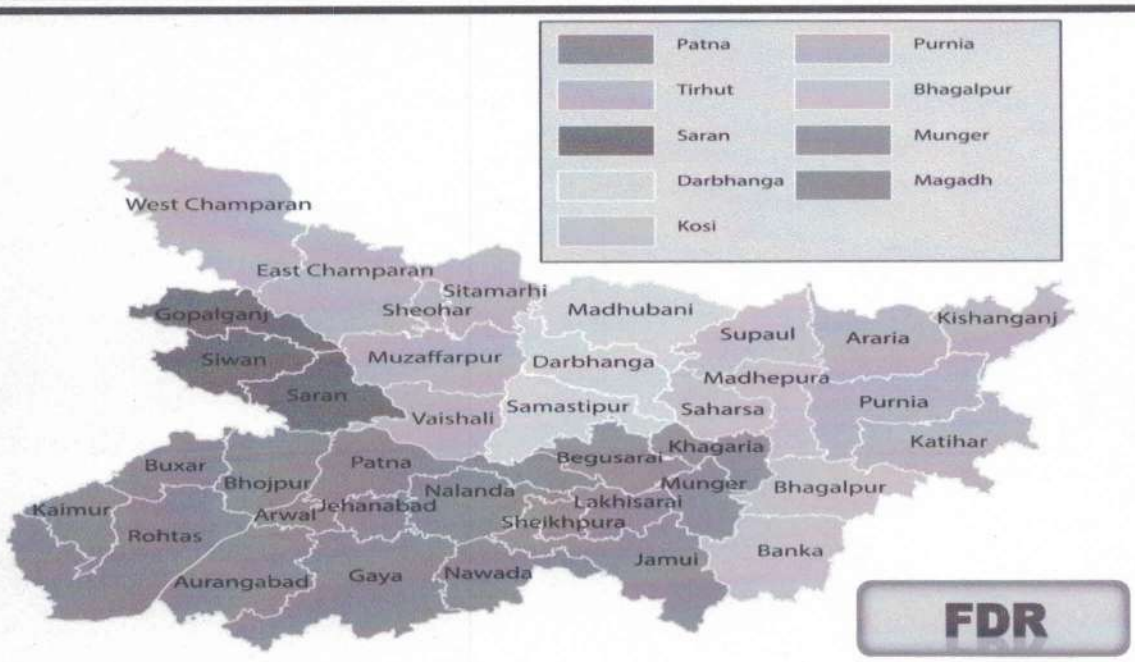
ग्रामीण कार्य विभाग

Rural Works Department, Govt of Bihar

BIHAR RURAL ROADS PROJECT

Bihar Rural Road Development Agency (BRRDA)

DETAILED PROJECT REPORT FOR (FULLY RESTORATION OF DAMAGED ROAD)



DISTRICT :	**West Champaran**	**BLOCK :**	**Narkatiyaganj**
NAME OF ROAD :	**Satwariya - Majhariya FDR**		

PART-A TOTAL COST OF INTIAL RECTIFICATION IN SURFACE RENEUAL	:	21.724	**Lakhs**
TOTAL PROJECT COST	:	21.724	**Lakhs**

SUBMITTED BY:

EXECUTIVE ENGINEER

RWD (W) DIVISION, NARKATIYAGANJ

WEST CHAMPARAN

कार्यपालक अभियन्ता का कार्यालय

ग्रामीण कार्य विभाग, कार्य प्रमंडल, बगहा–02

Mobile No- 8986915944 Email ID- ee.rwd.bagaha2@gmail.com

पत्रांक– 242 /बगहा–02, दिनांक 25-03-2024

प्रेषक,

ई0 विवेक सोनी,
कार्यपालक अभियंता,
ग्रामीण कार्य विभाग,
कार्य प्रमंडल, बगहा–02।

सेवा में,

अधीक्षण अभियंता,
ग्रामीण कार्य विभाग,
कार्य अंचल, बेतिया।

विषय :– **कार्य प्रमंडल, नरकटियागंज में वर्ष 2023 के बाढ़ में क्षतिग्रस्त पथों को मोटरेबुल कराने हेतु किये गये कार्यों की जॉच के संबंध में।**

