



**MANIPUR STATE POWER DISTRIBUTION COMPANY LIMITED**

(Regd. Office: 3<sup>rd</sup> Floor, New Directorate Building, 2<sup>nd</sup> MR Gate,  
Imphal - Dimapur Road, Imphal Manipur-795001)

**ORDER**

Imphal, **30/6/2021**

No. 15/18/(NHIDCL/IJ)/Plg/21-22/MSPDCL/P(1-2)/**705-II** : **Administrative Approval & Technical Sanction** is hereby made for taking up the work "Shifting of Electrical System (11 kV Line, Distribution Sub-station & LT Line) for the portion from km 3.275 to km 33.00 due to road expansion of National Highways Imphal-Jiribam Road (NH-37) by National Highways & Infrastructure Development Corporation Limited (NHIDCL) in the State of Manipur" at the total estimated cost of **₹ 4,85,31,024/-** (Rupees four crore eighty-five lakh thirty-one thousand & twenty-four) only as detailed below:

Particulars	Chainage as Recorded by NHIDCL	Estimated Amount	Amount to be Deposited / Supervision Charges	Remarks
Package I	km 3.275 to km 15.940	₹ 4,05,62,845	₹ 36,62,209	Abstract of Cost-1
Package II	km 15.940 to km 33.00	₹ 79,68,179	₹ 7,19,454	Abstract of Cost-2
<b>Grand Total :</b>		<b>₹ 4,85,31,024</b>	<b>₹ 43,81,663</b>	

The estimate has been framed as per design chainage submitted by NHIDCL.

  
(Ng. Subhachandra Singh)  
Managing Director, MSPDCL  
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Copy to:

1. The Principal Secretary (Power), Govt. of Manipur for kind information.
- ✓ 2. The Executive Director (P), National Highways & Infrastructure Development Corporation Limited, Branch Office, Imphal Manipur. He is requested to deposit the supervision charges of **₹ 43,81,663/-** in the Capex Account of MSPDCL bearing A/C No. **33762613846** of SBI Paona Bazar Branch – IFSC Code SBIN0007440 through Cheque or Demand Draft only.
3. The Executive Director (Tech), MSPDCL for information.
4. The General Manager (EC-I), MSPDCL for information.
5. The General Manager (F/A), MSPDCL for information.
6. The Deputy General Manager (IED-II), MSPDCL for information.
7. File.

## ABSTRACT OF COST-2

### Name of Work:

Shifting of **Electrical System** (11 kV Line, Distribution Sub-station & LT Line) for the portion from km 15.940 to km 33.00 due to road widening of Imphal-Jiribam Road-NH-37 by National Highways & Infrastructure Development Corporation Limited (NHIDCL)

Sl. No.	Particulars	Estimated Amount	Remarks
1	Shifting of 11 kV Line (6.5 km) from km 15.940 to km 33.00 due to road widening of Imphal-Jiribam Road-NH-37	₹ 46,35,654	Annexure I
2	Shifting of 2x63 kVA Distribution Sub-station Located between km 15.940 to km 33.00 due to road widening of Imphal-Jiribam Road-NH-37	₹ 6,39,991	Annexure II
3	Shifting of 2x100 kVA Distribution Sub-station Located between km 15.940 to km 33.00 due to road widening of Imphal-Jiribam Road-NH-37	₹ 6,85,528	Annexure III
4	Shifting of LT line (1.56 km AB Cable+ 3.88 km AAC GNAT) on both side of the road from between km 15.940 to km 33.00 due to road widening of Imphal-Jiribam Road-NH-37	₹ 20,07,006	Annexure IV
	<b>Total Estimated Cost:</b>	<b>₹ 79,68,179</b>	

**Rs. 79,68,179/-**

**(Rupees seventy-nine lakh sixty-eight thousand one hundred & seventy-nine) only**

  
Deputy Manager (Plg)  
MSPDCL

### Break Up of Estimate to Work Component, Tax Component and Revenue Component

Sl. No	Particulars	Work Components (Rs)				Total of Work Comp. (Rs)	Tax Components (Rs)			Total of Tax Comp (Rs)	Revenue Comp. (Rs) Dept./Supervision Charge	Total of Estimate (Rs)
		Total Supply	Erection Charge	Civil Work	Dismantling Charge		CGST	SGST	Labour Cess			
1	Shifting of 11 kV Line (6.5 km) from km 15.940 to km 33.00 due to road widening of Imphal-Jiribam Road-NH-37	22,01,119	8,54,803	2,49,904	2,56,441	35,62,268	3,20,604	3,20,604	13,611	6,54,820	4,18,566	46,35,654
2	Shifting of 2x63 kVA Distribution Sub-station Located between km 15.940 to km 33.00 due to road widening of Imphal-Jiribam Road-NH-37	3,05,519	1,34,149	11,900	40,245	4,91,814	44,263	44,263	1,863	90,389	57,788	6,39,991
3	Shifting of 2x100 kVA Distribution Sub-station Located between km 15.940 to km 33.00 due to road widening of Imphal-Jiribam Road-NH-37	3,05,519	1,60,940	11,900	48,282	5,26,641	47,398	47,398	2,211	97,007	61,880	6,85,528
4	Shifting of LT line (1.56 km AB Cable+ 3.88 km AAC GNAT) on both side of the road from between km 15.940 to km 33.00 due to road widening of Imphal-Jiribam Road-NH-37	9,53,596	3,70,328	1,07,266	1,11,099	15,42,289	1,38,806	1,38,806	5,887	2,83,499	1,81,219	20,07,006
	<b>Total:</b>	<b>37,65,753</b>	<b>15,20,221</b>	<b>3,80,971</b>	<b>4,56,066</b>	<b>61,23,011</b>	<b>5,51,071</b>	<b>5,51,071</b>	<b>23,573</b>	<b>11,25,715</b>	<b>7,19,454</b>	<b>79,68,179</b>

Rs. 79,68,179/-

(Rupees seventy-nine lakh sixty-eight thousand one hundred & seventy-nine) only

*Joti*  
Deputy Manager (Plg)  
DCL



Estimate for shifting of 11 kV Line (6.5 km) from km 15.940 to km 33.00 due to road widening of Imphal-Jiribam Road-NH-37 by NHIDCL based on MSPDCL Cost Data 2019-20.

Sl. No.	Description	Unit	Quantity	Rate (Rs.)	Amount in (Rs.)	Total:
A	B	C	D	E	F	G
1	9.0 m S.T.P.(410:SP-31)	No.	84	18,174.00	15,26,616.00	Net Amount to be Deposited Considering 50% of the Supply Cost in (Rs.)
2	Galvanised Pole top bracket	No.	53	319.80	16,949.40	
3	Galvanised Back clamp for Pole top bracket	No.	106	292.50	31,005.00	
4	Galvanised Cross arm(75X40)mm	No.	59	1,531.40	90,352.60	
5	Galvanised Back clamp for X-arm	No.	59	292.50	17,257.50	
6	Galvanised 2.2m D.P. channel X-arm (75X40)mm	Set	21	3,368.30	70,734.30	
7	11 kV Insulator with Pin	No.	240	767.00	1,84,080.00	
8	11 kV Disc. Insulator (Complete set, with Tension clamps,Hardware)	Set	138	1,469.00	2,02,722.00	
9	ACSR Conductor (Rabbit)	km.	20.48	75,709.40	15,50,149.97	
10	11 kV AB Switch 400 Amp with X-arm etc.	No.	6	23,543.00	1,41,258.00	
11	Galvanised Stay Set complete with stay wire, base plate, stay rod etc.	Set	60	2,761.20	1,65,672.00	
12	Galvanised Stay Clamp	No.	120	292.50	35,100.00	
13	Galvanised Bracing for D.P.structure, 50X50X6mm M.S. Angle	Set	21	5,913.70	1,24,187.70	
14	Galvanised Clamp for D.P. Bracing	No.	84	292.50	24,570.00	
15	Earthing set complete with G.I. wire	Set	30	2,492.10	74,763.00	
16	Nuts & Bolts with washers.				-	
	(5/8)" x 3"	Kg	40	150.00	6,000.00	
	(5/8)" x 6.5"	Kg	84	150.00	12,600.00	
17	Pole muffing	No.	84	2,489.18	2,09,091.12	
18	Pole painting	No.	84	485.87	40,813.08	
SUPPLY PORTION:						
Total Cost of Material without Civil Work Sl. No. 17 & 18				A	42,74,017	21,37,009
Storage Charge @ 3% on (A)				B	1,28,221	64,110
Total Supply: (A+B)				C	44,02,238	22,01,119
CGST @ 9% on (C)				D	3,96,201	1,98,101
SGST @ 9% on (C)				E	3,96,201	1,98,101
Departmental Charge @ 11.75% on (C)				F	5,17,263	2,58,631
Total Supply (C+D+E+F+G)				G	57,11,904	28,55,952
ERECTION PORTION:						
Erection Charge (Inclusive of Transportation & Handling Charge) @20% on (A)				i	8,54,803.49	8,54,803
Civil Work (Sl. No. 17 +18)				ii	2,49,904	2,49,904
Dismantling charges @30% of Erection Charge				iii	2,56,441	2,56,441
Sub-total (Erection Charge+Civil Work+Dismantling Charge):				iv	13,61,149	13,61,149
CGST @ 9% on (iv)				v	1,22,503	1,22,503
SGST @ 9% on (iv)				vi	1,22,503	1,22,503
Labour Cess @ 1% on (iv+v+vi)				vii	13,611	13,611
Departmental/Supervision Charge @ 11.75% on (iv)				viii	1,59,935	1,59,935
Total Erection Charge: (iv+v+vi+vii+viii)					17,79,702	17,79,702

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*[Signature]*  
Deputy Manager (Plg)  
MSPDCL

Amount for Work Contract: (50% of Total Supply Cost + Total Erection Charge)

₹ 46,35,654



Estimate for shifting of 2x63 kVA Distribution Sub-station between km 15.940 to km 33.00 due to road widening of Imphal-Jiribam Road-NH-37 by NHIDCL based on MSPDCL Cost Data 2019-20.

Sl. No.	Description	Unit	Qty	Rate (Rs.)	Amount in (Rs.)
A	B	C	D	E	F
1	9.0 m S.T.P.(410:SP-31)	No.	4	18,174.00	72,696
2	Galvanised Channel 100×50,@7.9 kg/m 2.8×2 for supporting transformer	Set	2	7105.80	14,212
3	Galvanised Channel 100×50,@7.9 kg/m 2.8×2 for DP X-arm	Set	2	7105.80	14,212
4	Galvanised Channel 100×50,@7.9 kg/m 0.46×2 for supporting of item 2	Set	2	1166.10	2,332
5	Galvanised Channel 75×40@5.7kg/m 2×2.8m for HG fuse unit & AB switch	Set	4	5128.50	20,514
6	Galvanised Clamp for Transformer belting	Set	4	292.50	1,170
7	Galvanised Channel 75×40@5.7kg/m 2×0.5m for supporting HG fuse main channel X-arm	Set	6	915.20	5,491
8	Galvanised Angle (50x50x6)mm 2.8x2 @4.5kg/m transformer belting and angle (35x35x5),0.46x2@2.6kg/m. Transformer belting support	Set	2	4189.90	8,380
9	Galvanised Clamp for transformer base channel for MS flat 50x8mm@3.1kg/m 0.27mx2	Set	4	532.20	2,129
10	Galvanised Clamp for AB switch bracing 50x8mm@ 3.1kg/m 0.23mx2=0.46m	Set	4	292.50	1,170
11	Galvanised Clamp for DB Box Cross Arm	Set	4	292.50	1,170
12	Distribution Transformer 63 kVA Efficiency Level-II	No.	2	187063.50	-
13	11 kV A.B.Switch 200 Amp	No.	2	19424.6	38,849
14	Horn gap fuse unit/D.O fuse, 3-ph	set	2	8691.8	17,384
15	3 Way D.B box with complete accessories with kit kat	No.	2	21958.3	43,917
16	1.1KV grade 3.5 core 120 sq.mm PVC insulated al. power cable	Mtr	10	776	7,760
17	Galvanised D.B box cross arm of MS angle 35x35x5mm @ 2.6kg/m 2.8x2=5.6m	set	2	1696.5	3,393
18	Sub-station earthing	set	2	11417	22,833
19	Danger board	No.	2	224.9	450
20	11 kV lighting arrester	No.	6	2393.3	14,360
21	Nuts & Bolts with washers.				-
	(5/8)" x 3"	Kg	12	150	1,800
	(5/8)" x 8.5"	Kg	16	150	2,400
22	Pole muffing	No.	4	2489.18	9,957
23	Pole painting	No.	4	485.87	1,943
24	Total Cost of Material without Civil Work Sl. No. 22 & 23			A	2,96,620
25	Storage Charge @ 3% on (A)			B	8,899
26	Total Supply (A+B)			C	3,05,519
27	Erection Charge (Inclusive of Transportation & Handling Charge) @ 20% on {(A) + 2 times DTR Cost at Sl. No. 12}			D	1,34,149
28	Civil Work {(Sl. No. 22 +23)}			E	11,900
29	Dismantling charges @30% of Erection Charge			F	40,245
30	Total (Supply+Erection+Civil Work+Dismantling Charges)			G	4,91,814
31	CGST @ 9% on G			H	44,263
32	SGST @ 9% on G			I	44,263
33	Labour Cess @ 1% on (D+E+F)			J	1,863
34	Departmental/Supervision Charge @ 11.75% on (G)			K	57,788
35	Grand Total: (G+H+I+J+K)			L	6,39,991

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*Tota*  
Deputy Manager (Plg)  
MSPDCL

In case of Shifting of Distribution Sub-station the Work Contract (which is exclusive of DTR Cost):

₹ 6,39,991

Estimate for shifting of 9x100 kVA Distribution Sub-station between km 15.940 to km 33.00 due to road widening of Imphal-Jiribam Road-NH-37 by NHIDCL based on MSPDCL Cost Data 2019-20.

Sl. No.	Description	Unit	Qty	Rate (Rs.)	Amount in (Rs.)
A	B	C	D	E	F
1	9.0 m S.T.P.(410:SP-31)	No.	4	18,174.00	72,696
2	Galvanised Channel 100x50,@7.9 kg/m 2.8x2 for supporting transformer	Set	2	7105.80	14,212
3	Galvanised Channel 100x50,@7.9 kg/m 2.8x2 for DP X-arm	Set	2	7105.80	14,212
4	Galvanised Channel 100x50,@7.9 kg/m 0.46x2 for supporting of item 2	Set	2	1166.10	2,332
5	Galvanised Channel 75x40@5.7kg/m 2x2.8m for HG fuse unit & AB switch	Set	4	5128.50	20,514
6	Galvanised Clamp for Transformer belting	Set	4	292.50	1,170
7	Galvanised Channel 75x40@5.7kg/m 2x0.5m for supporting HG fuse main channel X-arm	Set	6	915.20	5,491
8	Galvanised Angle (50x50x6)mm 2.8x2 @4.5kg/m transformer belting and angle (35x35x5),0.46x2@2.6kg/m. Transformer belting support	Set	2	4189.90	8,380
9	Galvanised Clamp for transformer base channel for MS flat 50x8mm@3.1kg/m 0.27mx2	Set	4	532.20	2,129
10	Galvanised Clamp for AB switch bracing 50x8mm@ 3.1kg/m 0.23mx2=0.46m	Set	4	292.50	1,170
11	Galvanised Clamp for DB Box Cross Arm	Set	4	292.50	1,170
12	Distribution Transformer 100 kVA Efficiency Level-II	No.	2	254039.50	-
13	11 kV A.B.Switch 200 Amp	No.	2	19424.6	38,849
14	Horn gap fuse unit/D.O fuse, 3-ph	set	2	8691.8	17,384
15	3 Way D.B box with complete accessories with kit kat	No.	2	21958.3	43,917
16	1.1KV grade 3.5 core 120 sq.mm PVC insulated al. power cable	Mtr	10	776	7,760
17	Galvanised D.B box cross arm of MS angle 35x35x5mm @ 2.6kg/m 2.8x2=5.6m	set	2	1696.5	3,393
18	Sub-station earthing	set	2	11417	22,833
19	Danger board	No.	2	224.9	450
20	11 kV lighting arrester	No.	6	2393.3	14,360
21	Nuts & Bolts with washers.				-
	(5/8)" x 3"	Kg	12	150	1,800
	(5/8)" x 8.5"	Kg	16	150	2,400
22	Pole muffing	No.	4	2489.18	9,957
23	Pole painting	No.	4	485.87	1,943
24	Total Cost of Material without Civil Work Sl. No. 22 & 23			A	2,96,620
25	Storage Charge @ 3% on (A)			B	8,899
26	Total Supply (A+B)			C	3,05,519
27	Erection Charge (Inclusive of Transportation & Handling Charge) @ 20% on {(A) + 2 times DTR Cost at Sl. No. 12}			D	1,60,940
28	Civil Work {(Sl. No. 22 +23)}			E	11,900
29	Dismantling charges @30% of Erection Charge			F	48,282
30	Total (Supply+Erection+Civil Work+Dismantling Charges)			G	5,26,641
31	CGST @ 9% on G			H	47,398
32	SGST @ 9% on G			I	47,398
33	Labour Cess @ 1% on (D+E+F)			J	2,211
34	Departmental/Supervision Charge @ 11.75% on (G)			K	61,880
35	Grand Total: (G+H+I+J+K)			L	6,85,528

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*[Signature]*  
Deputy Manager (Plg)

In case of Shifting of Distribution Sub-station the Work Contract (which is exclusive of DTR Cost):

₹ 6,85,528

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Estimate for shifing of LT line (1.56 km AB Cable+ 3.88 km AAC GNAT) on both side of the road from between km 15.940 to km 33.00 due to road widening of Imphal-Jiribam Road-NH-37 by NHIDCL based on MSPDCL Cost Data 2019-20.

