BEFORE THE NATIONAL GREEN TRIBUNAL EASTERN ZONE AT KOLKATA
MEMORANDUM OF APPEAL
(**Under Sections 16(e) read with 18(1) of the National Green Tribunal Act, 2010)**

Appeal No. 17 **of 2026**

Munidei Majhi & 3 Ors. …Appellants

-Vs-

The Ministry of Environment, Forest and Climate Change & 4 Ors.

…Respondents

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//Certified to be True Copies of the respective originals//
Dated on this 13th day of July, 2026

Through
A Yogeshwaran
Counsel for the Appellants
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Email: sepwd_rgda@yahoo.com
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Office of the Chief Construction Engineer
Rayagada (R&B) Circle, Rayagada

File No. CIII/2024/Letter No. 1050 dt. 14/11/2024

To

The Superintending Engineer,
Rayagada (R&B) Division No.I,
Rayagada.

Sub :- Detailed Project Report for Development of proposed road connectivity from Sijimali Mines to SH-44 for transportation of Bauxite Ore for M/s. Vedanta Ltd., Lanjigarh,Odisha from 0/0 km. to 3/400 km.

Sir,

The Technically approved Detailed Project Report for Development of proposed road connectivity from Sijimali Mines to SH-44 for transportation of Bauxite Ore for M/s. Vedanta Ltd., Lanjigarh, Odisha from 0/0 km. to 3/400 km, received vide letter No. 41996 dt. 30.10.2024 of the Chief Engineer (Roads-I), Odisha is returned herewith for taking further needful action.

The execution and specification of the work should be followed as per IRC guidelines.

Encl. :- As above

Yours faithfully,

14/11/24

Chief Construction Engineer
Rayagada (R&B) Circle, Rayagada

13/11/24

OFFICE OF THE ENGINEER-IN-CHIEF (CIVIL), ODISHA,
NIRMAN SOUDHA, KESHARI NAGAR, UNIT-V, BHUBANESWAR-751001

File No: C-II- RYD-II-24/2024 No: 41996 Date: 30.10.2024

From

Chief Engineer, (Roads-I) Odisha.
Tel: +91 674 239 3122 / Fax: +91 674 239 0080
Email: ceroads.bbsr@gmail.com

To

The Chief Construction Engineer.
Rayagada (R&B) Circle, Rayagada.

Sub: - Detailed Project Report for Development of proposed road connectivity from Sijimali Mines to SH-44 for transportation of Bauxite Ore for M/S. Vedanta Ltd., Lanjigarh, Odisha from 0/0 Km to 3/400 Km

Ref: - Your letter No-938 dtd. 24.09.2024

Sir,

With reference to the subject cited above, the provision provided in the crust of the estimate as received from the Chief Construction Engineer, Rayagada (R&B) Circle, Rayagada vide letter no. 938 dated 24.09.2024 is technically approved and return herewith. The execution and specification of the work should be followed as per IRC guidelines.

Yours Sincerely,

Chief Engineer (Roads-I), Odisha

Copy to

The Executive Engineer, Rayagada (R&B) Division-I, Rayagada for information and necessary action.

projectcoordinator@mythrinfra.c

vedanta

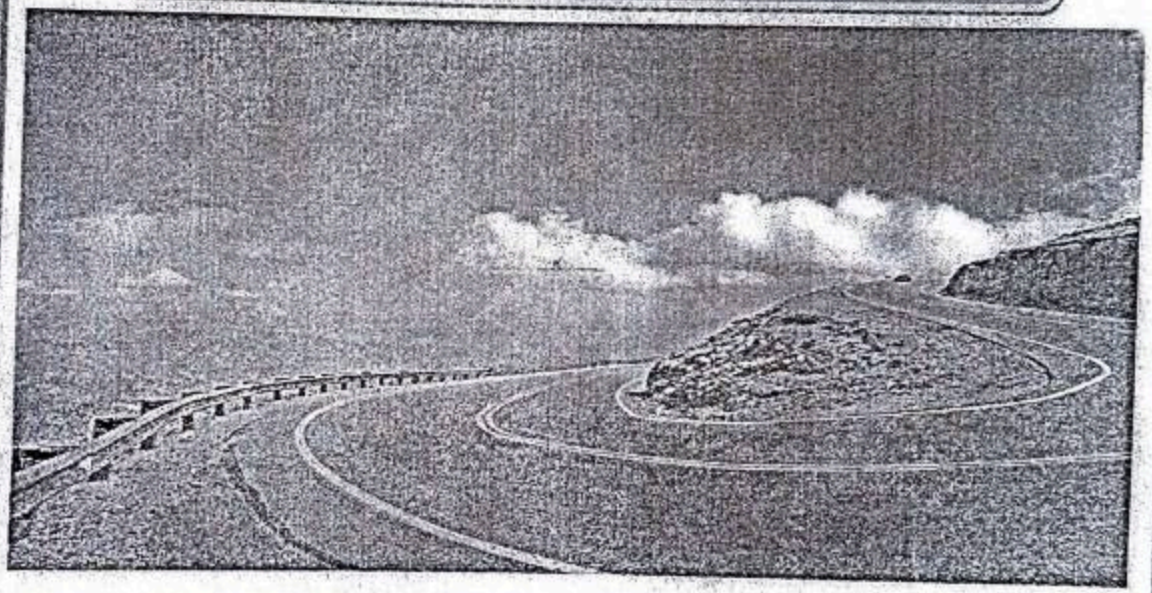
M/s. VEDANTA LTD.

LANJIGARH, KALAHANDI, ODISHA.

DETAILED PROJECT REPORT (DPR) DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SIJIMALI MINES TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH.

DETAILD PROJECT REPORT

SEPTEMBER-2024



Executing Agency: **Mythri Infrastructure and Mining India Pvt Ltd.**

S.R.S NO : 051, Near Canara Bank, Main Road, Tikiri, Dist-Rayagada, Odisha-765015

Design Consultant: - Utkal Rail Consultants Pvt. Ltd.

Regd. office- At-Ramchandrapur, (Near Dhanmandal Police station)
P.O. Dhanmandal, Dist-Jajpur, Odisha. Pin-754024.
E-mail : utkalrailconsultants@gmai.com , Mob-9439196960

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DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SIJIMALI MINES TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH.

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ABBREVIATION

MORTH	Ministry of Road Transport & Highway
AASHTO	American Association of State Highway and Official
MoEF	Ministry of Environment and Forest
IRC	Indian Road Congress
BIS	Bureau of Indian Standards
EPC	Engineering Procurement Contract
PPP	Public Private Partnership
DBFOT	Design, Build, Finance Operate & Transfer
ToR	Term of Reference
ESAL	Equivalent Standard Axle Load
VDF	Vehicle Damage Factor
MSA	Million Standard Axle
AADT	Average Annual Daily Traffic
ADT	Annual Daily Traffic
TVC	Total Vehicle Count
OD	Origin-Destination
PCU	Passenger Car Unit
GSDP	Gross State Domestic Product
CBR	California Bearing Ratio
DCPT	Direct Cone Penetration Test
BBD	Benkelman Beam Deflection
ROW	Right of Way
FY	Financial Year
COD	Commercial Operations Data

DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SIJIMALI MINES TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH.

EXECUTIVE SUMMARY

0.1 GENERAL

Vedanta Limited is one of the largest global diversified natural resources majors, supporting the country's industrial growth.

Vedanta Limited (VL) has setup 2 MTPA Alumina refinery plant with 75 MW Captive Power Plant at Lanjigarh, Kalahandi district of Odisha. Alumina is further processed through electro smelting in 1.7 MTPA smelter plant with 9 Units X 135 MW Captive Power Plant set up at Burkhamunda, near Jharsuguda, Odisha.

Raw Materials i.e. Bauxite ore is brought to the plant Kodingamali through rail transport from Tikiri.

M/s VL is now got the lease for excavation of Sijimali Bauxite ore mines under Kasipur Tehsil of Rayagada district.

M/s Vedanta intends to transports the Bauxite ore of 9.0 MTPA from mines to Alumina Refinery plant situated at Lanjigarh through road and rail transport. However, transportation of bauxite ore from mine to plant through pipe conveyor is also under process. Since, the conveyor system will take a long time for construction, hence, initially transportation of bauxite ore will be done through road and rail network.

For transportation of bauxite ore from mine to railways station (Loading point), M/s Vedanta Ltd. (VL) has engaged Logistic Partner M/s Mythri Infrastructure and Mining India Pvt Ltd. (MIMIPL) and the Logistic partner is the executing agency of the road from Mines top to SH-44.

Since, the road connectivity from Sijimali Mines top to SH-44 is not available at site; it was decided to execute suitable road connectivity from Mines top to SH-44 for transportation of Bauxite ore through Bulkers/trucks.

MIMIPL has decided to take up the construction of new road from Sijimali Mines top to SH-44 up to a distance 3.4 km in the state of Odisha.

This project is a part of the above-mentioned programme and the project awarded to M/s Utkal Rail Consultants Pvt Ltd for preparation of Detailed Project Report for the above-mentioned road.

- Project Stretch: Sijimali Mines Top to SH-44 (Total Stretch- 3+400 KM)

In order to fulfil the above task, MIMIPL has entrusted the work of preparation of Detailed Project Report for the above project to Utkal Rail Consultants, vide contract agreement.

0.2 OBJECTIVE

The main objectives of the consultancy service will focus on establishing technical viability of the project and prepare detailed project reports for construction of the new 2-lane road configuration with the following points to be ensured.

- Ensure Enhanced safety of the traffic, the road users and people living close to the project road
- Ensure enhanced operational efficiency of the road
- Ensure fulfilment of the access needs of the local population
- Ensure minimal adverse impact on the road users and the local population due to construction
- Minimal additional acquisition of land
- Superior operation and maintenance enabling enhanced operational efficiency of the Project Road.

Design requirement of pavement from SH-44 to Sijimali mines from 0/000 to 3/400, it should be of 60 MSA.

0.3 SCOPE OF SERVICES

The study includes all field works and detailed engineering studies for construction of road from SH-44 to Mines. The scope of services as detailed in TOR is as follows:

- Survey and design the suitable alignment for the proposed road as per MoRTH & IRC guidelines, practicable and cost effective. The Consultant shall furnish land acquisition details as per revenue records/maps for further processing of land acquisition.
- The general scope of services is given in the sections that follow. However, the entire scope of services would, inter-alia, include the items mentioned in the Letter of Invitation and the TOR. The Consultant will also make suitable alternative proposals for the proposed road as per the requirement and land availability.
- To prepare the bid documents including required schedules (as mentioned above) as per EPC/Item Rate documents.
- Consultant shall be responsible for sharing the findings from the preparation stages during the bid process. During the bid process for a project, the consultant shall support the authority in responding to all technical queries, and shall ensure participation of senior team members of the consultant during all interaction with potential bidders including pre-bid conference, meetings, and site visits etc. In

addition, the consultant shall also support preparation of detailed responses to the written queries raised by the bidders.

The scope of consultancy service as set out in the TOR includes the following major tasks:

- Review of all available reports and published information about the project road and the project influence area;
- Detailed reconnaissance;
- Identification of possible alternative alignments for development of road.
- Traffic surveys
- Inventory and condition surveys for cross-drainage structures, other Structures, river Bank training/Protection works and drainage provisions;
- Sub-grade characteristics and strength: investigation of required sub-grade and sub-soil characteristics and strength for road and embankment design and sub soil investigation;
- Identification of sources of construction materials;
- Detailed design of road, its x-sections, horizontal and vertical alignment and design of embankment of height more than 6m and also in poor soil conditions and where density consideration require, even lesser height embankment. Detailed design of structures preparation of GAD and construction drawings and cross-drainage structures etc.
- Preparation of detailed project report, cost estimate, construction drawings, rate analysis, detailed bill of quantities, bid documents for execution of civil works.
- Any other user-oriented facility.

The Consultant shall be guided in its assignment by the Model Agreement for Engineering, Procurement and Constructions (EPC)/ Item Rate Mode and the MoRTH with relevant IRC codes.

0.4 APPROACH & METHODOLOGY

The consultant's approach towards the project is in accordance to the TOR in lines with the project objectives. The prescribed engineering surveys and investigations have been carried out on the Project Road conforming to MORTH/IRC/BIS Specifications / Codes as per TOR to generate adequate database for preparing the most appropriate proposal for construction of proposed road.

0.5 PROJECT DESCRIPTION

On award of the job, detailed survey has been carried out for design of the suitable alignment for the proposed road from SH-44 to Sijimali mines. Various alternative

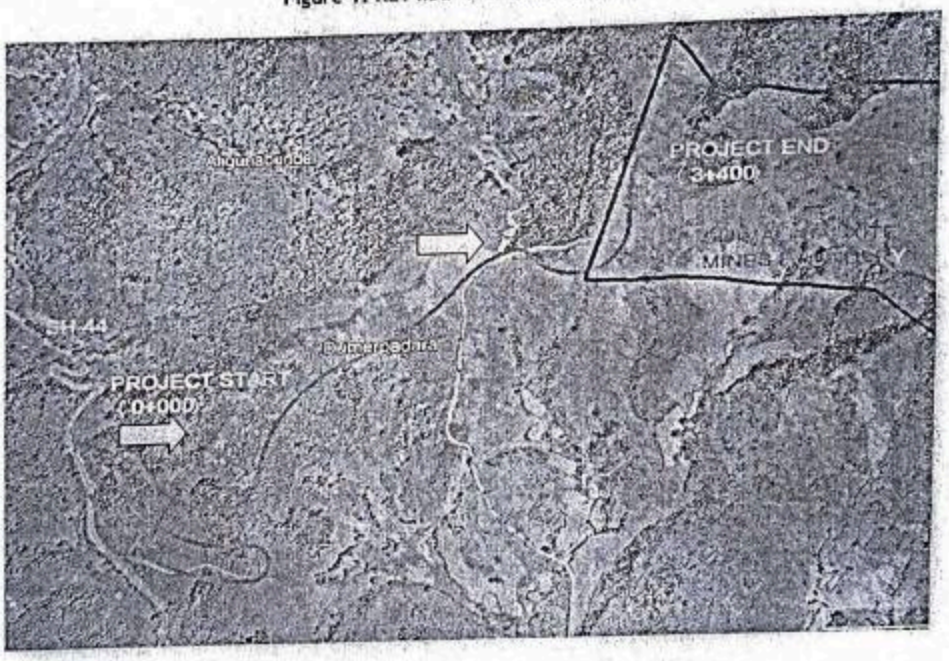
alignment has bene studied and most suitable and economic alignment has been freeze in consultation with the client.

The proposed has been take off from Sh-44 near Sagabari village under Kashipur Tahsil of Rayagada district in the state of Odisha. The proposed road connectivity from Sh-44 to Sijimali Mines is about 3/400 KM long and has been proposed on hilly terrain as per the geometrical requirement for transport of bauxite ore from mine to nearest railway station through SH-44.

The Scope of the Project Work is therefore to start the Road near Sijimali bauxite mines area and terminates at SH-44. The Sijimali bauxite area zone is approximately of 1550 Hectares. By Physical Reconnaissance Survey, and Study of Satellite Maps, alignment of length 3.400 KM was finalized.

The project location map is provided in the figure below.

Figure 1: KEY MAP OF PROJECT ROAD



QR CODE FOR DOWNLOAD OF KML FILE OF THE PRPSOED ROAD ALIGNMENT.

DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SIJIMALI MINES TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH.

0.5.1 PROJECT LOCATION

The Sijimali mining site is located in the south-western part of Rayagada district in Odisha. The lease area of 1560.40 hectares falls under Thuamul-Rampur Tehsil of Kalahandi district and Kashipur Tehsil of Rayagada district in the state of Odisha. The lease area falls under the Survey of India Toposheet nos. E44F2 and E44F3 and bounded by latitude of 19° 28' 42.42" to 19° 32' 02.35" N & longitude of 83° 06' 04.66" to 83° 09' 49.80" E.

0.5.2 TERRAIN

The whole project road passes majorly hilly terrain passing through large forest patches.

0.5.3 ABUTTING LAND USE

The roadside environment is forest land, Govt. land as well as private land with hilly area and there are no settlements along the proposed route.

0.5.4 RIGHT OF WAY

The Right of Way (ROW) boundary stones are available along the project corridor. The Proposed ROW throughout the stretch is varying 33-48 m.

0.5.5EXISTING STRUCTURES

The list of existing road structures such as Underpass, minor bridge, culverts, etc. are listed in Tables as below:

Table 1: SUMMARY OF EXISTING STRUCTURES

Sl.No.	Features	Description
1	Major Bridge	Nil
2	Minor Bridge	Nil
3	Culverts	Nil
4	Causeway	Nil
5	Median	Nil
6	Junctions	Nil
7	At Grade Railway Crossings	Nil
8	Road Sign Boards	Nil
9	Bus Bays	Nil
10	Truck Lay Bye	Nil
11	Bus Stops	Nil

As it is a newly proposed road from Sijimali mines top to SH-44 so, there is no existence of culverts/structures.

0.6 TRAFFIC ANALYSIS & FORECAST

The traffic surveys have been studied that future initial traffic to & fro movement should be 1410 Nos when the mines will be operated. The baseline traffic characteristics are very important for the assessment of future traffic and travel pattern.

0.6.1 Traffic Projected

The traffic projected for the project stretch with 5.0% traffic growth rate has been tabulated below.

Projected Bauxite Ore Transportation- 9 MTPA (Million Ton Per Annum)

Average carrying capacity of a vehicle- 35 MT (Metric Ton)

So, to and fro movement of vehicle will be 1410 Nos. per day.

(Note: The above vehicle movement has been calculated considering 365 days in a year)

However, transportation of projected traffic will be done in different phases mentioned below:

Phase-1, 3 MTPA in 2025-26, to and fro movement of vehicle will be 470 Nos. per day.

Phase-2, 6 MTPA in 2026-27, to and fro movement of vehicle will be 940 Nos. per day.

Phase-3, 9 MTPA in 2027-28, to and fro movement of vehicle will be 1410 Nos. per day.

Table 2: PROJECTED TRAFFIC FOR 20 YEARS

DURATION	AADT	PCU	
2023	0	0	Construction Period Ends
2024	0	0	
2025	0	0	
2026	0	0	
2027	0	0	
2028	550	2475	1
2029	1024	4608	2
2030	1498	6742	3
2031	1573	7079	4
2032	1652	7433	5
2033	1734	7805	6
2034	1821	8195	7
2035	1912	8605	8
2036	2008	9035	9
2037	2108	9487	10
2038	2214	9961	11
2039	2324	10459	12
2040	2440	10982	13
2041	2562	11531	14

2042	2691	12107	15
2043	2825	12713	16
2044	2966	13349	17
2045	3115	14016	18
2046	3270	14717	19
2047	3434	15453	20

- EquiValency Factor is 4.5, which is mentioned in IRC-64, 1980 (Table-1).

The above traffic is the anticipated traffic projection for 20 years, however as discussed earlier, M/s Vedanta has also planned for a Pipe Conveyor transportation of Bauxite ore from mines to plant directly. The construction work of conveyor system may take 3-5 years to complete and after completion/commissioning of pipe conveyor, road movement will be significantly reduced.

0.6.2 Computation of design traffic

Table 3: MSA CALCULATION

Estimation of Design Traffic in terms of MSA									
Year	Commercial Vehicles Bothway (Vehicles/day)						Equivalent Standard Axles on Design Lane in Million		
	Bus	LCV	2-Axle Truck	3-Axle Truck	MAV	Total	Year Wise	48-Months (Cons. Period)	
Distribution factor	0.75								
VDF values	0.21	0.08	0.13	1.07	5.00				
Growth rate (%)	5.00%	5.00%	5.00%	5.00%	5.00%				
2023	0	0	0	0		0			
2024	0	0	0	0		0			
2025	0	0	0	0		0			
2026	0	0	0	0		0			
2027	0	0	0	0		0			
2028	20	10	20	30	470	550	0.65	0.65	1
2029	21	11	21	32	940	1024	1.30	1.95	2
2030	22	11	22	33	1410	1498	1.94	3.89	3
2031	23	12	23	35	1481	1573	2.04	5.93	4
2032	24	12	24	36	1555	1652	2.14	8.07	5
2033	26	13	26	38	1632	1734	2.25	10.32	6
2034	27	13	27	40	1714	1821	2.36	12.68	7
2035	28	14	28	42	1800	1912	2.48	15.16	8
2036	30	15	30	44	1890	2008	2.60	17.76	9
2037	31	16	31	47	1984	2108	2.73	20.50	10
2038	33	16	33	49	2083	2214	2.87	23.37	11

2039	34	17	34	51	2187	2324	3.01	26.38	12
2040	36	18	36	54	2297	2440	3.16	29.54	13
2041	38	19	38	57	2412	2562	3.32	32.86	14
2042	40	20	40	59	2532	2691	3.49	36.35	15
2043	42	21	42	62	2659	2825	3.66	40.01	16
2044	44	22	44	65	2792	2966	3.84	43.86	17
2045	46	23	46	69	2931	3115	4.04	47.89	18
2046	48	24	48	72	3078	3270	4.24	52.13	19
2047	51	25	51	76	3232	3434	4.45	56.58	20

The Calculated Design Traffic MSA for 20 years is 56.58. However, the Recommended Design Traffic MSA for 20 years has been taken as 60.0 MSA.

As per IRC-37, 2018 (Clause-4.4.6) for small projects, in the absence of weigh pad, the axle loads of typical commercial vehicles plying on the road may be estimated approximately from the type of goods carried. Where information on the axle loads is not available and the proportion of heavy vehicles using the road is small, the indicative values of vehicle damage factor given in Table 4.2 (Indicative VDF) can be used. These indicative VDF values have been worked out based on typical axle load spectrums and taking into consideration the legal axle load limits notified in the Gazette of India dated 16th July 2018.

Table 4: EXISTING ROAD CRUST DETAILS OF SH-44

SL NO.	CHAINAGE (KM)	SUB-BASE	BASE	BINDER	WEARING COURSE
1	0.000	GSB - 160	WMM =150	BM = 50	SDBC = 25

0.8 SUBGRADE CHARACTERISTICS AND STRENGTH

The soil analysis has been carried out on the basis of the classification and mechanical characteristics of the soil along the project road. The finding outs are as briefed below:

Table 5: Laboratory Test results of OGL at KM 6+900

LABORATORY TEST RESULTS OF OGL															
Sampling Chanage in Km	Location	Type of sample	Grain size analysis(Retained %)					D.F.S. In %	Atterberg's Limits (%)			Group of soil	MDD in(%)	OMC IN %	Soaked CBR
			Gravel in %	Coarse Sand in %	Medium Sand in %	Fine Sand in %	Silty &Clay in %		Liquid Limit	Plastic Limit	Plasticity Index				
3.000	Hill	DS	0.46	4.86	8.74	20.51	65.43	18	32	18	14	CL	1.87	13.26	6.10
Remark:	A) MDD should not be <1.52 gm/cc for embankment up to height 3.0 mtr & 1.75 gm/cc for subgrade &shoulder.														
	B) LL, PI & DFS value should not be > 70%, 45% & 50% respectively.														
General Remarks: The test results related to the above samples are collected by this laboratory. This laboratory is not responsible for the result of similar other samples tested in this Laboratory or any other laboratory.															

0.10 PROPOSED WIDTH OF CARRIAGEWAY

As per IRC SP-73,2015 (Table-2.8), the project road whose 20-year projected traffic is less than 18000 PCU/day, shall be developed to two lanes. The Proposed carriageway configuration is 7.0 m wide carriageway with 1.50 m of paved shoulders & 2.0m of earthen shoulder on both sides.

The Proposed Carriageway which is connecting to SH-44 is to transport bauxite ore to Lanjigarh railway station, so the entire stretch is considered as plain terrain.

0.11PROPOSED CROSS SECTION

Details of cross section are tabulated below.

Table 6: DETAILS OF CROSS SECTION

SL NO	TYPE OF CROSS SECTION	DETAILS
1	TYPICAL-I	NEW CONSTRUCTION 2-LANE WITH PAVED SHOULDER IN RURAL AREA
2	TYPICAL-2	NEW CONSTRUCTION 2-LANE WITH PAVED SHOULDER WITH HILL ON ONE SIDE & PROTECTION WALL
3	TYPICAL-3	NEW CONSTRUCTION2-LANE WITH PAVED SHOULDER WITH TOTAL CUT FORMATION OPTION
4	TYPICAL-4	NEW CONSTRUCTION 2-LANE WITH PAVED SHOULDER WITH PROTECTION WALL

Detailed figure of Typical cross sections are furnished in Annexure-I

0.12 PROPOSED PAVEMENT COMPOSITION

Proposed Pavement Composition from mines top to SH-44 will be decided by the client as of now using the design chart of IRC: 37-2012&IRC: 58-2015, the total pavement thickness requirements for both the homogenous sections, for the design CBR value of 8% and respective 20 years design traffic for flexible pavement & 30 years design traffic design traffic for rigid pavement are given below.

Table 7: PAVEMENT CRUST DETAILS

Chainage from and to	Design traffic (MSA)	CBR of subgrade (%)	Proposed Pavement Thickness		
			GSB	DLC	PQC
0/000-3/400	60	8	150	150	300

M-40 grade Concrete shall be used in Pavement Quality Concrete (PQC) road with min. cement content of 400kg per Cum.

0.14 PROPOSALS FOR STRUCTURES

0.14.2 BRIDGES & CULVERTS

There are total of 10 nos. of Bridges/culvert has been proposed on the road alignment from Sh-44 to Mines top. List is bridges tabulated below:

Table 8: LIST OF PROPOSED MINOR BRIDGE

Sl No	Chainage	Type	Span Arrangement	Proposed	Proposed Width
1	0+000	Pipe	1 x 1.2m dia	New Construction	15.00
2	0+365	LVUP	1x 12.0 x 4.0	New Construction	12.00
3	0+585	LVUP	1x 12.0 x 4.0	New Construction	12.00
4	0+595	Pipe	1 x 1.2m dia	New Construction	15.00
5	1+175	Pipe	1 x 1.2m dia	New Construction	15.00
6	1+815	Pipe	1 x 1.2m dia	New Construction	15.00
7	1+963	Pipe	1 x 1.2m dia	New Construction	15.00
8	2+735	Pipe	1 x 1.2m dia	New Construction	15.00
9	2+785	LVUP	1x 12.0 x 4.0	New Construction	12.00
10	3+165	LVUP	1x 12.0 x 4.0	New Construction	12.00

0.15 PUBLIC UTILITIES

The proposed road is a greenfield road and no public structures are located or infringed on the proposed road alignment. Utility corridor of 1.5 mtr width has been proposed along the proposed Road inside the proposed ROW .

0.16 LAND ACQUISITION

The land acquisition within the proposed ROW is mentioned below according to following stretches:

- Total road length is 3/400 KM, however land acquisition will be done from 0/00KM to 2/980 Km outside the mine's boundary- 28.005 Acres (New Construction of Rigid Pavement from SH-44 to Mines Top)

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0.17 COST ESTIMATE

The general abstract of project cost is worked out according to the improvement proposal is tabulated below:

Table 9: SUMMARY OF PROJECT COST

GENERAL ABSTRACT			
SL. No.	DESCRIPTION OF ITEM	QTY	AMOUNT
1	Road Proper	3400 Km	Rs 25,52,29,641.53
2	Road safety & Furnitures		Rs 28,16,552.59
3	Hume Pipe Culvert -8 Nos		
i	New Construction of HP Culvert of 1 x 1.2m dia - 15 width	6 Nos	Rs 25,25,019.02
4	LVUP -4 Nos		
i	New Construction of LVUP of 1x 12.0 x 4.0 - 12 width	4 Nos	Rs 3,87,50,181.81
5	Drainage & Protection Works		
i	RCC Retaining Wall	2930 Mtr	Rs 9,79,69,858.11
ii	Breast Wall	3690 Mtr	Rs 6,26,39,467.36
iii	Lined Drain	3404 Mtr	Rs 96,87,804.59
			Rs 46,96,18,525.01
		Or Say,	Rs 46,96,18,525.00
	Add 9.00% SGST		Rs 4,22,65,667.00
	Add 9.00% CGST		Rs 4,22,65,667.00
	Add QUALITY CONTROL 1.00%		Rs 46,96,185.00
	Add CONTIGENCY 1.00%		Rs 46,96,185.00
	Add Cost for Shifting and Relocation of Public Utilities		
	Add for Land Acquisition		
	Total Cost		Rs 56,35,42,229.00

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PROJECT BACKGROUND

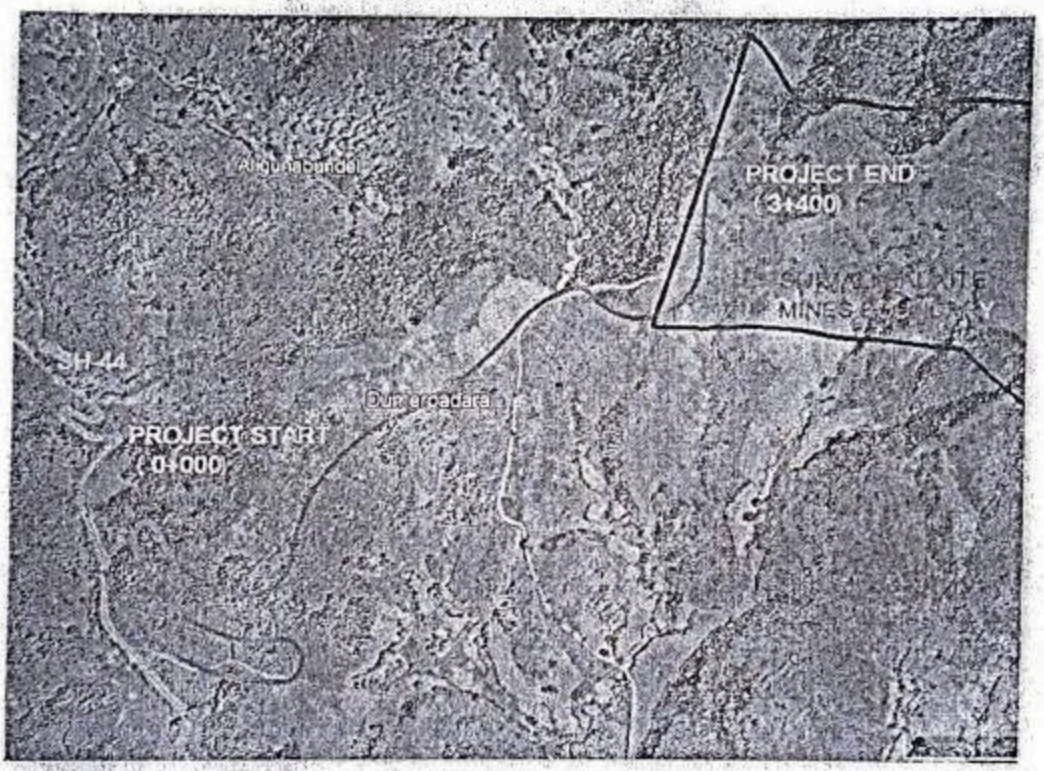
1.1 BACKGROUND

Mythri Infrastructure has decided to take up the construction of road connectivity from SH-44 to Sijimali Mines top i.e; 3.4KM, (to be developed by Mythri) in the state of Odisha.

Mythri Infrastructure Ltd intends to supply the following in Odisha:

- Development of road connectivity from Sh-44 to Sijimali mining area in Rayagada district.

Figure 2: LOCATION MAP OF PROJECT ROAD



1.2 PROJECT OBJECTIVE

The main objective of the Consultancy service is to establish technical, economic viability of the proposed road connectivity from Sh-44 to Sijimali Bauxite Ore mines.

1. Ensure Enhanced safety of the traffic, the road users and people living close to the road
2. Ensure enhanced operational efficiency of the road
3. Ensure fulfilment of the access needs of the local population
4. Ensure minimal adverse impact on the road users and the local population due to construction

5. Minimal additional acquisition of land
6. Formulation of up-gradation to major road configuration
7. Provide technical assistance including designing and cost estimation
8. Superior operation and maintenance enabling enhanced operational efficiency of the Project Road.

1.3 SCOPE OF SERVICES

The study includes all field works and detailed engineering studies for construction of road from SH-44 to Mines. The scope of services as detailed in TOR is as follows:

- Survey and design the suitable alignment for the proposed road as per MoRTH & IRC guidelines, practicable and cost effective. The Consultant shall furnish land acquisition details as per revenue records/maps for further processing of land acquisition.
- The general scope of services is given in the sections that follow. However, the entire scope of services would, inter-alia, include the items mentioned in the Letter of Invitation and the TOR. The Consultant will also make suitable alternative proposals for the proposed road as per the requirement and land availability.
- To prepare the bid documents including required schedules (as mentioned above) as per EPC/Item Rate documents.
- Consultant shall be responsible for sharing the findings from the preparation stages during the bid process. During the bid process for a project, the consultant shall support the authority in responding to all technical queries, and shall ensure participation of senior team members of the consultant during all interaction with potential bidders including pre-bid conference, meetings, and site visits etc. In addition, the consultant shall also support preparation of detailed responses to the written queries raised by the bidders.

1.4 COMMENCEMENT

The consultancy service has various systematic steps to prepare the detailed project report of Project Road. In the first step, the Feasibility Study was submitted to provide an overview of the project site, the mobilisation process to take up the work. The second phase includes the detailed project report with the strip maps, schedules, clearances and execution plans with bid documents.

The following reports have been submitted in consonance with the terms of reference:

Table 10: SUBMISSION OF DELIVERABLES

Sl No	Deliverables	Date
1	Final DPR	03.05.2024

1.5 PROJECT LOCATION

The project road i.e., SH-44-Sijimali (3.400 km) in the state of Odisha has a great need of improved roads for communication with the state highways and establish interdistrict connectivity for the state.

1.6 STRUCTURE OF THE REPORT

Main Report comprises the following chapters

Chapter 1: Project Background
Chapter 2: Socia and Economic Analysis
Chapter3: Project Corridor
Chapter 4: Surveys & Investigations
Chapter 5: Improvement Proposals
Chapter 6: Cost Estimation

SOCIAL AND ECONOMIC PROFILE

2.1 GENERAL

The primary purpose of socio - economic analysis is to provide an overview of the state's socio - economic setup and the related status of the project influence area within the states. The details include the present status, the past performance and the perspective growth of the economy, population and urbanization. The profile depicts the spatial distribution of economic activities.

Within the context of Socio-economic analysis, the "broad" and "immediate" influence areas of the project road are delineated; distinguishing the areas directly served by the project road. The broad influence area of the project road is within the district of Kalahandi/Rayagada.

Proposed area of mines near Sijimali for excavation of bauxite block in the district of Kalahandi/Rayagada, Odisha. Rayagada-Kasipur range (Eastern Ghats) is fully availability of natural resources mainly Bauxite Ore, so major corporation are interested in utilising these natural resources for development like L&T Limited, Odisha Mining Corporation, Vedanta Limited etc.

Rayagada district is a district in southern Odisha, a state in India, which became a separate district in October 1992. Its population consists mainly of tribes, primarily the Khonds and the Soras. In addition to Odia, Kui and Sora are spoken by the district's indigenous population. It was founded by Maharajah Biswanatha Deba Gajapati of the Surjyabansha dynasty of Jeypore.

Rayagada covers an area of 7,584.7 square kilometres (2,928.5 sq mi), and is divided into eleven blocks. Agriculture is the chief source of income, and paddy, wheat, ragi, green and black gram, groundnut, sweet potato and maize are the district's major crops.

Table 11: District at a Glance

S.No	Particular	Year	Unit	Statistics
1	Geographical features			
(A)	Geographical Data			
	i) Latitude	2022-23	Degree	19° 09'57.6" North
	ii) Longitude	2022-23	Degree	83° 24' 57.6" East
	iii) Geographical Area	2014-15	Sq. Kms.	7584.7
(B)	Administrative Units			

	i)	Sub divisions	2014-15	Nos.	02
	ii)	Tehsils	2014-15	Nos.	11
	iii)	Sub-Tehsil	2014-15	Nos.	-
	iv)	Patwar Circle	2014-15	Nos.	-
	v)	Number of I	2014-15	Nos.	11
	vi)	Nagar nigam& Nagar Palika	2014-15	Nos	2
	vii)	NAC	2014-15	Nos	1
	viii)	Gram Panchayats	2014-15	Nos	180
	xi)	Census villages(Both Inhabited & Uninhabited)	2014-15	Nos	2667 2467(Inhabited) 200(Uninhabited)
	x)	Assembly Constituencies	2014-15	Nos	3
2.	Population Census	(2011 Provisional)			
(A)	Sex-wise				
	i)	Male	2011	'000 Nos	471
	ii)	Female	2011	'000 Nos	495
(B)	Rural Population		2011	'000 Nos	820
3.	**Agriculture**				
A.	Land utilization				
	i)	Total Area	2014-15	000 Hectare	193
	ii)	Forest Cover	2014-15	"	281
	iii) Land	Non-Agriculture	2014-15	"	124
	iv)	Barren & Unculturable land	2014-15	"	38
4.	**Forest**				
	(i) Forest area under revenue 2016 000 Hectare 2 village				
5.	**Livestock & Poultry**				
A.	Cattle				
	i)	Cattle	2012	'000 Nos	361.5
	ii)	Buffaloes	2012	'000 Nos	112.1

B.	**Other livestock**			
	i) Goats	2012	'000 Nos	158.2
	ii) Pigs	2012	'000 Nos	38.9
	iii) Sheep	2012	'000 Nos	48
	iv) Railways			
	i) Length of rail line	2013-14	Km	117.15
	V) Roads			
	(a) National Highway	2014-15	Km	122.7
	(b) State Highway	2014-15	Km	269.67
	(c) Major District Road	2014-15	Km	121.74
	(d) Other district Roads	2014-15	Km	283.07
	(e) Rural road	2014-15	Km	2342.87
	(f) G.P. Road	2009-10	Km	3812.36
	(g) Panchayat samiti road	2014-15	Km	2537.12
	(H) Forest Road	2014-15	Km	210.51
	(VI) Communication			
	(a) Telephone connection		No	-
	(b) Post offices	2011-12	No.	202
	(c) Telephone Center/Exchange	2011-12	No.	-
	(d) Density of Telephone	2011-12	Nos./1000 person	-
	(e) Density of Telephone	2011-12	No. per SqKM.	-
	(f) PCO Local	2011-12	No.	-
	(g) PCO STD	2010-11	No.	-
	(h) Mobile	(As on 31.03.12)	No.	-

These figures are of Rayagada district.

	(VII) Public Health	2019-20		

(a) Medical college/District Headquarter Hospital	2019-20	No	1
(b) Beds in hospitals	2019-20	No	268
(c) Community health centers	2019-20	No.	11
(d) Primary health centers	2019-20	No.	39
(e) Sub Health Centers	2019-20	No.	236
(f) Pvt. Health Centers	2019-20	No.	9
(VIII) Banking commercial	Upto 31.03.2020		
(a) Commercial Bank	31.03.2020	No.	98
(b) Rural Bank Branches	31.03.2020	No.	60
(c) Semi Urban Branches	31.03.2020	No.	38
(d) Urban Branches	31.03.2020	No.	0
(e)Deposit	31.03.2020	Rs. in Crore	3984.27
(f)Credit	31.03.2020	Rs. in Crore	1754.19
(g)CD Ratio	31.03.2020	%	44.03
(IX) Education			
(a) Primary school	2019-20	No.	1299
(b) Upper Primary Schools	2019-20	No.	609
(c) Secondary schools	2019-20	No.	277
(d) Colleges	2019-20	No.	13
(e) Engineering School & Colleges	2019-20	No.	7

Table 12: Existing Status of Mining Areas in the District of Rayagada

Sl.No.	Name of Minerals	No. of working mines	Area covered (in Hec.)	Production (in MT)	Value (Rs in 000')
1	Graphite	2	119.182	49.047	-
2	Bauxite	1	1388.740	5297.00	3799167
3	Manganese	1	18.894	0.234	3039
	Total	4	1526.416	5346.281	3802206

Source: - http://www.desorissa.nic.in/

2.2 GEOGRAPHY

Rayagada district is located between 1900' and 19058' north latitude and 8205' and 8402' east longitude in the southern part of Odisha. It is bounded by Gajapati district in the east, Koraput and Kalahandi districts in the west, Kalahandi and Phulabani districts in the north and Koraput and Srikakulam (Andhra Pradesh) districts in the south. As per 2001 census the district having 7073 sq. kms of geographical area occupies the 8th rank in the state. The charming valleys of the rivers Nagavali and Vamsadhara, vast stretches of hills, evergreen forests, perennial streams, stiff and massive rocks standing like mythological demons and deep holes in the rocky river-beds presenting thrilling sights are the attractive features of the district. Rayagada is the 9th urbanized district in the state having about 13.89 per cent of its population in urban areas whereas about 14.99 per cent of state's population live in urban areas.

2.3 DEMOGRAPHY

Rayagada district had a population of 967,911 in the 2011 Census of India, roughly equal to that of Fiji or the US state of Montana. The district ranked 454th of India's 640 districts, and had a population density of 136 inhabitants per square kilometre (350/sq mi). Its population growth rate from 2001 to2011 was 15.74 percent. Rayagada has a sex ratio of 1,048 females to 1,000 males, and a literacy rate of 50.88 percent. 15.18% of the population lives in urban areas. Scheduled Castes and Scheduled Tribes make up 14.41% and 55.99% of the population respectively. Languages of Rayagada district (2011) Odia (41.64%), Kui (33.36%), Telugu (10.43%), Sora (8.37%), Kuvi (3.27%), Others (2.93%). At the

time of the 2011 Census of India, 41.64% of the population in the district spoke Odia, 33.36% Kui, 10.43% Telugu, 8.37% Sora, 3.27% Kuvi and 0.66% Hindi as their first language.

2.4 ECONOMY

Economically, the district is dependent on agriculture primarily. The district is rich in mineral resources such as bauxite and silicon. It is considered as one of the 19 most backward regions of Odisha and receiving funds from the Backward Regions Grant Fund Program. Paddy, maize, ragi, mung, biri, groundnut, potato, maize are mainly produce here. Ferro manganese factory, Ferro silicon factory, paper mill, sugar factory are main factories established in the district. IMFA, JKPAPER, Birla, L&T, Sterlite are name of the famous industries of the region. Hotel industry is also flourished here due to the contribution of Sai International, Jyotimahal, Vamsikrishna, Tejaswini, Kapilas, Raj Bhawan hotels. Small and mid-scale industries for instance Konark Alum Industries, Satyam Packers and Processors Pvt. Ltd etc. are also boosting the economy of the district. In the year 2011-12 the gross domestic product in the district was Rs. 4,19,468 lakhs at current price and Rs. 2,60,334 lakhs at constant prices in the year 2004-2005. The net domestic product in the district during the period 2011-12 was Rs. 3,58,727 lakh at current price and Rs. 2,16,804 lakh at constant prices in the year 2004-2005. The Per Capita Income or NDDP, At Factor Cost during the period 2011-12 was Rs. 37,018 at current price and Rs. 22,373 at constant prices in the year 2004-2005.

Table 13: Industrial Scenario of Rayagada District

Sr No	Head	Unit	Particulars
1.	Registered Small Scale Industries	No.	1265
2.	Total Industrial Unit (GIP)	No.	10897
3.	Registered Medium & Large Unit	No.	04
4.	Total Employment in Regd. Small Scale Industries	No.	10253
5.	Employment In Large and Medium Industries	No.	3085
6.	No. of Industrial Area	No.	2
7.	Investment In P&M Of Small-Scale Industries	In Lakhs	5389.66
8.	Investment In P&M Of Medium &Large-Scale Industries	In Lakhs	8955.57

Table 14: GROWTH TREND OF INDUSTRIAL SECTOR

	YEAR		NUMBER OF REGISTERED UNITS	INVESTMENT (Lakh Rs.)	EMPLOYMENT
Up to	1991-92		76	119.05	462
During	1992-93		65	89.79	328
	1993-94		63	144.22	424
	1994-95		65	187.12	369
	1995-96		69	275.26	424
	1996-97		85	248.39	429
	1997-98		97	177.04	485
	1998-99		98	519.44	533
	1999-00		105	392.96	609
	2000-01		114	561.85	501
	2001-02		140	388.33	497
	2002-03		123	444.7	467
	2003-04		126	365.35	473
	2004-05		131	1090.73	810
	2005-06		155	807.92	1715
	2006-07		159	950.89	713
	2007-08		156	514	501
	2008-09		156	1297.9	638
	2009-10		160	931.85	564
	2010-11		162	1725.43	780
	2011-12		180	1250.36	864
	2012-13		192	807.73	754
	2013-14		165	531.39	499
	2014-15		978	6498.75	3196
	2015-16		1532	10009.95	7358
	2016-17		1721	9457.16	4544
	2017-18		1571	7763.00	5899
	2018-19		2253	11369.33	7824
	Total		10897	58919.89	42660

The district of Rayagada is a very rich in terms of industrialization. Even, Rayagada is today becoming a hub of Educational Institutions. Particularly The Gandhi group have setup very good quality Engineering & Management colleges in the district. For this, Students from other parts of the district are coming to the district gearing the internet café, small hotels & restaurants, computer training institutes etc to come up in the district. As the craze for higher studies prevails among the students of the urban areas in the district there is a very good scope for coaching Units in the district.

2.5 CLIMATE

The climate of the district is typically tropical to subtropical with three distinct seasons e.g. summer, winter, and monsoon. December is the coldest month with mean daily average temperature of 20◦ C which reaches a maximum of 42◦ C in May. The rain fall in the area is mostly from the south west monsoon lasts from middle of June to October. The average annual rainfall varies from 1030.21 mm to 1569.50 mm.

2.6 SOIL

The distribution of different soil types in the district depends much on its physiographic and lithologic variations. Based on the physical and chemical characteristics, mode of origin and occurrence, soils of the district may be classified into two groups namely Alfisols and Entisols.

Alfisols : It includes red sandy soils and red loamy soils. The red loamy and sandy soils are occurring in throughout the district. The characteristic features of red soils are (1) light texture, porous and friable structure, (2) absence of lime Kankar and free carbonates and (3) soluble salts in a small quantity usually not exceeding 0.05%. These are usually deficient in nitrogen, phosphate, organic matter and lime. These soils are suitable for cultivation of paddy and other crops.

Entisols : These are restricted to the flood plains of Vamsadhara and Nagavalli rivers in the blocks of Ramanguda, Gudari, Padampur, Raygada and Kolnara and consists of sand, silt and clay. This type of soil is alkaline in nature and deficient in nitrogen and humus material. The district belongs to the North Eastern Ghat agro climatic zone.

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PROJECT CORRIDOR

3.1 GENERAL

Utkal Rail Consultants was appointed in January, 2024 to prepare the detailed project report for the project road, and this DPR report is submitted to cover the key aspects of the project. The project road was surveyed in details and the existing features were investigated to familiarise with the project road so as to provide improvement provision in accordance to the requirement.

3.2 DETAILS OF ROAD

Reconnaissance survey of the project road section was undertaken in the month of January to till now and its salient features are described in the subsequent para.

Table 15: DETAILS OF PROJECT ROADS

Chainage (Km)		Terrain Type	Location	District
From	To			
0/000	3/400	Hilly	SH-44-Sijimali-	Rayagada

The below figure shows the location map of the project road.

Figure 3: LOCATION MAP OF SIJIMALI-SH 44 ROAD

3.3 GENERAL OVERVIEW OF PROJECT ROAD

The project road runs along hilly terrain. As the project road is connecting two districts Rayagada and Kalahandi moving through the districts of Odisha. The project stretch runs through the semi built up, agricultural and govt. & forest areas. The project road starts at a design chainage of 0.000 km at Sh-44 and ends at a design chainage of 3.400 km at Sijimali Mines area in Rayagada district in Odisha state.

3.4 SETTLEMENTS ALONG ROAD

There are no settlements found along the proposed road alignment. The road has been proposed on hilly terrain. The land-use pattern in the project road is mainly Govt and forest land.

Table 16: DETAILS OF VILLAGES & TOWNS ALONG THE PROJECT ROAD

Sl No.	Chainage		Villages
	From (km)	To (km)	Name
1	0/000	3/400	Bichapindha, Porlang, Sagabari, Dumerpadar

Table 17: LIST OF PROPOSED MINOR BRIDGE

Sl No	Site Inventory			Proposed			
	Chainage	Type	Span Arrangement	Chainage	Type	Span Arrangement	Proposed
1	-	-	-	0+365	VUP	1x12.0X4.0	NEW
2	-	-	-	0+585	VUP	1x12.0X4.0	NEW
3	-	-	-	2+785	VUP	1x12.0X4.0	NEW
4	-	-	-	3+165	VUP	1x12.0X4.0	NEW

1	0+000	Pipe	1 x 1.2m dia	New Construction	15.00
2	0+365	LVUP	1x 12.0 x 4.0	New Construction	12.00
3	0+585	LVUP	1x 12.0 x 4.0	New Construction	12.00
4	0+595	Pipe	1 x 1.2m dia	New Construction	15.00
5	1+175	Pipe	1 x 1.2m dia	New Construction	15.00
6	1+815	Pipe	1 x 1.2m dia	New Construction	15.00
7	1+963	Pipe	1 x 1.2m dia	New Construction	15.00
8	2+735	Pipe	1 x 1.2m dia	New Construction	15.00
9	2+785	LVUP	1x 12.0 x 4.0	New Construction	12.00
10	3+165	LVUP	1x 12.0 x 4.0	New Construction	12.00

3.5 ALIGNMENT

The horizontal alignment between Sijimali to SH 44 is generally smooth. The said section mainly passes through hilly terrain in most of its length and cater to the design speed of 30/40/50 km/hr to follow the existing road alignment so as need to acquire land acquisition and intrusion into forest section. The proposed alignment has total of 12 curves in the whole project stretch out of which 3 numbers of curves are less than 40 kmph. The details are enlisted as below.

Table 18: PROPOSED CURVE DETAILS WITH DESIGN SPEED

IP Chainage	IP Easting	IP Nothing	R(m)	Ls(m)	V(kmph)	e(%)
0+217.807	719027.716	2158331.816	500	0	50	NC
0+633.923	719573.027	2158037.952	50	20	30	7.00%
0+952.562	719095.482	2158376.672	-350	0	40	NC
1+240.162	719204.769	2158693.983	-30	30	30	7.00%
1+429.447	719210.368	2158485.449	300	0	40	NC
1+651.696	719390.548	2158317.313	100	20	40	7.00%
1+962.827	719623.022	2158580.978	-400	0	40	NC
2+368.317	720047.469	2158486.341	700	0	50	NC
2+641.745	720314.262	2158572.905	-300	0	40	NC
2+764.982	720432.958	2158533.074	-40	25	30	7.00%
3+991.509	720468.710	2158104.714	153	15	40	4.60%
3+368.446	720834.337	2158551.839	-170	15	30	NC

3.6 OTHER EXISTING STRUCTURES

There are no structures like school, colleges, other educational institutions, Petrol Pump, hospital & police station is available along the proposed road. However, the proposed has been crosses the existing village roads at various location. LVUP has been proposed for on village road for uninterrupted movement of villagers.

SURVEYS AND INVESTIGATIONS

4.1 GENERAL

Primary consideration for DPR study of a road is that overall cost of transportation (i.e. the cost of initial construction, traffic operation and maintenance) be minimum without adversely affecting the environment and society. All operations need advance planning of methodology in logical sequence. General Scope of services covered is:

The available topographic maps, GT Sheets and photographs are being studied. Detailed reconnaissance surveys have been done to outline the procedure for the detailed investigations to follow. The reconnaissance study identifies:

- Topographic and physical features of the project and surrounding region including environmental features.
- Alignment alternatives, realignment requirements and need for bypasses and grade separators.
- Traffic pattern and homogenous links.
- Locations for conducting diverse traffic surveys.
- Preliminary inventory of pavement, carriageway type, bridges and structures, intersections, urban/congested areas.
- Requirements for conducting supplementary investigations.
- Extent of land available and additional requirements for proposed road.

The various engineering investigations and surveys which have been carried out are as follows:

- Topographical surveys
- Soil and material investigations
- Traffic surveys
- Hydrological data collection

4.3 TOPOGRAPHICAL SURVEY

The topographical survey has been carried out using Total Station. The five categories of surveys are:

- Establishing of control points at 2 km intervals
- Traverse along the existing road and establishment of bench marks (BMS)
- Cross-sections at 50 m intervals and at critical locations.
- Longitudinal section levels along final centre line at 10 m in straight sections including fixation of cardinal points with a pair of reference points.

- Collection of details of all features such as structures (Bridges) utilities, existing road etc.
- For topographic surveys extended to a width of 30m beyond either side of the centre line of the proposed divided carriageway or the land boundary whichever is more is surveyed
- Longitudinal and cross-sections for major and minor streams over 500 meters on both sides of ROW and 100 meters beyond the abutments.
- Location and type of services and utilities

An open traverse could lead to cumulated errors of angles. Hence, every 2 km the traverse has been closed to limit cumulative errors. The benchmarks have been referenced to GTS BMs of the Survey of India. The ground cross-sections and details of features are referred to as the BMs. Separate teams concurrently with the traverse team have carried out these tasks. The levelling of the longitudinal section along the final centre line (FCL) and fixation of cardinal points has been carried out.

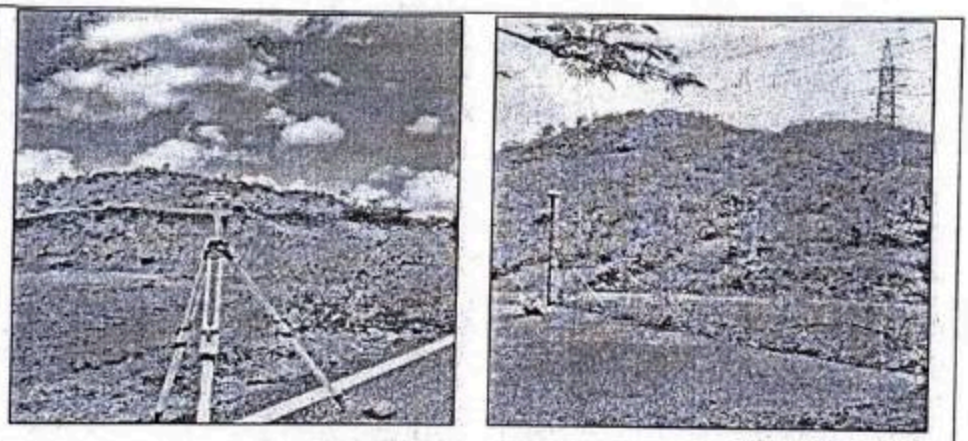


Figure 4:DGPS Survey at Project Stretch

The readings from the Total Stations have been registered using data base software and then transferred to the survey model of the MX Road Software to prepare the DTM of the area surveyed. The DTM and the longitudinal profile of the FCL have been computed by MX Road software and drawn using Auto CAD on A2 size sheets showing 500 m sections (1:1000).

For junctions/intersections, additional areas have been surveyed (ground sections, topographical features and utilities) as required. During this Survey, all utilities within the areas surveyed are identified, and noted; complementary data has been collected from the competent bodies to complete the process.

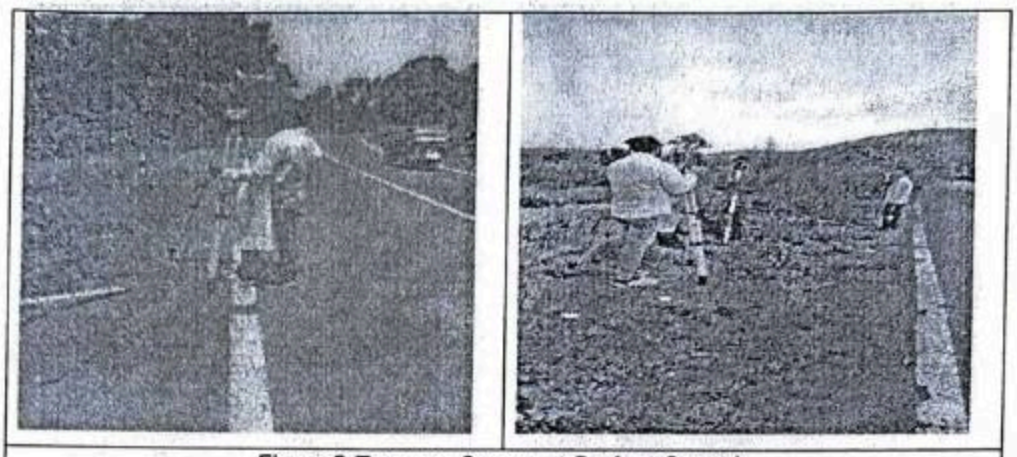


Figure 5:Traverse Survey at Project Stretch

4.4 SUB-SOIL INVESTIGATIONS

4.4.1 Sub grade Characteristics & Strength

The testing of soils for classification & mechanical characteristics has been as per terms of reference. "Testing of three sub-grade soil samples for each design section or three samples for each soil type encountered, whichever is more has been done". Thus testing for sub-grade soil at each test pit includes:

- In-situ density & moisture content
- Field CBR using DCP
- Characterization (Grain size & Atterberg's Limits)
- Laboratory moisture-density characteristics (modified AASHTO compactions)
- Laboratory CBR (uncooked & 4 day soaked compacted at 3 energy levels)

4.4.2 Investigation of Subgrade

The borrow areas were first identified by visual inspection and enquiries along the project road and adjacent areas. The soil samples from the project corridor were collected, and the required tests as per specification & IRC/BIS codes were done. Grain size analysis was done for particles smaller than 4.75 mm. For particles having size between 4.75 mm and 75 microns, sieve analysis was done (wet sieving) and for particles smaller than 75 microns, Hydrometer analysis was done. CBR test, Atterberg's Limit, DCPT and moisture contents were also determined. Material found satisfactory can be used for construction activity. The result sheet of DCPT is attached in the Appendices.

Table 19: CBR OF SUBGRADE SOIL ALONG THE PROJECT STRETCH

LABORATORY TEST RESULTS OF OGL															
Sampling Chanage in Km.	Location	Type of sample	Grain size analysis(Retained %)					D.F.S. In %	Atterberg's Limits (%)			Group of soil	MDD in(%)	OMC IN %	Soaked CBR
			Gravel in %	Coarse Sand in %	Medium Sand in %	Fine Sand in %	Silty &Clay in %		Liquid Limit	Plastic Limit	Plasticity Index				
3.00	Hill	DS	0.46	4.86	8.74	20.51	65.43	18	32	18	14	CL	1.87	13.26	6.10
Remark:	A) MDD should not be <1.52 gm/cc for embankment up to height 3.0 mtr & 1.75 gm/cc for subgrade &shoulder.														
	B) LL, PI & DFS value should not be > 70%, 45% & 50% respectively.														

Table-19A, TBM List

TBM No.	Easting (X)	Northing (Y)	Level (Z)
TBM-1	791061.240	2158603.760	872.038
TBM-2	719074.750	2158614.630	871.251
TBM-3	720867.470	2158576.810	986.421
TBM-4	720877.110	2158577.330	987.594

4.5.4 Investigation of Material for Construction

The investigation of different quarries was conducted from different places where stone aggregates and sand are available. Samples were collected and tests were performed in accordance with IS: 2386 (Part III), IS: 120 (Part I), AASHTOT182, IS: 624-1971, IS: 2380 (Part V). The crushers and other sources are approved by the department.

The borrow areas were identified from Lokaeguda which is around 25 KM from project stretch via SH-45. The suitability of borrow material is established from laboratory testing.

4.5.5 Investigations of Other Construction Materials

Availability and suitability of other construction materials like Fly ash, coarse sand, local sand and bricks were investigated and all materials are available in Kaliapada which is around 30KM from project stretch via SH-44. Samples were collected and required tests performed in the laboratory. Cement, Steel and Bitumen are available from Kashipur, Rayagada city and Vizag respectively.

4.5.6 Investigations for Structures

We have made an inventory of all the structures (bridges, culverts, etc.) along the road under the project. The inventory for the bridgesshall include the parameters required as per the guidelines of IRC-SP: 35-1990. The inventory of culverts was presented in a tabular form covering relevant physical and hydraulic parameters.

4.6 Hydraulic and Hydrological Investigations

Special Publication No. 13 ("Guidelines for the Design of Small Bridges and Culverts") and IRC: 5-1998 ("Standard Specifications & Code of Practice for Road Bridges, Section I General Feature of Design"). Study on topography (topographic maps), storm duration, rainfall statistics, topsoil characteristics, vegetation cover etc. were done so as to assess the catchments areas and hydraulic parameters for all existing and proposed drainage provisions. The findings of the desk study have been further supplemented and augmented by a reconnaissance along the area.4 New L-VUP are being proposed as per requirements.