प्रसंग :– भवदीय ज्ञापांक 352 / बेतिया, दिनांक 21.03.2024

महाशय,

उपर्युक्त विषयक एवं प्रासंगिक पत्र के अनुपालन में कार्य प्रमंडल, नरकटियागंज द्वारा उपलब्ध कराये गये मोटरेबुल पथों की सूची में अंकित पथ का अद्योहस्ताक्षरी द्वारा सहायक अभियंता के साथ निरीक्षण किया गया। निरीक्षण के दौरान कार्य प्रमंडल, नरकटियागंज द्वारा प्रतिवेदित पथों पर कार्य कराया गया है, एवं यातायात चालु है। कार्य संतोषप्रद है।

सादर सूचनार्थ एवं अग्रेत्तर कार्रवाई हेतु समर्पित।

विश्वासभाजन
25-03-24
ई0 विवेक सोनी
कार्यपालक अभियन्ता,
ग्रा0का0वि0, का0प्र0, बगहा–02

ज्ञापांक 242 /बगहा–02, दिनांक 25-03-2024

प्रतिलिपि :– कार्यपालक अभियंता, ग्रामीण कार्य विभाग, कार्य प्रमंडल, नरकटियागंज को सूचनार्थ सम्प्रेषित।

25-03-24
कार्यपालक अभियन्ता,
ग्रा0का0वि0, का0प्र0, बगहा–02

FDR ROAD LIST (Temporary Restoration)

Sl. No.	Block	Name of Road	Length (in Km)
1.	Gaunaha	Amolwa PMGSY Road to Bharhahwa Tak	1.850
2.	Mainatanr	L046-T02 to Pachrauta Jigna (VR46)	1.114
3.	Mainatanr	Jabadi to Shahpur Parsa	2.750
4.	Narkatiaganj	Marhya Barhm Sthan to Chaturbhujwa Middle School Tak	1.935
5.	Narkatiaganj	Satwariya - Majhariya	1.910
6.	Sikta	SIKTA - SURAJPUR	1.210

25-03-24

Executive Engineer
Rural Works Department
Works Division, Bagaha-02

TECHNICAL REPORT

Name of Road: Satwariya - Majhariya

Name of Block: Narkatiaganj

Name of Division: Narkatiaganj

Name of District: West Champaran

Estimated Cost:

This estimate is prepared for Restoration of Satwariya - Majhariya road under FDR as per instructions of Secretary, Rural Works Department, Bihar, Patna vide मु0अ0–4(मु0)FDR–09–01/2024 1191 /पटना, दिनांक–07/03/2024. Road remains effected from flood about 01 to 02 weeks and heavy amount of water passed through it.

Honorable Chief Minister/Secretary, Rural Works Department, Bihar, Patna/D.M., West Champaran, Bettiah/Concerned MP/MLA has instructed to maintain the traffic and movement of public etc. at the earliest so that public of this area may get connected and for the same Departmental instruction has also been issued to fill the gap made by flooded immediately.

The area surrounding is submerged in water and hence provision of Bricks bats, Sand Bags, Bamboo piles & 1000 mm Dia Hume Pipe has been made to maintain the road damaged due to flood/heavy rainfall as per availability of material from available place by tractor. Presently there is no contractor is employed for construction and maintenance of this road hence the work has been carried out Departmentally and due to this, provision of Contractor profit is not mentioned in the estimate.

In view of above, it is requested to approve the estimate amounting 21.724 Lacs please.

Submitted for Administrative Approval please.

26/03/2024.

Junior Engineer
RWD, Works Division,
Narkatiaganj

26/03/24

Assistant Engineer
RWD, Works Division,
Narkatiaganj

26/3

Executive Engineer
RWD, Works Division,
Narkatiaganj

FULLY RESTORATION OF DAMAGED ROAD

GENERAL ABSTRACT OF COST

Block:--	Narkatiyaganj	District:-	West Champaran
Construction Length of Road:--		1.950 KM	
Name of Road:--		Satwariya - Majhariya FDR	

SL. No.	Item of Work	Amount	
A	TOTAL COST OF CONSTRUCTION	18.255	Lacs
	GST @18%	3.286	Lacs
	LABOUR CESS @1%	0.183	Lacs
	SUB TOTAL	21.724	Lacs
	TOTAL (A)	21.724	Lacs
	TOTAL PROJECT COST (A+B)	21.724	Lacs

26/03/2024
Junior Engineer

26/03/24
Asstt. Engineer

26/03/24
Executive Engineer

SE
RWD

GENERAL ABSTRACT OF COST FOR MAINTENANCE OF ROAD

NAME OF ROAD	Satwariya - Majhariya FDR
DISTRICT	West Champaran
BLOCK	Narkatiyaganj
DIVISION	Narkatiyaganj