Sl. No.	Description	Unit	Qty	Rate (Rs.)	Amount in (Rs.)	Total:	Remarks
A	B	C	E	D	F	G	H
1	M.S. Cross Arm (75X40) 1110 mm long	No.	80	328.55	26284	Net Amount to be Deposited Considering 50% of the Supply Cost in (Rs.)	Based on Cost data 2013-14 with cost escalation 24%
2	Back Clamp for cross arm	No.	80	123.21	9857		
3	L.T. Insulator with pin	No.	120	205.34	24641		
4	L.T. Shackle insulator with parallel strap & hardware	Set	40	234.61	9384		
5	AAC GNAT (7/2.21)	km	9.16	31,741.52	290625		
6	8m Steel Tubular pole (410: SP-14)	No.	50	16,701.10	835055		
7	LT Cross Arm 50x50x6mm 500 mm long MS Angle	No.	36	542.10	19516		
8	Back clamp for LT cross arm	No.	36	339.30	12215		
9	Dead end fitting for AB Cables with bare messenger wire complete with eye hook as per construction standard.	No.	4	495.30	1981		
10	Suspension fitting for AB Cables with bare messenger wire complete with eye hook as per construction standard.	No.	32	412.10	13187		
11	Insulation piercing connector for AB Cable Big Size (Main: 16-95 sq.mm, Service: 4-35 (50) sq.mm) as per TS & construction standard.	No.	500	434.20	217100		Based on Cost Data 2019-20
12	AB Cables (3x95 + 1x70) sq.mm	km	0.000	6,24,000.00	0		
13	AB Cables (3x50 + 1x35) sq.mm	km	1.560	2,32,082.50	362049		
14	AB Cables (1x35+1x25) sq.mm	km	0.000	91,000.00	0		
15	Stay Set complete with stay wire, base plate, stay rod, stay insulator, clamp etc.	Sets	10	2074.80	20748		
16	Bolts with nut & washer (5/8)" x 3"	Kg	60	150.00	9000		
17	Pole muffing	No.	50	1,659.45	82973		
18	Pole Painting	No.	50	485.87	24294		
Supply Portion:							
Total Cost of Material without Civil Work Sl. No. 17 & 18				A	18,51,642	9,25,821	
Storage Charge @ 3% on (A)				B	55,549	27,775	
Total Supply: (A+B)				C	19,07,191	9,53,596	
CGST @ 9% on (C)				D	1,71,647	85,824	
SGST @ 9% on (C)				E	1,71,647	85,824	
Departmental/Supervision Charge @ 11.75% on (C)				F	2,24,095	1,12,047	
Total Supply (C+D+E+F+G)				G	24,74,581	12,37,290	
Erection Portion:							
Erection Charge (Inclusive of Transportation & Handling Charge) @20% on (A)				i	3,70,328	3,70,328	
Civil Work {(Sl. No. 17+18)}				ii	1,07,266	1,07,266	
Dismantling charges @30% of Erection Charge				iii	1,11,099	1,11,099	
Sub-total (Erection Charge+Civil Work+Dismantling Charge):				iv	5,88,693	5,88,693	
CGST @ 9% on (iv)				v	52,982	52,982	
SGST @ 9% on (iv)				vi	52,982	52,982	
Labour Cess @ 1% on (iv)				vii	5,887	5,887	
Departmental/Supervision Charge @ 11.75% on (iv)				viii	69,171	69,171	
Total Erection Charge: (iv+v+vi+vii+viii)					7,69,716	7,69,716	

N.B.

*[Signature]*  
Deputy Manager (Plg)

Amount for Work Contract: (50% of Total Supply Cost + Total Erection Charge)

₹ 20,07,006

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## JOINT SITE SURVEY REPORT

06.03.2021 & 07.06.2021

A joint site inspection survey was conducted along the proposed two laning Imphal- Jiribam Road on NH-37 on the 6<sup>th</sup> March, 2021 & 7<sup>th</sup> June, 2021 (For Package-I& II) by the following officials of NHIDCL and MSPDCL - Imphal, Manipur for verification and assessment of the electrical utilities that could be affected when the National Highway is expanded.

### MSPDCL OFFICIALS:

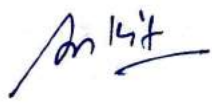


1) ~~Shri~~ Maibam Shillakanta Singh  
Manager, Takyel Sub-Division IED-II  
MSPDCL, Imphal



2) Shri Purnajeet Lourembam  
Deputy Manager, Takyel Sub-Division IED-II  
MSPDCL, Imphal

### NHIDCL OFFICIALS:



1) Shri Ankit Kumar  
Engineer (P), NHIDCL, PMU, Noney



2) Shri D. Venkata Ramana  
Project Manager (Highways)  
C.E. Testing Co. Pvt. Ltd.

## UNDERTAKING / CERTIFICATE

(TO BE SUBMITTED BY COMPETENT AUTHORITY OF UTILITY OWING DEPARTMENT  
ALONG WITH ESTIMATES)

It is certified that the provisions taken in the estimates for shifting of existing 11KV HT lines, LT lines and Distribution Transformer / Sub-Station of this department within the Package-1 and Package-2 (Imphal to Jiribam Road) along NH-37 under Takyel Sub-Division IED-II, MSPDCL, Manipur is for shifting of the utilities and no provision for increase in capacity of existing utilities due to our own requirement is taken in the estimate.

It is further certified that the rate of various items considered in the estimates are as per the rate of prevailing Schedule of Rates (SOR) in our own department.

Competent Authority of Utility Owning Department



Shri M. Shillakanta Singh

Manager

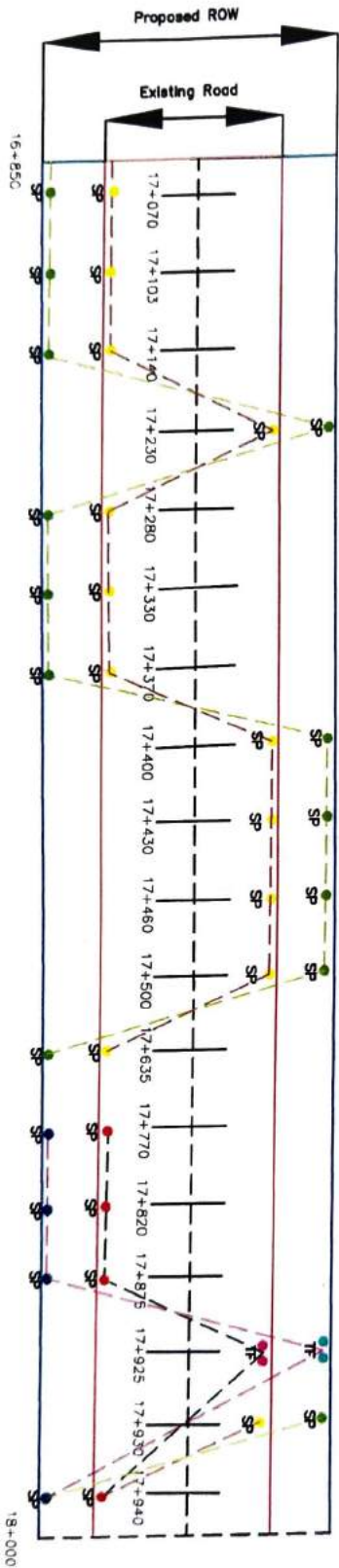
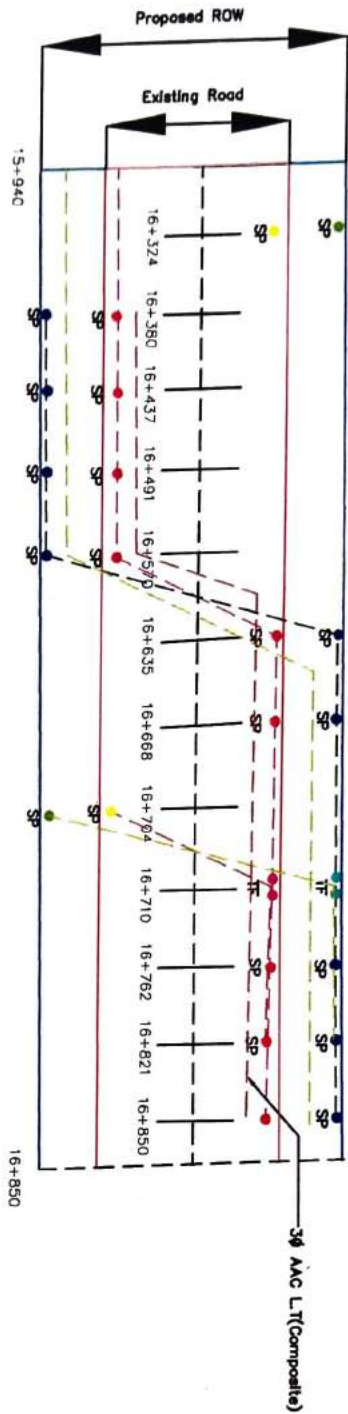
Takyel SD

MSPDCL, Manipur

**Road Name : Imphal Jiribam Road-NH-37(NH-53) Line Diagram of 11KV & LT Line**  
**Package-2 (From Km 15.946 to Km 33.395)**

Imphal

Jiribam



LEGEND :

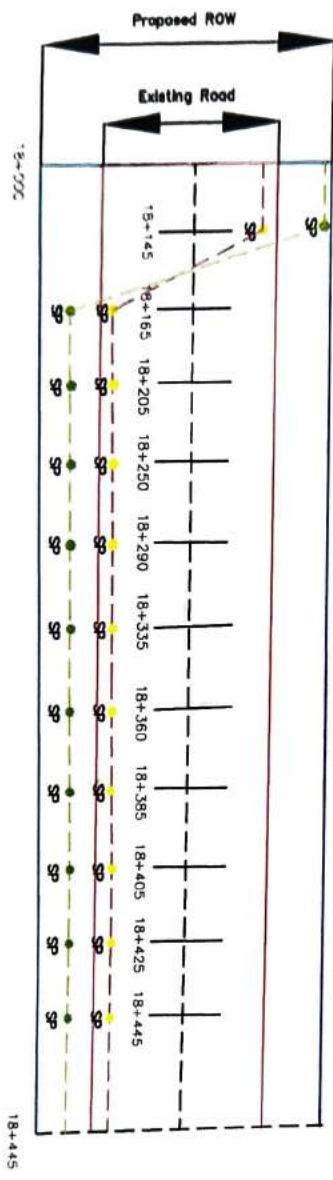
PROPOSED CENTRE LINE	---
PROPOSED ROW LINE	---
EXISTING ROW LINE	---
PROPOSED 11 KV LINE	---
EXISTING 11 KV LINE	---
PROPOSED LT LINE	---
EXISTING LT LINE	---
PROPOSED LT LINE	---



Manager  
 Takyel Sub-Division  
 Imphal Electrical Division No. 11  
 MSPDCI



Road Name : Imphal Jiribam Road-NH-37(NH-53) Line Diagram of 11KV & LT Line  
 Imphal Jiribam  
 Package-2 (From Km 15.946 to Km 33.395)



LEGEND

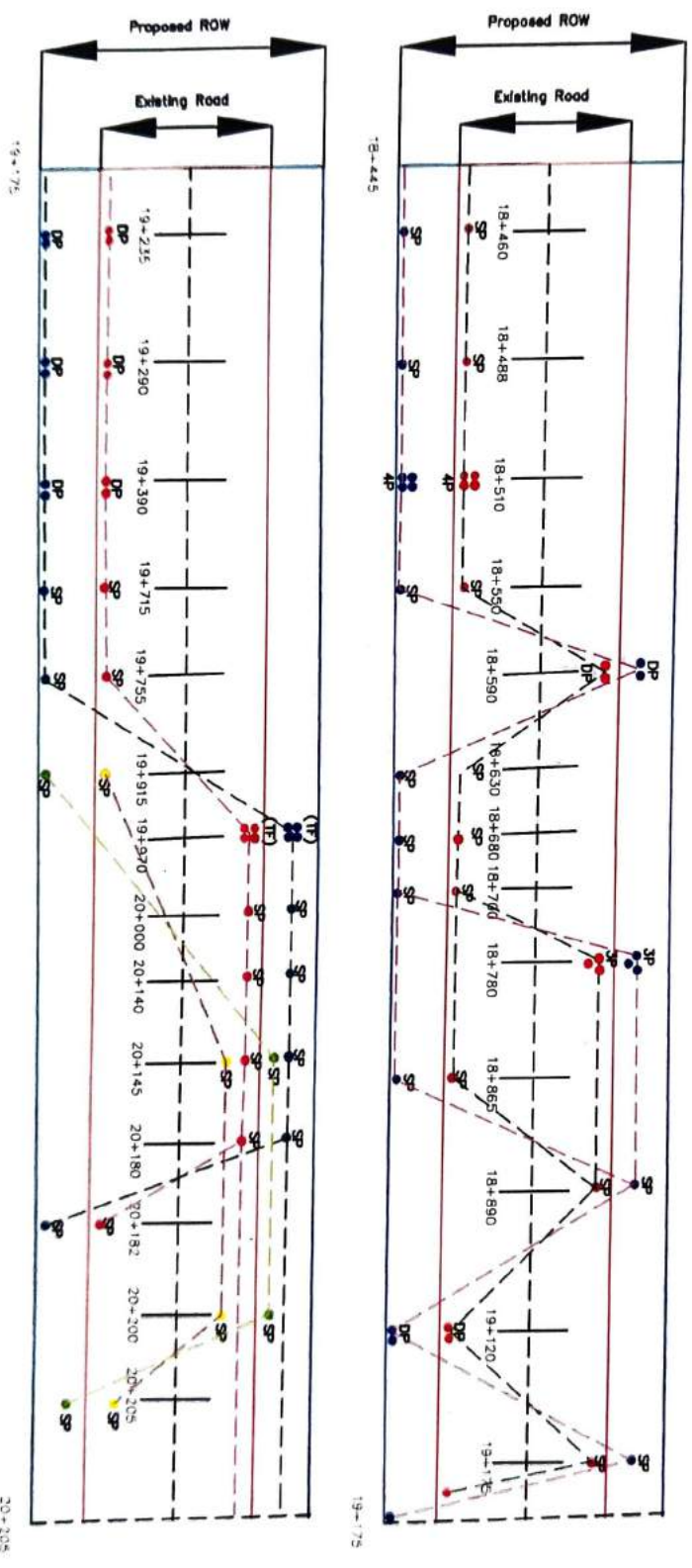
PROPOSED 11KV LINE	---
PROPOSED LT LINE	---
EXISTING 11KV LINE	---
EXISTING LT LINE	---
PROPOSED 11KV LINE	---
EXISTING 11KV LINE	---
DESIGN CHANNEL	---
EXISTING LT LINE	---
PROPOSED LT LINE	---



Manager  
 Takyet Sub-Division  
 Imphal Electrical Division No. II  
 MSPDCI

Road Name : Imphal Jiribam Road-NH-37(NH-53) Line Diagram of 11KV & LT Line  
Package-2 (From Km 15.946 to Km 33.395)

Imphal
Jiribam



LEGEND :

PROPOSED CENTRE LINE	---
PROPOSED ROW LINE	---
EXISTING ROW LINE	---
EXISTING 11KV LINE	---
EXISTING LT LINE	---
DESIGN CHANGE	---
EXISTING LT LINE	---
PROPOSED LT LINE	---

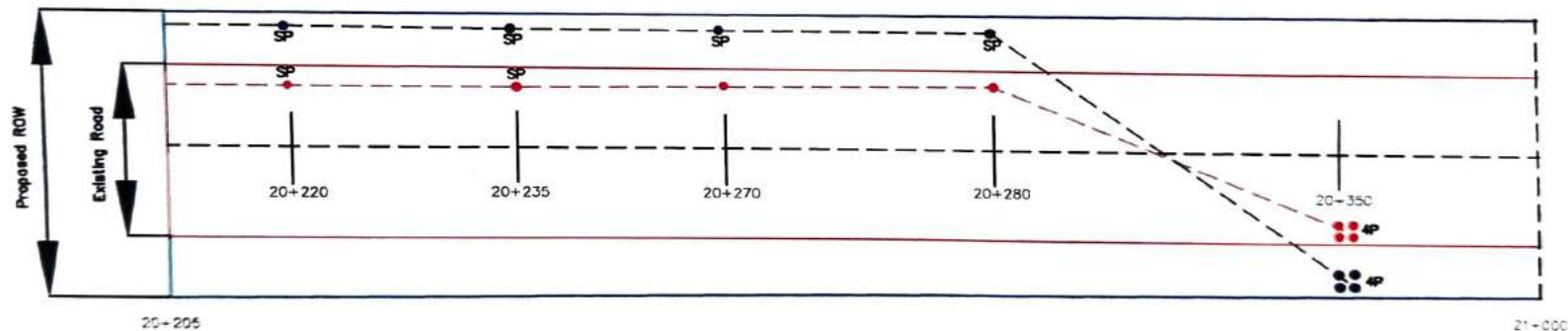


**Manager**  
 Tatyel Sub-Division  
 Imphal Electrical Division No. 11  
 MS.DY.1

Road Name : Imphal Jiribam Road-NH-37(NH-53) Line Diagram of 11KV & LT Line  
 Package-2 (From Km 15.946 to Km 33.395)

Imphal ←

→ Jiribam



Manager  
 Takyel Sub-Division  
 Imphal Electrical Division No. II  
 MSPDCI

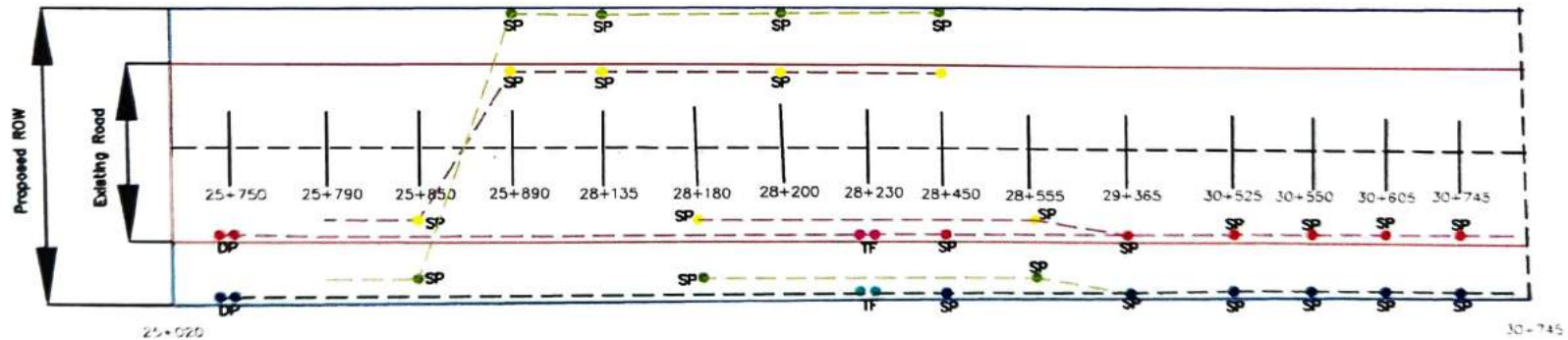
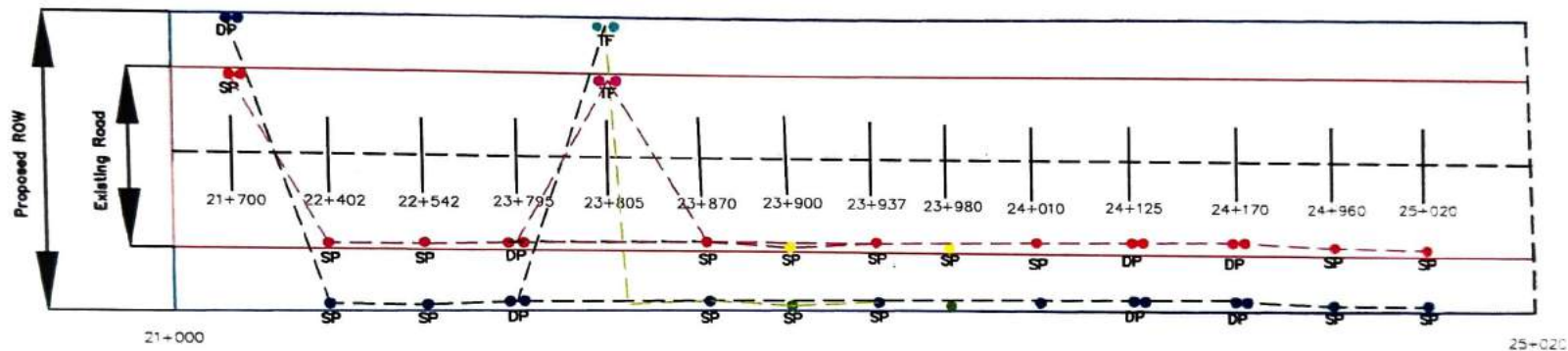
LEGEND :-	
PROPOSED CENTRE LINE	---
PROPOSED ROW LINE	---
EXISTING ROW LINE	---
PROPOSED 11 KV LINE	---
EXISTING 11 KV LINE	---
DESIGN CHANGE	---
EXISTING LT LINE	---
PROPOSED LT LINE	---



