

by these several methods, expands about that same percentage, it would appear that the old expedient of putting on shrinkage and paying for neat embankment quantities is not very wide of the mark after all.

TABLE No. 1.

Fill Ht. in ft.	Slopes	R.B.	Cubic yds.	5% Fig. 1 Cub. yds.	Slopes	Actual %	10% Fig. 1 Cub. yds.	Slopes	Actual %
10	1.5	16	1148	28	1.425	2	55	1.35	5
20	1.5	16	3407	111	1.425	3	222	1.35	6
30	1.5	16	6778	250	1.425	4	500	1.35	7

TABLE No. 2.

Fill Ht. in ft.	Slopes	R.B. for setting stakes	R.B. used in figuring X sect.	Cubic yds.	Nominal shrinkage 5% Fig. 2 Cub. yds.	Actual percent- age increased quantities over a 16' roadbed 1.5-1
10	1.6-1	16	17.5	1185	30 + 37 = 67	6%
20	—	—	10	3555	118 + 148 = 266	8%
30	—	—	20.5	7111	266 + 333 = 599	9%
10% Fig. 2						
10	1.7-1	16	19	1222	63 + 74 = 137	12%
20	—	—	22	3703	252 + 296 = 548	16%
30	—	—	25	7444	566 + 666 = 1232	18%

TABLE No. 3.

Fill	Slopes	R.B. for X section and setting stakes	Cubic yds.	Nominal shrinkage 5% Fig. 3 Cub. yds.	Actual percent- age increased quantities over 16' roadbed 1.5-1
10	1.4	17.5	1166	18	1%
20	—	19.0	3481	74	2%
30	—	20.5	6944	166	3%
10% Fig. 3					
10	1.3	19	1185	37	3%
20	—	22	3555	148	4%
30	1.3	25	7111	333	5%

Overhaul.—Here, again, the first question that arises is, "What is the contractor to be paid for, theoretical or actual overhaul?"

If paid for actual overhaul, it often happens that through some extraneous conditions as, for instance, down-hill haul, by the method of handling the work, or perhaps on account of a structure not being built in time, the most economical distribution of the material, from the company's point of view, is not followed out.

When, however, the material expands considerably, as in a rock