

## CHAPTER NO. 6

### EARTH WORK

**Notes :-**

- (i) Converting lift into horizontal lead :- For converting lift into horizontal lead, the lift upto 3.60 metres will be multiplied by 10 and from 3.60 metres to 6.0 metres, it will be squared and multiplied by 3.3 and beyond 6.0 metres it will be multiplied by 20. No cross leads what-so-ever shall be measured and paid for.
- (ii) Rehandling of earth work and gravel work :- The rates of rehandling of recently deposited earth work and gravel work after excavation will be 20 percent less on excavation rates. Earth work deposited before monsoon season which has had a full monsoon on it, will be considered as a normal earth work for excavation.
- (iii) Measurement of lift :- The lift shall be measured from the centre of gravity of the excavated earth to that of placed earth. This shall constitute the mean lift for that section. When earth has to be carried over spoil bank and dumped beyond it, the mean lift would be the difference in levels between the centre of gravity of the excavated earth and top of the spoil bank omitting the dowel.
- (iv) Rates for additional lead have been given in slabs for 7.50 metres each of additional lead. If the lead exceeds a slab by 1.50 metres or so, full payment for 7.50 metres lead will be made.
- (v) These rates are for building works and upto quantity of 100 cum only for other works. For other works quantity beyond 100 cum, the rates shall be payable as per the Item by mechanical means Item No. 6.19.
- (vi) The rates for carriage of materials manually upto 0.50 km and by mechanical means for every km lead, have been given. **The actual lead is to be paid if the lead is in fraction, the rate is to be worked out by interpolation.**

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Throug h Rate	Labour Rate	Throug h Rate
1	2	3	4	5	6	7
6.1	Earth work of silt clearance of channels and drains :-					
	(a) Kassi work undressed involving an average horizontal throw upto 2.0 metres and average vertical lift upto 0.5 metre.	cum	28.17	28.17	30.99	30.99
	(b) Basket work with combined lead upto 7.50 metres undressed.	cum	39.76	39.76	43.74	43.74
	(c) Dressing for sub item (a) and (b) supra.	cum	2.54	2.54	2.79	2.79
	(d) Extra for every 7.50 metres additional lead.	cum	1.32	1.32	1.45	1.45
Note :-	No extra allowance of wetness, slush or humus dal are payable for item No. 6.1.					
6.2	Earth work excavation in ordinary soil, exclusive of compensation of earth :-					

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through h Rate	Labour Rate	Through h Rate
1	2	3	4	5	6	7
	(a) Kassi work undressed involving an average horizontal throw upto 2.0 metres and an average vertical lift upto 0.5 metre including breaking of clods.	cum	28.17	28.17	30.99	30.99
	(b) Earth work undressed with a combined lead upto 15 metres including breaking of clods.	cum	39.77	39.77	43.75	43.75
	(c)(i) Extra for every 7.50 metres additional lead beyond 15 metres but upto 300 metres.	cum	1.66	1.66	1.83	1.83
	(ii) Extra for every 7.50 metres additional lead beyond 300 metres but upto to 500 metre.	cum	1.33	1.33	1.46	1.46
Note :-	For leads beyond 500 metres earth work shall be payable at carriage rates for sand, bajri and ballast etc. given in the chapter No. 5 item No. 5.2 and loading, unloading as per chapter No. 4. Except those provided under item No. 6.2 (f) and (g).					
	(d) Wet earth work :--					
	(i) Extra for wet earth work from bottom of excavation upto level of sub soil water.	cum	7.04	7.75	7.04	7.75
	(ii) Extra for wet earth work from level of sub soil water upto 30 cm above.	cum	4.23	4.23	4.65	4.65
	(iii) Extra for wet earth work for depth above 30 cm of sub soil water level.	cum	2.82	2.82	3.10	3.10
	(e) Hardness					
	(i) Extra for hard soil with D.B.D. (Dry Bulk Density) from 1.6 to 1.7 gm/c.c.	cum	6.63	6.63	7.29	7.29
	(ii) Extra for hard soil with D.B.D. (Dry Bulk Density) exceeding 1.7 but upto 1.8 gm/c.c.	cum	13.25	13.25	14.58	14.58
	(iii) Extra for D.B.D. above 1.8 gm/c.c.	cum	19.89	19.89	21.87	21.87
	(f) Extra for puddling work.	cum	33.14	33.14	36.45	36.45
	(g) Compaction :--					
	(i) Extra for laying earth/fly ash as per specifications for compaction in 20 cm layers and dressing but excluding cost of rolling.	cum	4.33	4.33	4.76	4.76

