

RURAL WORKS DEPARTMENT



GOVERNMENT OF BIHAR

CIRCLE – R.W.D. works Circle, Chapra

DIVISION – R.W.D. works Division, Chapra-1

Name of Work - Restoration/Mottrable of Road from BHERAUPUR
PANCHAYAT BHAWAN TO DABTARPUR

Block - Chapra Sadar

Estimated cost - Rs 811594.00

Year : 2020-21

प्रतिवेदन
FDR (2020-21)

पथ का नाम	:- Bheraupur Panchayat Bhawan to Dabtarpur
पथ की लंबाई	:- 1.250 कि०मी०
पुनरीक्षित प्राक्कलित राशि	:- मो० ₹ 8, 11, 594.00
प्रखंड/का०अ०प्र० का नाम	:- छपरा सदर
कार्य अंचल का नाम	:- ग्रामीण कार्य विभाग, कार्य अंचल, छपरा।
प्रमंडल का नाम	:- ग्रामीण कार्य विभाग, कार्य प्रमंडल, छपरा - 1

प्रस्तुत प्राक्कलन ग्रामीण कार्य विभाग, कार्य प्रमंडल, छपरा - 1 के अंतर्गत बाढ़ से क्षतिग्रस्त पथों के मोटरेबुल कार्य का प्राक्कलन विभाग के निर्देशानुसार तैयार किया गया है।

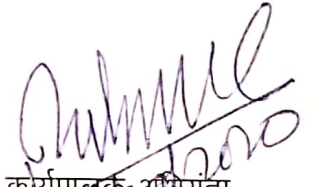
विदित है कि माह जुलाई एवं सितम्बर 2020 में गंडक नदी के बांध के टूटने एवं अतिवृष्टि के कारण आयी बाढ़ के कारण निर्मित/निर्माणाधीन पथों में काफी क्षति हुई है। पानी के तेज बहाव के कारण पथों में हुई कटाव से आवागमन प्रभावित हुआ है, साथ ही दिनांक 03.11.2020 को बिहार विधान सभा का चुनाव निर्धारित है। बूथों तक वाहन का आवागमन आवश्यक है। जिस कारण से चुनाव कार्य एवं लोगो की कठिनाईयों को देखते हुए तथा उच्चाधिकारी के निर्देशानुसार पथों को तत्काल मोटरेबुल करने का निर्देश दिया गया है, ताकि सभी बूथों पर वाहन का आवागमन सुनिश्चित हो सकें।

उपरोक्त आलोक में क्षतिग्रस्त पथों में तत्काल Brick Bats से भरकर वाहन का आवागमन चालू किया गया है। इस प्रकार प्राक्कलन में Brick Bats भरने के साथ आवश्यक मदों का प्रावधान किया गया है।

प्राक्कलन वर्तमान अनुसूचित दर पर तैयार कर आवश्यक कारवाई हेतु समर्पित किया जाता है।


कनीय अभियंता
26.10.2020


सहायक अभियंता
26/10/2020


कार्यपालक अभियंता
ग्रामीण कार्य विभाग
का० प्रमंडल, छपरा - 1

Inspection Report for flood damage work

Date:

1. Name of PIUs- E.E. RANCH DIVISION- CHAPRA-I

2. Name of Block/Road- Bhogampur Panchayat Bhiron to Doldarpara.
in Block- CHAPRA Sadak

A. For Road

1. Damage Location/Chainage : CH- 50 Mts to CH- 1250 Mts Under
2. Damage Length : 285 Mts
3. Nature of Damage : Cutting & Breaches in Road at diff. Location.
4. Details of Restoration :
 - i Material being used in Restoration : Brick Bat, Sand.
 - ii Equipment/Tools being used in Restoration works: Tractor, JCB, Pallets etc
 - iii Procedure taken up in Restoration works : Laying B/Bat in cut portion
 - iv Restored Length : then 1/2 Sand using then rolled up surface.

B. For Bridge

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

Signature of JE/AE/EE

[Signature]
26/10/2020
JE

[Signature]
26/10/2020
EE

Signature

[Signature]
16/11/20

(Name of Inspector)

[Signature]
26/10/2020
JE

ABSTRACT OF COST

Name of Work - Restoration/Mottrable of Road from BHERAUPUR PANCHAYAT BHAWAN
TO DABTARPUR

Block - Chapra Sadar

S.L No.	Particulars	Amount (In Rs.)
A	Cost of Restoration work	Rs 718225.00
B	Add 12 % GST on (A)	Rs 86187.00
C	Add 1 % L. Cess on (A)	Rs 7182.00
	Total Cost	Rs 811594.00

