

NATURAL RESOURCES DEVELOPMENT CORPORATION LTD.
FIELD RECORDS & VOLUME CALCULATION OF 2.0KM CHENDEBJEE FOREST ROAD 2024

Location : Chendebjee, Chendebjee FMU, Jakar Region
 Name of Road : 2.00 km Forest Road
 Survey method : Zero line
 Road Length : 2000m

- 1 Er. Bishal Subba, Civil Engineer, FRD, HO, NRDCL
- 2 Mr. Karma, Chendebjee Unit-Incharge, DoFPS
- 3 Mr. Samdrup yeshi, Production incharge, NRDCL
- 4 Mr. Gyalpola, Sr. Forester
- 5 Mr. Sonam Wangchuck, Field Assistant, NRDCL

St. No.	Grad. (%)	Dist. (m)	Side slope (%)	Rock comp. (%)	Vol. per meter (m ³)		Total vol. (m ³)		Additional vol. (m ³)		Culvert ø (cm)	Remarks
					Soil	Rock	Soil	Rock	Soil	Rock		
1	3	4	5	6	7	8	9	10	11	12	13	14
1~2	8	30	50	0	3.38	-	101.40	0.00	-	-	-	
2~3	8	30	50	0	3.38	-	101.40	0.00	-	-	-	
3~4	8	30	50	0	3.38	-	101.40	0.00	-	-	-	
4~5	8	30	50	0	3.38	-	101.40	0.00	-	-	-	
5~6	8	30	60	0	6.13	-	183.90	0.00	-	-	-	
6~7	8	30	70	0	10.50	-	315.00	0.00	-	-	-	
7~8	8	15	80	0	13.50	-	202.50	0.00	-	-	1.00	Hume pipe @ 30% side slope
8~9	8	10	20	0	1.04	-	10.40	0.00	2.60	-	-	Passing Place 1
9~10	8	15	80	0	13.50	-	202.50	0.00	-	-	-	
10~11	8	19	80	0	13.50	-	256.50	0.00	-	-	1.00	Hume pipe @ 30% side slope
11~12	8	30	80	0	13.50	-	405.00	0.00	-	-	-	
12~13	8	21	50	0	3.38	-	70.98	0.00	-	-	-	
13~14	8	19	60	0	6.13	-	116.47	0.00	-	-	-	
14~15	8	24	40	0	2.46	-	59.04	0.00	-	-	1.00	Hume pipe @ 30% side slope
15~16	8	26	40	0	2.46	-	63.96	0.00	-	-	-	
16~17	8	20	50	0	3.38	-	67.60	0.00	-	-	-	
17~18	8	30	50	0	3.38	-	101.40	0.00	25.35	-	-	Passing Place 2
18~19	8	17	50	0	3.38	-	57.46	0.00	-	-	-	
19~20	8	21	50	0	3.38	-	70.98	0.00	-	-	-	
20~21	8	30	40	0	2.46	-	73.80	0.00	-	-	-	
21~22	8	21	40	0	2.46	-	51.66	0.00	-	-	-	
22~23	8	21	40	0	2.46	-	51.66	0.00	-	-	-	
23~24	8	26	50	0	3.38	-	87.88	0.00	-	-	-	
24~25	8	27	40	0	2.46	-	66.42	0.00	-	-	-	
25~26	8	30	30	0	1.70	-	51.00	0.00	-	-	-	
26~27	8	30	50	0	3.38	-	101.40	0.00	25.35	-	-	Passing Place 3
27~28	8	30	40	0	2.46	-	73.80	0.00	-	-	-	

