

MMGSY NDB - BRRP-400

Measurement Book

Schedule XLV-Form No. 134

03/SBD/23-24

Amritaj Construction

DIVISION

KLBO 20170 24-199m1

Pharmazua
SUB-DIVISION

-1315

1st on A/c bill

1

Name of Work -

Situation of work -

Agency by which work is executed -

Date of measurement -

No. and date of agreement -

(These four lines should be repeated at the commencement of the measurements relating to each work).

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
Name of work: —	At 2nd Km in				
Thatha RWD road to	Kharoliya				
(0.630 Km)					
Package	MMHSY - NDB - BRRP - 400 -				
	Mazurhi				
Agency: —	Amritraj Construction				
Agg. No: —	03/SB/2023-24				
Start date —	03-07-2023				
Intended date of completion —					
				02/07/2024	
Agg. value - Const	₹ 58,58,824 =				
Maint	₹ 5,46,822 =				
	₹ 64,05,646 =				
Accepted rate —	10% below				
Record measurement					
① Put biling working Bench mark pillars					
	01 No				
② Put biling ref. pillars					
	02 Nos				

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
③ clearing & grubbing soil land.					
2 x 630 m x 3.50					
= 4410 m ²					
ie 0.44 Hect.					
④ Box cutting - Excavation for roadway in soil.					
2 x 6 x 30.00 x 0.375 x 0.100					13.50 m ³
2 x 1 x 2.00 x 0.375 x 0.100					1.50 m ³
2 x 2 x 30.00 x 0.375 x 0.100					4.50 m ³
2 x 1 x 1.00 x 0.375 x 0.100					0.75 m ³
					20.25 m ³
ie 20.25 m ³					
⑤ Centre of embankment with approved materials deposited at site.					
Qty = 60 % of item ④					
= 60% of 20.25 m ³					
= 12.15 m ³					
⑥ 1 x 1000 mm dia 14g.					
Qty in excavation for					
foundations					
14 wall.	2	6.45	1.400	1.500	27.63 m ³
Bottom pipe	1	4.85	1.53	0.365	2.71 m ³

Continuation

29.80 m³

Sch. XLV-Form No. 134					
Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
⑦ P/V for m-15 (12.5:5) in found					
1st wall -	2	6.45	1.400	0.15	2.71 m ³
Bottom pipe	1	4.931	1.53	0.25	1.89
					4.60 m ³
		ie	4.60 m ³		
⑧ P/V & laying R.C.C. pipe NP-3 HP 1000 mm dia					
		3 x 2.50 =	7.50 m		
⑨ P/V for m-20.45 sub structure					
1st wall -	2	6.15	0.825	3.18	32.27 m ³
Perapad	2	6.15	0.400	0.60	2.95 m ³
Use for pipe	2 x $\frac{\pi}{4} \times (1.23)^2 \times$		0.622		1.48 m ³
					33.74 m ³
		ie	33.74 m ³		
⑩ Contn of aggregate etc all comp.					
6 x 30.00 x 6.80 x		0.30			367.20 m ³
4 x 30.00 x 6.00 x		0.30			216.00 m ³
1 x 30.00 x 6.00 x		0.30			54.00 m ³
1 x 18.50 x 6.00 x		0.30			33.30 m ³
					670.50 m ³

