, Seigniorage & L.Cess)	Final Rate (Including GST, Seigniorage & L.Cess)
1	EARTH WORK	CUM	459.003	549.740
2	BRICK BAT	CUM	2209.576	2759.115
3	G.S.B	CUM	4328.501	5172.300
4	SAND BAG (Cement Bag)	Each	46.550	55.880
5	BAMBOO PILE	Per Mtr.	58.140	69.186
6	BAMBOO CHACHRI	Per Mtr.	302.258	359.690
7	BAMBOO RUNNER	Per Mtr.	30.210	35.950
8	HUME PIPE (1000 mm Div)	Per Mtr.	6206.598	7385.850
9	HUME PIPE (600 mm Div)	Per Mtr.	2492.260	2965.790
10	STEEL DRUM SHEET	Per Sqr.Mtr.	215.352	256.270
11	GEO BAG WITH SAND	EACH	967.490	1152.320
12	EACH N.C. BAG WITH SAND (Cement Bag)	Each E.C	967.490	1151.800
13	LOCAL SAND	CUM	721.110	1272.780

Executive Engineer
RWD, Works Division
Kishanganj-1

Executive Engineer
RWD, Works Division
Araria

Executive Engineer
RWD, Works Division
Kishanganj-2

Executive Engineer
RWD, Works Division
Forbesganj

Superintending Engineer
Rural Works Department
Works Circle Kishanganj

SUMMARY OF CARRIGE COST

No.	Item	Unit	Amount (Rs.)
1	Earth Work	Cum	274.42
2	Brick Bats	Cum	521.97
3	Bamboo	Per Mtr.	3.00
4	G.S.B.	Cum	2960.13
5	Local Sand	Cum	345.14
6	HUME PIPE (1000 mm DIA)	Per Pipe	745.93
7	HUME PIPE PIR METER	Per Mtr.	298.37
8	HUME PIPE (600 mm DIA)	Per Pipe	310.88
9	HUME PIPE (600 mm DIA)	Per Mtr.	124.35
10	Local Sand	Cum	345.10

BASIC RATES
(A) Labour

Sl. No.	Description of Labour	Unit	Rate (Rs.)
L-01	Bhisti	day	373
L-02	Bitumen Sprayer (semi skilled)	day	393
L-03	Blacksmith, special	day	503
L-04	Blaster, 2nd class	day	619
L-05	Carpenter 1st Class	day	503
L-06	Chips spreader, semi-skilled	day	449
L-07	Chiseller (Skilled)	day	577
L-08	Dresser (Skilled)	day	472
L-09	Driller, 2nd class	day	449
L-10	Electrician, skilled	day	476
L-11	Fitter, skilled	day	511
L-12	Mason (1st class)	day	503
L-13	Mason (2nd Class)	day	449
L-14	Mate, Semi skilled	day	434
L-15	Mazdoor (Unskilled)	day	410
L-16	Mazdoor (Semi skilled)	day	388
L-17	Mazdoor (Skilled)	day	472
L-18	Painter (1st class)	day	476
L-19	Plumber, Special	day	476
L-20	Surveyor	day	454
L-21	White Washer	day	476
L-22	Head blacksmith	day	503
L-23	Welder 1st Class	day	577
	Carpenter Head	day	503
	Night Guard	day	415