Sl. No.	DESCRIPTION	AMOUNT (LAKHS)
PART-A	INITIAL RECTIFICATION INCLUDING SURFACE RENEWAL	
1	Earthwork in Embankment	0.327
2	SAND BAG	4.472
3	Supply and Laying of NP 3 Hume Pipe 1000 mm Dia	0.452
4	Supplying , Filling , Spreading & Compacting of Brick Bats at work Site	12.015
5	Bamboo Piling	0.990
	Total	**18.255**
	SUB TOTAL =	**18.255**
	18 % GST (B)	**3.286**
	1% LABOUR CESS ©	**0.183**
	TOTAL COST OF PROJECT (including GST & Labour Cess) IN LACS =	**21.724**

26/03/2024.

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RWD

DETAILED ESTIMATE

Sl. No.	SDB SL NO	MORD Ref.No	Description	Unit	NOS	LENGTH	WIDTH	HEIGHT		QUANTITY	RATE	AMOUNT (in Rs.)
1	3.4 / 3.3 &	301.5	Construction of Embankment with material obtained from borrow pits with a lift upto 1.5 m , transporting to the site spreading , grading to required slope and compacting to meet requirement of Tables 300.1 and 300.2 with a ***lead upto 1000 m & 100 m*** as per Technical Specification Clause 301.5 . (Including Royality & Labour Cess).									
				Cum		40.00	8.250	0.533	=	176.00		
			Total		**30%**				=	**176.00**	185.59	**32,664.00**
										A) SUB TOTAL OF CRUST =		**32,664.00**
			Sub Head : PAVEMENT LAYERS BRICK BATS									
1			**Providing and Laying of Empty Cement Bag filling with Local Sand**									
			Providing and Laying of Empty Cement Bag filling with Local Sand									
			Base	Cum	1.00	108.00	8.00	0.300	=	259.200		
			Face	Cum	2.00	108.00	1.80	1.500	=	583.200		
			Total =						=	842.400		
			Deduction of H.P.C 1000 mm Dia (3x2x1.50x22/7(1.23)2	Cum					=	-10.690		
			OneNos. of Bag =						=	**831.710**		
			Total No of Bag	**Nos**		831.71	x	28.00	=	**23,288.00**		
			Total =						=	**23,288.0**	**19.202**	**4,47,165.00**
4		9.3 (B)	Providing and laying RCC pipe NP-3 for culverts on first class bedding of PCC M10 material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works,backfilling concrete and masonary works in head walls and parapets as per clause 1106									
			Proposed HPC	RM	3.00		x	2.500	=	7.500		
			Net Qty						=	**7.500**	**6,021.712**	**45,163.00**
										B) SUB TOTAL OF CRUST =		**4,92,328.00**
2	5.1	502	**Providing Brick Bats with Filling in Damage Portion**									
			Supplying , Filling , Spreading & Compacting of Brick Bats at work Site									
				Cum	1.00	108.00	4.50	1.420		690.120		
			Total							**690.12**	**1,740.969**	**12,01,477.00**

Sl. No.	SDB SL NO	MORD Ref.No	Description	Unit	NOS	LENGTH	WIDTH	HEIGHT		QUANTITY	RATE	AMOUNT (in Rs.)
4			**Bamboo Piling**									
			Single Bamboo spur and palasiding / walling of whole 2nd class bamboo(jati or Bethua) 65 mm to 75 mm dia and closely packed and driven fitting fixing with half bamboo kamis horizantally in three rows with cane or tying with wire complete and struts 1.5 m apart longitudinaly and providing brush wood as per drawing and technical specification clause 1302.5								
				Rm						545.00	137.09	74715.87
6			Providing fitting and fixing split bamboo nwoven chachari in position with 20 swg. G.I wire or 75 mm to 100 mm long nails alternative incuding cost of G.I wire or nails complete job as per specification and direction of E/I		(2x108x(0.0+1.8+0.0))/3					129.60		
				sqm						129.60	187.69	24324.25
												99,040.11
											TOTAL COST OF PAVEMENT IN RS. (A+B+C+D)=	**18,25,509.11**

26/03/2024.