IMPROVEMENT PROPOSALS

5.1 Introduction

This chapter is intended to give brief descriptions concerning the various proposals for the development of two-lane carriageway facility of the 3.400 km length starting from 0/000 km at Sh-44 and ends at chainage 3/400 km at Sijimali Mines in the Rayagada district of x Odisha state. The improvement proposal is based on the findings from various engineering surveys and investigations carried out on the project road section.

Development proposals for a greenfield road project essentially consist of two components, viz. Geometric and Structural. Geometric improvement deals with visible dimensions of roadway and is dictated by the traffic and economic considerations. Geometric design involves several design elements such as horizontal and vertical alignments, sight distance considerations, cross sectional elements, lateral and vertical clearances, intersection treatment, control of access, etc. The structural component deals with the pavement and embankment design aspects, i.e., the ability of the road to adequately carry and support the vehicle / wheel loads over the design period. The improvement proposals for the proposed upgradation of2-lane with paved shoulder configuration system includes the provision for the following major items:

- Geometric improvements and realignments
- Pavement
- Road junctions
- Bridges and CD structures
- Safety
- Road Appurtenances

5.2 Geometric design proposals

The proposal for the improvement of the geometric elements on the basis of contour intervals.

- Improvement to the cross sectional elements
- Alignment design

5.2.1 Improvement to the Cross Sectional Elements

Lane Width: The width of a basic traffic lane is proposed to be 7.0 m, 1.5 m of Paved Shoulder on both sides .

Earthen Shoulders:

2.0 m earthen shoulders shall be proposed on both sides of the carriageway for open section.

Cross fall:

The cross-fall for the pavement &paved shoulder is 2.5% with a crown in the centre. The cross-fall for granular shoulder is 3%.

Formation/Embankment.

Proposed formation in bank shall be made with compacted earth Morth and IRC guidelines. The embankment will be made with 2:1 side slope, which shall be turfed. In cuttings, side slope of 1:1 shall be provided. However, gentler side slopes shall be provided for soft soils in cutting and stone pitching may be considered at the locations where the depth / height of cutting / filling is high. Similarly, in rocky formation steeper side slope can be provided depending upon the nature of material met with. In the embankments higher than 6m and cuttings in ordinary to hard soil deeper that 6m, 1.5 m wide berms are proposed on each side slope at every 6m below formation level in banks and at every 6m above formation level in cuttings.

As the soil sample collected from site by Utkal Rail Consultants Pvt Ltd. and following the test conducted as per the IS code and MORTH standard and hence concluded that cut slope to be provided as 1:1 on hilly side as per Annexure-VII.

5.2.2 Development Scheme

The most important fact in deciding the propsoed alighmnet is the availability of land. Secondary factors include presence of environmentally; religiously and socially sensitive features such as Heritage Structures, other monument structure and so on. The following criteria have been used with suitable inter-alias weight age in terms of their influence in governing the decision on the construction of propsoed road.

- Available ROW from the existing center line;
- Location of utility lines;
- Abutting land use;
- Adjacent cultural properties;
- Geometric improvements necessary;
- Location and type of trees required to be cut;
- Socio Economic affected person;

The summary of proposed road is represented in the table below:

Table 20: SUMMARY OF NEW PROPOSAL

Sl. No.	From	To	Length(m)	Lane	Remarks
1	0.000	3.400	3.400	2-Lane	NEW

The development schemes are as follows:

Table 21: SUMMARY OF NEW ROAD PROPOSAL

SL NO	TYPE OF CROSS SECTION	DETAILS
1	Type-1	NEW CONSTRUCTION 2-LANE WITH PAVED SHOULDER IN RURAL AREA
2	Type-2	NEW CONSTRUCTION 2-LANE WITH PAVED SHOULDER WITH HILL ON ONE SIDE & PROTECTION WALL
3	Type-3	NEW CONSTRUCTION2-LANE WITH PAVED SHOULDER WITH TOTAL CUT FORMATION OPTION
4	Type-4	NEW CONSTRUCTION 2-LANE WITH PAVED SHOULDER WITH PROTECTION WALL

Proposed Typical Cross-section of carriageway are presented below.

Table 22: CARRIAGEWAY DEVELOPMENT SCHEME

Sl No.	From	To	Length	TCS-Type	Remarks
1	0+000	0+090	90	TCS-1	-
2	0+090	0+500	410	TCS-2	-
3	0+500	0+660	160	TCS-4	-
4	0+660	0+800	140	TCS-3	-
5	0+800	1+240	440	TCS-2	-
6	1+240	1+500	260	TCS-3	-
7	1+500	2+660	1160	TCS-2	-
8	2+660	2+820	160	TCS-4	-
9	2+820	3+100	280	TCS-2	-
10	3+100	3+400	300	TCS-3	-

5.2.3 Alignment Design

The entire geometric design has been based on the ground modelling by project road MX design software. The design of proposed alignment for two-lane with hard shoulders on both side in the built-up section and earthen shoulders in open sections has been carried out based on the proposed road as discussed above. Earthen drains are provided in open sections on both side of the road.

5.2.3.1 Horizontal Alignment

As per IRC: 73: 1980, the minimum design speed for hilly terrain is 50 kmph basing project road as SH/ODR/Village Road. The horizontal alignment is designed keeping 50/40/30

kmph design speed. The horizontal improvement has been kept as per the existing alignment to acquire extra land acquisition if required and to avoid invasion into the forest.

The proposed alignment has total of 12 curves in the whole project stretch out of which 4 numbers of curves do not meet the speed criteria and are less than 40 kmph.

5.2.3.2 Vertical Alignment

Vertical Alignment is designed for minimum criteria of Intermediate Sight Distance (ISD). The existing road profile is reviewed on the basis of cross-sections taken at regular intervals with the help of Digital Terrain Model (DTM). Additional culverts have been proposed depending upon the site-specific conditions/profile. These curves, known as vertical curves to distinguish them from horizontal curves, are defined by two parameters, which are:

- a comfort factor which provides for a smooth passage from one grade to another, and
- a safety factor which ensures drivers have a safe sight distance over the full length of the vertical curve.

5.3. Design of Rigid Pavement

The rigid pavements are usually referred as a layered structure comprising generally concrete surface like Pavement Quality Concrete (PQC), Dry Lean Concrete (DLC) and Granular Sub-Base (GSB) course of finite thickness, resting on subgrade of minimum thickness of 500 mm. The thickness design of these layers will principally depend on the subgrade CBR and the traffic loads that the pavement has to carry during its design life period which is minimum 30 years.

Principles for Design of Plain Jointed Rigid Pavement

Fatigue Behaviour of Cement Concrete

Due to repeated application of flexural stresses by the traffic loads, progressive fatigue damage takes place in the cement concrete slab in the form of gradual development of micro-cracks especially when ratio between the applied flexural stress and the flexural strength of concrete is high. This ratio is termed as Stress Ratio (SR). If the SR is less than 0.45, the concrete is expected to sustain infinite number of repetitions. As the stress ratio increases, the number of load repetitions required to cause cracking decreases. The relation between fatigue life (N) and stress ratio is given as;

N=unlimited for SR<0.45

N= [4.2577/ (SR-0.4325)] ^3.268 When 0.45≤SR≤0.55

$$\text{Log10 } N = (0.9718 - SR)/0.0828 \text{ for } SR > 0.55$$

The above fatigue criteria have been used for the analysis of bottom-up and top-down cracking and checking the adequacy of pavement slab on the basis of Miner's hypothesis.

Critical Stress Condition

Critical Stress condition considered for design of rigid pavement is the flexural stress due to the simultaneous application of traffic loads and temperature differentials between the top and bottom fibres of a concrete slab.

Bottom-Up Cracking

Flexural stress at the bottom layer of concrete slab is the maximum during the day hours when the axle loads act midway on the pavement slab along with positive temperature differential. This condition causes Bottom-Up Cracking (BUC). This critical stress condition for bottom-up cracking and locations of maximum flexural stress when the tyre imprints are tangential to the longitudinal edge due to single, tandem and tridem axles are presented next.

Top-Down Cracking

During the night hours, the top surface is cooler than the bottom surface and the ends of the slab curl up in a concave shape resulting in loss of support for the slab. Due to the restraint provided by the self- weight of concrete and by the dowel connections, temperature stresses are caused at the top. Figure 2-3 shows the placement of axle loads close to transverse joints when there is negative temperature gradient during night period causing high flexural stresses in the top layer leading to top-down cracking. Positioning of axles of different configurations on the slab with successive axles placed close to the transverse joints is shown in Figure 2-4. These axle positions can initiate Top-Down Cracking (TDC) during the night hours when the pavement has tendency to curl up. Built-up permanent curl induced during the curing of the concrete slab further aggravates the problem.

Design Criteria for Rigid Pavement

If the sum of cumulative fatigue damages (i) due to wheel load and curling stresses at the bottom and (ii) wheel load and curling stresses at the top is less than 1, the pavement is safe. In other words, a pavement is deemed to have failed if sum of cumulative damages is greater than one.

Thus,

If CFD (BUC) + CFD (TDC) <= 1; DESIGN IS SAFE

The design thickness may be increased by 10mm to (i) to permit two retexturing and (ii) grinding to rectify faulting during the service life.

5.4 Crust and Overlay Design

Based on the traffic MSA of 60 and CBR of 8 %, the crust of the pavement to be widened is designed and the overlay thickness is decided basing upon the pavement condition. The table below shows the adopted thickness of each layer of the proposed road.

Table 23: CRUST DETAILS

Chainage from and to	Design traffic (MSA)	CBR of subgrade (%)	Proposed Pavement Thickness		
			GSB	DLC	PQC
0/000-3/400	60	8	150	150	300

M-40 grade Concrete shall be used in Pavement Quality Concrete (PQC) road with min. cement content of 400kg per Cum.

5.5 Design of Structures

The rehabilitation of existing structures and proposal of new structures have been established on the basis of detailed inventory, Horizontal Alignment, vertical profile, geotechnical investigation, hydrological study etc.

5.5.1Underpass

There are total of 4underpasses proposed for new construction.

Table 24: ABSTRACT OF IMPROVEMENT DETAILS ON STRUCTURES IN PROJECT ROAD

Sl. No.	Type	Recommendation	Nos.
1	L-VUP	New	4

Table 25: DETAILS OF CULVERT IMPROVEMENT

Sl No.	Inventory Chainage	Design Chainage	Structure Type	Span Arrangement	Proposal Type
1	-	0+365	L-VUP	1x12.0x4.0	NEW
2	-	0+585	L-VUP	1x12.0x4.0	NEW
3	-	2+785	L-VUP	1x12.0x4.0	NEW
4	-	3+165	L-VUP	1x12.0x4.0	NEW

5.6 Traffic Safety Measures

Design of proper junctions, foot paths, all other measures such as crash barriers, road signs, road marking, turn lanes etc. have been provided as per road safety standards prescribed by MoSRT&H. These have been shown in the drawing volume.

The project stretch accompanies various varying feature throughout its corridor. These varying feature calls to wake for safety consideration. The priority of any road project is its users. And with this responsibility to provide a good communication, comes the safety alert for the road users. A project is valued to be good when the project road is helpful in minimizing the fatalities and provide the best communication facilities.

The road is evaluated viewing the safety of the road user and provisions of safety signs and markings are suggested to be followed for well-being of the road user as well as the project road.

5.6.1 Road Signs at the Curves

Cautionary signs which are triangular in shape with red border with the direction of the curve are provided at the curves. This helps in manoeuvring vehicle accordingly and nullifies the possibility of accident due to sudden appearance of turn. The speed limit signs should also be ruled at sharp curves. These signs are places 200m before the start of the curve. The curves with radius less or equal to 100 m are considered to be sharp curve.

The curves where there is sharp bends and the vehicle is restricted to maintain the design speed, should be marked with speed marker signs showing the speed to be maintained at that stretch.

The sharp curves i.e., the curves with radius less than 100 m should be protected with guard posts or crash barriers.

5.6.2 Provision for Pavement Markings

White Reflective pavement markings consisting of glass beads for reflection is provided to improve the visibility in night time and wet weather conditions.

5.6.3 Road Signs at Built-up Areas

The Built-up areas should be marked with informatory signs signifying the identifying the place with speed limit signs, which should be followed by the road user while entering into the built-up area.

The signs to be provided are Informatory signs and Speed limit signs. These signs should be provided at both the side of the carriageway from both the direction at 200 m before the school. So, total of 6 'School Ahead' signs and 6 speed limit signs should be provided.

The school areas should also be provided with safety barricades during the school's arrival and departure time.

5.6.4 Road Signs for Structures

The road user must also be aware of the structures it is approaching to. So, that they can take precautionary measures before riding over it. The structures include culverts and minor bridges. The objects are too marked with reflectorized paints.

The structures should be indicated as per the markings and devices discussed above. The Object Marking Devices should be provided in one number at every culverts on both the sides of the structure. The minor and major bridges are objectified with two numbers of Object Marking Devices at start of the structure and end of the structure on both the sides of the carriageway.

Effective CBR

Elastic Modulus of embankment Soil, M_{RS} = 10.0 x CBR for CBR ≤ 5 %

= 10.0 x 5.0

= 50 Mpa

Elastic Modulus of Subgrade Soil, M_{RS} = 17.6 x $(CBR)^{0.64}$ for CBR > 5 %

= 17.6 x $(9)^{0.64}$

= 71.82 Mpa

Then calculate the surface deflection at the centre of the load, from input the surface deflection is found to be 2.225mm from IITPAVE

Modulus value of a single layer for same surface deflection of 2.225mm for the same load and for poisson's ratio 0.35.

$$M_{RS} = 2(1-\mu^2)pa/\alpha$$

=66.61 Mpa

Then, effective CBR value is 8%.

COST ESTIMATION

6.1 General

The project highway starts from the 0/000 km at SH-44, and ends at Sijimali mines at 3/400 km. The project stretch is considered as a two lane stretch and is proposed to New two-lane carriageway with paved shoulder throughout the project corridor.

The proposal has been made to provide bridges and culverts at required. The proposal also includes safety structures, longitudinal drains and road furniture's.

6.2 Quantification

The quantification of most of the items which are uniformly occurring are based on the TCS & pavement design for different homogeneous section and are calculated as per Km basis. The quantification of structures is based only on Square meters of new construction for each structure and lump sum provision for rehabilitation on square meter basis.

The construction items covered in cost estimates are: site clearance, earthwork, Pavement in carriageways and shoulders, bridges and culverts, and miscellaneous items such as side drains, road furniture, interchanges / intersections, bus safety structures etc.

6.3 Unit Rates

The rate analysis for the Construction Items has been done based on standard data book published by MORT&H. For items whose rates are not available in the DSR, market rates shall be adapted for its costing.

6.4 Project Costing

6.4.1 Road

The pavement quantities like GSB, WMM& Bituminous items etc. have been worked out based on Typical Cross Sections, pavement design done based on traffic and with subgrade as CBR 8%

6.4.2 Bridges and Culverts

The cost of new of structures has been calculated in detail with volume calculation of each component of structure.

6.4.3 Maintenance during Construction Period

The flexible pavements require a regular maintenance during its life period. The maintenance cost has been fragmented and reflected in the estimate.

6.4.4 Miscellaneous Items

The cost for providing minor junction, overhead signs, Bus bays, passing lanes etc. have been worked out and included in the total cost estimate.

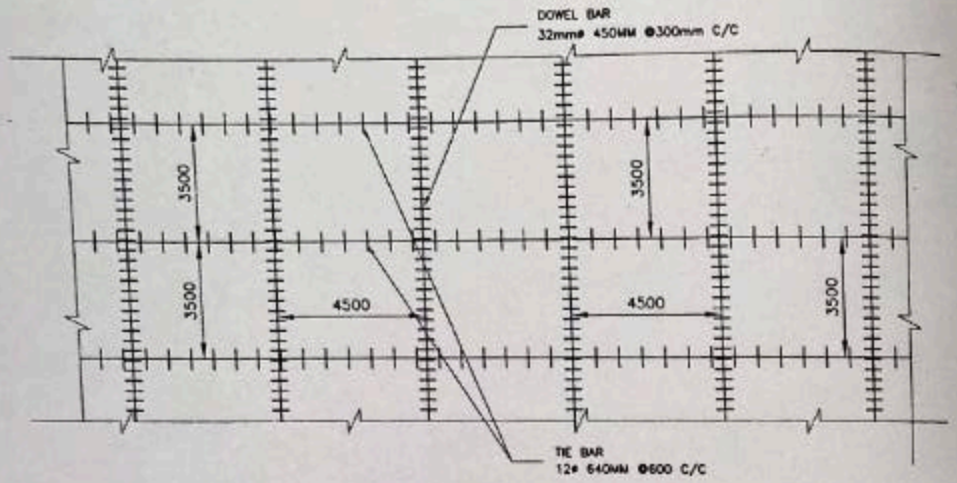
6.5 Construction Cost

The overall construction cost of the Project are attached in Annexure-VII.

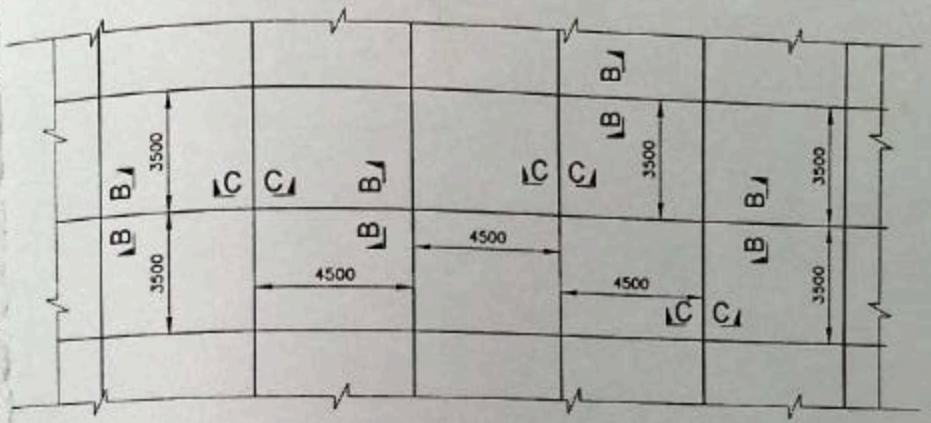
19.09.24
Junior Engineer

19.9.24
Executive Engineer

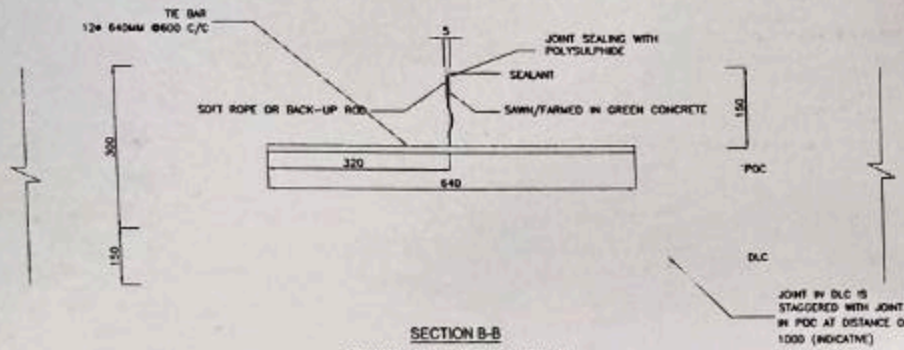
20.09.24
Executive Engineer
Rayagada (R&B) Division No-1



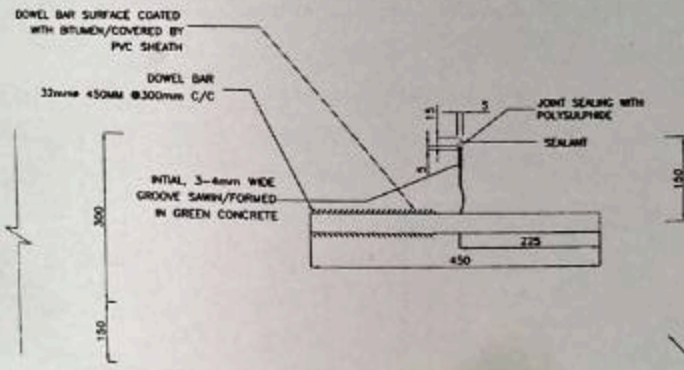
(TYPICAL PLAN LAYOUT SHOWING REINFORCEMENT)



(TYPICAL PLAN LAYOUT SHOWING THE JOINTS)



SECTION B-B
(TYPICAL LONGITUDINAL JOINT)



SECTION C-C
(TYPICAL CONTRACTION JOINT)

309

Chief Co
Rayagada

Executive En
Rayagada (R&B) Di

19.9.24
Junior Engineer
Kashipur (R&B) Section

19.9.24
Asst. Executive Engineer
Rayagada (R&B) Sub-Division No-II

NOTES: 1. All the Dimensions are in meter unless otherwise specified.

REV	DATE	DESCRIPTION	PREPARED	CHECKED	DESIGNED	APPROVED
0	01.03.24	INITIAL SUBMISSION	PSLM	SMTS	SMTS	SMTS

CLIENT: vedanta
1st Floor, Module C/2, Fortune Tower, Bhubaneshwar, Odisha - 751023, India

PROJECT: DETAILED PROJECT REPORT (DPR) DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SUNAKALI MINES TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH

DESIGN CONSULTANT: Utkal Rail Consultants Pvt. Ltd. At-Ramchandrapur, (Near Dhanmandal Police Station), P.O. Dhanmandal, Dist-Jajpur, Odisha. Pin-754024

EXECUTING AGENCY: Mytheri Infrastructure And Mining India Pvt. Ltd.

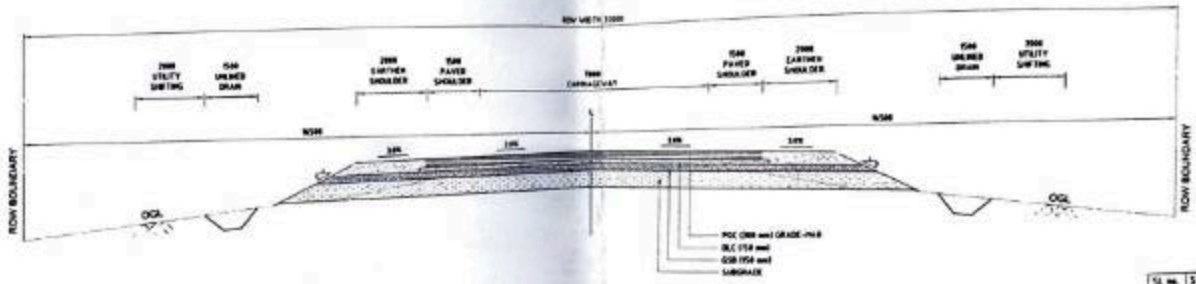
PREPARED BY: Trigonometry Services JV JN Associates

DESIGNED	PSLM
DRAWN	SMTS
CHECKED	SMTS
APPROVED	SMTS
DATE	
SCALE	NTS - 1:500 A3 - 1:100

TITLE: TYPICAL LAYOUT OF BLOCK LAYOUT & JOINTS

DRAWING NO: S H 4 4 - R D - M C W - B L J - 0 0 1

TCS DRAWINGS



TSC-1 SCHEDULE

Sl. no.	Start Ch.	End Ch.	Length in Km	ROW in Mtr
1	0/000 KM	6/950 KM	16.00M	33.00M
		TOTAL	16.00M	

TYPICAL CROSS SECTION (TYPE-1)
NEW CONSTRUCTION 2-LANE WITH PAVED SHOULDER IN RURAL AREA

19.09.24

19.9.24

30.09.24

Executive Engineer
Rayagada (R&B) Division No

NOTES: 1. All the Dimensions are in meter unless otherwise specified.

CLIENT: vedanta, 1st Floor, Module C/2, Fortune Tower, Bhubaneshwar, Odisha - 751023, India

PROJECT: DETAILED PROJECT REPORT (DPR) DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SUNAKU MINE S TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH

DESIGN CONSULTANT: URC Uttat Rail Consultants Pvt. Ltd. At-Ramchandrapur, (Near Dharmendal Police Station), P.O. Dharmendal, Dist-Jajpur, Odisha, Pin-754024

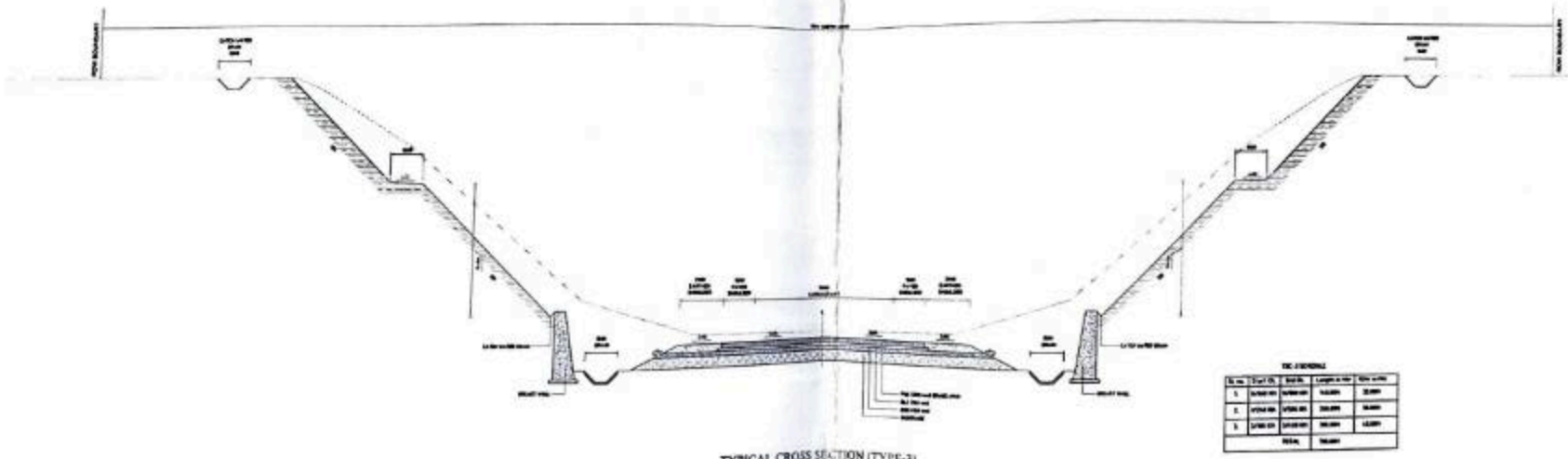
EXECUTING AGENCY: Mythri Infrastructure And Mining India Pvt. Ltd.

PREPARED BY: Trigonometry Services JV JN Associates Plot No - 358/359, Mahendra Nilaya, Gobind Prasad, Barkhat, Bhubaneswar, Odisha – 751

TITLE: TYPICAL CROSS SECTION (TCS-1)

DRAWING NO: SH44-RD-MCW-TCS-001

ANNEX-I



TYPICAL CROSS SECTION (TYPE-3)
NEW CONSTRUCTION2-LANE WITH PAVED SHOULDER WITH TOTAL CUT FORMATION OPTION

19.09.24
Junior Engineer
(Kashipur (R&B) Section)

19.9.24
Asst. Executive Engineer
Rayagada (R&B) Sub-Division No- II

20.09.24
Executive Engineer
Rayagada (R&B) Division

Chief Consult. Engineer (R&B) Circle
Rayagada.

NOTES: 1. All the Dimensions are in meter unless otherwise specified.

REV	DATE	DESCRIPTION	PREPARED	DRAWN	DESIGNED	CHECKED	APPROVED
0	07.02.24	INITIAL SUBMISSION					

CLIENT: vedanta, 1st Floor, Module G2, Fortune Tower, Bhubaneshwar, Odisha - 751023, India

PROJECT: DETAILED PROJECT REPORT (DPR) DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SUNABALI MINES TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH

DESIGN CONSULTANT: Utkal Rail Consultants Pvt. Ltd., At-Ranchandrapur, (Near Dharmendal Police Station), P.O. Dharmendal, Dist-Jajpur, Odisha, Pin-754024

EXECUTING AGENCY: Mysteel Infrastructure And Mining India Pvt. Ltd., S.A.S No. 261, Near Canara Bank, Main Road, Dist-Rayagada, Odisha, Pin-765015

PREPARED BY: Trigonometry Services JV JN Associates, Plot No - 358/359, Mahendra Nilaya, Gobind Prasad, Barakhai, Bhubaneswar, Odisha – 751010

DESIGNED	PRADIP	PSN
DRAWN	DIPAK	DNP
CHECKED	SUBHAS	SKPL
APPROVED	SUBHAS	SKPL
DATE	SCALE: HOR = 1:1000, VER = 1:100	
07.02.2024		

TITLE: TYPICAL CROSS SECTION DRAWING (TCS-3)

DRAWING NO: SH44-RD-MCW-TCS-004

SCALE:

SHEET 1 OF 1

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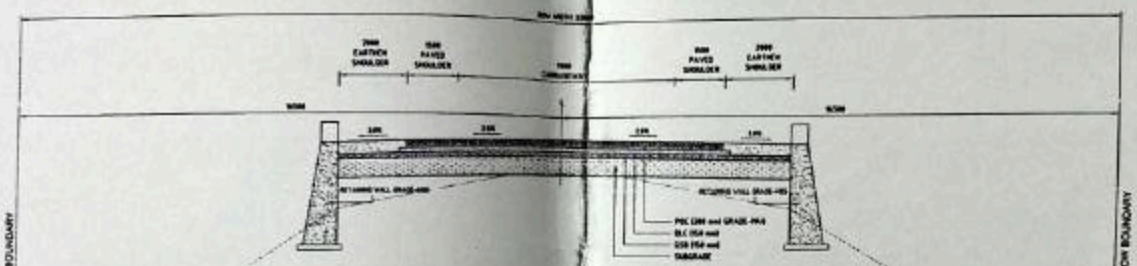
ANNEX-I



TYPICAL CROSS SECTION (TYPE-4)

NEW CONSTRUCTION 2-LANE WITH PAVED SHOULDER WITH PROTECTION WALL

TSE-4 SCHEDULE

Sl. no.	Start Ch.	End Ch.	Length in mtr	ROW in mtr
1.	0/500 KM	0/668 KM	168.00M	33.00M
2	2/668 KM	2/828 KM	160.00M	33.00M
		TOTAL	328.00M	

19.9.24

19.9.24

Executive Engineer
Rayagada (R&B) Division

Chief Constn. Engineer
Rayagada (R&B) Circle
Rayagada

NOTES: 1. All the Dimensions are in meter unless otherwise specified.

CLIENT: vedanta, 1st Floor, Module G2, Fortune Tower, Bhubaneshwar, Odisha - 751023, India

PROJECT: DETAILED PROJECT REPORT (DPR) DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SIJIMALI MINES TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH

DESIGN CONSULTANT: URC Uttkal Rail Consultants Pvt. Ltd.

EXECUTING AGENCY:

PREPARED BY: Trigonometry Services JV JN Associates

TITLE: TYPICAL CROSS SECTION DRAWING (TCS-I)

DRAWING NO: SH44-RD-MCW-TCS-005

ANNEXURE-II

LAND SCHEDULE FOR DEVELOPMENT OF ROAD FROM SH-44 SIJIMALI MINES i.e. CH- 0.00 M TO CH. 2980 M IN CONNECTION WITH EVACUATION OF BAUXITE ORE TO M/s VEDNATA.								
S No	KHATA NO	VILLAGE NAME	PLOT NO	TOTAL AREA IN AC	AQ AREA IN AC	HAL KISSAM	TENANT NAME	STATUS(FOREST/Govt.NON-FOREST/Pvt.NON-FOREST)
1	5	BICHAPINDHA	23	8	1.948	PAHADA	ABADA AJOGYA ANABADI	GOVT
2	5	BICHAPINDHA	24	8	3.873	PAHADA	ABADA AJOGYA ANABADI	GOVT
3	72	DUMERAPADAR	377	9	1.094	PAHADA	ABADA AJOGYA ANABADI	GOVT
4	72	DUMERAPADAR	374	21.25	0.086	PAHADA	ABADA AJOGYA ANABADI	GOVT
5	70	DUMERAPADAR	375	1.22	0.068	RASTA	SARBASADHARANA	GOVT
6	44	DUMERAPADAR	377/437	2.13	0.396	DANGARA	JAYA MAJHI	PVT
7	35	PORLANG	280	16	0.485	PAHADA	ABADA AJOGYA ANABADI	DLC
8	156	SAGABARI	4	26.38	7.274	PAHADA	ABADA AJOGYA ANABADI	DLC
9	156	SAGABARI	31	9	1.369	PAHADA	ABADA AJOGYA ANABADI	GOVT
10	154	SAGABARI	32	0.5	0.185	RASTA	SARBASADHARANA	GOVT
11	156	SAGABARI	5	32.75	4.376	PAHADA	ABADA AJOGYA ANABADI	DLC
12	156	SAGABARI	6	14.25	1.768	PAHADA	ABADA AJOGYA ANABADI	GOVT
13	156	SAGABARI	732	9.3	1.76	PAHADA	ABADA AJOGYA ANABADI	GOVT
14	156	SAGABARI	733	7.75	1.329	PAHADA	ABADA AJOGYA ANABADI	GOVT
15	156	SAGABARI	770	8.5	1.946	PAHADA	ABADA AJOGYA ANABADI	GOVT
16	156	SAGABARI	771	7.5	0.048	PAHADA	ABADA AJOGYA ANABADI	GOVT
				181.53	28.005			

ANNEXURE-IV

IRC:58-2015 Guidelines for Design of Plain Jointed Rigid Pavements for Highways Design of Slab Thickness for Pavement

Type of pavement considered	
Carriageway	2-Lane
Shoulders :- Tied concrete shoulders ? (yes/no)	Yes
Transverse joint spacing (m)	4.5
Lane width (m)	3.5
Transverse Joints have dowel bars? (yes/no)	Yes
Design Traffic Estimation	
Design Period (years)	30
Total Two-way Commercial Traffic (cvpd) in the year of completion of construction	**1410**
Av. Annual rate of growth of commercial traffic (expressed as decimal)	5.0%
Cumulative No of Commercial vehicles during design period (two-way), **A**	34192753
Average No of axles per commercial vehicle, **B**	2.370
Cumulative No of Commercial Axles during design period (two-way), **C = A*B**	81036824
Proportion of traffic in predominant direction (For 2-lane 2-way highways use a value of 1.0), **D**	1.00
Lateral Placement factor (0.25 for 2-lane 2-way. For multilane highways the value is 0.25 X C), **E**	0.250
Factor for selection of traffic for BUC analysis (for six-hour period during day), **F**	0.200
Factor for selection of traffic for TDC analysis (for six-hour period during day), **G**	0.300
Design axle repetitions for BUC analysis (for 6 hour day time traffic), **H = B*E*F**	4051841
Proportion of vehicles with spacing between front and the first rear axle less than the spacing of transverse joints, **I**	0.550
Design axle repetitions for TDC analysis (for 6-hour night time traffic), **J = B*E*G*I**	3342769
Proportion of Front single (steering) Axles, **K1**	0.500
Proportion of Rear single Axles,**K2**	0.250
Proportion of tandem Axles, **K3**	0.000
Proportion of Tridem Axles, **K4 = (1-K1-K2-K3)**	0.250

Pavement Structural Details	
Modulus of subgrade reaction of subgrade, MPa/m	**50.333**
Thickness of Granular Subbase, mm	150
Thickness of Dry Lean Concrete subbase, mm	150
Effective modulus of subgrade reaction of foundation, MPa/m	284.667
Unit weight of Concrete, kN/m^3	24
28-day Flexural strength of cement concrete, MPa	4.5
Max. day-time Temperature Differential in slab, ^0C (for bottom-up cracking)	20.72
Night-time Temperature Differential in slab, ^0C (for top-down cracking) = day-time diff/2 + 5	15.36
Trial Thickness of Concrete Slab, m	**0.300**
Load Transfer Efficiency Factor for TDC analysis, Beta = 0.66 for dowel Joints, 0.90 for joints without dowels	0.66
Elastic Modulus of Concrete, Ec (MPa)	30000
Poisson's Ratio of Concrete, Mu	0.15
Radius of relative stiffness, m	0.70180
Design Axle Load Repetitions for Fatigue Analysis	
For Bottom-up Cracking Analysis	
Front single (steering) Axles = H * K1	2025921
Rear single Axles = H * K2	1012960
Tandem Axles = H * K3	0
Tridem Axles = H * K4	1012960
For Top-Down Cracking Analysis	
Front single (steering) Axles = J * K1	1671385
Rear single Axles = J * K2	835692
Tandem Axles = J * K3	0
Tridem Axles = J * K4	835692

19.09.24 19.9.24 20.09.24

Asst. Executive Engineer

Executive Engineer

317

Fatigue Damage Analysis

Axle Load Spectrum Data

Bottom-up Cracking Fatigue Analysis for Day-time (6 hour) traffic and Positive Temperature Differential

Top-Down Cracking Fatigue Analysis for Night-time (6 hour) traffic and Negative Temperature Differential

Rear Single Axle			Rear Tandem Axle			Rear Tridem Axle			Rear Single Axles					Rear Tandem Axles					Rear Single Axles					Rear Tandem Axles (Stress computed for 50% of axle load)					Rear Tridem Axles (Stress computed for 33% of axle load)				
Load Group (kN)	Mid-Point of Load Group (kN)	Frequency (%)	Load Group (kN)	Mid-Point of Load Group (kN)	Frequency (%)	Load Group (kN)	Mid-Point of Load Group (kN)	Frequency (%)	Expected Repetitions (ni)	Flex Stress MPa	Stress Ratio (SR)	Allowable Repetitions (Ni)	Fatigue Damage (ni/Ni)	Expected Repetitions (ni)	Flex Stress MPa	Stress Ratio (SR)	Allowable Repetitions (Ni)	Fatigue Damage (ni/Ni)	Expected Repetitions (ni)	Flex Stress MPa	Stress Ratio (SR)	Allowable Repetitions (Ni)	Fatigue Damage (ni/Ni)	Expected Repetitions (ni)	Flex Stress MPa	Stress Ratio (SR)	Allowable Repetitions (Ni)	Fatigue Damage (ni/Ni)	Expected Repetitions (ni)	Flex Stress MPa	Stress Ratio (SR)	Allowable Repetitions (Ni)	Fatigue Damage (ni/Ni)
185-195	190	0.00	380 - 400	390	0.00	550-580	565	0.00	0	2.511	0.507	545312	0.000	0	2.1351	0.431	infinite	0.000	0	2.480	0.501	723321	0.000	0	2.5045	0.506	577712	0.000	0	2.4401	0.493	1092949	0.000
175-185	180	0.00	360 - 380	370	0.00	500-530	515	0.00	0	2.441	0.455	1086318	0.000	0	2.0716	0.419	infinite	0.000	0	2.432	0.491	1184928	0.000	0	2.4562	0.496	930770	0.000	0	2.3917	0.483	1944039	0.000
165-175	170	0.00	340 - 360	350	0.00	470-500	485	100.00	0	2.370	0.479	2604590	0.000	0	2.0082	0.406	infinite	0.000	0	2.384	0.482	2162896	0.000	0	2.4079	0.486	1586164	0.000	835492	2.3434	0.473	3913050	0.214
155-165	160	0.00	320 - 340	330	0.00	440-470	455	0.00	0	2.300	0.465	8626490	0.000	0	1.9448	0.393	infinite	0.000	0	2.335	0.472	4468207	0.000	0	2.3595	0.477	3046897	0.000	0	2.2951	0.464	9540888	0.000
145-155	150	0.00	300 - 320	310	0.00	410-440	425	0.00	0	2.230	0.450	58260997	0.000	0	1.8816	0.380	infinite	0.000	0	2.287	0.462	11370076	0.000	0	2.3112	0.467	6894554	0.000	0	2.2467	0.454	32623431	0.000
135-145	140	0.00	280 - 300	290	0.00	380-410	395	0.00	0	2.159	0.436	infinite	0.000	0	1.8179	0.367	infinite	0.000	0	2.239	0.452	42257643	0.000	0	2.2628	0.457	20530512	0.000	0	2.1984	0.444	infinite	0.000
125-135	130	0.00	260 - 280	270	0.00	350-380	365	0.00	0	2.089	0.422	infinite	0.000	0	1.7545	0.354	infinite	0.000	0	2.190	0.442	infinite	0.000	0	2.2145	0.447	infinite	0.000	0	2.15	0.434	infinite	0.000
115-125	120	0.00	240 - 260	250	0.00	320-350	335	0.00	0	2.018	0.408	infinite	0.000	0	1.6911	0.342	infinite	0.000	0	2.142	0.433	infinite	0.000	0	2.1661	0.438	infinite	0.000	0	2.1017	0.425	infinite	0.000
105-115	110	0.00	220 - 240	230	0.00	290-320	305	0.00	0	1.948	0.394	infinite	0.000	0	1.6276	0.329	infinite	0.000	0	2.094	0.423	infinite	0.000	0	2.1178	0.428	infinite	0.000	0	2.0533	0.415	infinite	0.000
95-105	100	0.00	200 - 220	210	0.00	260-290	275	0.00	0	1.878	0.379	infinite	0.000	0	1.5642	0.316	infinite	0.000	0	2.045	0.413	infinite	0.000	0	2.0695	0.418	infinite	0.000	0	2.005	0.405	infinite	0.000
85-95	90	0.00	180 - 200	190	0.00	230-260	245	0.00	0	1.807	0.365	infinite	0.000	0	1.5008	0.303	infinite	0.000	0	1.997	0.403	infinite	0.000	0	2.0211	0.408	infinite	0.000	0	1.9567	0.395	infinite	0.000
< 85	80	100.00	< 180	170	0.00	< 230	215	0.00	1012960	1.737	0.351	infinite	0.000	0	1.4174	0.290	infinite	0.000	835492	1.949	0.394	infinite	0.000	0	1.9728	0.399	infinite	0.000	0	1.9083	0.386	infinite	0.000
		100			0			100	1012960	Fat Dam from Sing. Axles =			0.000	0	Fat Dam from Tand Axles =			0.000	835492	Fat Dam from Sing. Axles =			0.000	0	Fat Dam from Tand Axles =			0.000	835492	Fat Dam from Tridem Axles =			0.214
Front Single Axles and Rear Tridem axles not considered for bottom-up analysis									Total Bottom-up Fatigue Damage due to single and tandem axle loads =					0.000	+	0.000	=	0.000	Total Top-Down Fatigue Damage =					0.000	+	0.000	+	0.214	=	0.214				
									Sum of CFD for BUC & TDC= 0.214										DESIGN IS SAFE SINCE SUM OF CFD FOR BUC AND TDC< OR EQ.1														

ANNEXURE-IV

Appendix-V

DESIGN OF DOWEL BAR

Slab thicknes	=	300 mm
Joint width, z	=	3.5 mm
Diametre of dowel bar, b	=	38 mm
Assume spacing between dowels	=	300 mm
Length of Dowel Bar	=	500 mm
Char Compressive strength of concrete cube, fck	=	40 Mpa
Percentage of load transfer	=	50 %
Modulus of sub-grade reaction, k (8% CBR)	=	50.333 Mpa
Radius of relative stiffness, l [Eh3/{12 (1-m2) k}]1/4	=	1113 mm
Modulus Elasticity of Steel, E	=	30000 MPa
Modulus of Dowel Support, k, Kg/cm^3	=	415000 MPa/m
Maximum Single Axle Load	=	200 kN
So, Wheel load, W	=	100 kN
Load Transfer through Dowel	=	50 %
Wheel load for Dowel bar design	=	50 kN
Load to be transferred to slab	=	25 kN
Permissible bearing stress in concrete	=	26.71 Mpa

First Dowel bar is placed **150mm from edge**

Dowel bars up to adistance of 1.0 x radius of relative stiffness from point of application are effective for load transfer

5 dowels

Load transferred to dowel bar system	=	2.190 Pt
Load carried by outer dowel bar, P_t	=	11.41553 kN

Check for bearing stress

Moment of Inertia of dowel	= 102353.874	mm^4	
Relative stiffness of dowel bar embedded in concrete	= 0.034	mm^{-1}	
Bearing stress in dowel bar	= **21.42**	kg/cm^2 <	**26.71**
	safe		

Hence the assumed spacing and dia of dowel bar are safe.

With Spacing of 300mm for Total Width of 10.0m of Concrete Pavement, Total 33 Nos

ANNEXURE-V

Appendix-VI

DESIGN OF TIE BAR

Slab Thickness		= 0.300	m
lane width, b		= 3.5	m
coefficient of friction, f		= 1.5	
Density of concrete		= 24	KN/m^3
Allowable tensile stress in plain bar, S_{st}		= 125	Mpa
Allowable tensile stress in deformed bar, S_{st}		= 200	Mpa
Allowable bond stress in plain tie bar, B		= 1.75	Mpa
Allowable bond stress in deformed tie bar,B		= 2.46	Mpa
Assume Dia of tie bar, d		= 12	mm

Spacing and length of the Deformed Tie bar

Area of steel bar per metre width of joint

$$= \frac{b * f * W}{S_{st}}$$

Joint of resist the frictional force at slab bottom =

	A_s		189	mm^2/M
Cross Sectional area of tie bar =	$A = \pi/4*d^2$		113	mm^2
Perimeter of Tie bar, $P_{ptb}=\pi d$			37.7	mm
Spacing of Tie bars = A/A_s =			598	mm
So, provide Tie bars at a spacing of		Say =	600	mm c/c

Length of Tie bar, L $= \frac{2* S_{st} * A}{B* P_{ptb}}$ = 487.4 mm

Increase length by 100 mm for loss of bond due to painting and another 50 mm for tolerance in placement.

So, the required length of tie bar = 637.4 mm

Say = 640 mm

ANNEXURE-VI

Preparation for Detailed Project Report of Development road from SH-44 to Sijimali Bauxite Block for transporation of Buaxite ore for M/s Vedanta Ltd.

GENERAL ABSTRACT

SL. NO	DESCRIPTION OF ITEM	QTY		AMOUNT
1	Road Proper	3400 Km	Rs	25,52,29,641.53
2	Road safety & Furnitures		Rs	28,16,552.59
3	Hume Pipe Culvert -8 Nos			
i	New Construction of HP Culvert of 1 x 1.2m dia - 15 width	6 Nos	Rs	25,25,019.02
4	LVUP -4 Nos			
i	New Construction of LVUP of 1x 12.0 x 4.0 - 12 width	4 Nos	Rs	3,87,50,181.81
5	Drainage & Protection Works			
i	RCC Retaining Wall	2930 Mtr	Rs	9,79,69,858.11
ii	Breast Wall	3690 Mtr	Rs	6,26,39,467.36
iii	Lined Drain	3404 Mtr	Rs	96,87,804.59
			Rs	46,96,18,525.01
		Or Say,	Rs	46,96,18,525.00
		Add 9.00% SGST	Rs	4,22,65,667.00
		Add 9.00% CGST	Rs	4,22,65,667.00
		Add QUALITY CONTROL 1.00%	Rs	46,96,185.00
		Add CONTIGENCY 1.00%	Rs	46,96,185.00
		Add Cost for Shifting and Relocation of Public Utilities		
		Add for Land Acquisition		
		Total Cost	Rs	56,35,42,229.00

19.9.24

Junior Engineer
Rayagada (R&B) Sub-Division

19.9.24

Asst. Executive Engineer
Rayagada (R&B) Sub-Division No.-II

20.09.24

Executive Engineer
Rayagada (R&B) Division No-I

TCS SCHEDULE

Sl No	Description	Type of TCS	From (Km)	To (Km)	Length (Km)	Breast Wall	Protection/ Retaining Wall	Remarks
1	New Construction of 2 Lane with Paved Shoulder	TCS-1	0+000	0+090	90.000			
2	New Construction of 2 Lane with Paved Shoulder with One Side Hill & Valley with R Wall	TCS-2	0+090	0+500	410.000	410 X 1 = 410	410 X 1 = 410	
3	New Construction of 2 Lane with Paved Shoulder Raising	TCS-4	0+500	0+660	160.000		160 X 2 = 320	
4	New Construction of 2 Lane with Paved Shoulder with Both Side Cutting	TCS-3	0+660	0+800	140.000	140 X 2 = 280		
5	New Construction of 2 Lane with Paved Shoulder with One Side Hill & Valley with R Wall	TCS-2	0+800	1+240	440.000	440 X 1 = 440	440 X 1 = 440	
6	New Construction of 2 Lane with Paved Shoulder with Both Side Cutting	TCS-3	1+240	1+500	260.000	260 X 2 = 520		
7	New Construction of 2 Lane with Paved Shoulder with One Side Hill & Valley with R Wall	TCS-2	1+500	2+660	1160.000	1160 X 1 = 1160	1160 X 1 = 1160	
8	New Construction of 2 Lane with Paved Shoulder Raising	TCS-4	2+660	2+820	160.000		160 X 2 = 320	
9	New Construction of 2 Lane with Paved Shoulder with One Side Hill & Valley with R Wall	TCS-2	2+820	3+100	280.000	280 X 1 = 280	280 X 1 = 280	
10	New Construction of 2 Lane with Paved Shoulder with Both Side Cutting	TCS-3	3+100	3+400	300.000	300 X 2 = 600		
				TCS-1	90.000			
				TCS-2	2290.000			
				TCS-3	700.000			
				TCS-4	320.000			
				Total Length (Km)	3400.000	3690	2930	
	PART A							
				TCS-1	90.000			
				TCS-2	2290.000			
				TCS-3	700.000			
				TCS-4	320.000			
				Total Length (Km)	3400.000			

Sl No	DESCRIPTION	Qty	Unit	Rate	Amount
8	Construction of dry lean cement concrete Sub- base over a prepared sub grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per Table 600.1, cement content not to be less than 150kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10Mpa at 7 days, mixed in a batching plant,	5119.38	cum	4,610.75	2,36,04,181.34
9	Construction of un-reinforced, dowel jointed, plain cement concrete pavement over a prepared sub base with 43 grade cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with a fixed	10238.76	Cum	8,288.87	8,48,67,750.60
10	Furnishing and laying of the live sods of perennial turf forming grass on embankment slope, verges or other locations shown on the drawing or as directed by the engineer including preparation of ground, fetching of sods and watering & Technical Specifications and as per Clause - 307 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	473.01	Sqm	26.17	12,378.67
11	Shoulders Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2	6143.26	Cum	343.12	21,07,875.37
12	Providing and erecting direction and place identification retro-reflectorized sign as per IRC 67made of high intensity grade sheeting vide Clause 801.3, fixed over Aluminium sheeting 2mm thick supported on a mild steel single/double angle iron post 75 x 75 x 6 mm firmly fixed to the ground by means of properly designed foundation with M 15 grade concrete 45 x 45 x 60 cm, 60 cm below ground level as per drawing and technical specfication Clause 801 of of specification for road & bridge works (5th revision) & as directed by Engineer in charge.				
12.10	90 cm Equilateral traingle	30.00	No	5,723.09	1,71,692.70
12.20	60 cm Circular	20.00	No	5,164.69	1,03,293.80
12.30	80 cm x 60 cm rectangular	20.00	No	6,782.41	1,35,648.20
12.40	90 cm high octagon	25.00	No	8,350.87	2,08,771.75
12.50	Direction Marking	10.80	No	12,301.26	1,32,853.61
12.60	60 cm x 45 cm rectangular	86.00	No	5,057.94	4,34,982.84
12.70	90 cm x 30 cm rectangular	35.00	No	5,057.94	1,77,027.90
13	Reinforced cement concrete M-15 Grade Kilometre stone of standard designs as per IRC-8-1980 ,Fixing in position including painting & printing etc complete				
13.1	(a) 200 Mtr Stones	28.00	Nos	409.45	11,464.60
13.2	(b) Ordinary Kilometre Stones	7.00	Nos	409.45	2,866.15
13.3	(c) 5th Kilometre Stones	1.00	Nos	585.61	585.61
14	Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform and free from streaks and holes.	1689.06	Sqm	278.48	4,70,369.43

Sl No	DESCRIPTION	Qty	Unit	Rate	Amount
15	Providing and fixing of bi-directional retro reflective raised paverer markers of approved colour, quality & make conforming to ASTM D-4280 made from injection moulded high impact polymer including cleaning, preparation of surface and fixing at position with approved quality adhesives including cost of all materials, labour, transportation, taxes, duties, sundries, T&P etc. complete. 1973	384.00	Nos	282.00	1,08,288.00
16	Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810	200.00	RM	4,293.54	8,58,708.00
17	Earth work in excavation of foundation in all kinds of soil as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material including dewatering if necessary etc complete as per clause 304 of technical specification for Road and Bridge works (MORTH 5th revision) and as directed by the Engineer in charge, excluding GST.	20624.17	Cum	266.82	55,02,941.04
18	Sand Filling in foundation & plinth with water & ramming with roller complete as per the direction of Engineer in charge.	1070.98	Cum	2,290.73	24,53,326.02
19	Providing and laying Plain cement concrete of grade M-15 in foundation of CD works etc as levelling coarse complete as per drawing and technical specification using High Strength approved quality Cement and coarse granite aggregate conforming to Table 1000-1 with formwork as per Section 900,1000,1500,1700, 2100 & 2200 of specifications for Road and Bridge works of Ministry of Road Transport & Highways (4th Revision) & including cost of all materials, labour, T&P, taxes, royalty etc complete in all respect and as per direction of the Engineer-in-charge.	4206.74	Cum	6,017.92	2,53,15,824.78
20	Providing supplying and laying Plain Cement Concrete with grade M15 in Substructure of Pipe Culvert complete as per Technical Specifications as per approved drawings and sections 1000, 1500, 1600, 1700 and 2100 of Technical specifications for road and bridge works(MORTH 5th revision) excluding the cost of reinforcement complete & as directed by Engineer in charge, excluding GST.	90.28	Cum	6,017.92	5,43,297.82
21	RR Masonry Wall	9033.12	Cum	5,197.73	4,69,51,718.82
22	Providing supplying and laying Chips in Breast Wall as per Technical Specifications as per approved drawings and sections 1000, 1500, 1600, 1700 and 2100 of Technical specifications for road and bridge works(MORTH 5th revision) excluding the cost of reinforcement complete & as directed by Engineer in charge, excluding GST.	1162.35	Cum	2,003.07	23,28,268.41

Sl No	DESCRIPTION	Qty	Unit	Rate	Amount
23	Providing and laying Reinforced cement concrete of grade M-25 in box culvert etc as per drawing and technical specification using High Strength approved quality Cement and coarse granite aggregate conforming to Table 1000-1 with formwork as per Section 900,1000,1500,1700 & 2200 of specifications for Road and Bridge works of Ministry of Road Transport & Highways (4th Revision) & including cost of all materials, labour, T&P, taxes, royalty etc complete in all respect and as per direction of the Engineer-in-charge.				
23.1	In Foundation of R Wall	2329.35	Cum	7,343.51	1,71,05,605.02
23.2	In Substructure of R Wall	2373.30	Cum	13,306.52	3,15,80,363.92
23.3	In Supesructure of Drain		Cum		-
24	Providing and laying Reinforced cement concrete of grade M-30 in box culvert etc as per drawing and technical specification using High Strength approved quality Cement and coarse granite aggregate conforming to Table 1000-1 with formwork as per Section 900,1000,1500,1700 & 2200 of specifications for Road and Bridge works of Ministry of Road Transport & Highways (4th Revision) & including cost of all materials, labour, T&P, taxes, royalty etc complete in all respect and as per direction of the Engineer-in-charge.				
24.1	In Foundation of Box Culvert & R Wall	741.68	Cum	7,185.21	53,29,126.55
24.2	In Substructure of Box Culvert & R wall	580.56	Cum	11,790.83	68,45,284.26
24.3	In Superstructure of Box Culvert	421.20	Cum	8,701.82	36,65,206.58
25	Supplying fitting and fixing HYSD bars reinforcement in foundation, substructure and superstructures as per drawing and technical specifications as per section 1600 of MORT&H specifcation and direction of the Engineer-in-charge .	562.35	MT	89,764.92	5,04,79,302.76
26	Providing and laying Cement concrete wearing coat M-30 grade including reinforcement complete as per drawing and Technical Specifications	60.76	Cum	13,978.91	8,49,358.57
26	Providing and laying of filter media with 45mm size stone crushed aggregates as per the drawing and technical specification to the required thickness with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete satisfying the requirements laid down in Clause 2504.2.2 and Section 900 of MoRT&H Specifications for Road & Bridge works (4th Revision) and as per direction of Engineer-in-Charge.	3490.29	Cum	2,949.60	1,02,94,959.38
27	Gravel backing to aprons & revetments and providing filter material using gravel underneath pitching in slopes as per approved drawing and technical specifications as per Section 900, 1000 & 2500 of MoRT&H Specifications for Road & Bridge works (4th Revision) and as per direction of Engineer-in-Charge.	193.33	Cum	1,790.16	3,46,091.63

Sl No	DESCRIPTION	Qty	Unit	Rate	Amount
28	Rough stone dry packing in aprons and revetments, stone pitching in slopes and boulder apron etc with hard stone of size 30 cm and above and weighing not less than 40Kg as per approved drawing and Section 2500 of specifications for road and bridge works of Ministry of Road Transport & Highways (4th Revision) & including cost of all materials, labour, T&P, taxes, royalty etc complete in all respect and as per direction of the Engineer-in-charge.	422.27	Cum	4,561.32	19,26,108.60
29	Providing Weep Holes as per approved Drawing & Technical Specifications and as per Section 2700 of MoRT&H Specifications for Road & Bridge works (Latest Revision).	4857.00	Mtr	267.27	12,98,130.39
30	Providing and fixing drainage spouts in deck slab with 100 mm diameter G.I pipe complete for finished item of work as per approved drawing and technical specifications as per section 2700 of MoRT&H Specifications for Road & Bridge works (4th Revision) and as per direction of Engineer-in-Charge.	8.00	Nos	1,019.54	8,156.32
31	Grouting approns and revetment 15cm deep with cement concrete (1:4:8) with 2.5cm broken granite metal per 1sqm.	983.36	Sqm	233.36	2,29,476.89
32	Providing and applying 2 coats of water based cement paint to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 sqm to the bridge superstructure as per section 800 of MoRTH specifications for Road & Bridge works (5th revision) and instruction of Engineer in charge	367.20	Sqm	73.03	26,816.62
33	Providing, laying and fixing in position reinforced cement concrete 1200mm dia NP4 hume pipes for culverts on first class bedding of granular materials including pointing ends fixing collars with cement mortar 1:3 for finished item of work as per Section 1000 & 2900 of specifications for road and bridge works of Ministry of Road Transport & Highways (4th Revision) & including cost of all materials, labour, T&P, taxes, royalty etc complete in all respect and as per direction of the Engineer-in-charge.	90.00	RM	10,674.83	9,60,734.70
34	Providing & fixing in position RCC Crash barrier monolithic with slab M-40 grade as per approved drawing and technical specifications as per clause 809, section 800 & 1000 of MoRT&H Specifications for Road & Bridge works (5th Revision) including cost, conveyance, royality & other taxes of materials, cost of labour, machinery, T&P etc complete.	408.00	Mtr	4,773.36	19,47,530.88
					47,16,20,045.38

ROAD PROPER Rigid

	Length	CD Length	Eff. Length
TCS-1	90.00	0.00	90.00
TCS-2	2290.00	13.50	2276.50
TCS-3	700.00	13.50	686.50
TCS-4	320.00	27.00	293.00
	3400.00	**54.00**	**3346.00**

Proposed Details

TCS-1 New Construction of 2 Lane with Paved Shoulder in Rural Area

Carriageway	1	x	7.00 m			
Paved Shoulder	2	x	1.50 m	Slope		2 Side
Earthen Shoulder	2	x	2.00 m		1:. 2	
			14.00 m			

TCS-2 New Construction of 2 Lane with Paved Shoulder with One Side Hill & Valley with R Wall

Carriageway	1	x	7.00 m			
Paved Shoulder	2	x	1.50 m	Slope		0 Side
Earthen Shoulder	2	x	2.00 m		1:. 2	
Earthen Drain	1	x	0.60 m			
R Wall/ Gabion Wall	1	x	0.50 m			
			15.10 m			

TCS-3 New Construction of 2 Lane with Paved Shoulder with Both Side Cutting

Carriageway	1	x	7.00 m			
Paved Shoulder	2	x	1.50 m	Slope		0 Side
Earthen Shoulder	2	x	2.00 m		1:. 2	
Earthen Drain	2	x	0.60 m			
Breast Wall	2	x	0.50 m			
			16.20 m			