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Chapra-1

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16/10/2020
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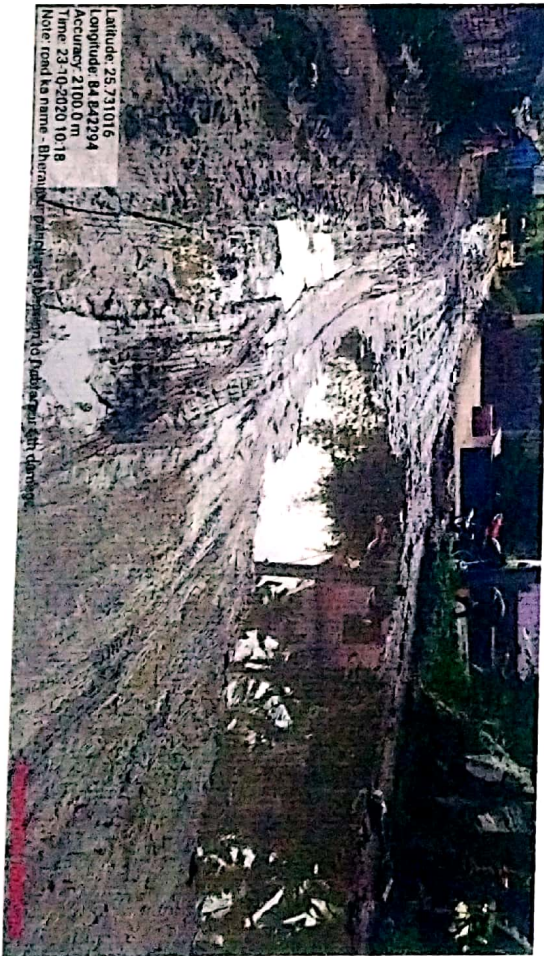
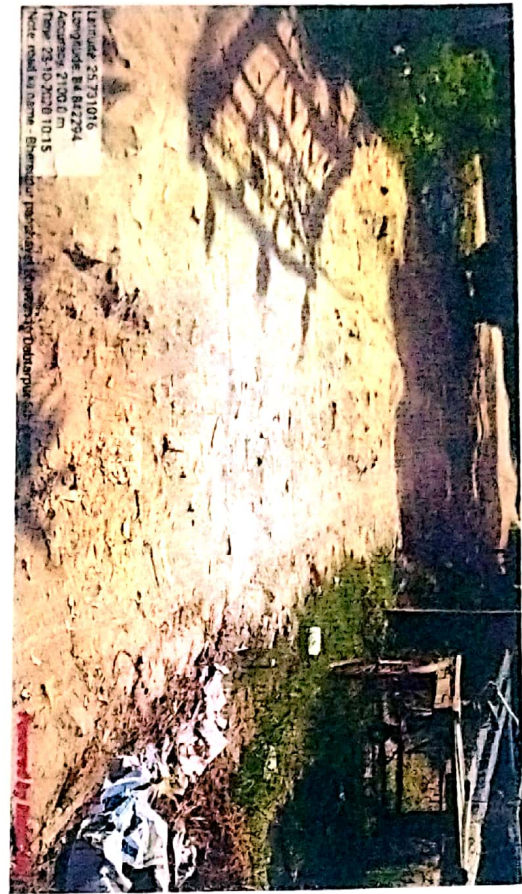
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T/S for Rs 8,11,594.00 (Rs. eight lacs,
eleven thousand, five hundred and
ninety-four only).

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22/12/20,
E.O.

[Signature]
22/12/20
TECHNICAL ADVISER
RURAL WORKS DEPTT.
WORKS CIRCLE, CHAPRA

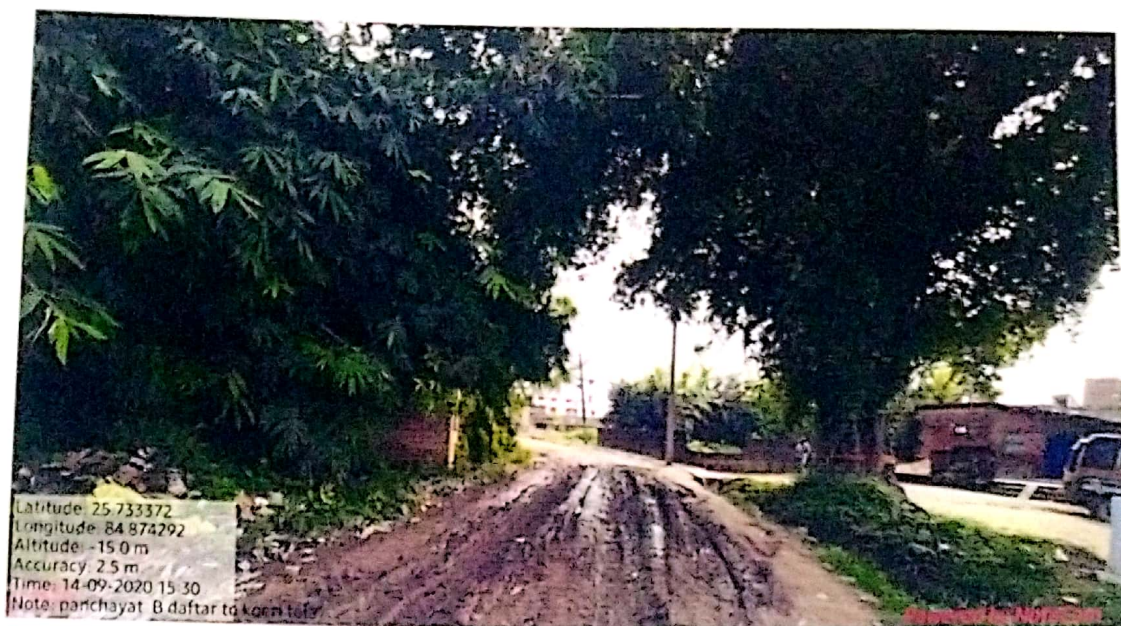
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22.12.20
Superintending Engineer
Rural (Works) Deptt.
Works Circle, Chapra



Am
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JE

23e
16/10/20
B.R

Am
16/10/2020
EE



Prime
 16/02/2020
 28

QML
 + 16/17/2020
 EE

Name of work

Detailed Estimate

Restoration/Mottrable of Road from BHERAUPUR PANCHAYAT BHAWAN TO DABTARPUR

Restoration/Mottrable of Road from BHERAUPUR PANCHAYAT BHAWAN TO DABTARPUR									
SI No	Item	No	Length	Width	Avg.H/D	Qty	Unit	Rate	Amount
1	Providing laying and spreading brick bats in Road ditches all complete as per approved design, specifications and direction of E/I	1	30.00	3.00	0.80	72.00			
		1	15.00	3.10	0.50	23.25			
		1	20.00	2.50	0.65	32.50			
		1	25.00	3.10	0.45	34.88			
		1	10.00	2.70	0.65	17.55			
		1	15.00	2.50	0.40	15.00			
		1	20.00	2.90	0.50	29.00			
		1	20.00	3.20	0.65	41.60			
		1	30.00	2.90	0.45	39.15			
		1	15.00	1.70	0.75	19.13			
		1	10.00	1.40	0.35	4.90			
		1	15.00	3.00	0.30	13.50			
		1	10.00	3.00	0.45	13.50			
		1	30.00	2.90	0.35	30.45			
		1	20.00	3.10	0.60	37.20			
		Total							
2	Filling and spreading local sand over brick bats as per drawing and technical specification Clause 305.3.9	1	30.00	3.00	0.10	9.00			
		1	15.00	3.10	0.10	4.65			
		1	20.00	2.50	0.10	5.00			
		1	25.00	3.10	0.10	7.75			
		1	10.00	2.70	0.10	2.70			
		1	15.00	2.50	0.10	3.75			
		1	20.00	2.90	0.10	5.80			
		1	20.00	3.20	0.10	6.40			
		1	30.00	2.90	0.10	8.70			
		1	15.00	1.70	0.10	2.55			
		1	10.00	1.40	0.10	1.40			
		1	15.00	3.00	0.10	4.50			
		1	10.00	3.00	0.10	3.00			
		1	30.00	2.90	0.10	8.70			
		1	20.00	3.10	0.10	6.20			
		Total							
TOTAL								718225.00	