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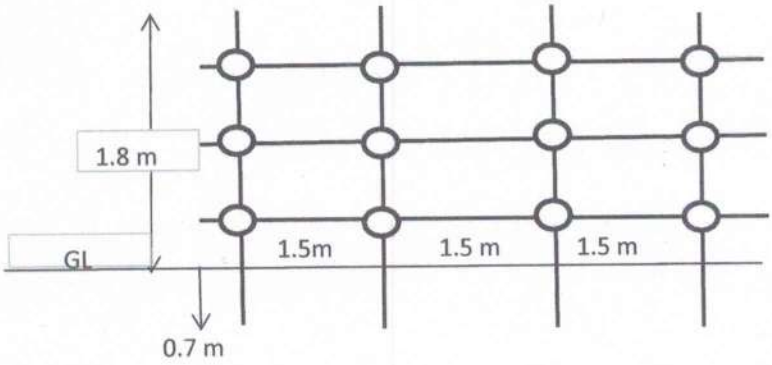

BAMBOO PILING

1	Interval of Bamboo - 1 m each for 108 m			108+1		109	nos.
2	Height of Bamboo (m)			2.5			
3	Total Length of Bamboo (m)	109	x	2	x	2.5	545
	Three Layers Bamboo Vertical						
	Length of Total nos. of Bamboo (nos.)			40/2.5	x	3	**48**
	Nailing of Bamboo	109	x	3	x	4	1308
	Size of Nail (nos.) (5 Inch)						**1308**
	Area of Chachari (Sqm)	60	x	1.8			**108**

26/3/24

Executive Engineer
Rural Works Department
Work Division Narkatiyaganj

26/03/2024.
J.E

26/03/24
AE.

Analysis for Carriage by Road&Rail

Name of Road:--	Satwariya - Majhariya FDR
District:-	West Champaran

Sl No	Item with Source	Unit	Source Up to	Carriage Cost & Lead in Km												Loading & Unloading Cost	Carriage Cost by Rail Head	Total `
				Pucka / Surface By Tipper & Truck						Katcha								
5	Course Sand	Cum	Koilwar	8.00 / 4.99	x 6.45	x 178.00 Km	Rs 1840.64			8.00 / 4.99	x 15.60	x 0.00 Km	= Rs 0.00			108.90		Rs. 1949.54
9	Cement	MT	Local	8.00 / 8.00	x 6.45	x 15.00 Km	Rs 96.75			8.00 / 8.00	x 15.60	x 0.00 Km	= Rs 0.00			361.92		Rs. 458.67
13	Hume Pipe (1000 mm)	m	Bettiah	8.00 / 10.00	x 6.45	x 48.00 Km	Rs 247.68			8.00 / 10.00	x 15.60	x 0.00 Km	= Rs 0.00			69.82		Rs. 317.50

Cost of Haulage Excluding Loading & Unloading as per SOR | **Subjected to Verification of Lead**

Type of Road	` Per Ton. Km by Tipper	` Per Ton. Km by Truck
For Surface Road	9.80	6.45
Unsurface Gravel Road	11.80	7.75
Kachha Road	23.80	15.60

Asst. Engg	Excutive Engg
RWD (w) Division, Narkatiyaganj	RWD (w) Division, Narkatiyaganj

