

RURAL WORKS DEPARTMENT



GOVERNMENT OF BIHAR

NAME OF ROAD:- **BAIJNATH JHA TOLA TO POSDAHA
BATHNAHA VIRPUR ROAD UP TO TIL**

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

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

BLOCK:- **NARPATGANJ**

ESTIMATED COST

2302731.00

प्रतिवेदन

पथ का नाम :- Bainath sha tola to posdaha Bathnaha virpur
Road UP TO TIL

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 Bainath sha tola to posdaha
Bathnaha virpur Road UP TO TIL
..... में बाढ़ क्षतिग्रस्त मरम्मति मद से यातायात चालू करने हेतु तैयार किया गया है जिसकी
प्राक्कलित लागत 2302731.00 है। उक्त पथ
का निर्माण mmb sy योनान्तर्गत हुआ है एवं योजना अनुरक्षण अवधि में 5।
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।

J. K. Singh
13.11.2024

कनीय अभियंता,
ग्रामीण कार्य विभाग,
कार्य प्रशाखा, नरपटोल

G. K. Singh

सहायक अभियंता,
ग्रामीण कार्य विभाग,
कार्य अवर प्रमण्डल, ...।

K. K. Singh
13.11.2024

कार्यपालक अभियंता,
ग्रामीण कार्य विभाग,
कार्य प्रमण्डल, ...

Inspection Report for Flood Damage Work

Date:-.....

1.Name of PIUs:- EE Forbesganj

2.Name of Block:- Narpatsganj

3.Name of Road:- Baidnath Jha tala TO posdaha Baidnath Jha virpur
road UP TO TL

A. For Road

1.Damage Location/Chainage :- CHS-0.500 km

2.Damage Length :- 46 m

3.Nature of Damage :- wash out

4.Details of Restoration Works:-

(i.)Material being used in Restoration Works:- Local sand, bamboo, Ecobags, HP, brick bat

(ii.)Equipments/Tools being used in Restoration works:- Tractor, SCB

(iii.)Procedure taken up in Restoration works:-

(iv.)Restored Length :- 46 m

B. For Bridge

1. Damage Location/Chainage:-

2.Damage Length :-

3.Nature of Damage :-

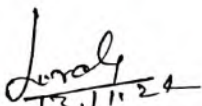
4.Details of Restoration Works:-

(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 :


13.11.24
Signature of JE/AE/EE


AE


15/11/24
Signature

(Name of Inspector)


15/11/24

Abstract of Cost

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

Name of Road:

BAIJNATH JHA TOLA TO POSDAHA BATHNAHA VIRPUR ROAD UP TO TIL
Block: NARPATGANJ **District: ARARIA**

Division : RWD, Works Division, FORBESGANJ

Circle: RWD, Work Circle, KISHANGANJ

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	664.28	1287.25	855087.99
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.	552.00	72.518	40029.94
	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.	162.00	36.179	5861.00
	Supplying of EC bag, filling of local sand, stitching and placing in position as per the direction of Engineer-in-charge.				
		Per Bags	7394.96	55.882	413245.21

Supply and Carriage of brick bats upto 8 km breach and placing in breaches and lying of bats, all complete job.				
	Cum	269.10	2792.877	751563.20
Supply, laying and Carriage of of hume pipe 1000 mm dia (HPC), all complete job.				
	meter	30.00	7398.121	221943.63
7 Providing of drone service and drone surveying as per I/E				
	per trip	3.00	5000.000	15000.00
TOTAL AMOUNT =				2302730.97
SAY TOTAL AMOUNT =				2302730.97

2302731.00

Suralp
13.11.24
JE

VD SUB DIVISION-NARPATGANJ

A. J. Singh
AE

RWD SUB DIV.
NARPATGANJ

A. Singh
EE

RWD WORKS DIV. FORBESGANJ

Technically approved for ₹ 2302731.00 (Rupees twenty three lacs two thousand seven hundred and thirty one) only.