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
	(ii) Extra for watering the earth/fly ash laid in 20 cm layers as per specifications for compaction.	cum	4.15	4.15	4.57	4.57
	(iii) Extra for rolling to specifications.	cum	36.50	36.50	40.15	40.15
	(h) Admixture of shingle or kankar					
	(i) Extra for admixture of shingle or kankar exceeding 10% but upto 20%.	cum	8.28	8.28	9.11	9.11
	(ii) Extra for admixture of shingle or kankar exceeding 20% but upto 30%.	cum	13.25	13.25	14.58	14.58
	(iii) Extra for admixture of shingle or kankar exceeding 30% but upto 40%.	cum	21.54	21.54	23.69	23.69
Note :-	For admixture above 40% rates for gravel work excavation shall apply --					
	(j) Extra for slush.	cum	24.00	24.00	24.00	24.00
	(k) Extra for daldal.	cum	40.00	40.00	40.00	40.00
6.3	Dressing of earth work :-					
	(i) New work or remodeling work.	sqm	0.50	0.50	0.50	0.50
	(ii) Repair work.	sqm	0.70	0.70	0.70	0.70
	(iii) Sand only.	sqm	0.35	0.35	0.35	0.35
6.4	Extra for Compensation for earth taken from private land.	cum	25.00	25.00	25.00	25.00
6.5	Earth work containing Gravel (in loose from in non cohesive binding material) work in excavation with occasional use of picks exclusive of compensation of earth undressed with combined lead upto 15 metres with percentage of gravel or Kankar					
	(a) Exceeding 40% but upto 60%.	cum	60.24	60.24	66.26	66.26
	(b) Exceeding 60% but upto 80%.	cum	70.51	70.51	77.56	77.56
	(c) Exceeding 80% but upto 100%.	cum	77.06	77.06	84.77	84.77
	(d) Extra for every 7.5 metres additional lead beyond 15 m.	cum	2.04	2.04	2.24	2.24
	(e) Extra for wet earth work containing gravel above sub soil water level	cum	6.02	6.02	6.63	6.63
	(f) Extra for earth work containing gravel under standing water.	cum	9.04	9.04	9.94	9.94

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				Labour Rate	Through Rate	Labour Rate	Through Rate
1	2		3	4	5	6	7
	(g)	Extra for earth work containing gravel under flowing water	cum	15.06	15.06	16.57	16.57
	(h)	Extra for dressing earth work containing gravel	cum	0.70	0.70	0.70	0.70
6.6	Earth work in excavation in foundations, trenches etc. in all kinds of soil where pick jumper work is not involved and not exceeding 2.0 metres depth including dressing of bottom and sides of trenches, stacking the excavated soil clear from the edge of excavation		cum	66.28	66.28	72.91	72.91
6.7	Earth work in excavation of foundations of bridges culverts, building including handling of materials with combined lead of 15 metres dressing of bed and sides stacking the excavated soil clear from the edge of excavation and subsequent filling around:--						
	(a)	For ordinary gravel soil involving pick work.	cum	95.53	95.53	105.08	105.08
	(b)	For semi conglomerate or soil of nature of pick jumper.	cum	133.22	133.22	146.54	146.54
	(c)	For hard clayey soil or hard conglomerate or semi rocky type of the nature of pick jumper with occasional blasting.	cum	163.92	163.92	180.31	180.31
	(d)	Extra for wet work above sub soil water level.	cum	9.55	9.55	10.51	10.51
	(e)	Extra for earth work under standing water.	cum	14.33	14.33	15.76	15.76
	(f)	Extra for earth work under flowing water.	cum	23.88	23.88	26.27	26.27
	(g)	Extra for every 7.5 metre additional lead beyond 15 m.	cum	2.04	2.04	2.04	2.04
6.8	Earth filling :--						
	(a)(i)	Earth filling under floors with surplus ordinary soil or soil containing gravel or kankar upto 40% excavated from foundation and taken only from outside the building plinth in 15 cm layers including ramming, watering and consolidating lead upto 30 metres	cum	23.72	23.72	26.09	26.09
	(ii)	Earth filling under floors with surplus soil containing more than 40% gravel or kankar excavated from foundation and taken only from outside the building plinth in 15 cm layers including ramming, watering and consolidating lead upto 30 metres.	cum	42.35	42.35	46.59	46.59