**Road Name : Imphal Jiribam Road-NH-37(NH-53) Line Diagram of 11KV & LT Line**  
**Package-2(From Km 15.946 to Km 33.395)**

← Imphal

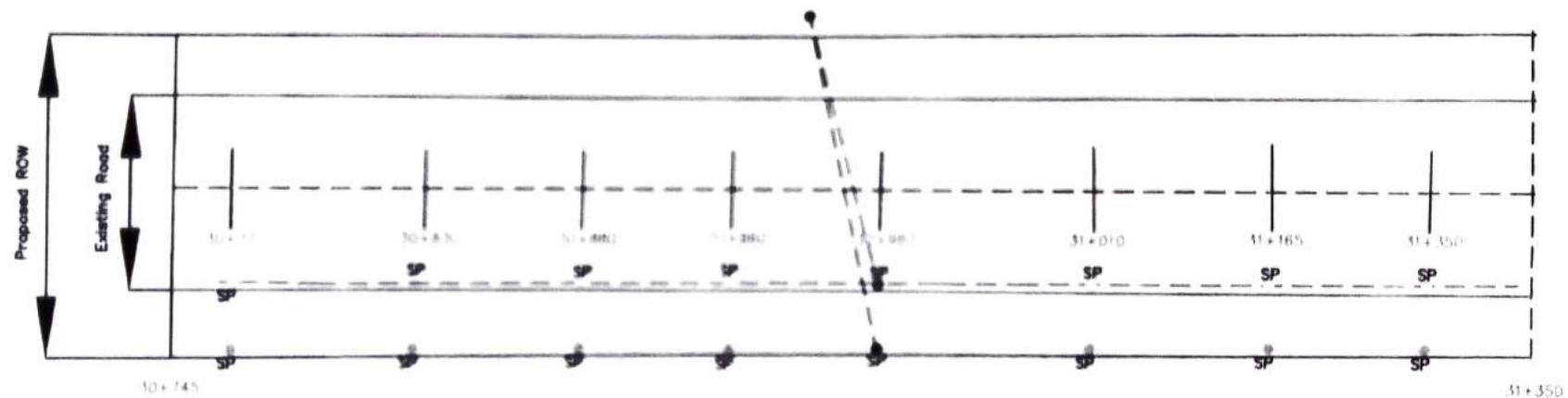
Jiribam →



  
**Manager**  
**Takyel Sub-Division**  
**Imphal Electrical Division No. II**  
**MSPDCI**

LEGEND	
PROPOSED CENTRE LINE	---
PROPOSED ROW LINE	---
EXISTING ROW LINE	---
PROPOSED 11 KV LINE	---
EXISTING 11 KV LINE	---
DESIGN CHAINAGE	0.000
EXISTING LT LINE	---
PROPOSED LT LINE	---

**Road Name : Imphal Jiribam Road-NH-37(NH-53) Line Diagram of 11KV & LT Line**  
**Imphal** **Package-2(From Km 15.946 to Km 33.395)** **Jiribam**



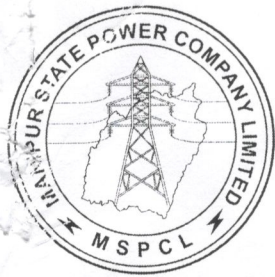
	Package-II	Additional
Design Chainage	15.940 km to 33.000 km	
Existing Chainage	15.946 km to 33.395 km	
11 KV SP	48	5
11 KV DP	10	
11 KV TP	1	
11 KV FP	2	
11 KV TF (DP)	4	
LT LINE SP	46	4
50 Sq.MM A.B.CABLE		0.3 KM
A.A.C		0.5 KM
IPC BIG		200 NOS

  
**Manager**  
**Takyel Sub-Division**  
**Imphal Electrical Division No. II**  
**MSPDC**



**LEGEND :-**

PROPOSED CENTRE LINE	---
PROPOSED ROW LINE	---
EXISTING ROW LINE	---
PROPOSED 11 KV LINE	---●---
EXISTING 11 KV LINE	---●---
DESIGN CHAINAGE	0 000
EXISTING LT LINE	---
PROPOSED LT LINE	---



# MANIPUR STATE POWER COMPANY LIMITED

Keishampat Junction, Imphal – 795001

CIN : U40101MN2013SGC008344

**Corporate Office:-** Electricity Complex, Patta No. 1293 under 87(2),  
Khwai Bazar, Keishampat, Imphal – 795001, Manipur, INDIA

Fax : +91 385 2450702

Tele: +91 385 2450050

No. 12/65 (33kV-NH37)/GM(PD)/2018-MSPCL/731-35

Imphal, June 11, 2021

To,

The General Manager (P),  
NHIDCL, PMU-Noney.

**Subject:** Submission of Detailed estimate for “Operation and Maintenance of 33kV line from Yurembam to Leimakhong & Noney (S.H- Supply and erection of existing 33 kV line, effected portion due to expansion of NH-37 (Imphal – Jiribam by NHIDCL) in the state of Manipur (Package I, II, III)”

Sir,

With reference to your office letter No. NHIDCL/PMU-Noney/NH-37/I-J/Utility-Shifting/2021/310 dated 04.06.2021 addressed to the Managing Director, MSPCL, the following three (3) nos. of estimates for shifting of 33kV lines along National Highway NH-37 under the jurisdiction of MSPCL (**Packages I, II and III**) are enclosed. Rates are based on the Schedule of Rates (SOR) of MSPCL and MSR-2017, PWD.

Operation and Maintenance of 33kV line from Yurembam to Leimakhong & Noney (S.H- Supply and erection of existing 33 kV line, effected portion due to expansion of NH-37 (Imphal – Jiribam by NHIDCL) in the state of Manipur

- a. (**Package I**) amounting to ₹68,41,398/-
- b. (**Package II**) amounting to ₹21,36,222/-
- c. (**Package III**) amounting to ₹7,82,684/-


Memoranda of Technical Sanction for the above works are also enclosed for reference.

The sanctioned estimated amount should be deposited in favour of the Managing Director, Manipur State Power Company Limited. The Bank Details is given below:

Beneficiary Name	:	Manipur State Power Company Limited
Beneficiary Account Number	:	33671160488
Bank Name	:	State Bank of India
Bank Address	:	Paona Bazar, Imphal
IFSC	:	SBIN0007440
MICR	:	795002004

Enclosures: As stated above.

Yours faithfully,

  
(Ng. Birjit Singh)  
OSD (Planning),  
MSPCL  
-----

Copy to:-

1. The Managing Director, MSPCL.
2. The Executive Director (Technical), MSPCL.
3. The General Manager (Transmission/F&A), MSPCL.
4. The Deputy General Manager (TD-II), MSPCL.



No. 12/65(33kV-NH 37)/GM(PD)/2018-MSPCL /57  
MANIPUR STATE POWER COMPANY LIMITED

MEMORANDUM  
Imphal, June 11, 2021

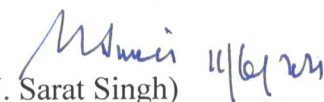
Subject:- Accord of Technical sanction for the work "Operation and Maintenance of 33kV line from Yurembam to Leimakhong & Noney (S.H:- Shifting of existing 33kV transmission line, effected portion, due to expansion of NH-37(Imphal – Jiribam by NHIDCL)) (Package – II)"

In exercise of the "Delegation of Power (DoP)" adopted by Manipur State Power Company Limited (MSPCL) as approved by the Board of Directors in the 4<sup>th</sup> BoD meeting of the Company held on 01.02.2014 (vide Circular No. MSPCL/MD/DOP-2014 dated March 27, 2014), Technical Sanction for the sum of ₹ 21,36,222/-(Rupees **Twenty One lakh Thirty Six thousand Two hundred and Twenty-Two**) only is hereby accorded for "Operation and Maintenance of 33kV line from Yurembam to Leimakhong & Noney (S.H:- Shifting of existing 33kV transmission line, effected portion, due to expansion of NH-37 (Imphal – Jiribam by NHIDCL)) (Package – II)" as per the details given in Annexure - I, II & III.

The work will be carried out by the Deputy General Manager, TD-II, Manipur State Power Company Limited after the amount is deposited by the concerned authority. The said amount should be deposited in favour of the Managing Director, Manipur State Power Company Limited.

The fortnightly Progress Report for the works should be submitted to this office for maintaining the progress of the work.

Enclosures: - As stated above.

  
(N. Sarat Singh)  
Managing Director,  
MSPCL

Copy to: -

1. The Executive Director (Technical),  
Manipur State Power Company Limited.
2. The General Manager (Transmission),  
Manipur State Power Company Limited.
3. The Deputy General Manager (TD-II),  
Manipur State Power Company Limited.

4. The General Manager, NHIDCL, BO Imphal,  
Lamphelpat, Manipur – 795001

He is requested to deposit the amount.



# MANIPUR STATE POWER COMPANY LIMITED

Keishampat Junction, Imphal – 795001

**Corporate Office:-** Electricity Complex, Patta No. 1293 under 87(2),  
Khwai Bazar, Keishampat, Imphal – 795001, Manipur, INDIA

Fax : +91 385 2450702  
Tele: +91 385 2450050

Estimate No..... for the year : 2021 - 22  
State : Manipur Branch : MSPCL  
Division : Transmission Division No. II Sub-Divn. : Transmission Sub-Divn. No. VII

Name of work :- Operation & Maintenance of 33KV line from Yurembam to Leimakhong & Noney  
(S.H:- Shifting of existing 33KV transmission line, effected portion, due to  
expansion of NH-37 (Imphal - Jiribam by NHIDCL) (Pkg – 2)

Ch. Head of Acct. :


Estimate framed by Shri A. Robin Singh, Deputy General Manager, Transmission Division  
No. II Manipur State Power Company Limited, for probable cost of Rs. ~~21,37,767~~<sup>21,36,222</sup>/- (Rupees twenty  
one lakh thirty seven thousand seven hundred sixty seven ) only; to meet the probable cost of the  
above work.

## REPORT

**History :** This estimate amounting to Rs. ~~21,37,767~~<sup>21,36,222</sup>/- (Rupees twenty one lakh thirty seven  
thousand seven hundred sixty seven) only; including necessary taxes has been framed to meet the  
probable cost of the above work. This work is highly needed for the Expansion of NH-37 ( Imphal-  
Jiribam ) by National Highways and Infrastructure Development Corporation Limited (NHIDCL).

Hence, this estimate has been framed and put up for accord of necessary administrative  
approval, technical & expenditure sanction from the competent authority in order to execute the  
above mentioned works.

Rate : Deptt. Approved rates  
Estimated Cost : Rs. ~~21,37,767~~<sup>21,36,222</sup>/-  
Time : 25 (twenty five ) days  
Method : By Contract/Company

  
Deputy General Manager,  
Trans. Divn. No. II/MSPCL,

for, Deputy General Manager  
Transmission Division No. II  
Manipur State Power Company Ltd.



Name of work : Operation and Maintenance of 33KV line from Yurembam to Leimakhong & Noney  
(S.H : - Supply & erection of existing 33KV line, effected portion, due to expansion of NH-37 (Imphal - Jiribam by NHIDCL)

Package 2 ( Chainage 15.940 to 33.100 )

ABSTRACT

A	Supply Cost	12,12,258.54	1211976.62
B	Erection Cost	1,82,286.52	181796.35
C	Dismantling Cost	1,36,714.89	136347.26
D	Cost i/c GST @ 18% on (A)	2,18,206.54	218155.79
E	Cost i/c GST @ 18% on (B)	32,811.57	32723.34
F	Cost i/c GST @ 18% on (C)	24,608.68	24542.51
G	Freight & Insurance @8% on (A)	96,980.68	96958.13
H	GST @5% on (G)	4,849.03	4847.91
I	Labour Cess @1% on (B)	1,822.87	1817.96
J	Labour Cess @1% on (C)	1,367.15	1363.47
K	Contingencies @3% on (A+B+C)	45,937.80	45963.61
L	Departmental Charge @11.75% on (A+B+C)	1,79,923.04	179789.13
	Grand Total (A to L)	21,37,767.32	2136222.07

Say Rs. 21,36,222/-  
(Rupees Twenty One lakh thirty six thousand two hundred & twenty two)  
A. Subudhig  
Deputy General Manager  
Transmission Division No. II  
Manipur State Power Company Ltd.

Technical sanction of Rs. 21,36,222/- (Rupees twenty One lakh thirty six thousand two hundred & twenty two) is hereby accorded vide memo. No. 12/65 (33KV - NH 37) / GM(PD) / 2018 - MSPCL / 57 dated 11/06/2021.

OSD (Planning)  
MSPCL

Managing Director  
Manipur State Power Company Ltd.  
Imphal



Name of work : Operation and Maintenance of 33KV line from Yurembam to Leimakhong & Noney  
(S.H : - Supply & erection of existing 33KV line, effected portion, due to expansion of NH-37 (Imphal - Jiribam by NHIDCL)

Package 2 ( Chainage 15.940 to 33.100 )

A) Supply of line materials

Sl. No.	Items of work	Unit	Qty.	Rate	Amount
1	10m long steel pole (410-SP-48)	No.	23	21,117.21	4,85,695.83
2	Pole top bracket with M.S.Flat 50*10mm@ 3.9kg/m	No.	1	113.81 130.60	113.81 130.60
3	2m long Single pole x-arm with channel (ISMC-100) @9.2kg/mtr.	No.	1	1,643.50	1,643.50
4	2.5m long Double pole x-arm with channel (ISMC-100) @9.2kg/mtr.	No.	10	2,054.47	20,544.70
5	3.2m long 4 Pole X-arm with channel (ISMC-100) @9.2Kg./Mtr.	No.	18	2,876.25	51,772.50
6	Bracing set for Double pole with MS Angle 75x75x6mm @6.8kg./Mtr. (3.2m)	Set	5	5,713.61	28,568.05
7	Bracing set for 4-Pole with M.S. Angle 75x75x6mm @6.8Kg./Mtr. (3.5m)	Set	3	21,902.15	65,706.45
8	Clamp for x-arm & bracing set with M.S Flat 50x10mm @3.9KG./Mtr. (0.436m)	Set	17	154.11	2,619.87
9	33KV Pin Insulator as per IS:731-1971 with GI Pin L300N	Set	36	1,142.72	41,137.92
10	Disc Insulator as per IS:731-1971 with hardware fittings IS:2486(Pt-II)-1974 complete.	Set	48	1,952.15	93,703.20
11	HT Guy Insulator	No.	20	79.71 91.46	1594.20 1,829.20
12	ACSR (Raccoon conductor) 6/4.09 1/4.09 conforming to IS 398(Part-II)/1976	Km	4.94	47,338.02	2,33,849.82
13	Galvanised Bolt & Nuts (with spring)	Kg	64	162.42	10,394.88
14	Stay set complete with stay wire (7/4.00 mm) as per IS:2141. 1992 & Clamps	Set	20	1,428.40	28,568.00
15	Earthing set complete with Earthing Electrode of GI Pipe 40mm Dia. 2.5 to 3.00 Mtr. Long and G.I wire 8 SWG (4mm, 5Kg/Sqmm hard Quality)	Nos.	6	2,701.53	16,209.18
Sub-Total (Supply):					10,82,373.70 1082121.98
Cost Escalation @3% p.a for the yrs 2014/15, 2015/16, 2016/17 and 2017/18 i.e. 12% =					1,29,884.84 129854.64
Grand Total =					12,12,258.54 1211976.62

*Q. B. S. Singh*

*for* Deputy General Manager  
Transmission Division No. II  
Manipur State Power Company Ltd.

Name of work : Operation and Maintenance of 33KV line from Yurembam to Leimakhong & Noney  
(S.H : - Supply & erection of existing 33KV line, effected portion, due to expansion of NH-37 (Imphal - Jiribam by NHIDCL)

Package 2 ( Chainage 15.940 to 33.100 )

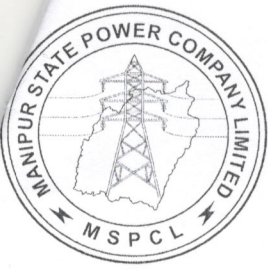
**B) Erection**

Sl. No.	Items of work	Unit	Qty.	Rate	Amount
1	10m long steel pole (410-SP-48)	No.	23	3,167.58	72,854.34
2	Pole top bracket with M.S.Flat 50*10mm@ 3.9kg/m	No.	1	17.07	17.07
3	2m long Single pole x-arm with channel (ISMC-100) @9.2kg/mtr.	No.	1	246.54	246.54
4	2.5m long Double pole x-arm with channel (ISMC-100) @9.2kg/mtr.	No.	10	308.17	3,081.70
5	3.2m long 4 Pole X-arm with channel (ISMC-100) @9.2Kg./Mtr.	No.	18	431.44	7,765.92
6	Bracing set for Double pole with MS Angle 75x75x6mm @6.8kg./Mtr. (3.2m)	Set	5	857.04	4,285.20
7	Bracing set for 4-Pole with M.S. Angle 75x75x6mm @6.8Kg./Mtr. (3.5m)	Set	3	3,285.32	9,855.96
8	Clamp for x-arm & bracing set with M.S Flat 50x10mm @3.9KG./Mtr. (0.436m)	Set	17	23.12	393.04
9	33KV Pin Insulator as per IS:731-1971 with GI Pin L300N	Set	36	171.41	6,170.76
10	Disc Insulator as per IS:731-1971 with hardware fittings IS:2486(Pt-II)-1974 complete.	Set	48	292.82	14,055.36
11	HT Guy Insulator	No.	20	11.96	239.20
12	ACSR (Raccoon conductor) 6/4.09 1/4.09 conforming to IS 398(Part-II)/1976	Km	4.94	7,100.70	35,077.47
13	Galvanised Bolt & Nuts (with spring)	Kg	64	24.36	1,559.04
14	Stay set complete with stay wire (7/4.00 mm) as per IS:2141. 1992 & Clamps	Set	20	214.26	4,285.20
15	Earthing set complete with Earthing Electrode of GI Pipe 40mm Dia. 2.5 to 3.00 Mtr. Long and G.I wire 8 SWG (4mm, 5Kg/Sqmm hard Quality)	Nos.	6	405.23 478.17	2431.38 <del>2,869.02</del>
Sub-Total (Erection):					1,62,755.82
Cost Escalation @3% p.a for the yrs 2014/15, 2015/16, 2016/17 and 2017/18 i.e. 12% =					19,530.70
Sub-Total =					1,82,286.52
16	Dismantling charge @75% of erection charge =				1,36,714.89

*Q. Sub Singh*

for Deputy General Manager  
Transmission Division No. II  
Manipur State Power Company Ltd.