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ANALYSIS FOR CARRIAGE OF MATERIAL

(A) Name of the Work :- Restoration/Mottrable of Road from BHERAUPUR PANCHAYAT BHAWAN TO DABTARPUR

(B) Haulage Charge By 8 T Capacity Truck

- (i) For Surface Road :- Rs. 7.52 Per t per K.M
(ii) For Unsurface Toad :- Rs. 9.04 Per t per K.M
(iii) For Kutcha Road :- Rs. 18.19 Per t per K.M

1 CARRIAGE COST OF BAMBOO 62 MM TO 75 MM OF 6 To 8 M LONG

Lead as per Quarry Chart :- 5 P + 5 K

$$\text{Haulage Cost} = \frac{8}{3.00} \times [(7.52 \times 5.00) + (18.19 \times 5.00)] = 206.09$$

$$\begin{aligned} \text{Loading \& Unloading} &= \\ \text{Total per \% Nos} &= \frac{2224.00}{2430.09} \\ \text{Total per m} &= 3.47 \end{aligned}$$

2 CARRIAGE COST OF STONE BOULDER

Lead as per Quarry Chart :- 180 P + 0 K

$$\text{Haulage Cost} = \frac{8}{4.80} \times [(7.52 \times 180.00) + (18.19 \times 0.00)] = 2256.00$$

$$\text{Loading \& Unloading} = 196.13$$

$$\text{Total per M}^3 = 2452.13$$

3 CARRIAGE COST OF GSB Material

Lead as per Quarry Chart :- 180 P + 0 K

$$\text{Haulage Cost} = \frac{8}{4.99} \times [(7.52 \times 180.00) + (18.19 \times 0.00)] = 2170.10$$

$$\text{Loading \& Unloading} = 196.13$$

$$\text{Total per M}^3 = 2366.23$$

4 CARRIAGE COST OF HUME PIPE (1000 MM DIA)

Lead as per Quarry Chart :- 55 P + 0 K

$$\text{Haulage Cost} = \frac{8}{22.5} \times [(7.52 \times 55.00) + (18.19 \times 0.00)] = 330.88$$

$$\begin{aligned} \text{Loading \& Unloading} &= \\ \text{Total per M} &= \frac{76.58}{407.46} \end{aligned}$$

5 CARRIAGE COST OF HUME PIPE (600 MM DIA)

Lead as per Quarry Chart :- 55 P + 0 K

$$\text{Haulage Cost} = \frac{8}{52.50} \times [(7.52 \times 55.00) + (18.19 \times 0.00)] = 63.02$$

$$\begin{aligned} \text{Loading \& Unloading} &= \\ \text{Total per M} &= \frac{32.82}{95.84} \end{aligned}$$

(C) Haulage Charge By 3.60 t Tractor capacity

- (i) For Surface Road :- Rs. 18.70 Per t per K.M
(ii) For Unsurface Road :- Rs. 23.30 Per t per K.M
(iii) For Kutcha Road :- Rs. 29.20 Per t per K.M

1 CARRIAGE COST OF BRICK BAT

Lead as per Quarry Chart :- 7 P + 1 K

$$\text{Haulage Cost} = \frac{3.60}{2.25} \times [(18.70 \times 7.00) + (29.20 \times 1.00)] = 256.16$$

$$\text{Unloading} = \quad \quad \quad = \quad \quad \quad = \frac{65.38}{\text{Total per 1000 Nos.} = 321.54}$$

2 CARRIAGE COST OF LOCAL SAND

Lead as per Quarry Chart :- 2 P + 1 K

$$\text{Haulage Cost} = \frac{3.60}{2.25} \times [(18.70 \times 2.00) + (29.20 \times 1.00)] = 106.56$$

$$\text{Unloading} = \quad \quad \quad = \quad \quad \quad = \frac{40.81}{\text{Total per M}^3 = 147.37}$$

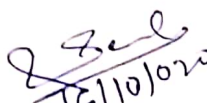
3 CARRIAGE COST OF STEEL

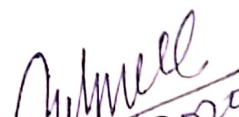
Lead as per Quarry Chart :- 5 P + 0 K

$$\text{Haulage Cost} = \frac{3.60}{3.60} \times [(18.70 \times 5.00) + (29.20 \times 0.00)] = 93.50$$

$$\text{Loading \& Unloading} = \quad \quad \quad = \quad \quad \quad = \frac{325.46}{\text{Total per Mt} = 418.96}$$


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SUMMARY OF CARRIAGE COST OF MATERIAL

Name of work :-

Restoration/Mottrable of Road from BHERAUPUR PANCHAYAT BHAWAN TO
DABTARPUR

S.I No.	Name of material	Unit	Source	Mode of Transport	Carriage Charge by Road	Total Carriage up to site
1	2	3	4	5	7	8
1	Bricks Bats	per m ³	Local Kiln	By Road	321.54	321.54
2	Fine sand	per m ³	Local source	By Road	147.37	147.37
3	Steel	per mt	Local	By Road	418.96	418.96
4	Boulder	per m ³	Sheikhpura	By Road	2452.13	2452.13
5	Stone metal <50 mm	per m ³	Sheikhpura	By Road	2366.23	2366.23
6	Hume pipe (1000 mm dia)	Per metre	Hajipur	By Road	407.46	407.46
7	Hume pipe (600 mm dia)	Per metre	Hajipur	By Road	95.84	95.84
8	Bamboo of 62 to 75 mm dia	Per metre	Local	By Road	3.47	3.47