TCS-4 New Construction of 2 Lane with Paved Shoulder Raising

Carriageway	1	x	7.00 m			
Paved Shoulder	2	x	1.50 m	Slope		0 Side
R Wall/ Gabion Wall	2	x	0.60 m		1:. 2	
			11.20 m			

Crust Provided-CC	New
GSB	0.150
DLC	0.150
PQC	0.300
Total	0.600

SL No.	Description	No	Length	Width	Depth	Volume	Unit	Rate	Amount
1	Scarifying the existing bituminous road surface to a depth of 50 mm and disposal of scarified material with in all lifts and lead upto 1000 metres.								
	0/0 Km to 3/400 Km	0%	0.00	0.00	Avg	-			
			Total Qnty			-	Sqm	5.70	-
2	**Clearing and grubbing road land** including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.								
	TCS-1	2	90.00	5.200		936.00			
	TCS-2	2	2276.50	4.550		20,716.15			
	TCS-3	2	686.50	5.100		7,002.30			
	TCS-4	1	293.00	2.600		761.80			
			Total Qnty			**29,416.25**	**Sqm**	**6.45**	**1,89,734.81**
3	**Loosening, leveling and Compacting original ground supporting embankment** to facilitate placement of first layer of embankment, scarified to a depth of 150 mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density as given in Table 300-2 for embankment construction.								
	TCS-1	2	90.00	5.20	0.15	140.40			
	TCS-2	2	2276.50	4.55	0.15	3,107.42			
	TCS-3	2	686.50	5.10	0.15	1,050.35			
	TCS-4	1	293.00	2.60	0.15	114.27			
			Total Qnty			**4,412.44**	**cum**	**35.60**	**1,57,082.86**

SL No.	Description	No	Length	Width	Depth	Volume	Unit	Rate	Amount
4	Excavation for road work in soil with hydraulic excavator of 0.9cum 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 locations with all lifts & leads up to 1000m,as per approved Drawing & Technical Specifications and as per Clause - 301 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).								
	From Calculation sheet	50%	2,11,996.90	Cum		1,05,998.45			
			Total Qnty			1,05,998.45	Cum	266.82	2,82,82,506.43
5	Excavation for road way in hard rock (requiring blasting) by drilling, blasting and breaking, trimming bottom and side slopes in accordance with requirements of lines, grades and cross sections and transporting to the embankment locations with all lifts & leads up to 1000m.as per approved Drawing & Technical Specifications and as per Clause - 301 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).								
	From Calculation sheet	50%	2,11,996.90	Cum		1,05,998.45			
						1,05,998.45	Cum	881.71	9,34,59,893.35
6	Construction of embankment with materials deposited at site from roadway cutting and excavation from drain,Bridge and foundation of other structures graded and compacted to meet requirement of table 300-2.								
	From Road way Excavation					27,540.09			
	From Culvert					-			
	From Drain, R Wall & Toe Wall					-			
						27,540.09	Cum	35.54	9,78,774.80
7	Construction of granular sub-base by providing Grading-VI Material as per table 400-2, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401								
	TCS-1	1	90.00	16.100	0.150	217.35			
	TCS-2	1	2276.50	14.900	0.150	5,087.98			
	TCS-3	1	686.50	14.000	0.150	1,441.65			
	TCS-4	1	293.00	14.000	0.150	615.30			
	Add for Extra Widening at Curve & superelevation	2%				147.25			
			Total Qnty			7,509.53	cum	2,550.85	1,91,55,684.60
8	Construction of dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per Table 600.1, cement content not to be less than 150kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver and compacting with vibratory roller, finishing and curing as per Clause 601 of MoSRT&H Specifications for Road & Bridge works (4th Revision)								
	TCS-1	1	90.00	10.00	0.150	135.00			
	TCS-2	1	2276.50	10.00	0.150	3,414.75			
	TCS-3	1	686.50	10.00	0.150	1,029.75			
	TCS-4	1	293.00	10.00	0.150	439.50			
	Add for Extra Widening at Curve & superelevation	2%				100.38			
			Total Qnty			5,119.38	cum	4,610.75	2,36,04,181.34
9	Construction of un-reinforced, dowel jointed, plain cement concrete pavement over a prepared sub base with 43 grade cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with a fixed form or slip form paver, spread, compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, separation membrane, sealant primer, joint sealant, debonding strip, dowel bar, tie rod, admixtures as approved, curing compound, finishing to lines and grades as per drawing and as per Clause 602 of MoSRT&H Specifications for Road & Bridge works (5th Revision)								
	TCS-1	1	90.00	10.000	0.300	270.00			
	TCS-2	1	2276.50	10.000	0.300	6,829.50			
	TCS-3	1	686.50	10.000	0.300	2,059.50			
	TCS-4	1	293.00	10.000	0.300	879.00			

SL No.	Description	No	Length	Width	Depth	Volume	Unit	Rate	Amount
	Add for Extra Widening at Curve & superelevation	2%				200.76			
						10,238.76	cum	8,288.87	8,48,67,750.60
10	Furnishing and laying of the live sods of perennial turf forming grass on embankment slope, verges or other locations shown on the drawing or as directed by the engineer including preparation of ground, fetching of sods and watering & Technical Specifications and as per Clause - 307 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).								
		1	2	94.00	2.516	473.01			
						473.01	Sqm	26.17	12,378.67
11	Shoulders Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2								
		TCS-1	2	90.00	2.00	0.450	162.00		
		TCS-2	2	2276.50	2.00	0.450	4,097.70		
		TCS-3	2	686.50	2.00	0.450	1,235.70		
		TCS-4	2	293.00	2.00	0.450	527.40		
	Add for Extra Widening at Curve & superelevation		2%				120.46		
				Total Qnty			6,143.26	cum	343.12	21,07,875.37
12	Supplying, bending, binding,tying and placing HYSD bar reinforcement in complete including cost of binding wire as per drawing and Technical Specifications & as per clause no 1600,of Specification for road & bridge work of MORT&H (5th Revision) & Direction of Engineer in charge.								
						26.89	MT	89,764.92	24,13,778.70
								Sub Total Rs.	25,52,29,641.53

19.09.24
Junior Engineer
Kashipur

19.9.24
Asst. Executive Engineer
Rayagada (R&B) Sub-Division No- II

20.09.24
Executive Engineer
Rayagada (R&B) Division No-II

Sl No	Site Inventory				Proposed				
	Chainage	Type	Span Arrangement	Width	Chainage	Type	Span Arrangement	Proposed	Proposed Width
1	0+000	Pipe			0+000	Pipe	1 x 1.2m dia	New Construction	15.00
2	0+365	LVUP			0+365	LVUP	1x 12.0 x 4.0	New Construction	12.00
3	0+585	LVUP			0+585	LVUP	1x 12.0 x 4.0	New Construction	12.00
4	0+595	Pipe			0+595	Pipe	1 x 1.2m dia	New Construction	15.00
5	1+175	Pipe			1+175	Pipe	1 x 1.2m dia	New Construction	15.00
6	1+815	Pipe			1+815	Pipe	1 x 1.2m dia	New Construction	15.00
7	1+963	Pipe			1+963	Pipe	1 x 1.2m dia	New Construction	15.00
8	2+735	Pipe			2+735	Pipe	1 x 1.2m dia	New Construction	15.00
9	2+785	LVUP			2+785	LVUP	1x 12.0 x 4.0	New Construction	12.00
10	3+165	LVUP			3+165	LVUP	1x 12.0 x 4.0	New Construction	12.00

PART A

1	New Construction of HP Culvert	6	1 x 1.2m dia	15.00	Rs	25,25,019.02
2	New Construction of LVUP	4	1x 12.0 x 4.0	12.00	Rs	3,87,50,181.81
	Total no of Structure considered for Improvement	**10**				

ROAD SAFETY & FURNITURES

1	Providing and erecting direction and place identification retro-reflectorized sign as per IRC							
	90 cm Equilateral traingle	**30**				30		
						30	**Nos**	**5,723.09**	**1,71,692.70**
	60 cm Circular	**20**				20		
						20	**Nos**	**5,164.69**	**1,03,293.80**
	80 cm x 60 cm rectangular	**20**				20		
						20	**Nos**	**6,782.41**	**1,35,648.20**
	90 cm high octagon	**25**				25		
						25	**Nos**	**8,350.87**	**2,08,771.75**
	Direction Marking	**10.80**				10.80		
						10.80	**Sqm**	**12,301.26**	**1,32,853.61**
	60 cm x 45 cm rectangular	**86**				86		
						86	**Nos**	**5,057.94**	**4,34,982.84**
	90 cm x 30 cm rectangular	**35**				35		
						35	**Nos**	**5,057.94**	**1,77,027.90**
2	Reinforced cement concrete M-15 grade 5th km stone of standard design as per IRC:8-							
		1				1		
						1	**Nos**	**585.61**	**585.61**
3	Reinforced cement concrete M-15 grade ordinary km stone of standard design as per							
		7				7		
						7	**Nos**	**409.45**	**2,866.15**
4	Reinforced cement concrete M-15 grade hectometer stone of standard design as per							
		28				28		
						28	**Nos**	**409.45**	**11,464.60**
5	Supplying, providing **2.5 mm thick hot applied thermoplastic road marking material**							
	Main Carriageway	2	6904.00	0.10		1380.80		
		1	6904.00	0.10	33%	227.83		
	Extra 5% for Junction, Stop Marking & Zebra Crossing					80.43		
						1689.06	**sqm**	**278.48**	**4,70,369.43**
6	Providing and fixing of bi-directional retro reflective raised paverer markers of approved							
	Main Carriageway	1	6904.00	./ 18		384.00		
						384.00	**Nos**	**282.00**	**1,08,288.00**
7	Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick							
		1	**200**			200.00		
						200.00	**Nos**	**4,293.54**	**8,58,708.00**

Sub Total Rs. 28,16,552.59

19.09.24

Junior Engineer
Kashipur R&B Section

19.9.21

Asst. Executive Engineer
Rayagada (R&B) Sub-Division No- II

20.09.24

Executive Engineer
Rayagada (R&B) Division No-1

Detailed Estimate for R.R Breast Wall

1	2	3	4	5	6	7	8	9	10
Height above OGL	Height Below OGL	Top Width	Bottom Width	Excavation m^3	RR Masonry Wall m^3	CC Bedding m^3	Hard Stone Chip m^3	Filter Media m^3	Weep Hole RM
1.50	0.85	0.4	1.483	1.706	2.448	0.445	0.315	0.135	1

Sl. No.	Description	Side	Length	Area	Quantity	Unit	Rate	Amount
1	**Excavation** 1.0m above OGL							
		BHS	3690.00	1.706	6295.140			
					6295.140	Cum	266.820	16,79,669.25
2	**PCC Beding** 1.0m above OGL							
		BHS	3690.00	0.445	1642.050			
					1642.050	Cum	6017.920	98,81,725.54
3	**RR Masonry Wall** 1.0m above OGL							
		BHS	3690.00	2.448	9033.120			
					9033.120	Cum	5197.730	4,69,51,718.82
4	**Hard Stone Chip** 1.0m above OGL							
		BHS	3690.00	0.315	1162.350			
					1162.350	Cum	2003.070	23,28,268.41
5	**Filter Media** 1.5m above OGL							
		BHS	3690.00	0.135	498.150			
					498.150	Cum	2949.600	14,69,343.24
6	**Weep Hole** 1.0m above OGL							
		BHS	3690.00	1	3690.000			
					3690.000	Rmt	89.090	3,28,742.10
								6,26,39,467.36

19.09.24
Junior Engineer

19.9.24
Asst. Executive Engineer
Rayagada (R&B) Sub-Division No. II

20.09.24
Executive Engineer
Rayagada (R&B) Division No-I

RETAINING WALL (2.00 m)

TCS-2	2290.000	x1	2290	one side
TCS-4	320.000	x 2	640	Both Side
TOTAL = Toe Wall			2930	m

SL No.	Description	No	Length	Width	Depth	Volume	Unit	Rate	Amount
1	Earthwork in excavation of foundation in all kinds of soil with all leads & lift								
		1	2930.00	2.85	1.20	10020.60			
						10020.60	**cum**	**266.82**	**26,73,696.49**
2	Sand filling	1	2930.00	2.85	0.10	**835.05**	**cum**	**2290.73**	**19,12,874.09**
3	Providing PCC M 15 in foundation								
		1	2930.00	2.85	0.10	835.05			
						835.05	**cum**	**6017.92**	**50,25,264.10**
4	R.C.C. M-25 grade in Foundation Raft of R Wall work as per approved Drawing & Technical Specifications and as per Section -1500, 1700 & 2100 of MoRT&H Specifications for Road & Bridge works (Latest Revision).								
	Rectangular portion	1	2930.00	2.65	0.30	2329.35			
						2329.35	**cum**	**7343.51**	**1,71,05,605.02**
5	R.C.C. M-25 grade in Sub-structure of R Wall work as per approved Drawing & Technical Specifications and as per Section -1500, 1700 & 2200 of MoRT&H Specifications for Road & Bridge works (Latest Revision).								
		1	2930.00	0.300	2.70	2373.30			
						2373.30	**cum**	**13306.52**	**3,15,80,363.92**
6	Supplying, bending, binding,tying and placing HYSD bar reinforcement in								
			4702.65	75	Kg/Cum	352.70			
						352.70	**MT**	**89764.92**	**3,16,60,087.28**
7	Providing weep holes including cost carriage of all materials labour & t&P etc								
		1	2930.00	0.3		879.00			
						879.00	**rmt**	**89.09**	**78,310.11**
8	Providing Filter media								
		1	2930.00	1.53	0.60	**2689.74**	**Cum**	**2949.60**	**79,33,657.10**

TOTAL = Rs. 9,79,69,858.11

19.09.24
Junior Engineer

19.9.24
Asst. Executive Engineer
Rayagada (R&B) Sub-Division No.-II

20.09.24
Executive Engineer
Rayagada (R&B) Division No-I

DETAILED ESTIMATE OF LINED DRAIN

LINED DRAIN

SL No	Description	No	Length	Width	Depth	Volume	Unit	Rate	Amount
1	Earth work in excavation of foundation of structure in all kind of soil	1	3404.00	1.20	0.60	2450.88	cum	266.82	6,53,943.80
2	PCC M15								
	Outer Volume					2450.88			
	Base	-1	3404.00	1.20	0.15	-612.72			
		-1	3404.00	0.22	0.45	-337.00			
						1501.16	cum	6017.92	90,33,860.79
						Total Amount			**96,87,804.59**

19.09.24

Junior Engineer

19.9.24

Asst. Executive Engineer
Rayagada (R&B) Sub-Division No- II

20.09.24

Executive Engineer
Rayagada (R&B) Division No-I

EARTH WORK QUANTITY

CHAINAGE	AREA		VOLUME		CUM VOLUME	
	CUT	FILL	CUT	FILL	CUT	FILL
0+000	8.845	5.634	0.000	0.000	0.000	0.000
0+010	8.648	5.937	87.465	57.855	87.465	57.855
0+020	7.741	5.955	81.945	59.460	169.410	117.315
0+030	6.119	7.827	69.300	68.910	238.710	186.225
0+040	5.261	7.533	56.900	76.800	295.610	263.025
0+050	6.786	5.673	60.235	66.030	355.845	329.055
0+060	8.751	4.816	77.685	52.445	433.530	381.500
0+070	11.065	3.950	99.080	43.830	532.610	425.330
0+080	11.549	4.370	113.070	41.600	645.680	466.930
0+090	9.870	6.090	107.095	52.300	752.775	519.230
0+100	7.776	8.458	88.230	72.740	841.005	591.970
0+110	5.958	11.164	68.670	98.110	909.675	690.080
0+120	4.572	14.028	52.650	125.960	962.325	816.040
0+130	3.713	16.541	41.425	152.845	1003.750	968.885
0+140	3.247	18.340	34.800	174.405	1038.550	1143.290
0+150	2.936	19.765	30.915	190.525	1069.465	1333.815
0+160	1.960	24.358	24.480	220.615	1093.945	1554.430
0+170	0.348	31.901	11.540	281.295	1105.485	1835.725
0+180	0.000	39.108	1.740	355.045	1107.225	2190.770
0+190	0.000	45.724	0.000	424.160	1107.225	2614.930
0+200	0.000	51.340	0.000	485.320	1107.225	3100.250
0+210	0.000	55.896	0.000	536.180	1107.225	3636.430
0+220	0.000	59.322	0.000	576.090	1107.225	4212.520
0+230	0.000	61.048	0.000	601.850	1107.225	4814.370
0+240	0.000	59.575	0.000	603.115	1107.225	5417.485
0+250	0.000	56.135	0.000	578.550	1107.225	5996.035
0+260	0.000	52.478	0.000	543.065	1107.225	6539.100
0+270	0.000	48.749	0.000	506.135	1107.225	7045.235
0+280	0.000	45.191	0.000	469.700	1107.225	7514.935
0+290	0.000	41.463	0.000	433.270	1107.225	7948.205
0+300	0.000	37.985	0.000	397.240	1107.225	8345.445
0+310	0.000	34.693	0.000	363.390	1107.225	8708.835
0+320	0.006	34.029	0.030	343.610	1107.255	9052.445
0+330	0.000	36.328	0.030	351.785	1107.285	9404.230
0+340	0.000	38.597	0.000	374.625	1107.285	9778.855
0+350	0.005	39.436	0.025	390.165	1107.310	10169.020
0+360	VUP				1107.310	10169.020
0+370					1107.310	10169.020
0+380	0.000	48.690	0.000	243.450	1107.310	10412.470
0+390	0.000	52.805	0.000	507.475	1107.310	10919.945
0+400	0.000	55.247	0.000	540.260	1107.310	11460.205
0+410	0.000	52.456	0.000	538.515	1107.310	11998.720
0+420	0.000	43.495	0.000	479.755	1107.310	12478.475
0+430	0.000	31.941	0.000	377.180	1107.310	12855.655
0+440	0.000	21.592	0.000	267.665	1107.310	13123.320
0+450	0.476	13.812	2.380	177.020	1109.690	13300.340
0+460	3.143	6.468	18.095	101.400	1127.785	13401.740
0+470	6.210	1.190	46.765	38.290	1174.550	13440.030
0+480	15.405	0.000	108.075	5.950	1282.625	13445.980
0+490	53.924	0.000	346.645	0.000	1629.270	13445.980
0+500	60.800	0.000	573.620	0.000	2202.890	13445.980
0+510	41.395	0.286	510.975	1.430	2713.865	13447.410
0+520	32.064	0.323	367.295	3.045	3081.160	13450.455
0+530	26.063	1.383	290.635	8.530	3371.795	13458.985
0+540	10.915	4.599	184.890	29.910	3556.685	13488.895
0+550	4.205	7.932	75.600	62.655	3632.285	13551.550
0+560	2.714	20.601	34.595	142.665	3666.880	13694.215

CHAINAGE	AREA		VOLUME		CUM VOLUME	
	CUT	FILL	CUT	FILL	CUT	FILL
0+570	0.568	32.358	16.410	264.795	3683.290	13959.010
0+580	VUP				3683.290	13959.010
0+590					3683.290	13959.010
0+600	0.238	37.128	1.190	185.640	3684.480	14144.650
0+610	3.797	23.934	20.175	305.310	3704.655	14449.960
0+620	6.512	21.354	51.545	226.440	3756.200	14676.400
0+630	21.192	13.776	138.520	175.650	3894.720	14852.050
0+640	12.171	4.611	166.815	91.935	4061.535	14943.985
0+650	26.333	0.000	192.520	23.055	4254.055	14967.040
0+660	57.238	0.000	417.855	0.000	4671.910	14967.040
0+670	67.411	0.000	623.245	0.000	5295.155	14967.040
0+680	100.383	0.000	838.970	0.000	6134.125	14967.040
0+690	129.101	0.001	1147.420	0.005	7281.545	14967.045
0+700	146.405	0.000	1377.530	0.005	8659.075	14967.050
0+710	148.955	0.000	1476.800	0.000	10135.875	14967.050
0+720	142.803	0.000	1458.790	0.000	11594.665	14967.050
0+730	135.971	0.000	1393.870	0.000	12988.535	14967.050
0+740	129.180	0.000	1325.755	0.000	14314.290	14967.050
0+750	122.995	0.000	1260.875	0.000	15575.165	14967.050
0+760	117.007	0.000	1200.010	0.000	16775.175	14967.050
0+770	108.585	0.000	1127.960	0.000	17903.135	14967.050
0+780	96.292	0.000	1024.385	0.000	18927.520	14967.050
0+790	82.111	0.000	892.015	0.000	19819.535	14967.050
0+800	67.346	0.000	747.285	0.000	20566.820	14967.050
0+810	53.535	0.118	604.405	0.590	21171.225	14967.640
0+820	41.457	0.000	474.960	0.590	21646.185	14968.230
0+830	31.277	0.366	363.670	1.830	22009.855	14970.060
0+840	23.685	2.817	274.810	15.915	22284.665	14985.975
0+850	17.478	3.813	205.815	33.150	22490.480	15019.125
0+860	15.315	4.808	163.965	43.105	22654.445	15062.230
0+870	14.591	4.653	149.530	47.305	22803.975	15109.535
0+880	14.746	4.045	146.685	43.490	22950.660	15153.025
0+890	15.538	3.663	151.420	38.540	23102.080	15191.565
0+900	16.238	3.351	158.880	35.070	23260.960	15226.635
0+910	16.426	3.277	163.320	33.140	23424.280	15259.775
0+920	16.322	3.226	163.740	32.515	23588.020	15292.290
0+930	16.077	3.375	161.995	33.005	23750.015	15325.295
0+940	15.374	3.623	157.255	34.990	23907.270	15360.285
0+950	14.305	4.193	148.395	39.080	24055.665	15399.365
0+960	13.144	5.069	137.245	46.310	24192.910	15445.675
0+970	12.448	5.934	127.960	55.015	24320.870	15500.690
0+980	12.214	6.583	123.310	62.585	24444.180	15563.275
0+990	12.331	6.812	122.725	66.975	24566.905	15630.250
1+000	12.654	6.946	124.925	68.790	24691.830	15699.040
1+010	14.368	5.994	135.110	64.700	24826.940	15763.740
1+020	17.656	4.223	160.120	51.085	24987.060	15814.825
1+030	14.987	5.193	163.215	47.080	25150.275	15861.905
1+040	12.109	7.172	135.480	61.825	25285.755	15923.730
1+050	10.922	8.412	115.155	77.920	25400.910	16001.650
1+060	11.120	8.464	110.210	84.380	25511.120	16086.030
1+070	12.123	7.947	116.215	82.055	25627.335	16168.085
1+080	13.863	6.687	129.930	73.170	25757.265	16241.255
1+090	16.496	5.104	151.795	58.955	25909.060	16300.210
1+100	19.167	3.802	176.315	44.530	26087.375	16344.740
1+110	17.166	4.833	181.665	43.175	26269.040	16387.915
1+120	15.074	5.978	161.200	54.055	26430.240	16441.970
1+130	14.036	6.733	145.550	63.555	26575.790	16505.525
1+140	13.221	7.154	136.285	69.435	26712.075	16574.960

CHAINAGE	AREA		VOLUME		CUM VOLUME	
	CUT	FILL	CUT	FILL	CUT	FILL
1+150	12.094	7.563	126.575	73.585	26838.650	16648.545
1+160	10.735	8.381	114.145	79.720	26952.795	16728.265
1+170	9.177	9.696	99.560	90.385	27052.355	16818.650
1+180	7.381	11.911	82.790	108.035	27135.145	16926.685
1+190	6.108	14.466	67.445	131.885	27202.590	17058.570
1+200	6.569	16.239	63.385	153.525	27265.975	17212.095
1+210	10.088	11.221	83.285	137.300	27349.260	17349.395
1+220	19.081	4.140	145.845	76.805	27495.105	17426.200
1+230	41.495	0.000	302.880	20.700	27797.985	17446.900
1+240	79.615	0.000	605.550	0.000	28403.535	17446.900
1+250	126.367	0.000	1029.910	0.000	29433.445	17446.900
1+260	172.700	0.000	1495.335	0.000	30928.780	17446.900
1+270	209.955	0.000	1913.275	0.000	32842.055	17446.900
1+280	237.373	0.000	2236.640	0.000	35078.695	17446.900
1+290	250.611	0.000	2439.920	0.000	37518.615	17446.900
1+300	252.098	0.000	2513.545	0.000	40032.160	17446.900
1+310	252.290	0.000	2521.940	0.000	42554.100	17446.900
1+320	253.120	0.000	2527.050	0.000	45081.150	17446.900
1+330	255.652	0.000	2543.860	0.000	47625.010	17446.900
1+340	260.586	0.000	2581.190	0.000	50206.200	17446.900
1+350	267.787	0.000	2641.865	0.000	52848.065	17446.900
1+360	277.425	0.000	2726.060	0.000	55574.125	17446.900
1+370	277.890	0.000	2776.575	0.000	58350.700	17446.900
1+380	262.780	0.000	2703.350	0.000	61054.050	17446.900
1+390	248.417	0.000	2555.985	0.000	63610.035	17446.900
1+400	236.070	0.000	2422.435	0.000	66032.470	17446.900
1+410	225.596	0.000	2308.330	0.000	68340.800	17446.900
1+420	217.143	0.000	2213.695	0.000	70554.495	17446.900
1+430	210.640	0.000	2138.915	0.000	72693.410	17446.900
1+440	203.292	0.000	2069.660	0.000	74763.070	17446.900
1+450	185.846	0.053	1945.690	0.265	76708.760	17447.165
1+460	155.476	0.000	1706.610	0.265	78415.370	17447.430
1+470	127.611	0.000	1415.435	0.000	79830.805	17447.430
1+480	103.202	0.000	1154.065	0.000	80984.870	17447.430
1+490	81.577	0.000	923.895	0.000	81908.765	17447.430
1+500	63.083	0.000	723.300	0.000	82632.065	17447.430
1+510	48.940	0.157	560.115	0.785	83192.180	17448.215
1+520	40.021	0.374	444.805	2.655	83636.985	17450.870
1+530	33.475	1.429	367.480	9.015	84004.465	17459.885
1+540	25.161	2.823	293.180	21.260	84297.645	17481.145
1+550	16.076	5.439	206.185	41.310	84503.830	17522.455
1+560	8.980	9.794	125.280	76.165	84629.110	17598.620
1+570	5.915	14.243	74.475	120.185	84703.585	17718.805
1+580	5.413	17.413	56.640	158.280	84760.225	17877.085
1+590	4.702	18.208	50.575	178.105	84810.800	18055.190
1+600	5.609	16.625	51.555	174.165	84862.355	18229.355
1+610	8.549	12.746	70.790	146.855	84933.145	18376.210
1+620	14.094	7.715	113.215	102.305	85046.360	18478.515
1+630	17.219	5.522	156.565	66.185	85202.925	18544.700
1+640	11.516	8.430	143.675	69.760	85346.600	18614.460
1+650	8.852	11.868	101.840	101.490	85448.440	18715.950
1+660	7.953	13.392	84.025	126.300	85532.465	18842.250
1+670	8.883	12.554	84.180	129.730	85616.645	18971.980
1+680	11.857	9.579	103.700	110.665	85720.345	19082.645
1+690	17.729	5.384	147.930	74.815	85868.275	19157.460
1+700	25.693	2.610	217.110	39.970	86085.385	19197.430
1+710	29.237	6.073	274.650	43.415	86360.035	19240.845
1+720	24.248	9.230	267.425	76.515	86627.460	19317.360

CHAINAGE	AREA		VOLUME		CUM VOLUME	
	CUT	FILL	CUT	FILL	CUT	FILL
1+730	20.102	9.843	221.750	95.365	86849.210	19412.725
1+740	18.302	8.179	192.020	90.110	87041.230	19502.835
1+750	19.359	6.304	188.305	72.415	87229.535	19575.250
1+760	22.519	5.454	209.390	58.790	87438.925	19634.040
1+770	31.480	3.955	269.995	47.045	87708.920	19681.085
1+780	42.742	1.489	371.110	27.220	88080.030	19708.305
1+790	54.711	0.409	487.265	9.490	88567.295	19717.795
1+800	67.754	0.000	612.325	2.045	89179.620	19719.840
1+810	81.957	0.000	748.555	0.000	89928.175	19719.840
1+820	95.747	0.002	888.520	0.010	90816.695	19719.850
1+830	108.288	0.000	1020.175	0.010	91836.870	19719.860
1+840	117.256	0.000	1127.720	0.000	92964.590	19719.860
1+850	123.279	0.000	1202.675	0.000	94167.265	19719.860
1+860	125.763	0.000	1245.210	0.000	95412.475	19719.860
1+870	124.094	0.000	1249.285	0.000	96661.760	19719.860
1+880	118.408	0.000	1212.510	0.000	97874.270	19719.860
1+890	111.022	0.000	1147.150	0.000	99021.420	19719.860
1+900	101.399	0.000	1062.105	0.000	100083.525	19719.860
1+910	90.021	0.000	957.100	0.000	101040.625	19719.860
1+920	77.894	0.000	839.575	0.000	101880.200	19719.860
1+930	64.761	0.000	713.275	0.000	102593.475	19719.860
1+940	51.614	0.757	581.875	3.785	103175.350	19723.645
1+950	39.016	2.484	453.150	16.205	103628.500	19739.850
1+960	26.721	6.277	328.685	43.805	103957.185	19783.655
1+970	19.013	9.092	228.670	76.845	104185.855	19860.500
1+980	18.109	9.200	185.610	91.460	104371.465	19951.960
1+990	18.687	8.750	183.980	89.750	104555.445	20041.710
2+000	18.169	9.058	184.280	89.040	104739.725	20130.750
2+010	16.567	10.225	173.680	96.415	104913.405	20227.165
2+020	14.098	12.193	153.325	112.090	105066.730	20339.255
2+030	11.000	15.202	125.490	136.975	105192.220	20476.230
2+040	8.144	18.104	95.720	166.530	105287.940	20642.760
2+050	9.521	15.853	88.325	169.785	105376.265	20812.545
2+060	14.757	10.536	121.390	131.945	105497.655	20944.490
2+070	20.036	6.844	173.965	86.900	105671.620	21031.390
2+080	24.908	4.508	224.720	56.760	105896.340	21088.150
2+090	29.673	2.921	272.905	37.145	106169.245	21125.295
2+100	33.802	1.985	317.375	24.530	106486.620	21149.825
2+110	36.748	1.396	352.750	16.905	106839.370	21166.730
2+120	43.243	1.106	399.955	12.510	107239.325	21179.240
2+130	55.575	0.008	494.090	5.570	107733.415	21184.810
2+140	67.114	0.000	613.445	0.040	108346.860	21184.850
2+150	77.122	0.000	721.180	0.000	109068.040	21184.850
2+160	84.873	0.000	809.975	0.000	109878.015	21184.850
2+170	90.455	0.000	876.640	0.000	110754.655	21184.850
2+180	94.049	0.000	922.520	0.000	111677.175	21184.850
2+190	92.027	0.000	930.380	0.000	112607.555	21184.850
2+200	76.869	0.000	844.480	0.000	113452.035	21184.850
2+210	62.513	0.000	696.910	0.000	114148.945	21184.850
2+220	50.279	0.189	563.960	0.945	114712.905	21185.795
2+230	40.317	1.262	452.980	7.255	115165.885	21193.050
2+240	31.776	3.111	360.465	21.865	115526.350	21214.915
2+250	24.831	5.529	283.035	43.200	115809.385	21258.115
2+260	20.259	8.232	225.450	68.805	116034.835	21326.920
2+270	18.624	9.022	194.415	86.270	116229.250	21413.190
2+280	17.917	9.181	182.705	91.015	116411.955	21504.205
2+290	17.914	8.670	179.155	89.255	116591.110	21593.460
2+300	18.590	7.721	182.520	81.955	116773.630	21675.415

CHAINAGE	AREA		VOLUME		CUM VOLUME	
	CUT	FILL	CUT	FILL	CUT	FILL
2+310	19.750	6.422	191.700	70.715	116965.330	21746.130
2+320	21.933	4.833	208.415	56.275	117173.745	21802.405
2+330	24.991	3.208	234.620	40.205	117408.365	21842.610
2+340	31.367	2.192	281.790	27.000	117690.155	21869.610
2+350	41.871	0.281	366.190	12.365	118056.345	21881.975
2+360	54.744	0.000	483.075	1.405	118539.420	21883.380
2+370	69.563	0.000	621.535	0.000	119160.955	21883.380
2+380	85.717	0.000	776.400	0.000	119937.355	21883.380
2+390	103.364	0.000	945.405	0.000	120882.760	21883.380
2+400	122.222	0.007	1127.930	0.035	122010.690	21883.415
2+410	130.858	0.000	1265.400	0.035	123276.090	21883.450
2+420	124.122	0.000	1274.900	0.000	124550.990	21883.450
2+430	117.848	0.000	1209.850	0.000	125760.840	21883.450
2+440	113.020	0.000	1154.340	0.000	126915.180	21883.450
2+450	109.339	0.000	1111.795	0.000	128026.975	21883.450
2+460	106.660	0.000	1079.995	0.000	129106.970	21883.450
2+470	104.948	0.000	1058.040	0.000	130165.010	21883.450
2+480	96.426	0.000	1006.870	0.000	131171.880	21883.450
2+490	76.995	0.000	867.105	0.000	132038.985	21883.450
2+500	55.947	0.000	664.710	0.000	132703.695	21883.450
2+510	40.593	0.477	482.700	2.385	133186.395	21885.835
2+520	29.590	2.378	350.915	14.275	133537.310	21900.110
2+530	23.334	3.465	264.620	29.215	133801.930	21929.325
2+540	19.594	5.148	214.640	43.065	134016.570	21972.390
2+550	17.264	6.230	184.290	56.890	134200.860	22029.280
2+560	17.049	5.773	171.565	60.015	134372.425	22089.295
2+570	18.461	4.930	177.550	53.515	134549.975	22142.810
2+580	18.545	4.786	185.030	48.580	134735.005	22191.390
2+590	17.336	5.293	179.405	50.395	134914.410	22241.785
2+600	15.060	6.530	161.980	59.115	135076.390	22300.900
2+610	11.929	8.782	134.945	76.560	135211.335	22377.460
2+620	8.393	11.938	101.610	103.600	135312.945	22481.060
2+630	6.517	12.895	74.550	124.165	135387.495	22605.225
2+640	7.762	8.946	71.395	109.205	135458.890	22714.430
2+650	8.100	6.587	79.310	77.665	135538.200	22792.095
2+660	7.228	6.761	76.640	66.740	135614.840	22858.835
2+670	5.544	6.949	63.860	68.550	135678.700	22927.385
2+680	3.308	6.938	44.260	69.435	135722.960	22996.820
2+690	1.353	8.021	23.305	74.795	135746.265	23071.615
2+700	0.021	13.321	6.870	106.710	135753.135	23178.325
2+710	0.000	27.911	0.105	206.160	135753.240	23384.485
2+720	0.000	40.744	0.000	343.275	135753.240	23727.760
2+730	0.000	54.783	0.000	477.635	135753.240	24205.395
2+740	0.000	68.111	0.000	614.470	135753.240	24819.865
2+750	0.000	76.151	0.000	721.310	135753.240	25541.175
2+760	0.000	75.493	0.000	758.220	135753.240	26299.395
2+770	0.000	66.039	0.000	707.660	135753.240	27007.055
2+780	VUP				135753.240	27007.055
2+790					135753.240	27007.055
2+800	0.709	16.364	3.545	81.820	135756.785	27088.875
2+810	2.528	9.185	16.185	127.745	135772.970	27216.620
2+820	6.871	6.636	46.995	79.105	135819.965	27295.725
2+830	12.776	4.041	98.235	53.385	135918.200	27349.110
2+840	21.646	2.008	172.110	30.245	136090.310	27379.355
2+850	34.457	0.000	280.515	10.040	136370.825	27389.395
2+860	54.942	0.001	446.995	0.005	136817.820	27389.400
2+870	80.912	0.000	679.270	0.005	137497.090	27389.405
2+880	107.753	0.000	943.325	0.000	138440.415	27389.405

CHAINAGE	AREA		VOLUME		CUM VOLUME	
	CUT	FILL	CUT	FILL	CUT	FILL
2+890	117.173	0.000	1124.630	0.000	139565.045	27389.405
2+900	105.669	0.000	1114.210	0.000	140679.255	27389.405
2+910	91.233	0.000	984.510	0.000	141663.765	27389.405
2+920	81.476	0.000	863.545	0.000	142527.310	27389.405
2+930	76.111	0.000	787.935	0.000	143315.245	27389.405
2+940	75.142	0.000	756.265	0.000	144071.510	27389.405
2+950	76.885	0.000	760.135	0.000	144831.645	27389.405
2+960	77.268	0.000	770.765	0.000	145602.410	27389.405
2+970	72.202	0.000	747.350	0.000	146349.760	27389.405
2+980	69.575	0.000	708.885	0.000	147058.645	27389.405
2+990	70.966	0.000	702.705	0.000	147761.350	27389.405
3+000	75.628	0.000	732.970	0.000	148494.320	27389.405
3+010	82.964	0.000	792.960	0.000	149287.280	27389.405
3+020	93.117	0.000	880.405	0.000	150167.685	27389.405
3+030	106.492	0.000	998.045	0.000	151165.730	27389.405
3+040	117.968	0.000	1122.300	0.000	152288.030	27389.405
3+050	128.819	0.000	1233.935	0.000	153521.965	27389.405
3+060	142.590	0.000	1357.045	0.000	154879.010	27389.405
3+070	158.676	0.000	1506.330	0.000	156385.340	27389.405
3+080	176.739	0.000	1677.075	0.000	158062.415	27389.405
3+090	197.306	0.000	1870.225	0.000	159932.640	27389.405
3+100	217.237	0.011	2072.715	0.055	162005.355	27389.460
3+110	240.939	0.000	2290.880	0.055	164296.235	27389.515
3+120	269.636	0.093	2552.875	0.465	166849.110	27389.980
3+130	300.003	0.000	2848.195	0.465	169697.305	27390.445
3+140	328.452	0.000	3142.275	0.000	172839.580	27390.445
3+150	354.240	0.000	3413.460	0.000	176253.040	27390.445
3+160	VUP				176253.040	27390.445
3+170					176253.040	27390.445
3+180	404.001	0.001	2020.005	0.005	178273.045	27390.450
3+190	407.526	0.008	4057.635	0.045	182330.680	27390.495
3+200	393.222	0.000	4003.740	0.040	186334.420	27390.535
3+210	360.802	0.000	3770.120	0.000	190104.540	27390.535
3+220	318.132	0.000	3394.670	0.000	193499.210	27390.535
3+230	273.567	0.113	2958.495	0.565	196457.705	27391.100
3+240	233.578	0.000	2535.725	0.565	198993.430	27391.665
3+250	200.722	0.000	2171.500	0.000	201164.930	27391.665
3+260	173.462	0.000	1870.920	0.000	203035.850	27391.665
3+270	151.319	0.000	1623.905	0.000	204659.755	27391.665
3+280	133.282	0.000	1423.005	0.000	206082.760	27391.665
3+290	119.588	0.000	1264.350	0.000	207347.110	27391.665
3+300	104.054	0.000	1118.210	0.000	208465.320	27391.665
3+310	84.236	0.000	941.450	0.000	209406.770	27391.665
3+320	65.426	0.000	748.310	0.000	210155.080	27391.665
3+330	48.900	0.000	571.630	0.000	210726.710	27391.665
3+340	33.725	0.000	413.125	0.000	211139.835	27391.665
3+350	21.679	0.202	277.020	1.010	211416.855	27392.675
3+360	14.492	1.979	180.855	10.905	211597.710	27403.580
3+370	10.124	3.441	123.080	27.100	211720.790	27430.680
3+380	7.690	4.071	89.070	37.560	211809.860	27468.240
3+390	7.234	3.492	74.620	37.815	211884.480	27506.055
3+400	8.461	2.065	78.475	27.785	211962.955	27533.840
3+404	8.513	1.058	33.948	6.246	**211996.903**	**27540.086**

BILL OF QUANTITY - HIME PIPE "

Sl No	Description	Unit	Rate	New Con of 1x1200-15m	Amount
				6 Nos	
1	Earth work in excavation of foundation in all kinds of soil as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material including dewatering if necessary etc complete as per clause 304 of technical specification for Road and Bridge works (MORTH 5th revision) and as directed by the Engineer in charge, excluding GST.	Cum	266.82	168.390	44,929.82
2	Sand Filling in foundation & plinth with water & ramming with roller complete as per the direction of Engineer in charge.	Cum	2,290.73	136.570	3,12,845.00
3	Providing supplying and laying Plain Cement Concrete with grade M15 in Foundation of Pipe Culvert complete as per Technical Specifications as per approved drawings and sections 1000, 1500, 1600, 1700 and 2100 of Technical specifications for road and bridge works(MORTH 5th revision) excluding the cost of reinforcement complete & as directed by Engineer in charge, excluding GST.	Cum	6,017.92	55.160	3,31,948.47
4	Providing supplying and laying Plain Cement Concrete with grade M15 in Substructure of Pipe Culvert complete as per Technical Specifications as per approved drawings and sections 1000, 1500, 1600, 1700 and 2100 of Technical specifications for road and bridge works(MORTH 5th revision) excluding the cost of reinforcement complete & as directed by Engineer in charge, excluding GST.	Cum	6,017.92	90.280	5,43,297.82
5	Laying of NP4 Hume Pipe for pipe culverts as per approved Drawing & Technical Specifications and as per Section -2900 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).				-
	1200mm dia	Rmt	10,674.83	90.000	9,60,734.70
6	Providing and laying of Filter media with granular materials/stone crushed aggregates to a thickness not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment and return wall to the full height compacted to a firm condition complete as per drawing & as per clause 2200, 2504.2.2. of technical specifications for Road & Bridge works MoRTH (5th revision) & 710.1.4.of IRC:78 and as per instruction of Engineer in charge, excluding GST.	Cum	895.08	45.810	41,003.61
7	Providing and laying Pitching on slopes laid over prepared filter media including boulder apron laid dry in front of toe of embankment complete as per drawing and Technical specifications(30 cm size)	Cum	2,280.66	127.270	2,90,259.60
					25,25,019.02

Reconstruction of 1 X 1200mm dia Hume Pipe Culvert .

Sl No	Item Description	Nos	Length in Mtr	Width in Mtr	Depth in Mtr	Qty	Unit	Rate	Amount in Rs.
1	2	3	4	5	6	7	8	9	10

Data for Hume pipe culvert

Required Width of culvert	15.00 Mtr.	Nos of Culvert taken	6
Balance width	15.00 Mtr.	Existing Width	0 mtr
Bed width	1.80 Mtr.	Nos of Row taken	1
No of Head Wall Taken	1.00 Nos	Dia of Pipe	1.200 Mtr.
Length of Head wall	7.40 Mtr.	Pipe thickness	0.10 Mtr.
Bottom width of Head wall	1.40 Mtr.	Cushion	0.60 mm
Quadrant Pitching Length	2.70		

1	Earth work in excavation in hard soil for foundation of structure as per approved Drawing & Technical Specifications and as per Clause - 301 & 304 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).									
		Head Wall		6	7.400	1.400	0.950	59.050	Cum	
		Bed		6	13.600	2.000	0.670	109.340	Cum	
							Total	**168.390**	**Cum**	**266.82** **44,929.82**
2	Sand filling in Road work & foundation of structure as per approved Drawing & Technical Specifications and as per Section - 2100 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).									
		Head Wall		6	7.400	1.400	0.150	9.320	Cum	
		Bed		6	13.600	2.000	0.150	24.480	Cum	
		Up to pipe top		6	13.600	2.000	1.400	228.480	Cum	
	Deduct	**-0.786**	**x**	6		1.960	13.600	-125.710	Cum	
							Total	**136.570**	**Cum**	**2290.73** **3,12,845.00**
3	Supplying , Laying & Fixing 900mm dia NP4 RCC hume pipe in position for culvert including pointing ends , fixing collars with cement mortar (1:2) including cost conveyance and taxes of hume pipe etc complete.									
				6	15.000			90.000	Mtr	
							Total	**90.000**	**Mtr**	**10674.83** **9,60,734.70**
4	P.C.C.M-15 Grade in foundation bed using 40mm to 10mm size crushed stone aggregates mixed by concrete mixer, laying in layers and compacting by vibrator & all leads and lifts as per approved Drawing & Technical Specifications and as per Section - 1700 & 2100 of MoRT&H Specifications for Road & Bridge works (Latest Revision).									
		Head Wall		6	7.400	1.400	0.150	9.320	Cum	
		Bed		6	13.600	1.800	0.160	23.500	Cum	
				6	13.660	1.800	0.360	53.110	Cum	
	Deduct Pipe from bed	**0.196**	**x**	6		1.960	13.660	-30.770	Cum	
							Total	**55.160**	**Cum**	**6017.92** **3,31,948.47**

Sl No	Item Description		Nos	Length in Mtr	Width in Mtr	Depth in Mtr	Qty	Unit	Rate	Amount in Rs.
5	P.C.C.M-15 Grade in Substructure of CD work using 40mm to 10mm size crushed stone aggregates mixed by concrete mixer, laying in layers and compacting by vibrator & all leads and lifts including frame works etc as per approved Drawing & Technical Specifications and as per Section -1500, 1700, 2100 & 2200 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).									
		Head Wall		6	7.400	0.825	2.650	97.070	Cum	
		Parapet		6	7.400	0.400	0.450	7.990	Cum	
	Deduct	-Π / 4	x	12	0.800	1.960		-14.780	Cum	
							Total	**90.280**	**Cum**	**6017.92**	**5,43,297.82**
6	Gravel backing to revetments as per approved Drawing & Technical Specifications and as per Section 2500 of MoRT&H Specifications for Road & Bridge works (Latest Revision).									
			24	1.571	2.700	3	0.150	**45.810**	**Cum**	**895.08**	**41,003.61**
7	Rough stone Dry Packing in Approns and Revetment with hard granite stone 30cm and above size.									
	U/S appron			6	2.223	1.500	0.3	6.000			
	D/S appron			6	7.400	3.000	0.3	39.960			
	Deduction			-6	0.786	7.290	0.3	-10.310			
	Revertment		24	1.571	2.700	3.000	0.3	91.620			
							Total	**127.270**	**Cum**	**2280.66**	**2,90,259.60**
										Total = Rs.	**25,25,019.02**

19.09.24
Junior Engineer
Kashipur (R&B) Section

19.9.24
Asst. Executive Engineer
Rayagada (R&B) Sub-Division No- II

20.09.24
Executive Engineer
Rayagada (R&B) Division No-I

BILL OF QUANTITY - BOX TYPE LVUP"

Sl No	Description	Unit	Rate	New Con of LVUP (12m-1 No)	New Con of LVUP (12m-4 No)	Total 4 Nos	Amount
1	Earth work in excavation of foundation in all kinds of soil as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material including dewatering if necessary etc complete as per clause 304 of technical specification for Road and Bridge works (MORTH 5th revision) and as directed by the Engineer in charge, excluding GST.	Cum	266.82	422.290	1689.160	1689.160	4,50,701.67
2	Sand Filling in foundation & plinth with water & ramming with roller complete as per the direction of Engineer in charge.	Cum	2,290.73	24.840	99.360	99.360	2,27,606.93
3	Providing supplying and laying Plain Cement Concrete with grade M15 in Box Culvert complete as per Technical Specifications as per approved drawings and sections 1000, 1500, 1600, 1700 and 2100 of Technical specifications for road and bridge works(MORTH 5th revision) excluding the cost of reinforcement complete & as directed by Engineer in charge, excluding GST.	Cum	6,017.92	43.330	173.320	173.320	10,43,025.89
4	Providing supplying and laying Design Mix Reinforced Cement Concrete with grade M30 in Foundation complete as per Technical Specifications as per approved drawings and sections 1000, 1500, 1600, 1700 and 2100 of Technical specifications for road and bridge works(MORTH 5th revision) excluding the cost of reinforcement complete & as directed by Engineer in charge, excluding GST.	Cum	7,185.21	185.420	741.680	741.680	53,29,126.55
5	Providing supplying and laying Design Mix Reinforced Cement Concrete with grade M30 in Substrecture complete as per Technical Specifications as per approved drawings and sections 1000, 1500, 1600, 1700 and 2100 of Technical specifications for road and bridge works(MORTH 5th revision) excluding the cost of reinforcement complete & as directed by Engineer in charge, excluding GST.	Cum	11,790.83	145.140	580.560	580.560	68,45,284.26
6	Providing supplying and laying Design Mix Reinforced Cement Concrete with grade M30 in Super strecture complete as per Technical Specifications as per approved drawings and sections 1000, 1500, 1600, 1700 and 2100 of Technical specifications for road and bridge works(MORTH5th revision) excluding the cost of reinforcement complete & as directed by Engineer in charge, excluding GST	Cum	8,701.82	105.300	421.200	421.200	36,65,206.58
7	Supplying, fitting and placing HYSD bar reinforcement in Foundation, Substructure &superstructure complete as per drawing and technical specifications				0.000	0.000	
a	Foundation	Mt	89,764.92	18.540	74.160	74.160	66,56,966.47
b	Sub structure	Mt	89,764.92	14.510	58.040	58.040	52,09,955.96
c	Super structure	Mt	89,764.92	12.640	50.560	50.560	45,38,514.36
8	R.C.C. M-30 grade in wearing coat including steel of C.D. work as per approved drawing & technical specifications and as per Section - 1500, 1700 & 2700 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	Cum	13,978.91	15.190	60.760	60.760	8,49,358.57

Sl No	Description	Unit	Rate	New Con of LVUP (12m-1 No)	New Con of LVUP (12m-4 No)	Total 4 Nos	Amount
9	Provision of an Reinforced cement concrete crash barrier at the edges of the bridge and approaches to bridge structures, constructed with M-40 grade concrete with HYSD reinforcement conforming to IRC:21 and dowel bars 25 mm dia, 450 mm long at expansion joints filled with pre-moulded asphalt filler board, keyed to the structure on which it is built and installed as per design given in the enclosure to MOST circular No. RW/NH - 33022/1/94-DO III dated 24 June 1994 as per dimensions in the approved drawing and at locations directed by the Engineerand as per Technical Specifications section 809 of MORTH specification for Road & Bridge works (5th revision).	Rmt	4,773.36	102.000	408.000	408.000	19,47,530.88
10	Providing weep holes in Brick masonry/Plain/ Reinforced concrete abutment, wing wall/ return wall with 100 mm dia PVC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face. Complete as per drawing and Technical Specifications, excluding GST.	Nos	89.09	72.000	288.000	288.000	25,657.92
11	Providing and laying of Filter media with granular materials/stone crushed aggregates to a thickness not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment and return wall to the full height compacted to a firm condition complete as per drawing & as per clause 2200, 2504.2.2. of technical specifications for Road & Bridge works MoRTH (5th revision) & 710.1.4.of IRC:78 and as per instruction of Engineer in charge, excluding GST.	Cum	2,949.60	75.600	302.400	302.400	8,91,959.04
12	Providing Drainage Spouts complete as per technical specifications for Road & Bridge works MoRTH (5th revision) and as per instruction of Engineer in charge, excluding GST.	Nos	1,019.54	2.000	8.000	8.000	8,156.32
13	Supplying, Providing and laying gravel backing /Filter material underneath stone / Cement Concrete Block pitching on slopes complete as per drawing and Technical Specifications Section 2504 of MORTH specification for Road & Bridge works (5th revision) and and as per direction of Engineer in charge.	Cum	895.08	36.880	147.520	147.520	1,32,042.20
14	Supplying and provding stone Pitching on slopes using sound ,hard, durable and fairly regular in shape and weighing each stone not less than 40 kg, as per drawings and Clause 2504 of Technical specification for Road & Bridge works MORTH (5th revision) and as direction of Engineer in charge.	Cum	2,280.66	73.750	295.000	295.000	6,72,794.70
15	Grouting approns and revetment 15cm deep with cement concrete (1:4:8) with 2.5cm broken granite metal per 1sqm.	Sqm	233.36	245.840	983.360	983.360	2,29,476.89
16	Providing and applying 2 coats of water based cement paint to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 sqm to the bridge superstructure as per section 800 of MoRTH specifications for Road & Bridge works (5th revision) and instruction of Engineer in charge	Sqm	73.03	91.800	367.200	367.200	26,816.62
							3,87,50,181.81

NEW CONSTRUCTION OF RCC LVUP (1 X 12 m x 4.0m) - 12m Length

Total width required,	12.000 Mtr.	Nos of Cell=	1 Nos	
Existing width	0.000 Mtr	Vent Size a =	12.000 Mtr	
Bal. width Required	12.000 Mtr	Vent Height b =	4.000 Mtr	
Depth of Slab	0.650 Mtr	Extra length of Raft =	0.000 Mtr	(Both side)
Depth of Raft	0.800 Mtr	Wall thickness (O / S) =	0.750 Mtr	
Straight Return Wall Length =	6.000 Mtr	Wall thickness (I / S) =	0.000 Mtr	
Butterfly Wing Wall Length =	0.000 Mtr			
Height of Return wall above G.L	4.650 Mtr	Wearing Coat		
	1.000			
	1.000	M30 Wearing Coat =	0.075 Mtr	
	0.200			

Sl No	Description of Items	Nos	Length(m)	Width (m)	Depth (m)	Qty	Unit	Rate	Amount
1	2	3	4	5	6	7	8	9	10
1	Earth work in excavation of foundation in all kinds of soil as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material including dewatering if necessary etc complete as per clause 304 of technical specification for Road and Bridge works (MORTH 5th revision) and as directed by the Engineer in charge, excluding GST.								
	Bed	1	13.800	12.000	0.950	157.320			
	Return wall	4	6.000	5.135	2.150	264.966			
					Total	422.290	Cum	266.82	1,12,675.42
2	Sand Filling in foundation & plinth with water & ramming with roller complete as per the direction of Engineer in charge.								
	Bed	1	13.800	12.000	0.150	24.84			
					Total	24.840	Cum	1,313.94	32,638.27
3	Providing supplying and laying Plain Cement Concrete with grade M15 in Box Culvert complete as per Technical Specifications as per approved drawings and sections 1000, 1500, 1600, 1700 and 2100 of Technical specifications for road and bridge works(MORTH 5th revision) excluding the cost of reinforcement complete & as directed by Engineer in charge, excluding GST.								
	Bed	1	13.800	12.000	0.150	24.840			
	Return wall	4	6.000	5.135	0.150	18.486			
					Total	43.330	Cum	5,666.23	2,45,517.75
4	Providing supplying and laying Design Mix Reinforced Cement Concrete with grade M30 in Foundation complete as per Technical Specifications as per approved drawings and sections 1000, 1500, 1600, 1700 and 2100 of Technical specifications for road and bridge works(MORTH 5th revision) excluding the cost of reinforcement complete & as directed by Engineer in charge, excluding GST.								
	Raft	1	13.500	12.000	0.800	129.600			
	Return wall	4	6.000	4.935	0.300	35.532			
		4	6.000	2.818	0.300	20.290			
					Total	185.420	Cum	6,950.89	12,88,834.02
5	Providing supplying and laying Design Mix Reinforced Cement Concrete with grade M30 in Substructure complete as per Technical Specifications as per approved drawings and sections 1000, 1500, 1600, 1700 and 2100 of Technical specifications for road and bridge works(MORTH 5th revision) excluding the cost of reinforcement complete & as directed by Engineer in charge, excluding GST								
	Outer Wall	2	12.000	0.750	4.000	72.000			
	Haunches	0.5	4	12.000	0.150	0.150	0.540		
	Straight Return wall	4	6.000	0.500	6.050	72.600			
					Total	145.140	Cum	10,409.74	15,10,869.66
6	Providing supplying and laying Design Mix Reinforced Cement Concrete with grade M30 in Super structure complete as per Technical Specifications as per approved drawings and sections 1000, 1500, 1600, 1700 and 2100 of Technical specifications for road and bridge works(MORTH5th revision) excluding the cost of reinforcement complete & as directed by Engineer in charge, excluding GST								
		1	13.500	12.000	0.650	105.300	Cum		
					Total	105.300	Cum	8,701.82	9,16,361.65
7	Supplying, fitting and placing HYSD bar reinforcement in Foundation, Substructure &superstructure complete as per drawing and technical specifications								
a	RCC M30 in Foundation	185.420	Cum @		0.100	MT/Cum =	18.540	88,764.92	16,64,241.82
b	RCC M30 in Substructure	145.140	Cum @		0.100	MT/Cum =	14.510	88,764.92	13,82,488.99
c	RCC M30 in Superstructure	105.300	Cum @		0.120	MT/Cum =	12.640	88,764.92	11,34,628.59
8	R.C.C. M-30 grade in wearing coat including steel of C.D. work as per approved drawing & technical specifications and as per Section -1500, 1700 & 2700 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).								
		2	13.500	7.500	0.075	15.188	Cum		
					Total	15.190	Cum	13,627.21	2,06,997.32
9	Provision of an Reinforced cement concrete crash barrier at the edges of the bridge and approaches to bridge structures, constructed with M-40 grade concrete with HYSD reinforcement conforming to IRC:21 and dowel bars 25 mm dia, 450 mm long at expansion joints filled with pre-moulded asphalt filler board, keyed to the structure on which it is built and installed as per design given in the enclosure to MOST circular No. RW/NH - 33022/1/94-DO III dated 24 June 1994 as per dimensions in the approved drawing and at locations directed by the Engineerand as per Technical Specifications section 809 of MORTH specification for Road & Bridge works (5th revision).								
		4	25.500			102.000			
					Total	102.000	Mtr	4,675.73	4,76,924.46
10	Providing weep holes in Brick masonry/Plain/ Reinforced concrete abutment, wing wall/ return wall with 100 mm dia PVC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face. Complete as per drawing and Technical Specifications, excluding GST.								
	Return Wall	4	36		0.500	72.000			
					Total	72.000	Mtr	89.09	6,414.48

Sl No	Description of Items	Nos	Length(m)	Width (m)	Depth (m)	Qty	Unit	Rate	Amount
1	2	3	4	5	6	7	8	9	10
11	Providing and laying of Filter media with granular materials/stone crushed aggregates to a thickness not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment and return wall to the full height compacted to a firm condition complete as per drawing & as per clause 2200, 2504.2.2. of technical specifications for Road & Bridge works MoRTH (5th revision) & 710.1.4.of IRC:78 and as per instruction of Engineer in charge, excluding GST.								
	Raum Wall Inner Side	4	6.000	0.600	5.250	75.600	Cum		
					Total	75.600	Cum	2,949.60	2,22,989.76
12	Providing Drainage Spouts complete as per technical specifications for Road & Bridge works MoRTH (5th revision) and as per instruction of Engineer in charge, excluding GST.								
		1	2.000			2.000	Nos		
					Total	2.000	Nos	1,019.54	2,039.08
13	Supplying, Providing and laying gravel backing /Filter material underneath stone / Cement Concrete Block pitching on slopes complete as per drawing and Technical Specifications Section 2504 of MORTH specification for Road & Bridge works (5th revision) and and as per direction of Engineer in charge.								
		4	61.461		0.150	36.877	Cum		
					Total	36.880	Cum	895.08	33,010.55
14	Supplying and providing stone Pitching on slopes using sound ,hard, durable and fairly regular in shape and weighing each stone not less than 40 kg, as per drawings and Clause 2504 of Technical specification for Road & Bridge works MORTH (5th revision) and as direction of Engineer in charge.								
		4	61.461		0.300	73.753	Cum		
					Total	73.750	Cum	2,280.66	1,68,196.68
15	Grouting aprons and revetment 15cm deep with cement concrete (1:4:8) with 2.5cm broken granite metal per 1sqm.								
		4	61.461			245.844	Sqm		
					Total	245.840	Sqm	233.36	57,369.22
16	Providing and applying 2 coats of water based cement paint to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 sqm to the bridge superstructure as per section 800 of MoRTH specifications for Road & Bridge works (5th revision) and instruction of Engineer in charge								
	Crash Barrier	4	25.50	0.900		91.80	Sqm		
					Total	91.800	Sqm	73.03	6,704.15
							Total = Rs.		93,88,843.67
							Or, Say For 4 nos = Rs.		3,75,55,374.68

19.09.24

19-9-24

Asst. Executive Engineer
Rayagada (R&B) Sub-Division No. II

Junior Engineer

20.09.24

Executive Engineer
Rayagada (R&B) Division No-1

LEAD STATEMENT

NAME OF THE WORK :- Preparation for Detailed Project Report of Development road from SH-44 to Sijimali Bauxite Block for transporation of Buaxite ore for M/s Vedanta Ltd.