# MANIPUR STATE POWER COMPANY LIMITED

Keishampat Junction, Imphal – 795001

**Corporate Office:-** Electricity Complex, Patta No. 1293 under 87(2),  
Khwai Bazar, Keishampat, Imphal – 795001, Manipur, INDIA

Fax : +91 385 2450702  
Tele: +91 385 2450050

## UNDERTAKING

It is to certify that, the provision taken in the estimate is for shifting of the existing utilities of HT lines (33KV) along National Highway – 37, Imphal – Jiribam road section (Package – 2) and no provisions for increase in capacity of existing utilities due to our own requirement is taken in the estimate.

It is further certified that the rates adopted in the estimates are as per the rate of the user department and the quantities have been verified by the Authority Engineer.

(A. Robin Singh)

Deputy General Manager,  
Transmission Div, No. II, MSPCL

 Deputy General Manager  
Transmission Division No. II  
Manipur State Power Company Ltd.



## JOINT SITE SURVEY REPORT

06.03.2020

A joint site inspection survey was conducted along the proposed two laning Imphal - Jiribam Road on NH-37 on the 6<sup>th</sup> March, 2020 (For Package-I & II) by the following officials of NHIDCL and MSPCL - Imphal, Manipur for verification and assessment of the 33KV poles that could be affected when the National Highway is expanded. The detailed estimate is being prepared based on this joint survey by the two parties.

### MSPCL OFFICIALS:



- 1) Shri S. Bhumeshwar Sharma  
Manager  
MSPCL, Imphal



- 2) Shri Lungran Kamei  
Deputy Manager  
Imphal, MSPCL

### NHIDCL OFFICIALS:

- 1) Shri Ankit Kumar

Engineer (P), NHIDCL, PMU, Noney

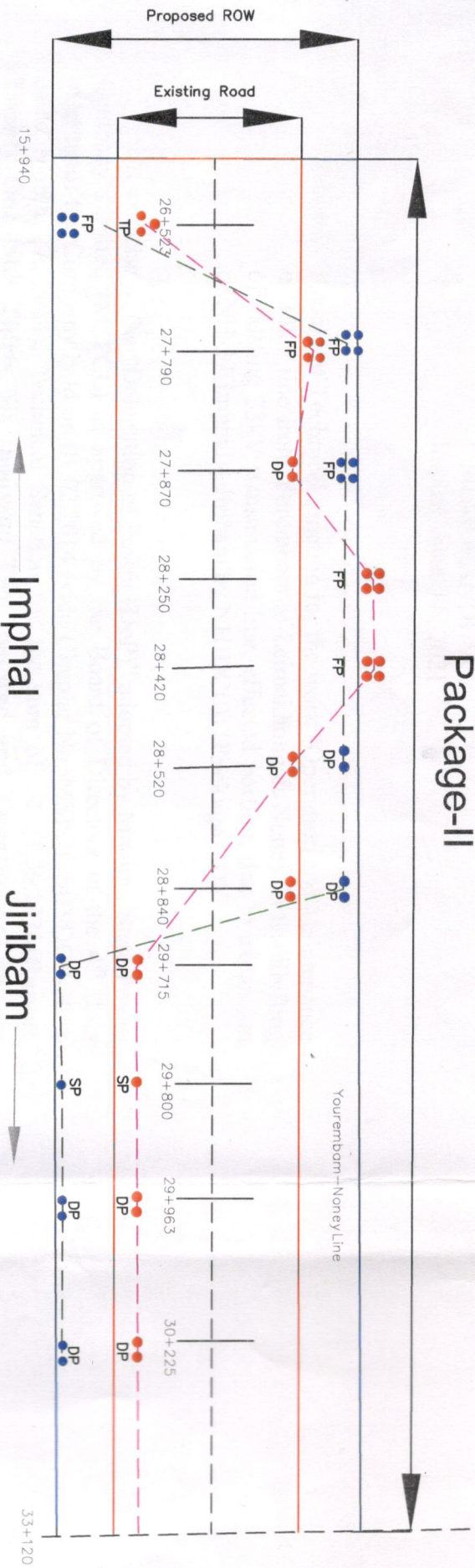


- 2) D. Venkata Ramana  
Project Manager (Highways)  
C.E. Testing Co. Pvt. Ltd.

# Road Name : Imphal Jiribam Road - NH-37 (NH-53)

## Line Diagram of 33KV Line

### Package-II



	Package-2_Proposed
Design Chainage	15.940km to 33.100km
Existing Chainage	15.946km to 33.395km
33 KV SP	1
33KV DP	5
33 KV FP	3

LEGEND :-	
PROPOSED CENTRE LINE	---
EXISTING ROW LINE	---
PROPOSED 33 KV LINE	---
EXISTING 33 KV LINE	---
DESIGN CHAINAGE:-	0.000
REQUIRE RETAINING WALL:-	---

*[Signature]*

*[Signature]*

Deputy General Manager  
Transmission Division No. II  
Manipal State Power Company Ltd.





GOVERNMENT OF MANIPUR  
PUBLIC HEALTH ENGINEERING DEPARTMENT

No. EE/KPI/PHE/3(1)/DPR-NH/2020-21/ 307

Dated. 01/07/2021

To,

The General Manager (Project)  
NHIDCL, PMU-Noney,  
Noney District, Manipur.

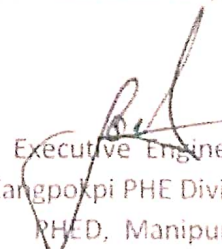
Subject:- Submission of detailed estimate for Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120 (Package No-II).

Sir,

In connection with the above subject, I am submitting herewith the detailed estimate for restoration of pipe line, Water Tank, Community sanitary latrines and Tube wells to be damaged while taking up the above cited work under Package No-II.

Enclosed:- Detailed estimate- 3 (three) sets each.

Yours faithfully,

  
Executive Engineer,  
Kangpokpi PHE Division  
PHED, Manipur

Copy to:

- 1) The Chief Engineer, PHED, Manipur.
- 2) The Addl. Chief Engineer, PHED, Manipur.
- 3) File guard.



GOVERNMENT OF MANIPUR  
PUBLIC HEALTH ENGINEERING DEPARTMENT

No. EE/KPI/PHE/DPR-NH/2020-21/ 308

Dtd. 01/07/2021

To,

The General Manager (Project)  
NHIDCL, PMU-Noney,  
Noney District, Manipur.

Subject:- Certification of the Detailed Estimates framed by this office.

Ref. No : NHIDCL/PMU-Senapati/PHED/US/12021-22/367 Dated : 06/02/2021.

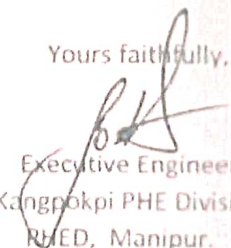
Ref. No : NHIDCL/RO-IMPHAL/I-J/Km 15.9463 to km 33.120/LA/UTILITY/2021-22/42, Dtd. 20/05/2021

Sir,

With reference to above subject & No. the certification of the detailed estimates is hereby enclosed for your kind necessary action please.

Enclosed:- As stated above.

Yours faithfully,

  
Executive Engineer,  
Kangpokpi PHE Division,  
PHED, Manipur.

Copy to:-

- 1) The Chief Engineer, PHED, Manipur.
- 2) The Addl. Chief Engineer, PHED, Manipur.
- 3) The Superintending Engineer, Rural Circle No-II, PHED, Manipur.

**It is hereby certified that:-**

i) The estimate has been framed after detailed survey and proper assessment of quantity of various items required to be shifted & to be constructed.

(ii) The following provisions are made while preparing the estimates:-

- (a) All the existing old pipes which lies in the construction area of the road has been discarded after dismantling.
- (b) New pipes taking 100% as unserviceable to be procured
- (c) The existing IHHL are to be reconstructed.
- (d) The existing water tanks are also to be dismantled and new ones are to be constructed to replace the existing tanks.

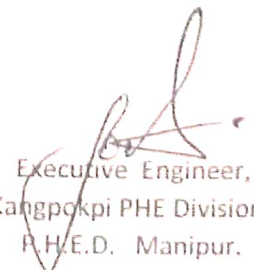
(iii) The quantity of various items taken in the estimate are based on the standard drawing of the department.

(iv) The rates of various items adopted in the estimate are based on the prevailing Schedule of Rates- 2017 published by State PWD and modified SOR of PHE. The cost index/price escalation adopted @18% over and above the SOR

(v) The estimate may be final on the condition that if:-

- (a) The work is to be completed within the time schedule.
- (b) The cost of pipes were not change at the time of purchasing.
- (c) The site condition is remain as it is and not change in a difficult manner.

Further it can be mention for your kind and easy reference that, while making rate Justification for non-schedule items, charges like 1.5%, for water charge, 15% C.P & OH, 12% (GST) are as per CPWD norms and Manipur State Analysis of Rates. Above this 1% labourcess, 3% contingency charges and 11.75% Agency charges are as per state Govt. order/instruction.

  
Executive Engineer,  
Kangpokpi PHE Division,  
P.H.E.D. Manipur.



## GOVERNMENT OF MANIPUR

*Name of work :- Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120)*

### PACKAGE II

*Estimated cost :- ₹ 0.81 Crore*



*Kangpokpi P.H.E. Division  
Public Health Engineering Department, Manipur*



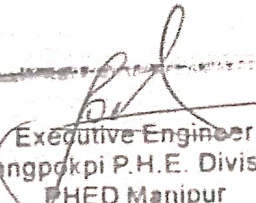
### Undertaking certificate

It is certified that the provision taken in the estimates is for shifting of the existing utilities and no provision for increase in capacity of existing utilities due to our own requirement is taken in the estimate.

It is certified that the provision for the utilities shifting made in the estimates accounts for shifting of the existing utilities and also has provision for increasing capacity of existing utilities due to our own requirement. It is also certified that the cost on account of capacity augmentation due to our own requirement has been shown separately and the same shall be borne by our own department. However cost due to change in specification on account of old specifications becoming obsolete ( details of which have been provided in the estimate) has been considered as a part of shifting of existing utilities and is to be borne by NHIDCL.

2. It is further certified that the rates adopted in the bill or as per the rates of the user department and the quantities have been verified by the Authority Engineer.

(Not below the rank of Executive Engineer of owner Agency)

  
Executive Engineer  
Kangpokpi P.H.E. Division  
PHED Manipur

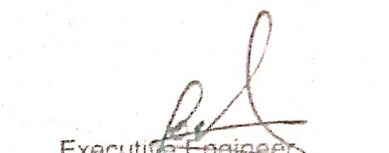
## JOINT VERIFICATION REPORT

A joint verification team comprising Kangpokpi PHE Divisional staffs headed by Executive Engineer along with NHIDCL representatives had conducted site verification for all detailed water supply and sanitation infrastructures to be affected by proposed widening of NH-37, (Old NH-53), Imphal - Jiribam within the chainage km 15.946 to km 33.120 (Package No-II) on 19<sup>th</sup> June, 2021.

The verification was conducted in detail and all necessary rectification that so arises made there of Kangpokpi PHED Division, PHED, Manipur.




Assistant Engineer  
Sub- Division No. ,  
Kangpokpi, PHE- Division,  
PHED, Manipur.



Executive Engineer  
Kangpokpi PHE- Division,  
PHED, Manipur.  
Executive Engineer  
Kangpokpi P.H.E. Division  
PHED Manipur

L.D. Lefan A/Seco  
NHIDCL, PMU- NONEY



Project Manager  
C.E. Testing Co. Pvt. Ltd



### BRIEF WRITE-UP

The expansion of NH-37, Imphal - Jiribami to be undertaken by National Highway Infrastructure Development Corporation (NHIDCL) which is a major developmental activities providing better road connectivity for several villages and towns. However during the course of work to be undertaken several assets along the road expansion will be damaged of which the standing structures of water supply and sanitation for several villages is among them. The lists of villages whose water supply and sanitation infrastructure will be damaged within the chainage km 15 946 to km 33.120 under package No. II are listed

- 1 Keithelmanbi
- 2 Bijang
- 3 Thamlongbung
- 4 S. Laijang
- 5 T. Laijang
- 6 Charoipandongba kabui

The estimates for the damages of the water supply and sanitation infrastructure are prepared after joint survey of the above effected villages by the officials of Kangpokpi PHED Division and the representative/consultants from NHIDCL.

Most of the pipes are more than 25-30 years old, entrenched deep beneath along the alignment of the 2-Lanning road and will be impossible to retract those pipes by excavating to reuse again or disposing to scrap. As such, after taking the above conditions into considerations the estimates for compensation is framed for those effected portions only for replacement where the pipes cannot be retracted to reuse again.

As mention earlier, all the existing pipes are underneath the earth 2ft to 3ft below and there are no possibilities of recovering the pipes to reuse it. 100% of pipes require complete restoration with new realignment of pipeline and remaining pipes will be rendered unfit for reuse due to aged pipes or buried deep underneath the earth. The pipes which can be recovered yet which cannot be reused but to dispose into scrap, if any, can be ascertained after completion of the pipe fittings works.



SO-I  
Sub- Division No  
Kangpokpi, PHE- Division,  
PHED, Manipur.



Assistant Engineer  
Sub- Division No ,  
Kangpokpi, PHE- Division,  
PHED, Manipur.



Executive Engineer  
Kangpokpi, PHE- Division,  
PHED, Manipur.

Executive Engineer  
Kangpokpi P.H.E. Division  
PHED Manipur



**GOVERNMENT OF MANIPUR  
PUBLIC HEALTH ENGINEERING DEPARTMENT**

State :- Manipur  
Branch :- PHED

-----  
Division :- Kangpokpi PHE Division  
Sub-Division :-

Name of work :- Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120)

Demand :-  
Major Head :-  
Sub-Major :-  
Minor Head :-  
Sub-Head :-  
Detailed Head :-  
Object Head :-

Estimate framed by the Executive Engineer, Kangpokpi P.H.E. Division, PHED, Manipur, for a probable cost of ₹. 0.81 Crore only.

**REPORT**

**HISTORY :-** This detailed estimate amounting to ₹. 0.81 crore (Rupees eighty-one lakh) only i/c 12% GST, 18% GST on pipe cost, 1% Labour cess, 3% contingency charge 11.75% Agency charges has been framed to meet the probable cost of the above cited work.

With reference to National Highways & Infrastructure Development Corporation Limited (NHIDCL) Letter No : NHIDCL/PMU-Senapati/PHED/US/12021-22/367 Dated : 06/02/2021, and No. NHIDCL/RO-IMPHAL/I-J/Km 15.9463 to km 33.120/LA/UTILITY/2021-22/42, Dtd. 20/05/2021. dismantling of existing pipe lines and new pipeline to be laid, treatment units, sanitary structures and tube wells under this Division are required, The estimates are framed for the affected villages/habitations within the chainage km 15.946 to km 33.120 (KEITHELMANBI TO CHAROIPANDONGBA KABUI).

**Design & Scope :-** The estimate provides dismantling and relaying of pipelines, cost of pipes and pipe specials, re-arrangement of construction of Service Reservoirs, Distribution Tank and sanitary infrastructures.

**Rate :-** MSR '17 i/c 18% cost escalation & Store issue Rate.

**Cost :-** ₹ 0.81 Crore

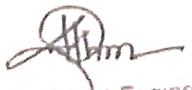
**Method :-** By contract


**Land :-** Available

**Time :-** 1(One) year.

**T&P :-** NIL

**W/C Estt. :-** It will be met from 3% contingency charges.

  
Assistant Engineer,  
Sub-Division No.-III  
Kangpokpi P.H.E. Division  
P.H.E.D., Manipur

  
Executive Engineer  
Kangpokpi, PHE- Division,  
PHED, Manipur.

# GENERAL ABSTRACT OF COST

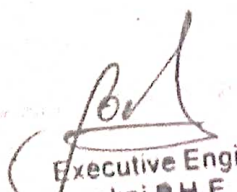
**Name of work :- Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120)**

Sl. No.	Items of work	Qty.	Rate	Unit	Amount	Remarks
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1	Reconstruction of Reservoir- 9 Kld - (1 No.)	1	No ₹ 8,94,528.00	Each ₹	8,94,528.00	Annex-I
2	Construction of distribution tanks - 2.7KLD. - (1 No.)	1	No ₹ 1,46,535.00	Each ₹	1,46,535.00	Annex-II
3	L/F of pipe line.	1	No ₹ 8,47,084.00	Each ₹	8,47,084.00	Annex-III
4	Cost of pipe	1	No ₹ 23,30,145.00	Each ₹	23,30,145.00	Annex-IV
5	Transportation of pipes	1	No ₹ 4,08,294.00	Each ₹	4,08,294.00	Annex-V
6	Cost of pipe specials and fittings	1	No ₹ 4,12,189.00	Each ₹	4,12,189.00	Annex-VI
7	Construction of Community Sanitary Complex under SBM (G)- (1 No.)	1	No ₹ 3,29,083.00	Each ₹	3,29,083.00	Annex-VII
8	Construction of IHHL(8 Nos.)	1	No ₹ 8,87,059.00	Each ₹	8,87,059.00	Annex-VIII
Total cost					₹ 62,54,917.00	----- (A)
Total cost excluding GI pipe & pipe Spl. cost					₹ 26,25,524.00	----- (B)
Add 18% (GST) on Item 6 & 8					₹ 4,93,620.12	
Add 12% (GST) on (B)					₹ 3,15,062.88	
Add 1% Labour Cess on (A)					₹ 62,549.00	
Add 3% Contingency charges on (A)					₹ 1,87,648.00	
Add 11.75% Agency charges on (A)					₹ 7,34,953.00	
					₹ 80,48,750.00	

Say, ₹ 0.81 Crore

(Rupees eighty-one lakh) only



  
 Executive Engineer  
 Kangpokpi P.H.E. Division  
 PHED Manipur



## JOINT SURVEY REPORT

Date of survey: 19/06/2021

Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgragation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120

## I. Distribution Pipes Underground

Sl. No	Village Name	Particulars	Chainage/Location		RHS/LHS	Length
			From	To		
1	Kethelmanbi	65mm dia	16430	17150	R	720.00
2	Biayang	50 mm dia	19950	20950	L	1000.00
3	Thomlongbung	50 mm dia	23495	26040	L	2545.00
4	T. Lajang	32 mm dia	30900	31370	L	470.00

## II. Water Distribution Tanks

Sl. No	Village name	Nos.	Chainage	Size in Meter	RHS/LHS	
1	T. Lajang	1	30900	3x3x1.5	R	

## III. Water Reservoir

Sl. No	Village name	Nos.	Chainage	Size in Meter	RHS/LHS	
1	Biayang	1	19930	5x5x1.75	L	

## IV. Community Toilets

Sl. No	Village name	Nos.	Chainage	Size in Meter	RHS/LHS	
1	Biayang	1	19950	5*5*2.5	L	

## V. PHE

Sl. No	Village name	Nos.	Chainage	Size in Meter	RHS/LHS	
1	S. Lajang	1	25800	1.2 x 1.5 x 1.5	R	
2		1	25820	1.2 x 1.5 x 1.5	R	
3		1	25920	1.2 x 1.5 x 1.5	R	
4		1	28399	1.2 x 1.5 x 1.5	L	
5	T. Lajang	1	28670	1.2 x 1.5 x 1.5	R	
6		1	30735	1.2 x 1.5 x 1.5	R	
7		1	30785	1.2 x 1.5 x 1.5	R	
8		1	30900	1.2 x 1.5 x 1.5	R	

## Summary of pipe Length:

Sl. No	Within the package	Pipe Size	Total Length
1	Package II	32 mm	470.00
		50 mm	3545.00
		65 mm	720.00

Assistant Engineer  
Sub-Division No. ,  
Kangpokpi, PHE- Division,  
PHED, Manipur.-III  
Sub-Division No.-III  
Kangpokpi P.H.E. Division  
PHED, Manipur

Executive Engineer  
Kangpokpi, PHE- Division,  
PHED, Manipur.

