

154

Schedule XLV Form No. 134.
BIHAR P.W.D.

..... DIVISION

..... SUB-DIVISION

MEASUREMENT BOOK

421
16/10/21

R. W. D. W. D.
 16/10/17

R. W. D. W. D. DIVISION
Manihari SUB-DIVISION

Name of Office

Date of first entry.

Date of last entry.

Name of work - 1

Situation of work-

Agency by which work is executed-

Date of Measurement.

No. and date of agreement

(These four lines should be repeated and the commencement of the measurement relating to each work)

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
- Record Measurement -					
N/W - Restoration of 1038 To 1					
Near Pani Kamla to Mayamari					
(Track 1)					
Agency:- Depart.					
Authority:- E.E RWD Mohihari					
Integ. Const. Date of entry:- 16.12.2021					
Work done					
Integ. Const. of Embankment with					
approved material obtained from					
borrow pits etc					
$\frac{NO.}{1} \times 15 \times \left(\frac{3.0+2.20}{2} \right) \times \left(\frac{1.60+1.70+1.55}{3} \right)$					

					= 63.05 m ³
$1 \times 18.90 \times \left(\frac{1.90+2.70}{2} \right) \times \left(\frac{0.90+1.70}{2} \right)$					= 56.51 m ³
$1 \times 11.35 \times \left(\frac{1.80+2.20}{2} \right) \times \left(\frac{1.3+1.8+1.5}{3} \right)$					= 34.31 m ³
$1 \times 30 \times \left(\frac{2.40+2.70}{2} \right) \times \left(\frac{1.50+1.70}{2} \right)$					= 122.40 m ³
$1 \times 20.70 \times \left(\frac{2.40+2.50}{2} \right) \times \left(\frac{1.50+1.70}{2} \right)$					= 81.14 m ³
$1 \times 24 \times \left(\frac{2.10+2.60}{2} \right) \times \left(\frac{0.95+1.50+1.70}{3} \right)$					= 78.02 m ³
$1 \times 11.25 \times \left(\frac{1.5+2.20}{2} \right) \times \left(\frac{0.85+1.80}{2} \right)$					= 27.58 m ³
$1 \times 23 \times \left(\frac{1.90+2.80}{2} \right) \times \left(\frac{1.3+1.7+1.20}{3} \right)$					= 75.67 m ³
$1 \times 21.30 \times \left(\frac{1.90+2.0}{2} \right) \times \left(\frac{1.40+1.60+1.50}{3} \right)$					= 62.30 m ³
$1 \times 11.80 \times \left(\frac{1.90+2.10}{2} \right) \times \left(\frac{1.40+1.50}{2} \right)$					= 31.90 m ³
$1 \times 33.50 \times \left(\frac{1.80+2.20}{2} \right) \times \left(\frac{1.75+1.5+1.4}{3} \right)$					= 103.85 m ³
$1 \times 40 \times \left(\frac{1.90+2.10}{2} \right) \times \left(\frac{1.65+1.50}{2} \right)$					= 126.0 m ³
$1 \times 9.75 \times \left(\frac{1.78+1.85}{2} \right) \times \left(\frac{1.6+1.50}{2} \right)$					= 26.82 m ³
$1 \times 3 \times \left(\frac{1.2+1.4}{2} \right) \times \left(\frac{0.95+1.70}{2} \right)$					= 5.17 m ³
$1 \times 3.60 \times \left(\frac{2.20+1.40}{2} \right) \times \left(\frac{1.4+1.50}{2} \right)$					= 6.79 m ³
$1 \times 5.50 \times \left(\frac{1.5+1.70}{2} \right) \times \left(\frac{1.75+1.45}{2} \right)$					= 645.70 m ³
$1 \times 3 \times \left(\frac{1.70+1.85}{2} \right) \times \left(\frac{1.45+1.65}{2} \right)$					= 9.59 m ³