Continuation 670.50
 24/11/23
 AB/EC
 AB

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
1) P/v & lagging R.C.C. about 300 mm dia					
48 x 2.50 m = 120 m					
is 120 m.					
24/12/2023 24/12/23 ME/S					24/12/23 ME
2) Contn of M.S. G.I.					
for widening / Ben cutting					
in portion					
Box - 2 x 7 x 30.00 x 0.375 x 0.100 = 15.75					2.20
2 x 29.35 x 0.375 x 0.100 = 19.2					
1 x 24.00 x 1.85 x 0.100 = 4.44					
1 x 30.00 x (1.05 + 0.25) / 2 x 0.100 = 1.95					
1 x 3.50 x 0.85 x 0.100 = 0.300					
1 x 27.40 x (0.90 + 1.25) / 2 x 0.100 = 2.95					
1 x 12.20 x 1.40 x 0.100 = 1.71					
1 x 18.00 x (1.10 + 1.65) / 2 x 0.100 = 2.47					
3) Contn of levelling					
2 4.22 1.23 0.075 = 0.79					
4 3.00 2.00 0.075 = 1.80					
1 8.00 1.42 0.075 = 1.14					
3 4.00 1.50 0.100 = 1.80					
2 3.50 3.75 0.100 = 2.62					
2 5.50 0.82 0.075 = 0.68					
					40.50 m ²
					(M)

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
<u>BT portion</u>					
In box -	2	20.00	0.375	0.100	1.50 ✓
	2	10.65	0.375	0.100	0.80 ✓
overlay -	1	20.00	3.75	0.100	7.50 ✓
	1	10.65	3.75	0.100	3.99 ✓
Earthen portion -	4	30.00	4.05	0.200	97.20 ✓
	6	30.00	4.05	0.200	145.80 ✓
	2	10.00	$(4.80 + \frac{4.05}{2})$	0.200	17.70 ✓
	1	5.00	$(6.40 + 4.05)$	0.200	5.23 ✓
	1	10.00	$(6.40 + \frac{4.05}{2})$	0.200	10.45 ✓
	1	22.00	$4.05 \times \frac{2}{2}$	0.200	17.82 ✓
<u>Less for Culvert</u>					
	1	11.50	4.05	0.200	9.32 ✓
					308.12
					298.67 (B)
Total	A+B				
					40.60 + 298.12
					339.21
					349.72 m ³
Limitation	As per agreement - 349.72 m ³				
(13) Placing & spreading	10/01/24				
Compacting	10/01/24				
<u>BT portion</u>					
	7	30.00	3.75	0.075	59.06 ✓
	1	29.35	3.75	0.075	8.25 ✓
	1	15.65	3.75	0.075	4.40 ✓
	1	15.00	3.75	0.075	4.22 ✓
					75.93 ✓

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
					31.5 75.93 m ³
	1	30.00	3.75	0.075	8.44
					$2 \times 10.00 \times \frac{(4.50 + 3.75)}{2} \times 0.075 = 6.19$
					$1 \times 5.00 \times \frac{(6.10 + 3.75)}{2} \times 0.075 = 1.85$
					$1 \times 10.00 \times \frac{(6.10 + 3.75)}{2} \times 0.075 = 3.69$
					$1 \times 22.00 \times 3.75 \times 0.075 = 6.19$
					$1 \times 30.00 \times 3.75 \times 0.075 = 8.44$
					$1 \times 0.65 \times 3.25 \times 0.075 = 0.18$
Less for culvert					
	1	11.50	3.75	0.075	3.23
					107.68
					(A)
(At port) P-computation					
					$1 \times 25.00 \times \frac{(4.00 + 3.75)}{2} \times 0.075 = 7.27$
					$1 \times 30.00 \times \frac{(4.80 + 4.00)}{2} \times 0.075 = 9.90$
					$1 \times 8.80 \times \frac{(4.00 + 3.75)}{2} \times 0.075 = 2.56$
					$1 \times 24.00 \times (5.60) \times 0.075 = 10.08$
					$1 \times 3.50 \times 4.60 \times 0.075 = 1.18$
					1.20 1.20
					$1 \times 30.00 \times 3.75 \times 0.075 = 8.44$
					$1 \times 12.05 \times 3.75 \times 0.075 = 3.39$
					$1 \times 27.40 \times \frac{(4.65 + 5.00)}{2} \times 0.075 = 9.92$
					$1 \times 12.20 \times \frac{(5.00 + 5.30)}{2} \times 0.075 = 4.71$