(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar effective from

01/07/2024

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Forbesganj

Superintending Engineer
Rural Works Department

BASIC RATES (B) Material					
Sl. No.	Description	Unit	Basic Rate as per SOR	Add Royalty	Final Rate With Royalty
M-001	Bamboo (1st Class) 100 mm - 100 mm dia, 6.0 m -8.0 m long (per mtr.- 23.52 Rs.)	No.	188.00		188.00
M-002	Bamboo (1st Class) 100 mm - 100 mm dia, 6.0 m -8.0 m long (per mtr.- 23.52 Rs.)	No.	188.00		188.00
M-003	Bamboo (1st Class) 50 mm - 100 mm dia, 6.0 m -8.0 m long (per mtr.- 14.71 Rs.)	No.	118.00		118.00
M-004	Bamboo (1st Class) 50 mm - 100 mm dia, 6.0 m -8.0 m long (per mtr.- 14.71 Rs.)	No.	176.00		176.00
M-005	Bamboo (2nd Class) 75mm dia, 1.8 m - 6.0 m -8.0 m long (per mtr.- 22.03 Rs.)	No.	176.00		176.00
M-006	Bamboo (2nd Class) 75mm dia, 6.0 m -8.0 m long (per mtr.- 22.03 Rs.)	No.	1063.00	18.00	1081.00
M-007	Brick Bats	cum	2.25	33.00	35.25
M-008	Selected earth (Including @ Rs. 33.00 per cum & compensation @ Rs. 2.25 Per Cum		11.11		11.11
M-009	Empty Cement Bag IS 11652:2000	Nos.	170.13		170.13
M-010	Steel Drum 300 mm dia 1.2 m high / empty bitumen drum	Nos.			
M-011	Sand bags (Cost of sand and Empty cement bag)	Nos.	7.31	2.39	9.90
M-012	Suti (Brown)	kg	20.59		20.59
M-013	Granular material (Natural occurring, soil gravel mixture / quarry waste, kankar, laterite, dhandla	cum	84.03	83.00	167.03
M-014	Nails	kg	108.00		108.00
M-014	RCC Pipe NP3 (1000 mm dia)	m	5787.23		5787.23
M-015	RCC Pipe NP3 (600 mm dia)	m	2310.00		2310.00
M-015	Sand (Fine) at source	cum	69.75	75.00	144.75
M-016	Empty Steel Drum 300 mm dia 1.2 m height	Nos.	170.13		170.13
M-016	Water	kl	60.30		60.30
M-017	Geo Bags	Each	124.00		124.00
M-018	G.S.B.	cum	69.75	75.00	144.75

(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar)

(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar effective from 01/07/2024.)

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Kishanganj-1

Executive Engineer
RWD, Works Division
Kishanganj-2

Executive Engineer
RWD, Works Division
Kishanganj-2

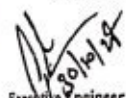
Executive Engineer
RWD, Works Division
Feringaol

Superintending Engineer
Rural Works Department
Works Circle Kishanganj

BASIC RATES (C) USAGE RATES OF PLANT & MACHINERY

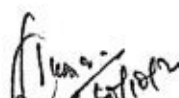
Sl. No.	SOR Code	Machine	Description of	Activity	Output of Machine		Usage Rates in Rs.	
					Unit	Output	Unit	Rate
PM-009	PM-012	Crane upto 80 T		Lifting of materials	cum/h		per hour	33,573.00
PM-010	PM-015	Dumper 11 80 - A12 Dumper 11 50 - A15		Dumping material	cum/h	260.00	per hour	2,922.00
PM-011	PM-017	Front end-loader 1 cum bucket capacity (a) 45 cum/hour		Loading Aggregates	cum/h	120.00	per hour	1,675.00
PM-012	PM-026	Hydraulic excavator of 1 cum bucket		Excavation	cum/h	45.00	per hour	1,219.00
PM-013	PM-044	Three wheel 80-100 kN Static Roller		Compaction/ Rolling	cum/h	100.00	per hour	1,272.00
PM-014			Earth - Embankment or sub-grade		cum/h	80-70	per hour	1,593.00
PM-015			Sub-base G-I		cum/h	10.00		1,593.00
PM-016			Sub-base G-II G-III		cum/h	8.00		1,593.00
PM-017			WBM		cum/h	16.00		1,593.00
PM-018			BM 50-75 mm		cum/h	10.00		1,593.00
PM-019			Profile 20 mm		cum/h	12.00		1,593.00
PM-020			Self Cost		sqm/h	250.00		1,593.00
PM-021			Surface Dressing 1st Coat		sqm/h	500.00		1,593.00
PM-022			Surface Dressing 2nd Coat		sqm/h	400.00		1,593.00
PM-023	PM-048	Tipper 5.5 cum 10 t		Carriage	cum/trip	5.50	per hour	1,593.00
PM-024	PM-053	Tractor with Disc Harrows		Pulverisation of soil	cum/h	80.00	per hour	1,593.00
PM-025	PM-055	Tractor with ripper up to 60 cum per hour		Ripping Pavements, uprooting trees	cum/h	60.00	per hour	1,593.00
PM-026	PM-053	Tractor with trolley with Grading equipment		Transportation of materials	trip	3 to 5	per hour	1,593.00
PM-027	PM-054	Tractor with Rotavator		Scarifier	cum/h	25.00	per hour	1,593.00
PM-028	PM-057	Truck 10 t capacity		Carriage	cum/trip	5.50	per hour	1,593.00
PM-029	PM-059	Vibratory roller 80-100 kN		Compaction of soil WBM	cum/h	100.00	per hour	1,593.00
PM-030	PM-060	Water tanker 6 kl capacity (Truck Mounted)		Compaction of BM	cum/h	60.00	per hour	1,593.00
PM-031	PM-060	generator 3KVA		Carriage of water	litre/h	12000.00	per hour	1,593.00
PM-032	PM-060	stitching machine		stitching	per hour		per hour	1,593.00
PM-033	PM-060			stitching	day		day	1,593.00