Sl No	Reff.	Particular Material	Unit / Per	Name of Quarry	Basic cost (Rs)	Lead in		Royality (Rs.)	Additional charges	DMF @ 10% & EMF @ 5% (Rs.)	Royality including DMF, EMF & Addl. Charges (Rs.)	Lead+ Royality in (Rs.)	Total cost in (Rs.)
						In Km	Cost (Rs)						
1	2	3	4	5	6	7	8	9	10	11	12	13	14
(A) FROM QUARRY TO SITE													
1	29(b)	63mm size HB Metal	Cum	Kaliapda	700.00	58	935.51	130.00	18.73	19.50	168.23	1103.74	1803.74
2	30(a)	45mm size CB Metal	Cum	-do	899.33	58	935.51	130.00	18.73	19.50	168.23	1103.74	2003.07
3	31(a)	40mm size CB Metal	Cum	-do	950.00	58	935.51	130.00	18.73	19.50	168.23	1103.74	2053.74
4	32(a)	26.5mm size CB Metal	Cum	-do	1097.74	58	935.51	130.00	18.73	19.50	168.23	1103.74	2201.48
5	33(a)	25mm size CB Metal	Cum	-do	1135.74	58	935.51	130.00	18.73	19.50	168.23	1103.74	2239.48
6	33(b)	25mm size HB Metal	Cum	-do	833.51	58	935.51	130.00	18.73	19.50	168.23	1103.74	1937.25
7	34(a)	22.4mm size CB Metal	Cum	-do	1123.78	58	935.51	130.00	18.73	19.50	168.23	1103.74	2227.52
8	35(a)	20mm size CB Chips	Cum	-do	1382.29	58	935.51	130.00	18.73	19.50	168.23	1103.74	2486.03
9	36(a)	13.2mm size CB Chips	Cum	-do	1370.27	58	935.51	130.00	18.73	19.50	168.23	1103.74	2474.01
10	37(a)	12mm size CB Chips	Cum	-do	1396.62	58	935.51	130.00	18.73	19.50	168.23	1103.74	2500.36
11	38(a)	11.2mm size CB Chips	Cum	-do	1428.13	58	935.51	130.00	18.73	19.50	168.23	1103.74	2531.87
12	39(a)	10mm size CB Chips	Cum	-do	1418.67	58	935.51	130.00	18.73	19.50	168.23	1103.74	2522.41
13	40(a)	6.7 mm size CB Chips	Cum	-do	957.46	58	935.51	130.00	18.73	19.50	168.23	1103.74	2061.20
14	40(c)	4.7 mm size CB Chips	Cum	-do	850.20	58	935.51	130.00	18.73	19.50	168.23	1103.74	1953.94
15	16	Stone screaned dust	Cum	-do	136.33	58	935.51	35.00	18.73	5.25	58.98	994.49	1130.82
16	52	I.R.C. Grade-II Metal	Cum	-do	900.00	58	935.51	130.00	18.73	19.50	168.23	1103.74	2003.74
17	53	I.R.C. Grade-III Metal	Cum	-do	930.00	58	935.51	130.00	18.73	19.50	168.23	1103.74	2033.74
18	30(b)	45mm size HB metal	Cum	-do	710.56	58	935.51	130.00	18.73	19.50	168.23	1103.74	1814.30
19	31(b)	40mm size HB metal	Cum	-do	787.36	58	935.51	130.00	18.73	19.50	168.23	1103.74	1891.10
20	24(a)	H.G broken stone >0.0025cum	Cum	-do	291.96	58	935.51	130.00	18.73	19.50	168.23	1103.74	1395.70
21	27	Hard stone >0.003cum	Cum	-do	242.43	58	935.51	130.00	18.73	19.50	168.23	1103.74	1346.17
22	25	Stone other than granite 0.0015 cum to 0.003 cum	Cum	-do	263.50	58	935.51	130.00	18.73	19.50	168.23	1103.74	1367.24
23	55	Laterite Stone	Cum	-do	762.55	58	935.51	180.00		27.00	207.00	1142.51	1905.06
24	19	Sand for Road work	Cum	Lekaguda	749.75	79	1128.71	35.00	10.00	5.25	50.25	1178.96	1928.71
25	18	Sand for Mortar	Cum	-do	749.75	79	1128.71	35.00	10.00	5.25	50.25	1178.96	1928.71
26	15	Moorum	Cum	Local	65.88	10	341.11	35.00		5.25	40.25	381.36	447.24
27	Q.A	Cement	Mt	Kasipur	5284.58	34	592.68					592.68	5877.26
28	Q.A	Steel (Deducted 10 Km as per SAIL)	Mt	Rayagada	67744.92	74	1025.32					1025.32	68770.24
29	Q.A	Bulk bitumen (VG-40)	Mt	Vizag	40592.00	279	3095.82					3095.82	43687.82
30	Q.A	Emulsion Bulk (R.S-1)	Mt	Haldia	38375.00	279	3095.82					3095.82	41470.82
31	Q.A	Emulsion Bulk (S.S-1)	Mt	Haldia	40646.00	279	3095.82					3095.82	43741.82
32	EPM	Hume Pipe 600mm dia	Mtr	Rayagada	2934.62	74	500.86					500.86	3435.48
33	EPM	Hume Pipe 900mm dia	Mtr	Rayagada	5740.30	74	834.77					834.77	6575.07
34	EPM	Hume Pipe1000mm dia	Mtr	Rayagada	7279.87	74	834.77					834.77	8114.64
35	EPM	Hume Pipe1200mm dia	Mtr	Rayagada	9637.57	74	834.77					834.77	10472.34

Certified that the lead provided in this estimate are correct & minimum to the best of my knowledge.

Sl No	Reff.	Particular Material	Unit / Per	Name of Quarry	Basic cost (Rs)	Lead in		Royality (Rs.)	Additional charges	DMF @ 10% & EMF @ 5% (Rs.)	Royality including DMF, EMF & Addl. Charges (Rs.)	Lead+ Royality in (Rs.)	Total cost in (Rs.)
						in Km	Cost (Rs)						
1	2	3	4	5	6	7	8	9	10	11	12	13	14
(B) FROM QUARRY TO PLANT.													
1	31(a)	40mm size CB Metal	Cum	Kallapda	950.00	5	276.01	130.00	18.73	19.50	168.23	444.24	1394.24
2	32(a)	26.5mm size CB Metal	Cum	-do	1097.74	5	276.01	130.00	18.73	19.50	168.23	444.24	1541.98
3	33(a)	25mm size CB Metal	Cum	-do	1135.74	5	276.01	130.00	18.73	19.50	168.23	444.24	1579.98
4	34(a)	22.4mm size CB Metal	Cum	-do	1123.78	5	276.01	130.00	18.73	19.50	168.23	444.24	1568.02
5	35(a)	20mm size CB Chips	Cum	-do	1382.29	5	276.01	130.00	18.73	19.50	168.23	444.24	1826.53
6	36(a)	13.2mm size CB Chips	Cum	-do	1370.27	5	276.01	130.00	18.73	19.50	168.23	444.24	1814.51
7	37(a)	12mm size CB Chips	Cum	-do	1396.62	5	276.01	130.00	18.73	19.50	168.23	444.24	1840.86
8	38(a)	11.2mm size CB Chips	Cum	-do	1428.13	5	276.01	130.00	18.73	19.50	168.23	444.24	1872.37
9	39(a)	10mm size CB Chips	Cum	-do	1418.67	5	276.01	130.00	18.73	19.50	168.23	444.24	1862.91
10	40(a)	6.7 mm size CB Chips	Cum	-do	957.46	5	276.01	130.00	18.73	19.50	168.23	444.24	1401.70
11	40(c)	4.7 mm size CB Chips	Cum	-do	850.20	5	276.01	130.00	18.73	19.50	168.23	444.24	1294.44
12	16.00	Stone screaned dust	Cum	-do	136.33	5	276.01	35.00	18.73	5.25	58.98	334.99	471.32
13	Q.A	Bulk bitumen (VG-40)	Mt	Vizag	40592.00	226	2560.52					2560.52	43152.52

Certified that the lead provided in this estimate are correct & minimum to the best of my knowledge.

352

19.9.24

Asst. Executive Engineer
Rayagada (R&B) Sub-Division No. II

20.09.24

Executive Engineer
Rayagada (R&B) Division No-I

RATE OF CEMENT, STEEL,BITUMEN & LABOUR.

Rate of Cement - Office order 3915 dated 24.07.2023

Sl	Details	Unit	Ref (Date)	Grade	Rate (Rs)	Deduct GST 28%	Total Cost(Rs)
1	Ultratech	Mt	7/24/2023	P.S.C.	7000.00	/ 1.28	5468.75
2	ACC	Mt	7/24/2023	P.S.C.	7000.00	/ 1.28	5468.75
3	Ramco	Mt	7/24/2023	P.S.C.	6600.00	/ 1.28	5156.25

Rate per one Mt. Average Rs. 5364.58 - 80.00 = Rs 5284.58

Rate of Tor Steel

Sl	Manufacture Name	Unit	Ref	Dia.	Rate (Rs)	Deduct GST 18%	Total Cost
1	S.A.I.L. TMT - EQR 500 / IS 1786 Fe 500D	Mt	MONTH FEB-2024	8 mm	81857.00	/ 1.18	69370.34
		Mt		10 mm	79957.00	/ 1.18	67760.17
		Mt		12 mm	79486.00	/ 1.18	67361.02
		Mt		16 mm	79425.00	/ 1.18	67309.32
		Mt		20 mm	79447.00	/ 1.18	67327.97
		Mt		25 mm	79462.00	/ 1.18	67340.68

Average Rate per one Mt. Rs. 406469.50 / 6 = = Rs 67744.92

Rate of Bitumen

Sl	Grade of Bitumen	Unit	Ref (Date)	Quarry	Rate (Rs)		Total Cost(Rs)
1	Bulk bitumen (VG-40)	Mt	2/1/2024	Viazg	40592.00	IOCL	40592.00
2	Emulsion Bulk (R.S-1)	Mt	2/1/2024	Viazg	38375.00	HINCOL	38375.00
3	Emulsion Bulk (S.S-1)	Mt	2/1/2024	Viazg	40646.00	HINCOL	40646.00
4	Emulsion Bulk (MS-1)	Mt	2/1/2024	Viazg	40956.00	HINCOL	40956.00

Rate of Labour

Minimum wages with VDA w.e.f from 01.10.2023

Unskilled Labour	Rs. 352.00
Semiskilled Labour	Rs. 392.00
Skilled Labour	Rs. 442.00
Highskilled Labour	Rs. 502.00
Blaster	Rs. 502.00
Stone Cutter	Rs. 502.00
Sangi Mulia	Rs. 392.00
Blaster	Rs. 502.00
Driller	Rs. 502.00
Mate	Rs. 392.00

A	B	C	D	E	F	G	H	I
Sl. No	Dia of Bar	Weight of bars	Weight of bars	Rate/Piece	Rate/Kg	Rate/ Tonne	Avg. Rate/Tonne	Avg. Rate/Tonne
	In mm	For 1 mtr in Kg	For 12 mtr in Kg	From Sail	In Rs.	In Rs.	Including GST	Exluding GST
			C*12		D x E	F x 1000		
1	8	0.395	4.740	Rs. 388.00	Rs. 81.857	Rs. 81,857.00		
2	10	0.617	7.404	Rs. 592.00	Rs. 79.957	Rs. 79,957.00		
3	12	0.888	10.656	Rs. 847.00	Rs. 79.486	Rs. 79,486.00		
4	16	1.578	18.936	Rs. 1,504.00	Rs. 79.425	Rs. 79,425.00	Rs. 79,939.00	Rs. 67,744.92
5	20	2.466	29.592	Rs. 2,351.00	Rs. 79.447	Rs. 79,447.00		
6	25	3.853	46.236	Rs. 3,674.00	Rs. 79.462	Rs. 79,462.00		

Rate of Materials and Hire & Running charges of Machineries			
Sl	Machineries	Unit/	Amt. (Rs.)
1	Dozer D-50 -A15	hour	2834.00
2	Dozer D-80-A 12	hour	3898.96
3	Motor grader 3.35m blade	hour	2391.39
4	Tractor With Ordinary Grader	hour	447.31
5	Hydraulic Exavator 1 cum bucket cap	hour	2200.00
6	Hydraulic Exavator 2 cum bucket	hour	3200.00
7	Front End loader 1 cum bucket capacity	hour	804.86
8	Tipper 5.5 cum capacity	hour	1500.00
	Tipper 5.5 cum capacity	per Km	37.15
	Tipper 5.5 cum capacity	t x km	3.86
9	Vibratory road roller 8-10 ton capacity	hour	1538.54
10	Smoth Wheeled Roller 8-10ton capacity	hour	524.70
11	Sheep Foot Roler	hour	100.60
12	Truck mounted Water tanker 6 KL capacity	hour	900.84
13	Tractor trolley	hour	357.55
14	Tractor rotavator	hour	373.55
15	Tractor with ripper	hour	378.55
16	Air compressor 250 cfm	hour	585.00
17	Diesel Compressor 400 cfm	hour	1324.94
18	Diesel Compressor 300 cfm	hour	1039.82
19	Electrical Compressor 500 cfm	hour	769.26
20	Wet Mix Plant 60 TPH	hour	1400.00
21	Wet Mix Plant 75 TPH	hour	1700.00
22	Mechanical Broom hydraulic	hour	356.00
23	Bitumen pressure distributor @1750Sqm per hour	hour	1071.10
24	Emulsion pressure distributor @1750Sqm per hour	hour	798.68
25	Hotmix plant - 120 TPH @45 Cum/hour	hour	23372.17
26	Hotmix plant - 100 TPH @30 Cum/hour	hour	17284.56

Sl	Machineries	Unit/	Amt. (Rs.)
27	Hotmix plant - 60 to 90 TPH @25 Cum/hour	hour	13822.09
28	Hotmix plant - 40 to 60 TPH @17 Cum/hour	hour	11066.95
29	Hotmix plant - 8 to 10 TPH @Cum/hour (Premix)	hour	1586.51
30	Paver finsher hydrostatics with sensor control 100 TPH @40 cum/hour	hour	1724.97
31	Paver finsher Mechanical 100TPH	hour	1143.90
32	Paver finsher Mechanical @75 cum/hour DLC	hour	1816.61
33	Hydraulic self propelled chips spreader @1500sqm/hour	hour	1480.62
34	Tandem Road Roller	hour	1142.30
35	Pneumatic Road Roller	hour	1026.27
36	Pot hole repair machine	hour	632.92
37	Bitumen boiler oil fired	hour	198.11
38	Tar boiler	hour	114.54
39	GSB Plant 50 cum	hour	1037.04
40	Mastic Cooker	hour	2454.85
41	Batching and Mixing plant 15-20 cum (13 cum per hour)	hour	1836.26
42	Batching and Mixing plant 30 cum (20 cum per hour)	hour	2144.23
43	Batching and Mixing plant 112.5 cum (75 cum per hour)	hour	3421.29
44	Batching and Mixing plant 262.5 cum (175 cum per hour)	hour	8791.61
45	Transit Mixer 4.5cum/hour	hour	928.64
	Transit Mixer 3 cum/hour	hour	851.25
46	Grout pump	hour	500.00
47	Concrete pump of 45 & 30 cum	hour	1278.00
48	Pump with 5HP diesel engine	hour	200.70
49	Pump with 10 HP diesel engine	hour	295.39
50	Pump with 20 HP diesel engine	hour	480.00
51	Pump with 40 HP diesel engine	hour	720.00
52	Pump with 40 HP electrical	hour	580.00
53	Pump with 50 HP electrical	hour	630.00
54	Cranes 80 tonnes	hour	1276.95

Sl	Machineries	Unit/	Amt. (Rs.)
55	Cranes 35 tonnes	hour	1051.30
56	Cranes 3 tonnes	hour	560.00
57	Crawler mounted Crane (18T)	hour	2065.94
58	Tower Crane	hour	837.12
59	Welding Transformer	hour	160.00
60	Gunneting machine without compressor	hour	180.00
61	Mechanical Winch (10T)	hour	208.52
62	Power Winch (40 HP)	hour	600.00
63	Concrete Bucket	hour	60.00
64	Kerb Casting Machine	hour	309.55
65	Concrete Mixer 0.28/0.40 cum capacity	hour	229.55
66	Vibrator 3HP Diesel	hour	153.23
67	Piling Rig with Bantonite Pump	hour	4369.18
68	Concrete Paver Finisher with 40HP Motor 20cum/hour	hour	2863.48
69	Integrated Stone Crusher 100TPH	hour	8280.58
	Integrated Stone Crusher 200TPH	hour	16561.16
70	Stone Crusher (electrical)	hour	400.00
71	Crushing & Processing Plant (electrical)	hour	436.17
72	Concrete Paver Finisher with 40HP Motor 175cum/hour	hour	25056.20
73	Prestressing jack with Pump & Access	hour	360.00
74	Generator 100 KVA	hour	1052.42
75	Generator 250 KVA	hour	1600.00
76	Generator 33 KVA	hour	700.00
77	Generator 40 KVA	hour	780.00
78	Generator 125 KVA	hour	1341.16
79	Pneumatic Sinking Plant	hour	3800.00
80	Truck 5.5 cum cap	hour	862.19
	Truck 5.5 cum cap	t x km	3.10
	Truck 5.5 cum cap	Km	30.95

Sl	Machineries	Unit/	Amt. (Rs.)
81	Road marking machine @ 100 sqm per hour	hour	300.00
82	Mobile Slurry Seal Equimpment	hour	960.00
83	Wagon drill	hour	1250.18
84	Dimond Drill	hour	500.00
85	Inwell rings	hour	160.00
86	Jack Hammer	hour	47.61
87	Pneumatic Hammer	hour	66.19
88	Pusher Leg	hour	18.60

ANALYSIS OF RATE

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
1	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	AR-2006/ Item-3/ Page-196	Each Ha			
	(Data Per 1Hectare)					
	a) Labour					
	Mate	6.00	Each	392.00	2352.00	
	Mulia unskilled	150.00	Each	352.00	52800.00	
				T	**55152.00**	
	b) Machinery					
	Tractor trolley	1.00	hour	357.55	357.55	
				T	**357.55**	
	Total (a+b)				**55509.55**	
	c) Overhead charges @ 7.5% on (a+b)				**4163.22**	
	d) Contractor profit @ 7.5% on (a+b)				**4163.22**	
	Rate Per Hectare (a+b+c+d)				**63835.99**	
	Add Labour Cess 1%				**638.36**	
				Total	**64474.35**	**Per Ha**
2	Scarifying the existing bituminous road surface to a depth of 50 mm and disposal of scarified material with in all lifts and lead upto 1000 metres.	AR-2006/ Item-34/ Page-156	Each Sqm			
	Taking output = 100 Sqm					
	a) Labour					
	Mate	0.01	Each	392.00	3.92	
	Mulia unskilled	0.25	Each	352.00	88.00	
				T	**91.92**	
	b) Machinery					
	Tractor with ripper	0.08	hour	378.55	30.28	
	Front End loader 1 cum bucket capacity	0.20	hour	804.86	160.97	
	Tipper 5.5 cum capacity	0.23	hour	900.84	207.19	
				T	**398.44**	
	Total (a+b)				**490.36**	
	c) Overhead charges @ 7.5% on (a+b)				**36.78**	
	d) Contractor profit @ 7.5% on (a+b)				**36.78**	
	Rate Per 100 Sqm (a+b+c+d)				**563.92**	
	Rate Per 1 Sqm (a+b+c+d) / 100				**5.64**	
	Add Labour Cess 1%				**0.06**	
				Total	**5.70**	**Per Sqm**
3	Loosening, leveling and Compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150 mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density as given in table 300-2 for embankment construction construction & Clause 305 of MoSRT&H Specifications for Road & Bridge works (5th Revision)	AR-2006/ Item No 37/ Pg-158	Each Cum			
	(Data per 4000 Sqm or 600cum)					
	a) Labour					
	Mate	0.08	Each	392.00	31.36	
	Mulia unskilled	2.00	Each	352.00	704.00	
				T	**735.36**	
	b) Machinery					
	Tractor with ripper	6.00	Hour	378.55	2271.30	
	Vibratory road roller 8-10 ton capacity	7.50	Hour	1538.54	11539.05	
	Truck mounted Water tanker 6 KL capacity	4.00	Hour	900.84	3603.36	
				T	**17413.71**	
	c) Materials					
	Water	24.00	kl	10.00	240.00	
				T	**240.00**	
	Total (a+b+c)				**18389.07**	
	d) Overhead charges @ 7.5% on (a+b+c)				**1379.18**	
	e) Contractor profit @ 7.5% on (a+b+c)				**1379.18**	
	Rate per 600 cum (a+b+c+d+e)				**21147.43**	
	Rate per 1 cum (a+b+c+d+e)/600				**35.25**	
	Add Labour Cess 1%				**0.35**	
				Total	**35.60**	**Per Cum**

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
4	Excavation for road work in soil with hydraulic excavator of 0.9cum 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 locations with all lifts & leads up to 50m.as per approved Drawing & Technical Specifications and as per Clause - 301 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	DSR 2013	Each Cum			
	a) Labour					
	Mate	0.04	Day	816.00	32.64	
	Coolie	0.06	Day	736.00	44.16	
				T	**76.80**	
	b) Machinery					
	Hydraulic excavator with driver & fuel	0.08	Day	7850.00	628.00	
	Tipper	0.08	Day	6700.00	536.00	
				T	**1164.00**	
	Sundries	3.10	Day	2.27	**7.04**	
	Total (a+b)				1247.84	
	Rate Per 10 Cum (a+b+c+d)				**1247.84**	
	Rate Per 1 Cum (a+b+c+d) / 10				**124.78**	
	c) Extra Lead (upto 5KM as per site)		Cum		**105.24**	
	Rate Per 1 Cum (a+b+c)				**230.02**	
	d) Overhead charges @ 7.5% on (a+b)				**17.25**	
	e) Contractor profit @ 7.5% on (a+b)				**17.25**	
	Add Labour Cess 1%				**2.30**	
				Total	**266.82**	**Per Cum**
5	Excavation for road way in hard rock (requiring blasting) by drilling, blasting and breaking, trimming bottom and side slopes in accordance with requirements of lines, grades and cross sections and transporting to the embankment locations with all lifts & leads up to 1000m.as per approved Drawing & Technical Specifications and as per Clause - 301 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	DSR 2013	Each Cum			
	a) Labour					
	Belder	0.45	Day	736.00	331.20	
	Coolie	0.55	Day	736.00	404.80	
	Rock excavator	1.06	Day	737.00	781.22	
	Rock breaker	2.83	Day	738.00	2088.54	
	Rock hole driller	0.89	Day	739.00	657.71	
				T	**4263.47**	
	b) Machinery					
	Hydraulic excavator with driver & fuel	0.13	Day	7850.00	1020.50	
	Tipper	0.13	Day	6700.00	871.00	
				T	**1891.50**	
	Blastine material	3.93	kg	44.00	172.92	
	Blasting fuse	4.00	Each	46.00	184.00	
	Sundries	16.12	Day	2.27	**36.59**	
				T	**393.51**	
	Total (a+b)				6548.48	
	c) Overhead charges @ 7.5% on (a+b)				**491.14**	
	d) Contractor profit @ 7.5% on (a+b)				**491.14**	
	Rate Per 10 Cum (a+b+c+d)				**7530.76**	
	Rate Per 1 Cum (a+b+c+d) / 10				**753.08**	
	Add Labour Cess 1%				**7.53**	
				Total	**760.61**	**Per Cum**
6	Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of table 300-2) and as per Clause -305 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	SDB/ S.No-3.17/ Page-68	Each Cum			
	Taking output = 450 Cum					
	a) Labour for back filling					
	Mate	0.04	Each	392.00	15.68	
	Mazdoor	1.00	Each	352.00	352.00	
				T	**367.68**	
	b)Machinery					
	Dozer D-50 -A15	0.000	hour	2834.00	0.00	
	Motor grader 3.35m blade	2.929	hour	2391.39	7004.38	
	Truck mounted Water tanker 6 KL capacity	2.971	hour	900.84	2676.40	
	Vibratory road roller 8-10 ton capacity	2.184	hour	1538.54	3360.17	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
				T	**13040.95**	
	c)Material					
	Water	36.00	KL	10.00	360.00	
				T	**360.00**	
	Total (a+b+c)				**13768.63**	
	d) Overhead charges @ 7.5% on (a+b+c)				**1032.65**	
	e) Contractor profit @ 7.5% on (a+b+c)				**1032.65**	
	Cost for 100 cum (a+b+c+d+e)				**15833.93**	
	Rate for 1 cum (a+b+c+d)/450				**35.19**	
	Add Labour Cess 1%				**0.35**	
				Total	**35.54**	**Per Cum**
7	Construction of granular sub-base by providing Grading-VI Material as per table 400-2, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401	**SDB/ S.No-4.1/ Page-94**	**Each Cum**	**GRADING VI**		
	Taking output = 250 Cum					
	a) Labour					
	Mate	0.16	day	392.00	62.72	
	Mulia skilled	1.00	day	442.00	442.00	
	Mulia unskilled	3.00	day	352.00	1056.00	
				T	**1560.72**	
	b) Machinery					
	Front End loader 1 cum bucket capacity	13.889	hour	804.86	11178.70	
	Motor grader 3.35m blade	2.712	hour	2391.39	6485.45	
	Vibratory road roller 8-10 ton capacity	1.618	hour	1538.54	2489.36	
	Truck mounted Water tanker 6 KL capacity	2.852	hour	900.84	2569.20	
				T	**22722.71**	
	c) Cost of material					
	53mm to 26.5mm (45mm) size @ 12.5%	42.067	Cum	899.33	37832.12	
	26.5mm to 9.5mm (22.4mm) size @ 22.5%	75.721	Cum	1123.78	85093.75	
	9.5mm to 4.75mm (10mm+4.7mm)/2 size @ 22.5%	75.721	Cum	957.46	72499.83	
	Below 4.75 mm size (4.75mm+ Dust)/2 size@ 42.5%	143.029	Cum	136.33	19499.14	
	Water	42.000	KL	10.00	420.00	
				T	**215344.84**	
	Total (a+b+c)				239628.27	
	d) Overhead charges @ 7.5% on (a+b+c)				**17972.12**	
	e) Contractor profit @ 7.5% on (a+b+c)				**17972.12**	
	f) Lead & royality of material					
	53mm to 26.5mm (45mm) size @ 12.5%	42.067	Cum	1103.74	46431.03	
	26.5mm to 9.5mm (22.4mm) size @ 22.5%	75.721	Cum	1103.74	83576.30	
	9.5mm to 4.75mm (10mm+4.7mm)/2 size @ 22.5%	75.721	Cum	1103.74	83576.30	
	Below 4.75 mm size (4.75mm+ Dust)/2 size@ 42.5%	143.029	Cum	994.49	142240.91	
				T	**355824.54**	
	Total cost per 250 cum (a+b+c+d+e+f)				**631397.05**	
	Cost per I cum (a+b+c+d+e+f) / 250				**2525.59**	
	Add Labour Cess 1%				**25.26**	
				Total	**2550.85**	**Per Cum**
8	Construction of dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per Table 600.1, cement content not to be less than 150kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver and compacting with vibratory roller, finishing and curing as per Clause 601 of MoSRT&H Specifications for Road & Bridge works (4th Revision)		**Each No.**			
	Taking output =450 cum					
	a) Labour					
	Mate	1.12	day	392.00	439.04	
	Mulia Skilled	6.00	day	442.00	2652.00	
	Mulia unskilled	22.00	day	352.00	7744.00	
				T	**10835.04**	
	b) Machinery					
	Front end loader 1 cum bucket	6.00	hour	804.86	4829.16	
	Cement concrete batch mix plant @ 75 cum per hour	6.00	hour	3421.29	20527.74	
	Electric generator 100 KVA	6.00	hour	1052.42	6314.52	
	Paver finisher Mechanical @75cum/hour	6.00	hour	1816.61	10899.66	
	Vibratory roller 8-10 t capacity	8.00	hour	1538.54	12308.32	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
	Water tanker 6 KL capacity	8.00	hour	900.84	7206.72	
	Tipper	990.00	t.Km	3.86	3821.40	
	Add 10 per cent of cost of carriage to cover cost of loading and unloading				382.14	
				T	66289.66	
	c) Cost of material					
	Crushed stone aggregates (20mm+11.2mm)/2	405.00	Cum	1405.21	569110.05	
	Coarse sand	202.50	Cum	749.75	151824.38	
	Cement 150kg / cum	67.50	Mt	5284.58	356709.15	
	Water	48.00	KL	10.00	480.00	
				T	**1078123.58**	
	Total (a+b+c)				**1155248.28**	
	d) Overhead charges @ 7.5% on (a+b+c)				**86643.62**	
	e) Contractor profit @ 7.5% on (a+b+c)				**86643.62**	
	f) Lead & royality of material					
	Crushed stone aggregates (20mm+11.2mm)/2	405.00	Cum	1103.74	447014.70	
	Coarse sand	202.50	Cum	1178.96	238739.40	
	Cement 150kg / cum	67.50	Mt	592.68	40005.90	
				T	**725760.00**	
	Cost for 450 cum (a+b+c+d+e+f)				**2054295.52**	
	Rate for 1 cum (a+b+c+d+e+f) / 450				**4565.10**	
	Add Labour Cess 1%				**45.65**	
				Total	**4610.75**	**Per Cum**
9	Construction of un-reinforced, dowel jointed, plain cement concrete pavement over a prepared sub base with 43 grade cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with a fixed form or slip form paver, spread, compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, separation membrane, sealant primer, joint sealant, debonding strip, dowel bar, tie rod, admixtures as approved, curing compound, finishing to lines and grades as per drawing and as per Clause 602 of MoSRT&H Specifications for Road & Bridge works (5th Revision)		**Each Cum**			
	Taking output =1050cum					
	a) Labour					
	Mate	2.00	day	392.00	784.00	
	Mulia unskilled	35.00	day	352.00	12320.00	
	Mulia Skilled	15.00	day	442.00	6630.00	
				T	**19734.00**	
	b) Machinery					
	Road Sweeper @ 1250 sqm per hour	2.80	hour	356.00	996.80	
	Front end loader 1 cum bucket capacity	18.00	hour	804.86	14487.48	
	Cement concrete batch mix plant @ 175 cum per hour (effective	6.00	hour	8791.61	52749.66	
	Electric generator 250 KVA	6.00	hour	1600.00	9600.00	
	Slip form paver with electronic sensor	6.00	hour	25056.20	150337.20	
	Water tanker6 KL capacity	36.00	hour	900.84	32430.24	
	Transit truck agitator 5 cum capacity.	2415.00	t.km	3.10	7486.50	
	Add 10 per cent of cost of carriage to cover cost of loading and unloading				748.65	
	Concrete joint cutting machine .	12.00	hour	260.87	3130.44	
	Texturing machine .	12.00	hour	217.39	2608.68	
				T	**274575.65**	
	c) Cost of material					
	Crushed stone coarse aggregates of 25mm and 12.5mm nominal size	945.00	Cum	1405.21	1327923.45	
	Sand as per IS: 383 and conforming to clause 602.2.4	472.50	Cum	749.75	354256.88	
	Cement 43 grade @ 400 kg/cum of concrete	414.00	Mt	5284.58	2187816.12	
	38 mm mild steel dowel bars of grade S 240	9.45	Mt	67744.92	640189.49	
	16 mm deformed steel tie bars of grade S 415	1.1700	Mt	67744.92	79261.56	
	Separation Membrane of impermeable plastic sheeting 125 micron thick	3675.0000	Sqm	110.00	404250.00	
	Pre moulded Joint filler 25 mm thick for expansion joint.	16.330	Sqm	899.00	14680.67	
	Joint sealant	875.00	kg	135.00	118125.00	
	Sealant primer	116.67	kg	38.38	4477.79	
	Plastic sheath,1.25 mm thick for dowel bars	46.67	Sqm	15.25	711.72	
	Curing compound	1850.00	Ltr	150.00	277500.00	
	Super plastisizer admixture IS marked as per 9103-1999	2070.00	kg	57.00	117990.00	
	Cost of water	216.00	Ltr	10.00	2160.00	
				T	**5529342.68**	
	Add 1% for Misc. materials				55293.43	
				T	**5584636.11**	
	Total (a+b+c)				**5878945.76**	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
	e) Overhead charges @ 7.5% on (a+b+c)				**440920.93**	
	f) Contractor profit @ 7.5% on (a+b+c)				**440920.93**	
	g) Lead & royality of material					
	Crushed stone coarse aggregates of 25mm and 12.5mm nominal size	945.00	Cum	1103.74	1043034.30	
	Sand as per IS: 383 and conforming to clause 602.2.4	472.50	Cum	1178.96	557058.60	
	Cement 43 grade @ 400 kg/cum of concrete	414.00	Mt	592.68	245369.52	
	Steel	10.62	Mt	1025.32	10888.90	
				T	**1856351.32**	
	Cost for 1050 cum (a+b+c+d+e+f+g)				**8617138.94**	
	Rate for 1 cum (a+b+c+d+e+f+g) / 1050				**8206.80**	
	Add Labour Cess 1%				**82.07**	
				Total	**8288.87**	**Per Cum**
10	**Turfing with Sods**					
	Furnishing and laying of the live sods of perennial turf forming grass on embankment slope, verges or other locations shown on the drawing or as directed by the engineer including preparation of ground, fetching of sods and watering & Technical Specifications and as per Clause - 307 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).		**Each Sqm**			
	Taking output = 100 Sqm					
	a)Labour					
	Mazdoor for preparation of ground and fetching of sods	2.14	day	352.00	753.28	
				T	**753.28**	
	Overhead charges @ 7.5% on (a)				**56.50**	
	Contractor profit @ 7.5% on (a)				**56.50**	
	d)Carriage of Turf					
	Farm yard manure @ 0.18 cum per 100 sqm at site of work	6.25	cum	276.01	1725.06	
				T	**1725.06**	
	Total for (a+b+c+d)				**2591.34**	
	Rate per 100 sqm (a+b+c+d)				**2591.34**	
	Rate per 1 sqm (a+b+c+d) / 100				**25.91**	
	Add Labour Cess 1%				**0.26**	
				Total	**26.17**	**Per Sqm**
11	Shoulders Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2					
	Taking output = 100 Cum					
	a) Labour for back filling					
	Mate	0.04	Each	392.00	15.68	
	Mazdoor	1.00	Each	352.00	352.00	
				T	**367.68**	
	b)Machinery					
	Hydraulic excavator1 cum bucket capacity @ 60 cum per hour	1.670	hour	2200.00	3674.00	
	Tipper 10 tonne capacity	350.000	hour	1500.00	3000.00	
	Dozer 80 HP for spreading @ 200 cum	0.500	hour	3898.96	1949.48	
	Motor grader for grading @ 50 cum per	2.000	hour	2391.39	4782.78	
	Water tanker with 6 km lead	4.000	hour	900.84	3603.36	
	Vibratory roller 8-10 tonnes @ 80 cum	1.250	hour	1538.54	1923.18	
				T	**18932.80**	
	c)Material					
	Cost of water	24.00	KL	10.00	240.00	
	Compensation for earth taken from	100.00	cum	100.00	10000.00	
				T	**10240.00**	
	Total (a+b+c)				**29540.48**	
	d) Overhead charges @ 7.5% on (a+b+c)				**2215.54**	
	e) Contractor profit @ 7.5% on (a+b+c)				**2215.54**	
	Cost for 100 cum (a+b+c+d+e)				**33971.56**	
	Rate for 1 cum (a+b+c+d)/450				**339.72**	
	Add Labour Cess 1%				**3.40**	
				Total	**343.12**	**Per Cum**
11	Sand filling in Road work & foundation of structure as per approved Drawing & Technical Specifications and as per Section - 2100 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).		**Each Cum**			
	(Data Per 100 Cum)					
	a) Labour					
	Mulia	12.36	Each	352.00	4350.72	
				T	4350.72	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
	e) Overhead charges @ 7.5% on (a+b+c)				**440920.93**	
	f) Contractor profit @ 7.5% on (a+b+c)				**440920.93**	
	g) Lead & royality of material					
	Crushed stone coarse aggregates of 25mm and 12.5mm nominal size	945.00	Cum	1103.74	1043034.30	
	Sand as per IS: 383 and conforming to clause 602.2.4	472.50	Cum	1178.96	557058.60	
	Cement 43 grade @ 400 kg/cum of concrete	414.00	Mt	592.68	245369.52	
	Steel	10.62	Mt	1025.32	10888.90	
				T	**1856351.32**	
	Cost for 1050 cum (a+b+c+d+e+f+g)				**8617138.94**	
	Rate for 1 cum (a+b+c+d+e+f+g) / 1050				**8206.80**	
	Add Labour Cess 1%				**82.07**	
				Total	**8288.87**	**Per Cum**
10	**Turfing with Sods**					
	Furnishing and laying of the live sods of perennial turf forming grass on embankment slope, verges or other locations shown on the drawing or as directed by the engineer including preparation of ground, fetching of sods and watering & Technical Specifications and as per Clause - 307 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).		**Each Sqm**			
	Taking output = 100 Sqm					
	a)Labour					
	Mazdoor for preparation of ground and fetching of sods	2.14	day	352.00	753.28	
				T	**753.28**	
	Overhead charges @ 7.5% on (a)				**56.50**	
	Contractor profit @ 7.5% on (a)				**56.50**	
	d)Carriage of Turf					
	Farm yard manure @ 0.18 cum per 100 sqm at site of work	6.25	cum	276.01	1725.06	
				T	**1725.06**	
	Total for (a+b+c+d)				**2591.34**	
	Rate per 100 sqm (a+b+c+d)				**2591.34**	
	Rate per 1 sqm (a+b+c+d) / 100				**25.91**	
	Add Labour Cess 1%				**0.26**	
				Total	**26.17**	**Per Sqm**
11	Shoulders Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2					
	Taking output = 100 Cum					
	a) Labour for back filling					
	Mate	0.04	Each	392.00	15.68	
	Mazdoor	1.00	Each	352.00	352.00	
				T	**367.68**	
	b)Machinery					
	Hydraulic excavator1 cum bucket capacity @ 60 cum per hour	1.670	hour	2200.00	3674.00	
	Tipper 10 tonne capacity	350.000	hour	1500.00	3000.00	
	Dozer 80 HP for spreading @ 200 cum	0.500	hour	3898.96	1949.48	
	Motor grader for grading @ 50 cum per	2.000	hour	2391.39	4782.78	
	Water tanker with 6 km lead	4.000	hour	900.84	3603.36	
	Vibratory roller 8-10 tonnes @ 80 cum	1.250	hour	1538.54	1923.18	
				T	**18932.80**	
	c)Material					
	Cost of water	24.00	KL	10.00	240.00	
	Compensation for earth taken from	100.00	cum	100.00	10000.00	
				T	**10240.00**	
	Total (a+b+c)				**29540.48**	
	d) Overhead charges @ 7.5% on (a+b+c)				**2215.54**	
	e) Contractor profit @ 7.5% on (a+b+c)				**2215.54**	
	Cost for 100 cum (a+b+c+d+e)				**33971.56**	
	Rate for 1 cum (a+b+c+d)/450				**339.72**	
	Add Labour Cess 1%				**3.40**	
				Total	**343.12**	**Per Cum**
11	Sand filling in Road work & foundation of structure as per approved Drawing & Technical Specifications and as per Section - 2100 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).		**Each Cum**			
	(Data Per 100 Cum)					
	a) Labour					
	Mulia	12.36	Each	352.00	4350.72	
				T	4350.72	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
	b) Materials					
	Sand	100.00	Cum	1928.71	**192871.00**	
	Total Cost Per 100 Cum (a+b)				**197221.72**	
	Overhead charges @ 7.5% on (a)				**14791.63**	
	Contractor profit @ 7.5% on (a)				**14791.63**	
					226804.98	
	Rate Per 1 Cum (a+b+c+d) /100				**2268.05**	
	Add Labour Cess 1%				**22.68**	
				Total	**2290.73**	**Per Cum**
12	P.C.C.M-15 Grade in foundation bed using 40mm to 10mm size crushed stone aggregates mixed by concrete mixer, laying in layers and compacting by vibrator & all leads and lifts as per approved Drawing & Technical Specifications and as per Section - 1700 & 2100 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	**SDB/ S.No-12.8 A/ Page-335**	**Each Cum**			
	Data per 15 Cum					
	a) Cost of material					
	40mm size CB Metal	8.10	Cum	950.00	7695.00	
	20mm size CB Chips	4.05	Cum	1382.29	5598.27	
	10mm size CB Chips	1.35	Cum	1418.67	1915.20	
	Coarse sand	6.75	Cum	749.75	5060.81	
	Cement	4.13	Mt	5284.58	21825.32	
				T	**42094.60**	
	b) Labour					
	Mate	0.86	day	392.00	337.12	
	Mason 2nd class	1.50	day	442.00	663.00	
	Mulia	20.00	day	352.00	7040.00	
				T	**8040.12**	
	c) Machinery					
	Concrete Mixer 0.28/0.40 cum capacity	6.00	hour	229.55	1377.30	
	Generator 33 KVA	6.00	hour	700.00	4200.00	
				T	**5577.30**	
	Total (a+b+c)				**55712.02**	
	d) Overhead charges @ 7.5% on (a+b+c)				**4178.40**	
	e) Contractor profit @ 7.5% on (a+b+c)				**4178.40**	
	f) Lead and royality of material					
	40mm size CB Metal	8.10	Cum	1103.74	8940.29	
	20mm size CB Chips	4.05	Cum	1103.74	4470.15	
	10mm size CB Chips	1.35	Cum	1103.74	1490.05	
	Coarse sand	6.75	Cum	1178.96	7957.98	
	Cement	4.13	Mt	592.68	2447.77	
				T	**25306.24**	
	Total cost per 15 cum (a+b+c+d+e+f)				**89375.06**	
	Total cost per 1 cum (a+b+c+d+e+f)/15				**5958.34**	
	Add Labour Cess 1%				**59.58**	
				Total	**6017.92**	**Per Cum**
13	P.C.C.M-15 Grade in Foundation of CD work using 40mm to 10mm size crushed stone aggregates mixed by concrete mixer, laying in layers and compacting by vibrator & all leads and lifts including frame works etc as per approved Drawing & Technical Specifications and as per Section -1500, 1700, 2100 & 2200 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).		**Each Cum**			
	Rate Per Each Cum in foundation without Frame work	12			5958.34	
	Add for centering & shuttering	0.50	sqm	232.41	116.21	
				T	6074.55	
	Add Labour Cess 1%				60.75	
				Total	6135.30	**Per Cum**
14	Random Ruble hard granite stone masonry in cement mortar(1:4) as per approved Drawing & Technical Specifications and as per Section - 1400 & 2100 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	**AR-2006/ Item No 5/ Pg-76**	**Each Cum**			
	a) Labour & material					
	H.G. stone	1.00	Cum	291.96	291.96	
	Sand	0.34	Cum	749.75	254.92	
	Cement	0.12156	Mt	5284.58	642.39	
	Mason Special class	0.35	Each	502.00	175.70	
	Mason 2nd class	1.41	Each	442.00	623.22	
	Mulia	3.17	Each	352.00	1115.84	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
				T	3104.03	
	b) Overhead charges @ 7.5% on (a)				**232.80**	
	c) Contractor profit @ 7.5% on (a)				**232.80**	
	d) Lead and royality of material					
	H.G. stone	1.00	Cum	1103.74	1103.74	
	Sand	0.34	Cum	1178.96	400.85	
	Cement	0.1215600	Mt	592.68	72.05	
				T	**1576.64**	
	Total Cost Per 1 Cum (a+b+c+d)				**5146.27**	**Per Cum**
	Add Labour Cess 1%				**51.46**	
				Total	**5197.73**	
15	R.C.C. M-25 grade as per approved Drawing & Technical Specifications and as per Section -1500, 1700 & 2100 of MoRT&H Specifications for Road & Bridge works (Latest Revision).	**AR-2006/ Item No 5/ Pg-50**				
	Data per 15 Cum					
	a) Cost of material					
	20mm size CB Chips	8.10	Cum	1382.29	11196.55	
	10mm size CB Chips	5.40	Cum	1418.67	7660.82	
	Coarse sand	6.75	Cum	749.75	5060.81	
	Cement	6.05	Mt	5284.58	31971.71	
				T	**55889.89**	
	b) Labour					
	Mate	0.86	day	392.00	337.12	
	Mason 2nd class	1.50	day	442.00	663.00	
	Mulia	20.00	day	352.00	7040.00	
				T	**8040.12**	
	c) Machinery					
	Concrete Mixer 0.28/0.40 cum capacity	6.00	hour	229.55	1377.30	
	Generator 33 KVA	6.00	hour	700.00	4200.00	
				T	**5577.30**	
	Total (a+b+c)				**69507.31**	
	d) Formwork @ 3.75 per cent on cost of concrete i.e. cost of material, labour and machinery					
	d) Overhead charges @ 7.5% on (a+b+c)				**5213.05**	
	e) Contractor profit @ 7.5% on (a+b+c)				**5213.05**	
	f) Lead and royality of material					
	20mm size CB Chips	8.10	Cum	1103.74	8940.29	
	10mm size CB Chips	5.40	Cum	1103.74	5960.20	
	Coarse sand	6.75	Cum	1178.96	7957.98	
	Cement	6.05	Mt	592.68	3585.71	
				T	**26444.18**	
	Total cost per 15 cum (a+b+c+d+e+f)				**106377.59**	
	Total cost per 1 cum (a+b+c+d+e+f)/ 15				**7091.84**	
	Add Labour Cess 1%				**70.92**	
				Total	**7162.76**	**Per Cum**
16	R.C.C. M-25 grade in Foundation Raft of R Wall work as per approved Drawing & Technical Specifications and as per Section -1500, 1700 & 2100 of MoRT&H Specifications for Road & Bridge works (Latest Revision).		**Each Cum**			
	Basic cost of M-20 concrete	Item No.- 37			7091.84	
	Add Centering & Shuttering	**0.77**	**sqm**	232.41	178.96	
				T	**7270.80**	
	Add Labour Cess 1%				**72.71**	
				Total	**7343.51**	**Per Cum**
	Area of Shuttering					
		2	100.00	0.30	60.00	
		2	2.65	0.30	1.59	
					61.59	Sqm
	61.59 ./		**79.50 cum**		**0.770**	**Sqm/cum**

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
17	R.C.C. M-25 grade in Sub-structure of R Wall work as per approved Drawing & Technical Specifications and as per Section -1500, 1700 & 2200 of MoRT&H Specifications for Road & Bridge works (Latest Revision).					
			Each Cum			
	Basic cost of M-20 concrete				7091.84	
	Add Centering & Shuttering	6.70	sqm	907.90	6082.93	
				T	13174.77	
	Add Labour Cess 1%				131.75	
				Total	13306.52	Per Cum
	Area of Shuttering					
		2	100.00	2.70	540.00	
		2	0.300	2.70	1.62	
					541.62	Sqm
	541.62 ./		81.00 cum		6.70	Sqm/cum
18	Steel reinforcement works using HYSD as per approved Drawing & Technical Specifications and as per Section -1600 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	AR-2006/ Item No 9A/ Pg-52	Each Qtl			
	Taking out put-1 Mt					
	a) Materials					
	HYSD bars including 5% for Laps & Wastage	1.05	Mt	67744.92	71132.17	
	Binding Wire	8.00	Kg	90.10	720.80	
				T	71852.97	
	b) Labour					
	Mate	0.44	day	392.00	172.48	
	Blacksmith special	3.00	day	502.00	1506.00	
	Mazdoor unskilled	8.00	day	352.00	2816.00	
				T	4494.48	
	Total for (a+b)				76347.45	
	c) Overhead charges @ 7.5% on (a+b)				5726.06	
	d) Contractor profit @ 7.5% on (a+b)				5726.06	
	e) Lead and royality of material					
	HYSD bars including 5% for Laps & Wastage	1.05	Mt	1025.32	1076.59	
	Rate per one MT (a+b+c+d+e)				88876.16	
	Rate per Mt				88876.16	
	Add Labour Cess 1%				888.76	
				Total	89764.92	Per Mt
19	R.C.C. M-30 grade as per approved Drawing & Technical Specifications and as per Section -1500, 1700 & 2100 of MoRT&H Specifications for Road & Bridge works (Latest Revision).					
	Data per 15 Cum					
	a) Cost of material					
	20mm size CB Chips	8.10	Cum	1382.29	11196.55	
	10mm size CB Chips	5.40	Cum	1418.67	7660.82	
	Coarse sand	6.75	Cum	749.75	5060.81	
	Cement	6.10	Mt	5284.58	32235.94	
				T	56154.12	
	b) Labour					
	Mate	0.86	day	392.00	337.12	
	Mason 2nd class	1.50	day	442.00	663.00	
	Mulia	20.00	day	352.00	7040.00	
				T	8040.12	
	c) Machinery					
	Concrete Mixer 0.28/0.40 cum capacity	6.00	hour	229.55	1377.30	
	Generator 33 KVA	6.00	hour	700.00	4200.00	
				T	5577.30	
	Total (a+b+c)				69771.54	
	e) Overhead charges @ 7.5% on (a+b+c+d)				5232.87	
	f) Contractor profit @ 7.5% on (a+b+c+d)				5232.87	
	g) Lead and royality of material					
	20mm size CB Chips	8.10	Cum	1103.74	8940.29	
	10mm size CB Chips	5.40	Cum	1103.74	5960.20	
	Coarse sand	6.75	Cum	1178.96	7957.98	
	Cement	6.10	Mt	592.68	3615.35	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
				T	26473.82	
	Total cost per 15 cum (a+b+c+d+e+f+g)				106711.10	
	Total cost per 1 cum (a+b+c+d+e+f+g)/ 15				7114.07	
	Add Labour Cess 1%				71.14	
				Total	7185.21	Per Cum
20	R.C.C. M-30 grade in approach slab including steel of C.D. work as per approved drawing & technical specifications and as per Section -1500, 1700 & 2700 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).		Each Cum			
	a) Basic cost of M-30 concrete	1.00	Cum	7114.07	7114.07	
	b) Steel	0.05	Mt	88876.16	4443.81	
	c) Shuutering	0.50	Sqm	232.41	116.21	
	Toal cost per 1 cum (a+b+c)			T	11674.09	
	Add Labour Cess 1%				116.74	
				Total	11790.83	Per Cum
20	R.C.C. M-30 grade in wearing coat including steel of C.D. work as per approved drawing & technical specifications and as per Section -1500, 1700 & 2700 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).		Each Cum			
	a) Basic cost of M-30 concrete	1.000	Cum	7114.07	7114.07	
	b) Steel	0.075	Mt	88876.16	6665.71	
				T	13779.78	
	c) Labour					
	Mazdoor	0.15	Each	352.00	52.80	
	Overhead charges @ 7.5%				3.96	
	Contractor profit @ 7.5%				3.96	
				T	60.72	
	Toal cost per 1 cum (a+b+c)				13840.50	Per Cum
	Add Labour Cess 1%				138.41	
				Total	13978.91	
21	Providing and laying of Filter media with stone crushed aggregates of 45 mm size satisfying the requirements laid down in clause 2504.2.2. of MoRTH specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment , wing wall and return wall to the full height compacted to a firm condition complete as per drawing and Technical Specification.	AR-2006/ Item No 9/ Pg-266	Each Cum			
	Data per 1 cum					
	Taking Out put-10 Cum					
	a) Labour					
	Mate	0.32	day	392.00	125.44	
	Mulia unskilled for filling, watering, ramming etc	7.00	day	352.00	2464.00	
	Mulia skilled	1.00	day	442.00	442.00	
				T	3031.44	
	b) Materials					
	Filter media of stone aggregate conforming to clause 2504.2.2. of MoRTH	12.00	Cum	899.33	10791.96	
				T	10791.96	
	c) Mechinary					
	Water tanker 6kl capacity	0.060	Cum	900.84	54.05	
				T	54.05	
	Total for (a+b)				13877.45	
	c) Overhead charges @ 7.5% on (a+b)				1040.81	
	d) Contractor profit @ 7.5% on (a+b)				1040.81	
	e) Lead and royality of material					
	Filter media of stone aggregate conforming to clause 2504.2.2. of MoRTH	12.00	Cum	1103.74	13244.88	
				T	13244.88	
	Total cost per 10 cum (a+b+c+d+e)				29203.95	
	Total cost per 1 cum (a+b+c+d+e)/10				2920.40	
	Add Labour Cess 1%				29.20	
				Total	2949.60	Per Cum
22	Gravel backing to revetments as per approved Drawing & Technical Specifications and as per Section 2500 of MoRT&H Specifications for Road & Bridge works (Latest Revision).	AR-2006/ Item No 9/ Pg-266	Each Cum			
	a) Cost of gravel (moorum)	1.00	Cum	65.88	65.88	
	b) Labour Mulia	1.06	Each	352.00	373.12	
	Total (a+b)			T	439.00	
	c) Overhead charges @ 7.5% on (a+b)				32.93	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
	d) Contractor profit @ 7.5% on (a+b)				**32.93**	
	e) Carriage & Royality of moorum	1.00	Cum	381.36	**381.36**	
	Total Cost Per 1 Cum (a+b+c+d+e)				**886.22**	
	Add Labour Cess 1%				8.86	
				Total	895.08	**Per Cum**
23	Rough stone dry packing on Aprons and Revetments with hard stone 30cm and above size including cost, conveyance royality of all materials and labour charges etc.complete as per direction of Engineer-In-Charge.	**AR-2006/ Item No 15/ Pg-79**	**Each Cum**			
	a) Cost of material					
	Rough stone granite including spalls for filling and wedging	1.00	Cum	291.96	291.96	
	b) Labour					
	Mason Special class	0.17	Each	502.00	85.34	
	Stone Packer	0.35	Each	392.00	137.20	
	Man & Woman Mulia	1.04	Each	352.00	366.08	
	Man Mulia Extra	0.35	Each	352.00	123.20	
	Total (a+b)			T	**1003.78**	
	c) Overhead charges @ 7.5% on (a+b)				**75.28**	
	d) Contractor profit @ 7.5% on (a+b)				**75.28**	
	e) Lead & royality of Hard stone	1.00	Cum	1103.74	**1103.74**	
	Total Cost Per 1 Cum (a+b+c+d+e)				**2258.08**	
	Add Labour Cess 1%				22.58	
				Total	2280.66	**Per Cum**
24	Providing Weep Holes as per approved Drawing & Technical Specifications and as per Section 2700 of MoRT&H Specifications for Road & Bridge works (Latest Revision).	**AR-2006/ Item No 7/ Pg-264**	**Each Mtr**			
	Weep Holes					
	Data per 30 mtr					
	a) Materials					
	AC pipe 100mm dia (with wastage 5%)	31.50	Mtr	46.88	1476.72	
	M.S. Clamp	30.00	No	7.81	234.30	
	Collar for A.C. Pipe	10.00	No	4.69	46.90	
	Cement Mortar (1:3) without lead, Royality & OHC	0.05	Cum	3108.34	155.42	
				T	1913.34	
	b) Labour					
	Mate	0.03	Each	392.00	11.76	
	Mason 2nd Class	0.50	Each	442.00	221.00	
	Mulia	0.25	Each	352.00	88.00	
				T	320.76	
	Total for (a+b)				**2234.10**	
	c) Overhead charges @ 7.5% on (a+b)				**167.56**	
	d) Contractor profit @ 7.5% on (a+b)				**167.56**	
	e) Lead and royality of material					
	Cement Mortar (1:3)	0.05	Cum	1540.18	77.01	
				T	77.01	
	Rate Per 30 mtr (a+b+c+d+e)				2646.23	
	Rate Per Mtr (a+b+c+d+e) / 30				**88.21**	
	Add Labour Cess 1%				0.88	
				Total	89.09	**Per Mtr**
25	Drainage Spouts complete as per drawing and Technical specification	**SDB Item No-15.17 /692**				
	Unit = 1 No.					
	Taking output = 1 No.					
	a) Material					
	Corrosion resistant Structural steel including 5 per cent wastage	4.00	Kg	67.74	270.96	
	GI pipe 100mm dia	0.32	metre	1122.04	359.05	
	GI bolt 10 mm Dia	6.00	each	12.71	76.26	
	Galvanised MS flat clamp	2.00	each	16.95	33.90	
	b) Labour					
	For fabrication					
	Mate	0.002	day	392.00	0.78	
	Skilled (Blacksmith, welder etc.)	0.020	day	502.00	10.04	
	Mazdoor	0.020	day	352.00	7.04	
	For fixing in position					
	Mate	0.008	day	392.00	3.14	
	Mason	0.010	day	442.00	4.42	
	Mazdoor	0.200	day	352.00	70.40	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
	Add @ 5 per cent of cost of material and labour for electrodes, cutting gas, sealant, anti-corrosive bitumi				41.80	
					877.79	
	c) Overhead charges @7.5% on (a+b)				65.83	
	d) Contractor's profit @7.5% on (a+b)				65.83	
	Rate per No. (a+b+c+d)				1009.45	
					1009.45	
				Labour cess 1%	10.09	
				say	***1019.54***	
26	Grouting approns and revetment 15cm deep with cement concrete (1:4:8) with 2.5cm broken granite metal per 1sqm.	**AR-2006/ Item No 10/ Pg-45**	**Each Sqm**			
	a) Materials					
	Cement concrete (1:4:8)	0.030	Cum	6582.05	197.46	
	Add difference in cost of hand broken granite stone metal 4 cm to 2.5 cm	0.030	Cum	46.15	1.38	
				T	198.84	
	b) Labour					
	Mason (Special)	0.05	Each	502.00	25.10	
	Man mulia	0.11	Each	352.00	38.72	
	Woman mulia	0.11	Each	352.00	38.72	
				T	102.54	
	Total for (a+b)				**301.38**	
	c) Overhead charges @ 7.5% on (a+b)				**22.60**	
	d) Contractor profit @ 7.5% on (a+b)				**22.60**	
	Rate Per 1 Sqm of 23 cm deep				346.58	
	Rate Per 1 Sqm of 15 cm deep				**231.05**	
	Add Labour Cess 1%				**2.31**	
				Total	233.36	**Per Sqm**
27	Cement painting two coats over a coat of cement wash of approved shade for finished item of work as per the direction of the Engineer-in-charge.		**Each Sqm**			
	Cement Painting Two Coats					
	Data per 10 sqm					
	a) Labour					
	Mate	0.01	Each	392.00	3.92	
	Painter Special Class	0.25	Each	502.00	125.50	
	Mazdoor(Skilled)	0.25	Each	442.00	110.50	
	b) Cost of materials					
	Water based paint	5.00	Kg	47.83	239.15	
				T	479.07	
	b) Overhead charges @ 7.5% on (b)				**35.93**	
	c) Contractor profit @ 7.5% on (b)				**35.93**	
	Total (a+b+c)				550.93	
	d) Rate per 1 sqm				**55.09**	
	Add 1% cess			T	**0.55**	
	Total cost per sqm (d+e)				**55.64**	
				Total	**55.64**	**Per Sqm**
28	Painting two coats with enamel paints over a coat of primer in road kerb & post of approved shade for finished item of work as per the direction of the Engineer-in-charge.		**Each Sqm**			
	Enemal Painting Two Coats (Data per 40 Sqm)					
	a) Cost of Labour					
	Painter	2.00	Each	442.00	884.00	
	Mulia	1.00	Each	352.00	352.00	
	Mate	0.12	Each	392.00	47.04	
				T	**1283.04**	
	e) Cost of enamel paint	6.00	Lit	205.34	**1232.04**	
				T	**2515.08**	
	b) Overhead charges @ 7.5% on (a+b)				**188.63**	
	c) Contractor profit @ 7.5% on (a+b)				**188.63**	
	Total (a+b+c)				2892.34	
	d) Rate per 1 Sqm (a+b+c) / 40				**72.31**	
	Total cost per 1 sqm (d+e)				**72.31**	
	Add Labour Cess 1%				**0.72**	
				Total	73.03	**Per Sqm**
29	Laying of NP4 Hume Pipe of 1200mm dia. for pipe culverts as per approved Drawing & Technical Specifications and as per Section -2900 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).		**Each Mtr**			
	a) Labour for fixing	1.00	Mtr	96.80	96.80	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
	d) Cost of Hume pipe	1.00	Mtr	10472.34	10472.34	
	Total Cost Per 1 Mtr (a+b+c+d)			T	10569.14	
	Add Labour Cess 1%				105.69	
				Total	10674.83	**Per Mtr**
40	R.C.C. M-40 grade as per approved Drawing & Technical Specifications and as per Section -1500, 1700 & 2100 of MoRT&H Specifications for Road & Bridge works (Latest Revision).	**AR-2006/ Item No 8/ Pg-52**				
	Data per 15 Cum					
	a) Cost of material					
	20mm size CB Chips	8.10	Cum	1382.29	11196.55	
	10mm size CB Chips	5.40	Cum	1418.67	7660.82	
	Coarse sand	6.75	Cum	749.75	5060.81	
	Cement	6.45	Mt	5284.58	34085.54	
	Admixture @0.4 % of Cement	0.00	Kg	57.00	0.00	
				T	58003.72	
	b) Labour					
	Mate	0.96	day	392.00	376.32	
	Mason 2nd class	2.00	day	442.00	884.00	
	Mulia	22.00	day	352.00	7744.00	
				T	9004.32	
	c) Machinery					
	Concrete Mixer 0.28/0.40 cum capacity	6.00	hour	229.55	1377.30	
	Generator 33 KVA	6.00	hour	700.00	4200.00	
				T	5577.30	
	Total (a+b+c)				72585.34	
	d) Overhead charges @ 7.5% on (a+b+c)				5443.90	
	e) Contractor profit @ 7.5% on (a+b+c)				5443.90	
	f) Lead and royality of material					
	20mm size CB Chips	8.10	Cum	1103.74	8940.29	
	10mm size CB Chips	5.40	Cum	1103.74	5960.20	
	Coarse sand	6.75	Cum	1178.96	7957.98	
	Cement	6.45	Mt	592.68	3822.79	
				T	26681.26	
	Total cost per 15 cum (a+b+c+d+e+f)				110154.40	
	Total cost per 1 cum (a+b+c+d+e+f)/ 15				7343.63	
	Add Labour Cess 1%				73.44	
				Total	7417.07	**Per Cum**