Continuation

68.35 m³
~~57.45 m³~~
 57.47

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
2nd part					13/E 68.35 m ³ 57.45
1 x 18.00 x (4.85 + 5.40) x 0.075 = 6.92			2		
1 x 21.40 x (3.30 + 3.55) x 0.075 = 5.50			2		
1 x 10.00 x 3.05 x 0.075 = 2.29					
1 x 10.00 x 5.00 x 0.075 = 3.75					
1 x 10.00 x 3.05 x 0.075 = 2.29					
					78.20 m ³ (B) 78.22
Total A & B = 107.68 + 78.20 = 185.88 m ³					
Limited as per agreement = 185.38 m ³					
only 15/01/2024					15/01/24

(14) Contents of concrete formwork					
P.C.C. pavement 1:3:6					
1st part					
1 x 25.00 x (4.00 + 3.75) x 0.16 = 15.80			2		
1 x 30.00 x (4.80 + 4.0) x 0.16 = 21.12			2		
1 x 8.80 x (4.00 + 3.75) x 0.16 = 5.46			2		
1 x 24.00 x 5.60 x 0.16 = 21.50					
1 x 3.50 x 4.60 x 0.16 = 2.58					
1 x 30.00 x 3.75 x 0.16 = 18.00					
1 x 12.05 x 3.75 x 0.16 = 7.23					
1 x 27.40 x (4.65 + 5.00) x 0.16 = 21.15			2		
1 x 12.20 x (5.00 + 5.30) x 0.16 = 10.05			2		
2nd part					
1 x 18.00 x (4.85 + 5.40) x 0.16 = 14.76			2		
					137.35 m ³

Continuation

Sch. XLV-Form No. 134					
Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(16) Pl. & applying tack coat					
Measurement of dry sum					
as item (15)					
=					1459.50 m ²
Limited as per agreement					
=					1438.88 m ²
(17) Pl. laying & rolling of					
(13 & 27) close graded premix					
surfacing (M.S.S) 20					
mm thick					
Measurement of dry sum					
as in item (15)					
=					1459.50 m ²
Limited as per agreement					
item no. (13 & 27)					
=					(1438.88 + 10.00)
=					1448.88 m ²
(18) Constn of embankment					
Subgrade / shoulder					
do all comp.					
update measurement					
Change	Fill Area	Mean Area	Dist.	Volume	
(m)	(m ²)	(m ²)	(m)	(m ³)	
0	1.88	-	-	.	
50	1.74	1.81	50	90.50	

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
100	2.0	1.87	50		93.50
150	1.945	1.973	50		98.625
200	2.012	1.979	50		98.925
250	10.633	6.323	50		316.125
300	10.730	10.712	50		535.575
350	11.662	11.226	50		561.300
400	11.570	11.616	50		580.800
450	10.915	11.243	50		562.125
500	10.361	10.638	50		531.900
550	10.044	10.203	50		510.125
600	1.735	5.890	50		294.475
630	1.735	1.735	50		52.050

4326.025

Ways for crest -

1) h-b of side TMBP/5 item (2) = 349.5

11) WBM 673 h-b TMBP/7 item (13) = 185.31

14) P.C.M. 30 - h-b P/8 item (14) = 165.24

3625.905

a) Cost of embankment

upto 100m level
= as per agreement = 1437.92

b) Cost of embankment upto

100m level
= as per agreement = 913.00

c) Qty for subgrade/shoulder

= 3625.905 - (1437.92 + 913.00)

= 1275.785 m³

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
19) Plv & binding km stone					
				02 Nos.	
20) Plv & binding 200m stone					
				03 Nos	
21) Plv & binding m m hwy					
Project-board				04 Nos	
22) Plv & binding boundary					
Pillars				02 Nos	
23) Plv & binding of road					
reflectorised sign board					
600mm equilateral triangle				04 Nos	
24) Plv & binding 600x450mm					
rectangular				02 Nos	
25) Plv & binding 600mm					
equilateral triangle					
Circular				03 Nos	