26/03/2024 J.E Narkatiyaganj

26/03/24 AE Narkatiyaganj

26/3

Executive Engineer
Rural Works Department
Work Division Narkatiyaganj

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			Haulage BY TIPPER				
13		(iv)	Unloading of Earth, Sand, Moorum, Manure, Flyash by manual means including a lead upto 30 m.				
			Unit = cum				
			Taking output = 5.5 cum				
		a)	**Labour**				
			Mate	day	0.01	419.00	2.10
			Mazdoor (Unskilled)	day	0.13	395.00	49.38
		b)	**Machinery**				
			Truck	hour	0.17	934.30	155.09
			Cost for 5.5 cum = a+b+c+d				206.56
			Rate per cum = (a+b+c+d) /5.5				**37.56**
			Total Cost	**Cum**			**37.56**
			Total Loding & Unloading of Sand / Moorum	*Cum*		*= 71.34 + 37.56 =*	*108.90*
14	1.3		**Loading, Unloading and Stacking of Bricks by Manual Means**				
		(i)	Loading of Bricks by manual means including a lead upto 30 m				
			Unit = 1000 Nos.				
			Taking output = 2000 Nos.				
		a)	**Labour**				
			Mate	day	0.01	419.00	4.19
			Mazdoor (Unskilled)	day	0.25	395.00	98.75
		b)	**Machinery**				
			Truck	hour	0.33	934.30	308.32
			Cost for 2000 Nos. = a+b+c+d				411.26
			Rate for 1000 bricks = (a+b+c+d)/2				**205.63**
			Total Cost	**no.**			**205.63**
15		(ii)	Unloading and Stacking of Bricks by manual means including a lead upto 30 m				
			Unit = 1000 Nos.				
			Taking output = 2000 Nos.				
		a)	**Labour**				
			Mate	day	0.01	419.00	4.19
			Mazdoor (Unskilled)	day	0.25	395.00	98.75
		b)	**Machinery**				
			Truck	hour	0.33	934.30	308.32
			Cost for 2000 Nos. = a+b+c+d				411.26
			Rate for 1000 bricks = (a+b+c+d)/2				**205.63**
			Total Cost	**no.**			**205.63**
			Total Loding & Unloading of Brick Per 1000			*= 205.63 + 205.63 =*	*411.26*
21 (II)	9.30	1100	**Providing and Laying Reinforced Cement Concrete Pipe NP4 as per design in Single Row** Providing and laying reinforced cement concrete pipe NP4 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**				
			Unit =m				
			Taking output =7.5 m				
			(3 pipes of 2.5 m length each)				
			a) Material				
			I) Sand at site (	cum	0.04	494.00	19.76
			ii) Cement at site	ton	0.03	5019.60	150.59
			iii) RCC pipe NP 43pipe including collar at site	m	7.50	5570.00	41775.00
			b) Labour				
			Mate	day	0.09	325.00	29.25
			Mason (1st class)	day	0.25	413.00	103.25
			Mazdoor (Unskilled)	day	2.00	306.00	612.00
			Cost for 7.5m = (a+b+c+d)				*42689.85*
			Rate per m =(a+b+c+d)/7.5				5691.98
			Carrige cost:-				

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			Sand at site	cum	0.01	1949.54	10.40
			Cement at site	ton	0.00	458.67	1.83
			RCC pipe NP3 concrete pipe including collar at site	m	1.00	317.50	317.50
			Rate per cum including Carrige				6021.71
				m			**6021.71**
6		**NEW**	**Brick Bat**				
			Supplying , Filling , Spreading & Compacting of Brick Bats at work Site				
			Unit = CUM				
			Taking output = 360 cum for 300 cum				
			Machinery				
			Three wheel 8-10 t Smooth whelled roller	hr	3.75	1518.00	5692.50
		a)	**Labour**				
			Mate	day	0.480	325.00	156.00
			Mazdoor Skilled	day	2.000	388.00	776.00
			Mazdoor Unskilled	day	10.000	306.00	3060.00
		b)	**Material**				
			Brick Bats	Cum	360.00	986.00	354960.00
			Local Sand	Cum	80.28	143.32	11505.73
			Basic Rate per Cum				1253.83
			Carraige Cost				
			Local Sand		0.2676	165.60	44.31
			Brick Bats				442.82
			Rate per cum	**cum**			**1740.97**
7	**3.4**	**301.5**	**Construction of Embankment with Material Obtained from Borrow Pits**				
		(A)	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 Tables 300.1 and 300.2 with a ***lead upto 1000 m*** as per Technical Specification Clause 301.5				
			Unit = cum				
			Taking output = 100 cum				
		a)	Labour				
			Mate	day	0.04	325.00	13.00
			Mazdoor (Unskilled)	day	1.00	306.00	306.00
		b)	Machinery				
			Hydraulic Excavator 0.9 cum bucket capacity @ 60 cum per hour	hour	1.67	2202.00	3,677.34
			Tipper 5.5 cum with 10 t capacity	hour	4.50	1,371.00	6,169.50
			Loading of earth as per item 1.1 (ii)	cum	100.00	0.00	0.00
			Unloading of earth as per item 1.1 (iv)	cum	100.00	52,751.60	0.00
			Add 10 % of the cost of carriage by tipper				616.95
			Dozer D-50 for spreading @ 100 cum per hour	hour	0.50	2,930.00	1,465.00
			Tractar mounted grader arrangement @ 200 cum per hour	hour	1.00	629.00	629.00
			Water tanker 6 kl capacity	hour	2.00	707.00	1,414.00
			Compensation for earth taken from private land (Including royality @ Rs. 22.0 per cum & compensation @ Rs. 1.71 per cum)	hour	1.25	35.01	43.76
		c)	Material				
			Water	kl	12.00	60.30	723.60
			Compensation for earth taken from private land	cum	100.00	35.01	3,501.00
			Cost for 100 cum = a+b+c+d				18,559.15
			Rate per cum = (a+b+c+d+e)/100=				185.59
			Total Cost	**CUM**			**185.59**
1	**14.12**	**1300**	Single Bamboo spur and palasiding / walling of whole 2nd class bamboo(jati or Bethua) 65 mm to 75 mm dia and closely packed and driven fitting fixing with half bamboo kamis horizantally in three rows with cane or tying with wire complete and struts 1.5 m apart longitudinaly and providing brush wood as per drawing and technical specification clause 1302.5				
			Driven at least 900 mm below ground and 1800 mm above ground on average				
			Unit = RM				
			Taking output = 3.00 m				
		a)	**Material**				
			2nd class bamboo (65 mm to 75 mm dia 3 m long	nos.	3.00	22.01	66.03
			Binding wire	Kg	0.15	75.00	11.25
			Brush Wood (LS RS. 10.00)	LS			10.00
		b)	**Labour**				
			Mate	day	0.04	325.00	13.00
			Mazdoor (Unskilled)	day	1.00	306.00	306.00
			Sundries	LS			5.00
		E)	Cost for 3 m = (a+b+c+d)				411.28
			Rate per meter = (a+b+c+d+e)/3				137.09