St. No.	Grad. (%)	Dist. (m)	Side slope (%)	Rock comp. (%)	Vol. per meter (m ³)		Total vol. (m ³)		Additional vol. (m ³)		Culvert ø (cm)	Remarks
					Soil	Rock	Soil	Rock	Soil	Rock		
1	3	4	5	6	7	8	9	10	11	12	13	14
28~29	8	28	30	0	1.70	-	47.60	0.00	-	-	-	
29~30	8	30	40	0	2.46	-	73.80	0.00	-	-	-	
30~31	8	30	30	0	1.70	-	51.00	0.00	-	-	1.00	Hume pipe @ 30% side slope
31~32	8	30	10	0	0.48	-	14.40	0.00	-	-	-	
32~33	8	30	20	0	1.04	-	31.20	0.00	-	-	-	
33~34	8	20	60	0	6.13	-	122.60	0.00	-	-	1.00	Hume pipe @ 30% side slope
34~35	8	30	70	0	10.50	-	315.00	0.00	78.75	-	-	Passing Place 4
35~36	8	19	80	0	13.50	-	256.50	0.00	-	-	-	
36~37	8	18	80	0	13.50	-	243.00	0.00	-	-	-	
37~38	8	28	80	0	13.50	-	378.00	0.00	-	-	1.00	Hume pipe @ 60% side slope
38~39	8	30	60	0	6.13	-	183.90	0.00	-	-	-	
39~40	8	28	80	0	13.50	-	378.00	0.00	-	-	-	
40~41	8	26	80	0	13.50	-	351.00	0.00	-	-	-	
41~42	8	26	80	0	13.50	-	351.00	0.00	-	-	1.00	Hume pipe @ 40% side slope
42~43	8	30	60	0	6.13	-	183.90	0.00	45.98	-	-	Passing Place 5
43~44	8	30	60	0	6.13	-	183.90	0.00	-	-	-	
44~45	8	30	70	0	10.50	-	315.00	0.00	-	-	-	
45~46	8	30	70	0	10.50	-	315.00	0.00	-	-	-	
46~47	8	30	60	0	6.13	-	183.90	0.00	-	-	-	
47~48	8	30	60	0	6.13	-	183.90	0.00	-	-	-	
48~49	8	30	70	0	10.50	-	315.00	0.00	-	-	1.00	Hume pipe @ 60% side slope
49~50	8	25	90	25	15.34	3.44	383.50	86.00	95.88	-	-	Passing Place 6
50~51	8	30	90	100	-	13.73	0.00	411.90	-	-	-	
51~52	8	30	100	25	18.75	3.91	562.50	117.30	-	-	-	
52~53	8	20	120	100	-	19.75	0.00	395.00	-	-	-	
53~54	8	20	120	100	-	19.75	0.00	395.00	-	-	-	
54~55	8	30	90	100	-	13.73	0.00	411.90	-	-	1.00	Hume pipe @ 60% side slope, 100% rock
55~56	8	30	70	0	10.50	-	315.00	0.00	-	-	-	
56~57	8	30	80	75	3.38	7.23	101.40	216.90	-	-	1.00	Hume pipe @ 60% side slope, 100% rock
57~58	8	30	80	0	13.50	-	405.00	0.00	101.25	-	-	Passing Place 7
58~59	8	12	80	0	13.50	-	162.00	0.00	-	-	-	
59~60	8	30	80	0	13.50	-	405.00	0.00	-	-	1.00	Hume pipe @ 40% side slope
60~61	8	30	40	0	2.46	-	73.80	0.00	-	-	-	
61~62	8	30	40	0	2.46	-	73.80	0.00	-	-	-	
62~63	8	30	40	0	2.46	-	73.80	0.00	-	-	-	
63~64	8	30	40	0	2.46	-	73.80	0.00	-	-	-	
64~65	8	30	60	0	6.13	-	183.90	0.00	45.98	-	-	Passing Place 8
65~66	8	24	60	0	6.13	-	147.12	0.00	-	-	1.00	Hume pipe @ 40% side slope

St. No.	Grad. (%)	Dist. (m)	Side slope (%)	Rock comp. (%)	Vol. per meter (m ³)		Total vol. (m ³)		Additional vol. (m ³)		Culvert ø (cm)	Remarks
					Soil	Rock	Soil	Rock	Soil	Rock		
1	3	4	5	6	7	8	9	10	11	12	13	14
66~67	8	30	60	0	6.13	-	183.90	0.00	-	-	-	
67~68	8	30	60	0	6.13	-	183.90	0.00	-	-	-	
68~69	8	30	60	0	6.13	-	183.90	0.00	-	-	-	
69~70	8	30	50	0	3.38	-	101.40	0.00	-	-	-	
70~71	8	30	50	0	3.38	-	101.40	0.00	-	-	-	
71~72	8	30	60	0	6.13	-	183.90	0.00	45.98	-	-	Passing Place 9
72~73	8	30	60	0	6.13	-	183.90	0.00	-	-	1.00	Hume pipe @ 60% side slope
73~74	8	30	70	0	10.50	-	315.00	0.00	-	-	-	
74~75	8	30	90	0	20.45	-	613.50	0.00	-	-	-	
75~76	8	30	90	0	20.45	-	613.50	0.00	-	-	-	Passing Place 10
Total		2006					13,249.43	2,034.00	467.10	0.00	13.00	
Grand Total							13,716.53	2,034.00			13.00	



(Bishal Subba)
Civil Engineer
FRD, HO, NRDCL

Soil	13,716.53	m ³	87.09%
Rock	2,034.00	m ³	12.91%
Total	15,750.53	m³	100%

2. Road length : 2000.00 m
3. Cross drainages : 13 Nos. H/pipe culvert
4. No. of passing places : 10 Nos.
5. No. of Zigs : 0 Nos.
6. Gabion wall : 0.00m approx

Side slope	Cut Width (m)	Fill Width (m)	Total	Back cut slope (Batter)		Volume	
				Soil	Rock	Soil	Rock
10	3.00	2.00	5.00	1.5:1	5:1	0.48	0.46
20	3.00	2.00	5.00	1.5:1	5:1	1.04	0.95
30	3.00	2.00	5.00	1.5:1	5:1	1.70	1.43
40	3.00	2.00	5.00	1.5:1	5:1	2.46	1.95
50	3.00	2.00	5.00	1.5:1	5:1	3.38	2.50
60	3.50	1.50	5.00	1.5:1	5:1	6.13	4.18
70	4.00	1.00	5.00	1.5:1	5:1	10.50	6.50
80	4.50	0.50	5.00	2:1	5:1	13.50	9.64
90	5.00	0	5.00	2:1	5:1	20.45	13.73
100	5.00	0	5.00	2:1	5:1	25.00	15.63
110	5.00	0	5.00	2:1	5:1	30.55	17.63
120	5.00	0	5.00	2:1	5:1	37.50	19.75