SIGNBORD ANALYSIS FOR PART C

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
1	**Retro-Reflectorised Traffic Signs.** Providing and fixing of retro-reflectorised, cautionary, mandatory and informatory sign as per IRC-67 made of high intensity grade sheeting vide clause 801.3 ,fixed over aluminium sheeting, 1.5mm thick supported on mld steel angle post 75m x 75mm x 6mm firmly fixed to the ground by means of properly designed foundation with M-15 grade cement concrete 45cm x 45cm x 60cm, 60cm below ground level as per approved drawing .	SDB/ S.No-8,14 (iii) / Page-213				
	Unit = Each.					
	Taking output = One traffic sign.					
	(i) Excavation of foundation.	cum	0.122	208.87	25.48	**Main Analysis Item No 57**
	(ii) Cement concrete M-25 grade.	cum	0.122	6530.45	796.71	**Main Analysis Item No 12**
	(iii) Painting angle Iron post two coats.	Sqm.	1.414	63.77	90.17	**Main Analysis Item No 58**
					912.36	
	a) Labour (for fixing at site.)					
	Mate.	day.	0.010	392.00	3.92	
	Mazdoor.	day.	0.250	352.00	88.00	
					91.92	
	b) Material.					
	Mild steel angle 75 x75 x6mm.	Kg.	22.756	67.74	1541.49	
	Aluminium sheeting fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable					
	Add 1% of cost of angle iron towards cost of drilling holes, nuts, bolts.					Add 1% of cost of angle iron towards cost of drilling holes, nuts, bolts.
A	(i) 900 mm equilateral Triangle.	Sqm.	0.351	7000.00	2457.00	39.98
B	(ii) 800 mm x 600 mm Retangular.	Sqm.	0.480	7000.00	3360.00	49.01
C	(iii) 600 mm. Circular.	Sqm.	0.283	7000.00	1981.00	35.22
D	(iv) 900 mm. circular.	Sqm.	0.636	7000.00	4452.00	59.93
E	(v) 900 mm high octagon	Sqm.	0.671	7000.00	4697.00	62.38
F	(vi) 900 mm x 300 mm Retangular	Sqm.	0.270	7000.00	1890.00	34.31
G	(vii) 900 mm x 450 mm Retangular.	Sqm.	0.405	7000.00	2835.00	43.76
H	(viii) 600 mm x 450 mm Retangular.	Sqm.	0.270	7000.00	1890.00	34.31
I	(ix) 600 mm x 500 mm Retangular.	Sqm.	0.300	7000.00	2100.00	36.41
J	(x) 600 mm x 300 mm Retangular.	Sqm.	0.180	7000.00	1260.00	28.01
K	(xi) 1550 mm x 600 mm Retangular.	Sqm.	0.930	7000.00	6510.00	80.51
	(c) Machinery.					
	Tractor Trolley.	hour	0.010	357.55	3.58	
A	**(i) 900 mm equilateral Triangle.**			Total	**5046.33**	(a+b+i+c)
	d) Overhead charges @7.5%on (a+b+c)				310.05	
	e) Contractor's profit @7.5% on (a+b+c)				310.05	
	Rate per traffic sign = a+b+c+d+e				**5666.43**	
	Add Labour Cess 1%				**56.66**	
					5723.09	**Per Each**
B	**(ii) 800 mm x 600 mm Retangular.**				5958.36	(a+b+ii+c)
	d) Overhead charges @7.5%on (a+b+c)				378.45	
	e) Contractor's profit @7.5% on (a+b+c)				378.45	
	Rate per traffic sign = a+b+c+d+e				**6715.26**	
	Add Labour Cess 1%				**67.15**	
					6782.41	**Per Each**
C	**(iii) 600 mm. Circular.**				4565.57	(a+b+iii+c)
	d) Overhead charges @7.5%on (a+b+c)				273.99	
	e) Contractor's profit @7.5% on (a+b+c)				273.99	
	Rate per traffic sign = a+b+c+d+e				**5113.55**	
	Add Labour Cess 1%				**51.14**	
					5164.69	**Per Each**
D	**(iv) 900 mm. circular.**				7061.28	(a+b+iv+c)
	d) Overhead charges @7.5%on (a+b+c)				461.17	
	e) Contractor's profit @7.5% on (a+b+c)				461.17	
	Rate per traffic sign = a+b+c+d+e				**7983.62**	
	Add Labour Cess 1%				**79.84**	
					8063.46	**Per Each**

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
E	(v) 900 mm high octagon				7308.73	(a+b+v+c)
	d) Overhead charges @7.5%on (a+b+c)				479.73	
	e) Contractor's profit @7.5% on (a+b+c)				479.73	
	Rate per traffic sign = a+b+c+d+e				8268.19	
	Add Labour Cess 1%				82.68	
					8350.87	Per Each
F	(vi) 900 mm x 300 mm Retangular				4473.66	(a+b+vi+c)
	d) Overhead charges @7.5%on (a+b+c)				267.10	
	e) Contractor's profit @7.5% on (a+b+c)				267.10	
	Rate per traffic sign = a+b+c+d+e				5007.86	
	Add Labour Cess 1%				50.08	
					5057.94	Per Each
G	(vii) 900 mm x 450 mm Retangular.				5428.11	(a+b+vii+c)
	d) Overhead charges @7.5%on (a+b+c)				338.68	
	e) Contractor's profit @7.5% on (a+b+c)				338.68	
	Rate per traffic sign = a+b+c+d+e				6105.47	
	Add Labour Cess 1%				61.05	
					6166.52	Per Each
H	(viii) 600 mm x 450 mm Retangular.				4473.66	(a+b+viii+c)
	d) Overhead charges @7.5%on (a+b+c)				267.10	
	e) Contractor's profit @7.5% on (a+b+c)				267.10	
	Rate per traffic sign = a+b+c+d+e				5007.86	
	Add Labour Cess 1%				50.08	
					5057.94	Per Each
I	(ix) 600 mm x 500 mm Retangular.				4685.76	(a+b+ix+c)
	d) Overhead charges @7.5%on (a+b+c)				283.01	
	e) Contractor's profit @7.5% on (a+b+c)				283.01	
	Rate per traffic sign = a+b+c+d+e				5251.78	
	Add Labour Cess 1%				52.52	
					5304.30	Per Each
J	(x) 600 mm x 300 mm Retangular.				3837.36	(a+b+x+c)
	d) Overhead charges @7.5%on (a+b+c)				219.38	
	e) Contractor's profit @7.5% on (a+b+c)				219.38	
	Rate per traffic sign = a+b+c+d+e				4276.12	
	Add Labour Cess 1%				42.76	
					4318.88	Per Each
K	(xi) 1550 mm x 600 mm Retangular.				9139.86	(a+b+xi+c)
	d) Overhead charges @7.5%on (a+b+c)				617.06	
	e) Contractor's profit @7.5% on (a+b+c)				617.06	
	Rate per traffic sign = a+b+c+d+e				10373.98	
	Rate per traffic sign = a+b+c+d+e				103.74	
					10477.72	Per Each
2	Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform and free from streaks and holes as per Technical Specifications and as per Clause - 803.4 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	SDB/ S.No-8.13 / Page-225	Each Sqm			
	Unit = sqm					
	Taking output = 600 sqm					
	a) Labour					
	Mate	day	0.03	392.00	11.76	
	Mazdoor	day	0.75	352.00	264.00	
				T	275.76	
	b) Machinery					
	Road marking machine @ 100 sqm per hour	hour	6.00	300.00	1800.00	
	Tractor trolley	hour	0.50	357.55	178.78	
				T	1978.78	
	c) Material					
	Hot applied thermoplastic compound	Litre	1500.0	84.00	126000.00	
	Reflectorising glass beads	kg	150.00	104.00	15600.00	
				T	141600.00	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
	Total (a+b+c)				**143854.54**	
	d) Overhead Charges 7.5% on (a+b+c)				**10789.09**	
	e) Contractor profit @ 7.5% on (a+b+c)				**10789.09**	
	Cost for 640 sqm = a+b+c+d+e				**165432.72**	
	Rate per sqm = a+b+c+d+e / 600				**275.72**	
	Add Labour Cess 1%				**2.76**	
				Total	**278.48**	
3	Providing and fixing of bi-directional retro reflective raised pavement markers of approved colour, quality & make confonning I to ASTM D-4280 made from injection moulded high impact polymer including cleaning, preparation of surface and fixing at position with approved quality adhesives including cost of all materials, labour, transportation, taxes, duties, sundries, T &P etc.					
	Unit = Nos.					
	As per SoR 2022 (Odisha)					282.00
				Labour Cess 1		2.82
				say		***284.82***
4	Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810	SDB/ S.No-8.23(A) / Page-238		**Each Mtr**		
	Unit = Running metre					
	Taking output = 4.5 metre length					
	a) Labour					
	Mate	0.06	day	392.00	23.52	
	Blacksmith	0.50	day	442.00	221.00	
	Mazdoor	1.00	day	352.00	352.00	
	b) Machinery					
	Tractor-trolley	0.10	hour	357.55	35.76	
	c) Material					
	Corrugated sheet,3 mm thick, "W" beam section railing,4.5 m in length	41.21	Kg	94.70	3902.59	
	Channel post 150 x 75 x 5 mm,1.8 m long,3 Nos @ 16.4 kg per metre	88.56	Kg	67.74	5999.05	
	Spacer 150 x 75 x 5 mm channel 0.33 m long,3 Nos @ 16.4 kg per metre	16.24	Kg	67.74	1100.10	
	Nuts and bolts	20.00	Kg	90.00	1800.00	
	Add 25 per cent of the cost of material for fabrication, nuts, bolts and washers etc.)				3200.44	
	d) Overhead Charges 7.5% on (a+b+c)				1247.58	
	e) Contractor profit 7.5% on (a+b+c)				1247.58	
	Cost for 4.5 metre (a+b+c+d+e)				19129.62	
	Cost for 1 metre (a+b+c+d+e)/4.5				**4251.03**	
	Add Labour Cess 1%				**42.51**	
				Total	4293.54	**Per meter**
5	Reinforced cement concrete M-15 grade 5th km stone of standard design as per IRC:8-1980 fixing in position including painting & printing etc as per Clause - 800 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	SDB/ S.No-8.14 (i) / Page-226		**Each No**		
	Data per 6 Nos					
	a) M-15 Concrete	2.35	Cum	5920.87	13914.04	
	b) Steel reinforcement @ 5kg per sqm	22.08	kg	88.88	1962.47	
	c) Excavation of soil	1.68	Cum	208.87	350.90	
	d) Painting two coats on concrete surface	9.85	Sqm	72.31	712.25	
	e) Lettering on km stone (avg. 30 nos of 12cm ht.)	1800.00	Cm letter	0.62	1116.00	
	f) Labour for transporting & fixing					
	Mate	0.264	Each	392.00	103.49	
	Mason 2nd Class	0.600	Each	442.00	265.20	
	Mazdoor	6.000	Each	352.00	2112.00	
				T	**2480.69**	
	g) Machinery					

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
	Tractor trolley	6.00	hour	357.55	2145.30	
	h) Overhead Charges 7.5% on (f+g)				346.95	
	I) Contractor profit 7.5% on (f+g)				346.95	
	Cost of km. stone of 6nos (a+b+c+d+e+f+g+h+I)			T	23375.55	
	Cost of km. stone of 1no (a+b+c+d+e+f+g+h+i)/6				3895.93	
	Add Labour Cess 1%				38.96	
				Total	3934.89	**Per Each**
7	Reinforced cement concrete M-15 grade ordinary km stone of standard design as per IRC:8-1980 fixing in position including painting & printing etc as per Clause - 800 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	**SDB/ S.No-8.14 (ii) / Page-226**		**Each No**		
	Data per 14 Nos					
	a) M-15 Concrete	3.77	Cum	5920.87	22321.68	
	b) Steel reinforcement @ 5kg per sqm	26.32	kg	88.88	2339.32	
	c) Excavation of soil	2.77	Cum	208.87	578.57	
	d) Painting two coats on concrete surface	11.41	Sqm	72.31	825.06	
	e) Lettering on km stone (avg. 30 nos of 12cm ht.)	1680.00	Cm letter	0.62	1041.60	
	f) Labour for transporting & fixing					
	Mate	0.32	Each	392.00	125.44	
	Mason 2nd Class	1.00	Each	442.00	442.00	
	Mazdoor	7.00	Each	352.00	2464.00	
				T	3031.44	
	g) Machinery					
	Tractor trolley	6.00	hour	357.55	2145.30	
	h) Overhead Charges 7.5% on (f+g)				388.26	
	i) Contractor profit 7.5% on (f+g)				388.26	
	Cost of km. stone of 14nos (a+b+c+d+e+f+g+h+i)				33059.49	
	Cost of km. stone of 1no (a+b+c+d+e+f+g+h+I)/14				2361.39	
	Add Labour Cess 1%				23.61	
				Total	2385.00	**Per Each**
8	Reinforced cement concrete M-15 grade hectometer stone of standard design as per IRC:8-1980 fixing in position including painting & printing etc as per Clause - 800 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	**SDB/ S.No-8.14 (iii) / Page-226**		**Each No**		
	Data per 33 Nos					
	a) M-15 Concrete	1.58	Cum	5920.87	9354.97	
	b) Steel reinforcement @ 5kg per sqm	66.00	kg	88.88	5866.08	
	c) Excavation of soil	1.39	Cum	208.87	290.33	
	d) Painting two coats on concrete surface	6.27	Sqm	72.31	453.38	
	e) Lettering on km stone (avg. 2 nos of 12cm ht.)	330.00	Cm letter	0.62	204.60	
	f) Labour for transporting & fixing					
	Mate	0.34	Each	392.00	133.28	
	Mason 2nd Class	1.50	Each	442.00	663.00	
	Mazdoor	7.00	Each	352.00	2464.00	
				T	3260.28	
	g) Machinery					
	Tractor trolley	6.00	hour	357.55	2145.30	
	h) Overhead Charges 7.5% on (f+g)				405.42	
	I) Contractor profit 7.5% on (f+g)				405.42	
	Cost of km. stone of 33nos (a+b+c+d+e+f+g+h+i)				22385.78	
	Cost of km. stone of 1no (a+b+c+d+e+f+g+h+i)/33				678.36	
	Add Labour Cess 1%				6.78	
				Total	685.14	**Per Each**
9	Providing reinforced cement concrete crash barrier at the edges of road, approaches to bridge structures and medians,constructed with M40 grade concrete with HYSD reinforcement conforming to IRC :21 and dowel bars 25mm dia , 450 mm long at expansion joints filled with pre-moulded asphalt filler board keyed to the structure and installed as per design given in the MOST circular No RW/NH-33022/1/94-DO III dated 24th June,1994 and as per dimensionsin the approved drawing and at locations directed by the Engineer.	**SDB/ S.No-8.22(A) / Page-237**				
	Unit = linear meter					
	Taking Output=10m					
	a)M40 grade concrete	3.000	Cum	7343.63	22030.89	
	b) Material					
	HYSD Steel reinforcement	0.280	Mt	88876.16	24885.32	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
	c) Labour					
	Mate	0.040	day	392.00	15.68	
	Mazdoor	1.000	day	352.00	352.00	
	d) Overhead charges @ 7.5% on (a+b+c)				27.58	
	e) Contractor's profit @7.5% on (a+b+c)				27.58	
	Cost for 10meter				47339.05	
	Rate per meter=(a+b+c+d+e)/10				4733.91	
	Add Labour Cess 1%				47.34	
				Total	4781.25	Per meter

19.09.24

Junior Engineer

19.9.24

Asst. Executive Engineer
Rayagada (R&B) Sub-Division No- II

20.09.24

Executive Engineer
Rayagada (R&B) Division No-1

ANNEXURE-VII

SOIL TEST REPORT "SIJIMALI MINES TOP TO SH-44" FOR THE DESIGN OF CUT SLOPE WITH A RATIO OF 1:1

Introduction

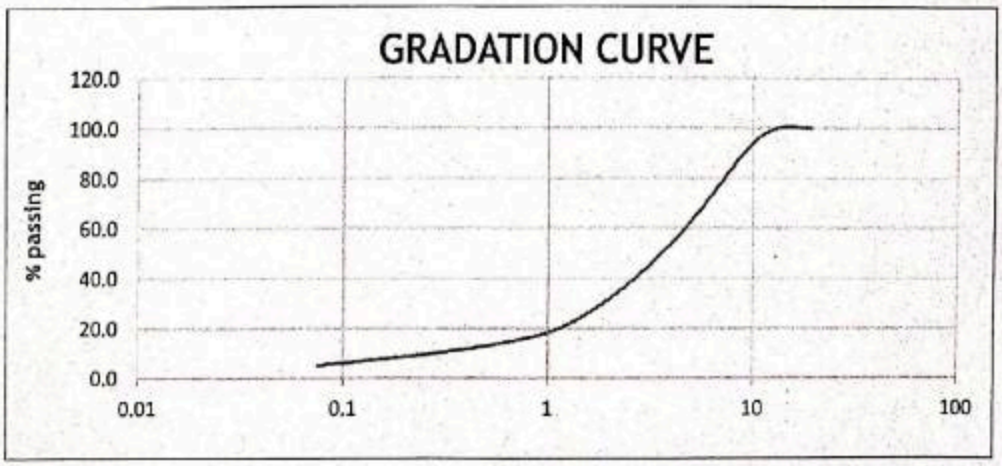
The shoulder, the strip of land adjacent to the travel lane, plays a vital role in ensuring road safety, supporting vehicle breakdowns, and managing water runoff. Proper stabilization of this area is essential to prevent erosion, structural failure, and potential hazards to road users. Shoulder slope stabilization is a critical aspect of road maintenance and construction, aiming to enhance safety, prevent erosion, and extend the lifespan of road infrastructure. This report outlines the processes, techniques, and best practices for effectively stabilizing shoulder slopes.

Materials received from the site

The material received from the site "Sijimali Mines Top to Sh-44" for mix design of soil stabilization, the test conducted as per the IS code and MORTH standard. A total of 10 bags of material received this material were tested for Gradation, Liquid limits, and Plastic Limits as per the IS-2720 code the result and graph are shown below.

Experimental Observation

1. The grading of material was found to be Well graded.



2. The moisture content and plastic limit of the sample was found to be 22% and 17.20%. the soil type is found to be laterite-hard soil type.

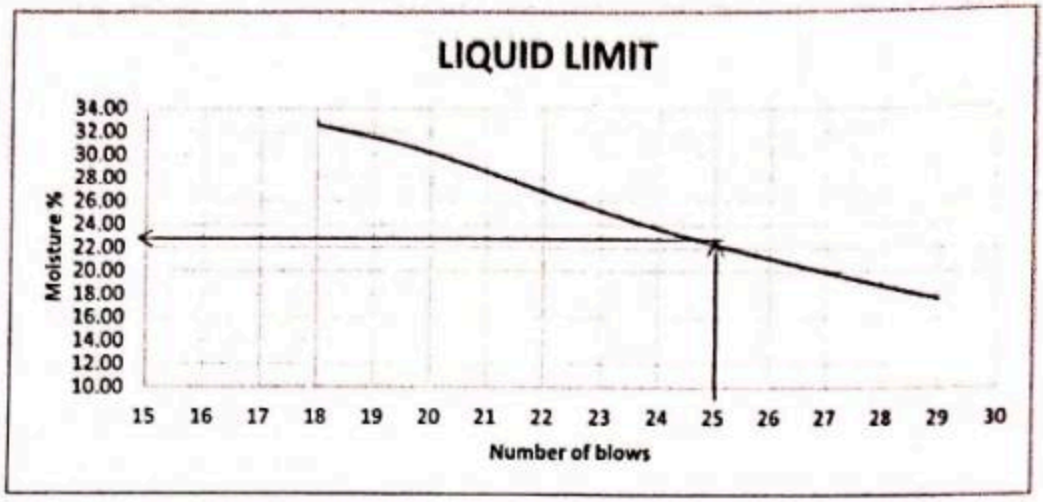
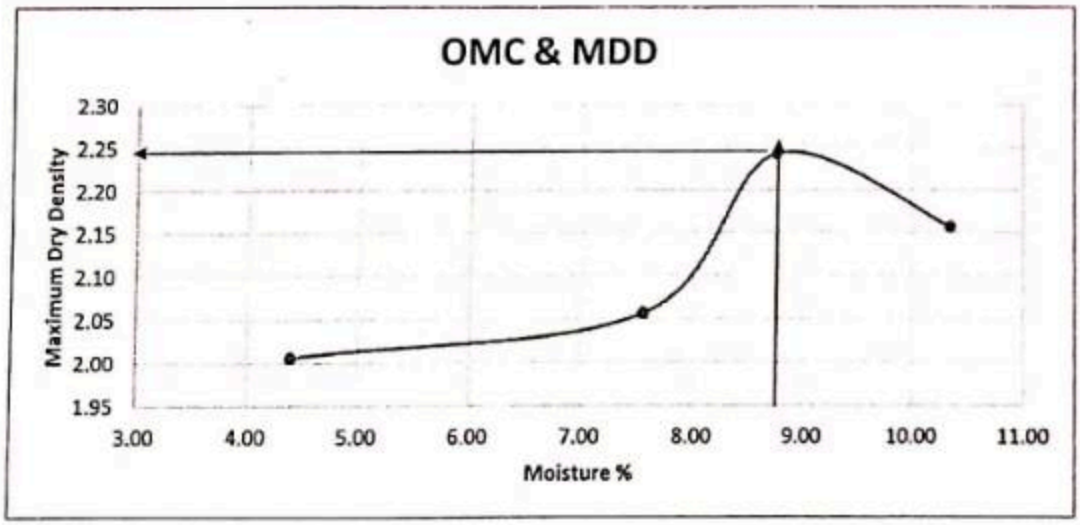


Table for plastic Limits

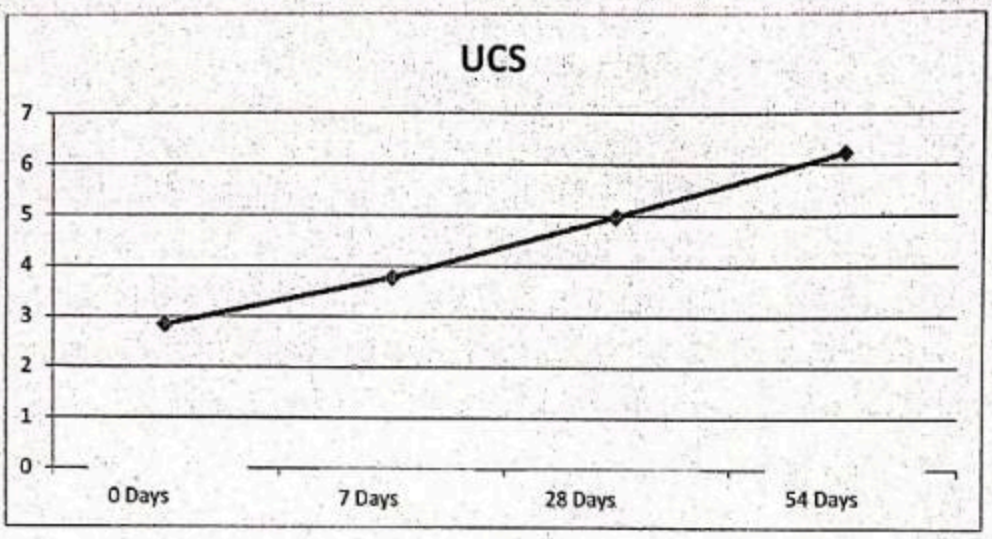
Empty cup weight	Cup with wet soil weight	Cup weight after drying	Moisture content in %	Average Moisture %
12.941	22.063	21.021	12.876	17.204
14.824	24.438	22.736	21.492	

3. Optimum Moisture Content at Maximum Dry Density Test was conducted as per the IS-2720 Part-8, the sample was found to have a maximum Density of 2.45 gm/cc at a maximum Moisture content of 8.76%.

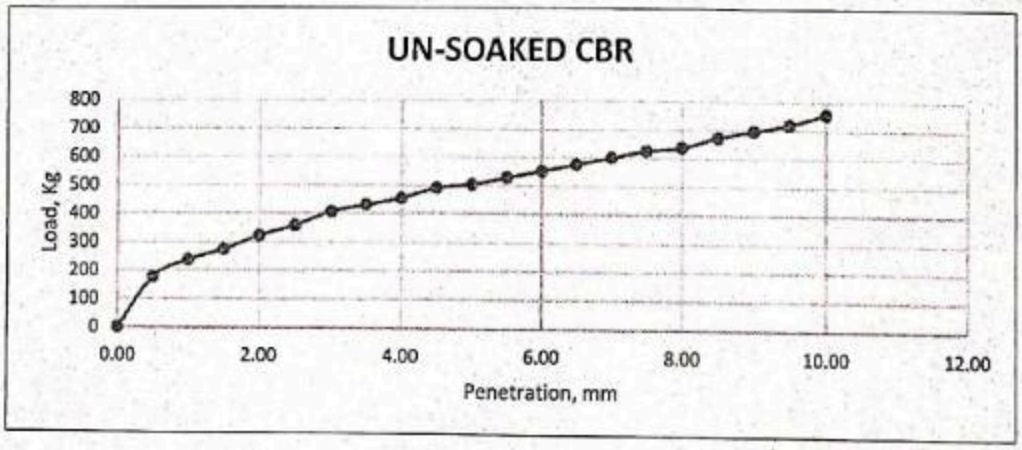


4. Unconfined Compression test was conducted as per IRC-37, based on the above data.

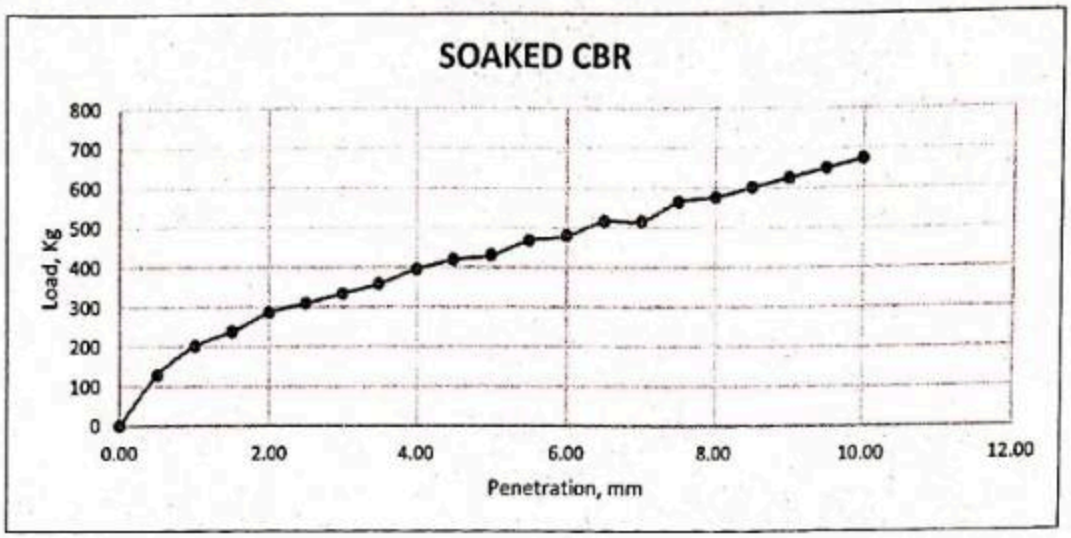
The test was conducted after 0 days, 7 days, 28 days, and 54 days.
The Optimum UCS value was found to be 2.90 MPa, 3.95 MPa, 5.0MPa and 6.20MPa respectively, so it shows that with the increase of days, the bearing strength is also enhanced this is due to a reduction in moisture content and an increase in densification based on time.



5. Californian Bearing Ration Test was conducted with the optimum doses of cement found out from UCS test. As per the IS-2720 Part -16, with Soaked and Un-soaked condition. CBR at Un-Soaked condition was found to be 26.12% and at soaked condition 22.65% respectively.



The CBR values give a clear indication that the soil has enough bearing capacity to resist the imposed load over the pavement as the minimum CBR required for road construction is 8% as per MORTH standard but this soil has a higher value in Soaked condition.



Conclusion

Effective shoulder slope stabilization requires a comprehensive approach, including erosion control, drainage management, slope reinforcement, and surface treatments. Regular maintenance and safety considerations are crucial to ensuring the long-term stability and functionality of the road shoulder.

Based on the soil test data it is concluded that the soil is safe for maintaining a slope gradient of 1:1 slope, as the soil material is of Hard- Laterite type, the moisture content is low i.e 8.76% with a maximum density of 2.45gm/cc and shows a good CBR value of 22.65% in soaked condition, with a consistent UCS value of 5.0MPa at 28 days sample.

The factor of safety (FoS) for slope design in soil generally depends on the type of project, soil conditions, and the potential consequences of failure. Typical factors of safety for slope stability are calculated as follows:

Direct Shear Test

The direct shear testis used to determine the shear strength parameters of soil, particularly cohesion (c) and the angle of internal friction (ϕ). The test involves applying a horizontal force to a soil sample while measuring its response

Apply Normal Load

Apply a predetermined normal load (σ) to the sample using the vertical loading device. This simulates the weight or pressure acting on the soil in the field.

Typical normal stresses are applied in increments (e.g., 50 kPa, 100 kPa, 200 kPa), depending on the test requirements.

Ensure that the normal load is applied gradually and steadily.

Shearing Process

After the normal load is applied, a horizontal force is applied to the top half of the shear box using a mechanical or motorized device. This force generates shear stress in the soil sample.

The rate of horizontal displacement is usually controlled. For drained tests, a slow rate of shearing is used to allow excess pore water pressures to dissipate, while for undrained tests, a faster rate may be used.

The shear force and the horizontal displacement are continuously measured using dial gauges or electronic sensors.

For each normal load, plot the shear stress (τ) versus horizontal displacement to identify the peak shear strength (τmax) for each test.

Calculation for FOS for Slope

Case: - Stability of Cohesionless Slopes

The maximum stable slope angle of sandy embankment is related to the peak friction angle

ø'

Factor of safety

(As per IRC-75-2015 Clause no3.4)

$$F = y \times (\tan\Phi'/\tan\beta)$$

Where ø' = angle of internal friction;
and

β= angle of slope with horizontal.

y'= Density of soil

ø'	36	degree	(from direct shear test)	
ß	45	degree	(for 1:1 slope)	
y	2.25	gm/cc		

tan 36°	0.762
tan 45°	1

Then calculated factor of saety

$$F = y' \times (\tan\Phi'/\tan\beta)$$

FOS :- 1.7145

Some of the tipical range of FoS are mentioned below as per the code.

Temporary slopes: 1.2 to 1.3

These are short-term slopes that might be needed for construction or excavation.

Permanent slopes: 1.5 to 2.0

Slopes that are meant to remain stable over a long period, such as embankments, dams, or natural hill slopes. A value closer to 1.5 is common, but 2.0 may be used where greater stability is needed due to high-risk consequences (e.g., near populated areas).

Critical structures or high-risk areas: > 2.0

For structures that require extreme caution or are subject to severe environmental factors (e.g., seismic activity or flooding), a higher FoS is typically considered.

These values provide a margin of safety to account for uncertainties in soil properties, external loading conditions, and design assumptions.

AASHTO (American Association of State Highway and Transportation Officials)

AASHTO LRFD Bridge Design Specifications: Provides guidance for slope stability in the context of road embankments and bridge approaches.

AASHTO recommends a factor of safety of 1.3 to 1.5 for temporary slopes and 1.5 or higher for permanent slopes, depending on the potential risks and consequences of failure.

2. IRC (Indian Roads Congress)

IRC: 75-2015 Guidelines for the Design of High Embankments: The Indian Roads Congress suggests a FoS for embankments based on the site conditions.

A typical factor of safety of 1.5is recommended for road embankments under normal conditions, with higher values (up to 2.0) in critical or seismic zones.

Conclusion

The calculated value of FoS is 1.714 which lies in the range of Permanent structure, hence from the standards of IS code and our calculation it was found to be in acceptable range. So it is concluded that designing the slope with a ratio of 1:1 is safe.

DIRECT SHEAR TEST

Type of Test: DST

Sample No-1

Rate of Strain: 0.625 mm/min

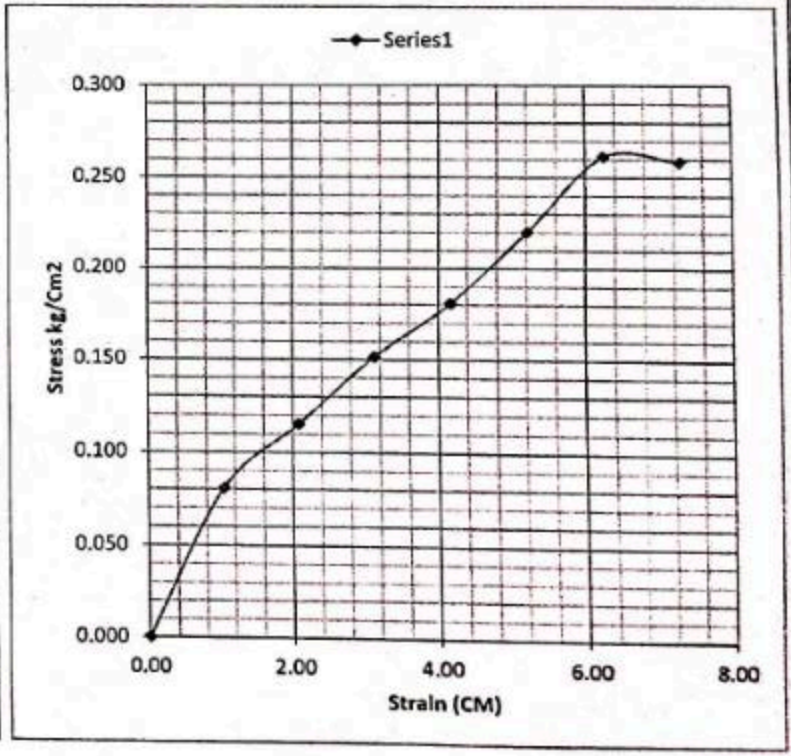
Normal stress : 0.5kg/cm^2

Soil Specimen Size 6 x 6 cm Volume of Specimen: 90 cc

Thickness: 2.50 cm Density: 2.25 gm/cc

Area of Specimen: 36 cm^2 PR Least Count: 0.284 kg

SL.No.	Time Elapsed (min)	Shearing Displacement δ(cm)	Corrected Area $A_c = A_0(1-\delta/3)$	Proving ring Dialgauge Reading	Shear Force (PR Least Count x (5)	Shear Stress (6)/(4) (Kg/cm^2)	Axial Strain (%) δ (cm)/(6) (cm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	0.00	0.0000	36.00	0.00	0.00	0.000	0.000
2	1.00	0.0625	35.25	10.00	2.84	0.081	1.04
3	2.00	0.1250	34.50	14.00	3.98	0.115	2.08
4	3.00	0.1875	33.75	18.00	5.11	0.151	3.13
5	4.00	0.2500	33.00	21.00	5.96	0.181	4.17
6	5.00	0.3125	32.25	25.00	7.10	0.220	5.21
7	6.00	0.3750	31.50	29.00	8.24	0.261	6.25
8	7.00	0.4375	30.75	28.00	7.95	0.259	7.29



DIRECT SHEAR TEST

Type of Test: DST Sample No-2

Rate of Strain: 0.625 mm/min

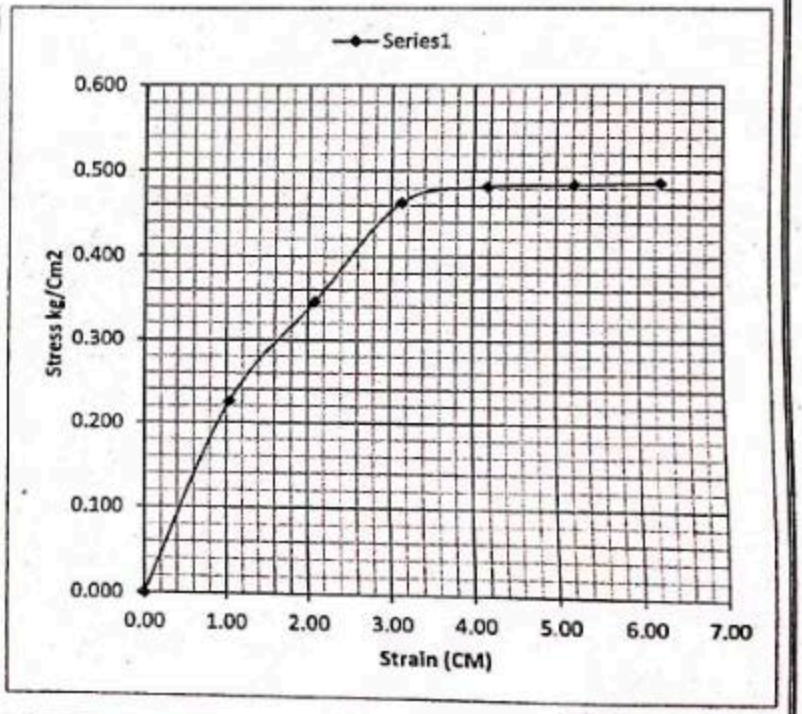
rmal stress : 1.0 kg/cm^2

Soil Specimen Size: 6 x 6 cm Volume of Specimen: 90 cc

Thickness: 2.50 cm Density: 2.25 gm/cc

Area of Specimen: 36 cm^2 PR Least Count: 0..284 kg

SL.No.	Time Elapsed (min)	Shearing Displacement δ(cm)	Corrected Area $A_c = A_o(1-\delta/3)$	Proving ring Dialgauge Reading	Shear Force (PR Least Count x (5)	Shear Stress (6)/(4) (Kg/cm^2)	Axial Strain (%) δ (cm)/(6) (cm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	0.00	0.0000	36.00	0.00	0.00	0.000	0.000
2	1.00	0.0625	35.25	28.00	7.95	0.226	1.04
3	2.00	0.1250	34.50	42.00	11.93	0.346	2.08
4	3.00	0.1875	33.75	55.00	15.62	0.463	3.13
5	4.00	0.2500	33.00	56.00	15.90	0.482	4.17
6	5.00	0.3125	32.25	55.00	15.62	0.484	5.21
7	6.00	0.3750	31.50	54.00	15.34	0.487	6.25



DIRECT SHEAR TEST

Type of Test: DST — Sample No-3

Rate of Strain: 0.625 mm/min

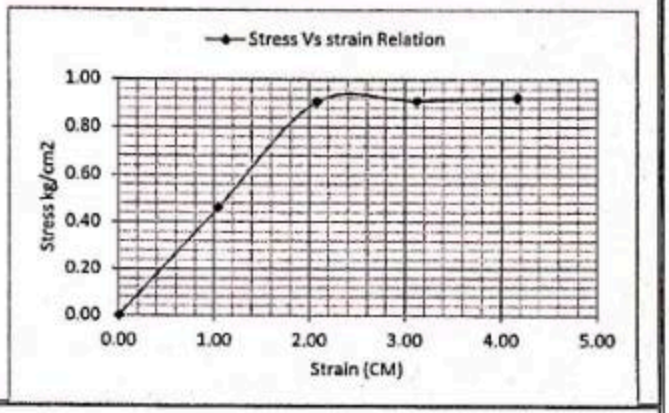
mal stress : 2.0 kg/cm²

Soil Specimen Size: 6 x 6 cm — Volume of Specimen: 90 cc

Thickness: 2.50 cm — Density: 2.25 gm/cc

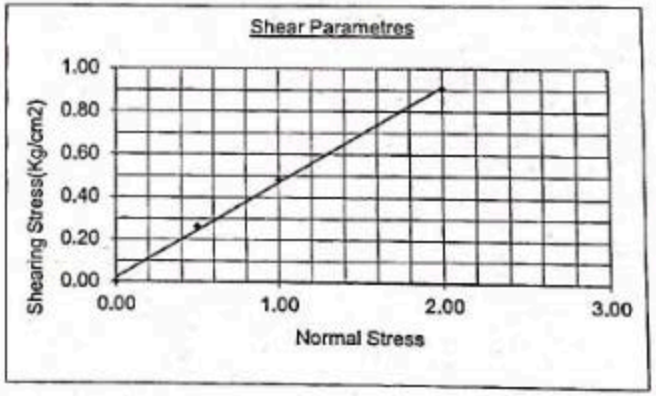
Area of Specimen: 36 cm² — PR Least Count: 0..284 kg

SL.No.	Time Elapsed (min)	Shearing Displacement δ(cm)	Corrected Area $A_c = A_0(1-\delta/3)$	Proving ring Dialgauge Reading	Shear Force (PR Least Count x (5)	Shear Stress (6)/(4) (Kg/cm²)	Axial Strain (%) δ (cm)/(6)(cm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	0.00	0.0000	36.00	0.00	0.00	0.000	0.000
2	1.00	0.0625	35.25	57.00	16.19	0.459	1.04
3	2.00	0.1250	34.50	110.00	31.24	0.906	2.08
4	3.00	0.1875	33.75	108.00	30.67	0.909	3.13
5	4.00	0.2500	33.00	107.00	30.39	0.921	4.17



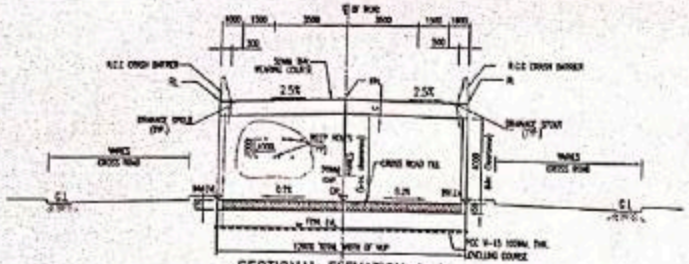
SHEAR PARAMETERS DETERMINATION

SL.No.	Normal Stress Applied (Kg/cm²)	Proving ring Dialgauge reading at Failure	Shear Force (Kg)	Corrected Area	Shear Stress (Kg/cm2)	C' Value kg/cm²	Ø' Value (Degree)
(1)	(2)	(3)	(4)	(5)	(6)		
	0	0	0	0	0		
1	0.5	29.00	8.236	31.500	0.261	0.00	36
2	1.0	56.00	15.904	33.000	0.482		
3	2.0	110.00	31.24	34.500	0.906		

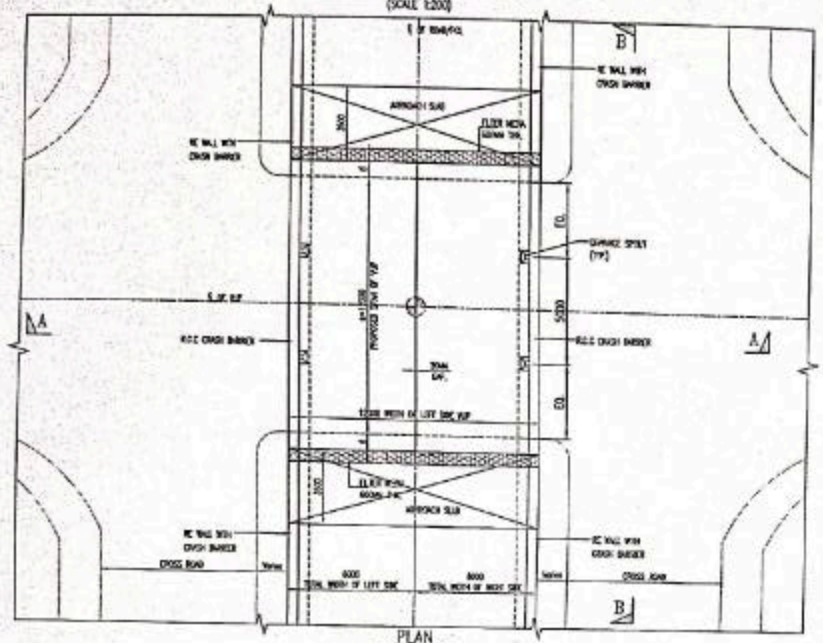


ANNEXURE-VIII

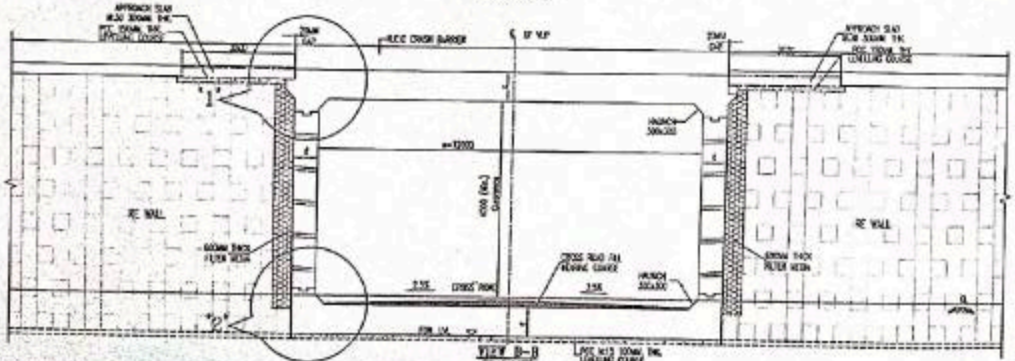
DRAWINGS



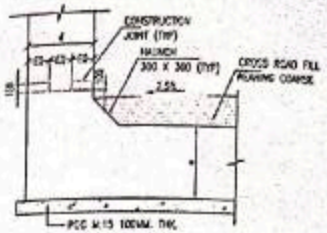
SECTIONAL ELEVATION A-A
(SCALE 1:200)



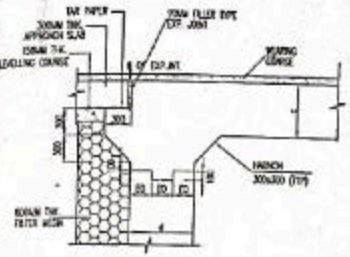
PLAN
(SCALE 1:200)



VIEW B-B
(SCALE 1:100)



DETAIL-2
(SCALE-1:40)



DETAIL-1
(SCALE-1:40)

TABLE SHOWING DIMENSION DETAILS

a (mm)	b (mm)	c (mm)	d (mm)	e (mm)
12000	4000 (Min.)	650	750	800

391

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS IN METRES UNLESS NOTED OTHERWISE. DRAWINGS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
2. CONCRETE GRADE FOR VARIOUS ELEMENTS SHALL BE AS FOLLOWS:
   a) RCC RTS/APPROACH SLAB — M30
   b) RCC CRASH BARRIER — M40
   c) PCC LEVELING COURSE — M15
3. ALL UNTENSIONED REINFORCEMENT SHALL BE GRADE FE 500 FOR BARS OF DESIGNATION Fe 500 CONFORMING TO IS:1786 SCHEDULE WITH A MINIMUM YIELD STRENGTH OF 500 N/sq.mm.
4. BACK FILLING SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX B OF IRC:78-2000 HAVING PROPERTIES C=0, ϕ = 30° & γ = 20 kN/Cum.
5. WEEP HOLES 100 DIA, SPACED AT 1200 c/c BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUTMENT
6. FOR DETAILS OF APPROACHES REFER RESPECTIVE PLAN & PROFILE DRAWINGS.
7. FOR RE WALL & RETAINING WALL DETAILS REFER SEPARATE DRAWING.
8. THE SOIL ON EITHER SIDE OF BOX SHALL BE FILLED IN LAYERS NOT EXCEEDING 300MM OF EACH LAYER COMPACTED TO THE REQUIRED DRY DENSITY. DURING FILLING ANY INSTANT OF TIME THE DIFFERENCE IN THE HEIGHT OF SOIL ON EITHER SIDE SHALL NOT BE MORE THAN 300MM.
9. 50mm THK. WEARING SHALL BE PROVIDED.
10. THE SAFE BEARING CAPACITY AS PER BORE LOG IS 11T/Sqm. THE SAME SHALL BE VERIFIED AT SITE BEFORE LAYING FOUNDATION CONCRETE, ANY VARIATION SHALL BE BROUGHT TO THE NOTICE OF DESIGN CONSULTANT.
11. WATER TO BE USED FOR CONCRETING AND CURING ETC. SHALL CONFORM TO CLAUSE 302.1 OF IRC 21-2000.
12. ANY LOOSE SOIL BELOW THE FOUNDATION SHALL BE REMOVED AND FILLED UP WITH GOOD QUALITY SOIL/SAND AND WELL COMPACTED.
13. FILLER EXPANSION JOINT SHALL BE PROVIDED AS PER IRC:83-2002.
14. CONSTRUCTION JOINT IN CURB SHALL BE FOLLOWED AS PER MORTH GUIDELINES

Junior Engineer
Kashipur piling Section
Rayagada

Asst. Executive Engineer
Rayagada (R&B) Sub-Division No. II

19.9.24

Executive Engineer
Rayagada (R&B) Division No-I

Chief Consultant Engineer
Rayagada (R&B) Circle
Rayagada

NOTES: 1. All the Dimensions are in meter unless otherwise specified.

REV	DATE	DESCRIPTION	INITIAL	SIGN.	CHECKED	APPROVED
0		INITIAL Submission				

CLIENT:
Mythri Infrastructure And Mining India Pvt. Ltd.
S.F.S No-105/1, New Canara Bank, Main Road, Tikiri, Dist-Rayagada, Odisha. Pin-765001.

PROJECT:
Preparation for Preliminary Feasibility Study and Detailed Project Report of Optimized Road Alignment using Satellite Imageries and Detailed Field Investigation Survey for approach road Development from SH-44 to Sijimali Saddle Mines Top

DESIGN CONSULTANT:
Utkal Rail Consultants Pvt. Ltd.
At-Ramchandrapur, Near Dhanmandal Police Station, P.O.-Dhanmandal, Dist-Jajpur, Odisha, Pin-754004

AUTHORITY:

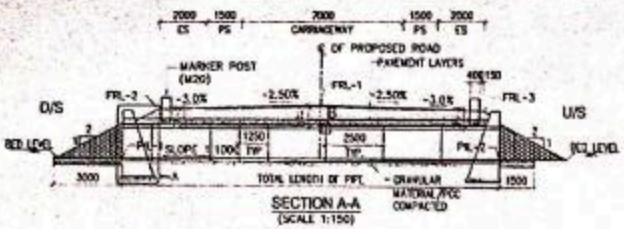
PREPARED BY:

DESIGNED	PRASAD	PSLV
DRAWN	DITTU	DVD
CHECKED	SUNIL	S.K.PL
APPROVED	SUNIL	S.K.PL
DATE: 03.09.2024	SCALE:	NOT TO SCALE

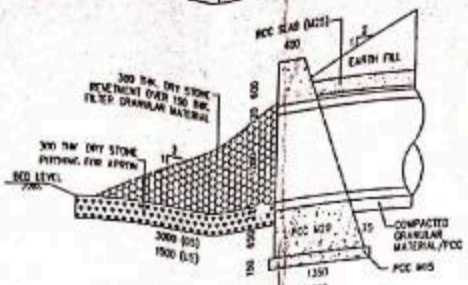
TITLE:
TYPICAL VEHICULAR UNDERPASS
GENERAL ARRANGEMENT
DRAWING OF SIZE 1x12.0mx4.0m

DRAWING NO:

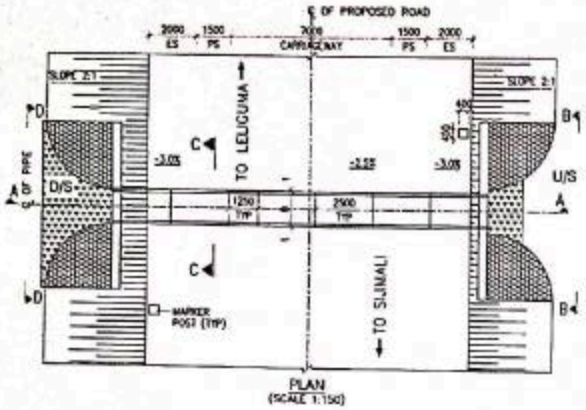
REV 0



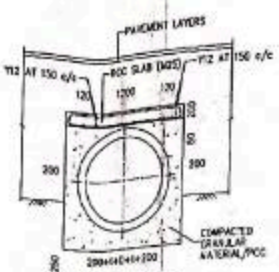
SECTION A-A
(SCALE 1:150)



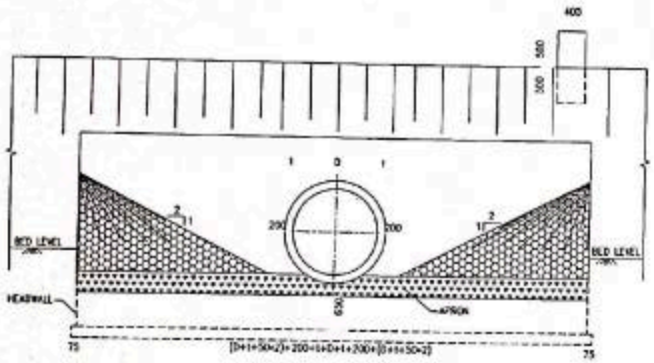
DETAIL A
(SCALE 1:50)



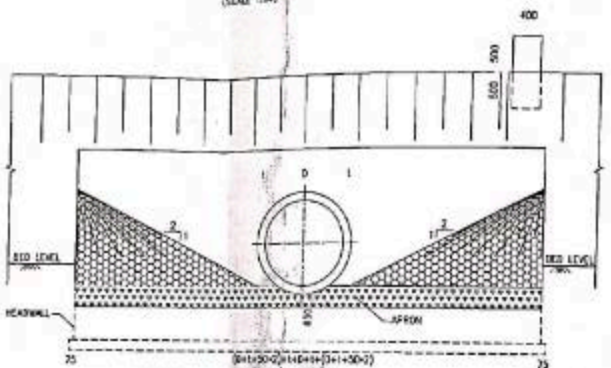
PLAN
(SCALE 1:150)



SECTION C-C
(FOR HEIGHT OF FILL LESS THAN 0.6m EXCLUDING ROAD CRUST)
(SCALE 1:50)



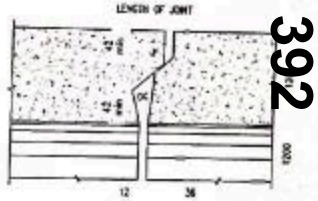
VIEW B-B
(SCALE 1:50)



VIEW D-D
(SCALE 1:50)

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS NOTED OTHERWISE.
2. DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN SHALL BE FOLLOWED.
3. GRADE OF STEEL SHALL BE FE-5000 CONFORMING TO IS : 1786 WITH LATEST AMENDMENTS
4. THE FOLLOWING GRADE OF CONCRETE SHALL BE USED FOR
   (a) HEAD WALL
   (b) RCC MARKER POST - M(20)
   (c) TOP SLAB ENCASEMENT - M(20)
5. CLEAR COVER SHALL BE AS FOLLOW.
   (a). 40mm FOR NON-EARTH FACE
   (b). 75mm FOR EARTHEN FACE
6. LONGITUDINAL SLOPE OF PIPE SHALL NOT BE LESS THAN 1:1000
7. ALL PIPES FOR NEW CONSTRUCTION SHALL BE OF NP4 CLASS TYPE CONFORMING TO IS:458
8. PIPE SHALL BE JOINED BY INTERNAL FLUSH JOINT AS PER IS:458
9. FOR DETAILS OF MEDIAN KERB,PAVEMENT OVER PIPE CULVERT, PROFILE CORRECTIVE COURSE ON TOP,RAILING ETC, REFER RELEVANT HIGHWAY DRAWING.
10. LENGTH OF EACH PIPE HAS BEEN CONSIDERED AS 2.5M. SMALLER PIPE OF 1.25M LENGTH HAS BEEN PROPOSED AT THE END TO MEET THE REQUIREMENT OF PART LENGTH OF PIPE.
11. AFTER INSTALLATION OF PIPES, THE GAPS IN BETWEEN THE PIPES SHALL BE FILLED WITH CEMENT OR MORTAR.
12. THE THICKNESS OF BEDDING SHALL BE AS PER MORTH CLAUSE 2904.
13. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH RELEVANT HIGHWAY DRAWINGS. FILL & CAMBER, SUPER ELEVATION AT PARTICULAR LOCATION SHALL BE VERIFIED WITH THE HIGHWAY DRAWINGS & LOCATION SPECIFIC DRAWING OF CULVERT.
14. DISCREPANCY IF ANY IS TO BE IMMEDIATELY BROUGHT IN TO THE NOTICE OF ENGINEER FOR NECESSARY MODIFICATION IN THE DRAWING.
15. INVERT LEVEL HAS TO BE VERIFIED ON SITE BEFORE LAYING THE FOUNDATION.
16. LOCATION WHERE HEIGHT OF FILL EXCLUDING CRUST IS LESS THAN 0.6M, THE PIPE SHALL BE ENCASED.
17. GUARD STONE & MARKER POSTS SHALL BE PROVIDED ONLY IN CASE HEAD WALL IS AWAY FROM EARTHEN SHOULDER & ITS TOP DOESN'T ABOVE SHOULDER LEVEL.
18. BEDDING OF PIPE & FOUNDATION OF HEAD WALL SHALL BE CONFIRMED AS PER SOIL CONDITION.

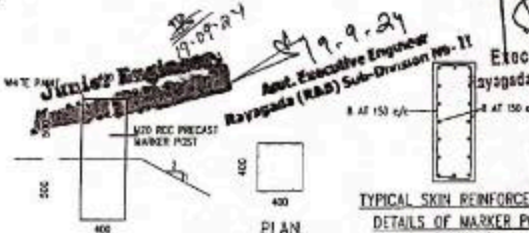


DC = INCLUDED ANGLE NOT MORE THAN 25°
(ONLY FOR DESIGN PURPOSE NOT TO BE MEASURED)
e = 0.002 OF INTERNAL DIA OR 2mm,MIN.

DETAIL B
(TYPICAL DETAILS SHOWING INTERNAL FLUSH JOINTS OF NEW PIPE)

SCHEDULE OF PIPE CULVERT

EXISTING CHAINAGE IN Km	PROPOSED DESIGN CHAINAGE IN Km	PROPOSED DETAILS				LENGTH OF PIPE (L)	PROPOSED LEVELS					(θ) SKEW ANGLE	TYPE OF CROSS SECTION	DEPTH OF FILL (m)		
		TYPE	DIMENSIONS OF PIPE				FRL-1	FRL-2	FRL-3	PFL-1	PFL-2			DF1	DF2	DF3
			I	D	t											
---	---	PIPE	---	---	---	14000	---	---	---	---	---	0.0°	TCS-D4	---	---	---



SECTION

PLAN

MARKER POST
(SCALE 1:20)

TYPICAL SKIN REINFORCEMENT DETAILS OF MARKER POST
(SCALE 1:20)

19-9-24
Junior Engineer
Asst. Executive Engineer
Rayagada (R&B) Sub-Division No. II
19.9.24
Executive Engineer
Rayagada (R&B) Division

NOTES: 1. All the Dimensions are in meter unless otherwise specified.