Executive Engineer  
Kangpokpi P.H.E. Division  
PHED Manipur

NHIDCL, PMU- NONEY

Project Manager  
C.E. Testing Co. Pvt. Ltd





**ABSTRACT OF COST**

**Name of work :- Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgragation and strengthening along the Imphal - Jiribam road from the chainage km 15.946 to km 33.120) (Sh: Construction of Reservoir Tank)**

Sl. No.	Sub-Head/Items of work	Qty.	Unit	Rate I/c 18% Cost escalation	Amount (Rs.)	Remarks
1	Earthwork in excavation in foundation trenches or drains including dressing of sides and ramming of bottoms lift upto 1.5m including getting out the excavated soil and disposal of surplus excavated soil as directed within a lead of 50m - H/D soil.	58.91	cum	165.32	9,738.88	MSR'17 1102
2	P/form works i/c centering and shuttering so as to give a rough finish, strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4m and removal of the same for in-situ RC and PC works in					
	a) Foundation footings, bases of columns etc. and mass concrete.	15.12	sqm	610.41	9,229.46	MSR'17
	b) Columns, pillars, posts and struts (square, rectangular or polygon in plan).	3.00	sqm	625.52	1,876.55	MSR'17
	c) Vertical surface such as wall (anythickness); partitions and the like.	82.80	sqm	489.35	40,517.85	MSR'17
	d) Sides and soffits of beams, beam launching, cantiliver, bressumers and lintel not exceeding 1m in depth.	2.88	sqm	422.56	1,216.97	MSR'17
	e) Flat surfaces such as suspended floors, roofs landing and the like - floors etc upto 200 mm in thickness.	16.80	sqm	884.65	14,862.05	MSR'17
	f) Edges of slab - under 20cm wide	5.76	sqm	134.52	774.84	MSR'17
3	P/L C.C. in foundn. & plinth excluding the cost of centering & shuttering in					
	a) 1:3:6 (1cem:3c/sand:6 st. aggt. 40mm nor	6.68	cum	6,765.41	45,192.95	MSR'17
	b) 1:2:4 (1cem:2c/sand:4 st. aggt. 20mm nor	6.68	cum	8,018.69	53,564.85	MSR'17
4	P/L in position specified grade of RCC excluding cost of centering, shuttering, finishing & reinforcement. All work upto plinth level.					
	a) 1:1.5:3 (1cem:1.5c/sand:3g/stone aggt 20mm nominal size)	5.62	cum	9,170.13	51,536.15	MSR'17
5	RCC work in walls (any thickness) i/c attached pilasters, butteresses, plinth and string course, filets, columns, pillars, piers, abutments, posts and struts upto floor five level excluding the cost of centring, shuttering finishing & reinforcement with					
	a) 1:1.5:3 (1cem:1.5c/sand :3g/st. aggt 20mm nom. size)	12.42	cum	10,173.37	1,26,353.26	MSR'17
6	RCC work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases upto floor five level excluding the cost of centring,					

Sl. No.	Sub-Head/Items of work	Qty.	Unit	Rate i/c 18% Cost escalation	Amount (Rs.)	Remarks
	shuttering finishing & reinforcement in a) 1:1.5:3 (1cm 1.5c/sand :3g/stone aggt 20mm nominal size)	8.10	cum	10,560.53	85,540.28	MSR'17
7	Steel reinforcement for RCC works i/c straightening, cutting, bending, placing in position and binding all complete - Thermo-Mechanically Treated bars.	2896.75	Kg	111.98	3,24,383.86	MSR'17
8	15mm cement plaster 1:3 (1cm 3 c/sand) finished with a floating coat of neat cement.	142.92	sqm	372.41	53,224.55	MSR'17
9	Providing C.I. manhole cover with frame 600mm x 450mm (heavy duty) (38Kg)	4	each	3,281.25	13,125.00	MSR'17
10	P/F G.I. Pipes complete with G.I. Fitting and clamps including cutting and making good the walls etc (internal works). - 50mm dia.	50.00	Rm	562.39	28,119.40	MSR'17
11	Providing and fixing C.I. Sluice valves class 1 (with cap) complete with bolts and nuts rubber insertion etc. (the tail pieces if required shall be measured and paid separately) - 50mm dia.	2	each	9,145.00	18,290.00	App/Rate
12	Steel work welded in built up sections, framed work in cutting, hoisting fitting in position and applying a priming coat of red lead paint. a) In gratings, framed guard bars, ladders, railings, brackets and similar works.	0.63	Q	12,128.63	7,641.04	MSR'17
13	Excavating trenches of required width for pipes, cables etc, including excavation for sockets and dressing of sides ramming of bottoms depth upto 1.5 m including getting out the excavated soil and then returning the soils as required in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming watering etc and disposal of surplus excavated soil as directed within a lead of 50 m - H/D soil. a) Pipes, cables etc not exceeding 75 mm dia	50.00	Rm	140.30	7,015.10	MSR'17
14	Filling available excavated earth (e/c rocks) in trenches, plinth sides of foundation etc. in layer not exceeding 20cm. in depth consolidating each deposited layer by ramming and watering lead upto 50m. lift upto 1.50m.	17.67	cum	131.57	2,324.84	MSR'17

₹ 8,94,527.87

For 1 No. ₹ 8,94,527.87

₹ 8,94,528.00

Assistant Engineer,  
Sub-Division No.-III  
Kangpokpi P.H.E. Division,  
P.H.E.D., Manipur



# DETAILS OF MEASUREMENT

Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120) (Sh: Construction of Reservoir Tank)

e = 5.90 metre  
B = 5.40 metre  
H = 2.00 metre

Sl. No.	Sub-Head/Items of work	Measurements				Quantity
		No.	L	B	D	
1	Earthwork in excavation in foundation trenches .....a lead of 50m - H/D soil.	1	6.30	5.50	1.70	= 58.91 cum
2	Plinth works i/c centering and					
	a) Foundation footings, bases of	4	6.30	0.60		= 15.12 sqm
	b) Columns, pillars, posts and struts.....	4	2.50	0.30		= 3.00 sqm
	c) Vertical surface such as wall .....					
	Outside	4	4.80	2.30		= 44.16 sqm
	Inside	4	4.20	2.30		= 38.64 sqm
						82.80 sqm
	d) Sides and soffits of beams, beam.....	2	4.80	0.30		= 2.88 sqm
	e) Flat surfaces such as suspended	1	4.80	3.50		= 16.80 sqm
	f) Edges of slab - under 20cm wide	4	4.80	0.30		= 5.76 sqm
3	P/L C.C. in foundn. & plinth .....					
	a) 1:3:6 (1cm:3c/sand:6 st. aggt. 40mm no	1	6.30	5.30	0.20	= 6.68 cum
	b) 1:2:4 (1cm:2c/sand:4 st. aggt. 20mm no	1	6.30	5.30	0.20	= 6.68 cum
4	P/L in position specified grade of					
	a) 1:1.5:	1	5.30	5.30	0.20	= 5.62 cum
5	RCC work in walls (any thickness) .....					
	a) 1:1.5:	2	4.80	2.30	0.30	= 6.62 cum
		2	4.20	2.30	0.30	= 5.80 cum
						12.42 cum
6	RCC work in beams, suspended floors,					
	a) 1:1.5: a) Roof slab	1	4.80	5.10	0.30	= 7.34 cum
	b) Cross beam	2	4.20	0.30	0.30	= 0.76 cum
						8.10 cum
7	Steel reinforcement for RCC works..... -					
	a) Foundation					
	Using 12mm dia bars @ 10cm c/c both ways in two layers					
	Length of a long bar = 5.30m					
	No. of bars = (5.30/0.10 + 1) = 54 Nos.					
	Total length for long bars - 2	2	54	5.30		= 1144.80 Rm
			"A1"	@0.89Kg/Rm		= 1018.87 Kg
	b) Vertical bars in Walls					
	Using 12mm dia bars @ 10cm c/c on both faces					
	Length of a bar = 2.30 + 0.45 (lap) + 0.20 = 2.95m					
	No. of bars = (4.10/0.1 + 1) = 42 Nos.					
	Total length for vertical bars - 4	2	42	2.95		= 991.20 Rm
			"A2"	@0.89Kg/Rm		= 882.17 Kg
	c) Horizontal bars in Walls					



Sl. No.	Sub-Head/Items of work	Measurements				Quantity
		No.	L	B	D	
	Using 10mm dia bars @ 10cm c/c on both faces					
	Length of a bar = 4.10m					
	No. of bars = $(2.30/0.10 + 1)$ = 24 Nos.					
	Total length for horizontal bars - 4	2	24	2.95		586.40 Rm
			"B1"	@0.62Kg/Rm		351.17 Kg
d)	Main bars in beams					
	Using 4Nos. 16mm dia bars in 2(two) beams					
	Length of a bar = $2 \times 4 \times$					
			"C1"	@1.58Kg/Rm		32.80 Rm
						51.82 Kg
e)	Stirrups in beams					
	Using 6mm dia bars @ 10cm c/c					
	Length of a stirrup = 1.50m					
	No. of stirrups = $(4.10/0.10 + 1)$ = 42 Nos.					
	Total length for stirrups - 2	1	42	1.50		126.00 Rm
			"D1"	@0.22Kg/Rm		27.72 Kg
f)	Reinforcement in roof slab					
	Using 10mm dia bars @ 10cm c/c both ways					
	Length of a bar = 4.10m					
	No. of bars = $(4.10/0.10 + 1)$ = 42 Nos.					
	Total length for horizontal bars - 2	2	42	4.10		688.80 Rm
			"B2"	@0.62Kg/Rm		427.06 Kg
			6mm	"D1"		27.72 Kg
			10mm	"B1" + "B2"		778.22 Kg
			12mm	"A1" + "A2"		1901.04 Kg
			16mm	"C1"		51.82 Kg
						2758.81 Kg
				Add 5% for wastage & lapping		137.94 Kg
						2896.75 Kg
8	15mm cement plaster 1:3 (1 cem: 3					
	Outside face of walls	4	4.80	2.50		48.00 sqm
	Inner face of walls	4	4.20	2.50		42.00 sqm
	Ceiling & top	2	4.20	4.20		35.28 sqm
	Floor	1	4.20	4.20		17.64 sqm
						142.92 sqm
9	Providing C.I. manhole cover with frame					
	600mm x 450mm.(heavy duty) (38Kg)	4				4 Nos
10	P/F G.I. Pipes complete with G.I. Fitting					
	(internal works). - 50mm dia.	1	50.00			50.00 Rm
11	Providing and fixing C.I. Sluice valves class					
	1 (with cap) complete with bolts and nuts					
	rubber insertion etc. (the tail pieces if					
	required shall be measured and paid	2				2 Nos
12	Steel work welded in built up sections,					
	a) In gratings, framed guard bars, ladders,					
	railings, brackets and similar works.	1	0.63			0.63 Qtl
13	Excavating trenches of required width for					
	pipes, cables etc....					
	a) Pipes, cables etc not exceeding 75 mm d	1	50.00			50.00 Rm
14	Filling available excavated earth (e/c rocks)					
	in trenches .....			Qty. 30% of item No.1		17.67 cum

# ABSTRACT OF COST

Annex-II

Name of work :- Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120) (Sh: Construction of Distribution Tank)

Sl. No.	Sub-Head/Items of work	Qty.	Unit	Rate i/c 18% Cost	Amount (Rs.)	Remarks
1.	Earthwork in excavation in foundation trenches or drains including dressing of sides and ramming of bottoms lift upto 1.5m including getting out the excavated soil and disposal of surplus excavated soil as directed	2.46	cum	165.32	406.68	MSR 2017
2.	P/L C.C. in foundn. & plinth excluding the cost of centering & shuttering in a) 1:4:8 (1cem:4c/sand:8st. aggt. 40mm.	1.06	cum	6,187.21	6,558.44	MSR'17
3.	P/L in position specified grade of RCC excluding cost of centering, shuttering, finishing & reinforcement. All work upto plinth a) 1:1.5:3 (1cem:1.5c/sand :3g/st. aggt 20mm nom. size)	1.41	cum	9,170.13	12,929.89	MSR'17
4.	RCC work in walls (any thickness) i/c attached pilasters, butteresses, plinth and string course, filets, columns, pillars, piers, abutments, posts and struts upto floor five level excluding the cost of centring, a) 1:1.5:3 (1cem:1.5c/sand :3g/st. aggt 20mm nom. size)	3.30	cum	10,173.37	33,572.12	MSR'17
5.	RCC work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases upto floor five level excluding the cost of centring, a) 1:1.5:3 (1cem:1.5c/sand :3g/st. aggt 20mm nom. size)	1.35	cum	10,560.53	14,256.71	MSR'17
6.	P/orm works i/c centering and shuttering so as to give a rough finish, strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4m and removal of the same for in- a) Foundation footings, bases of columns etc. and mass concrete.	4.48	sqm	610.41	2,734.65	MSR'17
	b) Vertical surface such as wall (anythickness), partitions and the like.	26.40	sqm	489.35	12,918.73	MSR'17
	c) Flat surfaces such as suspended floors, roofs landing and the like - floors etc upto 200 mm in thickness.	4.50	sqm	884.65	3,980.91	MSR'17
	d) Edges of slab - under 20cm wide	1.80	sqm	134.52	242.14	MSR'17
7.	Steel reinforcement for RCC works i/c straightening, cutting, bending, placing in position and binding all complete - Thermo-	338.52	Kg	111.98	37,908.15	MSR'17
8.	15mm cement plaster 1:3 (1cem:3 c/sand) finished with a floating coat of neat cement.	33.20	sqm	372.41	12,363.95	MSR'17
9.	Providing C.I. manhole cover with frame					

Sl. No.	Sub-Head/Items of work	Qty.	Unit	Rate I/c 18% Cost	Amount (Rs.)	Remarks
	600mm x 450mm.(heavy duty) (38Kg)	1	each	3,281.25	3,281.25	MSR'17
10.	P/F G.I. Pipes complete with G.I. Fitting and clamps including cutting and making good the walls etc (internal works).					
	a) 40mm dia.	2.00	Rm	475.89	951.79	MSR'17
	b) 20mm dia.	2.00	Rm	276.95	553.89	MSR'17
11.	P/F brass stop cock of approved quality -	2	each	1,203.01	2,406.02	MSR'17
12.	P/F C.P. bib cock of approved quality -					
	a) 20mm dia (Delux)	2	each	734.90	1,469.81	MSR'17
					<u>₹ 1,46,535.13</u>	

For 1 Nos. ₹ 1,46,535.13

Say, ₹ 1,46,535.00

Assistant Engineer,  
Sub-Division No.-III  
Kangpokpi P.H.E. Division  
P.H.E.D., Manipur



### DETAILS OF MEASUREMENT

Name of work :- Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120) (Sh: Construction of Distribution Tank)

Sl. No.	Sub-Head/Items of work	Measurements				Quantity
		No.	L	B	D	
1.	Earthwork in excavation in foundation trenches ..... - H/D soil.	1	3.20	2.20	0.35	= 2.46 cum
2.	P/L C.C. in foundn. & plinth.....					
	a) 1:4:8 (1cem:4c/sand:8st. aggt.	1	3.20	2.20	0.15	= 1.06 cum
3.	P/L in position specified grade .....					
	a) 1:1.5:3 (1cem:1.5c/sand :3g/st. aggt 20mm nom. size)	1	3.20	2.20	0.20	= 1.41 cum
4.	RCC work in walls (any thickness) .....					
	a) 1:1.5:3 (1cem:1.5c/sand :3g/st. aggt 20mm nom. size)	2	3.00	1.20	0.25	= 1.80 cum
		2	2.50	1.20	0.25	= 1.50 cum
						3.30 cum
5.	RCC work in beams, suspended floors.....					
	a) 1:1.5:3 (1cem:1.5c/sand :3g/st. aggt 20mm nom. size) - Slab	1	3.00	3.00	0.15	= 1.35 cum
6.	P/form works i/c centering and					
	a) Foundation footings, bases of	2	3.20	0.35		= 2.24 sqm
		2	3.20	0.35		= 2.24 sqm
						4.48 sqm
	b) Vertical surface such as wall .....					
	O/	4	3.00	1.20		= 14.40 sqm
	I/W	4	2.50	1.20		= 12.00 sqm
						26.40 sqm
	c) Flat surfaces such as suspended floors,..... - floors etc upto 200 mm	1	3.00	1.50		= 4.50 sqm
	d) Edges of slab - under 20cm wide	4	3.00	0.15		= 1.80 sqm
7.	Steel reinforcement for RCC works -					
	Using 10mm dia bars in single layer @ 0.10m c/c in single					
	a) Foundation base					
	No. of stirrups = $(2.20/0.10 + 1)$	= 23	Nos.			
	Total length for stirrups -	1	2	23	3.00	= 138.00 Rm
	b) Wall Vertical Bar					
	No. of stirrups = $(2.00/0.10 + 1)$	= 21	Nos.			
	Total length for stirrups -	1	4	21	1.50	= 126.00 Rm
	c) Wall Horizontal Bar					
	No. of stirrups = $(1.20/0.10 + 1)$	= 13	Nos.			
	Total length for stirrups -	4	1	13	3.00	= 156.00 Rm

Sl. No.	Sub-Head/Items of work	Measurements				Quantity
		No.	L	B	D	

d) Slab single layer

No. of stirrups =  $(2.00/0.10 + 1) = 21$  Nos.