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(26) Plv & binding 900 mm side octagon					
				01 No.	
(27) Plv & binding 900 x 300 mm Hazard Marker					
				08 Nos	
(28) Road marking with hot applied thermoplastic Compound.					
a) On BT - 2 x 36.00 x 0.10					
					= 72 m ²
b) on p.c.c surface					
2 x 270.00 x 0.10					
					= 54 m ²
(29) Painting on parapet wall of C.D					
Top	2	6.15	0.40		= 4.92 m ²
Side	4	6.15	0.60		= 14.76
Front	4	0.40	0.60	2	0.96
					20.64 m ²
					ie 20.64 m ²

17/02/2024
AE/SE

Continuation 17/02/24
26

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
30 ABSTRACT OF COST					
① For setting working Bench Mark.					
Qty vide TMB P/1 item ①					
01 Nos @ Rs 4427.67 / each = Rs 4428.00					
② For hiring ref pillars					
Qty vide TMB P/1 item ②					
02 Nos @ Rs 8185.84 / each = Rs 16372.00					
③ clearing & grubbing road land					
Qty vide TMB P/2 item ③					
0.44 hect. @ Rs 72457.86 / hect = Rs 31987.00					
④ Excavation for road way in soil					
Qty vide TMB P/2 item ④					
20.25 m ³ @ Rs 103.85 / m ³ = Rs 2103.00					
⑤ Contn of embankment with deposited soil					
Qty vide TMB P/02 item ⑤					
12.15 m ³ @ Rs 86.32 / m ³ = Rs 1049.00					
⑥ Contn of embankment abo - upto 100m level					
Qty vide TMB P/10 item ⑥					
913.00 m ³ @ Rs 217.24 / m ³ = Rs 198340.00					

13248279

Continuation

254279.00

Particulars	Details of actual measurement				Contents of area B/L
	No.	L.	B.	D.	
					M 248279
					254279:
⑦ Contn of embankment do upto 1000m road etc vide TMS P/10 Item (18) (C)					
1437.72 m ³ @ 258.51/m ³ =					371665:
⑧ Construction of subgrade/ shoulder					
etc vide TMS P/10 Item (18) (C)					
1275.185 m ³ @ 259.38/m ³ =					330757
⑨ Contn of 45.86 m ² - I etc vide TMS P/13 Item (12)					
349.50 m ³ @ 2979.76/m ³ =					1041426
339.27					1010943
⑩ P.V. laying, spreading & compacting do w/3m cr-3					
etc vide TMS P/7 Item (13)					
185.38 m ³ @ 4345.89/m ³ =					805641:
⑪ P.V. & applying primer coat					
etc vide TMS P/8 Item (15)					
1438.88 m ³ @ 60.16/m ³ =					86563:
⑫ P.V. & applying face coat					
etc vide TMS P/03 Item (14)					
1438.88 m ³ @ 20.51/m ³ =					295110:

Continuation

M 2413842:

2419852:

2889359:

Particulars	Details of actual measurement				Contents of area 31F
	No.	L.	B.	D.	
					2913810
					2919842
(13) P/U & laying 20mm thick 13127 M.S.					
Qty vide TMS P/3 item (13)					375347
1448.88 @ 259.06/m					373015
(14) Const of unreinforced P.C. pavement m-30					
Qty vide TMS P/8 item (14)					
165.24 m @ 7952.16/m					1314015
(15) P/U & laying ordinary cur.					
Qty vide TMS P/11 item (15)					
02 Nos @ 2860.24/each					57204
(16) P/U & binding 20mm stone					
Qty vide TMS P/11 item (16)					
03 Nos @ 804.16/each					2412
(17) P/U & binding m.m.s.s. paver					
60 m ²					
Qty vide TMS P/11 item (17)					
04 Nos @ 11102.73/each					44411