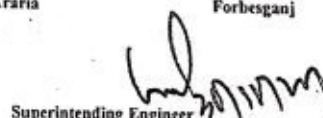
(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar effective from 01/07/2024.)


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Kishanganj-1


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Kishanganj-2


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Araria


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Forbesganj


Superintending Engineer
Rural Works Department
Works Circle Kishanganj

Comparison of carriage cost of Material via Road from different sources														
Sl No	Item	Unit	Source	Pucka / Surface				Katcha				Load ng & Road	Carriage by Road	Total
				Carriage Cost & Lead in Km				Rate per mtr						
1	By Tractor													
A	Earth Work Via Road	Cum	Local	3.60										
				2.04	x 20.04	x 0 Km	= Rs 0.00							
B	Brick Bat Via Road	Cum	Local	3.60										
				2.04	x 20.04	x 7 Km	= Rs 247.55							
B	Bamboo Via Road	pet mtr.	Local	3.60	x 20.04	x 2 Km	= Rs 1.15							
				126.00										
D	Local Sand Via Road	Cum	Local	3.60	x 20.04	x 2 Km	= Rs 70.73							
				2.04										
2	By Tipper													
A	GSB Via Road	Cum	Siliguri	8.00	x 9.83	x 177 Km	= Rs 2789.43							
				4.99										
3	By Truck													
A	Hume Pipe (1000 mm) Via Rod	Mtr.	purnea	8.00										
				10.00	x 7.27	x 53 Km	= Rs 308.25							
A1	Rate Per Mtr. Pipe	Mtr.	purnea											
B	Hume Pipe (600 mm) Via Road	Mtr.	purnea	8.00										
				25.00	x 7.27	x 53 Km	= Rs 123.30							
B1	Rate Per Mtr. Pipe	Mtr.	purnea											

Cost of Haulage Excluding Loading & Unloading as per SO Subjected to Verification of Lead