Sl. No.	SDB Sl. No.	MORD Ref No.	DESCRIPTION	Unit	Quantity	Rate	Amount in Rs
			Final Rate				**137.09**
1	**14.12**	**1300**	Labour for fitting and fixing split bamboo nwoven chachari in position with 20 swg. G.I wire or 75 mm to 100 mm long nails alternative incuding cost of G.I wire or nails complete job as per specification and direction of E/I				
			(Assuming strip of 3.05 x 3.05 = 9.30 sqm)				
			Unit = per sqm				
			Taking output = 9.30 sqm				
		a)	**Material**				
			75 mm to 100 mm long nails	Kg	0.25	60.00	15.00
			Suplly Fitting and fixing (Bamboo)		9.30	19.65	182.75
		b)	**Labour (Supply Fitting)**				
			Carpenter GR-II	nos.	1.00	369.00	369.00
			Mazdoor (Unskilled)	nos.	1.00	306.00	306.00
		E)	Cost for 9.30 sqm = (a+b+c+d)				872.75
			Rate per sqm = (a+b+c+d+e)/9.30				187.69
			Final Rate				**187.69**
		NEW	**Sand Bags**				
			Supplying, filling and laying sand bags at work site				
			Unit = Nos				
			Taking output = 100 Nos				
		a)	**Labour**				
			Mazdoor (Unskilled)	day	2.00	306.00	612.00
		b)	**Material**				
			Local Sand	Cum	3.50	143.32	501.62
			Empty Plastic Bags	No	100.00	3.53	353.00
			Basic Rate per bag (a+b+c+d)/100				14.67
			Carraige of Local Sand		0.035	129.58	4.54
			Rate Per Bag	**No**			**19.20**

Chapter 1

LOADING, UNLOADING, CARRIAGE CRUSHING OF MATERIALS AND SETTING OUT

Notes:

1 Rates are for net quantities after deduction of voids.

2 Part of km beyond 1 km will be payable for the full km.

Sr. No.	Reference to MORD Specifications	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
1.2		**Loading and Unloading Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by Mechanical Means**				
		(i) Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by mechanical means including a lead upto 30 m				
		Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip.				
		Unit = cum				
		Taking output = 5.5 cum				
		Time required for				
		i) Positioning of tipper at loading point	Min	1		
		ii) Loading by front end loader 1 cum bucket capacity @ 45 cum per hour	Min	7.33		
		iii) Waiting time, unforeseen contingencies, etc.	Min	2		
		Total	**Min**	**10.33**		
		a) Machinery				
		(i) Tipper 10 t capacity	hour	0.172	1,426.00	245.27
		(ii) Front end-loader 1 cum bucket capacity @ 45 cum per hour	hour	0.122	1,419.00	173.12
		Cost for 5.5 cum = a+b				418.39
		Rate per cum = (a+b) /5.5				**76.07**
		(ii) Loading of Earth, Sand, Moorum, Manure, Flyash by mechanical means including a lead upto 30 m.				
		Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip.				
		Unit = cum				
		Taking output = 5.5 cum				
		Time required for				
		i) Positioning of tipper at loading point	Min	1.00		
		ii) Loading by front end loader 1 cum bucket capacity @ 100 cum per hour	Min	3.30		
		iii) Waiting time, unforeseen contingencies, etc.	Min	2.00		
		Total	**Min**	**6.30**		
		a) Machinery				
		(i) Tipper 10 t capacity	hour	0.105	1,426.00	149.73
		(ii) Front end-loader 1 cum bucket capacity @ 100 cum per hour	hour	0.055	1,419.00	78.05
		Cost for 5.5 cum = a+b+c				227.78
		Rate per cum = (a+b+c)/5.5				**41.41**