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FDR Analysis

Sr. No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
1.1	Loading and Unloading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by Manual Means				
	(i) Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by manual means including a lead upto 30 m				
	Unit = cum				
	Taking output = 5.5 cum				
a)	Labour				
	Mate	day	0.02	305.00	6.10
	Mazdoor (Unskilled)	day	0.50	287.00	143.50
b)	Machinery				
	Truck	hour	0.50	934.30	467.15
c)	Overheads on (a+b)	=@	6%		37.01
d)	Contractor's profit on (a+b+c)	=@	10%		65.38
	Cost for 5.5 cum = a+b+c+d				719.13
	Rate per cum = (a+b+c+d)/5.5				130.75
	(ii) Loading 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	305.00	3.05
	Mazdoor (Unskilled)	day	0.25	287.00	71.75
b)	Machinery				
	Truck	hour	0.25	934.30	233.58
c)	Overheads on (a+b)	=@	6%		18.50
d)	Contractor's profit on (a+b+c)	=@	10%		32.69
	Cost for 5.5 cum = a+b+c+d				359.57
	Rate per cum = (a+b+c+d)/5.5				65.38
	(iii) Unloading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by manual means including a lead upto 30 m				
	Unit = cum				
	Taking output = 5.5 cum				
a)	Labour				
	Mate	day	0.01	305.00	3.05
	Mazdoor (Unskilled)	day	0.25	287.00	71.75
b)	Machinery				
	Truck	hour	0.25	934.30	233.58
c)	Overheads on (a+b)	=@	6%		18.50
d)	Contractor's profit on (a+b+c)	=@	10%		32.69
	Cost for 5.5 cum = a+b+c+d				359.57
	Rate per cum = (a+b+c+d)/5.5				65.38

(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	0.005	305.00	1.53
Mazdoor (Unskilled)	day	0.125	287.00	35.88

b) Machinery

Truck	hour	0.166	934.30	155.09
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c) Overheads on (a+b) =@ 6% 11.55

d) Contractor's profit on (a+b+c) =@ 10% 20.40

Cost for 5.5 cum = a+b+c+d 224.45

Rate per cum = (a+b+c+d)/5.5 40.81

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	305.00	3.05
Mazdoor (Unskilled)	day	0.25	287.00	71.75

b) Machinery

Truck	hour	0.33	934.30	308.32
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c) Overheads on (a+b) =@ 6% 22.99

d) Contractor's profit on (a+b+c) =@ 10% 40.61

Cost for 2000 Nos. = a+b+c+d 446.72

Rate for 1000 bricks = (a+b+c+d)/2 223.36

(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	305.00	3.05
Mazdoor (Unskilled)	day	0.25	287.00	71.75

b) Machinery

Truck	hour	0.33	934.30	308.32
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c) Overheads on (a+b) =@ 6% 22.99

d) Contractor's profit on (a+b+c) =@ 10% 40.61

Cost for 2000 Nos. = a+b+c+d 446.72

Rate for 1000 bricks = (a+b+c+d)/2 223.36

1.5 Loading and Unloading of Structural Steel and Steel Bars by manual means

(i) Loading of Structural Steel, Steel Bars by manual means including a lead upto 30 m

Unit = t

Taking output = 10 t

a) Labour

Mate	day	0.07	305.00	21.35
Mazdoor (Unskilled)	day	1.80	287.00	516.60

b) Machinery

Truck	hour	1.00	934.30	934.30
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c) Overheads on (a+b) =@ 6% 88.34

d) Contractor's profit on (a+b+c) =@ 10% 156.06

Cost for 10 t = $a+b+c+d$

1716.64

Rate per tonnes = $(a+b+c+d)/10$

171.66

(iii) Unloading of Structural Steel, Steel Bars by manual means including a lead upto 30 m

Unit = t

Taking output = 10 t

a) Labour				
Mate	day	0.07	305.00	21.35
Mazdoor (Unskilled)	day	1.80	287.00	516.60
b) Machinery				
Truck	hour	1.00	934.30	934.30
c) Overheads on (a+b)	=@ 6%			88.34
d) Contractor's profit on (a+b+c)	=@ 10%			156.06
Cost for 10 t = a+b+c+d				1716.64
Rate per t = (a+b+c+d)/10				171.66

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	305.00	6.10
Mazdoor (Unskilled)	day	0.50	287.00	143.50
b) Machinery				
Truck	hour	0.33	934.30	308.32
Crane	hour	0.33	1,289.30	425.47
c) Overheads on (a+b)	=@ 6%			53.00
d) Contractor's profit on (a+b+c)	=@ 10%			93.64
Cost for 9 pipes = a+b+c+d				1030.03
Rate per pipe = (a+b+c+d)/9				114.45
Rate per M = (a+b+c+d)/2.50				45.78

C. 600/450 mm dia Hume pipe

Unit = per pipe

Taking output = 21 pipe

a) Labour				
Mate	day	0.02	305.00	6.10
Mazdoor (Unskilled)	day	0.50	287.00	143.50
b) Machinery				
Truck	hour	0.33	934.30	308.32
Crane	hour	0.33	1,289.30	425.47
c) Overheads on (a+b)	=@ 6%			53.00
d) Contractor's profit on (a+b+c)	=@ 10%			93.64
Cost for 21 pipes = a+b+c+d				1030.03
Rate per pipe = (a+b+c+d)/21				49.05
Rate per M = (a+b+c+d)/2.5				19.62

(III) Unloading 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	305.00	6.10
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Mazdoor (Unskilled)	day	0.50	287.00	143.50
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b) Machinery