Executive Engineer
RWD, Works Division
Kishanganj-1

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Forteaganj

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Works Circle Kishanganj

SDB SL No.	MORD Ref No.	DESCRIPTION	Unit	QTY	Rate	Amount in Rs
Carriage Of Material (By Tractor)						
1	4.4	Loading and unloading of stone Boulder /stone aggregates sand/ kankar/ moorum				
		Placing tractor at loading point loading with front end loader dumpoing ,turning for return trip excludng time for haulage and return trip				
		Unit = cum				
		Taking output = 2.25 cum				
		Time required for				
		i) positioning of tractor at loading point	min	1 min		
		ii) Loading by front end loader 1 cum bucket capacity @ 25 cum	min	5 min		
		Total		6 min		
		a) Labour				
		Mate	day	0.030	434.00	13.02
		Mazdoor (Unskilled)	day	0.720	410.00	295.20
		b) Machinery				
		Tractor 3.60 Tonnes Capacity	hour	0.100	676.00	67.60
		Front end loader 1 cum bucket capacity @ 25 Cum/hour	hour	0.083	1,419.00	117.78
		Cost for 2.25 cum = a+b+c				493.60
		Rate per cum = (a+b+c)/2.25	cum			219.378
		Total per cum =	cum			219.378
1.10		Haulage excluding Loading & Unloading				
		Haulage of materials by truck excluding cost of Loading, Unloading and stacking				
		Unit = 7km				
		Taking output 3.6t load and lead 10km = 36t/km				
		Case- I: Surfaced Road				
		Speed with load : 15km per hour				
		Speed while returning empty : 25km per hour				
		a) Machinery				
		Tractor 3.6 tonnes Capacity				
		Haulage with load	hour	0.667	676.00	450.89
		Empty return trip	hour	0.400	676.00	270.40
		Cost for 36t/km = a+b+c				721.29
		Cost for 1 t km = a+b/36				20.040
		Total per t km =				20.040
		Case - II Kutcha Track and Track in River Bed / Nallah Bed and Choe Bed				
		Speed with load : 10km per hour				
		Speed while returning empty : 15km per hour				
		a) Machinery				
		Tractor 3.6 tonnes Capacity				
		Haulage with load	hour	1.00	676.00	676.00
		Empty return trip	hour	0.667	676.00	450.89
		Cost for 36t/km = a+b+c				1126.89
		Cost for 1 t km = a+b/36				31.300
		Total per t km =				31.300
2		Carriage Of Material (By Tipper)				
	1.1	Loading and Unloading Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by Manual Means				
		(I) Loading of lime, Aggregates, Stone boulder, Brick aggregate, Kankar, Building Rubbish, Crushed Slag Stone for masonry work by manual means including a lead upto 30m				
		Unit = cum				
		Taking output = 5.5 cum				
		Time required for				
		(i) Position of tipper at loading point				
		(ii) loading by front end loader 1 cum bucket capacity @25		1Min		
		(iii) maneuvering, reversing, dumping and turning for return		13Min		
		(iv) Waiting time unforeseen contingencies etc.		2Min		
		Total		4Min		
		b) Machinery		20Min		
		Tipper 5.5 Tonnes Capacity	hour	0.330	1,426.00	470.58
		Front end loader 1 cum bucket capacity @ 25 Cum/hour	hour	0.330	1,419.00	468.27
		Cost for 5.5 cum = a+b+c				938.85

		Rate per cum = $(a+b+c)/5.5$	cum		170.70
1.10		Haulage excluding Loading & Unloading			
		Haulage of materials by truck excluding cost of Loading, Unloading and stacking			
		Unit = 1km			
		Taking output 10t load and lead 10km = 100t / km			
		Case - I : Surfaced Road			
		Speed with load : 5km per hour			
		Speed while returning empty : 35km per hour			
	a)	Machinery			
		Tipper			
		Haulage with load	hour	0.40	1426.00
		Empty return trip	hour	0.29	1426.00
		Cost for 100t km = $a+b+c$			983.94
		Cost for 1 t km = $a+b/100$			9.830
		Total per t per km			23.81
		Case - III Kutcha Track and Track in River Bed / Nallah Bed and Choe Bed			
		Speed with load : 10km per hour			
		Speed while returning empty : 15km per hour			
	a)	Machinery			
		Tipper			
		Haulage with load	hour	1.00	1426.00
		Empty return trip	hour	0.67	1426.00
		Cost for 100t km = $a+b$			2381.42
		Cost for 1 t km = $a+b/100$			23.81
3					23.81
		Carriage Of Material (By Truck)			
1.10		Haulage excluding Loading & Unloading			
		Haulage of materials by truck excluding cost of Loading, Unloading and stacking			
		Unit = 1km			
		Taking output 10t load and lead 10km = 100t / km			
		Case - I : Surfaced Road			
		Speed with load : 25km per hour			
		Speed while returning empty : 35km per hour			
	a)	Machinery			
		Truck			
		Haulage with load	hour	0.40	1054.00
		Empty return trip	hour	0.29	1054.00
		Cost for 100t km = $a+b+c$			305.66
		Cost for 1 t km = $a+b/100$			727.26
		Total per t per km			7.270
		Case - III Kutcha Track and Track in River Bed / Nallah Bed and Choe Bed			
		Speed with load : 10km per hour			
		Speed while returning empty : 15km per hour			
	a)	Machinery			
		Truck			
		Haulage with load	hour	1.00	1054.00
		Empty return trip	hour	0.67	1054.00
		Cost for 100t km = $a+b$			706.18
		Cost for 1 t km = $a+b/100$			1760.18
		Total per t per km			17.60
1.9					17.60
		Loading and Unloading of Hume Pipes			
	(i)	Loading of RCC Hume pipes by mechanical means including a lead upto 30 m			
	A.	1000 / 1200 mm dia Hume pipe			
		Unit = per pipe			
		Taking output = 9 pipes			
	a)	Labour			
		Mate			
		Mazdoor (Unskilled)	day	0.02	434.00
	b)	Machinery	day	0.50	410.00
		Truck			205.00
		Crane	hour	0.33	1054.00
		Cost for 9 pipes = $a+b+c+d$	hour	0.33	5573.00
					1839.09
					2400.59