Continuation

Particulars	Details of actual measurement				Contents or area
	No.	L.	B.	D.	
1 x 12.65 x $\left(\frac{1.50+1.60}{2}\right) \times \left(\frac{1.80+1.55+1.45}{3}\right)$					$= 31.37 m^3$
1 x 10.90 x $\left(\frac{1.40+1.50}{2}\right) \times \left(\frac{1.60+1.50}{2}\right)$					$= 24.50 m^3$
1 x 2.40 x $\left(\frac{1.40+1.50}{2}\right) \times \left(\frac{0.85+1.60}{2}\right)$					$= 4.26 m^3$
1 x 2.10 x $\left(\frac{1.50+1.60}{2}\right) \times \left(\frac{1.50+1.40}{2}\right)$					$= 4.72 m^3$
1 x 2.40 x $\left(\frac{1.20+1.95}{2}\right) \times \left(\frac{1.20+1.60}{2}\right)$					$= 5.29 m^3$
1 x 3 x $\left(\frac{1.7+2.20}{2}\right) \times \left(\frac{1.6+1.20}{2}\right)$					$= 8.61 m^3$
1 x 4.5 x $\left(\frac{1.80+2.20}{2}\right) \times \left(\frac{0.95+1.60}{2}\right)$					$= 11.48 m^3$
1 x 10.60 x $\left(\frac{1.50+2.30}{2}\right) \times \left(\frac{1.70+1.60}{2}\right)$					$= 33.23 m^3$
1 x 4.50 x $\left(\frac{1.40+2.10}{2}\right) \times \left(\frac{1.75+1.65}{2}\right)$					$= 13.39 m^3$
1 x 7.50 x $\left(\frac{1.90+2.20}{2}\right) \times \left(\frac{1.40+1.30}{2}\right)$					$= 20.76 m^3$
1 x 6 x $\left(\frac{2.10+2.30}{2}\right) \times \left(\frac{1.50+1.60}{2}\right)$					$= 20.46 m^3$
Total =					$1735.37 m^3$

2. Providing Brick Bats including
Spreading Laying Compacting with
C.I Hammer all complete job
as per etc

1 x 15 x $\left(\frac{3.0+2.0}{2}\right) \times \left(\frac{0.50+0.60}{2}\right)$					$= 20.63 m^3$
1 x 18.90 x $\left(\frac{2.20+1.90}{2}\right) \times \left(\frac{0.4+0.6}{2}\right)$					$= 21.74 m^3$
1 x 28 x $\left(\frac{1.80+1.20}{2}\right) \times \left(\frac{0.70+0.85}{2}\right)$					$= 32.55 m^3$
1 x 30 x $\left(\frac{2.40+1.70}{2}\right) \times \left(\frac{0.90+0.80}{2}\right)$					$= 52.28 m^3$
1 x 20.70 x $\left(\frac{2.40+1.50}{2}\right) \times \left(\frac{0.75+0.80}{2}\right)$					$= 31.28 m^3$
1 x 24 x $\left(\frac{2.0+1.60}{2}\right) \times \left(\frac{0.60+0.80}{2}\right)$					$= 31.08 m^3$
1 x 11.25 x $\left(\frac{1.5+1.20}{2}\right) \times \left(\frac{0.35+0.60}{2}\right)$					$= 2.21 m^3$
1 x 23 x $\left(\frac{2.80+1.90}{2}\right) \times \left(\frac{0.70+0.50}{2}\right)$					$= 32.43 m^3$
1 x 21.30 x $\left(\frac{1.90+1.35}{2}\right) \times \left(\frac{0.65+0.50}{2}\right)$					$= 16.84 m^3$
1 x 11 x $\left(\frac{1.90+1.15}{2}\right) \times \left(\frac{0.70+0.55}{2}\right)$					$= 10.48 m^3$
1 x 33.50 x $\left(\frac{1.80+1.10}{2}\right) \times \left(\frac{0.85+0.70}{2}\right)$					$= 37.65 m^3$
1 x 15 x $\left(\frac{1.90+1.30}{2}\right) \times \left(\frac{0.80+0.70}{2}\right)$					$= 18.0 m^3$
1 x 9.75 x $\left(\frac{1.7+1.2}{2}\right) \times \left(\frac{0.70+0.60}{2}\right)$					$= 9.19 m^3$
1 x 3 x $\left(\frac{1.20+0.90}{2}\right) \times \left(\frac{0.60+0.55}{2}\right)$					$= 1.81 m^3$
1 x 3.60 x $\left(\frac{1.20+1.0}{2}\right) \times \left(\frac{0.70+0.60}{2}\right)$					$= 2.57 m^3$
1 x 5.50 x $\left(\frac{1.50+0.95}{2}\right) \times \left(\frac{0.60+0.55}{2}\right)$					$= 3.87 m^3$
1 x 3 x $\left(\frac{1.70+1.20}{2}\right) \times \left(\frac{0.70+0.50}{2}\right)$					$= 2.61 m^3$