Truck	hour	0.20	934.30	186.86
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Crane	hour	0.20	1,289.30	257.86
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c) Overheads on (a+b)	=@	6%		35.66
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d) Contractor's profit on (a+b+c)	=@	10%		63.00
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Cost for 9 pipes = a+b+c+d				692.98
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Rate per M = (a+b+c+d)/9				277.19
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Rate per pipe = (a+b+c+d)/9				77.00
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Rate per M = (a+b+c+d)/9				30.80
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C. 600/450 mm dia Hume pipe

Unit = per pipe

Taking output = 21 pipes

a) Labour

Mate	day	0.02	305.00	6.10
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Mazdoor (Unskilled)	day	0.50	287.00	143.50
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b) Machinery

Truck	hour	0.20	934.30	186.86
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Crane	hour	0.20	1,289.30	257.86
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c) Overheads on (a+b)	=@	6%		35.66
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d) Contractor's profit on (a+b+c)	=@	10%		63.00
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Cost for 21 pipes = a+b+c+d				692.98
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Rate per pipe = (a+b+c+d)/21				33.00
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Rate per M = (a+b+c+d)/9				13.20
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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

Tipper 10 t capacity

Haulage with load	hour	0.40	934.30	373.72
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Empty return trip	hour	0.29	934.30	270.95
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b) Overheads on (a)	=@	6%		38.68
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c) Contractor's profit on (a+b)	=@	10%		68.33
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Cost for 100 t.km = a+b+c				751.68
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Rate per t.km = (a+b+c)/100				7.52
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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 0.50 934.30 467.15

Empty return trip

hour 0.33 934.30 308.32

b) Overheads on (a)

=@ 6% 46.53

c) Contractor's profit on (a+b)

=@ 10% 82.20

Cost for 100 t.km = a+b+c

904.20

Rate per t.km = (a+b+c)/100

9.04

Case-II 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 1.00 934.30 934.30

Empty return trip

hour 0.67 934.30 625.98

b) Overheads on (a)

=@ 6% 93.62

c) Contractor's profit on (a+b)

=@ 10% 165.39

Cost for 100 t.km = a+b+c

1819.29

Rate per t.km = (a+b+c)/100

18.19

BY Tractor**1.10 Haulage excluding Loading & Unloading**

Haulage of materials by tractor excluding cost of loading, unloading and stacking.

Unit = t.km

Taking output 3.60 t load and lead 10 km = 36 t.km

Case-I : Surfaced Road

Speed with load: 15 km per hour

Speed while returning empty: 25 km per hour

a) Machinery**Tractor 3.60 t capacity**

Haulage with load

hour 0.667 542.00 361.51

Empty return trip

hour 0.40 542.00 216.80

b) Overheads on (a)

=@ 6% 34.70

c) Contractor's profit on (a+b)

=@ 10% 61.30

Cost for 36 t.km = a+b+c

674.31

Rate per t.km = (a+b+c)/36

18.73

Case-II: Unsurfaced Gravel Road

Speed with load: 12 km/hour

Speed for empty return trip: 20 km/hour

a) Machinery**Tractor 3.60 t capacity**

Haulage with load

hour 0.833 542.00 451.49

Empty return trip

hour 0.50 542.00 271.00

b) Overheads on (a)

=@ 6% 43.35

c) Contractor's profit on (a+b)

=@ 10% 76.58

Cost for 100 t.km = a+b+c

842.42

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) Tractor 3.60 t capacity**

Haulage with load

hour 1.00 542.00 542.00

Empty return trip

hour 0.667 542.00 361.51

b) Overheads on (a)

=@ 6% 54.21

c) Contractor's profit on (a+b)

=@ 10% 95.77

Cost for 100 t.km = a+b+c

1053.50

Rate per t.km = (a+b+c)/36

29.26

3.3 Construction of Embankment with Material Obtained from Roadway Cutting

Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of Tables 300.1 and 300.2 as per Technical Specification Clause 301.5

Unit = cum

Taking output = 120 cum

a) Labour

Mate

day 1.80 305.00 549.00

Mazdoor (Unskilled)

day 45.00 287.00 12915.00

b) Machinery

Tractor with trolley @ 2.50 cum per trip

hour 12.00 542.00 6504.00

c) Overheads on (a+b)

=@ 6% 1198.08

d) Contractor's profit on (a+b+c)

=@ 10% 2116.61

Rate for 120 cum = a+b+c+d

23282.69

Rate per cum = (a+b+c+d)/120

194.02

Add royalty with comensation charge Rs.23.65 / cum

23.65

FINISHED RATE**CUM**

217.67

4.1 Granular Sub-base with Well Graded Material (Table 400.1)**(A) By Mix in Place Method**

Construction of granular sub-base by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401.

(ii) For Grading II Material

Unit = cum

Taking output = 300 cum

a) Labour

Mate

day 0.48 305.00 146.40

Mazdoor (Skilled)

day 2.00 364.00 728.00

Mazdoor (Unskilled)

day 10.00 287.00 2870.00

b) Machinery

Motor Grader 110 HP @ 50 cum per hour

hour 6.00 2,786.00 16716.00

Three wheel 80-100 kN static roller @ 10 cum per hour

hour 30.00 803.00 24090.00

Tractor with Rotavator 25 cum per hour

hour 12.00 573.20 6878.40

Water tanker 6 kl capacity

hour 5.00 184.00 920.00

c)	Material				
	Well graded granular sub-base material as per Table 400 1				
	River bed materials Grade-II	cum	134.00	210 35	28186 90
	Water	kl	30 00	40 00	1200 00
d)	Overheads on (a+b+c)	=@	6%		4904 14
e)	Contractor's profit on (a+b+c+d)	=@	10%		8663 98
	Cost for 300 cum = a+b+c+d+e				95303 83
	Rate per cum = (a+b+c+d+e)/300				317.68
f)	Carriage				
	GSB Material	cum	1.28	2,366 23	3028.77
	FINISHED RATE	CUM			3346.45

9.3 Providing and Laying Reinforced Cement Concrete Pipe NP3 as per design in Single Row

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.