Total length for stirrups - 1 2 21 3.00 = 126.00 Rm  
546.00 Rm

@0.62Kg/Rm = 338.52 Kg

8. 15mm cement plaster 1:3 (1cem:3 c/sand) finished...

4	3.00	1.20	=	14.40 sqm
4	2.50	1.20	=	12.00 sqm
1	2.50	2.00	=	5.00 sqm
4	3.00	0.15	=	1.80 sqm
				<u>33.20 sqm</u>

9. Providing C.I. manhole cover with frame 600mm x 450mm.(heavy duty) (38Kg)

1 1 = 1 No

10. P/F G.I. Pipes complete with G.I.

a) 40mm dia. 1 2.00 = 2.00 Rm

b) 20mm dia. 1 2.00 = 2.00 Rm

11. P/F brass stop cock of approved quality -

1 2 = 2 Nos

12. P/F C.P. bib cock of approved quality -

a) 20mm dia (Delux) 1 2 = 2 Nos

*Handwritten signature*

**ABSTRACT OF COST**

Name of work :- Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120)  
(Sh: L/F of pipes)

Sl. No.	Items of work	quantity	Rate i/c 18% Cost escalation	unit	amount	Remarks
1	2	3		5	6	7
1	Dismantling C.I. Pipes including excavation and refilling trenches after taking out the pipes breaking lead caulked joints, melting of lead and making into blocks including stacking of pipes at site					
	i) 32 mm dia	470.00	₹ 79.30	₹	37,269.12	
	ii) 50 mm dia	3545.00	₹ 79.30	₹	2,81,104.32	
	iii) 65 mm dia.	720.00	₹ 160.95	Rm ₹	1,15,885.44	MSR '17
2	Excavating trenches of required width for pipes i/c excavation for sockets and dressing of sides, ramming of bottoms depth upto 1.50 m i/c getting out the excavated soil and disposal of excavated soil as directed within a lead of 10 m in	1,278.45	₹	171.40 cum ₹	2,19,131.67	A/Rate
3	"L/F GI pipes complete with GI fittings e/c the cost of trenching and refilling etc. (external work)"					
	i) 32 mm dia	470.00	₹ 34.07	₹	16,011.30	
	ii) 50 mm dia	3,545.00	₹ 34.07	₹	1,20,766.10	
	iii) 65 mm dia.	720.00	₹ 62.39	Rm ₹	44,918.35	A/Rate
4	Filling available excavated earth (e/c rock) in trenches e/c watering, ramming etc. lead upto 50 m and lift upto 1.50 m	107.60	₹	111.50 cum ₹	11,997.72	MSR '17
					₹ 8,47,084.02	

Say, ₹ 8,47,084.00

Assistant Engineer,  
Sub-Division No.-III  
Kangpokpi T.H.E. Division  
Mangalore



# DETAILS OF MEASUREMENT

Name of work :- Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120. (Sh: L/F of pipes)

Sl. No.	Sub-Head/Items of work	Measurements				Contents
		No.	L	B	D	
1	Dismantling C.I. Pipes including excavation and refilling trenches after taking out the pipes breaking lead					
	i) 32 mm dia	=	470.00	Rm		
	ii) 50 mm dia	=	3545.00	Rm		
	iii) 65 mm dia.	=	720.00	Rm		
2	Excavating trenches of required width for pipes i/c excavation for sockets and dressing of sides, ramming of bottoms depth upto 1.50 m i/c getting out the					
	i) 32 mm dia		470.00	0.45	0.6	= 126.90 Cum
	ii) 50 mm dia		3545.00	0.45	0.6	= 957.15 Cum
	iii) 65 mm dia.	1	720.00	0.45	0.6	= 194.40 Cum
						<u>1278.45 Cum</u>
3	L/F the following normal gauge G.I. pipe complete with G.I. fitting complete.					
	i) 32 mm dia	1	470.00			= 470.00 Rm
	ii) 50 mm dia	1	3545.00			= 3,545.00 Rm
	iii) 65 mm dia.	1	720.00			= 720.00 Rm
4	Filling available excavated earth (e/c rock) in trenches e/c watering, ramming					
i)	32 mm dia	126.90 - 1/4 [ 3.14	470.00	0.70	0.45	= 10.68 Cum
ii)	50 mm dia	957.15 - 1/4 [ 3.14	3545.00	0.70	0.45	= 80.56 Cum
iii)	65 mm dia.	194.40 - 1/4 [ 3.14	720.00	0.70	0.45	= 16.36 Cum
						<u>107.60 Cum</u>

*Dr*

### ANALYSIS OF RATE

- 1 Excavating trenches of required width for pipes i/c excavation for sockets and dressing of sides, ramming of bottoms depth upto 1.50 m i/c getting out the excavated soil and disposal of excavated soil as directed within a lead of 50 m in hard dense soil.

QUANTUM Based on MSR - 77  
Labour rate based on MSR - 2015

Detail cost for 30 cum :-

Ordinary Mazdoor :- 8 @ ₹ 400.00 /day= ₹ 3,200.00

Add 1/6 on ₹2,760.00	=	₹ 533.33
		₹ 3,733.33
Add 1.5% water charges	=	₹ 56.00
		₹ 3,789.33
Add 15% Contractors' profit &	=	₹ 568.40
Cost for 30 cum	=	₹ 4,357.73
Cost for 1 cum	=	₹ 145.26

- 2 L/F GI pipes complete with GI fittings e/c the cost of trenching and refilling etc. ( external work )

a. GI pipe 40/50 mm dia.

Description	Unit	Quantity	Rate	Cost	Remarks
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>

i) Fitter	Each	0.16	500.00	=	₹ 80.00
ii) Belder	Each	0.33	400.00	=	₹ 132.00
					₹ 212.00
				-	₹ 35.33
					₹ 247.33
					₹ 3.71
					₹ 251.04
				-	₹ 37.66
					₹ 288.70
					₹ 28.87

b. GI pipe 65/80 mm dia.

Description	Unit	Quantity	Rate	Cost	Remarks
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>

i) Fitter	Each	0.25	500.00	=	₹ 125.00
ii) Belder	Each	0.66	400.00	=	₹ 264.00
					₹ 389.00
				=	₹ 64.83
					₹ 453.83
					₹ 6.81
					₹ 460.64
				=	₹ 68.07
					₹ 528.71
				=	₹ 52.87

c. GI pipe 100 mm dia.

Description	Unit	Quantity	Rate	Cost	Remarks
1	2	3	4	5	6

i) Fitter	Each	0.48	500.00	=	₹ 240.00
ii) Belder	Each	1.06	400.00	=	₹ 424.00
					₹ 664.00

Add 1/6th for a day off - ₹ 110.67  
₹ 774.67

Add 15% CP&OH - ₹ 116.20  
Cost for 10 Rm = ₹ 890.87

Therefore, cost per Rm = ₹ 89.09

- 3 Filling available excavated earth (e/c rock) in trenches e/c watering, ramming etc. lead upto 10 m and lift upto 1.50 m

Detail cost for 30 cum :-

Ordinary Mazdoor :- 2.93 Nos. @ ₹ 400.00 /day = ₹ 1,172.00

Add 1/6 on ₹ 2,760.00 = ₹ 195.33  
₹ 1,367.33

Add 1.5% water charges = ₹ 20.51  
₹ 1,387.84

Add 15% Contractors' profit & = ₹ 208.18

Cost for 30 cum = ₹ 1,596.02

Cost for 1 cum = ₹ 53.20

- 4 Dismantling old G.I./C.I. pipes i/c excavation and refilling trenches after taking out the pipes breaking lead chaulked joints, melting of lead and making into blocks i/c stacking of pipes at site within 50 m lead.

i. 40/50 mm diameter GI pipe

Detail of cost for 30.00 m.

E/W for 30.00 m :  $1 \times 30.00 \times 0.55 \times 0.75 = 12.38$  cum.

Deduct for pipes  $1 \times 30.00 \times (22/7) / 4 \times 0.062^2 = 0.091$  cum.

Total E/W = 12.29 cum.

E/W in excavation for dismantling pipe and refilling of excavated earth

cum. 12.29 116.40 ₹ 1,430.56

LABOUR :

Fitter Each 0.16 500.00 ₹ 80.00

Mazdoor (Male) Each 0.33 400.00 ₹ 132.00

Add 1/6th for a day off ₹ 35.33

₹ 1,677.89

Sundries & Carriage L.S. 0.03 1677.89 ₹ 50.34

₹ 1,728.23

Add 1.5% water charge on all except ₹ 25.92

₹ 1,754.15

Add 15% C.P. & O.H. ₹ 263.12

Cost per 30.00 m. ₹ 2,017.27

Cost per 1.00 m. ₹ 67.24

Say, ₹ 67.20



- 5 Dismantling old G I/CI pipes i/c excavation and refilling trenches after taking out the pipes breaking lead chaulked joints, melting of lead and making into blocks i/c stacking of pipes at site within 50 m lead.

i. 65/80 mm diameter GI pipe

Detail of cost for 30.00 m.

E/W for 30.00 m :  $1 \times 30.00 \times 0.90 \times 0.90 = 24.3 \text{ cum}$

Deduct for pipes  $1 \times 30.00 \times (22/7) / 4 \times 0.078^2 = 2.29$

Total E/W = 22.01 cum

E/W in excavation for dismantling pipe

and refilling of excavated earth

cum.

22.01 116.40

₹ 2,561.96

LABOUR :

Fitter

Each

0.25

500.00

₹ 125.00

Mazdoor (Male)

Each

0.66

400.00

₹ 264.00

₹ 389.00

Add 1/6th for a day off

₹ 64.83

₹ 3,404.80

Sundries & Carriage

L.S.

0.03

3404.80

₹ 102.14

₹ 3,506.94

Add 1.5% water charge on all except

₹ 52.60

₹ 3,559.55

Add 15% C.P. & O.H.

₹ 533.93

Cost per 30.00 m.

₹ 4,093.48

Cost per 1.00 m.

₹ 136.45

Say,

₹ 136.40

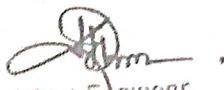
Assistant Engineer,  
Sub-Division No.-III  
Kangpokpi P.H.E. Division  
P.H.E.D., Manipur

ABSTRACT OF COST

Name of work :- Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120 (Sh: Cost of GI pipe)

Sl. No.	Items of work	quantity (i/c 5% Addl)	rate	unit	amount	Remarks
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1	Cost of GI pipe:					
	a) 32 mm dia	470 00	₹ 353 78	Rm	₹ 1,66,276.60	
	b) 50 mm dia	3545 00	₹ 599 27	Rm	₹ 21,24,412.15	
	c) 65 mm dia	720 00	₹ 765 21	Rm	₹ 5,50,951.20	Store Issue/Rate
					₹ 28,41,639.95	-(x)
	Less GST		18%		₹ 5,11,495.19	
					₹ 23,30,144.76	
	Say,				₹ 23,30,145.00	



  
 Assistant Engineer,  
 Sub-Division No.-III  
 Kangpokpi P.H.E. Division  
 P.H.E.D., Manipur

### DETAILS OF MEASUREMENT

Name of work :- Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120) (Sh: Cost of GI pipe)

Sl. No.	Items of work	quantity		Total	unit	Remarks
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>6</u>	<u>5</u>	<u>7</u>

1 Total length of dismantling :

a) 32 mm dia	1	x	470.00	=	470.00	Rm
b) 50 mm dia	1	x	3545.00	=	3545.00	Rm
c) 65 mm dia	1	x	720.00	=	720.00	Rm

Considering 100% damages during dismantling of GI Pipes.

Damaged length of pipe

a) 32 mm dia	100%	x	470.00	=	470.00	Rm
b) 50 mm dia	100%	x	3545.00	=	3545.00	Rm
c) 65 mm dia	100%	x	720.00	=	720.00	Rm






**ABSTRACT OF COST**

**Name of work:** Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgragation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120) ( Sub-head : Transportation of pipes)

Sl	Item of work	Quantity	Rate I/c 18% Cost escalation	Unit	Amount	Remarks
1	Mechanical transportation of GI pipes from Water Supply Stores Division, Lamphelpat to worksite within a lead of 57.00 km					
	a) 32 mm dia	470.00	6.16	Rm	₹ 2,895.20	
	b) 50 mm dia	3545.00	10.04	Rm	₹ 35,591.80	
	c) 65 mm dia	720.00	12.85	Rm	₹ 9,252.00	
2	Transportation of GI pipes from Stacking site to worksite within a lead of 9.00 km by headload					
	a) 32 mm dia	470.00	34.54	Rm	₹ 16,233.80	
	b) 50 mm dia	3545.00	69.07	Rm	₹ 2,44,653.15	
	c) 65 mm dia	720.00	138.15	Rm	₹ 99,468.00	
					₹ 4,08,293.95	

Say, ₹ 4,08,294.00

  
Assistant Engineer  
Sub-Division No.-III  
Kangpokpi P.H.E. Division  
P.H.E.D., Manipur

### ANALYSIS OF RATE

**Name of work:** Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120)  
(Sub-head: Transportation of GI pipes from Water Supply Stores Division, Lamphelpat to Taphou kuki worksite within a lead of 57.0 km

Mechanical transportation of GI pipes from Water Supply Stores Division, Lamphelpat to Charoipandongba kabui within a lead of 60.0 km

Assumed speed of truck = 25.00 km/hr

No of trips =  $8/(2L/S + 3/4)$

$$= 8/(2 \times 60/25 + 0.75)$$

$$= 1.44 \text{ trip}$$

Total distance =  $2 \times 1.44 \times 60 + 6$

$$= 178.80 \text{ km}$$

#### Details of cost per trip

a) Hire charge of truck per day (without fuel)	=					₹ 7,000.00
b) Cost of M/oil @ ₹. 230.00 per litre (@ 100.0 km per litre)	=	(230X178.80)/100	=			₹ 411.24
c) Diesel oil @ ₹. 60.20 per litre (@ 3.50 km per litre)	=	(60.20X178.80)/3.50	=			₹ 3,075.36
d) Labour 6 nos OM @ ₹. 450.00 per head/day	=	6 X 450.00	=			₹ 2,700.00
Add 1/6 for a day off						₹ 450.00
						₹ 13,636.60
Add 10% contractor's profit	(+)					₹ 1,363.66
						₹ 15,000.26

Cost per trip = ₹ 10,000.17

It is assumed that a 10 Tonner truck with 60% efficiency can carry 6.00 MT load.

#### Details of cost per Rm

a) 25 mm dia GI pipe @ 2.43 kg/Rm	=	₹ 10,000.17 x	2.43 /	6000	=	₹ 4.06
b) 32 mm dia GI pipe @ 3.13 kg/Rm	=	₹ 10,000.17 x	3.13 /	6000	=	₹ 5.22
c) 40 mm dia GI pipe @ 3.60 kg/Rm	=	₹ 10,000.17 x	3.60 /	6000	=	₹ 6.01
d) 50 mm dia GI pipe @ 5.10 kg/Rm	=	₹ 10,000.17 x	5.10 /	6000	=	₹ 8.51
e) 65 mm dia GI pipe @ 6.53 kg/Rm	=	₹ 10,000.17 x	6.53 /	6000	=	₹ 10.89
e) 80 mm dia GI pipe @ 8.54 kg/Rm	=	₹ 10,000.17 x	8.54 /	6000	=	₹ 14.24
f) 100 mm dia GI pipe @ 12.50 kg/Rm	=	₹ 10,000.17 x	12.50 /	6000	=	₹ 20.84
g) 125 mm dia GI pipe @ 16.39 kg/Rm	=	₹ 10,000.17 x	16.39 /	6000	=	₹ 27.32

**Name of work:** Transportation of GI pipes from Kangpokpi to worksite within a lead of 9.0 km by headload

Total distance to be covered to and fro =  $2 \times 9.0$

$$= 18.0 \text{ km}$$

Assuming that a man can travel 20.00 km per day

No. of days to be taken 9.0 km =  $9/20 = 0.45 \text{ day}$  0.45


It is assumed that

- a) 1 man can carry 25 mm and 32 mm dia GI pipe charged @ ₹. 400.00 per head/day
- b) 2 men can carry 40 mm and 50 mm dia GI pipe charged @ ₹. 400.00 per head/day
- c) 4 men can carry 65 mm and 80 mm dia GI pipe charged @ ₹. 400.00 per head/day
- d) 6 men can carry 100 mm and 125 mm dia GI pipe charged @ ₹. 400.00 per head/day

#### Details of cost per Rm

a) 25 & 32 mm dia GI pipe	=	1	0.45	x	400 /	6.15	=	₹ 29.27
b) 40 & 50 mm dia GI pipe	=	2	0.45	x	400 /	6.15	=	₹ 58.54
c) 65 & 80 mm dia GI pipe	=	4	0.45	x	400 /	6.15	=	₹ 117.07
f) 100 & 125 mm dia GI pipe	=	6	0.45	x	400 /	6.15	=	₹ 175.61



  
 Assistant Engineer,  
 Sub-Division No. 10  
 Kangpokpi PHE Division  
 PHE D. Manipal



**ABSTRACT OF COST**

Name of work: Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgragation and strengthening along the Imphal - Jiribam road from chainage km 15. 946 to km 33.120 (Sub-head: Cost of pipe specials and fittings)

Sl.	Sub-head/items of work	Qty	Rate	Unit	Amount	Remarks
1	Cost of GI bends of 65 mm dia					Approved rate of PHED, Manipur Vide No EE/KPI/PHE/ISO 20-21/01 dt 20/07/2020
	(i) 90°	25	₹ 157.40	each	₹ 3,935.00	
	(ii) 45°	25	₹ 157.40	each	₹ 3,935.00	
	(iii) 22.50°	25	₹ 157.40	each	₹ 3,935.00	
	(iv) 11.25°	25	₹ 157.40	each	₹ 3,935.00	
2	Cost of MJ equal Tees					CE/PHE/2- 13(MISC)/2013/40 Dt. 4/4/2014
	(ii) 80 X 80 X 80 mm	10	₹ 4,846.00	each	₹ 48,460.00	
	(iii) 100 X 100 X 80 mm	10	₹ 5,831.00	each	₹ 58,310.00	
3	Cost of GI flange					Vide a- EE/KPI/PHE/ISO/20- 21/01 dt 20/07/2020
	(iii) 65 mm dia	25	₹ 159.00	each	₹ 3,975.00	
	(iv) 50 mm dia	25	₹ 130.00	each	₹ 3,250.00	
4	Cost of GI union socket					
	(i) 65 mm dia	50	₹ 378.00	each	₹ 18,900.00	
5	Cost of GI socket (H)					9/21/98-PHE.PI-II Dt. 26/6/2004
	(i) 65 mm dia	50	₹ 195.00	each	₹ 9,750.00	
6	Cost of CI sluice valve					
	(ii) 80 mm dia	30	₹ 6,560.00	each	₹ 1,96,800.00	
7	Cost of CI flanged adopter					
	(ii) 80 mm dia	50	₹ 1,346.00	each	₹ 67,300.00	
8	Cost of MS patch clamp					
	(i) 100 mm	50	₹ 1,257.00	each	₹ 62,850.00	
9	GI reducer					
	(II) 65 X 50 mm	100	₹ 121.25	each	₹ 12,125.00	
	(II) 50 X 40 mm	20	₹ 89.80	each	₹ 1,796.00	
	(II) 40 X 32 mm	30	₹ 47.80	each	₹ 1,434.00	
	(II) 32 X 25 mm	50	₹ 39.60	each	₹ 1,980.00	

₹ 5,02,670.00  
Less 18% GST = ₹ 90,480.60  
₹ 4,12,189.40

Say, ₹ 4,12,189.00




Assistant Engineer,  
Sub-Division No.-III  
Kangpokpi P.H.E. Division  
P.H.E.D., Manipur



GOVERNMENT OF MANIPUR  
PUBLIC RELATIONS ENGINEERING DEPARTMENT

No. PHE/PR/2021/251414

Imphal, 04/06/2021

To  
The Executive Engineer,  
Kangpokpi PHE Division,  
PHE, Government of Manipur

Subj: Procurement of GI pipes for the work taken up under Jal Jeevan Mission (JJM).