Continuation

Particulars	Details of actual measurement				Contents or area
	No.	L.	B.	D.	
$1 \times 12.65 \times \left(\frac{1.50+1.10}{2} \right) \times \left(\frac{0.65+0.60}{2} \right)$					$= 10.28 m^3$
$1 \times 10.90 \times \left(\frac{1.40+1.20}{2} \right) \times \left(\frac{0.70+0.55}{2} \right)$					$= 8.86 m^3$
$1 \times 2.40 \times \left(\frac{1.40+1.10}{2} \right) \times \left(\frac{0.35+0.45}{2} \right)$					$= 1.95 m^3$
$1 \times 2.10 \times \left(\frac{1.50+1.30}{2} \right) \times \left(\frac{0.50+0.55}{2} \right)$					$= 1.54 m^3$
$1 \times 2.40 \times \left(\frac{1.20+0.95}{2} \right) \times \left(\frac{0.50+0.60}{2} \right)$					$= 1.42 m^3$
$1 \times 3 \times \left(\frac{1.90+1.20}{2} \right) \times \left(\frac{0.35+0.45}{2} \right)$					$= 1.86 m^3$
$1 \times 4.50 \times \left(\frac{1.80+1.20}{2} \right) \times \left(\frac{0.20+0.40}{2} \right)$					$= 3.07 m^3$
$1 \times 10.60 \times \left(\frac{1.5+1.30}{2} \right) \times \left(\frac{0.80+0.50}{2} \right)$					$= 9.65 m^3$
$1 \times 4.50 \times \left(\frac{1.40+1.10}{2} \right) \times \left(\frac{0.70+0.50}{2} \right)$					$= 3.38 m^3$
$1 \times 2.50 \times \left(\frac{1.90+1.20}{2} \right) \times \left(\frac{0.80+0.60}{2} \right)$					$= 8.14 m^3$
$1 \times 6 \times \left(\frac{2.10+1.30}{2} \right) \times \left(\frac{0.70+0.70}{2} \right)$					$= 7.14 m^3$
$1 \times 12 \times \left(\frac{6.0+5.0}{2} \right) \times \left(\frac{0.80+1.20+1.0}{2} \right)$					$= 99.0 m^3$
$1 \times 5 \times \left(\frac{6.0+5.0}{2} \right) \times \left(\frac{0.90+1.30+1.0}{3} \right)$					$= 29.33 m^3$
$1 \times 15 \times \left(\frac{6+5}{2} \right) \times \left(\frac{0.90+1.40+1.10}{3} \right)$					$= 93.50 m^3$
Total					$= 611.98 m^3$

3. Labour for sand filling in

Cement Bag, Surging and Laying material					
$1 \times 16.50 \times \left(\frac{0.50+0.95}{2} \right) \times \left(\frac{1.0+0.50+0.95}{2} \right)$					$= 11.663$
$1 \times 34.60 \times \left(\frac{0.5+0.85}{2} \right) \times \left(\frac{0.70+0.90}{2} \right)$					$= 18.684$
$1 \times 11.4 \times \left(\frac{0.50+0.85}{2} \right) \times \left(\frac{0.60+0.90}{2} \right)$					$= 6.199$
$1 \times 5.30 \times \left(\frac{0.50+0.80}{2} \right) \times \left(\frac{0.60+0.90}{2} \right)$					$= 2.733$
$1 \times 6.50 \times \left(\frac{0.50+0.80}{2} \right) \times \left(\frac{0.90+1.0}{2} \right)$					$= 4.014$
$1 \times 4 \times \left(\frac{0.50+0.95}{2} \right) \times \left(\frac{0.90+1.0}{2} \right)$					$= 2.755$
$1 \times 3 \times \left(\frac{0.50+0.95}{2} \right) \times \left(\frac{0.90+1.0}{2} \right)$					$= 1.995$
$1 \times 16.40 \times \left(\frac{0.50+0.85}{2} \right) \times \left(\frac{0.90+1.0}{2} \right)$					$= 10.517$
$1 \times 9.50 \times \left(\frac{0.50+0.95}{2} \right) \times \left(\frac{0.50+0.90}{2} \right)$					$= 4.821$
$1 \times 2.50 \times \left(\frac{0.50+0.85}{2} \right) \times \left(\frac{0.50+0.90}{2} \right)$					$= 1.181$
$1 \times 18 \times \left(\frac{0.50+0.90}{2} \right) \times \left(\frac{0.50+0.90}{2} \right)$					$= 8.820$
$1 \times 9 \times \left(\frac{0.50+0.95}{2} \right) \times \left(\frac{1.0+1.0}{2} \right)$					$= 4.568$
$1 \times 8 \times \left(\frac{0.50+0.85}{2} \right) \times \left(\frac{0.50+0.90}{2} \right)$					$= 3.780$
$1 \times 9 \times \left(\frac{0.50+0.80}{2} \right) \times \left(\frac{1+1}{2} \right)$					$= 5.850$
$1 \times 21.5 \times \left(\frac{0.50+0.80}{2} \right) \times \left(\frac{1+1.50}{2} \right)$					$= 18.813$
$1 \times 13 \times \left(\frac{0.50+0.95}{2} \right) \times \left(\frac{1+1.40}{2} \right)$					$= 9.750$