Unit = m

Taking output = 7.5 m

(3 pipes of 2.5 m length each)

(B) 1000 mm dia

a)	Labour				
	Mate	day	0.09	305.00	27.45
	Mason (1st Class)	day	0.25	388.00	97.00
	Mazdoor (Unskilled)	day	2.00	287.00	574.00
b)	Material				
	Sand at site	cum	0.04	0.00	0.00
	Cement at site	t	0.03	0.00	0.00
	RCC pipe NP3 concrete pipe including collar at site	m	7.50	2,744.50	20,583.75
					1276.93
c)	Overheads on (a+b)	=@	6%		2255.91
d)	Contractor's profit on (a+b+c)	=@	10%		24,815.05
	Cost for 7.5 m = a+b+c+d				3,308.67
	Rate per m = (a+b+c+d)/7.5				3,308.67
	FINISHED RATE	M			3,308.67

(C) 600 mm dia

a)	Labour				
	Mate	day	0.04	305.00	12.20
	Mason (1st Class)	day	0.12	388.00	46.56
	Mazdoor (Unskilled)	day	0.96	287.00	275.52
b)	Material				
	Sand at site	cum	0.024	0.00	0.00
	Cement at site	t	0.018	0.00	0.00
	RCC pipe NP3 concrete pipe including collar at site	m	7.50	2,058.38	15,437.85
					946.33
c)	Overheads on (a+b)	=@	6%		1671.85
d)	Contractor's profit on (a+b+c)	=@	10%		18,390.30
	Cost for 7.5 m = a+b+c+d				2,452.04
	Rate per m = (a+b+c+d)/7.5				2,452.04
	FINISHED RATE	M			2,452.04

5.7.7 Providing and cutting of 62 mm to 75 mm dia bamboo piles to size and making shoes and driving etc.
WRD complete job as per specification and direction of E/I.

Unit =Per M

Taking output = 30.50 m

(Assuming 20 nos. pile sunk 1.525 m deep)

a) Labour

Carpenter Gr II	day	0.25	345.00	86.25
Unskilled mazdoor for piling	day	2.50	287.00	717.50

b) Materials

Bamboo of 62 mm to 75 mm dia	M	30.50	20.21	616.41
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c) Overheads on (a+b)	=@	6%		85.21
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d) Contractor's profit on (a+b+c)	=@	10%		150.54
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Cost for 30.50 m = a+b+c+d 1655.90

Rate per m = (a+b+c+d)/30.5 54.29

c) Carriage

Bamboo of 62 mm to 75 mm dia	M	1.00	3.47	3.47
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FINISHED RATE M 57.76

5.7.8 Providing, fitting and fixing split bamboo woven chachari in position with 20 swg G.I. wire or 75 mm WRD to 100 mm long nails alternatively including cost of G.I. wire or nails complete job as per specification and direction of E / I.

Unit =Per sqm

Taking output = 9.30 sqm

(Assuming strip of 3.05X3.05 = 9.30 sqm)

a) Labour

Carpenter Gr II	day	1.00	345.00	345.00
Unskilled mazdoor	day	1.00	287.00	287.00

b) Materials

75 mm to 100 mm long nails	Kg	0.25	55.84	13.96
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Bamboo of 62 mm to 75 mm dia	M	56.00	20.21	1131.76
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c) Overheads on (a+b)	=@	6%		106.66
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d) Contractor's profit on (a+b+c)	=@	10%		188.44
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Cost for 9.30 sqm = a+b+c+d 2072.82

Rate per sqm = (a+b+c+d)/9.30 222.88

e) Carriage

75 mm to 100 mm long nails	Kg	0.027	0.42	0.01
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Bamboo of 62 mm to 75 mm dia	M	6.02	3.47	194.41
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FINISHED RATE SQM 417.30

5.7.9 Providing, fitting and fixing 62 mm to 75 mm dia bamboo runners in position at every vertical pile WRD with 150 mm long nails or 38 swg G.I. wire including cost of G.I. wire or nails complete job as per specification and direction of E/I.

Unit =Per m

Taking output = 30.50 m

a) Labour

Carpenter	day	0.125	345.00	43.13
Unskilled mazdoor	day	0.25	287.00	71.75

b) Materials

150 mm long nails	Kg	0.50	55.84	27.92
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Bamboo of 62 mm to 75 mm dia	M	30.50	20.21	616.41
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c) Overheads on (a+b)	=@	6%		45.55
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d) Contractor's profit on (a+b+c)	=@	10%		80.48
Cost for 30.50 m = a+b+c+d				885.23
Rate per m = (a+b+c+d)/30.50				29.02
e) Carriage				
150 mm long nails	Kg	0.016	0.42	0.01
Bamboo of 62 mm to 75 mm dia	M	1.00	3.47	105.88
FINISHED RATE	M			134.91

5.7.40 Providing and filling empty cement bags with local sand, stitching the bags and placing including WRD supply of suttli etc. all complete as per approved design, specifications and direction of E/I

Unit = Per nos

Taking output = 100 nos

a) Labour

Unskilled mazdoor	day	5.00	287.00	1435.00
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b) Materials

Sand bag (cost of sand + empty cement bag)	Nos	100.00	8.46	846.00
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Suttali	Kg	0.50	19.75	9.88
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c) Overheads on (a+b)	=@	6%		137.45
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d) Contractor's profit on (a+b+c)	=@	10%		242.83
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Cost for 100 bags = a+b+c+d				2671.16
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Rate per bags = (a+b+c+d)/100				26.71
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e) Carriage

Fine Sand	cum	0.028	0.00	0.00
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FINISHED RATE	Nos			26.71
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5.7.40 Providing and filling empty cement bags with rubbish / Brick bats (Type-B) , stitching the bags and WRD placing including supply of suttli etc. all complete as per approved design, specifications and

Unit = Per % nos

Taking output = 100 nos

a) Labour

Unskilled mazdoor	day	5.00	287.00	1435.00
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b) Materials