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
	(b)(i) Earth work (exclusive of compensation for earth) in excavation in ordinary soil or soil containing gravel or kankar upto 40 % and filling in 15 cm layers in foundation and plinth including ramming, watering and consolidating under floors with earth brought from a distance not exceeding 30 metres	cum	52.77	52.77	58.05	58.05
	(ii) Earth work in excavation in soil containing more than 40% gravel or kankar (exclusive of compensation for earth) and filling in 15 cm layers in foundation and plinth including ramming, watering and consolidating under floors with earth brought from a distance not exceeding 30 metres	cum	73.07	73.07	80.38	80.38
	(c) (i) Earth filling under floors with surplus ordinary soil or soil containing gravel or kankar upto 40% taking outside the premises in 15 cm layers including ramming, watering and consolidated lead upto 1000 metres.	cum	163.24	163.24	179.56	179.56
	(ii) Earth filling under floors with surplus soil containing more than 40% taking outside the premises in 15 cm layers including ramming watering and consolidated lead upto 1000 metres	cum	181.88	181.88	200.07	200.07
	(d) Extra for additional lead above 30 metres.	cum	As per rate under item No. 6.2 (c)			As per rate under item No. 6.2 (c)
	(e) Removal of slips from road side to :--					
	(i) Out side road boundary into depressions with combined lead of 15 metres inclusive of cost of explosive, compressed air and T&P.	cum	Rate of item No. 7.1 to 7.10 to be paid according to type of work after Reducing the rate by 10%			Rate of item No. 7.1 to 7.10 to be paid according to type of work after Reducing the rate by 10%

Sr. No.	Description		Unit	Plains		Sub-Mountainous	
				Labour Rate	Through Rate	Labour Rate	Through Rate
1	2		3	4	5	6	7
	(ii)	Extra for additional 7.5 metres lead above 15 metres.	cum	2.10	2.10	2.10	2.10
6.9	Earth work over roofs :--						
	(a)	Earth work over roofs of one storey building with good earth free of any admixture of foreign matter including breaking of clods, ramming, watering, dressing and horizontal lead upto 30 metres.	cum	86.16	86.16	94.78	94.78
	(b)	Extra for additional lead above 30 metres.	cum	As per rate under item No. 6.2 (c)			As per rate under item No. 6.2 (c)
	(c)	Extra for every additional storey.	cum	5.30	5.30	5.83	5.83
6.10	Earth work undressed by boats including hiring of boats :--						
	(a)	Digging and loading in boats within 15 metres lead.	cum	39.77	39.77	43.75	43.75
	(b)	Carriage by boats upto 300 metres.	cum	0.63	0.63	0.69	0.69
	(c)	Extra for distance beyond 300 metres but upto 750 metres (per 30 metres).	cum	0.70	0.70	0.77	0.77
Note :-	For lead beyond 750 metres the rates under item No. 6.2 (c) will be applicable.						
	(d)	Unloading earth from boats.	cum	21.54	21.54	23.69	23.69
6.11	Earth work undressed by tramway or rail :--						
	(a)	Digging and loading into trucks within 15 metres lead.	cum	39.77	39.77	43.75	43.75
	(b)	Hand shunting of N.G. tip wagons per 30 metres.	cum	2.65	2.65	2.92	2.92
	(c)	Unloading earth from tip wagon and clearing within 3.0 metres from rail.	cum	10.60	10.60	11.66	11.66
	(d)	Unloading earth from B.G. Trucks clearing 1.5 metres from rail.	cum	22.16	22.16	24.38	24.38
	(e)	Unloading earth from B.G. Trucks & spreading 4.5 metres from rail.	cum	29.46	29.46	32.41	32.41
	(f)	Unloading from B.G. Trucks & spreading upto 30 metres from rail.	cum	36.45	36.45	40.10	40.10