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

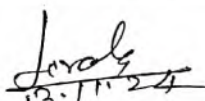
Detailed Estimate

ne of Road:

BAIJNATH JHA TOLA TO POSDAHA BATHNAHA VIRPUR ROAD UP TO TIL

Items of Works	Nos.	L (m)	B (m)	D (m) IN (Av.)	Quantity (m ³)
Filling of local sand obtained from river bed, watering & ramming, all complete job as per specification & direction of Engineer-in-charge.					
1ST TIME CH-0.500 KM	1	22.00	(6.90+6.00)/2	(1.50+3.0)/2	319.28
2ND TIME CH-0.500 KM	1	24.00	(6.50+6.00)/2	(1.60+3.0)/2	345.00
				TOTAL=	664.28
				Total Qty =	664.28
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.					
1ST TIME CH-0.500 KM	1	22.00	3.00	4.00	264.00
2ND TIME CH-0.500 KM	1	24.00	3.00	4.00	288.00
				Total Qty =	552.00
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.					
1ST TIME CH-0.500 KM	1	22.00	3.00		66.00
2ND TIME CH-0.500 KM	1	24.00	4.00		96.00
				Total Qty =	162.00
Supplying of EC bag, filling of local sand, stitching and placing in position as per the direction of Engineer-in-charge.					

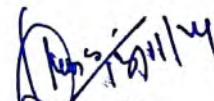
1ST TIME CH-0.500 KM	2	22.00	$(1.25+0.75)/2$	$(1.50+3.0)/2$	99.00
2ND TIME CH-0.500 KM	2	24.00	$(1.25+0.75)/2$	$(1.60+3.0)/2$	110.40
				TOTAL=	209.40
Total No. of EC Bags = (209.40×35.315)					7394.96
				SAY NO OF BAGE=	7395
Supply and Carriage of brick bats upto 8 km breach and placing in breaches and lying of bats, all complete job.					
1ST TIME CH-0.500 KM	1	22.00	6.50	$(1.00+0.80)/2$	128.70
2ND TIME CH-0.500 KM	1	24.00	6.50	$(1.00+0.80)/2$	140.40
				Total Qty. =	269.10
Supply, laying and Carriage of of hume pipe 1000 mm dia (HPC), all complete job.					
1ST TIME CH-0.500 KM	2	3.00	2.50		15.00
2ND TIME CH-0.500 KM	2	3.00	2.50		15.00
				TOTAL=	30.00
Providing of drone service and drone surveying as per I/E					
	1	3.00			3.00
				TOTAL=	3.00


13.11.24
JE

RWD SUB DIV- NARPATGANJ


AE

RWD SUB DIV. NARPATGANJ


EE

RWD WORKS DIV. FORBESGANJ







26.358019
x 87.172435
67.57±3.34 m
4.76 m
-07-2024 11:59:21

Note: BAJNATH JHA TOLA TO BATHNAHA BIRPUR ROAD UPTO TILL



Latitude: 26.358869
Longitude: 87.171414
Elevation: 69.92±3.49 m
Accuracy: 4.66 m
Time: 13-07-2024 12:32:19

Note: BAJNATH JHA TOLA TO BATHNAHA BIRPUR ROAD UPTO TILL

NoteCam @ IOS



Latitude: 26.357965
Longitude: 87.172442
Elevation: 108.55±4 m
Accuracy: 3.0 m
Time: 10-01-2024 11:31