Brick bats / Rubbish	cum	3.40	1063.00	3614.20
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Empty cement bags	Nos	100.00	2.92	292.00
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Suttali	Kg	0.50	19.75	9.88
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c) Overheads on (a+b)	=@	6%		321.06
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d) Contractor's profit on (a+b+c)	=@	10%		567.21
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Cost for 100 bags = a+b+c+d				6239.35
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Rate per bags = (a+b+c+d)/100				62.39
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e) Carriage

Brick bats / Rubbish	cum	0.034	321.54	10.93
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FINISHED RATE	Nos			73.32
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5.7.40 Providing laying and spreading brick bats in Road ditches all complete as per approved design, WRD specifications and direction of E/I

Unit = Per cum

Taking output = 1 cum

a) Labour

Mate	day	0.04	305.00	12.20
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Unskilled mazdoor	day	1.00	287.00	287.00
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b) Materials

Brick bats	cum	1.00	1,063.00	1063.00
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c) Overheads on (a+b)	=@	6%		81.73
d) Contractor's profit on (a+b+c)	=@	10%		144.39
Rate per cum = (a+b+c+d)				1588.33
e) Carriage				
Brick bats		cum	1.00	321.54
FINISHED RATE		CUM		1909.87

11.2 Filling and spreading local sand over brick bats as per drawing and technical specification Clause 305.3.9

I. Fine sand filling

Unit = cum

a) Labour

Mate	day	0.01	305.00	3.05
Mazdoor (Unskilled)	day	0.30	287.00	86.10

b) Material

Sand (assuming 20 per cent voids)	cum	1.20	141.85	170.22
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c) Overheads on (a+b) =@ 6% 15.56

d) Contractor's profit on (a+b+c) =@ 10% 27.49

Rate per cum = a+b+c+d 302.43

e) Carriage

Fine sand	cum	1.20	147.37	176.84
FINISHED RATE		CUM		479.27

5.7.46 Supplying and placing bamboo roll each roll of 4 nos uncleared full bamboo 75 mm dia 6 m to 8 m (c) long at site binding properly each other in bunch with annealed wire 20 to 25 SWG at least at 3 WRD places, lods filled with local sand in E.C bags 3nos- do---do--- E/I

Unit = each

Taking output = 1 nos of bamboo roll

a) Labour

Unskilled mazdoor	day	0.56	287.00	160.72
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b) Materials

Bamboo of 62 mm to 75 mm dia	Nos	4.25	141.47	601.25
Annealed wire 20 to 25 SWG	Kg	0.50	62.92	31.46
B.A wire 8 to 10 SWG	Kg	1.13	62.92	70.79
Sand bags	Nos	3.00	8.46	25.38

c) Overheads on (a+b) =@ 6% 53.38

d) Contractor's profit on (a+b+c) =@ 10% 94.30

Rate per roll = (a+b+c+d) 1039.26

e) Carriage

Bamboo of 62 mm to 75 mm dia	M	29.750	3.47	103.28
FINISHED RATE		Nos		1142.54

5.7.40.3 Providing and laying empty cement bags with local sand, stitching the bags and placing in Nylon WRD crate of size (1 m x 1 m x 1 m) with a lead of 150 M including supply of sutli etc and placing the filled crates in water portion within a lead of 30 M, all complete as per approved design, specifications and direction of E/I

Unit = Each N.C (Filled with 25 E.C Bags)

a) Labour

Unskilled mazdoor	day	1.55	287.00	444.85
Skilled mazdoor	day	0.30	364.00	109.20
Mate	day	0.11	305.00	33.55

b) Materials

Nylon crate

Nos	1.00	39.85	39.85
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Sand bag (cost of sand + empty cement bag)

Nos	25.00	8.46	211.50
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Sutali

Kg	0.125	19.75	2.47
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c) Overheads on (a+b)

=@

6%			50.49
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d) Contractor's profit on (a+b+c)

=@

10%			89.19
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Cost for each N.C = a+b+c+d

981.09

e) Carriage

Sand bags

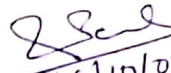
Nos	25.00	0.00	0.00
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FINISHED RATE

Nos			981.09
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J.E/16.10.2020

RWD
Chapra-1


16/10/2020
A.E

R.W.D
Chapra-1


R.W.D
Chapra-1

BASIC RATES
(A) Labour As per Notification dtd.- 06.05.20

Sl. No.	Description of Labour	Unit	Rate (Rs.)
L-01	Bhisti	day	287.00
L-02	Bitumen Sprayer	day	302.00
L-03	Blacksmith	day	345.00
L-04	Blaster	day	477.00
L-05	Carpenter 1st Class	day	388.00
L-06	Carpenter 2nd Class	day	345.00
L-06	Chips spreader	day	345.00
L-07	Chiseller	day	364.00
L-08	Dresser (Skilled)	day	364.00
L-09	Driller	day	345.00
L-10	Electrician	day	367.00
L-11	Fitter	day	395.00
L-12	Mason (1st class)	day	388.00
L-13	Mason (2nd Class)	day	345.00
L-14	Mate	day	305.00
L-15	Mazdoor (Unskilled)	day	287.00
L-16	Mazdoor (Semi skilled)	day	299.00
L-17	Mazdoor (Skilled)	day	364.00
L-18	Painter (1st class)	day	367.00
L-19	Plumber	day	367.00
L-20	Surveyor	day	349.00
L-21	White Washer	day	365.00

BASIC RATES
(B) USAGE RATES OF PLANT & MACHINERY (Dated 25.03.20)