Continuation

Particulars	Details of actual measurement				Contents or area
	No.	L.	B.	D.	
1 x 24 x (0.50 + 0.70)				$\times \left(\frac{1.50 + 1.90}{2} \right)$	= 24.480
1 x 16 x (0.50 + 0.90)				$\times \left(\frac{1.20 + 1.50 + 1.30}{2} \right)$	
					= 14.933
2 x 30 x (0.50 + 0.95)				$\times \left(\frac{1.5 + 1.4}{2} \right)$	= 62.035
2 x 42 x (0.50 + 1.40)				$\times \left(\frac{1.20 + 1.40}{2} \right)$	= 103.240
2 x 30 x (0.50 + 1.20)				$\times \left(\frac{1.50 + 1.60}{2} \right)$	= 39.050
1 x 30 x (0.50 + 0.95)				$\times \left(\frac{1.00 + 1.20}{2} \right)$	= 23.925
1 x 26 x (0.50 + 0.85)				$\times \left(\frac{1.00 + 1.20}{2} \right)$	= 19.305
1 x 18 x (0.50 + 0.90)				$\times \left(\frac{0.60 + 0.90}{2} \right)$	= 9.450
1 x 14 x (0.50 + 0.85)				$\times \left(\frac{0.60 + 0.90}{2} \right)$	= 7.088
1 x 9 x (0.50 + 0.95)				$\times \left(\frac{1.5 + 1.2}{2} \right)$	= 8.809
1 x 22 x (0.50 + 0.85)				$\times \left(\frac{1.40 + 1.30}{2} \right)$	= 21.533
1 x 30 x (0.50 + 1.0)				$\times \left(\frac{1.50 + 1.60}{2} \right)$	= 69.250

Total = 561.24

No. 06 Cement Bag = 561.24

0.034

= 16510.0

4. Labor for driving 62mm to 75mm
dia Bamboo piles including cutting etc

1 x 16.50 m	= 16.50 m
1 x 34.60 m	= 34.60 m
1 x 11.40 m	= 11.40 m
1 x 5.30 m	= 5.30 m
1 x 6.50 m	= 6.50 m
1 x 3.0 m	= 3.0 m
1 x 4.0 m	= 4.0 m
1 x 16.40 m	= 16.40 m
1 x 9.50 m	= 9.50 m
1 x 2.50 m	= 2.50 m
1 x 18.0 m	= 18.0 m
1 x 9.0 m	= 9.0 m
1 x 9.0 m	= 9.0 m
1 x 16.0 m	= 16.0 m

Continuation

Particulars	Details of actual measurement				Contents or area
	No.	L.	B.	D.	
1 x 21.50 m					= 21.50 m
1 x 13.00 m					= 13.00 m
1 x 24.00 m					= 24.00 m
1 x 16.00 m					= 16.00 m
2 x 30.00 m					= 60.00 m
1 x 42.00 m					= 42.00 m
2 x 30.00 m					= 60.00 m
1 x 30.00 m					= 30.00 m
1 x 26.00 m					= 26.00 m
1 x 9.00 m					= 9.00 m
1 x 22.00 m					= 22.00 m
2 x 30.00 m					= 60.00 m
Total					= 545.20 m
No. of piles = $\left(\frac{545.20}{0.3} + 1 \right) \times \frac{1.80}{2}$					
					= 3271.0 m

5. Supplying fitting and fixing of bamboo 62 mm to 75 mm dia runner

$$3.00 \times 545.20 = 1635.6 \text{ m}^2$$

$$\text{Total} = 1635.6 \text{ m}^2$$

16/12/21
JC
16/11/21
JC

- Abstract of Cost -

1. Const. of Embankment with approved material obtained etc			
1735.37 m ³	P-2		
@ 404.68 / m ³			= 702269.53
2. Providing Brick Bats including spreading, laying, compacting etc			
611.980 m ³	P-3		
@ 1895.340 / m ³			= 1159910.17
3. Labour for sand filling in cement			

Continuation

