

**COST ESTIMATE:****Quantity of Works and Labor**

S.N.	Description	Quantity	Unit	Labor input per unit		Mandays		Remarks
				skilled	unskilled	skilled	unskilled	
A. Local Material Collection <sup>1</sup>								
1	Hammer Dressed Stone		m <sup>3</sup>	5.00	3.00			
2	Broken Stone		m <sup>3</sup>		5.00			
3	Gravel		m <sup>3</sup>	-	7.00			
4	Sand		m <sup>3</sup>	-	3.00			
5	Bamboo		pcs.	-	0.25			
A. Total Local Material Collection								
B. Construction Works <sup>2</sup>								
6	Foundation Excavation in Soil		m <sup>3</sup>	-	1.70			
7	Foundation Excavation in Soft rock		m <sup>3</sup>	-	2.50			
8	Foundation Excavation in Hard Rock		m <sup>3</sup>	-	12.00			
9	Hard Rock hole drilling and grouting		nos.	0.10	2.00			
10	Coursed Dry Stone Masonry		m <sup>3</sup>	1.00	1.00			
11	Cement Stone Masonry (1:4)		m <sup>3</sup>	1.50	3.00			
12	Cement Stone Masonry (1:6)		m <sup>3</sup>	1.50	3.00			
13	Concrete RCC 1:2:4		m <sup>3</sup>	1.00	4.00			
14	Concrete RCC 1:3:6		m <sup>3</sup>	1.00	4.00			
15	Plumb Concrete, 1:3:6 + 40% B/S		m <sup>3</sup>	0.50	4.00			
16	Cement Plaster (1:4)		m <sup>2</sup>	0.22	0.22			
17	Gabion Works		m <sup>3</sup>	0.35	0.40			
18	Tower Erection*		m	0.5	5.00			
19	Cable Pulling**		m	0.01	0.30			
20	Walkway Erection***		m	0.50	2.00			
21	Fence Knitting***		m	-	0.30			
B. Total Construction Works								

1 Refer to the List of Construction Materials, "230 Construction" (page 7)

2 Refer to Quantity Calculation, "230 Construction" (page 6)

\* Quantity is equal to total tower height

\*\* Quantity is equal to total length of cables of all Ø except 13mm.

Refer to Sheet Quantity Calculation "110 Wire Ropes" (page 5)

\*\*\* Quantities are equal to bridge span

S.N.	Description	Total weight	Unit	Porter days	Labor Input per Unit md	Mandays Porter	Remarks
		a	b	c	d	e = axcxd	
<b>C. Portering</b>							
16	Transport of Materials		tons		25.00		
18	Transport of Wire Rope (Cable)		tons		65.00		
<b>C. Total Portering</b>							

Summery (A+B+C)	Total Mandays	Rate Rs.	Total Cost Rs.
Skilled Labor			
Unskilled Labor			
Porter (Unskilled Labor)			
<b>Total Labor Cost</b>			

**COST ESTIMATE:****List of Tools**

S.N.	Description	Unit	Quantity	Remarks
<b>A. Tools for Construction</b>				
1	Shovel	pc	2	
2	Pick axe	pc	2	
3	Crowbar (1 ¼")	pc	2	
4	Large hammer (5 kg)	pc	1	
5	Large hammer (3 kg)	pc	2	
6	Stone dressing hammer (1 kg)	pc	12	
7	Long chisel (2' x 1")	pc	2	
8	Stone breaking chisel	pc	2	
9	Stone dressing chisel	pc	15	
10	Square bottom	pc	2	
11	Plum bob	pc	2	
12	Measuring tape (5 m)	pc	1	
13	Wire mesh (1.5 m) (3 mm <sup>2</sup> )	pc	1	
14	Level pipe (5 m)	pc	1	
15	Mason thread	roll	1	
<b>B. Tools for Bridge Erection</b>				
1	Pliers	pc	2	
2	Slide wrench 12"	pc	1	
3	Ring wrench size 18/19 mm	pc	1	
4	Ring wrench size 20/22 mm	pc	1	
5	Ring wrench size 30/32 mm	pc	1	
6	Masonry trowel	pc	4	
7	Headpan	pc	6	
8	Plastic sheet (15 m)	pc	1	
9	Hacksaw Frame	pc	1	
10	Hacksaw blade	pc	10	
11	Kerosene tin	pc	4	
12	Inexpensive bag	pc	1	
15	Tool Box	pc	1	
16	Claw Hammer	pc	1	
17	Nails (3")	kg	1	