On recommendation of the higher tender committee and conveyed vide letter No. PRCO-21/2021 PHE D-PHE D dated 24/05/2021, the procurement of following GI pipes may be made from BST Infratech Limited, 1 R N. Mukherjee Road, 2<sup>nd</sup> Floor, Room No.-231 & 232, Kolkata -700001 under the following terms and conditions, and availability of fund.

**Technical Specifications.**


Only ISI marked Galvanized Mild Steel Tubes, Electrical Resistance Welded (ERW), High Frequency Induction Welded (HFIW), Hot Finished Welded (HFW), conforming to IS 1239 Part I:2014 (with latest amendment) specified at both ends to IS 1239 Part II:2012 fourth revision, with amendment No 1 in random length of 4 to 7 meters in the following nominal bore size, class and quantity.

Sl.No.	Size and Class	Quantity (in meter)	Rate (₹)	Unit	Amount
1	32 mm. dia (M)	165270.00	₹ 353.78	Rm	₹ 5,84,69,220.60
2	40 mm. dia (M)	7404.00	₹ 411.99	Rm	₹ 30,60,373.96
3	65 mm. dia (M)	142.00	₹ 765.21	Rm	₹ 1,08,659.82
4	80 mm. dia (M)	4000.00	₹ 993.31	Rm	₹ 39,73,240.00
Total					₹ 6,56,01,494.38
say					₹ 6,56,01,495.00

(Rupees six crore fifty six lakh one thousand four hundred ninety five) only

**TERMS & CONDITIONS:**

1. The above rates are F.O.R. Imphal including GST, all applicable taxes & inspection charge etc.
2. The materials shall have to be inspected before dispatched by DGS&O Inspector Wing / RITES / SGS etc.
3. The materials will be as per ISI mark. Unspecified materials if supplied will be rejected and replace them at manufacturer's own risk and cost. Quantity and quality as specifications have to be strictly maintained.
4. Executive Engineer concerned shall ensure the quality and quantity of the pipe received.
5. The pipes should be engraved with the marking "PHE GOM" at one meter interval. Further, each pipe shall be numbered and tracked from the factory till its destination and utilization at site.
6. Advance payments shall be made only against an unconditional Bank Guarantee for an amount of 110% of the amount of the supply (as per CVC guidelines) from Nationalized/Scheduled Bank having its branch at Imphal with validity to cover the period of work/supply or till it is adjusted.
7. Copy of the Bank Guarantee and payment details may be submitted to this office.

  
Chief Engineer, PHE,  
Government of Manipur

Copy to:-

1. File concerned.

R.E. No. 14  
10-4-2014

GOVERNMENT OF MANIPUR  
PUBLIC HEALTH ENGINEERING DEPARTMENT  
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No.CE/PHE/2-13(MISC)/2013/ 40  
To

Imphal, Dated: 4/4/2014

PCD  
✓ All Executive Engineers  
P.H.E. Department, Manipur.

Sub:- Revised rates of various sizes of Cast Iron Mechanical Joint  
(CI M/J) fittings & specials.

A new revised rates of various sizes of Cast Iron Mechanical Joint (CI MJ) conforming to IS:13382 (KESIN) manufactured by M/s Kejriwal Castings Limited, Chatterjee International Centre, 33A, Chowringhee Road, 11<sup>th</sup> Floor, Suit 6 & 11, Kolkata - 700 071 has been approved by the Govt. vide approval No.9/11/2008-PHE dated 30.1.2014 as shown in Annexure-A.

Further, the Government vide letter No.9/11/2008-PHE dated 4.2.2014 has directed the department to procure the above items from M/s Variety Trades Complex, Thangal Bazar, Imphal who is the local authorized dealer of M/s Kejriwal Castings Limited, Kolkata as the manufacturer has intimated to deal with the local authorized dealer M/s Variety Trades Complex, Thangal Bazar, Imphal for executing the supply of the materials without advance payment against the Department's proposal No.CE/PHE/2-13(MISC)/2013/2829 dt.3.2.2014.

It is, therefore, directed that supply order for CI MJ fittings & specials conforming to IS:13382 may be placed only to M/s Variety Trades Complex, Thangal Bazar, Imphal, who is the only authorized dealer of M/s Kejriwal Castings Limited, Kolkata. No advance payment may be made and payment will be made after receipt of the materials in full and good condition.

End:- As above.

  
(M. Imomacha Singh)  
Chief Engineer, PHED  
Manipur

Copy to:-

1. The Addl. Chief Engineer, PHED, Manipur
2. All Superintending Engineers, PHED, Manipur
3. File concerned.



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Asst. Engineer

WSPC

The Chief Engineer,  
P.H.E. Department,  
Mauripur.

Subs- Rate quotation for C.I. Mechanical joints/fittings suitable for CI/DI pipes. Approval thereof by the competent authority.

104. Para directed to refer to letter No. C E/PHE/2-13(MISC)/2002/3 dated 29/12/04 on the above subject, and to convey approval of Government to the negotiated bid of M/s. as bidder for procurement of C/I mechanical joints/fittings suitable for C/I pipes initiated in the Annexure-V of tender referred above.

You are, therefore, requested to take necessary action for procurement of the materials by observing necessary formalities.

Young Adult Library

at 1000

(Th. Lokhan Singh)

Joint Secretary, PHED, Govt. of Manipur.



# SCHEDULE OF QUANTITY

Annex-vii

Name of work: Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120)  
(Sub-Head :- Construction of Community Sanitary Complex under SBM (G))

Sr. No	Description	Qty	Rate	Unit	Amount	Remarks
1	2	3		5	6	7
1	Earth work in excavation in foundation trenches or drains i/c dressing of sides and ramming of bottom and list upto 1.50m i/c getting out the soil and disposal of the surplus excavated soil within a lead of 50m in (a) Hard/ dense soil	18.07	165.32	Cum	₹ 2,987.30	MSR'17 +18% escalation
2	Providing and laying cement concrete in foundation and plinth excluding the cost of centering shuttering in 1:5:10 (1 cement: 5 c/sand: 10 graded stone aggrt. 40 mm size.)	9.49	5,724.65	Cum	₹ 54,326.95	-do-
3	Polygonal rubble masonry / R.R. masonry (uncoursed / brought to course) / squared rubble masonry (uncoursed brought to course) with hard stone of approved quality in foundation and plinth in c.m. 1:6 (1 cem : 6 fine sand) including levelling up with cement concrete 1:6:12 (1 cem : 6 c/sand 12 stone aggrt. 20 mm nominal size) at plinth level	8.68	4,856.76	Cum	₹ 42,156.69	-do-
4	2nd class (local first class) brick work in foundation and plinth in c. m. 1 : 4 (1 cem : 4 coarse sand).	9.42	10,264.35	Cum	₹ 96,690.16	-do-
5	Providing wood work in trusses, purlins, rafters, post plates, wall plates and the like wrought, framed and fixed in position. Uchan / Tairen / Tolhao / Khangra.	0.14	57,707.19	Cum	₹ 8,079.01	-do-
6	Supply H.D. bolts 106Cm long with 12mm dia. Iron rod for fixing the post plate or wall plate i/c cost of nuts.	4.00	184.91	Each	₹ 739.62	-do-
7	Providing wood work in frames of door, windows, clerestory windows and other frames wrought, framed and fixed in position with Local best quality Leihao	0.12	41,134.80	Cum	₹ 4,936.18	-do-
8	Providing and fixing 38 mm thick local best quality Uningthou lining with raised panel and collection mouldings complete as per design with necessary screws and priming coat on unexposed surface.	6.00	5,227.28	Sqm	₹ 31,363.69	-do-
9	Corrugated GI sheet roofing 24BG fixed with					

Sr. No	Description	Qty	Rate	Unit	Amount	Remarks
	galvanized iron J or L hooks 8mm dia GI limpet and bitumen washers complete e/c the cost of purlin, rafter, and trusses.	7.91	921.93	Sqm	₹ 7,292.50	-do-
10	Filling in plinth with sandy soil under floors including watering, ramming, consolidation and dressing complete	1.85	498.20	Sqm	₹ 921.66	-do-
11	50mm cement concrete flooring 1:2:4(1cent.2coarse sand 4s/aggt 20mm & down gauge) finished with a floating coat of neat cement.	8.09	593.78	Sqm	₹ 4,803.65	-do-
12	Providing and fixing 20 mm plank as eaves board with :- Tolhao / Uchan.	1.50	1,086.54	Sqm	₹ 1,629.82	-do-
13	Reinforcement for R.C.C. works i/c bending, binding and placing in position complete.	54.53	111.98	Kg	₹ 6,106.13	-do-
14	Providing form work i/c centering shuttering so as to give a wrought finished strutting and propping etc height of propping and centering bellow supporting floor to ceiling not exceeding 4m removal of the same for in-situ reinforced concrete and plain concrete i) sides and soffits of beams, beam haunchings cantilevers, girders, bressumers and lintels not exceeding 1 m in depth.	3.47	858.80	Sqm	₹ 2,980.05	-do-
15	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement: 1.5 coarse sand: 3 graded stone aggregate 20 mm nominal size).	0.16	10,560.53	Cum	₹ 1,689.68	-do-
16	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. up to floor five level excluding cost of centering, shuttering, finishing and reinforcement : a) 1:1.5:3 (1 cement: 1.5 coarse sand: 3 graded stone aggregate 20 mm nominal size).	0.02	10,173.37	Cum	₹ 203.47	-do-
17	12 mm cement plaster 1:4 (1 cem : 4 f/sand )	66.78	238.24	Sqm	₹ 15,909.80	-do-
18	Neat cement punning	0.80	63.84	Sqm	₹ 51.07	-do-
19	Applying ready mixed priming coat pink primer of approved quality on wood work.	27.60	49.44	Sqm	₹ 1,364.60	-do-




Sl. No	Description	Qty	Rate	Unit	Amount	Remarks
20	Painting two coats (e/c priming coat) with chocolate, red, green, gray, or buff paint of approved quality in all shades on old steel or wood work	27.60	127.68	Sqm	₹ 3,523.86	-do-
21	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm Sand Cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required: a) White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests	2.00	5,762.77	Each	₹ 11,525.53	-do-
22	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350 mm and 340x410x265 mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever a. One urinal basin with 5 litre white P.V.C. automatic flushing cistern	1.00	5,208.40	Each	₹ 5,208.40	-do-
23	Providing and fixing grating of approved quality for Nahni trap.	2.00	259.95	Each	₹ 519.91	-do-
24	P/F a pair of white glazed earthenware foot rest of standard pattern for Indian type WC pan a) 125 mm nominal diameter with 25 mm waste hole	4.00	177.35	Each	₹ 709.42	-do-
25	Providing precast cement concrete Jali 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) reinforced with 1.6 mm dia mild steel wire including centering and shuttering, roughening cleaning, fixing and finishing in cement mortar 1:3 (1 cement : 3 fine sand) etc. complete excluding plastering of the jambs, sills and soffits. a) 50 mm thick	0.68	1,911.01	Sqm	₹ 1,299.49	-do-
26	Procurement of PVC pipe single socket 3m long 75mm dia	3.00	549.00	Each	₹ 1,646.99	-do-
27	P/F 75x75x75mm dia. Rigid PVC Tee	6.00	596.64	Each	₹ 3,579.86	-do-
28	P/F 75x75x75 mm dia. PVC Plain bend of required degree	2.00	187.15	Each	₹ 374.30	-do-
29	Labour charge for fitting PVC pipe 75mm dia.	1.00	531.00	Each	₹ 531.00	-do-



Sr. No	Description	Qty	Rate	Unit	Amount	Remarks
30	P/F G.I. Pipes complete with G.I. Fitting and clamps including cutting and making good the walls etc (internal works).					
	50 mm dia	0.60	562.39	Sqm	₹ 337.43	-do-
	20 mm dia	0.60	276.95	Sqm	₹ 166.17	-do-
31	Procurement of G.I. Bucket					
	i) 15 litres	2.00	354.00	Each	₹ 708.00	-do-
32	Supplying doors and windows clamps with 40 mm x 6 mm F.B. 80 cm long including bends.	12	195.53	Each	₹ 2,346.31	-do-
33	Supplying 40mmx3mmx275xx FB twisted plate i/c cost of bolts and nuts	14.00	86.85	Each	₹ 1,215.87	-do-
34	Providing and fixing brass sliding bolts bright finished or/and black enameled with nuts and screws etc complete a) 300x12mm	3.00	1,500.00	Each	₹ 4,500.01	-do-
35	Providing and fixing brass handles with necessary screws etc complete a) 125mm	3.00	150.00	Each	₹ 450.00	-do-
36	Providing and fixing brass tower bolts (barrel type) with screws etc complete a) 150x10mm	3.00	300.00	Each	₹ 900.01	-do-
37	P/F brass full way G.M. valve with C.I. Wheel of superior quality.	1.00	2,184.18	Each	₹ 2,184.18	-do-
	50 mm dia	2.00	734.90	Each	₹ 1,469.81	-do-
	20 mm dia Bib Cock					
38	Filling available excavated earth (e/c rock) in trenches plinth sides of foundation in layers not exceeding 20 cm. consolidating each deposited layer ramming and watering lead up to 50m and lift up to 1.5m.	3.97	131.57	Cum	₹ 522.33	-do-
39	Providing, hoisting and fixing up to floor five level precast reinforced cement concrete in small lintels not exceeding 1.5 m clear span up to floor five level, including the cost of required centering, shuttering but excluding the cost of reinforcement, with 1:2:4 ( 1 cement :2 c/sand : 4 s/aggt 20mm nominal gauge) but excluding the cost of centering shuttering in Kerbs, steps, and the like	0.07	16,177.80	Cum	₹ 1,132.45	-do-
					₹ 3,29,083.35	

Say, ₹ 3,29,083.00

  
 Assistant Engineer,  
 Sub-Division No -III  
 Kanamkhal D.H.E. Division  
 P.H.E.D., Manipur

### Details of Measurements

Name of work: Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, upgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120) (Sub-Head :- Construction of Community Sanitary Complex under SBM (G))

Sl. No	Sub-item	Nos.	Length	Breath	Depth/Thickness	Quantity
1	Earth work in excavation in foundation trenches ..... (a) Hard/ dense soil					
	L/W	3 x	6.00 x	0.60 x	0.60	= 6.48 Cum
	S/W	3 x	3.00 x	0.60 x	0.60	= 3.24 Cum
	S/W	2 x	2.00 x	0.60 x	0.60	= 1.44 Cum
	Steps	2 x	1.40 x	1.00 x	0.30	= 0.84 Cum
	S/Pit	2 x	3.14 x	1.46 <sup>2</sup> x	1.80	= 6.02 Cum
		4				
	C/Chamber	1 x	0.75 x	0.75 x	0.09	= 0.05 Cum
						18.07 Cum
2	Providing and laying cement concrete in foundation and plinth..... 1:5:10					
	L/W	3 x	6.00 x	0.60 x	0.30	= 3.24 Cum
	S/W	3 x	3.00 x	0.60 x	0.30	= 1.62 Cum
	S/W	2 x	1.50 x	0.60 x	0.30	= 0.54 Cum
	Steps	2 x	1.40 x	1.00 x	0.30	= 0.84 Cum
	S/Pit	2 x	3.14 x	1.46 <sup>2</sup> x	1.06 <sup>2</sup> x	0.30 = 0.47 Cum
		4				
	Floor		3.7 x	2.40 x	0.30	= 2.66 Cum
	C/Chamber	1 x	0.53 x	0.75 x	0.30	= 0.12 Cum
						9.49 Cum
3	Polygonal rubble masonry / R.R. masonry.....					
	1st Step :-					
	L/Wall	3 x	5.15 x	0.45 x	0.40	= 2.78 Cum
	S/Wall	3 x	2.70 x	0.45 x	0.40	= 1.46 Cum
	S/Wall	2 x	1.35 x	0.45 x	0.40	= 0.49 Cum
	2nd Step :-					
	L/Wall	3 x	5.15 x	0.30 x	0.50	= 2.32 Cum
	S/Wall	3 x	2.70 x	0.30 x	0.50	= 1.22 Cum
	S/Wall	2 x	1.35 x	0.30 x	0.50	= 0.41 Cum
						8.68 Cum
4	2nd class (local first class) brick work.....					
	L/Wall	1 x	5.15 x	2.10 x	0.20	= 2.16 Cum
	Lintel Wall	1 x	3.45 x	0.30 x	0.20	= 0.21 Cum
	(Verandah)	1 x	3.70 x	1.53 x	0.20	= 1.13 Cum
	S/W	2 x	0.90 x	( $\frac{2.10 + 2.40}{2}$ ) x	0.20	= 0.81 Cum
		2 x	1.50 x	( $\frac{2.10 + 2.40}{2}$ ) x	0.20	= 1.35 Cum
	Urinal Male	1 x	1.50 x	2.10 x	0.20	= 0.63 Cum
	Partition					