Continuation

46534155
46594415
46617470
4631264

Particulars	Details of actual measurement				Contents of area B/E
	No.	L.	B.	D.	
					13 4653445
(18) Plu mass boundary wall					4659415
Qty vid TMS P/11 item (22)					4661747
Qty vid TMS P/					
32 Nos @ 654.66/each					20949.
(19) Plu 2 fixing 600mm					
26 = equilateral triangle.					
Qty vid TMS P/11 item (23)					
04 Nos @ 4185.35/each					16741.
(20) Plu 2 fixing 600mm					
Circular equilateral triangle					
Qty vid TMS P/11 item (25)					
03 Nos @ 5612.94/each					16839.
(21) Plu 2 fixing 600x450mm					
24 = rectangular					
Qty vid TMS P/11 item (24)					
02 Nos @ 5446.81/each					10934.
(22) Plu 2 fixing 900mm					
23 = octagon					
Qty vid TMS P/12 item (26)					
01 No @ 9985.62/each					9986.

Continuation

4728864
4734864
4737196
4706713

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
					315
				13	4728864
(23) PLV & fixing	30	7	300		472486
24 in hand marker					473715
city vide TMS P/12 item (27)					
08 Nos @ 5346.91/each					42775
(24) Road marking with					
25 hot thermo plastic					
compound over B.T					
city vide TMS P/12 item (28) (1)					
72.00 m @ 822.97/m					59254
(25) Road marking with					
26 hot thermo plastic					
compound over p.c.c					
city vide TMS P/12 item (28) (6)					
54.00 m @ 855.49/m					46196
(26) Elevation excavated for					
29 foundation of structure.					
city vide TMS P/2 item (C)					
29.80 m ³ @ 383.28/m ³					11422
(27) PLV for M-15 in concrete					
30 city vide TMS P/3 item (7)					
4.60 m ³ @ 6714.13/m ³					30894

Continuation

54914405
4927437
4897254

Particulars	Details of actual measurement				Contents of area B/F
	No.	L.	B.	D.	
				m	4925405 4919405
(28) P/V Rec M-2 in by Sub-structure.					927737
Qty vide TMB P/B item (5)					
33.74 m @ 7551.40/m ³					254784
(29) P/V Blowing NP 3 H P 32 1800 mm dia					
Qty vide TMB P/B item (8)					
7.50 m @ 7054.40/m					52908
(30) Painting of Rrapetol CD					
Qty vide TMB P/B item (29)					
20.64 m @ 127.28/m					2627
(31) P/V Blowing of Rec 34 Cabln duct 300 mm dia					
Qty vide TMB P/B item (11)					
120 m @ 1008.28/m					120994
					5328567
					5356718
					535050
Labours cost 1%					53567
					53591
G.S.T 18%					96420
					96420
					6374404
Signature Fee					6340995
					6327270
Item (6) 113000 3501000					3196
Item (7) 143772 3501000					5033
					9229

Continuation

Particulars	Details of actual measurement				Contents of area B/F
	No.	L.	B.	D.	
					H-8229=a
Item (8)	1275.185	x	35.01	x	0.10 = 4464=a 44644=a
Item (9)	349.50	x	694.09	x	0.10 = 24258=a
Item (10)	185.38	x	1403.22	x	0.10 = 26124=a
Item (11)	1448.88 1428.88		11.45	x	0.10 = 1659=a
Item (14)	165.24	x	1019.70	x	0.10 = 16850=a
Item (25)	460	x	1036.64	x	0.10 = 477=a
Item (28)	33.74	x	1105.74	x	0.10 = 3731=a
Item (29)	7.50	x	7.82	x	0.10 = 6=a
Item (31)	120.00	x	51.60	x	0.10 = 619=a
					78188=a
					(B)

Total A + B 6419183=a
~~6240995~~
 2 ~~6240995~~ + 78188 = 6455458=a
~~6419183~~ 6455458
 Less 10% for below = ~~6455458~~

5809912=a

5777265=a

17/02/2024

AE/JC

17/02/24

AE

19/02/24