Sr. No.	Reference to MORD Specifications		Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
		(iii)	Unloading of Earth, Sand, Lime, Moorum, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Manure, Crushed Slag, Flyash, Stone for Masonry Work by mechanical means. Unit = cum Taking output = 5.5 cum Placing tipper at unloading point excluding time for haulage and return trip **Time required for**				
			i) Positioning of tipper at unloading point	Min	1.00		
			ii) Manoeuvering, reversing, dumping and turning for return	Min	2.00		
			iii) Waiting time, unforeseen contingencies, etc.	Min	2.00		
			Total	**Min**	**5.00**		
			a) Machinery				
			Tipper 10 t capacity	hour	0.08	1,426.00	114.08
			Cost for 5.5 cum = a+b+c				114.08
			Rate per cum = (a+b+c)/5.5				**20.74**
			CALCULATION BY TIPPER				
1.10			**Haulage excluding Loading & Unloading** Haulage of materials by tipper excluding cost of loading, unloading and stacking. Unit = t.km Taking output 10 t load and lead 10 km = 100 t.km **Case-I : Surfaced Road** Speed with load: 25 km per hour Speed while returning empty: 35 km per hour **a) Machinery** **Tipper 10 t capacity**				
			Haulage with load	hour	0.40	1,426.00	570.40
			Empty return trip	hour	0.29	1,426.00	413.54
			Cost for 100 t.km = a+b+c				983.94
			Rate per t.km = (a+b+c)/100				**9.80**
		Note:	In case of carriage of Hume pipes, output of truck be taken as 8 t and the rate for t is to be divided by number of pipes of different **Case-II: Unsurfaced Gravel Road** Speed with load: 20 km/hour Speed for empty return trip: 30 km/hour **a) Machinery** **Tipper 10 t capacity**				
			Haulage with load	hour	0.50	1,426.00	713.00
			Empty return trip	hour	0.33	1,426.00	470.58
			Cost for 100 t.km = a+b+c				1,183.58
			Rate per t.km = (a+b+c)/100				**11.80**

Sr. No.	Reference to MORD Specifications	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	Note:	In case of carriage of Hume pipes, output of truck be taken as 8 t and the rate per t is to be divided by number of pipes of different **Case-III: Katcha Track and Track in River Bed/Nallah Bed and Choe Bed** Speed with load: 10 km per hour Speed while returning empty: 15 km per hour **a) Machinery** **i) Tipper 10 t capacity**				
		Haulage with load	hour	1.00	1,426.00	1,426.00
		Empty return trip	hour	0.67	1,426.00	955.42
		Cost for 100 t.km = a+b+c				2,381.42
		Rate per t.km = (a+b+c)/100				23.80
	Note:	In case of carriage of Hume pipes, output of truck be taken as 8 t and the cost for 8 t is to be divided by number of pipes of different				
		CALCULATION BY TRUCK				
1.10		**Haulage excluding Loading & Unloading** Haulage of materials by tipper excluding cost of loading, unloading and stacking. Unit = t.km Taking output 10 t load and lead 10 km = 100 t.km **Case-I : Surfaced Road** Speed with load: 25 km per hour Speed while returning empty: 35 km per hour **a) Machinery** **Truck 10 t capacity**				
		Haulage with load	hour	0.40	934.30	373.72
		Empty return trip	hour	0.29	934.30	270.95
		Cost for 100 t.km = a+b+c				644.67
		Rate per t.km = (a+b+c)/100				6.45
	Note:	In case of carriage of Hume pipes, output of truck be taken as 8 t and the rate for t is to be divided by number of pipes of different **Case-II: Unsurfaced Gravel Road** Speed with load: 20 km/hour Speed for empty return trip: 30 km/hour **a) Machinery** **Truck 10 t capacity**				
		Haulage with load	hour	0.50	934.30	467.15
		Empty return trip	hour	0.33	934.30	308.32
		Cost for 100 t.km = a+b+c				775.47
		Rate per t.km = (a+b+c)/100				7.75