Note: BAJNATH JHA TOLA POSDAHA TO BATNAHA VIRPUR ROAD UPTO TIL

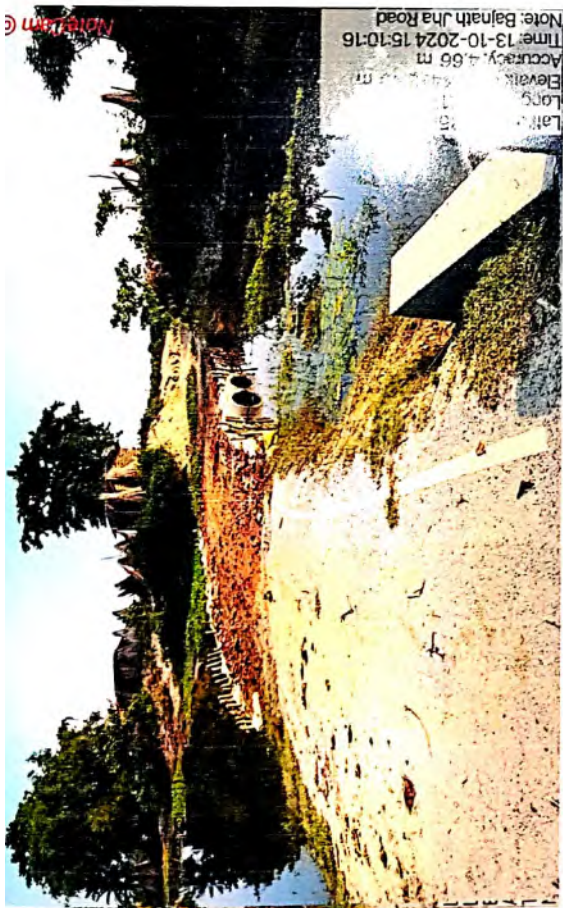
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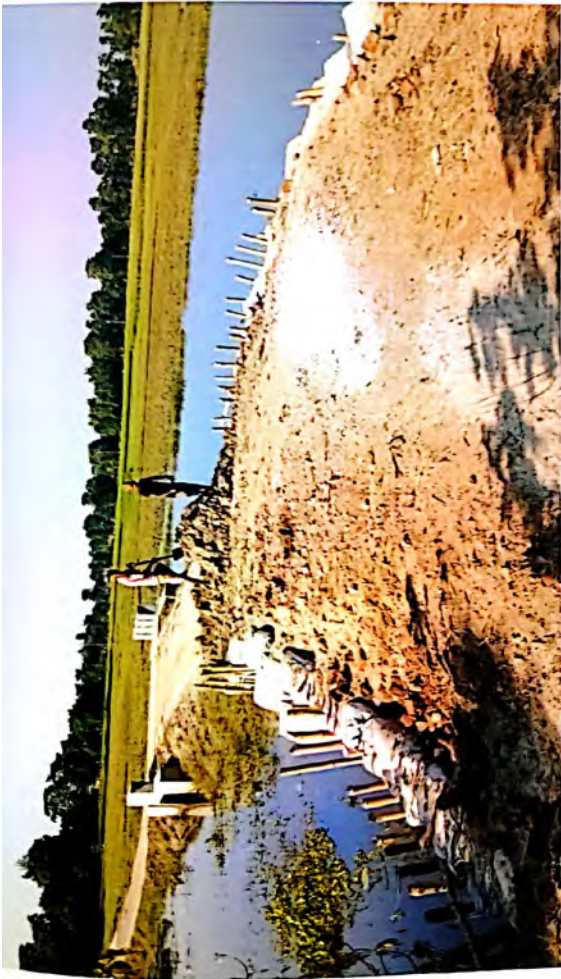


Latitude: 26.360062
Longitude: 87.169781
Elevation: 71.06±3.00 m
Accuracy: 3.54 m
Time: 13-07-2024 12:24:32

Note: BAJNATH JHA TOLA TO BATHNAHA BIRPUR ROAD UPTO TILL







Latitude: 26.358149
 Longitude: 87.172408
 Elevation: 129.74±3.3 m
 Accuracy: 3.3 m
 Time: 09-10-2024 18:15



Powered by NoteCam



Latitude: 26.358267
 Longitude: 87.172369
 Elevation: 110.44±4.1 m
 Accuracy: 1.4 m
 Time: 10-26-2024 14:58

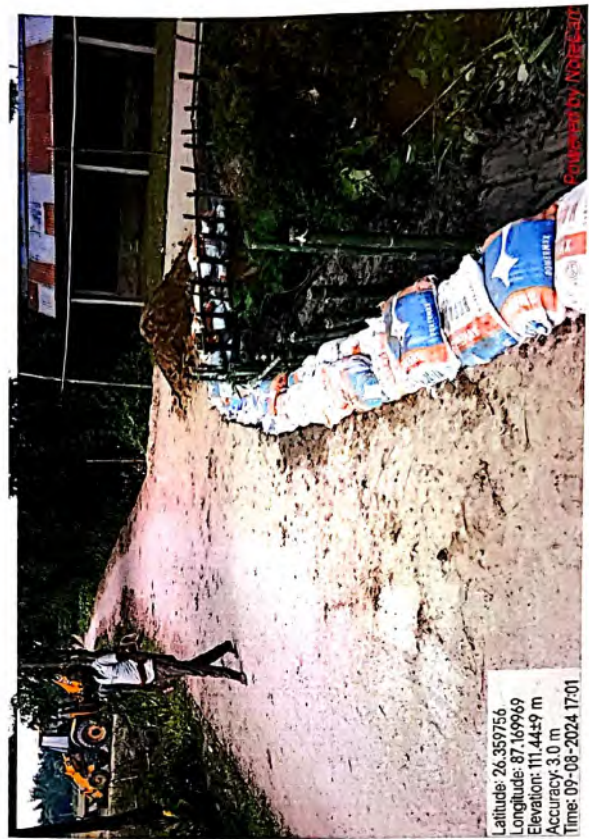


Latitude: 26.358243
 Longitude: 87.172316
 Elevation: 109.64±1.5 m
 Accuracy: 4.0 m
 Time: 10-26-2024 14:57