			Rate per cum = (a+b+c+d)/100	cum		58.265
5	3.5	301.5	Excavation in soil with Dozer with lead upto 100 m			
	(ii)	(ii)	Excavation for roadway in soil by mechanical means including cutting and pushing the earth to site of embankment upto a distance of 100 m, including trimming bottom and side slopes in accordance with requirements of lines, grades and cross-sections.			
			Unit = cum			
			Taking output = 100 cum			
		a)	Labour			
			Mate	day	0.08	434.00
			Mazdoor (Unskilled)	day	2.00	410.00
		b)	Machinery			
			Dozer D-50 for spreading @200 cum per hour	hour	3.60	4326.00
			Cost for 100 cum = a+b+c+d+e			16427.20
			Rate per cum = (a+b+c+d)/180	cum		91.262
			Total per cum			91.262
6	3.3	301.5	Construction of Embankment with approved material obtained from borrow pits with a lift upto 1.5 m transporting to site, spreading grading to required slope and compacting to meet requirement of Table 300.1 and 300.2 with a lead of 1000 m as per Technical			
			Unit = cum			
			Rate item no. 3.3 Clause 301.5			58.265
			Rate item no. 3.5(ii) Clause 301.5			91.260
			Royalty Compensation for earth taken from private land			35.250
			Carriage of Earth by Tractor Lead 1 K.M.			274.420
			Total Cost of 1 cum =			459.195
			Labour Cess @ 1%			4.590
			G.S.T. @ 18%			82.655
			Add Seigniorage Fee @ 10 % of Materials	cum	1.00	35.25
			Total Cost of 1 cum @ 1% Cess & 18% GST			499.70
7	4.5		Providing and Laying of Brick Bats			
			Placing tractor at loading point loading with front end loader dumping, turning for return trip excluding time for haulage and return trip			
			Unit = cum			
			Taking output = 2.83 cum			
		a)	Labour			
			Mazdoor (Unskilled)	day	2.170	410.00
		b)	Materials			
			Brick Bats	cum	3.396	1,081.00
			Total (a+b) =			4560.78
			Total (a+b+c) =			4560.78
		d)	Carriage			
			Brick Bats	cum	3.396	521.97
			TOTAL			1772.61
			Rate per cum = (a+b+c+d)/2.83	cum		6333.39
			Total per cum	cum		2237.947
			Labour Cess @ 1%			2237.947
			G.S.T. @ 18%			22.379
			Add Seigniorage Fee @ 10 % of Materials	cum	1.20	402.830
			Total Cost of 1 cum @ 1% Cess & 18% GST			129.72
8	4.1	401	PAVEMENT CRUST LAYERS			
			For Grading II Material			
			Construction of granular sub-base by providing well graded material, spreading in uniform layers with tractor mounted grader arrangement 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	0.48	434.00
			Mazdoor (Skilled)	day	2.00	472.00
			Mazdoor (Unskilled)	day	10.00	410.00