Sr. No.	Reference to MORD Specifications	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	Note:	In case of carriage of Hume pipes, output of truck be taken as 8 t and the rate per t is to be divided by number of pipes of different				
		Case-III: Katcha Track and Track in River Bed/Nallah Bed and Choe Bed				
		Speed with load: 10 km per hour				
		Speed while returning empty: 15 km per hour				
		a) Machinery				
		i) Truck 10 t capacity				
		Haulage with load	hour	1.00	934.30	934.30
		Empty return trip	hour	0.67	934.30	625.98
		Cost for 100 t.km = a+b+c				1,560.28
		Rate per t.km = (a+b+c)/100				**15.60**
	Note:	In case of carriage of Hume pipes, output of truck be taken as 8 t and the cost for 8 t is to be divided by number of pipes of different				
TEC		**Brick Flat Soling**				
		Laying brick soling layer on prepared sub-grade with brick on lines, graded and cross-section shown on the drawing filling joints with sand and earth as per Technical Specification Clause 412				
		Unit = sqm				
		Taking ouput = 9.30 sqm				
		a) Labour				
		Mazdoor (Unskilled)	day	1.00	395.00	395.00
		Mason 2nd class	day	0.50	474.00	237.00
		b) Sundries				1.60
		c) Material				
		Brick 1st Class New	No.	300.00	6,213.80	18,64,140.00
		Fine Sand	cum	0.142	42.95	6.10
		Cost for 9.30sqm = a+b+c+d+e				18,64,779.70
		Rate per sqm = (a+b+c+d+e)/9.3				**2,00,513.95**
		CALCULATION BY TRACTOR				
1.4	**(I)**	**Cost of Haulage Excluding Loading And Unloading**				
		Haulage of materials by Tractor excluding cost of loading, unloading and stacking.				
		Unit = tonne.km				
		Taking ouput = ' 3.6 tonnes load and lead 10 km = 36.0 t.km				
		Surfaced Road				
		i) speed with load 15 km/hr				
		ii) speed while returning empty = 25 km/hr				
		a) Machinery				
		Tractor 3.60 tonne capacity				
		time taken for onward haulage with load	hour	0.667	676.00	450.89
		time taken for empty return trip	hour	0.400	676.00	270.40
		Total cost for 36.00 tonne.km = (a+b+c)				721.29
		Rate per sqm = (a+b+c)/36				**20.04**
	(II)	**Unsurfaced Road**				
		i) speed with load 12 km/hr				
		ii) speed while returning empty = 20 km/hr				
		a) Machinery				
		Tractor 3.60 tonne capacity				
		time taken for onward haulage with load	hour	0.833	676.00	563.11
		time taken for empty return trip	hour	0.500	676.00	338.00
		Total cost for 36.00 tonne.km = (a+b+c)				901.11
		Rate per sqm = (a+b+c)/36				**25.03**
	(III)	**Kaccha Track and Track in River Bed/Nala Bed & Choe Bed**				
		i) speed with load 10 km/hr				
		ii) speed while returning empty = 15 km/hr				
		a) Machinery				

Sr. No.	Reference to MORD Specifications	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
		Tractor 3.60 tonne capacity				
		time taken for onward haulage with load	hour	1.000	676.00	676.00
		time taken for empty return trip	hour	0.667	676.00	450.89
		Total cost for 36.00 tonne.km = (a+b+c)				1,126.89
		Rate per sqm = (a+b+c)/36				**31.30**


Latitude: 27.161292
Longitude: 84.520379
Elevation: 112.19±25 m
Accuracy: 5.0 m
Time: 21-03-2024 10:35
Note: shatwariya to. majhariya
Powered by NoteCam


Latitude: 27.159148
Longitude: 84.512648
Elevation: 120.23±12 m
Accuracy: 2.0 m
Time: 21-03-2024 09:52
Note: shatwariya to. majhariya
Powered by NoteCam


Latitude: 27.161325
Longitude: 84.520142
Elevation: 126.59±4 m
Accuracy: 1.4 m
Time: 21-03-2024 10:35
Note: shatwariya to. majhariya
Powered by NoteCam


Latitude: 27.161252
Longitude: 84.520335
Elevation: 128.49±4 m
Accuracy: 1.4 m
Time: 21-03-2024 10:36
Note: shatwariya to. majhariya
Powered by NoteCam


Latitude: 27.159608
Longitude: 84.524297
Elevation: 112.19±21 m
Accuracy: 1.6 m
Time: 21-03-2024 10:29
Note: shatwariya to. majhariya
Powered by NoteCam


Latitude: 27.159752
Longitude: 84.524081
Elevation: 112.19±21 m
Accuracy: 8.1 m
Time: 21-03-2024 10:28
Note: shatwariya to. majhariya
Powered by NoteCam