Sl. No	Sub-item	Nos.	Length	Breath	Depth/Thickness	Quantity
	Wall	1 x	1.20 x	1.83 x	0.20	= 0.44 Cum
	Steps	2 x	1.20 x	0.90 x	0.15	= 0.32 Cum
		2 x	1.20 x	0.60 x	0.15	= 0.22 Cum
		2 x	1.20 x	0.30 x	0.15	= 0.11 Cum
	Pillars	3 x	0.25 x	0.25 x	2.10	= 0.39 Cum
		3 x	0.25 x	0.25 x	2.40	= 0.45 Cum
	(Verandah)	3 x	0.25 x	0.25 x	1.53	= 0.29 Cum
	S/Pit	2 x	2.00 x	3.14 x	1.26 x 0.125 x 0.30	= 0.59 Cum
	Honey Comb	1 x	80 x	3.14 x	1.26 x 0.125 x 1.30	= 0.51 Cum
		100				
	C/Chamber	2.00 x	0.43 +	0.30 x	0.30 x 0.125	= 0.04 Cum
						9.65 Cum
	Less for Ventilation	3 x	0.60 x	0.30 x	0.13	= 0.07 Cum
	Less for Lintel beam	2 x	3.45 x	0.15 x	0.15	= 0.16 Cum
						9.42 Cum
5	Providing wood work in trusses, purlins, rafters, post plates, .....					
	Post Plate	2 x	3.70 x	0.10 x	0.05	= 0.04 Cum
	Trussess	4 x	1.81 x	0.10 x	0.05	= 0.04 Cum
	Purlin	3 x	3.75 x	0.10 x	0.05	= 0.06 Cum
						0.14 Cum
						4.00 Nos
6	Supply and fixing H.D. Bolts					
7	Providing wood work in frames of door, windows, .....					
	Doors frame	3 x	2 x 2.00 x	0.08 x	0.10	= 0.10 Cum
		3 x	1 x 1.00 x	0.08 x	0.10	= 0.02 Cum
						0.12 Cum
8	Providing and fixing 38 mm thick local best quality .....					
		3 x	2.00 x	1.00		= 6.00 sqm
9	Corrugated GI sheet roofing 24BG fixed with galvanized iron .....					
		1 x	3.75 x	2.11		= 7.91 sqm
10	Filling in plinth with sandy soil under floors .....					
	Lavotory	2 x	1.20 x	0.85 x	0.20	= 0.41 Cum
		2 x	1.20 x	1.00 x	0.20	= 0.48 Cum
	Verandah	2 x	2.00 x	1.20 x	0.20	= 0.96 Cum
						1.85 Cum
11	50mm cement concrete flooring 1:2:4 .....					
	W/Closet		2 x	0.89 x	1.00	= 1.78 sqm
	Urinal		2 x	0.89 x	0.85	= 1.51 sqm
	Verandah		2 x	2.00 x	1.20	= 4.80 sqm
						8.09 sqm
12	Providing and fixing 20 mm plank .....					
			2 x	3.75 x	0.20	= 1.50 sqm
13	Reinforcement for R.C.C. works i/c bending, binding .....					
	Pit Cover	2 x	1.45 =	2.90 m	$2\sqrt{r(r-r_1)}$	
		4 x	1.36 =	5.44 m	$2\sqrt{0.73 \times (0.73 - 0.10)} = 1.36 \text{ m}$	
		4 x	1.24 =	4.96 m	$2\sqrt{0.73 \times (0.73 - 0.20)} = 1.24 \text{ m}$	



Sl. No	Sub-item	Nos.	Length	Breath	Depth/Thickness	Quantity
		4 x	1.12 =	4.48 m	$2\sqrt{(0.73 \times (0.73 - 0.30))} = 1.12 \text{ m}$	
		4 x	0.98 =	3.92 m	$2\sqrt{(0.73 \times (0.73 - 0.40))} = 0.98 \text{ m}$	
		4 x	0.82 =	3.28 m	$2\sqrt{(0.73 \times (0.73 - 0.50))} = 0.82 \text{ m}$	
		4 x	0.62 =	2.48 m	$2\sqrt{(0.73 \times (0.73 - 0.60))} = 0.62 \text{ m}$	
		4 x	0.30 =	1.20 m	$2\sqrt{(0.73 \times (0.73 - 0.70))} = 0.30 \text{ m}$	
		1 x	3.14 x	1.45 =	4.55 m	
				33.21 m		
				8mm dia @ 0.39 Kg/m =	12.95 Kgs	
				For 2 nos. of pit cover 12.95 Kgs. X 2 =		25.90 Kgs
	Chamber cover	2 x	4.00 x	0.55 =	4.40 m	
				8mm dia @ 0.39 Kg/m =	1.72 Kgs	
					27.62 Kgs	
	Lintel beam :	2 x	4.00 x	3.45 =	27.60 m	
				8mm dia @ 0.39 Kg/m =	10.76 Kgs	
	Stirrups :	2 x	$\frac{4.45}{0.15} +$	1 =	60 nos	
				6mm rod @ 15cm c/c @ 0.22 Kg/m	=	13.20 Kgs
	Pillar : 2nos.	2 x	4.00 x	0.45 =	3.60 m	
				8mm dia @ 0.39 Kg/m =	1.40 Kgs	
	Stirrups :	2 x	$\frac{0.45}{0.15} +$	1 =	7 nos	
				6mm rod @ 15cm c/c @ 0.22 Kg/m	=	1.54 Kgs
						54.53 Kgs
14	Providing form work i/c centering shuttering so as to give a wrought .....					
	i) sides and soffits of beams, beam haunchings cantilevers					
	Lintel	2 x	3.00 x	3.45 x	0.15	= 3.11 Sqm
	Pillars	2 x	4.00 x	0.30 x	0.15	= 0.36 Sqm
						3.47 Sqm
15	Reinforced cement concrete work in suspended floors, roofs, beams, .....					
		2 x	3.45 x	0.15 x	0.15	= 0.16 Cum
16	Reinforced concrete work in columns, pillars					
		2 x	0.45 x	0.15 x	0.15	= 0.02 Cum
17	12 mm thick cement plaster 1:4 (1cem:4c/sand)					
	S/W (Outside)	1 x	2.10 x	1.20		= 2.52 sqm
	S/W (Outside)	1 x	$\frac{2.40}{2} +$	$\frac{2.10}{2} x$	1.20	= 2.70 sqm
	L/W (Outside)	1 x	3.70 x	2.10		= 7.77 sqm
	Wall (Inside)	2 x	1.00 x	2.10		= 4.20 sqm
		2 x	0.85 x	2.10		= 3.57 sqm
	Short Wall	7 x	$\frac{2.40}{2} +$	$\frac{2.10}{2} x$	1.20	= 18.90 sqm
	Urinal Wall	1 x	2.10 x	1.20		= 2.52 sqm
	(Inside) Plinth Wall	1 x	3.45 x	0.30		= 1.04 sqm

Sl. No	Sub-item	Nos.	Length	Breath	Depth/Thickness	Quantity
	(Outside) Plinth Wall		1 x	3.45 x	0.30	= 1.04 sqm
	Seperator walls (Verandah)		2 x	1.53 x	1.20	= 3.67 sqm
	Top Side		1 x	1.53 x	0.15	= 0.23 sqm
	Pillar	3 x	0.25 x	0.25 x	2.00	= 0.38 Sqm
		3 x	0.25 x	0.25 x	2.30	= 0.43 Sqm
		3 x	0.25 x	0.25 x	1.53	= 0.29 Sqm
	Long Wall (Verandah) In		1 x	3.70 x	1.53	= 5.66 sqm
	Outside		1 x	4.45 x	1.53	= 6.81 sqm
	(Tread) Steps		2 x	1.20 x	0.90	= 2.16 sqm
	(Riser) Steps		2 x	1.20 x	0.45	= 1.08 sqm
	Sides	2 x	2.00 x	0.90 x	0.15	= 0.54 Sqm
		2 x	2.00 x	0.60 x	0.15	= 0.36 Sqm
		2 x	2.00 x	0.30 x	0.15	= 0.18 Sqm
	C/Chamber	[( 2 x 0.43 )+ 0.30 ]x		0.30	0.30	= 0.35 sqm
		4 x		0.30 x	0.30	= 0.36 sqm
		1 x		0.30 x	0.30	= 0.09 sqm
						<u>66.85 sqm</u>
	Less for ventilation	3 x	0.60 x	0.30 x	0.125	= 0.07 Sqm
						<u>66.78 sqm</u>
18	Neat cement punning	[( 2 x 0.43 )+ 0.30 ]x		0.30	0.30	= 0.35 sqm
		4 x		0.30 x	0.30	= 0.36 sqm
		1 x		0.30 x	0.30	= 0.09 sqm
						<u>0.80 sqm</u>
19	Applying ready mixed priming coat .....					
	Shutter	3 x	2.00 x	2.00 x	1.00	= 12.00 Sqm
	Frames	3 x( 2.10 + 1.00 + 2.10 )				= 15.60 Sqm
						<u>27.60 Sqm</u>
20	Painting two coats (e/c priming coat) with chocolate.....					= 27.60 Sqm
	Same qnty as item No. 19					
21	Providing and fixing white glazed earthen wire w.,c. pan.....					= 2 Nos
22	Providing and fixing earthenware Urinal basins....					= 1 Nos
	a. Angular lipped front Urinal					= 1 Nos
	b. Squating Urinal (450x350mm)					
23	P/F grating for gully trap or Nahni trap.					= 2 Nos
24	P/F a pair of white glazed earthenware foot rest.....					= 4 Nos
25	Providing precast cement concrete jali 1:2:4....			3 x	0.75 x 0.30	= 0.68 sqm
26	Procurement of PVC pipe single socket .....					= 3 nos
27	P/F 75x75x75mm dia. Rigid PVC Tee					= 6 nos
28	P/F 75mm dia. PVC Plain bend of required degree					= 2 nos

Sl. No	Sub-item	Nos.	Length	Breath	Depth/Thickness	Quantity
29	Labour charge for fitting PVC pipe 75mm dia.					= 1 nos
30	P/F G.I. Pipes complete with G.I. Fitting and.....					
	50mm dia.			1.00 x	0.60	= 0.60 sqm
	20 mm dia.			2.00 x	0.30	= 0.60 sqm
31	Procurement of G.I. Bucket i) 15 litres					= 2 nos
32	Supplying doors and windows clamps.....			3 x	2 x	2 = 12.00 nos
33	Supplying doors and windows clamps with 40....				2 x	7 = 14.00 nos
34	Providing and fixing MS sliding bolts bright finished.....					= 3 nos
35	Providing and fixing MS handles.....					= 3 nos
36	Providing and fixing MS tower bolts.....					= 3 nos
37	P/F brass full way G.M. valve with C.I. Wheel of superior quality.					
	50 mm dia					= 1 nos
	20 mm dia Bib Cock					= 2 nos
38	Filling available excavated earth (e/c rock) in trenches plinth sides.....					= 3.97 Cum
39	Providing and fixing up to floor two level pre-cast.....					
	Pit Cover	1 x	$\frac{3.14}{4} x$	1.15	$^2 x$ 0.06	= 0.06 Cum
	Chamber Cover	1 x	0.43 x	0.55 x	0.05	= $\frac{0.01}{0.07}$ Cum



ABSTRACT OF COST

Name of work :- Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgragation and strengthening along the Imphal - Jiribam road from chainage km 15. 946 to km 33.120) (Sh: Construction of IHHL)

Sl. No.	Sub-Head/Items of work	Qty.	Rate i/c 16% Cost	Unit	Amount (Rs.)	Remarks
1.	Earthwork in excavation in foundation trenches or drains including dressing of sides and ramming of bottoms lift upto 1.5m including getting out the excavated soil and disposal of surplus excavated soil as directed	2.46	165.32	cum	406.68	MSR 2017
2.	P/L C.C. in foundn. & plinth excluding the cost of centering & shuttering in a) 1:4:8 (1cem:4c/sand:8st. aggt. 40mm.	1.06	6,187.21	cum	6,558.44	MSR'17
3.	P/L in position specified grade of RCC excluding cost of centering, shuttering, finishing & reinforcement. All work upto plinth a) 1:1.5:3 (1cem:1.5c/sand :3g/st. aggt 20mm nom. size)	1.41	9,170.13	cum	12,929.89	MSR'17
4.	2nd class (local first class) brick work in foundation and plinth in c. m. 1 : 4 (1 cem : 4 coarse sand).	1.50	10,264.35	cum	15,396.52	MSR'17
5.	RCC work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases upto floor five level excluding the cost of centring, a) 1:1.5:3 (1cem:1.5c/sand :3g/st. aggt 20mm nom. size)	1.35	10,560.53	cum	14,256.71	MSR'17
6.	P/form works i/c centering and shuttering so as to give a rough finish, strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4m and removal of the same for in- a) Foundation footings, bases of columns etc. and mass concrete.	4.48	610.41	sqm	2,734.65	MSR'17
	c) Flat surfaces such as suspended floors, roofs landing and the like - floors etc upto 200 mm in thickness.	4.50	884.65	sqm	3,980.91	MSR'17
	d) Edges of slab - under 20cm wide	1.80	134.52	sqm	242.14	MSR'17
7.	Steel reinforcement for RCC works i/c straightening, cutting, bending, placing in position and binding all complete - Thermo-	81.84	111.98	Kg	9,164.61	MSR'17
8.	15mm cement plaster 1:3 (1cem:3 c/sand) finished with a floating coat of neat cement.	33.20	372.41	sqm	12,363.95	MSR'17
9	Providing wood work in trusses, purlins, rafters, post plates, wall plates and the like wrought, framed and fixed in position.	0.29	57,707.19	Cum	₹ 16,735.09	-do-
10	Providing wood work in frames of door, windows, clerestory windows and other					

Sl. No.	Sub-Head/Items of work	Qty.	Rate l/c 18% Cost	Unit	Amount (Rs.)	Remarks
	frames wrought, framed and fixed in position with Local best quality Leihao	0.02	41,134.80	Cum	₹ 822.70	-do-
11	Corrugated GI sheet roofing 24BG fixed with galvanized iron J or L hooks 8mm dia GI limpet and bitumen washers complete e/c the cost of purlin, rafter, and trusses.	6.05	921.93	Sqm	₹ 5,577.70	-do-
12	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm Sand Cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever a) White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type	1.00	5,762.77	Each	₹ 5,762.77	-do-
13	Providing and fixing grating of approved quality for Nahni trap.	2.00	259.95	Each	₹ 519.91	-do-
14	P/F a pair of white glazed earthenware foot rest of standard pattern for Indian type WC a) 125 mm nominal diameter with 25 mm waste hole	2.00	177.35	Each	₹ 354.71	-do-
15	Procurement of PVC pipe single socket 3m long 75mm dia.	2.00	549.00	Each	₹ 1,097.99	-do-
16	P/F 75x75x75mm dia. Rigid PVC Tee	3.00	596.64	Each	₹ 1,789.93	-do-
17	P/F 75x75x75 mm dia. PVC Plain bend of required degree	1.00	187.15	Each	₹ 187.15	-do-
					₹ 1,10,882.43	
	For	8		Nos.	₹ 8,87,059.47	

Say, ₹ 8,87,059.00

Assistant Engineer,  
Sub-Division No -III  
Kangpokpi P.H.E. Division  
D.H.E.D., Manipal

## DETAILS OF MEASUREMENT

Name of work :- Relocation of pipe lines, water tanks, tube wells, sanitary latrine in respect to rehabilitation, pgradation and strengthening along the Imphal - Jiribam road from chainage km 15.946 to km 33.120) (Sh: Construction of IHHL)

Sl. No.	Sub-Head/Items of work	Measurements				Quantity
		No.	L	B	D	
1.	Earthwork in excavation in foundation trenches ..... - H/D soil.					
		1	3.20	2.20	0.35	= 2.46 cum
2.	P/L C C. in foundn. & plinth.....					
	a) 1:4:8 (1cem:4c/sand:8st. aggt.	1	3.20	2.20	0.15	= 1.06 cum
3.	P/L in position specified grade .....					
	a) 1:1.5:3 (1cem:1.5c/sand :3g/st. aggt 20mm nom. size)	1	3.20	2.20	0.20	= 1.41 cum
4.	2nd class (local first class) brick work in ft					
	a) 1:1.5:3 (1cem:1.5c/sand :3g/st. aggt 20mm nom. size)	2	1.50	1.20	0.25	= 0.90 cum
		2	1.00	1.20	0.25	= 0.60 cum
						<u>1.50 cum</u>
5.	RCC work in beams, suspended floors....					
	a) 1:1.5:3 (1cem:1.5c/sand :3g/st. aggt 20mm nom. size) - Slab	1	3.00	3.00	0.15	= 1.35 cum
6.	P/form works i/c centering and					
	a) Foundation footings, bases of	2	3.20	0.35		= 2.24 sqm
		2	3.20	0.35		= 2.24 sqm
						<u>4.48 sqm</u>
	c) Flat surfaces such as suspended floors,..... - floors etc upto 200 mm	1	3.00	1.50		= 4.50 sqm
	d) Edges of slab - under 20cm wide	4	3.00	0.15		= 1.80 sqm
7.	Steel reinforcement for RCC works -					
	Using 10mm dia bars in single layer @ 0.10m c/c in single layer					
	a) Foundation base					
	No. of stirrups = $(2.20/0.10 + 1)$ =	23	Nos.			
	Total length for stirrups -	1	2	23	1.50	= 69.00 Rm
	d) Slab single layer					
	No. of stirrups = $(2.00/0.10 + 1)$ =	21	Nos.			
	Total length for stirrups -	1	2	21	1.50	= 63.00 Rm
						<u>132.00 Rm</u>
						@0.62Kg/Rm = 81.84 Kg
8.	15mm cement plaster 1:3 (1cem:3 c/sand) finished...	4	3.00	1.20		= 14.40 sqm
		4	2.50	1.20		= 12.00 sqm
		1	2.50	2.00		= 5.00 sqm
		4	3.00	0.15		= 1.80 sqm
						<u>33.20 sqm</u>



Sl. No.	Sub-Head/Items of work	Measurements				Quantity
		No.	L	B	D	
9	Providing wood work in trusses, purlins, rafters, post plates, wall plates and the like wrought, framed and fixed in	4	1.60	0.10	0.10 =	0.06 Cum
		4	4.80	0.10	0.05 =	0.10 Cum
		4	6.60	0.10	0.05 =	0.13 Cum
						<u>0.29 Cum</u>
10	Providing wood work in frames of door, windows, clerestory windows and other frames wrought, framed and fixed in position with Local best quality Leihao	2	1.50	0.08	0.10 =	0.02 Cum
		1	0.60	0.08	0.10 =	0.00 Cum
						<u>0.02 Cum</u>
11	Corrugated GI sheet roofing 24BG fixed with galvanized iron J or L hooks 8mm dia GI limpet and bitumen washers complete e/c the cost of purlin, rafter,	Roofing:-	1	1.75	1.40 =	2.45 sqm
		walling:-	2	1.2	1.5	3.60 sqm
						<u>6.05 sqm</u>
12	Providing and fixing water closet squatting pan (Indian type W.C. pan) a) White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with			1	1	1 Each
13	Providing and fixing grating of approved			2	1	2 Each
14	P/F a pair of white glazed earthenware foot rest of standard pattern for Indian a) 125 mm nominal diameter with 25 mm			2	1	2 Each
15	Procurement of PVC pipe single socket 3m long 75mm dia.			2	1	2 Each
16	P/F 75x75x75mm dia. Rigid PVC Tee			3	1	3 Each
17	P/F 75x75x75 mm dia. PVC Plain bend of required degree			1	1	1 Each