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			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
6.12	Dressing of dowels in addition to payment for dressed earth work.	m	1.69	1.69	1.86	1.86
6.13	Restoring boundary road drains.	m	1.91	1.91	2.10	2.10
6.14	Making new boundary road including levelling and dressing 3.0 metres to 5.0 metres wide :-					
	(a) In unploughed land.	m	4.36	4.36	4.80	4.80
	(b) In ploughed land.	m	9.17	9.17	10.09	10.09
Note :-	The rates for item No. 6.13 are to be paid only in reaches where no earth work for boundary roads is paid for.					
6.15	(a) Covering boundary road with 7.5 cm deep sarkanda or jungle upto 300 metres lead including cutting and supply of sarkanda or jungle.	m	5.13	5.13	5.64	5.64
	(b) Covering boundary road with 7.5 cm deep sarkanda or jungle lead beyond 300 metres to 1000 metres including cutting and supply of Sarkanda or jungle.	m	10.01	10.01	11.01	11.01
	(c) Extra carriage of Sarkanda :-					
	(i) 2nd km	m	4.93	4.93	5.42	5.42
	(ii) 3rd km	m	4.51	4.51	4.96	4.96
	(iii) 4th km	m	4.13	4.13	4.54	4.54
	(iv) 5th km	m	3.75	3.75	4.13	4.13
	(v) 6th km	m	3.29	3.29	3.62	3.62
	(vi) 7th km	m	2.82	2.82	3.10	3.10
	(vii) Subsequent km	m	2.35	2.35	2.59	2.59
6.16	Ploughing or levelling of borrow pits.	Acre	1549.28	1549.28	1704.21	1704.21
6.17	Berm trimming both sides :-					
	(a) Channels up to 1.0 metre depth.	km	1515.81	1515.81	1667.39	1667.39

Sr. No.	Description		Unit	Plains		Sub-Mountainous	
				Labour Rate	Through Rate	Labour Rate	Through Rate
1	2		3	4	5	6	7
	(b)	Channels exceeding 1.0 metre but up to 1.5 metres depth.	km	2219.75	2219.75	2441.73	2441.73
	(c)	Channels exceeding 1.5 metres but up to 2.5 metres depth.	km	3381.15	3381.15	3719.27	3719.27
6.18	Dag – Belling :--						
	(a)	Single kassi stroke minimum 7.5 cm depth.	km	292.84	292.84	322.12	322.12
	(b)	Double kassi stroke 'V' shaped minimum 10 cm depth.	km	582.86	582.86	641.15	641.15
	(c)	Double kassi stroke 'V' shaped minimum 15 cm depth.	km	769.64	769.64	846.60	846.60
6.19	Excavation in Soil (any type) with Dozer with lead up to 100 metres Excavation for road way in soil by mechanical means including cutting and pushing the earth to site of embankment up to a distance of 100 metres (average lead 50 metres), including trimming bottom and side slopes in accordance with requirements of lines, grades and cross sections.		cum	147.26	149.43	161.99	164.16
6.20	Excavation in Ordinary Rock with Dozer with lead up to 100 metres Excavation for roadway in ordinary rock by deploying a dozer, 80 HP including cutting and pushing the cut earth to site of embankment up to a distance of 100 metres (average lead 50 metres)		cum	147.26	150.51	162.26	165.51
6.21	Excavation in Soil (any type) using Hydraulic Excavator CK 90 and Tippers with Disposal up to 450 metres. Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location within all lifts and lead up to 450m		cum	42.13	43.22	46.13	47.22
6.22	Laser levelling of land up to 300 mm with tractor & Laser Levelling Machine complete in all respect.		acre	3761.40	3761.40	4137.40	4137.40