CLIENT: vedanta
1st Floor, Module C/2, Fortune Tower, Bhubaneswar, Odisha - 751023, India

PROJECT: DETAILED PROJECT REPORT (DPR) DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SUMALI MINES TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH

DESIGN CONSULTANT: Uttal Rail Consultants Pvt. Ltd. Akshaychandipur, (Near Dhanmandal Police Station), P.O. Dhanmandal Dist-Jajpur, Odisha, Pin-754034

EXECUTING AGENCY: Mythri Infrastructure And Mining India Pvt. Ltd. S.N.3 No.-151, Near Canara Bank, Main Road, Tahil, Dist- Rayagada, Odisha, Pin-765015.

PREPARED BY: Trigeometry Services JV/ JN Associates Plot No - 250/308, Nalanda Marg, Govind Prasad, Bomikhal, Bhubaneswar, Odisha - 751019

DESIGNED	PRASAD	PSAI
DRAWN	BIKAS	DP
CHECKED	SUBHAS	S.K.M.
APPROVED	SUBHAS	S.K.M.
DATE	SCALE: HOR = 1:1000 VER = 1:100	

TITLE: TYPICAL GENERAL ARRANGEMENT DRAWING FOR NEW CONSTRUCTION OF PIPE CULVERT

DRAWING NO: SH44-STR-PC-GA-001

SHEET 1 OF 1

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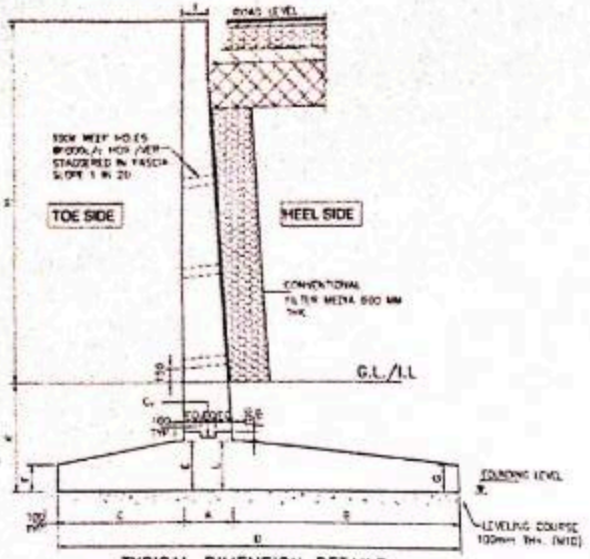
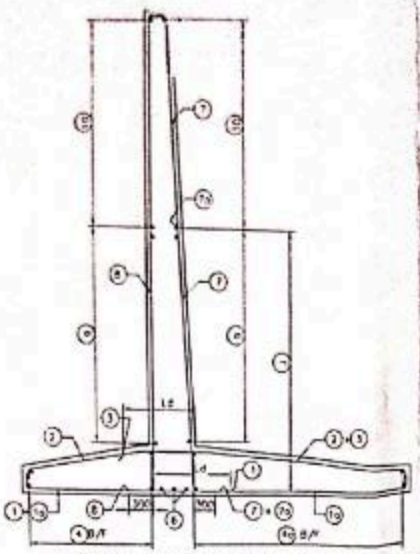


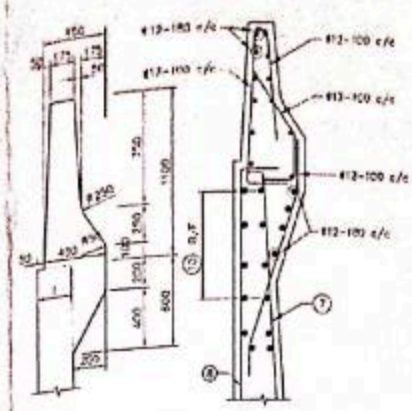
TYPICAL DIMENSION DETAILS OF RETAINING WALL

SCALE 1:40



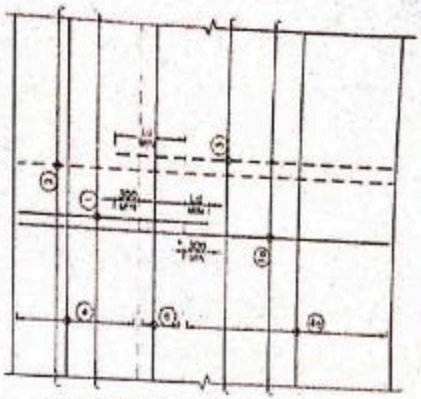
TYPICAL REINFORCEMENT DETAILS OF RETAINING WALL

SCALE 1:40



DIMENSIONAL & RC DETAILS OF CRASH BARRIER FOR BRIDGES

SCALE 1:25



FOUNDATION PLAN FOR RETAINING WALL

SCALE 1:40

MINIMUM 300MM LENGTH SHALL BE PROVIDED BEYOND THE FACE/JUNCTION OF WALL

TABLE SHOWING SALIENT DIMENSIONS

TYPE NOS	H	A	B	C	D	E	F	G	L	I	K	J	SBC KN/m²
TYPE-13	8.50	1400	4400	2500	8300	1200	400	400	1200	300	2000	5100	218
TYPE-12	8.00	1200	4450	2200	7850	1050	400	400	1050	300	2000	4800	221
TYPE-11	7.50	1100	4300	2100	7500	950	400	400	950	300	2000	4600	212
TYPE-10	7.00	950	4280	1950	7100	950	400	400	950	300	2000	4400	206
TYPE-9	6.50	925	3750	1900	6575	925	400	400	925	300	2000	4250	200
TYPE-8	6.00	800	3650	1700	6150	800	400	400	800	300	2000	4000	198
TYPE-7	5.50	700	3550	1500	5750	700	400	400	700	300	2000	3767	195
TYPE-6	5.00	650	3350	1500	5500	650	400	400	650	300	2000	4062	178
TYPE-5	4.50	600	3200	1250	5050	600	300	300	600	300	2000	3367	180
TYPE-4	4.00	550	3000	900	4450	550	300	300	550	300	2000	3007	193
TYPE-3	3.50	550	2750	850	4150	550	300	300	550	300	2000	2940	179
TYPE-2	3.00	450	2600	800	3850	450	300	300	450	300	2000	2447	165
TYPE-1	2.50	450	2350	750	3550	450	300	300	450	300	2000	-	126

SCHEDULE OF REINFORCEMENT FOR RETAINING WALL

BEND LENGTH OF BAR (B)	SHAPE OF BAR	Bar Mark	8.5	8	7.5	7	6.5	6	5.5	5	4.5	4	3.5	3	2.5
F-75	a	1	16mm@170c/c	10mm@170c/c	16mm@170c/c	16mm@180c/c	12mm@170c/c	12mm@170c/c	10mm@170c/c	10mm@170c/c	10mm@170c/c	10mm@170c/c	10mm@170c/c	10mm@170c/c	10mm@170c/c
F-75	a	1a	20mm@170c/c	20mm@170c/c	16mm@170c/c	16mm@180c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	12mm@170c/c	12mm@170c/c	12mm@170c/c	12mm@170c/c
F-75	a	2	20mm@170c/c	20mm@170c/c	20mm@170c/c	16mm@180c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	12mm@170c/c	12mm@170c/c
F-75	a	3	16mm@170c/c	16mm@170c/c	16mm@170c/c	20mm@180c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	15mm@170c/c	12mm@170c/c	12mm@170c/c	10mm@170c/c	16mm@170c/c	12mm@170c/c
150	a	4	10mm@200c/c	10mm@200c/c	10mm@200c/c	10mm@200c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c	12mm@300c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c
150	a	4a	10mm@150c/c	10mm@150c/c	10mm@150c/c	10mm@150c/c	10mm@200c/c	10mm@150c/c	10mm@150c/c	12mm@200c/c	10mm@200c/c	10mm@200c/c	10mm@250c/c	10mm@250c/c	10mm@300c/c
150	a	6	10mm@150c/c	10mm@150c/c	10mm@150c/c	10mm@150c/c	10mm@200c/c	10mm@150c/c	10mm@150c/c	12mm@200c/c	10mm@200c/c	10mm@200c/c	10mm@250c/c	10mm@250c/c	10mm@300c/c
300	a	7	25mm@170c/c	25mm@170c/c	25mm@170c/c	25mm@180c/c	20mm@170c/c	20mm@170c/c	20mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	12mm@170c/c	16mm@170c/c	12mm@85c/c
300	a	7a	20mm@170c/c	20mm@170c/c	20mm@170c/c	20mm@180c/c	20mm@170c/c	20mm@170c/c	20mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	12mm@170c/c	Not in use	
300	a	8	12mm@130c/c	12mm@150c/c	12mm@140c/c	12mm@140c/c	12mm@160c/c	12mm@160c/c	12mm@150c/c	12mm@170c/c	12mm@170c/c	12mm@170c/c	10mm@150c/c	10mm@170c/c	10mm@170c/c
150	a	9	12mm@100c/c	12mm@100c/c	10mm@100c/c	10mm@100c/c	10mm@100c/c	10mm@100c/c	10mm@100c/c	10mm@100c/c	10mm@100c/c	10mm@100c/c	10mm@150c/c	10mm@200c/c	10mm@200c/c
150	a	10	12mm@300c/c	12mm@300c/c	10mm@200c/c	10mm@200c/c	10mm@300c/c	10mm@250c/c	10mm@250c/c	12mm@300c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c

NOTES:

1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES UNLESS MENTIONED OTHERWISE
2. MATERIALS
   CONCRETE :-
   M30-FOR RCC RETAINING WALL, M15-FOR PCC LEVELING COURSE & WING-CRASH BARRIER.
   REINFORCEMENT :-
   Fe500D (H.Y.S.D BAR CONFORMING TO IS-1786.)
3. 100 DIA PVC AT SPACING 1000c/c IN HORIZONTAL/ VERTICAL DIRECTION SHALL BE PROVIDED 150 ABOVE GROUND LEVELS AT RETAINING WALL.
4. BACKFILL MATERIAL BEHIND RETAINING WALL SHALL HAVE THE PROPERTIES AS
   $\phi = 30°$ & $\gamma = 2.0\ t/m^3$
5. CONVENTIONAL FILTER MEDIA 600MM THK. SHALL BE PROVIDED BEHIND RETAINING WALL.
6. CLEAR COVER IN FOOTING/EARTH FACE 75MM OR ALL OTHER LOCATION 45mm.
7. LAPS IN REINFORCEMENT.
   (i) MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE - 50Ø
   ii) ANCHORAGE LENGTH FOR M30 GRADE OF CONCRETE - 57Ø
   (ii) NOT MORE THAN 50% OF REINFORCEMENT SHALL BE LAPPED AT ANY ONE SECTION IF LAPPED SUCH LAPPING SHALL BE IN STAGGERED WAY
8. FOR INTERMEDIATE HEIGHTS OF RETAINING WALL THE DETAILS OF NEXT HIGHER HEIGHT SHALL BE USED
9. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE GENERAL ARRANGEMENT DRAWING OF RESPECTIVE STRUCTURE.
10. COUPLER SHALL BE USED FOR BAR DIAMETER GREATER THAN 16mm
11. DOWEL BARS FOR CRASH BARRIER SHALL BE LEFT OPEN WHILE CASTING THE RETAINING WALL.
12. SBC GIVEN IN THE TABLE SHOWING SALIENT DIMENSIONS SHALL BE CONFIRMED PRIOR TO THE COMMENCEMENT OF WORK.
13. IN CASE ANY LOOSE POCKET IS OBSERVED AT THE FOUNDING LEVEL THE SAME SHALL BE DONE AS PER MORTH SPECIFICATIONS
14. MAXIMUM LENGTH OF RETAINING WALL PANEL SHOULD NOT BE MORE THAN 25 M. 20 MM EXPANSION GAP FILLED WITH COMPRESSIBLE MATERIAL SHOULD BE PROVIDED BETWEEN TWO ADJACENT RETAINING WALL PANEL

Legend:
- BAR ON TOP/OTHER FACE
- BAR ON BOTTOM/EARTH FACE
- T/F BOTH FACE

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Executive Engineer
Rayagada (R&B) Division No-I

Asst. Executive Engineer
Rayagada (R&B) Sub-Division No. II

Chief Constn. Engineer
Rayagada (R&B) Circle
Rayagada

NOTES: 1. All the Dimensions are in meter unless otherwise specified.

NO	DATE	DESCRIPTION	DESIGN	DRAWN	CHECKED	APPROVED

CLIENT: vedanta
1st Floor, Module C0, Fortune Tower, Bhubaneshwar, Odisha - 751023, India

PROJECT: DETAILED PROJECT REPORT (DPR) DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SIJIMALI MINES TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH

DESIGN CONSULTANT: Utkal Rail Consultants Pvt. Ltd. At/Ashrambagan (Near Dharmendal Police Station), P.O. Dharmendal, Dist-Jajpur Odisha. Pin-754034

EXECUTING AGENCY: Mythri Infrastructure And Mining India Pvt. Ltd. LP.S No - 05, Near Canara Bank, Main Road, Tikili, Dist- Rayagada, Odisha. Pin-765015

PREPARED BY: Trigonometry Services JV JN Associates
Pothe-358103, Hatsuna Nilaya, Gobind Prasad, Bankhal, Bhubaneswar, Odisha - 751009

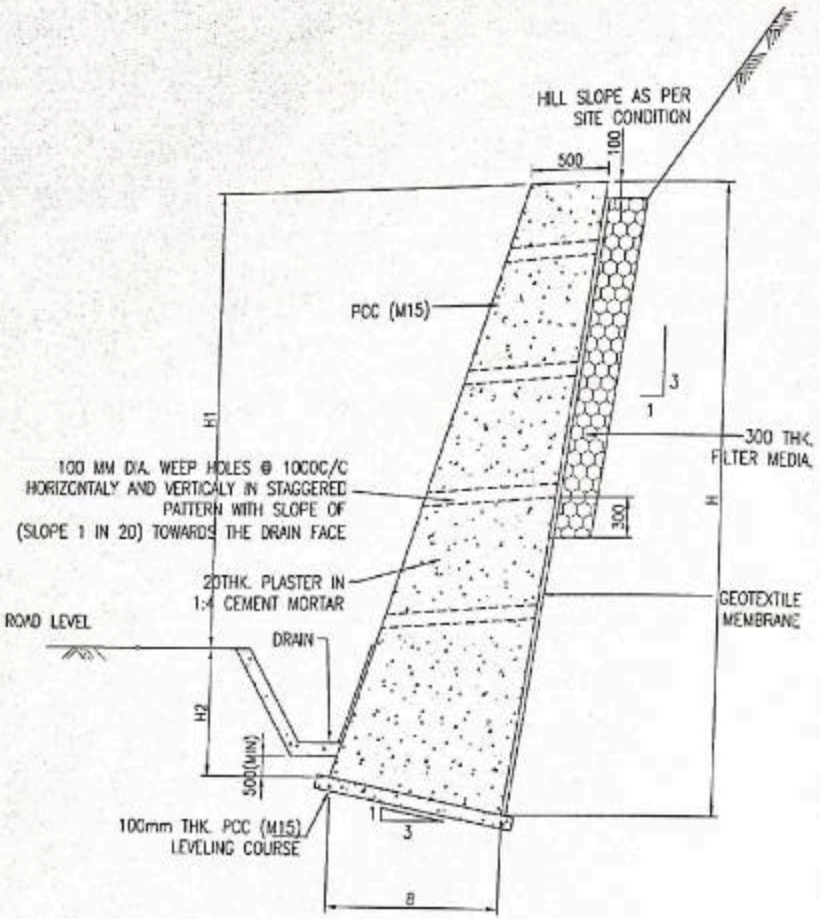
DESIGNED	PKSM
DRAWN	PKSM
CHECKED	SKM
APPROVED	SKM
DATE	
SCALE	AS# = 1:1000 AS = 1:100

TITLE: GAD & RC DETAILS OF RETAINING WALL

DRAWING NO: SH44-STR-RW

SCALE:

SHEET 1 OF 1



CROSS SECTIONAL ELEVATION OF PCC BREAST WALL

(SCALE-1:20)

DIMENSION DETAIL :-

TOTAL HEIGHT'H' (M)	H1 (M)	H2 (M)	B (M)	REQUIRED BEARING CAPACITY (KN/M²)
8.5	5.00	1.30	2.75	300
5.5	4.00	1.20	1.85	300
4.7	3.00	1.20	1.30	300
3.8	2.00	1.20	0.85	250

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19.09.24

Junior Engineer
Kashipur (R&B) Section

19.9.24

Asst. Executive Engineer
Rayagada (R&B) Sub-Division No-II

Executive Engin
Rayagada (R&B) Divisi

NOTES :-

1. ALL DIMENSIONS ARE IN MILLIMETERS, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
2. GRADE OF PCC SHALL BE M15.
3. GRADE OF PCC LEVELING COURSE SHALL BE M15 (REF: CLAUSE NO:2104.3 (i), SPECIFICATIONS FOR ROAD & BRIDGE WORKS, MoRTH)
4. 100MM DIA WEEP HOLES SHALL BE PROVIDED @ MAXIMUM 1.0M SPACING IN A STAGGERED PATTERN STARTING FROM 0.15m ABOVE GROUND.
5. 20MM EXPANSION JOINT TO BE PROVIDED AT EACH 10M ALONG LENGTH OF WALL.
6. MATERIAL BEHIND WALL SHOULD BE WELL COMPACTED.
7. FOR DIMENSION DETAILS PLEASE REFER TABLE-1.
8. BACK FILL AND FILTER MEDIA BEHIND THE BREAST WALL SHALL BE PROVIDED CONFIRMING TO APPENDIX 6 OF IRC:78-2014 HAVING PROPERTIES Ø-30°,C-0.
9. SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300MM.
10. MINIMUM SURFACE REINFORCEMENT @ 2.5kg/sqm. SHALL BE PROVIDED BOTH HORIZONTALLY & VERTICALLY AS PER CLAUSE NO. 710.1.1 OF IRC:78-2014.
11. CLEAR COVER OF ALL REINF. TO BE 50MM
12. THE WALL HAS BEEN DESIGNED CONSIDERING THE WEEP HOLES ARE FUNCTIONING FULLY.
13. UNIT WEIGHT OF PCC IS CONSIDERED IN DESIGN AS 24 KN/M³.
14. SAFE BEARING CAPACITY TO BE FOLLOWED AS PER THE VALUES PROVIDED IN TABLE-1. THIS IS TO BE ENSURED THROUGH SOIL INVESTIGATION AT SITE BEFORE EXECUTION.
15. THICKNESS OF FILTER MEDIA IS CONSIDERED AS PER CLAUSE NO. 9.3.5, IRC:SP:48.
16. GEOTEXTILE MEMBRANE BEHIND EXTERNAL WALL SHALL BE PROVIDED IN CONFORMITY WITH CL:704 OF MoRTH SPECIFICATION.

Chief Constn. Eng
Rayagada (R&B) C
Rayagada

NOTES: 1. All the Dimensions are in meter unless otherwise specified.

REV	DATE	DESCRIPTION	DRAWN	CHKD	DES'D	APPROVED
A	13.08.24	INITIAL SUBMISSION	PRASAD	DIPTA	SARAT	SARAT

CLIENT: vedanta
1st Floor, Module G12, Fortune Tower, Bhubaneshwar, Odisha - 751023, India

PROJECT: DETAILED PROJECT REPORT (DPR) ON DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SIJIMALI MINES TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH

DESIGN CONSULTANT: Utkal Rail Consultants Pvt. Ltd.

EXECUTING AGENCY: Mysteel Infrastructure And Mining India Pvt. Ltd.

PREPARED BY: Trigonometry Services JV JN Associates

DESIGNED	PRASAD	PSN
DRAWN	DIPTA	DIPTA
CHECKED	SARAT	SARAT
APPROVED	SARAT	SARAT
DATE	SCALE: NOT TO SCALE	

TITLE: DIMENSION DETAILS OF PCC BREAST WALL

DRAWING NO: SH44-STR-BWD-1001

REV: A
SIZE: A2

SIGNBORD ANALYSIS FOR PART C

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
1	**Retro-Reflectorised Traffic Signs.** Providing and fixing of retro-reflectorised, cautionary, mandatory and informatory sign as per IRC-67 made of high intensity grade sheeting vide clause 801.3 ,fixed over aluminium sheeting, 1.5mm thick supported on mld steel angle post 75m x 75mm x 6mm firmly fixed to the ground by means of properly designed foundation with M-15 grade cement concrete 45cm x 45cm x 60cm, 60cm below ground level as per approved drawing .	SDB/ S.No-8,14 (iii) / Page-213				
	Unit = Each.					
	Taking output = One traffic sign.					
	(i) Excavation of foundation.	cum	0.122	208.87	25.48	**Main Analysis Item No 57**
	(ii) Cement concrete M-25 grade.	cum	0.122	6530.45	796.71	**Main Analysis Item No 12**
	(iii) Painting angle Iron post two coats.	Sqm.	1.414	63.77	90.17	**Main Analysis Item No 58**
					912.36	
	a) Labour (for fixing at site.)					
	Mate.	day.	0.010	392.00	3.92	
	Mazdoor.	day.	0.250	352.00	88.00	
					91.92	
	b) Material.					
	Mild steel angle 75 x75 x6mm.	Kg.	22.756	67.74	1541.49	
	Aluminium sheeting fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable					
	Add 1% of cost of angle iron towards cost of drilling holes, nuts, bolts.					Add 1% of cost of angle iron towards cost of drilling holes, nuts, bolts.
A	(i) 900 mm equilateral Triangle.	Sqm.	0.351	7000.00	2457.00	39.98
B	(ii) 800 mm x 600 mm Retangular.	Sqm.	0.480	7000.00	3360.00	49.01
C	(iii) 600 mm. Circular.	Sqm.	0.283	7000.00	1981.00	35.22
D	(iv) 900 mm. circular.	Sqm.	0.636	7000.00	4452.00	59.93
E	(v) 900 mm high octagon	Sqm.	0.671	7000.00	4697.00	62.38
F	(vi) 900 mm x 300 mm Retangular	Sqm.	0.270	7000.00	1890.00	34.31
G	(vii) 900 mm x 450 mm Retangular.	Sqm.	0.405	7000.00	2835.00	43.76
H	(viii) 600 mm x 450 mm Retangular.	Sqm.	0.270	7000.00	1890.00	34.31
I	(ix) 600 mm x 500 mm Retangular.	Sqm.	0.300	7000.00	2100.00	36.41
J	(x) 600 mm x 300 mm Retangular.	Sqm.	0.180	7000.00	1260.00	28.01
K	(xi) 1550 mm x 600 mm Retangular.	Sqm.	0.930	7000.00	6510.00	80.51
	(c) Machinery.					
	Tractor Trolley.	hour	0.010	357.55	3.58	
A	**(i) 900 mm equilateral Triangle.**			Total	**5046.33**	(a+b+i+c)
	d) Overhead charges @7.5%on (a+b+c)				310.05	
	e) Contractor's profit @7.5% on (a+b+c)				310.05	
	Rate per traffic sign = a+b+c+d+e				5666.43	
	Add Labour Cess 1%				56.66	
					5723.09	**Per Each**
B	**(ii) 800 mm x 600 mm Retangular.**				5958.36	(a+b+ii+c)
	d) Overhead charges @7.5%on (a+b+c)				378.45	
	e) Contractor's profit @7.5% on (a+b+c)				378.45	
	Rate per traffic sign = a+b+c+d+e				6715.26	
	Add Labour Cess 1%				67.15	
					6782.41	**Per Each**
C	**(iii) 600 mm. Circular.**				4565.57	(a+b+iii+c)
	d) Overhead charges @7.5%on (a+b+c)				273.99	
	e) Contractor's profit @7.5% on (a+b+c)				273.99	
	Rate per traffic sign = a+b+c+d+e				5113.55	
	Add Labour Cess 1%				51.14	
					5164.69	**Per Each**
D	**(iv) 900 mm. circular.**				7061.28	(a+b+iv+c)
	d) Overhead charges @7.5%on (a+b+c)				461.17	
	e) Contractor's profit @7.5% on (a+b+c)				461.17	
	Rate per traffic sign = a+b+c+d+e				7983.62	
	Add Labour Cess 1%				79.84	
					8063.46	**Per Each**

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
E	(v) 900 mm high octagon				7308.73	(a+b+v+c)
	d) Overhead charges @7.5%on (a+b+c)				479.73	
	e) Contractor's profit @7.5% on (a+b+c)				479.73	
	Rate per traffic sign = a+b+c+d+e				8268.19	
	Add Labour Cess 1%				82.68	
					8350.87	Per Each
F	(vi) 900 mm x 300 mm Retangular				4473.66	(a+b+vi+c)
	d) Overhead charges @7.5%on (a+b+c)				267.10	
	e) Contractor's profit @7.5% on (a+b+c)				267.10	
	Rate per traffic sign = a+b+c+d+e				5007.86	
	Add Labour Cess 1%				50.08	
					5057.94	Per Each
G	(vii) 900 mm x 450 mm Retangular.				5428.11	(a+b+vii+c)
	d) Overhead charges @7.5%on (a+b+c)				338.68	
	e) Contractor's profit @7.5% on (a+b+c)				338.68	
	Rate per traffic sign = a+b+c+d+e				6105.47	
	Add Labour Cess 1%				61.05	
					6166.52	Per Each
H	(viii) 600 mm x 450 mm Retangular.				4473.66	(a+b+viii+c)
	d) Overhead charges @7.5%on (a+b+c)				267.10	
	e) Contractor's profit @7.5% on (a+b+c)				267.10	
	Rate per traffic sign = a+b+c+d+e				5007.86	
	Add Labour Cess 1%				50.08	
					5057.94	Per Each
I	(ix) 600 mm x 500 mm Retangular.				4685.76	(a+b+ix+c)
	d) Overhead charges @7.5%on (a+b+c)				283.01	
	e) Contractor's profit @7.5% on (a+b+c)				283.01	
	Rate per traffic sign = a+b+c+d+e				5251.78	
	Add Labour Cess 1%				52.52	
					5304.30	Per Each
J	(x) 600 mm x 300 mm Retangular.				3837.36	(a+b+x+c)
	d) Overhead charges @7.5%on (a+b+c)				219.38	
	e) Contractor's profit @7.5% on (a+b+c)				219.38	
	Rate per traffic sign = a+b+c+d+e				4276.12	
	Add Labour Cess 1%				42.76	
					4318.88	Per Each
K	(xi) 1550 mm x 600 mm Retangular.				9139.86	(a+b+xi+c)
	d) Overhead charges @7.5%on (a+b+c)				617.06	
	e) Contractor's profit @7.5% on (a+b+c)				617.06	
	Rate per traffic sign = a+b+c+d+e				10373.98	
	Rate per traffic sign = a+b+c+d+e				103.74	
					10477.72	Per Each
2	Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform and free from streaks and holes as per Technical Specifications and as per Clause - 803.4 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	SDB/ S.No-8.13 / Page-225	Each Sqm			
	Unit = sqm					
	Taking output = 600 sqm					
	a) Labour					
	Mate	day	0.03	392.00	11.76	
	Mazdoor	day	0.75	352.00	264.00	
				T	275.76	
	b) Machinery					
	Road marking machine @ 100 sqm per hour	hour	6.00	300.00	1800.00	
	Tractor trolley	hour	0.50	357.55	178.78	
				T	1978.78	
	c) Material					
	Hot applied thermoplastic compound	Litre	1500.0	84.00	126000.00	
	Reflectorising glass beads	kg	150.00	104.00	15600.00	
				T	141600.00	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
	Total (a+b+c)				**143854.54**	
	d) Overhead Charges 7.5% on (a+b+c)				**10789.09**	
	e) Contractor profit @ 7.5% on (a+b+c)				**10789.09**	
	Cost for 640 sqm = a+b+c+d+e				**165432.72**	
	Rate per sqm = a+b+c+d+e / 600				**275.72**	
	Add Labour Cess 1%				**2.76**	
				Total	**278.48**	
3	Providing and fixing of bi-directional retro reflective raised pavement markers of approved colour, quality & make confonning I to ASTM D-4280 made from injection moulded high impact polymer including cleaning, preparation of surface and fixing at position with approved quality adhesives including cost of all materials, labour, transportation, taxes, duties, sundries, T &P etc.					
	Unit = Nos.					
	As per SoR 2022 (Odisha)					282.00
				Labour Cess 1		2.82
				say		***284.82***
4	Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810	**SDB/ S.No-8.23(A) / Page-238**		**Each Mtr**		
	Unit = Running metre					
	Taking output = 4.5 metre length					
	a) Labour					
	Mate	0.06	day	392.00	23.52	
	Blacksmith	0.50	day	442.00	221.00	
	Mazdoor	1.00	day	352.00	352.00	
	b) Machinery					
	Tractor-trolley	0.10	hour	357.55	35.76	
	c) Material					
	Corrugated sheet,3 mm thick, "W" beam section railing,4.5 m in length	41.21	Kg	94.70	3902.59	
	Channel post 150 x 75 x 5 mm,1.8 m long,3 Nos @ 16.4 kg per metre	88.56	Kg	67.74	5999.05	
	Spacer 150 x 75 x 5 mm channel 0.33 m long,3 Nos @ 16.4 kg per metre	16.24	Kg	67.74	1100.10	
	Nuts and bolts	20.00	Kg	90.00	1800.00	
	Add 25 per cent of the cost of material for fabrication, nuts, bolts and washers etc.)				3200.44	
	d) Overhead Charges 7.5% on (a+b+c)				1247.58	
	e) Contractor profit 7.5% on (a+b+c)				1247.58	
	Cost for 4.5 metre (a+b+c+d+e)				19129.62	
	Cost for 1 metre (a+b+c+d+e)/4.5				**4251.03**	
	Add Labour Cess 1%				**42.51**	
				Total	4293.54	**Per meter**
5	Reinforced cement concrete M-15 grade 5th km stone of standard design as per IRC:8-1980 fixing in position including painting & printing etc as per Clause - 800 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	**SDB/ S.No-8.14 (i) / Page-226**		**Each No**		
	Data per 6 Nos					
	a) M-15 Concrete	2.35	Cum	5920.87	13914.04	
	b) Steel reinforcement @ 5kg per sqm	22.08	kg	88.88	1962.47	
	c) Excavation of soil	1.68	Cum	208.87	350.90	
	d) Painting two coats on concrete surface	9.85	Sqm	72.31	712.25	
	e) Lettering on km stone (avg. 30 nos of 12cm ht.)	1800.00	Cm letter	0.62	1116.00	
	f) Labour for transporting & fixing					
	Mate	0.264	Each	392.00	103.49	
	Mason 2nd Class	0.600	Each	442.00	265.20	
	Mazdoor	6.000	Each	352.00	2112.00	
				T	**2480.69**	
	g) Machinery					

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
	Tractor trolley	6.00	hour	357.55	2145.30	
	h) Overhead Charges 7.5% on (f+g)				346.95	
	I) Contractor profit 7.5% on (f+g)				346.95	
	Cost of km. stone of 6nos (a+b+c+d+e+f+g+h+I)			T	23375.55	
	Cost of km. stone of 1no (a+b+c+d+e+f+g+h+i)/6				**3895.93**	
	Add Labour Cess 1%				38.96	
				Total	3934.89	**Per Each**
7	Reinforced cement concrete M-15 grade ordinary km stone of standard design as per IRC:8-1980 fixing in position including painting & printing etc as per Clause - 800 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	**SDB/ S.No-8.14 (ii) / Page-226**		**Each No**		
	Data per 14 Nos					
	a) M-15 Concrete	3.77	Cum	5920.87	22321.68	
	b) Steel reinforcement @ 5kg per sqm	26.32	kg	88.88	2339.32	
	c) Excavation of soil	2.77	Cum	208.87	578.57	
	d) Painting two coats on concrete surface	11.41	Sqm	72.31	825.06	
	e) Lettering on km stone (avg. 30 nos of 12cm ht.)	1680.00	Cm letter	0.62	1041.60	
	f) Labour for transporting & fixing					
	Mate	0.32	Each	392.00	125.44	
	Mason 2nd Class	1.00	Each	442.00	442.00	
	Mazdoor	7.00	Each	352.00	2464.00	
				T	**3031.44**	
	g) Machinery					
	Tractor trolley	6.00	hour	357.55	2145.30	
	h) Overhead Charges 7.5% on (f+g)				388.26	
	i) Contractor profit 7.5% on (f+g)				388.26	
	Cost of km. stone of 14nos (a+b+c+d+e+f+g+h+i)				33059.49	
	Cost of km. stone of 1no (a+b+c+d+e+f+g+h+I)/14				**2361.39**	
	Add Labour Cess 1%				23.61	
				Total	2385.00	**Per Each**
8	Reinforced cement concrete M-15 grade hectometer stone of standard design as per IRC:8-1980 fixing in position including painting & printing etc as per Clause - 800 of MoSRT&H Specifications for Road & Bridge works (Latest Revision).	**SDB/ S.No-8.14 (iii) / Page-226**		**Each No**		
	Data per 33 Nos					
	a) M-15 Concrete	1.58	Cum	5920.87	9354.97	
	b) Steel reinforcement @ 5kg per sqm	66.00	kg	88.88	5866.08	
	c) Excavation of soil	1.39	Cum	208.87	290.33	
	d) Painting two coats on concrete surface	6.27	Sqm	72.31	453.38	
	e) Lettering on km stone (avg. 2 nos of 12cm ht.)	330.00	Cm letter	0.62	204.60	
	f) Labour for transporting & fixing					
	Mate	0.34	Each	392.00	133.28	
	Mason 2nd Class	1.50	Each	442.00	663.00	
	Mazdoor	7.00	Each	352.00	2464.00	
				T	**3260.28**	
	g) Machinery					
	Tractor trolley	6.00	hour	357.55	2145.30	
	h) Overhead Charges 7.5% on (f+g)				405.42	
	I) Contractor profit 7.5% on (f+g)				405.42	
	Cost of km. stone of 33nos (a+b+c+d+e+f+g+h+i)				22385.78	
	Cost of km. stone of 1no (a+b+c+d+e+f+g+h+i)/33				678.36	
	Add Labour Cess 1%				6.78	
				Total	685.14	**Per Each**
9	Providing reinforced cement concrete crash barrier at the edges of road, approaches to bridge structures and medians,constructed with M40 grade concrete with HYSD reinforcement conforming to IRC :21 and dowel bars 25mm dia , 450 mm long at expansion joints filled with pre-moulded asphalt filler board keyed to the structure and installed as per design given in the MOST circular No RW/NH-33022/1/94-DO III dated 24th June,1994 and as per dimensionsin the approved drawing and at locations directed by the Engineer.	**SDB/ S.No-8.22(A) / Page-237**				
	Unit = linear meter					
	Taking Output=10m					
	a)M40 grade concrete	3.000	Cum	7343.63	22030.89	
	b) Material					
	HYSD Steel reinforcement	0.280	Mt	88876.16	24885.32	

Sl No	Particular Item	Quantity	Unit	Rate in (Rs.)	Amount in (Rs.)	Remarks
1	2	3	4	5	6	7
	c) Labour					
	Mate	0.040	day	392.00	15.68	
	Mazdoor	1.000	day	352.00	352.00	
	d) Overhead charges @ 7.5% on (a+b+c)				27.58	
	e) Contractor's profit @7.5% on (a+b+c)				27.58	
	Cost for 10meter				47339.05	
	Rate per meter=(a+b+c+d+e)/10				4733.91	
	Add Labour Cess 1%				47.34	
				Total	4781.25	Per meter

19.09.24
Junior Engineer

19.9.24
Asst. Executive Engineer
Rayagada (R&B) Sub-Division No- II

20.09.24
Executive Engineer
Rayagada (R&B) Division No-1

ANNEXURE-VII

SOIL TEST REPORT "SIJIMALI MINES TOP TO SH-44" FOR THE DESIGN OF CUT SLOPE WITH A RATIO OF 1:1

Introduction

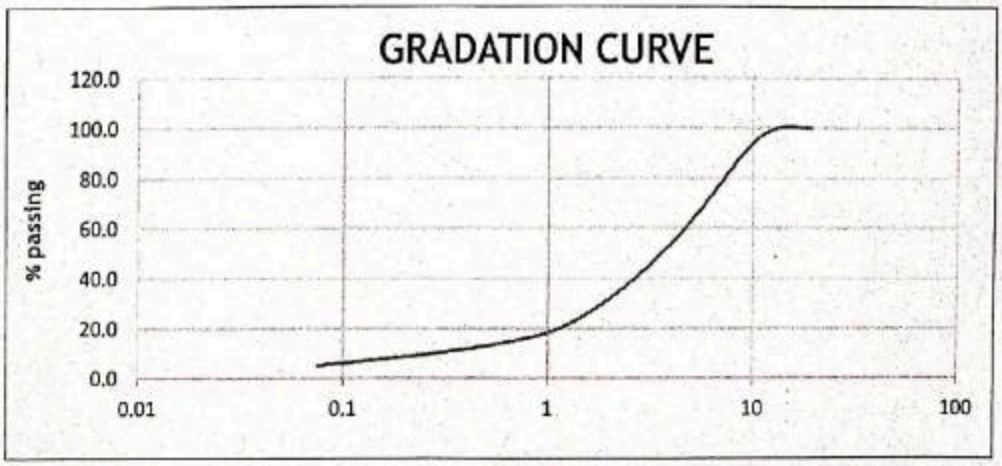
The shoulder, the strip of land adjacent to the travel lane, plays a vital role in ensuring road safety, supporting vehicle breakdowns, and managing water runoff. Proper stabilization of this area is essential to prevent erosion, structural failure, and potential hazards to road users. Shoulder slope stabilization is a critical aspect of road maintenance and construction, aiming to enhance safety, prevent erosion, and extend the lifespan of road infrastructure. This report outlines the processes, techniques, and best practices for effectively stabilizing shoulder slopes.

Materials received from the site

The material received from the site "Sijimali Mines Top to Sh-44" for mix design of soil stabilization, the test conducted as per the IS code and MORTH standard. A total of 10 bags of material received this material were tested for Gradation, Liquid limits, and Plastic Limits as per the IS-2720 code the result and graph are shown below.

Experimental Observation

1. The grading of material was found to be Well graded.



2. The moisture content and plastic limit of the sample was found to be 22% and 17.20%. the soil type is found to be laterite-hard soil type.

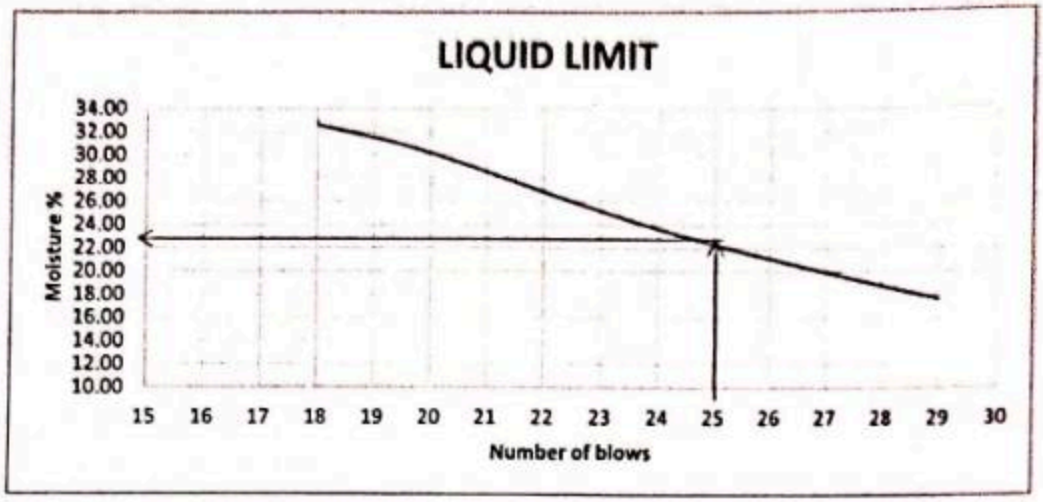
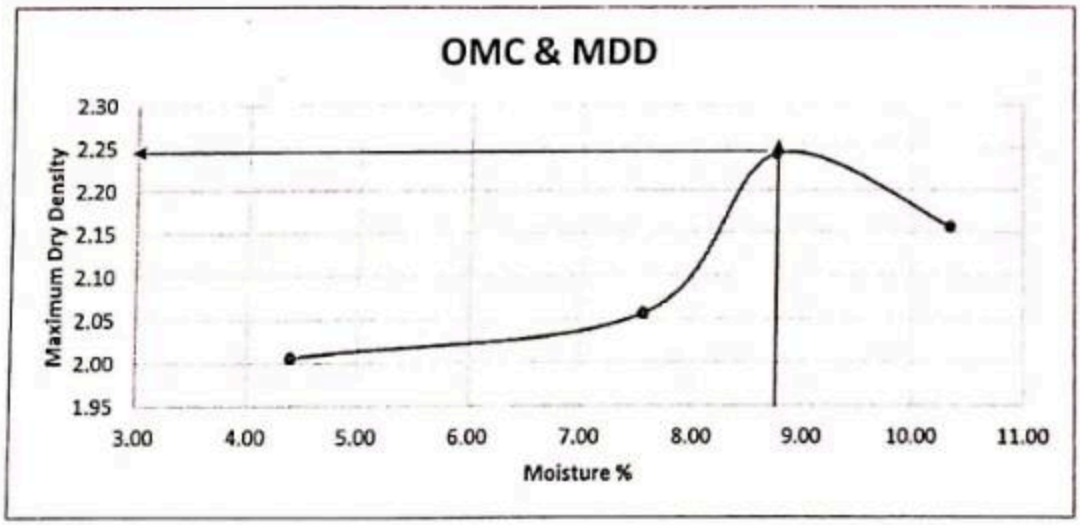


Table for plastic Limits

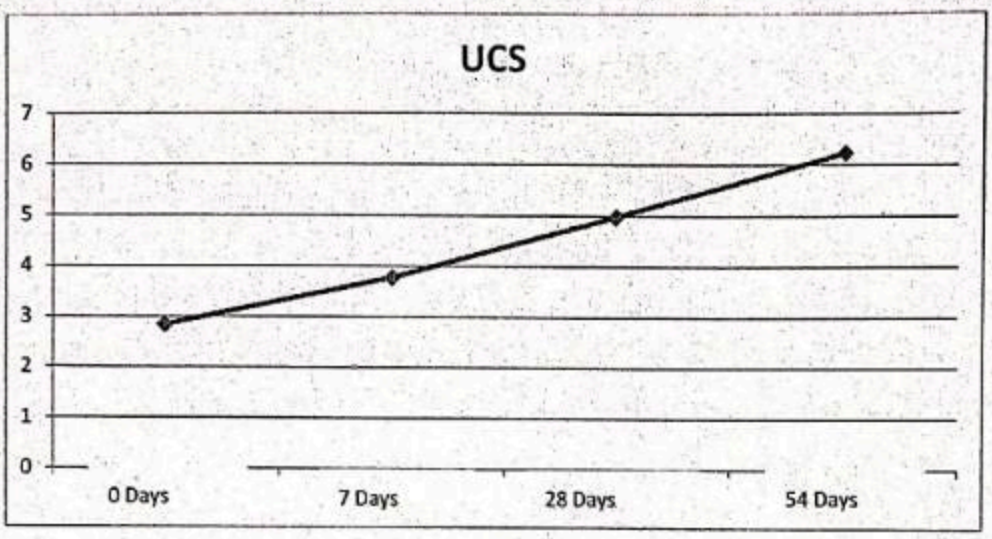
Empty cup weight	Cup with wet soil weight	Cup weight after drying	Moisture content in %	Average Moisture %
12.941	22.063	21.021	12.876	17.204
14.824	24.438	22.736	21.492	

3. Optimum Moisture Content at Maximum Dry Density Test was conducted as per the IS-2720 Part-8, the sample was found to have a maximum Density of 2.45 gm/cc at a maximum Moisture content of 8.76%.

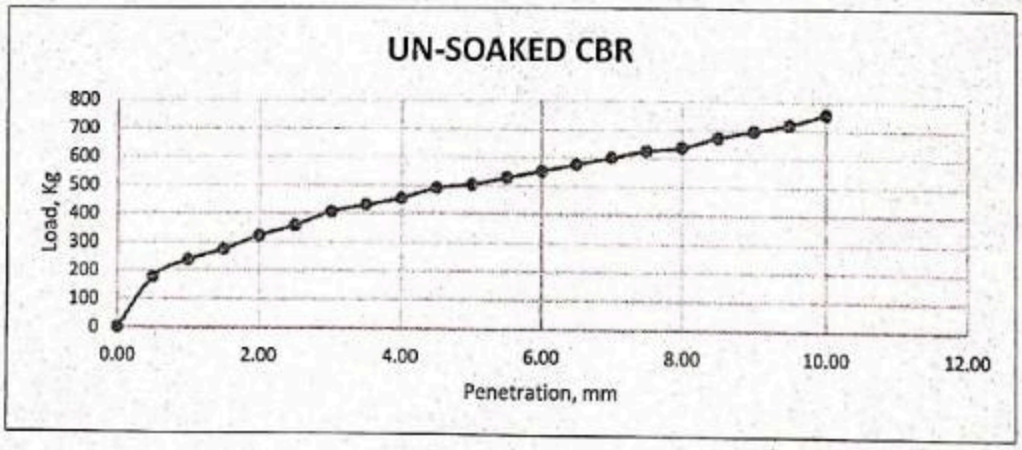


4. Unconfined Compression test was conducted as per IRC-37, based on the above data.

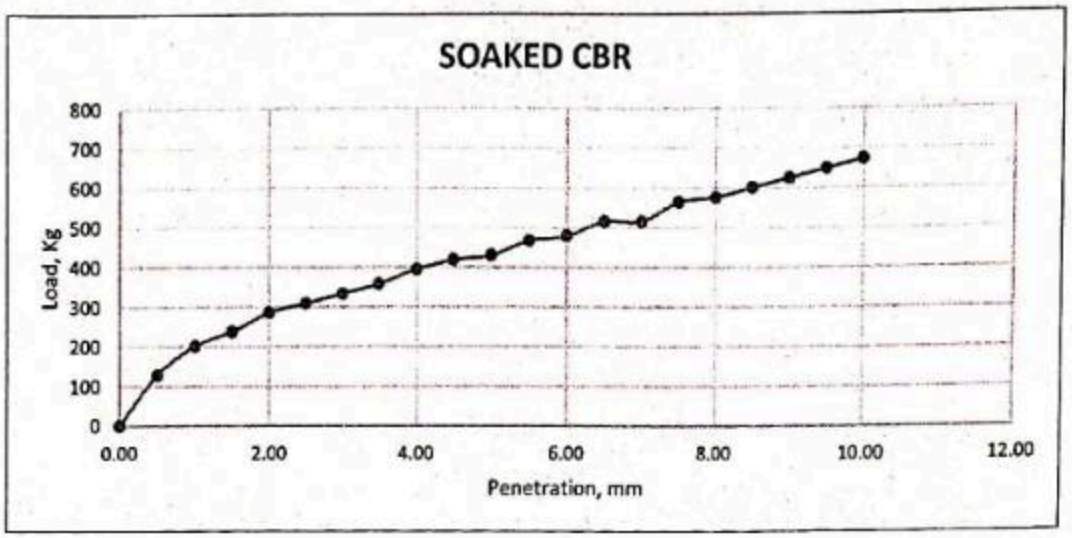
The test was conducted after 0 days, 7 days, 28 days, and 54 days.
The Optimum UCS value was found to be 2.90 MPa, 3.95 MPa, 5.0MPa and 6.20MPa respectively, so it shows that with the increase of days, the bearing strength is also enhanced this is due to a reduction in moisture content and an increase in densification based on time.



5. Californian Bearing Ration Test was conducted with the optimum doses of cement found out from UCS test. As per the IS-2720 Part -16, with Soaked and Un-soaked condition. CBR at Un-Soaked condition was found to be 26.12% and at soaked condition 22.65% respectively.



The CBR values give a clear indication that the soil has enough bearing capacity to resist the imposed load over the pavement as the minimum CBR required for road construction is 8% as per MORTH standard but this soil has a higher value in Soaked condition.



Conclusion

Effective shoulder slope stabilization requires a comprehensive approach, including erosion control, drainage management, slope reinforcement, and surface treatments. Regular maintenance and safety considerations are crucial to ensuring the long-term stability and functionality of the road shoulder.

Based on the soil test data it is concluded that the soil is safe for maintaining a slope gradient of 1:1 slope, as the soil material is of Hard- Laterite type, the moisture content is low i.e 8.76% with a maximum density of 2.45gm/cc and shows a good CBR value of 22.65% in soaked condition, with a consistent UCS value of 5.0MPa at 28 days sample.

The factor of safety (FoS) for slope design in soil generally depends on the type of project, soil conditions, and the potential consequences of failure. Typical factors of safety for slope stability are calculated as follows:

Direct Shear Test

The direct shear testis used to determine the shear strength parameters of soil, particularly cohesion (c) and the angle of internal friction (ϕ). The test involves applying a horizontal force to a soil sample while measuring its response

Apply Normal Load

Apply a predetermined normal load (σ) to the sample using the vertical loading device. This simulates the weight or pressure acting on the soil in the field.

Typical normal stresses are applied in increments (e.g., 50 kPa, 100 kPa, 200 kPa), depending on the test requirements.

Ensure that the normal load is applied gradually and steadily.

Shearing Process

After the normal load is applied, a horizontal force is applied to the top half of the shear box using a mechanical or motorized device. This force generates shear stress in the soil sample.

The rate of horizontal displacement is usually controlled. For drained tests, a slow rate of shearing is used to allow excess pore water pressures to dissipate, while for undrained tests, a faster rate may be used.

The shear force and the horizontal displacement are continuously measured using dial gauges or electronic sensors.

For each normal load, plot the shear stress (τ) versus horizontal displacement to identify the peak shear strength (τmax) for each test.

Calculation for FOS for Slope

Case: - Stability of Cohesionless Slopes

The maximum stable slope angle of sandy embankment is related to the peak friction angle

ø'

Factor of safety

$$F = y \times (\tan\Phi'/\tan\beta)$$ (As per IRC-75-2015 Clause no3.4)

Where ø' = angle of internal friction;
and

β= angle of slope with horizontal.

y'= Density of soil

ø'	36	degree	(from direct shear test)
8	45	degree	(for 1:1 slope)
y	2.25	gm/cc	

tan 36°	0.762
tan 45°	1

Then calculated factor of saety

$$F = y' \times (\tan\Phi'/\tan\beta)$$

FOS :- 1.7145

Some of the tipical range of FoS are mentioned below as per the code.

Temporary slopes: 1.2 to 1.3

These are short-term slopes that might be needed for construction or excavation.

Permanent slopes: 1.5 to 2.0

Slopes that are meant to remain stable over a long period, such as embankments, dams, or natural hill slopes. A value closer to 1.5 is common, but 2.0 may be used where greater stability is needed due to high-risk consequences (e.g., near populated areas).

Critical structures or high-risk areas: > 2.0

For structures that require extreme caution or are subject to severe environmental factors (e.g., seismic activity or flooding), a higher FoS is typically considered.

These values provide a margin of safety to account for uncertainties in soil properties, external loading conditions, and design assumptions.

AASHTO (American Association of State Highway and Transportation Officials)

AASHTO LRFD Bridge Design Specifications: Provides guidance for slope stability in the context of road embankments and bridge approaches.

AASHTO recommends a factor of safety of 1.3 to 1.5 for temporary slopes and 1.5 or higher for permanent slopes, depending on the potential risks and consequences of failure.

2. IRC (Indian Roads Congress)

IRC: 75-2015 Guidelines for the Design of High Embankments: The Indian Roads Congress suggests a FoS for embankments based on the site conditions.

A typical factor of safety of 1.5is recommended for road embankments under normal conditions, with higher values (up to 2.0) in critical or seismic zones.

Conclusion

The calculated value of FoS is 1.714 which lies in the range of Permanent structure, hence from the standards of IS code and our calculation it was found to be in acceptable range. So it is concluded that designing the slope with a ratio of 1:1 is safe.