19/11/24
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FINAL RATE UNDER WORKS CIRCLE KISHANGANJ

S.No	Discription of Item	Unit	Final Rate (Excluding GST, Selgnlorage & L.Cess)	Final Rate (Including GST, Selgnlorage & 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

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RWD, Works Division
Araria

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Kishanganj-2

Executive Engineer
RWD, Works Division
Forbesganj

Superintending Engineer
Rural Works Department
Works Circle Kishanganj

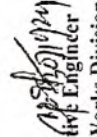
SUMMARY OF CARRIGE COST

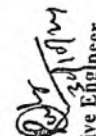
S. No.	Item	Unit	Amount (Rs.)
1	Earth Work	Cum	274.42
2	Brick Bats	Cum	521.97
3	Bamboo	Per Mtr.	3.00
4	G.S.B.	Cum	2960.13
5	Local Sand	Cum	345.14
6	HUME PIPE (1000 mm DIA)	Per Pipe	745.93
7	HUME PIPE PIR METER	Per Mtr.	298.37
8	HUME PIPE (600 mm DIA)	Per Pipe	310.88
9	HUME PIPE (600 mm DIA)	Per Mtr.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

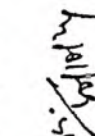
L-01	Bhisti	day	373
L-02	Bitumen Sprayer (semi skilled)	day	393
L-03	Blacksmith, special	day	503
L-04	Blaster, 2nd class	day	619
L-05	Carpenter 1st Class	day	503
L-06	Chips spreader, semi-skilled	day	449
L-07	Chiseller (Skilled)	day	577
L-08	Dresser (Skilled)	day	472
L-09	Driller, 2nd class	day	449
L-10	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

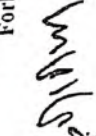
(Basic Rates Taken From SOR, Seventeenth Edition, Road Construction Department, Govt. of Bihar effective from 01/07/2024)


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



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.	118.00		118.00
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.	176.00		176.00
M-007	Brick Bats	cum	1063.00	18.00	1081.00
M-008	Selected earth (Including @ Rs. 33.00 per cum & compensation @ Rs. 2.25 Per Cum)	cum	2.25	33.00	35.25
M-009	Empty Cement Bag IS 11652:2000	Nos.	11.11		11.11
M-010	Steel Drum 300 mm dia 1.2 m high / empty bitumen drum	Nos.	170.13		170.13
M-011	Sand bags (Cost of sand and Empty cement bag)	Nos.	7.31	2.59	9.90
M-012	Sutli (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 effective from 01/07/2024.)

[Signature]
Executive Engineer
RWD, Works Division
Kishanganj-1

[Signature]
Executive Engineer
RWD, Works Division
Arrah

[Signature]
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RWD, Works Division
Kishanganj-2

[Signature]
Executive Engineer
RWD, Works Division
Forbesganj

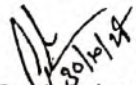
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Superintending Engineer
Rural Works Department
Works Circle Kishanganj

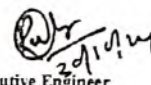


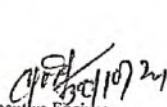
**BASIC RATES
(C) USAGE RATES OF PLANT & MACHINERY**