Sr. No.	Description of		Output of Machine		Usage Rates in Rs.	
	Machine	Activity	Unit	Output	Unit	Rate
PM-001	Air Compressor 210 cfm	Supplying compressed air	cfm	210.00	per hour	483.70
PM-002	Batch mix HMP 40-60 TPH	BM, DBM, SDBC, PM	t/h	50.00	per hour	23,729.00
PM-003	Batch type HMP 30/40 TPH	BM, DBM, SDBC, PM	t/h	35.00	per hour	14,237.40
PM-004	Bitumen boiler oil fired	Heating of bitumen				
	200 litre		litre / h	400.00	per hour	299.70
	1000 litre		litre / h	2000.00	per hour	299.70
PM-005	Bitumen emulsion pressure distributor	Applying bitumen tack coat	sqm/h	1750.00	per hour	1,622.20
PM-006	Concrete mixer 0.28/0.4 cum	Mixing of ingredients	cum/h	2.50	per hour	86.30
PM-007	Crane upto 8T	Lifting of materials			per hour	1,289.30
PM-008	Dozer D 50	Dozing cutting	cum/h	200.00	per hour	3,337.90
			cum/h	100.00		3,337.90
PM-009	Electric generator set, 125 KVA	Electricity generation	KVA	100.00	per hour	2,724.00
PM-010	Emulsion Sprayer with Tractor	Spraying of Emulsion			per hour	1,209.90
PM-011	Front end-loader 1 cum bucket capacity @ 45 cum/hour	Loading Aggregates	cum/h	45.00	per hour	1,403.00
		Loading Soil	cum/h	100.00		1,403.00
PM-012	Hydraulic broom with tractor	Surface cleaning	sqm/h	1250.00	per hour	572.00
PM-013	Hydraulic Excavator 0.9 cum	Excavation	cum/h	100.00	per hour	1,969.20
PM-014	Hydraulic self propelled chip spreader	Surface Dressing	sqm/h	1500.00	per hour	3,986.60
PM-015	Jack Hammer with tractor	Pavement breaking & rock drilling	cum/h	05. to 1	per hour	161.16
PM-016	Joint Cutting Machine with 2-3 blades	Cutting of Joints	h		per hour	352.00
PM-017	Mixall 6-10 t capacity	Mixing of bituminous materials	t/h	8.00	per hour	1,547.50
PM-018	Motor Grader	Scarifier & levelling	cum/h	200.00	per hour	2,786.00
				50.00		Input Rate
PM-019	Needle vibrator	Vibrating cement concrete mix	cum/h	3.50	per hour	76.35
PM-020	Paver finisher	Laying/spreading	t/h	75.00	per hour	1,417.00

PM-021	Plate compactor	Compaction	cum/h		per hour	469.70
PM-022	Plate vibrator	Compaction	cum/h		per hour	250.00
PM-023	Screed vibrator	Compaction	cum/h		per hour	102.64
PM-024	Smooth wheeled 80-100 kN tandem roller	Compaction of Sub-base/ Asphalt	cum/h	30.00	per hour	1,731.80
PM-025	Stone crusher (Integrated) of 200 TPH	Crushing of Spalls	t/h	200.00	per hour	27,581.30
PM-026	Three wheel 80-100 kN Static Roller	Compaction/ Rolling				803.00
		Earth - Embankment or sub-grade	cum/h	80/70		803.00
		Sub-base G-I	cum/h	10.00		803.00
		Sub-base G-II/G-III	cum/h	8.00		803.00
		WMM	cum/h	16.00		803.00
		BUSG	cum/h	10.00	per hour	803.00
		BM 50/75 mm	cum/h	12.00		803.00
		Premix 20 mm	sqm/h	250.00		803.00
		Seal Coat	sqm/h	500.00		803.00
		Surface Dressing 1st Coat	sqm/h	400.00		803.00
		Surface Dressing 2nd Coat	sqm/h	500.00		803.00
PM-027	Tipper 5.5 cum/10 t	Carriage	cum/trip	5.50	per hour	1,043.00
PM-028	Tractor with Disc Harrows	Pulverisation of soil	cum/h	80.00	per hour	591.40
PM-029	Tractor with ripper @ 60 cum per hour	ripping Pavements, uprooting trees	cum/h	60.00	per hour	591.40
PM-030	Tractor with trolley	Transportation of materials	t/trip	3 to 5	per hour	542.00
PM-031	Tractor with Rotavator	Scarifier	cum/h	25.00	per hour	573.20
PM-032	Truck 10 t capacity	Carriage	cum/trip	5.50	per hour	934.30
PM-033	Vibratory roller 80-100 kN	Compaction of soil WMM	cum/h	100.00	per hour	2,069.00
		Compaction of BM	cum/h	60.00		2,029.00
PM-034	Water tanker 6 kl capacity (Truck Mounted)	Carriage of water	litre / h	12000.00	per hour	184.00
PM-035	Wet mix plant (Pug Mill)	Wet Mix	cum/h	25.00	per hour	1,822.30

BASIC RATES
(C) Material (vide SOR RCD Dtd- 16.04.20 and WRD dtd -15.07.19)

Sl. No.	Description	Unit	Basic Rate (Rs.)	Royalty included in col. 4 (Rs.)	Final Rate with all taxes (Rs.)
1	2	3	4	5	6
1	Annealed wire 20 to 25 SWG	kg	62.92	0.00	62.92
2	Bamboo of 62 mm to 75 mm dia (6 to 8 m long)	M	20.21	0.00	20.21
3	B A wire 8 to 10 SWG	kg	62.92	0.00	62.92
4	Brick bat	cum	1,063.00	18.00	1,063.00
5	Empty Bitumen Drum	nos	127.80	0.00	127.80
6	Empty Cement Bag	nos	2.92	0.00	2.92
7	Nylon Crate	nos	39.85	0.00	39.85
8	RCC Pipe NP3 (1000 mm dia)	m	2,744.50	0.00	2,744.50
9	RCC Pipe NP3 (600 mm dia)	m	2,058.38	0.00	2,058.38
10	River bed materials Grade-III	cum	210.35	75.00	210.35
11	Sand bag (Cost of sand + Empty Cement Bag)	nos	8.46	2.59	8.46
12	Sand (Coarse)	cum	175.80	75.00	175.80
13	Sutali	kg	19.75	0.00	19.75
14	Sand (Fine)	cum	141.85	75.00	141.85
15	Water	kl	40.00	0.00	40.00
16	75 mm to 100 mm long Nail	kg	55.84	0.00	55.84
17	150 mm long Nail	kg	55.84	0.00	55.84