DIRECT SHEAR TEST

Type of Test: DST

Sample No-1

Rate of Strain: 0.625 mm/min

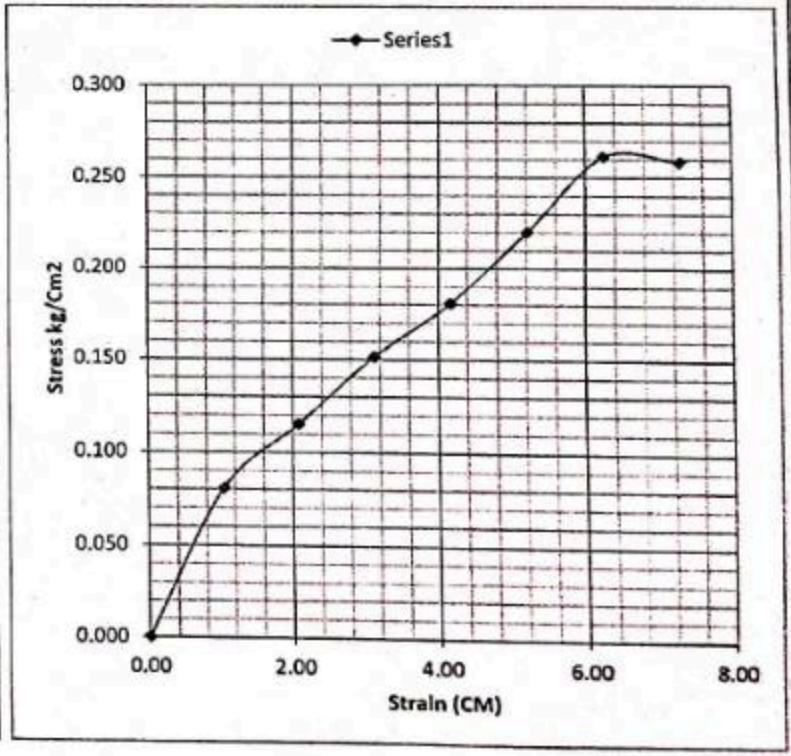
Normal stress : 0.5kg/cm^2

Soil Specimen Size 6 x 6 cm Volume of Specimen: 90 cc

Thickness: 2.50 cm Density: 2.25 gm/cc

Area of Specimen: 36 cm^2 PR Least Count: 0.284 kg

SL.No.	Time Elapsed (min)	Shearing Displacement δ(cm)	Corrected Area $A_c = A_0(1-\delta/3)$	Proving ring Dialgauge Reading	Shear Force (PR Least Count x (5)	Shear Stress (6)/(4) (Kg/cm^2)	Axial Strain (%) δ (cm)/(6) (cm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	0.00	0.0000	36.00	0.00	0.00	0.000	0.000
2	1.00	0.0625	35.25	10.00	2.84	0.081	1.04
3	2.00	0.1250	34.50	14.00	3.98	0.115	2.08
4	3.00	0.1875	33.75	18.00	5.11	0.151	3.13
5	4.00	0.2500	33.00	21.00	5.96	0.181	4.17
6	5.00	0.3125	32.25	25.00	7.10	0.220	5.21
7	6.00	0.3750	31.50	29.00	8.24	0.261	6.25
8	7.00	0.4375	30.75	28.00	7.95	0.259	7.29



DIRECT SHEAR TEST

Type of Test: DST Sample No-2

Rate of Strain: 0.625 mm/min

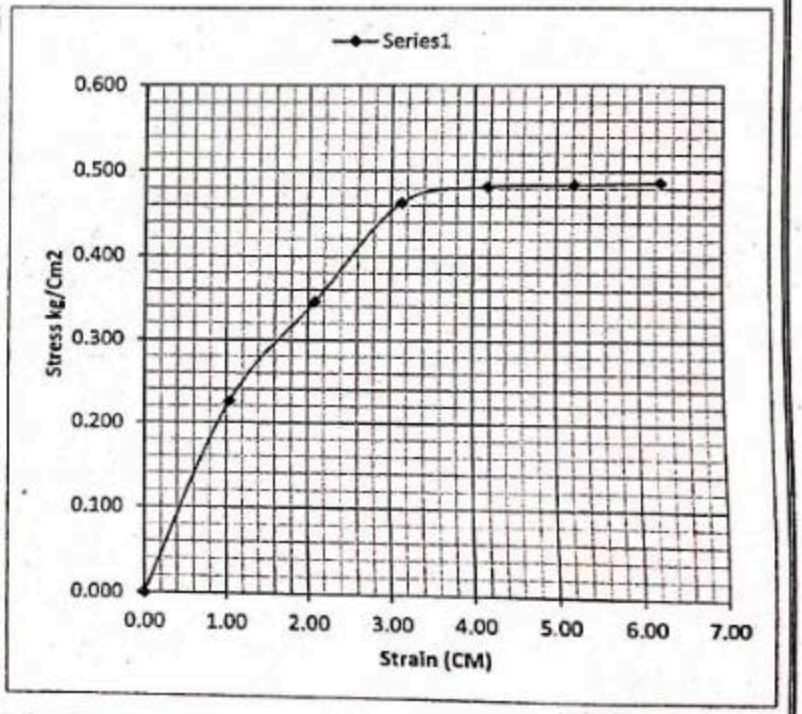
rmal stress : 1.0 kg/cm^2

Soil Specimen Size: 6 x 6 cm Volume of Specimen: 90 cc

Thickness: 2.50 cm Density: 2.25 gm/cc

Area of Specimen: 36 cm^2 PR Least Count: 0..284 kg

SL.No.	Time Elapsed (min)	Shearing Displacement δ(cm)	Corrected Area $A_c = A_o(1-\delta/3)$	Proving ring Dialgauge Reading	Shear Force (PR Least Count x (5)	Shear Stress (6)/(4) (Kg/cm^2)	Axial Strain (%) δ (cm)/(6) (cm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	0.00	0.0000	36.00	0.00	0.00	0.000	0.000
2	1.00	0.0625	35.25	28.00	7.95	0.226	1.04
3	2.00	0.1250	34.50	42.00	11.93	0.346	2.08
4	3.00	0.1875	33.75	55.00	15.62	0.463	3.13
5	4.00	0.2500	33.00	56.00	15.90	0.482	4.17
6	5.00	0.3125	32.25	55.00	15.62	0.484	5.21
7	6.00	0.3750	31.50	54.00	15.34	0.487	6.25



DIRECT SHEAR TEST

Type of Test: DST — Sample No-3

Rate of Strain: 0.625 mm/min

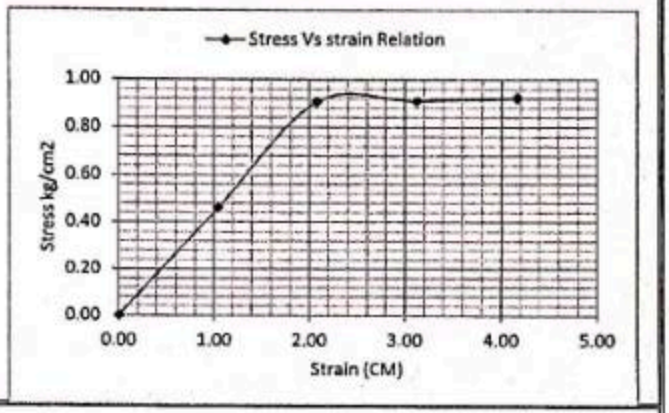
mal stress : 2.0 kg/cm²

Soil Specimen Size: 6 x 6 cm — Volume of Specimen: 90 cc

Thickness: 2.50 cm — Density: 2.25 gm/cc

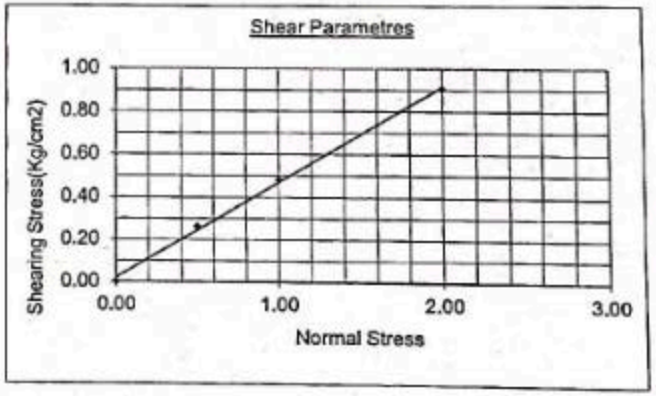
Area of Specimen: 36 cm² — PR Least Count: 0..284 kg

SL.No.	Time Elapsed (min)	Shearing Displacement δ(cm)	Corrected Area $A_c = A_0(1-\delta/3)$	Proving ring Dialgauge Reading	Shear Force (PR Least Count x (5)	Shear Stress (6)/(4) (Kg/cm²)	Axial Strain (%) δ (cm)/(6)(cm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	0.00	0.0000	36.00	0.00	0.00	0.000	0.000
2	1.00	0.0625	35.25	57.00	16.19	0.459	1.04
3	2.00	0.1250	34.50	110.00	31.24	0.906	2.08
4	3.00	0.1875	33.75	108.00	30.67	0.909	3.13
5	4.00	0.2500	33.00	107.00	30.39	0.921	4.17



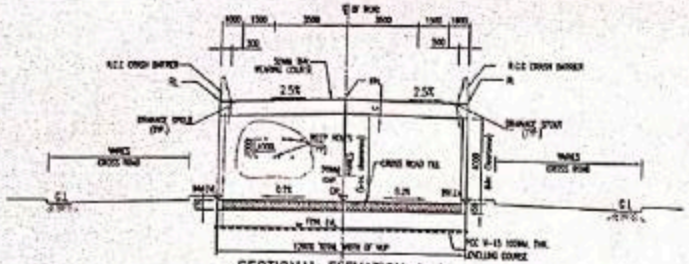
SHEAR PARAMETERS DETERMINATION

SL.No.	Normal Stress Applied (Kg/cm²)	Proving ring Dialgauge reading at Failure	Shear Force (Kg)	Corrected Area	Shear Stress (Kg/cm2)	C' Value kg/cm²	Ø' Value (Degree)
(1)	(2)	(3)	(4)	(5)	(6)		
	0	0	0	0	0		
1	0.5	29.00	8.236	31.500	0.261	0.00	36
2	1.0	56.00	15.904	33.000	0.482		
3	2.0	110.00	31.24	34.500	0.906		

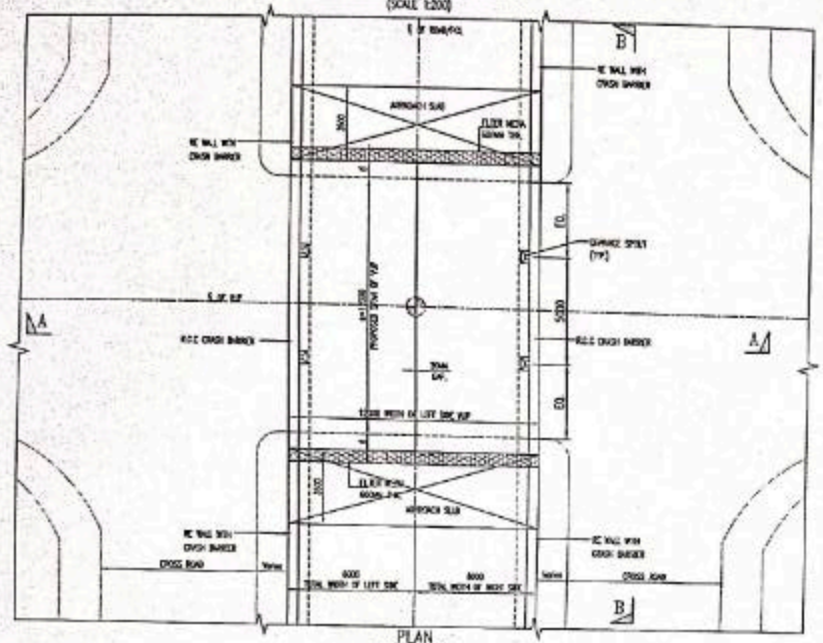


ANNEXURE-VIII

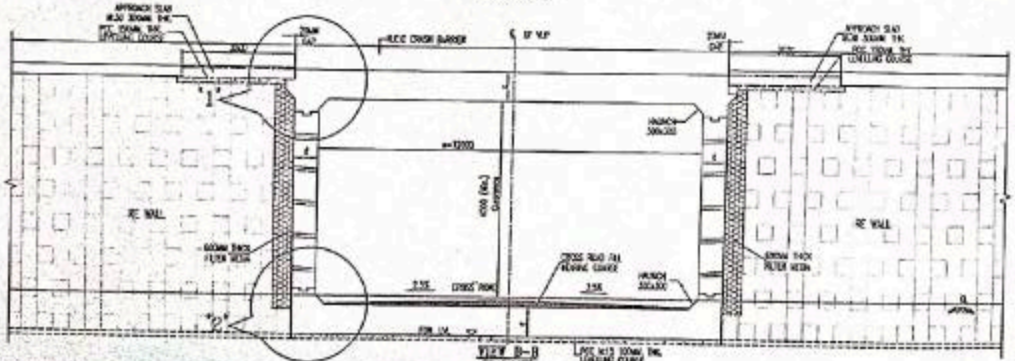
DRAWINGS



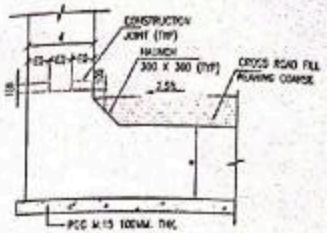
SECTIONAL ELEVATION A-A
(SCALE 1:200)



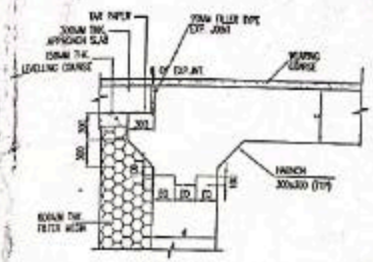
PLAN
(SCALE 1:200)



VIEW B-B
(SCALE 1:100)



DETAIL-2
(SCALE-1:40)



DETAIL-1
(SCALE-1:40)

TABLE SHOWING DIMENSION DETAILS

a (mm)	b (mm)	c (mm)	d (mm)	e (mm)
12000	4000 (Min.)	650	750	800

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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS IN METRES UNLESS NOTED OTHERWISE. DRAWINGS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
2. CONCRETE GRADE FOR VARIOUS ELEMENTS SHALL BE AS FOLLOWS:
   a) RCC RETAINING WALL — M30
   b) RCC CRASH BARRIER — M40
   c) PCC LEVELING COURSE — M15
3. ALL UNTENSIONED REINFORCEMENT SHALL BE GRADE FE 500 FOR DESIGNATION Fe 500 CONFORMING TO IS:1786 SPECIFICATION WITH A MINIMUM YIELD STRENGTH OF 500 N/sq.mm.
4. BACK FILLING SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX 'B' OF IRC:78-2000 HAVING PROPERTIES C=0, ϕ = 30° & γ = 20 kN/Cum.
5. WEEP HOLES 100 DIA, SPACED AT 1200 c/c BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUTMENT
6. FOR DETAILS OF APPROACHES REFER RESPECTIVE PLAN & PROFILE DRAWINGS.
7. FOR RE WALL & RETAINING WALL DETAILS REFER SEPARATE DRAWING.
8. THE SOIL ON EITHER SIDE OF SIDE SHALL BE FILLED IN LAYERS NOT EXCEEDING 300MM OF EACH LAYER COMPACTED TO THE REQUIRED DRY DENSITY. DURING FILLING ANY PORTION OF TIME THE DIFFERENCE IN THE HEIGHT OF SOIL ON EITHER SIDE SHALL NOT BE MORE THAN 300MM.
9. 50mm THK. WEARING SHALL BE PROVIDED.
10. THE SIDE PRESSURE AS PER DESIGN IS 1T/Sqm. THE SAME SHALL BE VERIFIED AT SITE BEFORE LAYING FOUNDATION CONCRETE, ANY VARIATION SHALL BE BROUGHT TO THE NOTICE OF DESIGN CONSULTANT.
11. WATER TO BE USED FOR CONCRETING AND CURING ETC. SHALL CONFORM TO CLAUSE 302.1 OF MOST 5-2013.
12. ANY LOOSE SOIL BELOW THE FOUNDATION SHALL BE REMOVED AND FILLED UP WITH GOOD QUALITY SOIL/SAND AND WELL COMPACTED.
13. FILLER EXPANSION JOINT SHALL BE PROVIDED AS PER MORTH-2013.
14. CONSTRUCTION JOINT IN CURB SHALL BE FOLLOWED AS PER MORTH GUIDELINES

Junior Engineer
Kashipur piling Section
Rayagada

Asst. Executive Engineer
(R&B) Sub-Division No. 1

Executive Engineer
(R&B) Division No-1
Rayagada

Chief Consultant Engineer
Rayagada (R&B) Circle
Rayagada

NOTES: 1. All the Dimensions are in meter unless otherwise specified.

REV	DATE	DESCRIPTION	PREPARED	DRAWN	CHECKED	APPROVED
0	10.03.2023	INITIAL Submission	BISWAJIT	BISWA	SWARUP	SWARUP

CLIENT:
Mythri Infrastructure And Mining India Pvt. Ltd.
S.F.S No-1051, New Canara Bank, Main Road, Tikiri, Dist-Rayagada, Odisha. Pin-765015.

PROJECT:
Preparation for Preliminary Feasibility Study and Detailed Project Report of Optimized Road Alignment using Satellite Imageries and Detailed Field Investigation Survey for approach road Development from SH-44 to Sijimali Saddle Mines Top

DESIGN CONSULTANT:
Utkal Rail Consultants Pvt. Ltd.
At-Ramchandrapur, Near Dhanmandal Police Station, P.O.-Dhanmandal, Dist-Jajpur, Odisha, Pin-754004

AUTHORITY:

PREPARED BY:
Trigonometry Services JV JN Associates
Plot No - 330/331, Mahavira Nilaya, Gothal Prasad, Bankimal, Bhubaneswar, Odisha - 751010

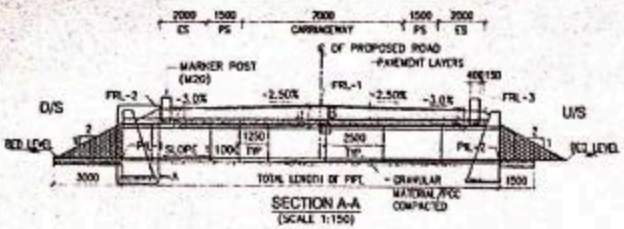
SCHEME	PRASAD	PSS.V
DRAWN	BISWA	BVS
CHECKED	SUMER	S.KUM.
APPROVED	SUMER	S.KUM.
DATE	SCALE:	NOT TO SCALE
10.03.2023		

TITLE:
TYPICAL VEHICULAR UNDERPASS
GENERAL ARRANGEMENT
DRAWING OF SIZE 1x12.0mx4.0m

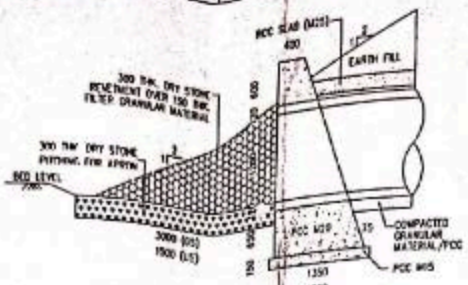
REV 0

DRAWING NO:

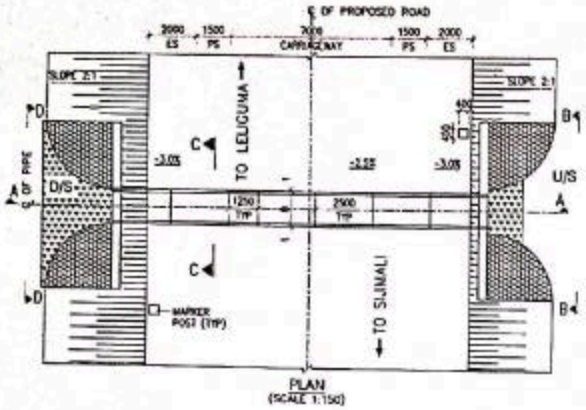
SHEET NO.



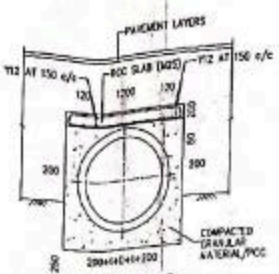
SECTION A-A
(SCALE 1:150)



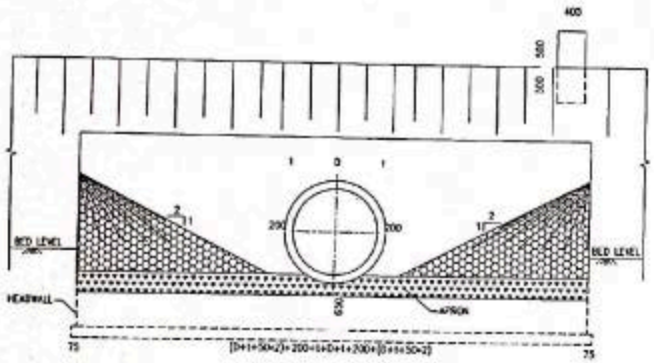
DETAIL A
(SCALE 1:50)



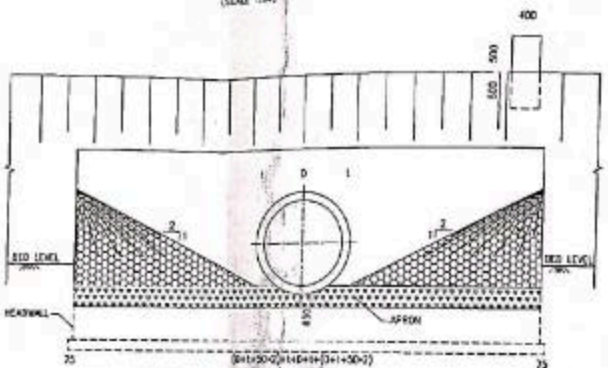
PLAN
(SCALE 1:150)



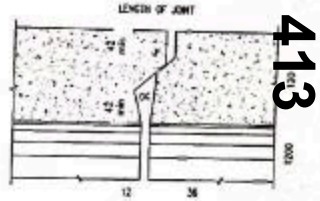
SECTION C-C
(FOR HEIGHT OF FILL LESS THAN 0.6m EXCLUDING ROAD CRUST)
(SCALE 1:50)



VIEW B-B
(SCALE 1:50)



VIEW D-D
(SCALE 1:50)



DC = INCLUDED ANGLE NOT MORE THAN 25°
(ONLY FOR DESIGN PURPOSE NOT TO BE MEASURED)
e = 0.002 OF INTERNAL DIA OR 2mm,MIN.

DETAIL B
(TYPICAL DETAILS SHOWING INTERNAL FLUSH JOINTS OF NEW PIPE)

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS NOTED OTHERWISE.
2. DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN SHALL BE FOLLOWED.
3. GRADE OF STEEL SHALL BE FE-5000 CONFORMING TO IS : 1786 WITH LATEST AMENDMENTS
4. THE FOLLOWING GRADE OF CONCRETE SHALL BE USED FOR
   (a) HEAD WALL - M(25)
   (b) RCC MARKER POST - M(20)
   (c) TOP SLAB ENCASEMENT - M(20)
5. CLEAR COVER SHALL BE AS FOLLOW.
   (a). 40mm FOR NON-EARTH FACE
   (b). 75mm FOR EARTHEN FACE
6. LONGITUDINAL SLOPE OF PIPE SHALL NOT BE LESS THAN 1:1000
7. ALL PIPES FOR NEW CONSTRUCTION SHALL BE OF NP4 CLASS TYPE CONFORMING TO IS:458
8. PIPE SHALL BE JOINED BY INTERNAL FLUSH JOINT AS PER IS:458
9. FOR DETAILS OF MEDIAN KERB,PAVEMENT OVER PIPE CULVERT, PROFILE CORRECTIVE COURSE ON TOP,RAILING ETC, REFER RELEVANT HIGHWAY DRAWING.
10. LENGTH OF EACH PIPE HAS BEEN CONSIDERED AS 2.5M. SMALLER PIPE OF 1.25M LENGTH HAS BEEN PROPOSED AT THE END TO MEET THE REQUIREMENT OF PART LENGTH OF PIPE.
11. AFTER INSTALLATION OF PIPES, THE GAPS IN BETWEEN THE PIPES SHALL BE FILLED WITH CEMENT OR MORTAR.
12. THE THICKNESS OF BEDDING SHALL BE AS PER MORTH CLAUSE 2904.
13. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH RELEVANT HIGHWAY DRAWINGS. FILL & CAMBER, SUPER ELEVATION AT PARTICULAR LOCATION SHALL BE VERIFIED WITH THE HIGHWAY DRAWINGS & LOCATION SPECIFIC DRAWING OF CULVERT.
14. DISCREPANCY IF ANY IS TO BE IMMEDIATELY BROUGHT IN TO THE NOTICE OF ENGINEER FOR NECESSARY MODIFICATION IN THE DRAWING.
15. INVERT LEVEL HAS TO BE VERIFIED ON SITE BEFORE LAYING THE FOUNDATION.
16. LOCATION WHERE HEIGHT OF FILL EXCLUDING CRUST IS LESS THAN 0.6M, THE PIPE SHALL BE ENCASED.
17. GUARD STONE & MARKER POSTS SHALL BE PROVIDED ONLY IN CASE HEAD WALL IS AWAY FROM EARTHEN SHOULDER & ITS TOP DOESN'T ABOVE SHOULDER LEVEL.
18. BEDDING OF PIPE & FOUNDATION OF HEAD WALL SHALL BE CONFIRMED AS PER SOIL CONDITION.

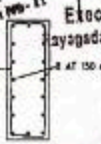
SCHEDULE OF PIPE CULVERT

EXISTING CHAINAGE IN Km	PROPOSED DESIGN CHAINAGE IN Km	PROPOSED DETAILS				LENGTH OF PIPE (L)	PROPOSED LEVELS					(θ) SKEW ANGLE	TYPE OF CROSS SECTION	DEPTH OF FILL (m)		
		TYPE	DIMENSIONS OF PIPE				FRL-1	FRL-2	FRL-3	PFL-1	PFL-2			DF1	DF2	DF3
---	---	PIPE	---	---	---	14000	---	---	---	---	---	0.0°	TCS-D4	---	---	---

SECTION

PLAN

MARKER POST
(SCALE 1:20)



TYPICAL SKIN REINFORCEMENT DETAILS OF MARKER POST
(SCALE 1:20)

Junior Engineer
Asst. Executive Engineer
Rayagada (R&B) Sub-Division No. II
19.9.24
Executive Engi
Rayagada (R&B) Divi

NOTES: 1. All the Dimensions are in meter unless otherwise specified.

REV	DATE	DESCRIPTION	DRAWN	DESIGN	CHECKED	APPROVED
0	13.08.24	INITIAL SUBMISSION	PRASAD	DAYA	SARAT	SARAT

CLIENT: vedanta
1st Floor, Module C-2, Fortune Tower, Bhubaneswar, Odisha - 751023, India

PROJECT: DETAILED PROJECT REPORT (DPR) DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SUMALI MINES TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH

DESIGN CONSULTANT: Uttal Rail Consultants Pvt. Ltd. Akshaya Nagar, Near Dhanvantari Police Station, P.O. Dhanvantari Dist-Jajpur, Odisha, Pin-754034

EXECUTING AGENCY: Mythri Infrastructure And Mining India Pvt. Ltd. S.N.3 No.-151, Near Canara Bank, Main Road, Tahil, Dist- Rayagada, Odisha, Pin-765015.

PREPARED BY: Trigeometry Services JV/ JN Associates Plot No - 2552(II), Nalanda Marg, Govind Prasad, Bomikhal, Bhubaneswar, Odisha - 751019

DESIGNED	PRASAD	PSAI
DRAWN	DAYA	DAY
CHECKED	SARAT	SARAT
APPROVED	SARAT	SARAT
DATE	SCALE: HOR = 1:1000 VER = 1:100	

TITLE: TYPICAL GENERAL ARRANGEMENT DRAWING FOR NEW CONSTRUCTION OF PIPE CULVERT

DRAWING NO: SH44-STR-PC-GA-001

SCALE

SHEET 1 OF 1

Chief Consult... Rayagada (R&B)

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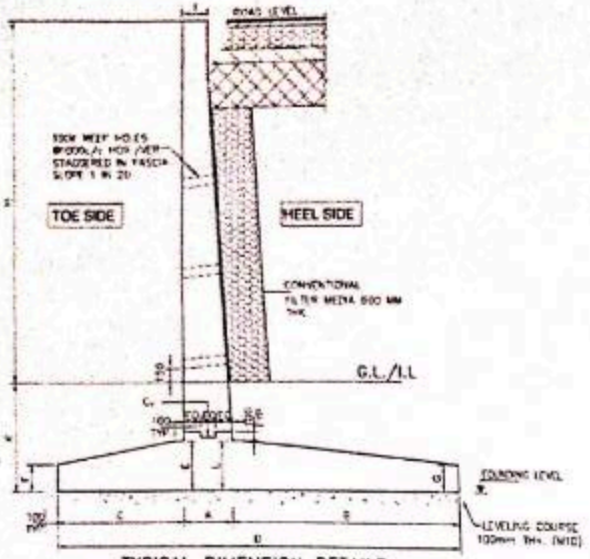
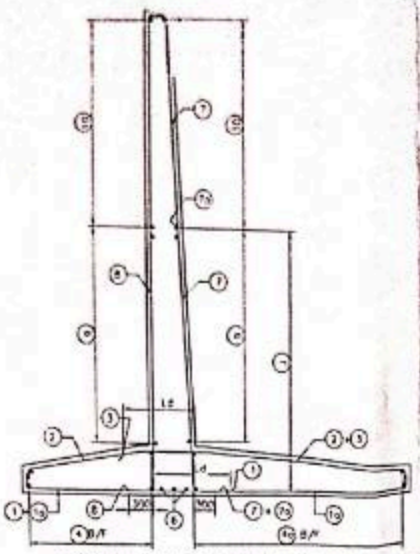


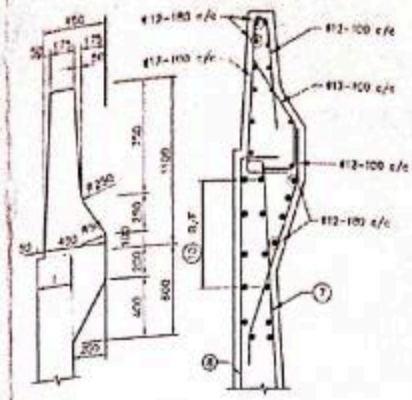
TYPICAL DIMENSION DETAILS OF RETAINING WALL

SCALE 1:40



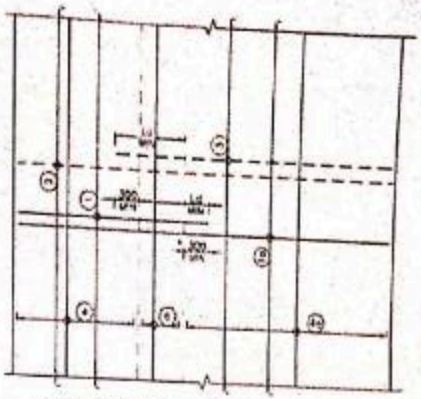
TYPICAL REINFORCEMENT DETAILS OF RETAINING WALL

SCALE 1:40



DIMENSIONAL & RC DETAILS OF CRASH BARRIER FOR BRIDGES

SCALE 1:25



FOUNDATION PLAN FOR RETAINING WALL

SCALE 1:40

MINIMUM 300MM LENGTH SHALL BE PROVIDED BEYOND THE FACE/JUNCTION OF WALL

TABLE SHOWING SALIENT DIMENSIONS

TYPE NOS	H	A	B	C	D	E	F	G	L	I	K	J	SBC KN/m²
TYPE-13	8.50	1400	4400	2500	8300	1200	400	400	1200	300	2000	5100	218
TYPE-12	8.00	1200	4450	2200	7850	1050	400	400	1050	300	2000	4800	221
TYPE-11	7.50	1100	4300	2100	7500	950	400	400	950	300	2000	4600	212
TYPE-10	7.00	950	4280	1950	7100	950	400	400	950	300	2000	4433	206
TYPE-9	6.50	925	3750	1900	6575	925	400	400	925	300	2000	4250	200
TYPE-8	6.00	800	3650	1700	6150	800	400	400	800	300	2000	4000	198
TYPE-7	5.50	700	3550	1500	5750	700	400	400	700	300	2000	3767	195
TYPE-6	5.00	650	3350	1500	5500	650	400	400	650	300	2000	4067	178
TYPE-5	4.50	600	3200	1250	5050	600	300	300	600	300	2000	3767	180
TYPE-4	4.00	550	3000	900	4450	550	300	300	550	300	2000	3007	193
TYPE-3	3.50	550	2750	850	4150	550	300	300	550	300	2000	2240	179
TYPE-2	3.00	450	2600	800	3850	450	300	300	450	300	2000	2447	165
TYPE-1	2.50	450	2350	750	3550	450	300	300	450	300	2000	-	126

SCHEDULE OF REINFORCEMENT FOR RETAINING WALL

BEND LENGTH OF BAR (B)	SHAPE OF BAR	Bar Mark	8.5	8	7.5	7	6.5	6	5.5	5	4.5	4	3.5	3	2.5
F-75	a	1	16mm@170c/c	10mm@170c/c	16mm@170c/c	16mm@180c/c	12mm@170c/c	12mm@170c/c	10mm@170c/c	10mm@170c/c	10mm@170c/c	10mm@170c/c	10mm@170c/c	10mm@170c/c	10mm@170c/c
F-75	a	1a	20mm@170c/c	20mm@170c/c	16mm@170c/c	16mm@180c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	12mm@170c/c	12mm@170c/c	12mm@170c/c	12mm@170c/c
F-75	a	2	20mm@170c/c	20mm@170c/c	20mm@170c/c	16mm@180c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	12mm@170c/c	12mm@170c/c
F-75	a	3	16mm@170c/c	16mm@170c/c	16mm@170c/c	20mm@180c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	15mm@170c/c	12mm@170c/c	12mm@170c/c	10mm@170c/c	16mm@170c/c	12mm@170c/c
150	a	4	10mm@200c/c	10mm@200c/c	10mm@200c/c	10mm@200c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c	12mm@300c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c
150	a	4a	10mm@150c/c	10mm@150c/c	10mm@150c/c	10mm@150c/c	10mm@200c/c	10mm@150c/c	10mm@150c/c	12mm@200c/c	10mm@200c/c	10mm@200c/c	10mm@250c/c	10mm@250c/c	10mm@300c/c
150	a	6	10mm@150c/c	10mm@150c/c	10mm@150c/c	10mm@150c/c	10mm@200c/c	10mm@150c/c	10mm@150c/c	12mm@200c/c	10mm@200c/c	10mm@250c/c	10mm@250c/c	10mm@250c/c	10mm@300c/c
300	a	7	25mm@170c/c	25mm@170c/c	25mm@170c/c	25mm@180c/c	20mm@170c/c	20mm@170c/c	20mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	12mm@170c/c	16mm@170c/c	12mm@85c/c
300	a	7a	20mm@170c/c	20mm@170c/c	20mm@170c/c	20mm@180c/c	20mm@170c/c	20mm@170c/c	20mm@170c/c	16mm@170c/c	16mm@170c/c	16mm@170c/c	12mm@170c/c	Not in use	
300	a	8	12mm@130c/c	12mm@150c/c	12mm@140c/c	12mm@140c/c	12mm@160c/c	12mm@160c/c	12mm@150c/c	12mm@170c/c	12mm@170c/c	12mm@170c/c	10mm@150c/c	10mm@170c/c	10mm@170c/c
150	a	9	12mm@100c/c	12mm@100c/c	10mm@100c/c	10mm@100c/c	10mm@100c/c	10mm@100c/c	10mm@100c/c	10mm@100c/c	10mm@100c/c	10mm@150c/c	10mm@200c/c	10mm@200c/c	10mm@300c/c
150	a	10	12mm@300c/c	12mm@300c/c	10mm@200c/c	10mm@200c/c	10mm@300c/c	10mm@250c/c	10mm@250c/c	12mm@300c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c	10mm@300c/c

NOTES:

1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES UNLESS MENTIONED OTHERWISE
2. MATERIALS
   CONCRETE :-
   M30-FOR RCC RETAINING WALL, M15-FOR PCC LEVELING COURSE & WING-CRASH BARRIER.
   REINFORCEMENT :-
   Fe500D (H.Y.S.D BAR CONFORMING TO IS-1786)
3. 100 DIA PIPE AT SPACING 1000c/c IN HORIZONTAL/ VERTICAL DIRECTION SHALL BE PROVIDED 150 ABOVE GROUND LEVELS AT RETAINING WALL.
4. BACKFILL MATERIAL BEHIND RETAINING WALL SHALL HAVE THE PROPERTIES AS $\phi = 30°$, $\gamma = 2.0\ t/m^3$
5. CONVENTIONAL FILTER MEDIA 600MM THK. SHALL BE PROVIDED BEHIND RETAINING WALL.
6. CLEAR COVER IN FOOTING/EARTH FACE 75MM OR ALL OTHER LOCATION 45mm.
7. LAPS IN REINFORCEMENT.
   (i) MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE - 50Ø
   (ii) ANCHORAGE LENGTH FOR M30 GRADE OF CONCRETE - 57Ø
   (iii) NOT MORE THAN 50% OF REINFORCEMENT SHALL BE LAPPED AT ANY ONE SECTION IF LAPPED SUCH LAPPING SHALL BE IN STAGGERED WAY
8. FOR INTERMEDIATE HEIGHTS OF RETAINING WALL THE DETAILS OF NEXT HIGHER HEIGHT SHALL BE USED
9. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE GENERAL ARRANGEMENT DRAWING OF RESPECTIVE STRUCTURE.
10. COUPLER SHALL BE USED FOR BAR DIAMETER GREATER THAN 16mm
11. DOWEL BARS FOR CRASH BARRIER SHALL BE LEFT OPEN WHILE CASTING THE RETAINING WALL.
12. SBC GIVEN IN THE TABLE SHOWING SALIENT DIMENSIONS SHALL BE CONFIRMED PRIOR TO THE COMMENCEMENT OF WORK.
13. IN CASE ANY LOOSE POCKET IS OBSERVED AT THE FOUNDING LEVEL THE SAME SHALL BE DONE AS PER MORTH SPECIFICATIONS
14. MAXIMUM LENGTH OF RETAINING WALL PANEL SHOULD NOT BE MORE THAN 25 M. 20 MM EXPANSION GAP FILLED WITH COMPRESSIBLE MATERIAL SHOULD BE PROVIDED BETWEEN TWO ADJACENT RETAINING WALL PANEL

Legend:
- BAR ON TOP/OTHER FACE
- BAR ON BOTTOM/EARTH FACE
- B/F BOTH FACE

414

Executive Engineer
Rayagada (R&B) Division No-I

Asst. Executive Engineer
Rayagada (R&B) Sub-Division No. II

Chief Constn. Engineer
Rayagada (R&B) Circle

NOTES: 1. All the Dimensions are in meter unless otherwise specified.

NO	DATE	DESCRIPTION	DESIGN	DRAWN	CHECKED	APPROVED
0	12.06.24	INITIAL SUBMISSION	PSM	SVK	SMM	SMM

CLIENT: vedanta, 1st Floor, Module C0, Fortune Tower, Bhubaneshwar, Odisha - 751023, India

PROJECT: DETAILED PROJECT REPORT (DPR) DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SIJIMALI MINES TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH

DESIGN CONSULTANT: Utkal Rail Consultants Pvt. Ltd., At/Ashrambagan (Near Dharmendal Police Station), P.O. Dharmendal, Dist-Jajpur Odisha, Pin-754034

EXECUTING AGENCY: Mythri Infrastructure And Mining India Pvt. Ltd., LP.S No - 053, Near Canara Bank, Main Road, Tikili, Dist- Rayagada, Odisha, Pin-765015

PREPARED BY: Trigonometry Services JV JN Associates, Po/Ho-358103, Hatwara Bilaya, Gobind Prasad, Bonkhal, Bhubaneswar, Odisha - 751030

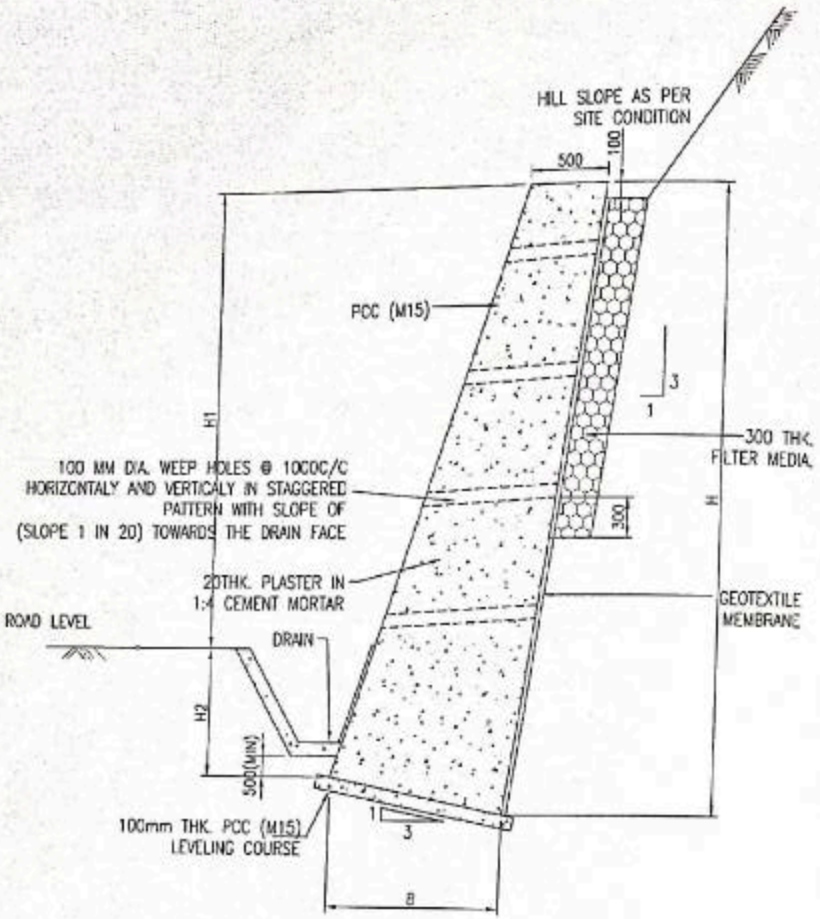
DESIGN	PSM	
DRAWN	SVK	
CHECKED	SMM	
APPROVED	SMM	
DATE		
SCALE	AS# = 1:1000 A3 = 1:100	

TITLE: GAD & RC DETAILS OF RETAINING WALL

DRAWING NO: SH44-STR-RW

SCALE:

SHEET 1 OF 1



CROSS SECTIONAL ELEVATION OF PCC BREAST WALL

(SCALE-1:20)

DIMENSION DETAIL :-

TOTAL HEIGHT'H' (M)	H1 (M)	H2 (M)	B (M)	REQUIRED BEARING CAPACITY (KN/M²)
6.5	5.00	1.50	2.75	300
5.5	4.00	1.20	1.85	300
4.7	3.00	1.20	1.30	300
3.8	2.00	1.20	0.85	250

415

19.09.24

19.9.24

Junior Engineer
Kashipur (R&B) Section

Asst. Executive Engineer
Rayagada (R&B) Sub-Division No-II

Executive Engin
Rayagada (R&B) Divisi

NOTES :-

1. ALL DIMENSIONS ARE IN MILLIMETERS, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
2. GRADE OF PCC SHALL BE M15.
3. GRADE OF PCC LEVELING COURSE SHALL BE M15 (REF: CLAUSE NO:2104.3 (i), SPECIFICATIONS FOR ROAD & BRIDGE WORKS, MoRTH)
4. 100MM DIA WEEP HOLES SHALL BE PROVIDED @ MAXIMUM 1.0M SPACING IN A STAGGERED PATTERN STARTING FROM 0.15m ABOVE GROUND.
5. 20MM EXPANSION JOINT TO BE PROVIDED AT EACH 10M ALONG LENGTH OF WALL.
6. MATERIAL BEHIND WALL SHOULD BE WELL COMPACTED.
7. FOR DIMENSION DETAILS PLEASE REFER TABLE-1.
8. BACK FILL AND FILTER MEDIA BEHIND THE BREAST WALL SHALL BE PROVIDED CONFIRMING TO APPENDIX 6 OF IRC:78-2014 HAVING PROPERTIES Ø-30°,C-0.
9. SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300MM.
10. MINIMUM SURFACE REINFORCEMENT @ 2.5kg/sqm. SHALL BE PROVIDED BOTH HORIZONTALLY & VERTICALLY AS PER CLAUSE NO. 710.1.1 OF IRC:78-2014.
11. CLEAR COVER OF ALL REINF. TO BE 50MM
12. THE WALL HAS BEEN DESIGNED CONSIDERING THE WEEP HOLES ARE FUNCTIONING FULLY.
13. UNIT WEIGHT OF PCC IS CONSIDERED IN DESIGN AS 24 KN/M³.
14. SAFE BEARING CAPACITY TO BE FOLLOWED AS PER THE VALUES PROVIDED IN TABLE-1. THIS IS TO BE ENSURED THROUGH SOIL INVESTIGATION AT SITE BEFORE EXECUTION.
15. THICKNESS OF FILTER MEDIA IS CONSIDERED AS PER CLAUSE NO. 9.3.5, IRC:SP:48.
16. GEOTEXTILE MEMBRANE BEHIND EXTERNAL WALL SHALL BE PROVIDED IN CONFORMITY WITH CL:704 OF MoRTH SPECIFICATION.

Chief Constn. Eng
Rayagada (R&B) C
Rayagada

NOTES: 1. All the Dimensions are in meter unless otherwise specified.

REV	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED
0	11.09.24	INITIAL SUBMISSION	PSN	DVD	SKJP

CLIENT: vedanta, 1st Floor, Module C02, Fortune Tower, Bhubaneshwar, Odisha - 751023, India

PROJECT: DETAILED PROJECT REPORT (DPR) ON DEVELOPMENT OF PROPOSED ROAD CONNECTIVITY FROM SIJIMALI MINES TO SH-44 FOR TRANSPORTATION OF BAUXITE ORE FOR M/S VEDANTA LIMITED AT LANJIGARH

DESIGN CONSULTANT: Utkal Rail Consultants Pvt. Ltd., At-Pamposhpur, (Near Dhanmandal Police Station), P.O. Dhanmandal, Dist-Jajpur, Odisha, Pin-754024

EXECUTING AGENCY: Mysteel Infrastructure And Mining India Pvt. Ltd., 2 & 3 No - 201, New Canara Bank, Main Road, Third, Dist- Rayagada, Odisha, Pin-765015.

PREPARED BY: Trigonometry Services JV JN Associates, Plot No - 558/558, Narendra Marg, Gobind Prasad, Bonikhal, Bhubaneswar, Odisha - 751010

RESPONSIBLE	PREPARED	PSN
CHECKED	CHECKED	DVD
APPROVED	APPROVED	SKJP
DATE	SCALE:	NOT TO SCALE
11.09.2024		

TITLE: DIMENSION DETAILS OF PCC BREAST WALL

DRAWING NO: SH44-STR-BWD-1001

REV: 0

SIZE: A2

SHEET 1 OF 1

Annexure - A20

Saroj Kumar Sethi, IAS
Chief General Manager (Land)

IDCO Your power to grow ISO 9001 & 14001 Corporation | ODISHA NEW OPPORTUNITIES

No. IDCO/HO/P&A/LAE/8973/2025 27362 **Date:** 16/09/25

To

The Chief- New Business,
M/s Vedanta Ltd.
Module, C/2 Fortune Tower,
Chandrasekharpur,
Bhubaneswar-751023

Sub: Issue of NOC/Permission for construction of the road by M/s Vedanta Ltd. from Sijimali Mines Top to nearest SH-44 on the leased out non forest Govt. land measuring **Ac.15.426** in 3 nos of villages under Kashipur Tahasil in Rayagada district.

Ref:- Letter no-875/Dtd.03.02.2024 of Govt. in industries Deptt.

Sir,

In pursuance to the decision taken in the meeting held under the chairmanship of Chief Secretary, Odisha and communicated vide letter no 875/Dtd.03.02.2024 of Govt. in industries Deptt, and subsequent approval of Land Allotment Committee held on Dtd.18.02.2025 & 15.07.2025, NOC/Permission is hereby issued in favour of M/s Vedanta Ltd. for construction of the Road from Sijimali Mines Top to nearest SH-44 on the leased out non forest Govt. land measuring **Ac.15.426** in 3 nos of villages (i.e. Ac.5.821 in village-Bichhapinda,Ac.1.248 in village-Dumerpadar,Ac.8.357 in village-Sagabari) under Kashipur Tahasil in Rayagada district on the following terms and conditions:

01	You have already made payment of **Rs.74,70,946/- (Rupees Seventy Four Lakh Seventy Thousand Nine Hundred Forty Six)** Only towards Land Cost- **Rs.65,56,050/-**@Rs.4,25,000/- per acre, IDCO Administrative charges @ 10% of Land Cost - **Rs.6,55,605/-** ,Annual Rent @1.75% of the Land Cost-Rs.**1,14,731/-**, Non Refundable Processing fee of IDCO-**Rs.5,000/-** and GST @ 18% on IDCO Admin Charge, on Processing fee & on Annual Rent-**Rs.1,39,560/-** in respect of above said leased out Govt. land measuring **Ac.15.426** in 3 nos of villages (i.e. Ac.5.821 in village-Bichhapinda,Ac.1.248 in village- Dumerpadar,Ac.8.357 in village-Sagabari) under Kashipur Tahasil in Rayagada district.

Odisha Industrial Infrastructure Development Corporation
(A Government of Odisha Undertaking)
IDCO, Land Division, IDCO Towers, Janpath, Bhubaneswar – 751022, Odisha, INDIA
• +91- 0674 2544180, 2540820 | Fax: 2542956 / 2541982
cgmland@idco.in

Saroj Kumar Sethi, IAS
Chief General Manager (Land)

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02	M/s Vedanta Ltd. has no right and title over the land and only permission for construction of Road.
03	M/s Vedanta Ltd. shall be utilized for the purpose for which it is accorded permission i.e. for construction of the road by M/s Vedanta Ltd. from Sijimali Mines Top to nearest SH-44 in 3 nos of villages under Kashipur Tahasil in Rayagada district.
04	M/s Vedanta Ltd. can not infringe upon the communal rights over the land granted permission for utilization as applied for.
05	M/s Vedanta Ltd. shall initiate the Road Construction work in non forest Govt. land measuring **Ac.15.426** in 3 nos of villages under Kashipur Tahasil in Rayagada district without cutting of trees in non forest land and without causing any damage to nearby forest land.
06	No construction work shall be undertaken on forest land until the requisite approvals from the concerned authorities.
07	M/s Vedanta Ltd. have to pay the **annual rent** of the land amounting to Rs.**1,14,731** along with 18% GST charges **Rs.20,652/-** for Non forest Govt. land measuring **Ac.15.426** in 3 nos of villages (i.e. Ac.5.821 in village-Bichhapinda, Ac.1.248 in village- Dumerpadar, Ac.8.357 in village-Sagabari) under Kashipur Tahasil in Rayagada district. The above rate will be subject to revision consequent upon the appropriate decision taken by the concerned Revenue Authority/IDCO from time to time.
08	M/s Vedanta Ltd. shall abide by the guidelines of the Govt. in **Industries Deptt./R&DM Deptt./Steel & Mines** and any revision thereto from time to time.
09	M/s Vedanta Ltd. shall abide by the terms and conditions of **MoU,** if executed with State Government and also obey the Rule and regulation of the State Government/ State Government Agencies.
10	M/s Vedanta Ltd. shall obtain necessary clearances from the State Pollution Control Board for establishment of proposed project on the permissive land before taking up any civil construction / industrial

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	activities and will maintain the environmental balance which might be required at the time of commission of Industries.
11	a) M/s Vedanta Ltd. shall also have to abide by all the applicable **environment related laws / rules & regulations** which are existing and which may be framed by the competent authority from time to time. b) The liquid effluent discharge of / from the industries/project must meet OSPCB prescribed norms.
12	M/s Vedanta Ltd. shall have obtained clearance from **Ministry of Environment and Forest, Government of India.** M/s Vedanta Ltd. shall abide by the provisions of prevailing forest laws, rule & guidelines issued by the **State / Central Govt.** from time to time.
13	In case of government land for felling of trees, enumeration of the number of trees shall be done and necessary cost shall be deposited with the government. In case of required private land, necessary clearance of the local DFO shall be obtained by the project authority before felling of trees.
14	No waste water of the project shall be released to the **Reservoir / River**. M/s Vedanta Ltd. shall follow the guidelines of the Pollution Control Board.
15	M/s Vedanta Ltd. shall develop green belt both side of the road as per the detail conditions specified in the clearance issued by the **MOEF & State Pollution Control Board (SPCB)**.
16	In addition to the above conditions, the conditions imposed by the State Govt. for allocation of Bauxite Block in the District of **Rayagada** and conditions stipulated in clearance/consent issued by **MOEF Government of India & State Pollution Control Board, Odisha** will be strictly adhered to.
17	M/s Vedanta Ltd. shall have to take necessary clearance of the **local DFO** before felling of trees, if any, in case of both acquired private and Government land for which accorded permission.
18	Deviation of any of the Condition of the Permission shall result in

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	immediate reversion of the land to the Govt. in Revenue & Disaster Management Department, Odisha free from all encumbrances without payment of any compensation for the structure, if any erected on the land or for any improvement that might have been made thereto.

You are therefore requested to convey the letter of acceptance to the undersigned for taking further necessary action at this end.

LAND SCHEDULE

Tahasil	Mouza	Khata No (HAL)	Plot No	Permissive Area (In Ac.)	Kissam
Kashipur	Bichapinda	2/1	23/26	1.948	Patita
			24/27	3.873	Patita
	Sagabari	152/152	31/1612	1.369	Patita
			6/1613	1.768	Patita
			732/1614	1.760	Patita
			733/1615	1.329	Patita
			770/1616	1.946	Patita
			32/1610	0.185	Rasta
	Dumerpadar	68/7	374/513	0.086	Patita
			377/512	1.094	Patita
			375/515	0.068	Patita
			Total	15.426	

BY ORDER OF MD

16/9/2025

Chief General Manager (Land)

Memo No._____/Dated.

Copy to the District Magistrate & Collector, Rayagada/Chief Engineer, DPI & Roads, Nirman Soudha, Keshari Nagar,Unit-V,Bhubaneswar-751001/Special Secretary to Govt. in Industries Deptt., Odisha for information and necessary action.

16/9/2025

Chief General Manager (Land)

Memo No._____/Dtd._____

Copy to the Divisional Forest Officer, Rayagada Division, Dist- Rayagada / Executive Engineer Rayagada (R&D), Division-1, Rayagada for information and necessary action.

16/9/2025

Chief General Manager (Land)

Memo No._____/Dated.

Copy to the Tahasildar Kashipur,Dist-Rayagada/Divisional Head, IDCO Koraput Division for information and necessary action.

16/9/2025

Chief General Manager (Land)

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cgmland@idco.in

Annexure - A21

THE ORISSA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION ACT, 1980

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9. Vacancies how to be filled .....
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THE ORISSA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION ACT, 1980

(Orissa Act 1 of 1980)

[Received the assent of the President on the 5th January, 1991]

An Act to provide for the establishment of a Corporation for the development of industrial infrastructure in the State of Orissa

Whereas it is expedient to make special provision for securing the orderly establishment of industries in industrial areas and industrial estates in the State of Orissa and to assist generally in the organisation thereof, and for that purpose to establish an Industrial Infrastructure Development Corporation, and for purposes connected with the matters aforesaid;

It is hereby enacted by the Legislature of the State of Orissa in the Thirty-first year of the Republic of India, as follows :

CHAPTER I

Preliminary

1. Short title, extent and commencement. - (1) This Act may be called the Orissa Industrial Infrastructure Development Corporation Act, 1980.

(2) It extends to the whole of the State of Orissa.

(3) It shall come into force at once.

2. Definitions. - In this Act, unless the context otherwise requires -

(a) "*amenity"* includes road, railway siding, air strip, warehousing, supply of water or electricity, street lighting, drainage, sewerage, conservancy and such other convenience as the State Government may, by notification, specify to be an amenity for the purpose of this Act;

(b) "*Board"* means the Board of Directors of the Corporation;

(c) "*building"* means any structure or erection, or part of a structure or erection, which is intended to be used for residential, industrial, commercial or other purposes, whether in actual use or not;

(d) "*Collector"* means the Collector of a district, and includes any officer specially empowered by the State Government to perform the functions of a Collector under this Act;

(e) "*Corporation"* means the Orissa Industrial Infrastructure Development Corporation established under S.5;

(f) *"development"* with its grammatical variations means the carrying out of building, engineering, quarrying or other operations in, on, over or under land or the making of any material change in any building or land, and includes

re-development, but does not include mining operations; and "to develop" shall be construed accordingly;

(g) *"engineering operations"* include the formation or laying out of means of access to a road, rail or waterway or the laying out of means of water-supply, power supply and communication system;

(h) *"industrial area"* means any area declared to be an industrial area by the State Government by notification, which is to be developed and where industries, industrial housing and related services are to be accommodated;

(i) *"industrial estate"* means any site selected by the Stale Government where the Corporation builds factories and other buildings, services and amenities and makes them available for any industry or class of industries;

(j) *"means of access"* includes a road or any means of access, whether private or public, for vehicles or for pedestrians or for rail or for water, power or communication systems;

(k) *"premises"* means any land or building or part of a building and includes -

(i) the garden, grounds and out-houses, if any, appertaining to such building or part of a building: and

(ii) any fittings affixed to such building or part of a building for the more beneficial enjoyment thereof;

(I) *"prescribed"* means prescribed by rules made under this Act;

(m) the expression “tend” and the expression “*person interested”* shall have the meanings respectively assigned to them under S.3 of the Land Acquisition Act, 1894 (1 of 1894).

CHAPTER II

Establishment of the Corporation

3. Establishment and incorporation. - (1) For the purpose of securing and assisting in the rapid and orderly establishment and organisation of industries, trade and commerce in industrial areas and industrial estates in the State of Orissa, there shall be established by the State Government, by notification, a Corporation by the name of the Orissa Industrial Infrastructure Development Corporation.

(2) The Corporation shall be a body corporate with perpetual succession and a common seal, and may sue and be sued in its corporate name, and shall be competent to acquire, hold and dispose of property, both movable and immovable, and to contract, and do all things necessary for the purposes of this Act.

4. Constitution of Board of Directors. - (1) The general superintendence, direction and management of the affairs and business of the Corporation shall vest in a Board of Directors which, with the assistance of an Executive Committee and a Managing Director, may exercise all the powers and discharge all the functions which may be exercised or discharged by the Corporation.

(2) The Board of Directors shall consist of fifteen Directors, namely:

(i) Secretary to Government in the Industries Department;

(ii) Secretary to Government in the Finance Department;

(iii) Secretary to Government in the Revenue Department;

(iv) Director of Industries, Orissa;

(v) Chairman, Orissa State Electricity Board;

(vi) Managing Director, Industrial Development Corporation of Orissa Limited;

(vii) Managing Director, Industrial Promotion and Investment Corporation of Orissa Limited;

(viii) Managing Director, Orissa State Financial Corporation;

(ix) Managing Director, Orissa Small Industries Corporation Limited;

(x) Chief Engineer, Public Health Department;

(xi) Managing Director of the Corporation;

(xii) Four Directors nominated by the State Government from amongst persons appearing to it to be qualified as having had experience of, and having shown capacity in, industry or trade or finance, or who, in the opinion of the State Government, are capable of representing the interest of persons engaged or employed therein.

(3) The State Government shall appoint one of the Directors to be the Chairman of the Board.

5. Disqualification for Directorship. - A person shall be disqualified for being nominated as a Director of the Board, if he -

(a) is an employee of the Corporation, not being the Managing Director; or

(b) is of unsound mind, and stands so declared by a competent Court: or

(c) is an undischarged insolvent; or

(d) has a subsisting contract with the Corporation.

6. Term of office and conditions of service of Directors. - (1) The Chairman and the Directors nominated under Cl.(xii) of sub-S. (2) of S.4 shall hold office at the pleasure of the Governor.

(2) Subject to the provisions of sub-S. (1), the term of office of the said Directors shall be for a period of three years from the date of their nomination and shall include any further period which may elapse between the expiration of the said period of three years and the date of nomination of their successors.

(3) The nominated Directors shall be entitled to draw such fees and allowances as may be prescribed.

(4) Any person nominated as a Director on one or more occasions shall, unless disqualified, be eligible for renomination.

(5) Where a person is nominated to be or becomes a Director by virtue of holding any office he shall, notwithstanding anything contained in this Act, cease to be a Director as soon as he ceases to hold that office.

7. Meetings of the Board. - (1) The Board shall meet at such times and places, and shall, subject to the provisions of sub-S. (2), observe such rules of procedure in regard to the transaction of its business as may be provided by regulations made under this Act.

(2) A Director, who is directly or indirectly concerned or interested in any contract, loan, arrangement or proposal entered into or proposed to be entered into, by or on behalf of the Corporation, shall at the earliest possible opportunity disclose the nature of his interest to the Board, and shall not present at any meeting of the Board when any such contract, loan arrangement or proposal is discussed, unless his presence is required by the other Directors for the purpose of eliciting information, but no Director so required to be present shall vote on any such contract, loan, arrangement or proposal.

8. Cessation of Directorship. - If a Director -

(a) becomes subject to any of the disqualifications mentioned in S.5; or

(b) tenders his resignation in writing to, and such resignation is accepted by the State Government; or

(c) is absent without the Board's permission from three consecutive meetings of the Board, or from all meetings of the Board for three consecutive months; or

(d) is convicted of an offence involving moral turpitude; he shall cease to be a member of the Board.

9. Vacancies how to be filled. - Any casual vacancy in the Board shall be filled as early as practicable, in like manner as if the appointment were being made originally :

Provided that during any such vacancy the continuing members may act as if no vacancy had occurred.

10. Temporary absence of Chairman. - If the Chairman of the Board is by reason of illness or otherwise rendered temporarily incapable of carrying out his duties, or is granted leave of absence by the State Government or is otherwise unable to attend to his duties in circumstances not involving the cessation of his Directorship, the State Government may appoint the Managing Director or any other Director to act as the Chairman and carry out his duties and functions by or under this Act until the Chairman resumes his duties.

11. Proceeding presumed to be good and valid. – No disqualification of. or defect in the appointment of any person acting as the Chairman or a Director of the Board, shall vitiate any act or proceeding of the Board, if such act or proceeding is otherwise in accordance with the provisions of this Act.

12. Officers and servants of the Corporation. - (1) The State Government shall appoint a Managing Director who shall be the Chief Executive Officer of the Corporation.

(2) The Board may appoint such other officers and servants, subordinate to the Managing Director, as it considers necessary for the efficient performance of its duties and functions.

(3) The conditions of appointment and service of the officers and servants and their scales of pay shall -

(a) as regards the Managing Director, be such as may be prescribed; and

(b) as regards the other officers and servants, be such as may be determined by regulations made under this Act.

(4) If the Managing Director of the Corporation is temporarily absent or rendered incapable of performing his duties for any reason whatsoever, not involving the vacation of his office, the State Government may, after consultation with the Board, appoint another person to act in his place during his absence. Such person shall vacate office on the date the Managing Director resumes his duties.

13. Corporation to absorb certain staff and to assume obligations of State Government in respect of matters to which this Act applies. - (1) The Corporation shall take over and employ such of the existing staff serving for the purposes of the Industrial Promotion and Investment Corporation of Orissa Limited and the Orissa Small Industries Corporation Limited as the State Government may direct, and every person so taken over and employed shall be subject to the provisions of this Act and the rules and regulations made thereunder;

Provided that the conditions of service of the members of the staff who are taken over by the Corporation shall in no way be less advantageous than those which were applicable to them immediately prior to their absorption.

(2) All obligations incurred, all contracts entered into and all matters and things engaged to be done. before the first establishment of the Corporation, by, with or for the State Government or the Corporations aforesaid for any of the purposes of this Act, in respect of any schemes for the development of industrial estates or industrial areas entrusted to the Corporation, shall be deemed to have been incurred, entered into or engaged to be done, by, with or for the Corporation; and accordingly all suits or other legal proceedings instituted or which might have been instituted by or against the State Government or the Corporations aforesaid, as the case may be, may be continued or instituted by or against the Corporation.

(3) Alt expenditure which the State Government or the Corporations aforesaid may have incurred before the date of the coming into force of this Act in connection with any of the purposes of this Act shall be deemed to be a grant to the Corporation under S. 21 on that date, and all assets acquired by such expenditure shall vest in the Corporation.

CHAPTER III

Functions and powers of the Corporation

14. Functions. - The functions of the Corporation shall be -

(i) generally to promote and assist in the rapid and orderly establishment, growth and development of industries, trade and commerce in the State; and

(ii) in particular, and without prejudice to the generality of Cl. (i) to-

(a) establish and manage industrial estates at places notified by the State Government;

(b) develop industrial areas notified by the State Government for the purpose and make them available for undertakings to establish themselves;

(c) undertake schemes or works, either jointly with other corporate bodies or institutions, or with Government or local authorities, or on an agency basis, in furtherance of the purposes for which the Corporation is established and all matters connected therewith;

(d) provide or cause to be provided amenities and common facilities in industrial estates and industrial areas and construct and maintain or cause to be maintained works and buildings thereof;

(e) make available buildings on hire or sale to industrialists or persons intending to start industrial undertakings;

(f) construct buildings for the housing of the employees of such industries and employees of the Corporation.

15. General powers of the Corporation. - Subject to the provisions of this Act, the Corporation shall have power :

(a) to acquire and hold such property, both movable and immovable, as the Corporation may deem necessary for the performance of any of its activities, and to lease, sell, exchange or otherwise transfer any property held by it on such conditions as may be deemed proper by the Corporation;

(b) to purchase by agreement or to take on lease or under any form of tenancy any land to erect such buildings and to execute such other works as may be necessary for the purpose of carrying out its duties and functions;

(c) to allot plots, factory sheds or buildings or part of buildings, including residential tenements, to suitable persons in the industrial estates established or developed by the Corporation;

(d) to modify or rescind such allotments, including the right and power to evict the allottees concerned on breach of any of the terms or conditions of the allotment;

(e) to constitute advisory committees to advise the Corporation;

(f) to engage suitable consultants or persons having special knowledge or skill to assist the Corporation in the performance of its functions;

(g) to enter into and perform all such contracts as it may consider necessary or expedient for carrying out any of its functions; and

(h) to do such other things and perform such acts as it may think necessary or expedient for the proper conduct of its functions and the carrying into effect the purposes of this Act.

16. Authentication of orders and documents of Corporation. -

All permissions, orders, decisions, notices and other documents of the Corporation shall be authenticated by the signature of the Chief Executive Officer of the Corporation.

17. Power to levy service charge. - Notwithstanding anything contained in any contract or any law for the time being in force, it shall be lawful for the Corporation to levy development cost. fees or service charges to cover its expenses on construction and maintenance of roads, drainage, water-supply and such other services and amenities as may be provided by it including provision of street lighting, at such rates as may be prescribed from time to time and such cost, fees and charges may be levied on the plot holders or other persons receiving benefit of the services or amenities.

18. Directions by the State Government. - The State Government may issue to the Corporation such general or special directions as to policy as it may think necessary or expedient for carrying out the purposes of this Act, and the Corporation shall be bound to follow and act upon such directions.

CHAPTER IV
Finance, accounts and audit

19. Application of Corporation's assets. - All property, fund and other assets vesting in the Corporation shall be held and applied by it, subject to the provisions and for the purposes of this Act.

20. Corporation's fund. -The Corporation shall have and maintain its own fund, to which shall be credited -

(a) all amounts received by the Corporation from the State Government by way of grants, subventions, loans, advances or otherwise;

(b) all fees, costs and charges received by the Corporation under this Act;

(c) all amounts received by the Corporation from the disposal of lands, buildings and other properties movable and immovable and other transactions;

(d) all amounts received by the Corporation by way of rents and profits or in any other manner or from any other source;

(e) all amounts received by the Corporation from Government undertakings, Companies, Financial Institutions, Commercial Banks or from any other source.