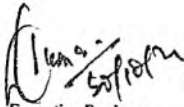
Sr. No.	Sor Code	Description of		Output of Machine		Usage Rates in Rs.	
		Machine	Activity	Unit	Output	Unit	Rate
PM-009	P&M-012	Crane upto 80 T	Lifting of materials			per hour	5,373.00
PM-010	P&M-015	Dacer D 80 - A12 Dacer D 50 - A15	Dacing cutting	cum h	260.00	per hour	2,927.00
PM-011				cum h	120.00		4,326.00
PM-014	P&M-017	Front end-loader 1 cum bucket capacity 100-45 cum hour	Loading Aggregates	cum h	45.00	per hour	1,419.00
PM-017	P&M-026	Hydraulic Excavator of 1 cum bucket	Excavation	cum-h	100.00	per hour	2,272.00
PM-031	P&M-044	Three wheel 80-100 kN Static Roller	Compaction Rolling				1,593.00
PM-032			Earth - Embankment or sub-grade	cum/h	80-70		1,593.00
PM-033			Sub-base G-I	cum/h	10.00		1,593.00
PM-034			Sub-base G-II G-III	cum/h	8.00		1,593.00
PM-035			PAFIM	cum/h	16.00	per hour	1,593.00
PM-036			HUNG	cum/h	10.00		1,593.00
PM-037			BM 50 75 mm	cum/h	12.00		1,593.00
PM-038			Prouis 20 mm	sqm/h	250.00		1,593.00
PM-039			Seal Coat	sqm/h	500.00		1,593.00
PM-040			Surface Dressing 1st Coat	sqm/h	400.00		1,593.00
PM-041			Surface Dressing 2nd Coat	sqm/h	500.00		1,593.00
PM-042	P&M-048	Tipper 5.5 cum 10 t	Carriage	cum/trip	5.50	per hour	1,593.00
PM-043	P&M-053	Tractor with Disc Harrows	Pulverisation of soil	cum/h	80.00	per hour	676.00
PM-044	P&M-055	Tractor with ripper 100 cum per hour	Ripping Pavements, uprooting trees	cum/h	60.00	per hour	676.00
PM-045	P&M-053	Tractor with trolley with Grading equipment	Transportation of materials	t/trip	3 to 5	per hour	676.00
PM-046	P&M-054	Tractor with Rotavator	Scarifier	cum/h	25.00	per hour	676.00
PM-047	P&M-057	Truck 10 t capacity	Carriage	cum/trip	5.50	per hour	1,054.00
PM-048	P&M-059	Vibratory roller 80-100 kN	Compaction of soil WMM	cum/h	100.00	per hour	2,053.00
PM-049			Compaction of BM	cum/h	60.00		2,053.00
PM-050	P&M-060	Water tanker 6 kl capacity (Truck Mounted)	Carriage of water	litre/h	12000.00	per hour	752.00
PM-063	P&M-060	generator 3KVA	stiching	per hour		per hour	7400
PM-064	P&M-060	stiching machine	stiching	day		day	50.00

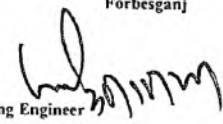
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Executive Engineer
RWD, Works Division
Kishanganj-1


Executive Engineer
RWD, Works Division
Kishanganj-2


Executive Engineer
RWD, Works Division
Araria


Executive Engineer
RWD, Works Division
Forbesganj


Superintending Engineer
Rural Works Department
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 exluding 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 Capcaity	hour	0.100	676.00	67.60
		Front end loader 1 cum buckert 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				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 per 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 per km				31.300
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 masonary work by manual means including a lead upto 30m				
		Unit = cum				
		Taking output = 5.5 cum				
		Time required for				
	(i)	Position of tipper at laoding point		1Min		
	(ii)	loading by front end loader 1 cum bucket capacity @25		13Min		
	(iii)	maneuvring, reversing, dumping and turning for return		2Min		
	(iv)	Waiting time unforeseen contingencies etc.		4Min		
		Total		20Min		
	b)	Machinery				
		Tipper 5.5 Tonnes Capacity	hour	0.330	1,426.00	470.58
		Front end loader 1 cum buckert 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				170.70
		Total per 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 : 7.5km per hour				
		Speed while returning empty : 35km per hour				
	a)	Machinery				
		Tipper				
		Haulage with load	hour	0.40	1426.00	570.40
		Empty return trip	hour	0.29	1426.00	413.54
		Cost for 100t km = a+b+c				983.94
		Cost for 1 t km = a+b/100				9.830
		Total per t per km				9.830
		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	1426.00
		Empty return trip	hour	0.67	1426.00	955.42
		Cost for 100t km = a+b				2381.42
		Cost for 1 t km = a+b+c/100				23.81
		Total per t per km				23.810
3		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	421.60
		Empty return trip	hour	0.29	1054.00	305.66
		Cost for 100t km = a+b+c				727.26
		Cost for 1 t km = a+b/100				7.270
		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	1054.00
		Empty return trip	hour	0.67	1054.00	706.18
		Cost for 100t km = a+b				1760.18
		Cost for 1 t km = a+b+c/100				17.60
		Total per t per km				17.600
1.9		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	day	0.02	434.00	8.68
		Mazdoor (Unskilled)	day	0.50	410.00	205.00
	b)	Machinery				
		Truck	hour	0.33	1054.00	347.82
		Crane	hour	0.33	5573.00	1839.09
		Cost for 9 pipes = a+b+c+d				2400.59