b)	Machinery				5252.32
	Tractor mounted grader arrangement	hour	12.00	676.00	8112.00
	Three wheel 80-100 kN static roller @ 10 cum per hour	hour	30.00	1593.00	47790.00
	Tractor with Rotavator 25 cum per hour	hour	12.00	693.00	8316.00
	Water tanker 6 kl capacity	hour	5.00	752.00	3760.00
c)	Material				67978.00
	Well graded granular sub-base material as per Table 400.1				
	GSB	cum	1.28	167.03	213.80
	Cost of 300 cum without Carriage = (a+b+c+d+e)				73444.12
	A) Basic Cost per cum = (a+b+c+d+e)/300	cum			244.814
	CARRIAGE				
	G.S.B.	Cum	414.00	2960.13	1225493.82
	Carriage cost of 300 cum				1225493.82
	B) Carriage cost per cum				4084.98
	Rate per cum = (A+B)	CUM			4329.794
	Total per cum	CUM			4329.794
	Labour Cess @ 1%				43.298
	G.S.T. @ 18%				779.363
	Add Seigniorage Fee @ 10 % of Materials	cum	1.28	167.03	21.38
Total Cost of 1 cum @ 1% Cess & 18% GST =					5173.835
9.3	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.			
	B.	1000 MM DIA (Single Row)			
	a)	Material			
		RCC NP3 pipe including collar	m	7.50	5787.23
	b)	Labour			
		Mate	day	0.09	434.00
		Mason (1st class)	day	0.25	503.00
		Mazdoor (Unskilled)	day	2.00	410.00
		Cost for 7.5m = (a+b+c)			
		A) Basic Cost per m = (a+b)/7.5	m		5918.54
		Rate per m of Pipe			5918.54
	(d)	CARRIAGE COST			
		NP3 Pipe	m	7.5	298.37
		Carriage cost of 7.5 m			
		Carriage cost per m	m		298.37
		Rate per m with Carriage	m		6,216.909
		Total per m	m		6,216.909
		Labour Cess @ 1%			
		G.S.T. @ 18%			
		Total Cost of 1 mtr @ 1% Cess & 18% GST =			
2	C.	600 MM DIA (Single Row)			
	a)	Material			
		RCC NP3 pipe including collar	m	7.50	2310.00
	b)	Labour			
		Mate	day	0.04	434.00
		Mason (1st class)	day	0.12	503.00
		Mazdoor (Unskilled)	day	0.96	410.00
		Cost of 7.5m = (a+b+c+d)			
		A) Basic Cost per m = (a+b)/7.5	m		17796.32
		Rate per m of Pipe			2372.84
		CARRIAGE COST			
		NP3 Pipe	m	7.5	124.35
		Carriage cost of 7.5 m			
		B) Carriage cost per m	m		932.63
		Rate per m with Carriage	m		124.35
		Total per m	m		2,497.193
		Labour Cess @ 1%			
		G.S.T. @ 18%			
		Total Cost of 1 mtr @ 1% Cess & 18% GST =			
3	5.7.40.1	Labour for filling empty cement bags with local sand, stitching the bags and placing including supply ofutti etc. all complete as per approved design, specification and direction E/L.			

