

NATURAL RESOURCES DEVELOPMENT CORPORATION LTD.
FIELD RECORDS & VOLUME CALCULATION OF 1.0KM GOGONA FOREST ROAD 2024

Location : Gogona, Gogona FMU, Sha Region
 Name of Road : 1.00 km Forest Road
 Survey method : Zero line
 Road Length : 1000m

1 Er. Bishal Subba, Civil Engineer, FRD, HO, NRDCL
 2 Mr. Sangay Tshering, Gogona Production in-charge, NRDCL
 3 Mr. Luku Tamang, Sr. Field Assistant, Gogona unit

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	10	40	0	2.46	-	24.60	0.00		-	-	
2~3	8	10	40	0	2.46	-	24.60	0.00	-	-	-	
3~4	8	13	40	0	2.46	-	31.98	0.00	-	-	-	
4~5	8	20	60	0	6.13	-	122.60	0.00	-	-	-	
5~6	8	10	70	0	10.50	-	105.00	0.00	-	-	-	
6~7	8	10	70	0	10.50	-	105.00	0.00	-	-	-	
7~8	8	12	60	0	6.13	-	73.56	0.00	-	-	-	
8~9	8	11	50	0	3.38	-	37.18	0.00	-	-	-	
9~10	8	13	50	0	3.38	-	43.94	0.00	-	-	-	
10~11	8	19	90	0	20.45	-	388.55	0.00	-	-	-	
11~12	8	13	70	0	10.50	-	136.50	0.00	-	-	-	
12~13	8	8	70	0	10.50	-	84.00	0.00	-	-	-	
13~14	8	13	70	0	10.50	-	136.50	0.00	-	-	-	
14~15	8	29	60	0	6.13	-	177.77	0.00	44.44	-	-	Passing Place 1
15~16	8	30	60	0	6.13	-	183.90	0.00	-	-	-	
16~17	8	18	60	0	6.13	-	110.34	0.00	-	-	1.00	Hume Pipe @ 60% Side Slope
17~18	8	23	60	25	4.60	1.05	105.80	24.15	-	-	-	
18~19	8	15	60	0	6.13	-	91.95	0.00	-	-	-	
19~20	8	17	60	0	6.13	-	104.21	0.00	-	-	-	
20~21	8	30	60	0	6.13	-	183.90	0.00	-	-	-	
21~22	8	14	40	50	1.23	0.98	17.22	13.72	-	-	-	
22~23	8	16	50	0	3.38	-	54.08	0.00	-	-	-	
23~24	8	10	50	50	1.69	1.25	16.90	12.50	-	-	-	
24~25	8	10	50	50	1.69	1.25	16.90	12.50	-	-	-	
25~26	8	10	60	75	1.54	3.14	15.40	31.40	-	-	-	
26~27	8	22	60	0	6.13	-	134.86	0.00	33.72	-	-	Passing Place 2
27~28	8	13	60	25	4.60	1.05	59.80	13.65	-	-	-	
28~29	8	24	60	50	3.07	2.09	73.68	50.16	-	-	-	
29~30	8	15	50	0	3.38	-	50.70	0.00	-	-	-	
30~31	8	19	80	100	-	9.64	0.00	183.16	-	-	-	

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					Soil	Rock	Soil	Rock	Soil	Rock		
1	3	4	5	6	7	8	9	10	11	12	13	14
31~32	8	15	60	100	-	4.18	0.00	62.70	-	-	-	
32~33	8	20	80	75	3.38	7.23	67.60	144.60	-	-	-	
33~34	8	13	80	0	13.50	-	175.50	0.00	-	-	-	
34~35	8	30	80	25	10.13	2.41	303.90	72.30	-	-	-	
35~36	8	20	80	25	10.13	2.41	202.60	48.20	-	-	-	
36~37	8	20	70	50	5.25	3.25	105.00	65.00	-	-	-	
37~38	8	30	50	25	2.54	0.63	76.20	18.90	19.05	-	-	Passing Place 3
38~39	8	30	10	0	0.48	-	14.40	0.00	-	-	-	
39~40	8	30	10	0	0.48	-	14.40	0.00	-	-	-	
40~41	8	30	20	25	0.78	0.24	23.40	7.20	-	-	-	
41~42	8	30	20	50	0.52	0.48	15.60	14.40	-	-	-	
42~43	8	30	10	0	0.48	-	14.40	0.00	-	-	-	
43~44	8	30	20	50	0.52	0.48	15.60	14.40	-	-	-	
44~45	8	30	10	0	0.48	-	14.40	0.00	3.60	-	-	Passing Place 4
45~46	8	30	10	0	0.48	-	14.40	0.00	-	-	-	
46~47	8	30	10	0	0.48	-	14.40	0.00	-	-	-	
47~48	8	30	10	0	0.48	-	14.40	0.00	-	-	1.00	Hume Pipe @ 30% Side Slope
48~49	8	30	10	0	0.48	-	14.40	0.00	-	-	-	
49~50	8	30	10	0	0.48	-	14.40	0.00	-	-	-	
50~51	8	20	10	0	0.48	-	9.60	0.00	2.40	-	-	Passing Place 5
Total		1005					3,836.02	788.94	103.21	0.00	2.00	
Grand Total							3,939.23	788.94			2.00	



(Bishal Subba)
Civil Engineer
FRD, HO, NRDCL

Soil	3,939.23	m ³	83.31%
Rock	788.94	m ³	16.69%
Total	4,728.17	m³	100%

2. Road length : 1000.00 m
3. Cross drainages : 2 Nos. H/pipe culvert
4. No. of passing places : 5 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