			Rate per pipe = (a+b+c)/9	per p		266.732
			Total per pipe			266.732
		C.	600/450 mm dia Hume pipe			
			Unit = per pipe			
			Taking output = 21 pipe			
		a)	Labour			
			Mate	day	0.02	434.00
			Mazdoor (Unskilled)	day	0.50	410.00
		b)	Machinery			
			Tractor 3.60 Tonnes Capacity	hour	0.33	1054.00
			Crane	hour	0.33	5573.00
			Cost for 21 pipes = a+b+c+d			2400.59
			Rate per pipe = (a+b+c)/21	per p		114.314
			Total per pipe			114.314
		(iii)	Unloading of RCC Hume pipe by Mechanical means including a lead upto 30 m			
		A.	1000/1200 mm dia RCC Hume pipes			
			Unit = per pipe			
			Taking output = 9 pipes			
		a)	Labour			
			Mate	day	0.02	434.00
			Mazdoor (Unskilled)	day	0.50	410.00
		b)	Machinery			
			Truck	hour	0.20	1054.00
			Crane	hour	0.20	5573.00
			Cost for 9 pipes = a+b+c+d			1114.60
			Rate per pipe = (a+b+c)/9	per p		1539.08
			Total per pipe			171.009
		C.	600/450 mm dia Hume pipe			171.009
			Unit = per pipe			
			Taking output = 21 pipes			
		a)	Labour			
			Mate	day	0.020	434.00
			Mazdoor (Unskilled)	day	0.50	410.00
		b)	Machinery			
			Truck	hour	0.20	1054.00
			Crane	hour	0.20	5573.00
			Cost for 21 pipes = a+b+c+d			1114.60
			Rate per pipe = (a+b+c)/21	per p		1539.08
			Total per pipe			73.290
1.9			Loading and Unloading of Bamboo			73.290
		(i)	Loading & unloading Bamboo			
			Unit = per metre			
			Taking output = per mtr.			
		a)	Material			
			Bamboo = 2016/300	per pipe		6.72
			Bamboo Per Mt.	per mt		0.96
			Total per m			0.960
4	3.3	301.5	Construction of Embankment with material obtained from roadway cutting			
			Construction of Embankment with approved material deposit at site from roadway cutting and excavation from drain and foundation of other structure graded and compacted to meet requirement of Table 300.1 and 300.2 as per Technical Specification Clause 301.5.			
			Unit = cum			
			Taking output = 100 cum			
		a)	Labour			
			Mate	day	0.02	434.00
			Mazdoor (Unskilled)	day	0.50	410.00
		b)	Machinery			
			Dozer D-50 for spreading @200 cum per hour	hour	0.50	0.00
			Motor Grader for grading @200 Cum per hour	hour	2.00	697.00
			Water tanker 6 kl capacity	hour	2.00	752.00
			Three Wheel B0-100 kN Static Roller	hour	1.25	1593.00
		c)	Material			
			Water	kl	12.00	60.30
			Cost for 100 cum = a+b+c+d+e			723.60
						5826.53

		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	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	43404.23	
		b)	Labour					
			Mate	day	0.09	434.00	39.06	
			Mason (1st class)	day	0.25	503.00	125.75	
			Mazdoor (Unskilled)	day	2.00	410.00	820.00	
			Cost for 7.5m = (a+b+c)				44389.04	
			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	2237.78	
			Carriage cost of 7.5 m				2237.78	
			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%				62.169	
			G.S.T. @ 18%				1,119.044	
			Total Cost of 1 mtr. 1% Cess & 18% GST =				7,398.121	
2		C	600 MM DIA (Single Row)					
		a)	Material					
			RCC NP3 pipe including collar	m	7.50	2310.00	17325.00	
		b)	Labour					
			Mate	day	0.04	434.00	17.36	
			Mason (1st class)	day	0.12	503.00	60.36	
			Mazdoor (Unskilled)	day	0.96	410.00	393.60	
			Cost of 7.5m = (a+b+c+d)				17796.32	
			A) Basic Cost per m = (a+b)/7.5	m			2372.84	
			Rate per m of Pipe				2372.84	
			CARRIAGE COST					
			NP3 Pipe	m	7.5	124.35	932.63	
			Carriage cost of 7.5 m				932.63	
			B) Carriage cost per m	m			124.35	
			Rate per m with Carriage	m			2,497.193	
			Total per m	m			2,497.193	
			Labour Cess @ 1%				24.972	
			G.S.T. @ 18%				449.495	
			Total Cost of 1 mtr. 1% Cess & 18% GST =				2,971.660	
3	5.7.40.1		Labour for filling empty cement bags with local sand, stitching the bags and placing including supply of suttu etc. all complete as per approved design, specification and direction E/I.					