Unit = Per % Nos.				
(A) For Filling & Stitching & Stacking				
Labour				
Skilled Labour for filling sand into bags and sewing				
sutali	No.	2.00	472.00	944.00
	kg	0.50	20.59	10.30
(B) Labour Rate For Carrying & Placing filed E.C. Bags.				
Labour				
Skilled Labour for Carrying filed bags and placing to work site				
	No.	3.00	472.00	1416.00
TOTAL =				
				2370.30
	Per % Nos. (B) =		Say.	2370.30
	Rate per bag (A+B) = /100			23.70
(C) Cost of empty cement bag & cost of sand				
	each			11.11
(D) Carriage cost				
	Tractor with trolly	cum	0.034	345.14
				11.73
(G) Total = (A+B+C+D) =				
				46.55
Labour Cess @ 1%				
				0.465
G.S.T. @ 18%				
				8.379
Add Seigniorage Fee @ 10 % of Materials				
	cum	0.034	144.75	0.49
Total Cost of E.C. Bag @ 1% Cess & 18% GST =				
				55.82
4	5.7.9	Supply 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		
		Unit = Per mt.		
		Taking Out Put = 30.50 m		
	(i)	Materials		
		Bamboo		
		m	30.50	20.21
				616.41
		Nails		
		kg	0.50	108.00
				54.00
	(ii)	Labour		
		Carpenter Gr-II		
		No.	0.125	503.00
				62.88
		Unskilled Labour		
		No.	0.25	410.00
				102.50
		Rate for 30.5 m		
				835.79
		TOTAL =		
				835.79
		Rate per mt		
				27.40
	(iii)	Carriage cost		
		bamboo		
		mt	1	3.00
				3
		Total Cost with Carriage		
				30.40
		Labour Cess @ 1%		
				0.304
		G.S.T. @ 18%		
				5.473
		Total Cost of Labor, 1% Cess & 18% GST =		
				367.79
5	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 mt.		
		Taking Out Put = 30.50 m		
		Assuming		
		20 no pile sunk 1.525 m deeps		
		Total depth sunk 30.50 m		
	(i)	Materials		
		Bamboo		
		m	30.50	20.21
				616.41
	(ii)	Labour		
		Carpenter Gr-II		
		No.	0.25	503.00
				125.75
		Unskilled Labour for piling		
		No.	2.50	410.00
				1025.0
		Rate for 30.5 m		
				1767.16
		Total		
				1767.16
		Rate for 1 m		
				57.94
		Carriage Cost of Bamboo		
				3.00
		Total Cost with Carriage		
		per mtr.		60.94
		Labour Cess @ 1%		
				0.609
		G.S.T. @ 18%		
				10.969
		Total Cost of Labor, 1% Cess & 18% GST =		
				172.18

	Labour for fitting and and fixing Steel Drum 300 mm dia 1.2 m high as per specification and direction				
	(Assuming Per Mtr. = $3.14 \times 0.30 = 0.942$ mtr.)				
	Area of Assuming in one Drum = $0.942 \times 1.20 = 1.130$ Sqm				
	One Sqm sheet Cost = $127.80 / 1.130 = 113.12$ Cost				
	Unit = per sqm				
	Taking Out = 100 sqm				
a	Labour				
	Hammer man	No.	4.00	503.00	2012.00
	Mazdoor (Unskilled)	No.	4.00	410.00	1640.00
	Carpenter 1st Class	No.	4.00	503.00	2012.00
					5664.00
b	Materials				
	Nails	kg	5.00	170.13	850.65
	Steel Drum sheet	Nos.	88.5	170.13	15056.51
					21571.160
					215.712
	Rate Per m = $(a+b+c)/100$				2.157
	Labour Cess @ 1%				38.828
	G.S.T. @ 18%				256.697
	Total Cost of Unit @ 100 Sqm = 21866.585				
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 $3.05 \times 3.05 = 9.30$ sqm				
	Unit = per sqm				
	Taking Out = 9.30 sqm				
a	Labour				
	Carpenter Gr-II	No.	1.00	531.00	531.00
	Mazdoor (Unskilled) for piling	No.	1.00	410.00	410.00
b	Materials				
	Bamboo	Mtr.	10.00	188.00	1880.00
	Nails	kg	0.25	108.00	27.00
					2848.000
					306.237
	Rate Per m = $(a+b+c)/9.30$				3.062
	Labour Cess @ 1%				55.123
	G.S.T. @ 18%				364.422
	Total Cost of Unit @ 100 Sqm = 3644.22				
5.7.50	Providing laying & filling Geo bags of size 1m X 0.700m (Type A) 300 GSM nonwoven weight 420 gm volume of filled bag 0.070 cum Weight of filled Geo bag 126 kg with local sand including stitching in four lines by approved Nylon thread with Staching machine and generator, stacking and placing after loading. Unloading and carriage with the help of Trolley within 150 mtr. lead and all complete as per specification and direction of E/I.				
	Unit = Each Bag				
	Taking Out = 40 Nso.				
	Labour	nos	2	410.00	820.00
	Unskilled Loading For filling stacking	nos	0.33	472.00	155.76
	Skilled labour for stacking	nos	4.00	410.00	1640.00
	Unskild labour for carring and placing	nos	0.25	434.00	108.50
	Mate	day	0.33	50.00	16.50
	Stiching Machine	day	1.00	676.00	676.00
	Tractor with trolley	hrs	20.67	74.00	1529.58
	Generator 3KVA				4946.34
	Total				123.66
	Rate per bag (total/40) (A)				
(ii)	charge for placing & dumping	nos	16	410.00	6320.00
	unskilled labour for loading unloading & dumping	nos	1	434.00	419.00
	Mate	each	4	676.00	2704.00
					9,443.000
	Tractor with trolley				36.887
	Total				
	Rate per bag (Total/256) (B)				
	Matroials	each	1	124.00	124.00
	cost of Geo Bag				284.545
	Total cost (a+b+c)				