		Unit = Per % Nos.				
		(A) For Filling & Stitching & Stacking				
		Labour				
		Skilled Labour for filling sand into bags and sewing	No.	2.00	472.00	944.00
		sutali	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 1 E.C. Bag 1% Cess & 18 % GST =				55.882
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 -li	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 1 mtr. 1% Cess & 18 % GST =				36.179
5	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 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
		(i) 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	per mtr.			3.00
		Total Cost with Carriage				60.94
		Labour Cess @ 1%				0.609
		G.S.T. @ 18%				10.969
		Total Cost of 1 mtr. 1% Cess & 18 % GST =				72.518

		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
		Mazdoor (Unskilled)	No.	4.00	410.00
		Carpenter 1st Class	No.	4.00	503.00
	b	Materials			
		Nails	kg	5.00	170.13
		Steel Drum sheet	Nos.	88.5	170.13
					21571.160
		Rate Per m = $(a+b+c)/100$			
		Labour Cess @ 1%			
		G.S.T. @ 18%			
		Total Cost of 1 mtr. 1% Cess & 18% GST			
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
		Mazdoor (Unskilled) for piling	No.	1.00	410.00
	b	Materials			
		Bamboo	Mtr.	10.00	188.00
		Nails	kg	0.25	108.00
					2848.000
		Rate Per m = $(a+b+c)/9.30$			
		Labour Cess @ 1%			
		G.S.T. @ 18%			
		Total Cost of 1 mtr. 1% Cess & 18% GST			
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 Nsa.			
		Labour			
		Unskilled Loading For filling stacking	nos	2	410.00
		Skilled labour for stacking	nos	0.33	472.00
		Unskild labour for carring and placing	nos	4.00	410.00
		Mate	nos	0.25	434.00
		Stiching Machine	day	0.33	50.00
		Tractor with trolley	day	1.00	676.00
		Generator 3KVA	hrs	20.67	74.00
		Total			4946.34
		Rate per bag (total/40) (A)			
	(II)	charge for placing & dumping			
		unskilled labour for loading unloading & dumping	nos	16	410.00
		Mate	nos	1	434.00
		Tractor with trolley	each	4	676.00
		Total			9,443.000
		Rate per bag (Total/256) (B)			
		Matroials			
		cost of Geo Bag	each	1	124.00
		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 Cmt Bag 1% Cess & 18% GST =				339.619
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/I.				
		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				
		Mate	No.	0.37	434.00	160.58
		Labour (Skilled)	No.	1.00	472.00	472.00
		Labour (Unskilled)	No.	1.00	410.00	410.00
		Hence, Total Labour for 100 Cft.				2064.58
		Taking one E.C. Bags to contain 1.20 Cft. Of sand				2064.58
	(ii)	Hence, labour rate for placing one filed N.C.		356.49		356.49
		Hence rate per 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
(1)	800	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
		CARRIAGE COST				319.10
		sand	Cum	1.2	345.14	414.17
		Rate per cum = a+b+c				733.27
		Total Cost including 1 % LABOUR CESS				733.27
		G.S.T. @ 18%				7.33
		Add Seigniorage Fee @ 10 % of Materials				131.99
		Total Cost of 1 E.C. 1% Cess & 18 % GST =				0.49
						1287.25

Executive Engineer
RWD, Works Division
Kishanganj-1

Executive Engineer
RWD, Works Division
Kishanganj-2

Executive Engineer
RWD, Works Division
Forbesganj

Executive Engineer
RWD, Works Division
Forbesganj

Superintending Engineer
Rural Works Department
Works Circle Kishanganj