	Rate per bag				284.545
	Labour Cess @ 1%				2.845
	G.S.T. @ 18%				51.218
	Add Seigniorage Fee @ 10 % of Materials	cum	0.070	144.75	1.01
	Total Cost of 1 Empty Bag 1% Cess & 18% GST =				739.619
5.7.40.3	Labour for filling empty cement bags with local sand, stitching the bags and pitching in Nylon crate of size (1m x 1m x 1m) with a lead of 150 m including supply of suti etc. and placing the filed crates in water portion within a lead 30 m all complete as per approved design, specification and direction of E/L.				
	Unit = Each N.C.				
(i)	(i) Labour Cost for filling bags in one Nylon crate in dry portion	No.	1	472.00	411.00
(ii)	(i) Labour Cost for filling bags in one Nylon crate in dry portion	No.	1	472.00	611.00
	(II) Placing of filed N/C with 30 m lead in water portion				
	Labour	No.	0.37	434.00	160.58
	Mate	No.	1.00	472.00	472.00
	Labour (Skilled)	No.	1.00	410.00	410.00
	Labour (Unskilled)				2064.58
	Hence, Total Labour for 100 Cft.				2064.58
	Taking one E.C. Bags to contain 1.20 Cft. Of sand				
(ii)	Hence, labour rate for placing one filed N.C.		356.49		356.49
	Hence rate for mu/pm crate on water portion (I+II)			Say.	967.49
	Labour Cess @ 1%				9.675
	G.S.T. @ 18%				174.148
	Add Seigniorage Fee @ 10 % of Materials	cum	0.034	144.75	0.49
	Total Cost of 1 E.C. 1% Cess & 18% GST =				1151.803
	Local sand filling in foundation trenches as per drawing and technical specification				
	Local sand filling in foundation trenches as per drawing and technical specification clause 305.3.9				
I.	Sand filling				
	Unit = cum				
a)	Labour				
	Mate	day	0.01	434.00	4.34
	Mazdoor (Unskilled)	day	0.30	410.00	123.00
b)	Material				
	Sand (assuming 20 per cent voids)	cum	1.20	144.75	173.70
	Overheads @ 6 % on (a)				18.06
					319.10
	CARRIAGE COST				
	sand	Cum	1.2	345.14	414.17
	Rate per cum = a+b+c				733.27
	Total Cost including 1 % LABOUR CESS				7.33
	G.S.T. @ 18%				131.99
	Add Seigniorage Fee @ 10 % of Materials				0.49
	Total Cost of 1 E.C. 1% Cess & 18% GST =				1287.254

Executive Engineer
RWD, Works Division
Kishanganj-1

Executive Engineer
RWD, Works Division
Kishanganj-2

Executive Engineer
RWD, Works Division
Forbesganj

Superintending Engineer
Rural Works Department
Works Circle Kishanganj