21. Grants, subventions, loans and advances to the Corporation. - The State Government may after due appropriation made by the State Legislature by law in this behalf, make such grants, subventions, loans and advances to the Corporation as it may deem necessary for the performance of the functions of the Corporation under this Act; and all grants, subventions, loans and advances made shall be on such terms and conditions as the State Government may after consulting the Corporation determine.

22. Power of Corporation to borrow and guarantee of loans. -

(1) The Corporation may, from time to time, with the previous sanction of the State Government and subject to the provisions of this Act and to such conditions as may be prescribed in this behalf, borrow any sum required for the purposes of this Act.

(2) Rules made by the State Government for the purposes of this section may empower the Corporation to borrow by the issue of bonds or stock or otherwise.

(3) The maximum amount which the Corporation may at any time have on loan under sub-S. (1) shall be fifty crores of rupees, unless the State Government with the approval of the State Legislative Assembly, fixes a higher maximum amount.

(4) The State Government may guarantee in such manner as it thinks fit the payment of the principal and interest of any loan proposed to be raised by the Corporation or of either the principal or the interest;

Provided that the State Government shall, so long as any such guarantees are in force, lay before the State Legislature in every year during the first session of the Legislature, a statement of the guarantees, if any, given during the current financial year and an up-to-date account of the total sum, if any, which have been paid out of or into the State Revenues towards repayment of any money so paid out.

23. Deposits. - The Corporation may accept deposits on such terms and conditions as it deems fit from persons, authorities or instructions, to whom allotment or sale of land, buildings or sheds is made or is likely to be made in furtherance of the objects of this Act.

24. Reserve and other funds. - (1) The Corporation shall make provisions for such reserve and other specially denominated funds as the State Government may, from time to time, direct.

(2) The management of the funds referred to in sub-S. (1), the sum to be transferred from time to time to the credit thereof and the application of money comprised therein shall be determined by the Corporation.

(3) None of the funds referred to in sub-S. (1) shall be utilised for any purpose other than that for which it was constituted without the previous approval of the State Government.

25. Expenditure from funds. - (1) The Corporation shall have the authority to spend such sums as it thinks fit for the purposes authorised under this Act from out of the general funds of the Corporation referred to in S.20 or from the reserve and other funds referred to in S.24, as the case may be.

(2) Without prejudice to the generality of the power conferred by sub-S. (1), the Corporation may contribute sums, as it thinks fit, towards expenditure incurred or to be incurred by any local authority or statutory public undertaking in the performance, in relation to any of its industrial estates or industrial areas, of any of the statutory functions of such authority or undertaking, including expenditure incurred in the acquisition of land.

(3) The Corporation shall have authority to advance loans, with or without security on interest, to its employees.

26. Budget and programme of work. - (1) The Corporation shall, by such date in each year as may be prescribed, prepare and submit to the State Government for approval an annual financial statement and the programme of work for the succeeding financial year.

(2) The annual financial statement shall show the estimated receipts and expenditure during the succeeding financial year in such form and detail as may be prescribed.

(3) The Corporation shall be competent to make variations in the programme of work in the course of the year; provided that all such variations and reappropriations out of the sanctioned budget are brought to the notice of the State Government by a supplementary financial statement.

(4) A copy each of the annual financial statement and the programme of work and the supplementary financial statement, if any, shall be placed before the State Legislature as soon as may be after their receipt by the State Government.

27. Accounts and audit. - (1) The Corporation shall maintain books of accounts and other books in relation to its business and transactions in such form, and in such manner, as may be prescribed.

(2) The accounts of the Corporation shall be audited by an au9itor appointed by the State Government, in consultation with the Comptroller and Auditor- General of India.

(3) As soon as the accounts of the Corporation are audited, the Corporation shall send a copy thereof together with the copy of the report of the auditor thereon to the State Government.

(4) The State Government shall cause the accounts of the Corporation together with the audit report thereon forwarded to it under sub-S.(3) to be laid annually before the State Legislature.

28. Concurrent and special audit accounts. -(1) Notwithstanding anything contained in the last preceding section, the State Government may, by order, direct that there shall be concurrent audit by such person as it thinks fit of the accounts of the Corporation relating to any particular transaction or class or series of transactions or to a particular period.

(2) When an order is made under sub-S. (1), the Corporation shall present or cause to be presented for audit such accounts and shall furnish to the persons appointed under sub-S. (1), such information as the said person may require for the purpose of audit.

CHAPTER V
Applicability of certain laws

29. Application of Orissa Public Premises (Eviction) Act, 1972, to Corporation premises. - (1) The State Government may. by notification, provide that from such date as is stated there in the Orissa Public

Premises (Eviction of-Unauthorised Occupants) Act, 1972 (Orissa Act 7 of 1972) shall, subject to the provisions of sub-S.(2), apply to the premises belonging to vesting in, or leased by the Corporation.

(2) On a notification being issued under sub-S. (1). the aforesaid Act and the rules made thereunder shall apply to premises of the Corporation with the following modifications, namely :

(a) the State Government shall appoint an officer of the Corporation who is holding or has office other whether under the Government or the Corporation, which in the opinion of the State Government is not lower in rank than that of a Deputy Collector or an Assistant Engineer, to be the Estate Officer for the purposes of the aforesaid Act and one or more officers may be appointed as Estate Officers for different areas or for the same area;

(b) reference to "public premises" in that Act and those rules shall be deemed to be reference to premises of the Corporations and references to "the State Government" in S.6, 12 and 15 thereof shall be deemed to be references to the Corporation.

30. Non-applicability of certain Acts. - (1) The Orissa House Rent Control Act, 1967 (Orissa Act 4 of 1968) shall not apply -

(a) to any premises belonging to or vesting in the Corporation under or for the purposes of this Act;

(b) as against the Corporation to any tenancies or like relationship created by the Corporation in respect of any premises; but shall apply to any premises let to the Corporation.

(2) The provisions of the Orissa Town Planning and Improvement Trust Act, 1956 (Orissa Act 10 of 1957), shall not apply to the premises belonging to or vested in the Corporation or to any industrial estate for a period of ten years from the date of commencement of this Act.

(3) The State Government may, by notification, exempt any such premises or estate as aforesaid from any of the provisions of the Orissa Municipal Act, 1950 (Orissa Act 23 of 1950) for such period, not exceeding ten years, as may be specified in the notification.

CHAPTER VI
Acquisition and disposal of land

31. Acquisition of land. - (1) Whenever any land is required, by the Corporation for any purpose of furtherance of the objects of this Act, but the Corporation is unable to acquire it by agreement, the State Government may, upon an application of the Corporation in that behalf, order proceedings to be taken under the Land Acquisition Act, 1894 (1 of 1894) for acquiring the same on behalf of the Corporation as if such lands were needed for a public purpose within the meaning of that Act.

(2) The amount of compensation awarded and all other charges incurred in the acquisition of any such land shall be forthwith paid by the Corporation and thereupon, the land shall vest in the Corporation.

32. Transfer of Government lands to the Corporation. - (1) For the furtherance of the objects of this Act the State Government may. upon such conditions as may be agreed upon between the Government and the Corporation, place at the disposal of the Corporation any land vested in the State Government.

(2) After any such land had been developed by or under the control and supervision of the Corporation it shall be dealt with by the Corporation in accordance with the regulations made under this Act and the directions given by the State Government in that behalf.

33. Disposal of land by the Corporation. - (1) Subject to any directions given by the State Government the Corporation may dispose of-

(a) any land acquired by the State Government and transferred to it, without undertaking or carrying out any development thereon; or

(b) any such land after undertaking or carrying out such development as it thinks fit.

to such person in such manner and subject to such terms and conditions, as it considers expedient for securing the purposes of this Act.

(2) The powers of the Corporation with respect to the disposal of land under sub-S. (1) shall be so exercised as to secure, so far as practicable, that -

(a) where the Corporation proposes to dispose of by sale any such land which is surplus to its requirement, the Corporation shall offer the land in the first instance to the persons from whom it was acquired, if they desire to purchase it, subject to such requirements as to its development and use as the Corporation may think fit to impose.

(b) persons who are residing or carrying on business or other activities on any such land shall, if they desire to obtain accommodation on land belonging to the Corporation and are willing to comply with any requirements of the Corporation as to its development and use have an opportunity to obtain thereon accommodation suitable to their reasonable requirements on terms settled with due regard to the price at which any such land has been acquired from them.

(3) Nothing in this Act shall be construed as enabling the Corporation to dispose of land by way of gift, but subject as aforesaid; reference in this Act to the disposal of land shall be construed as reference to the disposal thereof in any manner whether by way of sale, mortgage, exchange, or lease or by the creation, of any easement, right or privilege or otherwise.

34. Acquisition of unutilised surplus lands in industrial areas and allotment to other industries. - (1) With a view to ascertaining whether any plot allotted in an industrial area developed by the Corporation has been utilised for industrial purposes or not, the Board shall carry out six-monthly review as to how much unutilised area of each plot is capable of

sub-division and whether the unutilised area can be utilised for any other purpose under this Act after sub-division, and shall issue notice to the plot holders in the industrial area calling upon them to furnish to it relevant information in the prescribed form and when so called upon each plot holder shall be bound to furnish true and correct information required within one month from the date of receipt of such notice by him.

(2) For the purpose of enabling the Board to determine whether there is any unutilised portion of any plot in the industrial area and whether such portion is capable of sub-division so as to make it useful for any other purpose under this Act after sub-division, it shall be lawful for any officer of the Corporation, either generally or specially authorised by the Board in this behalf, and for his servants and workmen at all reasonable hours -

(i) to enter upon and survey the plot;

(ii) to set out the boundaries of the utilised portion of the plots; and

(iii) to do all other acts necessary for the purposes aforesaid,

(3) If the Board is satisfied that any plot holder has not utilised the maximum area of his plot suitable for construction of buildings for a period of three years or more from the date on which possession of the plot was delivered to him by the Board and the utilised portion is capable of subdivision so as to make it useful for any other purpose under this Act, the Board may, notwithstanding anything contained in any contract or in any law for the time being in force, issue to the plot holder and all other persons interested in the plot notice to show cause why such unutilised portion should not be acquired for the purpose of being utilised for any other purpose under this Act. The Board shall also cause public notice to be given in the manner laid down in S.46.

(4) When any such notice is issued, the Board shall give a reasonable opportunity of being heard to the plot holder and other persons interested in the plot and it shall be open to the plot holder or any other person interested in the plot to appear and object to such resumption on the ground that the unutilised portion is required by the plot holder himself for the purpose of immediate expansion of his own industry and that he has already taken effective steps for utilising such portion.

(5) If after giving a reasonable opportunity of being heard, the Board is satisfied that the holder of the plot has failed to utilise or is not likely to utilise the unutilised portion for industrial purposes within a reasonable period, and such unutilised portion can be used for any other purpose under this Act, the Board may, notwithstanding anything contained in any contract or in any law for the time being in force, for the purpose of enabling the Corporation to properly discharge its functions of promoting rapid growth and development of industries under this Act on such unutilised portion, resume the unutilised portion of the land by giving a notice to the holder of the plot. On and from the date of such notice the unutilised portion of land specified in the notice shall vest absolutely in the Corporation, free from all encumbrances.

(6) Where any land is vested in the Corporation under the last preceding sub-section, the Board may, by notice in writing, order any person who may be in possession of the land to surrender or deliver possession thereof to the Board or any person duly authorised by it in this behalf within thirty days of the service of the notice.

(7) If any person refuses or fails to comply with an order made under the last preceding sub-section, the Board may take possession of the land, and may for the purpose use such force as may be necessary.

(8) Where any land is resumed by the Board under this section the Corporation shall pay for such resumption an amount not exceeding the proportionate amount of premium paid by the plot holder or his predecessor-in-title claiming under the Corporation in respect of the land so resumed, with interest thereon at six per cent per annum from the date of payment of the premium, and where the lease is a rental lease the amount to be awarded shall not exceed an amount equal to three times the net average yearly proportionate rent payable by the plot holder to the Corporation in respect of the land so resumed.

CHAPTER VII
Supplementary and miscellaneous provisions

35. Power of the Corporation in case of certain defaults by owner of land in industrial area. - (1) If the Corporation, after holding a local enquiry or upon report from any of its officers or other information in its possession, it satisfied that the owner of any land in an industrial area has failed to provide any amenity in relation to the land which in the opinion of the Corporation ought to be provided or to carry out any development of the land for which permission has been obtained under this Act, the corporation may serve upon the owner a notice requiring him to provide he amenity or carry out the development within a reasonable time to be specified in the notice.

(2) If any such amenity is not provided or any such development is not carried out within the time specified in the notice, the Corporation may itself provide the amenity or carry out the development or have it provided or carried out through such agency as it deems fit;

Provided that, before taking any action under this sub-section, the s Corporation shall afford reasonable opportunity to the owner of the land to show cause as to why such action should not be taken.

(3) All expenses incurred by the Corporation or the agency employed by it in providing the amenity or carrying out the development together with interest, at such rate as the State Government may by order fix, from the date which a demand for the expenses is made until payment shall be recoverable by the Corporation from the owner.

36. Order of demolition of building. - (1) Where the erection of any building in an industrial estate or industrial area has been commenced, or is being carried on, or has been completed, or any existing building is altered, in contravention of the terms on which such building or the land on

which it stands is held or granted under this Act, any officer of the Corporation empowered by it in this behalf may. in addition to any prosecution that may be instituted under this Act, make an order directing that such erection shall be demolished by the owner thereof within such period not exceeding two months as may be specified in the order, and on the failure of the owner to comply with the order, the officer may himself cause the erection to be demolished and expenses of such demolition shall be recoverable by the Corporation from the owner :

Provided that no such order shall be made unless the owner has been given a reasonable opportunity to show cause why the order should not be made.

(2) Any person aggrieved by an order made under sub-S. (1) may prefer an appeal against that order within thirty days from the date thereof to the Executive Commissioner of the Corporation. Such Committee may after hearing the parties to the appeal either allow or dismiss the appeal or reverse or vary any part of the order.

(3) The decision of the Committee on the appeal and subject only to such decision, the order made by the officer under sub-S. (1) shall be final.

37. Power to stop building operations. - (1) Where the erection of any building in an industrial estate or industrial area has been commenced or is being carried on or any existing building is altered, in contravention of the terms in which such building or the land on which it stands is held or granted under this Act, any officer of the Corporation empowered in this behalf may, in addition to any prosecution that may be instituted under this Act, make an order requiring the building operations in relation to such erection to be discontinued on and from the date of the service of the order.

(2) Where such building operations are not discontinued in pursuance of the requisition under sub-S. (1), the Corporation or the officer empowered as aforesaid may require any police officer to remove the person by whom the erection of the building has been commenced and all his assistants and workmen from the place of the building within such time as may be specified in the requisition and such police officer shall comply with the requisition accordingly.

(3) After a requisition under sub-S. (2) has been complied with, the Corporation or the officer empowered as aforesaid may depute by a written order a police officer or an officer or employee of the Corporation to watch the place in order to ensure that the erection of the building is not continued.

(4) Any person failing to comply with an order made under sub-S.(1) shall, on conviction, be punishable with fine, which may extend to two hundred rupees for every day during which such non-compliance continues after the service of the order.

(5) No compensation shall be payable to any person for any damage or loss which he may sustain in consequence of any order made under this section.

38. Penalty for construction or use of land and buildings contrary to terms of holding. - (1) Any person who, whether at his own instance or at the instance of any other person, undertakes or carries out construction of or alterations to any building in an industrial estate or industrial area contrary to the terms under which he holds such building or land under this Act, shall on conviction, be punishable with fine which may extend to ten thousand rupees, and in the case of a continuing contravention, with a further fine which may extend to two hundred rupees for every day during which such offence continues after conviction for the first commission of the offence.

(2) Any person who uses any land or building in an industrial estate or industrial area contrary to the terms under which he holds such land or building under this Act or in contravention of the provisions of any regulations made in this behalf shall, on conviction, be punishable with fine which may extend to five thousand rupees.

39. Power to lay pipelines, etc. - (1) Within any area taken up for development under paragraph (b) of Cl. (ii) of S.14, and for the purposes of (a) carrying gas, water or electricity from a source of supply to, or (b) constructing any sewers or drains necessary for carrying off the workings and waste liquids of an industrial process through any intervening area, the Board or any person empowered in this behalf by the State Government by notification (hereinafter in this section referred to as "the authorised person") may lay down, place, maintain, alter, remove or repair any pipes. pipelines, conduits, supply or service lines, posts or other appliances or apparatus in, on, under, over, along or across any land in such areas.

(2) The Board or the authorised person may at any time enter upon any land in any such area and in such event the provisions of S.40 shall, mutatis mutandis, apply.

(3) While exercising the power conferred by sub-S.(1) the Board or the authorised persons shall cause as little damage as possible to property; and compensation for any damage sustained by them in consequence of the exercise of such powers as aforesaid shall be paid to all persons interested by the Corporation, or in the case of the authorised persons, by the State Government.

(4) Nothing herein shall authorise or empower the Corporation or the authorised person to lay down or place any pipe or other works into, through or against any building or in any land not dedicated to public use without the consent of the owners and occupiers thereof, except that the Corporation or such person may at any time enter upon and lay or place any new pipe in the place of an existing pipe in any land wherein any pipe has been already lawfully laid down or placed in pursuance of this Act, and may repair or alter any pipe so laid down :

Provided that nothing in the aforesaid provision shall be construed to mean that the Corporation or other person is forbidden from having the said land acquired at any time by the State Government in the normal course.

40. Power of entry. - Any officer of the State Government, any Director of the Board, and any person either generally or specially authorised by the Board in this behalf, may enter into or upon any land or building with or without assistance of workmen for the purpose of -

(a) making any inspection, survey, measurement, valuation or enquiry or taking levels of such land or building;

(b) examining works under construction and ascertaining the course of sewers and drains;

(c) digging or boring into the sub-soil;

(d) setting out boundaries and intended lines of work;

(e) marking such levels, boundaries and lines by placing marks and cutting nrethes;

(f) doing any other thing necessary for the efficient administration of this Act;

Provided that -

(i) no such entry shall be made except between the hours of sunrise and sunset and without giving reasonable notice to the occupier, or if there be no occupier, to the owner of the land or building;

(ii) sufficient opportunity shall in every instance be given to enable women, if any, to withdraw from such land or building; and

(iii) due regard shall always be had, so far as may be compatible with the exigencies of the purpose for which the entry is made, to the social and religious usages of the occupants of the land or building entered.

41. Officers of the Corporation may be vested with other powers.-

The State Government may, by notification nominate any officer of the Corporation to be a controller or licensing authority under any law for the time being in force relating to the procurement or distribution of any commodity in respect of the industrial undertakings established or to be established in industrial estates or industrial areas entrusted to or developed by the Corporation and no such nomination shall be called into question merely on the ground that such officer is not an officer of the State Government.

42. Overriding powers of Government to issue directions to local authorities. - Notwithstanding anything contained in any other law, or in any license or permit, if the State Government is satisfied either on a recommendation made in this behalf by the Board or otherwise, that the setting up of an industrial undertaking, whether within an industrial area or outside, is impeded by a local authority's refusal to grant, or by such authority's insistence on conditions which the State Government considers

unreasonable for the grant of any amenity, the State Government may direct the local authority to grant the said amenity on such conditions as the State Government may consider fit, and thereupon the amenity shall be granted :

Provided that the charge to be paid for granting or continuing such amenity to the local authority concerned shall not be less than the cost incurred by the local authority or licensee concerned for providing such amenity;

Provided further that, no such direction shall be made by the State Government without giving the local authority a reasonable opportunity to show cause why any such direction should not be made.

43. Restriction on lease permission in adjoining areas in certain cases. - If any person or company applies to the Collector or any other competent authority for lease of Government land or for permission to convert agricultural land into non-agricultural use for setting up of an industrial undertaking or for locating a brick kiln, quary or for any other use which may be detrimental to the orderly growth of an industrial estate and if such Government land or agricultural land is situated within a radius of five kilometers of the outer boundary of the said industrial area or estate, the Collector or the competent authority shall not grant such lease or permission without prior consultation with the Board :

Provided that where the Collector or the competent authority overrides the objection of the Board, he will give reasons therefor in writing to the Board, whereupon the Board may appeal to the prescribed authority;

Provided further that no action shall be taken on the order of the Collector or the competent authority till such appeal is disposed of;

Provided also that the provisions of this section shall not apply to any village industry, cottage industry or tiny sector industry.

Explanation. For the purposes of this section -

(i) the expressions "village industry" and "cottage industry" shall have the same meaning as assigned to them under the Orissa State Aid to Industries Act, 1978 (Orissa Act 32 of 1978);

(ii) "tiny sector industry" shall mean such industry as may be declared by the State Government, from time to time, to be a tiny sector industry.

44. Executive Committee. (1) There shall be an Executive Committee which shall consist of -

(a) the Chairman of the Board of Directors;

(b) the Managing Director of the Corporation; and

(c) three other members elected by the Board from among the Directors of whom at least one shall be a Director nominated under Cl.(xii) of sub-S. (2) of S.4.

(2) The Chairman of the Board shall preside over the meetings of the Committee and the business of the Committee shall be conducted in such manner as may be provided in the Regulations made under this Act.

(3) The Committee shall render all such assistance to the Board as it may require from time to time and shall perform such other functions as are assigned to it by or under this Act.

45. Service of notices, etc. - (1) All notices, orders and other documents required by this Act or any rule or regulation made thereunder to be served upon any person shall, save as otherwise provided in this Act or such rule or regulation, be deemed to be duly served -

(a) where the person to be served in a company, it the service is effected in accordance with the provisions of S.51 of the Companies Act, 1956 (1 of 1956);

(b) where the person to be served is a firm, if the document is addressed to the firm at its principal place of business, identifying it by the name or style under which it business is carried on. and is either -

(i) sent by registered post; or

(ii) left at the said place of business;

(c) where the person to be served is a statutory public body or a corporation or a society or other body, if the document is addressed to the secretary, treasurer or other chief executive officer of that body, corporation or society at its principal office, and is either -

(i) sent by registered post; or

(ii) left at that office;

(d) in any other case, if the document is addressed to the person to be served and -

(i) is given or tendered to him; or

(ii) if such person cannot be found,

is affixed on some conspicuous part of his last known place of residence or business or is given or tendered to some adult member of his family or is affixed on some conspicuous part of the land or building to which it relates; or

(iii) is sent by registered post to that person.

(2) Any document which is required or authorised to be served on the owner or occupier of any land or building whose name is not known, may be addressed to "the owner" or "the occupier", as the case may be, of that land or building (naming that land or building) without further name or description, and shall be deemed to be duty served -

(a) if the document so addressed is sent or delivered in accordance with Cl.(d) of sub-S. (1); or

(b) if the document so addressed or a copy thereof so addressed, is given or tendered to some person on the land or building who appears to be occupying the same or, where there is no such

person on the land or building to whom it can be delivered, is affixed to some conspicuous part of the land or building.

(3) Where a document is served on the firm in accordance with this section, the document shall be deemed to be served on each partner.

(4) For the purpose of enabling any document to be served on the owner of any property, the occupier, if any, of the property may be required by notice in writing by the State Government or the Corporation as the case may be, to state the name and address of the owner thereof.

46. Public notices how to be made known. - Every public notice given under this Act or any rule or regulation made thereunder shall be in writing over the signature of the officer concerned and shall be widely made known in the locality to be affected thereby by affixing copies thereof in conspicuous public places, within the said locality, or by publishing the same by beat of drum or by advertisement in a local newspaper, or by any two or more of these means, and by any other means that the officer may think fit.

47. Notices, etc. to fix reasonable times. - Where any notice, order or other document issued or made under this Act or any rule or regulation made thereunder, requires anything to be done for the doing of which no time is fixed in this Act or the rule or regulation, the notice, order or other document shall specify a reasonable period of time for doing the same or complying therewith.

48. Furnishing of returns, etc. - (1) The Board shall furnish to the State Government returns, statistics, reports, accounts and other information with such respect to its conduct of affairs, properties or activities or in regard to any proposed work or scheme as the State Government may, from time to time, require.

(2) The Board shall, in addition to the audit report referred to in S.27 furnish to the State Government an annual report of its working as soon as may be after the end of each financial year in such form and with such details as may be prescribed, and a copy of the annual report shall be placed before the State Legislature as soon as may be after it is received by the State Government.

49. Transfer of existing areas and estates to the Corporation. -

The State Government may by notification and subject to such terms and conditions as may be specified therein, place any industrial area or industrial estate established prior to the date of commencement of this Act under the management and control of the Corporation, and thereupon, the provisions of this Act shall apply to such industrial area and industrial estate as if the industrial area were declared and the industrial estate were established under this Act.

50. Withdrawal of area or estate or part thereof - Where the State Government is satisfied that with respect to any particular industrial estate or industrial area, or any part thereof, the purpose for which the Corporation was established under this Act has been substantially achieved so as to render the continued existence of such estate or area or part thereof under the Corporation unnecessary, the State Government may, by notification, declare that such industrial estate or industrial area or part thereof has been removed from the jurisdiction of the Corporation. The State Government may also make such other

incidental arrangements for the administration of such estate or area or part thereof as the circumstances require.

51. Default in performance of duty. - (1) If the State Government is satisfied that the Board has made a default in performing of any duty or obligation imposed or cast on it by or under this Act, the State Government may fix a period for the performance of that duty or obligation and give notice to the Board accordingly.

(2) If in the opinion of the State Government, the Board fails or neglects to perform such duty or obligation within the period so fixed for its performance, it shall be lawful for the State Government to supersede and reconstitute the Board.

(3) After the super session of the Board and until it is reconstituted in the manner laid down in Chapter II, the powers, duties and functions of the Corporation under this Act shall be carried on by the State Government or by such officer or officers or body of officers as the State Government may appoint for this purpose from time to time.

(4) All property vested in the Corporation shall, during the period of super session, vest in the State Government.

52. Dissolution of Corporation. - (1) Where the State Government is satisfied that the purposes for which the Corporation was established under this Act have been substantially achieved so as to render the continued existence of the Corporation in the opinion of the State Government unnecessary, it may, by notification, declare that the Corporation shall be dissolved with effect from such date as may be specified in the notification, and the Corporation shall be deemed to be dissolved accordingly.

(2) From the said date -

(a) all properties, funds and dues which are vested in, or realisable by, the Corporation shall vest in or be realisable by, the State Government:

(b) all liabilities which are enforceable against the Corporation shall be enforceable against the State Government.

53. Authority for prosecution. - Unless otherwise expressly provided, no Court shall take cogninance of any offence relating to any property belonging to, or vested by or under this Act in, the Corporation, punishable under this Act, except on the complaint of, or upon information received from, the Board or some person authorised by the Board by general or special order in this behalf.

54. Composition of offences by Board. - (1) The Board or any person authorised by the Board by general or special order in this behalf may, either before or after the institution of the proceedings, compound any offence punishable by or under this Act.

(2) Where an offence has been compounded, the offender, if in custody, shall be discharged and no further proceedings shall be taken against him in respect of the offence so compounded.

55. Offences by companies. - (1) Whenever an offence under this Act has been committed by a company, every person who at the time the offence was committed, was in charge of, or was responsible to the company, as well as the company shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly :

Provided that nothing contained in this sub-section shall render any such person liable to any punishment under this Act if he proves that the offence was committed without his knowledge and that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-S.(1), where an offence under this Act has been committed by a company and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Explanation. For the purposes of this section -

(a) "company" means any body corporate, and includes a firm or other association of individuals; and

(b) "director", in relation to a firm. includes a partner or proprietor of the firm.

55. Penalty for obstruction. - Any person who obstructs the entry of a person authorised under S. 40 to enter into or upon any land or building or molests such person after such entry or who obstructs the lawful exercise by him of any power conferred by or under this Act, shall, on conviction be punishable with imprisonment for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

57. Recovery of dues. - Any money payable to the Corporation in respect of which the person liable to pay the same has agreed by a written instrument that it shall be recoverable as a public demand, shall, on an application made by the Corporation in that behalf, be recoverable as such demand.

58. Power to make rules. - (1) The State Government may, after consultation with the Corporation in regard to matters concerning it, make rules to carry out the purposes of this Act :

Provided that consultation with the Corporation shall not be necessary on the first occasion of the making of rules under this section.

(2) In particular and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely :

(a) the fees and allowances payable to the Directors;

(b) the conditions of appointment and service and the scale of pay of the Managing Director;

(c) the conditions subject to which the Corporation may borrow;

(d) the date by which the annual financial statement and programme of work shall be submitted by the Corporation to the State Government and the form and manner of preparing such statement;

(e) the manner of maintaining accounts;

(f) the form of, and the details to be given in the annual report;

(g) the fees which may be charged by the Corporation;

(h) the conditions subject to which the Corporation may dispose of land, buildings and amenities;

(i) any other matter which has to be or may be prescribed.

(3) All rules made under this Act, shall, as soon as may be after they are made, be laid before the State Legislature for a total period of fourteen days which may be comprised in one or more sessions and if during the said period the State Legislature makes modifications, if any, therein, the rules shall thereafter have effect only in such modified form, so, however, that such modification shall be without prejudice to the validity of anything previously done under the rules.

59. Power to make regulations. - (1) The Corporation may, with the previous approval of the State Government make regulations consistent with this Act and the rules made thereunder, the carry out the purposes of this Act, and without prejudice to the generality of this power, such regulations may provide for-

(a) the time and place of meetings of the Board and the procedure to be followed in regard to the transaction of business at such meetings;

(b) the conditions of appointment and service and the scales of pay of officers and servants of the Corporation, other than the Managing Director;

(c) deployment of funds of the Corporation and the officers of the Corporation who may operate its accounts;

(d) the terms under which the Corporation may dispose of land, buildings and amenities;

(e) the additional terms and conditions subject to which lands and buildings in industrial estates and industrial areas may be held or used;

(f) the conduct of business of the Executive Committee;

(g) any other matter which has to be or may be provided by regulations.

(2) All regulations made under this Act, shall, as soon as may be after they are made be laid before the State Legislature for a total period of fourteen days which may be comprised in one or more sessions and if during the said period the State Legislature makes modifications, if any, the regulations shall thereafter have effect only in such modified form, so however that such modification shall be without prejudice to the validity of anything previously done under the regulations.

60. Protection of action taken in good faith. - No suit, prosecution or other legal proceedings shall lie against any person for anything which is in good faith

done or intended to be done under this Act or any rule or regulation made thereunder.

61. Directors, officers and staff of Corporation to be public servants. - The Directors of the Board and the officers and servants of the Corporation shall, when acting or purporting to act, in pursuance of any of this Act. be deemed to be public servants within the meaning of S.21 of the Indian Penal Code (45 of 1860).

62. Effect of provisions inconsistent with other laws – The provisions of this Act shall have effect notwithstanding anything inconsistent therewith contained in any other law.

63. Power to remove doubts and difficulties. - If any doubt or difficulty arises in giving effect to the provisions of this Act, the State Government may, by order, make provision or give such direction not inconsistent with the express provisions of this Act, as may appear to it to be necessary or expedient for the removal of the doubt or difficulty and the order of the State Government, in such cases, shall be final:

Provided that no such order shall be made or direction shall be given after the expiration of a period of two years from the date of commencement of this Act.

RECOMMENDATION OF THE DEPUTY DIRECTOR GENERAL OF FORESTS (CENTRAL) FOR PROPOSAL NO. FP/OR/OTHERS/523366/2025

The proposal pertains to the diversion of 4.911 hectares of forest land in favour of the Odisha Industrial Infrastructure Development Corporation (IDCO) for the construction of an access road from the Sijimali Bauxite Mines (Hill Top) to State Highway-44 (SH-44), to facilitate the transportation of bauxite in Rayagada district, Odisha.

The site inspection was carried out by Mr. Sujoy Dutta, Assistant Commissioner (Forests), Sub-Office Kolkata, Regional Office Bhubaneswar, Ministry of Environment, Forest and Climate Change (MoEF&CC), on 2nd and 4th July 2025.

I concur with the facts as reported in the SIR. In view of the recommendation of the State Government, the proposal is recommended for consideration under the provisions of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980, subject to the following conditions:

i. Although the proposed access road is an ancillary activity integral to the Sijimali Bauxite Mine, it does not fall within the approved Mining Lease area or the sanctioned Mining Plan. The proposal for diversion of forest land pertaining to the Sijimali Bauxite Mine is presently under consideration by the MoEF&CC, New Delhi, and the 'in-principle' (Stage-I) approval is yet to be granted. **Accordingly, the competent authority may consider the present proposal for the access road in conjunction with the Sijimali Bauxite Mine project, to enable integrated appraisal to avoid any fait accompli situation.**

ii. The Forest Department shall undertake plantation of tall indigenous tree species along both sides of the proposed road, at the cost of the User Agency, to mitigate dust pollution resulting from the movement of heavy vehicles associated with mining activities.

iii. Considering that the proposed area features a medium slope and the road will be used by heavy vehicles, the User Agency shall implement appropriate engineering and safety measures to prevent soil erosion.

iv. The User Agency shall ensure that the Compensatory Afforestation (CA) sites are cleared of all encroachments prior to handing them over to the State Forest Department (SFD). The SFD shall, ensure that the CA sites are free from encroachments, properly fenced, and duly planted at the cost of the User Agency.

(Dr. S. Senthil Kumar)
Dy. Director General of Forests (Central)

Site Inspection Report in respect of proposal for diversion of 4.911 ha forest land in favour of Odisha Industrial Infrastructure Development Corporation (IDCO) for construction of access road from Sijimali Bauxite Mines (Hill Top) to SH-44 to facilitate Bauxite transportation in Rayagada district of Odisha (Online proposal No. FP/OR/OTHERS/523366/2025).

Name of the Inspecting Officer: Sujoy Dutta, Assistant Commissioner (F), Sub Office at Kolkata, Regional Office Bhubaneswar, MoEF&CC

Date of Inspection: 2nd & 4th July 2025.

Officials present from the State Forest Department:
(i) Shri Sachin Annasaheb Ohol, DFO, Rayagada Forest Division
(ii) Shri Sandip Kumar Prusty, ACF, Rayagada Forest Division

1. **Legal status of the forest land proposed for diversion:**

   Legal status pf the proposed forest is DLC forest.

   Total Non-Forest land involved in the proposal is 6.403 ha.

2. **Item-wise break-up details of the forest land proposed for diversion.**

   The User Agency has furnished component wise break up of forest & Non-forest land as follows:

Component	**Forest Land (ha)**	**Non-forest Land (ha)**
Road Carriage Way	0.982	1.184
Paved Area	0.421	0.464
Earthen Shoulder	0.534	0.622
Earth Work Slope	0.764	0.943
Drain Breast wall, Retaining wall and LUVPs etc	2.21	3.19
Total	**4.911**	**6.403**

   Total length of the access road from Sijimali Mines top to SH-44 is 2980 m. The details are as follows:

Item	**Forest Area**			**Non-Forest Area**			**Total Area (ha)**	**Total length (m)**
	Length (m)	**Width (m)**	**Area (ha)**	**Length (m)**	**Width (m)**	**Area (ha)**		
Proposed Access Road	1370.2	35.84	4.911	1609.8	39.776	6.403	11.314	2980

3. **Whether proposal involves any construction of buildings (including residential) or not. If yes, details thereof:**

Not applicable.

4. **Total cost of the project at present rates:**

The total cost of the project is Rs.56.35 Cr.

5. **Wildlife:** During Site Visit presence of wildlife has not been observed within the proposed area. The concerned Forest Officials confirmed the presence of Barking Deer, Wild Boar, Indian Peacock and Indian Hare in the surrounding forest.

Whether forest area proposed for diversion is important from wildlife point of view or not:

The proposal is linear in nature and having very less impact from wildlife point of view.

6. **Vegetation:**

Mixed Forest has been observed during the site visit.

The vegetation density is reported 0.35, which is found correct.

(a) Total number of trees to be felled:

Total 91 no of trees are proposed for felling.

Important species: Tree species available in the proposed forest area are – Sal, Kaju, Jamu etc.

(b) Effect of removal of trees on the general ecosystem in the area:

The removal of trees for project activities is expected to have a minimal impact on the general ecosystem of the area.

7. **Background Note on the proposal:**

M/s Vedanta Limited has been granted the mining lease for the Sijimali Bauxite Ore Mines located in Kalahandi and Rayagada districts of Odisha. The company proposes to transport approximately 9 Million Tonnes Per Annum (MTPA) of bauxite ore from the mine site to its Alumina Refinery Plant situated at Lanjigarh, utilizing a combination of road and rail transport.
As there is currently no existing road connectivity from the Sijimali mine top to State Highway-44 (SH-44), it has become imperative to construct a new road to enable transportation of bauxite ore using bulkers/trucks. Accordingly, it has been decided to undertake the construction of a new 3.4 km long road from the mine top to SH-44 within the State of Odisha by the State Government.

In this regard, a meeting was convened on 25.01.2024 at 10:30 AM, under the Chairmanship of the Chief Secretary, Odisha to deliberate on issues pertaining to the transportation of bauxite from the Sijimali Bauxite Mines and key decisions were taken:

(a) Vedanta to submit the land schedule from Mine top to SH-44 road.
(b) IDCO to facilitate acquisition and transfer of land to PWD and giving NoC to Vedanta for construction of road.
(c) PWD will remain as the owner of the road.

Pursuant to the above decisions, IDCO has submitted an online application for the construction of the proposed road from the Sijimali Bauxite Mines to SH-44.

The proposal for the construction of the approach road was submitted to the Regional Office, MoEF&CC, Bhubaneswar for approval. Upon examination of the proposal, the Regional Office raised an EDS (Essential Details Sought) on 19.05.2025. In response, the State Government informed that, apart from facilitating connectivity for the mining operations, the proposed road will also provide vital road access to five villages—Dumerpadar, Porlang, Sagabari, Bichapinda, and Malipadar—which currently lack connectivity to the mainland.

However, it was also noted that the alignment and proposed width of the road indicate its primary function is to support the movement of heavy vehicles associated with the Sijimali Bauxite Mine.

Accordingly, the proposal has been forwarded to the Ministry of Environment, Forest and Climate Change, New Delhi for further consideration in terms of the provisions of Para 1.10(ii) of Chapter 1 regarding site-specificity of roads based on their proposed width, and sub-para (f) of Para 7.8.i of Chapter 7 of the Consolidated Guidelines and Clarifications issued under the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980, and the Van (Sanrakshan Evam Samvardhan) Rules, 2023.

8. Compensatory afforestation:

The State Government has identified 6.07 ha of Government Non-Forest land in Tingerjhola Village under Kolnara Tahasil of Rayagada District. ANR Plantation @ 200 seedlings per ha has been proposed which can accommodating 1214 nos of seedling.

As per the DSS analysis, the 4 ha of the proposed Government non-forest land is categorized as MDF & VDF, i.e. 4 ha of proposed CA land bears vegetation of 0.4 canopy density or more. Para 13 of Van (Sanrakshan Evam Samvardhan) Rules, 2023 elaborates that *if the non-forest land being made available for compensatory afforestation already bears vegetation of 0.4*

canopy density or more, there shall not be an additional requirement of planting of trees on such land but a programme for improvement of the forest crop shall be implemented by the Forest Department in a time-bound manner.

Further, the State Govt. has identified of 5.00 ha of degraded forest land in Pedakonda RF of Rayagada Forest Division to carry out AR @1000 plantation to accommodate the plantation of balance seedling against forest land proposed to be diverted which is over and above the mandatory requirement.

(a) Whether land for compensatory afforestation is suitable from plantation and management point of view or not:

The proposed non-forest Government land has been **found suitable for Assisted Natural Regeneration (ANR) plantation** at a density of 200 seedlings per hectare. The area is undulating with a medium slope. Instances of shifting cultivation were observed in small pockets within the proposed Compensatory Afforestation (CA) land, while the remaining area is predominantly covered with bushes.

Additionally, the identified 5.00 hectares of degraded forest land have been assessed as **suitable for Artificial Regeneration (AR) plantation at a density of 1,000 seedlings per hectare**.

(b) Whether land for compensatory afforestation is free from encroachment/ other encumbrances:

During the site visit and analysis using Decision Support System (DSS), instances of shifting cultivation were observed on the proposed non-forest Government land as well as on degraded forest land.

It was informed during the field inspection that the seasonal cultivation activities being carried out by local villagers on the non-forest Government land can be discontinued at any time, as per the concerned Tahsildar.

With respect to the proposed degraded forest land identified for Additional Compensatory Afforestation (Addl. CA), the concerned Forest Officials have informed that all existing encroachments shall be removed prior to the initiation of plantation activities.

(c) Whether land for compensatory afforestation is important from Religious/Archaeological point of view:

During site inspection no structure of religious and Archaeological importance in the proposed CA land has been found or reported.

(d) Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not:

The proposed non-forest Government land identified for Compensatory Afforestation (CA) and the degraded forest land identified for Additional Compensatory Afforestation (Addl. CA) are in a single patch.

(e) Total financial outlay:

The total financial outlay of the CA and ACA Schemes pertaining to Rayagada Forest Diversion comes to Rs.1,13,21,600/- (Rs.59,06,200/- for CA with cost norm of 20 years maintenance + Rs. 54,15,400/- for Addl CA) approved by the PCCF (Nodal), Odisha.

9. Whether proposal involves violation of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980or not. If yes, a detailed report on violation including action taken against the concerned officials:

The proposal does not involve violation of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980.

10. Whether proposal involves rehabilitation of displaced persons. If yes, whether rehabilitation plan has been prepared by the State Government or not:

This construction of approach road proposal does not involve displacement of any persons.

11. Reclamation Plan:

Not Applicable

12. Details on catchment and command area under the project:

Not Applicable.

Catchment area treatment plan to prevent siltation of reservoir:

Not Applicable

13. Cost Benefit Ratio:

Not Applicable.

14. Recommendations of the Principal Chief Conservator of Forests/State Government:

The Forest Department, Government of Odisha has recommended the proposal for diversion of 4.911 ha of forest land for construction of access road from Sijimali Bauxite Mining (Hill Top) to SH-44 to facilitate bauxite transportation.

15. Dy. Director General of Forests (Central) shall give detailed comments on whether there are any alternative routes/alignment for locating the project on the non-forest land:

Attached separately.

16. Utility of the project:

The proposed road is intended for the transportation of bauxite ore from the Sijimali Bauxite Mine to the Alumina Refinery Plant located at Lanjigarh, which is connected through State Highway-44 (SH-44) and an existing rail network. To establish connectivity from the Sijimali Mine Top to SH-44, the construction of this road is proposed with a Right of Way (RoW) of approximately 35 to 40 meters.

17. (a) Whether land being diverted has any socio-cultural/ religious value:

Not reported.

(b) Whether any sacred grove or very old growth trees/forests exist in the areas proposed for diversion:

Not reported.

(c) Whether the land under diversion forms part of any unique eco-system:

Not reported.

18. Situation with respect to any Protected Area:

The forest area proposed for diversion does not form part of any National Park, Wildlife Sanctuary, Elephant Corridors, Tiger Reserve etc. It was also reported that the proposed forest area does not come under eco-sensitive zone of any protected area.

19. Any other information relating to the project:

- The State Government informed that M/s Industrial Infrastructure Development Corporation (IDCO) applied for diversion of the proposal. However, as per the decision of the State Government, the IDCO will facilitate acquisition of the land and transfer the land to PWD. The M/s Vedanta will construct the road after getting NoC from IDCO. The IDCO shall be the primary User Agency for the proposed road project. Any change in the ownership or custodianship of the road, after its construction, shall be carried out strictly in accordance with the provisions of the Consolidated

Guidelines and Clarifications issued under the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 and the Van (Sanrakshan Evam Samvardhan) Rules, 2023.

- The RoW of the road varies from 35.84 m to 39.776 m, which indicates that the road is proposed for movement of heavy vehicles. The approach road is planned to be constructed as a concrete road.
- The associated mining proposal (proposal no. FP/OR/MIN/QRY/470250/2024) for diversion of 708.204 ha forest land for Sijimali Bauxite Mine is currently under consideration of the Ministry, New Delhi.
- The concerned Forest Officials have confirmed the presence of wildlife species such as Barking Deer, Wild Boar, Indian Peacock, and Indian Hare in the surrounding forest areas. However, no separate Site-Specific Wildlife Conservation Plan (SSWLCP) has been recommended by the State Government specifically for the proposed road project. Nevertheless, an approved SSWLCP has been furnished in respect of the Sijimali Bauxite Mine, which may be considered applicable for the associated ancillary activities, including the construction of the proposed approach road.

In view of the above, it is submitted that the proposal for diversion of 4.911 ha forest land for construction of access road from Sijimali Bauxite mines (Hill Top) to SH-44 may be considered with following additional stipulations:

i. Though the proposed access road is an integral ancillary activity linked to the Sijimali Bauxite Mine, it does not fall within the approved Mining Lease area or the sanctioned Mining Plan. The proposal for diversion of forest land related to the Sijimali Bauxite Mine is presently under consideration by the Ministry of Environment, Forest and Climate Change (MoEF&CC), New Delhi, and the 'in-principle' (Stage-I) approval is yet to be accorded. In this context, the current proposal for the access road may be considered holistically along with the Sijimali Bauxite Mine project, to enable integrated appraisal and to avoid any fait accompli situation.

ii. The Forest Department shall undertake roadside plantation of tall indigenous tree species on both sides of the proposed road. This plantation shall serve as a natural barrier to mitigate dust pollution arising from the movement of heavy vehicles associated with mining activities. The selection of species and plantation strategy shall be decided by the State Forest Department to ensure ecological suitability and long-term sustainability at the cost of the User Agency.

iii. As the proposed area is characterized by medium slope and the road is intended for the movement of heavy vehicles, the User Agency shall ensure the implementation of appropriate engineering and safety measures. These shall include provision of proper drainage systems, construction of

retaining walls wherever necessary, and adoption of surface stabilization techniques to prevent soil erosion and ensure road stability.

iv. The Compensatory Afforestation (CA) site shall be made free from all encroachments prior to the commencement of any plantation activities. The site must be adequately fenced to ensure its protection and to prevent any unauthorized access or future encroachments. Only after these protective measures are in place, the State Forest Department shall take up plantation and related afforestation works.

Sujoy Dutta 14/07/2025

(Sujoy Dutta)
Assistant Commissioner (F)

Pictures of the forest land proposed for diversion:

Annexure - A23

सत्यमेव जयते

Government of India
Ministry of Environment, Forest and Climate Change
Agenda for Advisory Committee

Agenda ID	FC/AGENDA/AC/111951/2025
Title of Meeting	7th Meeting of the Advisory Committee
Meeting Venue	Krishna Conference Hall 4th Floor Jal Wing
Meeting Mode	Physical
Agenda Creation Date	29/07/2025
Meeting Dates & Time	Start Date : 30/07/2025 End Date : 30/07/2025

Proposals to be discussed:

S. No.	Proposal No.	Division	Project Name	Project Category	Forest Land Area(ha)	Form Type
1	FP/AP/HYD/IRRIG/423651/2023	Chintapalli	Pumped Storage Project(9X150MW) at Upper Sileru village , Godem Kotha Veedhi (M)	Hydel / Irrigation	193.01	Form-A (Part-I): Diversion of Forest Land
2	FP/AR/MINOIL/431651/2023	Nampong Forest Division,Jairampur	Diversion of 3.33 Ha. of Forest land for drilling at Location KHAR in the Namphur Reserve Forest under Nampong Forest division, Arunachal Pradesh	Mining of Mineral Oil	3.33	Form-A (Part-I): Diversion of Forest Land
3	FP/AR/MINOIL/451999/2023	Namsai Forest Division,Namasi	Forest Diversion Proposal for oil & gas well drilling at Loc. OCKA located in Lohit Reserved Forest in Namsai District under OALP Block AA-ONHP-2017/13 in the State of Arunachal Pradesh	Mining of Mineral Oil	4.88	Form-A (Part-I): Diversion of Forest Land
4	FP/A	Gola	ONGC, Exploratory Drilling Location	Mining of	1.87	Form-A (Part-I): Di

S. No.	Proposal No.	Division	Project Name	Project Category	Forest Land Area(ha)	Form Type
	S/MINOIL/426966/2023	ghat Division	DPAE	Mineral Oil	7	version of Forest Land
5	FP/AS/MINOIL/426742/2023	Golaghat Division	ONGC, Exploratory Drilling Location KHBO	Mining of Mineral Oil	1.74	Form-A (Part-I): Diversion of Forest Land
6	FP/AS/MINOIL/424232/2023	Golaghat Division	ONGC, Exploratory Drilling Location CJAA	Mining of Mineral Oil	1.77	Form-A (Part-I): Diversion of Forest Land
7	FP/AS/MINOIL/426530/2023	Golaghat Division	ONGC,Exploratory Drilling Location KHBN	Mining of Mineral Oil	1.904	Form-A (Part-I): Diversion of Forest Land
8	FP/AS/MINOIL/426584/2023	Golaghat Division	ONGC, Exploratory Drilling Location BWNB.	Mining of Mineral Oil	1.709	Form-A (Part-I): Diversion of Forest Land
9	FP/AS/MINOIL/422315/2023	Golaghat Division	Forest Clearance for the location BWNA	Mining of Mineral Oil	2.2864	Form-A (Part-I): Diversion of Forest Land
10	FP/BR/PetrolPump/41532 8/2023	Tirhut Division	DIVERSION OF 0.0225 HA OF FOREST LAND FOR CONSTRUCTION OF APPROACH ROAD FOR OPENING BIOFUEL RETAIL OUTLET ON SIDE OF NH-57 MUZAFFARPUR-DARBHANGA IN MUZAFFAPUR DISTRICT OF BIHAR	Petrol Pump	0.0225	Form-A (Part-I): Diversion of Forest Land

S. No.	Proposal No.	Division	Project Name	Project Category	Forest Land Area(ha)	Form Type
11	FP/BR/PetrolPump/41470 2/2023	Tirhut Division	Diversion of 0.02025 ha of forest land for construction of approach road for opening retail outlet of Reliance BP Mobility Ltd. on Muzaffarpur-Darbhanga Road in Muzaffarpur district of Bihar.	Petrol Pump	0.0203	Form-A (Part-I): Diversion of Forest Land
12	FP/HP/ROAD/51421 5/2024	WL Spiti Division	Construction of road from Poh Maidan to Dankhar Helipad km 0/00 to 12/460	Construction / Widening of Road including approach road to roadside establishments including bridges	7.5479	Form-A (Part-I): Diversion of Forest Land
13	FP/HP/REDIV/532704/2025	Shimla Division	Project Name: Change of land use for placement of crusher unit for 0.50 ha. within already diverted land of Sunni Dam Hydroelectric Project (382 MW).	Hydel / Irrigation	N/A	Form-E (Part-I): Re-Diversion i) Land Use Change ii) Laying of Overhead/ Under Ground OFC/ drinking water pipeline/ slurry pipeline/ electric cable/ CNG/PNG within RoW
14	FP/HR/PetrolPump/48268 9/2024	Kaithal Division	Diversion of Forest Land For access to the existing petrol pump of HPCL ON GULHA-PEHOWA ROAD, AT VILLAGE CHEEKA, NEAR KM STONE NO. 134, TEHSIL GULHA, DISTRICT-KAITHAL, STATE-HARYANA. Bearing Khasra No.- 45//2/2.	Petrol Pump	0.022	Form-A (Part-I): Diversion of Forest Land
15	FP/KA/HYD/IRRIG/447501/2023	Shimoga Wildlife Division	Sharavathy Pumped Storage Project (2000 MW)	Hydel / Irrigation	54.155	Form-A (Part-I): Diversion of Forest Land
16	FP/GJ/OTHER	Surat Division	AMNS 15.6 / 21 MTPA Steel Complex Expansion	Others (please specify)	48.6512	Form-A (Part-I): Diversion of Forest Land

S. No.	Proposal No.	Division	Project Name	Project Category	Forest Land Area(ha)	Form Type
	S/464635/2024					
17	FP/MH/MIN/QRY/409811/2022	Nagpur Division	Diversion of 61.45 ha forest land for Ramdongri Manganese ore minge	Mining / Quarrying	61.45	Form-A (Part-I): Diversion of Forest Land
18	FP/MP/HYD/IRRIG/458645/2024	Chhindwara South(T) Division	CIC Balancing Reservoir (Pandhurna Dam)	Hydel / Irrigation	136.724	Form-A (Part-I): Diversion of Forest Land
19	FP/OR/MIN/QRY/470250/2024	Kalahandi South Division	Sijimali Bauxite Mines	Mining / Quarrying	708.204	Form-A (Part-I): Diversion of Forest Land
20	FP/OR/OTHERS/523366/2025	Rayagada Division	Proposed acess road connecting from Sijimali bauxite mines (Hill Top) to SH-44	Others (please specify)	4.911	Form-A (Part-I): Diversion of Forest Land
21	FP/OR/IND/422562/2023	Rourkela Division	For obtaining Stage-I clearance for capacity enhancement of Sponge Iron Plant to Integrated Steel Plant by M/s BR Sponge & Power Limited under FC Act 1980 in village Badatumkela under Lahunipara Tahasil of Sundargarh District.	Industry	4.775	Form-A (Part-I): Diversion of Forest Land
22	FP/TG/ROAD/492664/2024	NIZAMABAD DIVISION	Four Laning of Road from Km 4/8 to Km 24/6 of Nizamabad to Armoor of Nizamabad of Jagadalpur Section of NH - 63 in Nizamabad District	Construction / Widening of Road including approach road to roadside establishmen	7.4494	Form-A (Part-I): Diversion of Forest Land

S. No.	Proposal No.	Division	Project Name	Project Category	Forest Land Area(ha)	Form Type
				ts including bridges		
23	FP/WB/MIN/QRY/452568/2023	Durgapur Division	Gourangdih ABC Coal Mine	Mining / Quarrying	109.459	Form-A (Part-I): Diversion of Forest Land
24	FP/OR/REDIV/499340/2024	Koraput Division	PANCHPATMALI CENTRAL AND NORTH BLOCK BAUXITE MINE	Mining / Quarrying	N/A	Form-E (Part-I): Re-Diversion i) Land Use Change ii) Laying of Overhead/ Under Ground OFC/ drinking water pipeline/ slurry pipeline/ electric cable/ CNG/PNG within RoW
25	FP/MP/HYD/IRRIG/471582/2024	Sheopur(T) Division	Munjri Irrigation Project	Hydel / Irrigation	740.1592	Form-A (Part-I): Diversion of Forest Land
26	FP/TG/REHAB/504796/2024	NAGARKURNOOL DIVISION	Denotification of 1501.88 ha of forest land in Compt. No.465, 466, 467, 468, 469, 470, 471, 472 and 473 of Bacharam RF of Lingal Range in Achampet Division for Relocation of Kollam penta, Sarlapally, Kudichinthala bailu, Thatigundal penta and Vatvarlapally villages from Core area of Amrabad Tiger Reserve, Nagarkurnool District, Telangana State.	Rehabilitation from Protected Area	1501.88	Form-A (Part-I): Diversion of Forest Land
27	FP/RJ/PWR_TRANS/451503/2023	Jodhpur Territorial Division	Diversion of 0.2309 ha. of roadside protected forest for construction of proposed 400 kV S/C on D/C Transmission line from Adani Renewable Energy Holding Four Limited SS at Badi Sid to Power Grid Corporation India Limited Bhadla-II SS near Village Kaansinghki Sid, Taluka Bap, District Jodhpur,	Power Transmission Line	16.5972	Form-A (Part-I): Diversion of Forest Land

S. No.	Proposal No.	Division	Project Name	Project Category	Forest Land Area(ha)	Form Type
			Rajasthan			
28	FP/MP/MIN/QRY/465369/2024	Chhatarpur(T) Division	Shobha Minerals Mardeora Rock Phosphate Buxwaha Chhatarpur (M.P.)	Mining / Quarrying	5.572	Form-A (Part-I): Diversion of Forest Land

Other Item Details:

AC Members Details:

S.No.	Name	Designation	Email ID
1	Shri Sushil Kumar Awasthi	DGF&SS, MoEFCC	dgfi****@nic.in
2	Shri Ramesh Kumar Pandey	Additional Director General of Forest, MOEFCC	rame*********@nic.in
3	Nityanand Srivastav	AC MEMBER	nity*******@yahoo.co.in
4	Shri R Raghu Prasad	Inspector General of Forest, MEF	ragh********@gov.in
5	Manoj Pant	AC MEMBER	mpan*****@gmail.com
6	Kr Sree Harsha	Member (EAC)	sree***************@gmail.com
7	Dr. Mehraj A. Shaikh	AC MEMBER	ac.n*******@gov.in

Remarks:

May be placed before the Advisory Committee

Pl publish the agenda

सत्यमेव जयते

Government of India
Ministry of Environment, Forest and Climate Change
Minutes of Meeting for Advisory Committee

MoM ID	FC/MOM/AC/278834/2025
Agenda ID	FC/AGENDA/AC/111951/2025
Title of Meeting	7th Meeting of the Advisory Committee
Meeting Venue	Krishna Conference Hall 4th Floor Jal Wing
Meeting Mode	Physical
Meeting Dates & Time	Start Date : 30/07/2025 End Date : 30/07/2025

List of AC Members:

S.No.	Name	Designation	Email ID
1	Shri Sushil Kumar Awasthi	DGF&SS, MoEFCC	dgfi****@nic.in
2	Shri Ramesh Kumar Pandey	Additional Director General of Forest, MOEFCC	rame*********@nic.in
3	Nityanand Srivastav	AC MEMBER	nity*******@yahoo.co.in
4	Shri R Raghu Prasad	Inspector General of Forest, MEF	ragh********@gov.in
5	Manoj Pant	AC MEMBER	mpan*****@gmail.com
6	Kr Sree Harsha	Member (EAC)	sree***************@gmail.com
7	Dr. Mehraj A. Shaikh	AC MEMBER	ac.n*******@gov.in

Proposals considered during Meeting:

1. Project Name	Diversion of 0.2309 ha. of roadside protected forest for construction of proposed 400 kV S/C on D/C Transmission line from Adani Renewable Energy Holding Four Limited SS at Badi Sid to Power Grid Corporation India Limited Bhadla-II SS near Village Kaansingh ki Sid, Taluka Bap, District Jodhpur, Rajasthan
Proposal Number	FP/RJ/PWR_TRANS/451503/2023
User Agency	ADANI RENEWABLE ENERGY HOLDING FOUR LIMITED
Forest Land Area(Ha)	16.5972

N/A

Current Deliberation Details:

The MoM of the Advisory Committee has already been approved by the DGF&SS through E-Office a nd the same is attached herewith for completing the process through PARIVESH 2.0 portal.

Recommendation Remark:

recommended

7. Project Name	For obtaining Stage-I clearance for capacity enhancement of Sponge Iron Plant to Integrate d Steel Plant by M/s B R Sponge & Power Limited under FC Act 1980 in village Badatumk ela under Lahunipara Tahasil of Sundargarh District.
Proposal Number	FP/OR/IND/422562/2023
User Age ncy	SHASHANK GARG
Forest La nd Area(Ha)	4.775
Division	Rourkela Division
Recomm endation	Raise EDS

Brief Description of Project:

The MoM of the Advisory Committee has already been approved by the DGF&SS through E-Office a nd the same is attached herewith for completing the process through PARIVESH 2.0 portal.

Previous Deliberation Details:

N/A

Current Deliberation Details:

The MoM of the Advisory Committee has already been approved by the DGF&SS through E-Office a nd the same is attached herewith for completing the process through PARIVESH 2.0 portal.

Recommendation Remark:

Defer

8. Project Name	Proposed acess road connecting from Sijimali bauxite mines (Hill Top) to SH-44
Proposal Number	FP/OR/OTHERS/523366/2025
User Agency	Ashok Kumar Mishra
Forest Land Area(H a)	4.911
Division	Rayagada Division

Recommendation Raise EDS

Brief Description of Project:

The MoM of the Advisory Committee has already been approved by the DGF&SS through E-Office a nd the same is attached herewith for completing the process through PARIVESH 2.0 portal.

Previous Deliberation Details:

N/A

Current Deliberation Details:

The MoM of the Advisory Committee has already been approved by the DGF&SS through E-Office a nd the same is attached herewith for completing the process through PARIVESH 2.0 portal.

Recommendation Remark:

Defer

9. Project Name	Sijimali Bauxite Mines
Proposal Number	FP/OR/MIN/QRY/470250/2024
User Agency	Purnendu Pandey
Forest Land Area(Ha)	708.204
Division	Kalahandi South Division
Recommendation	Raise EDS

Brief Description of Project:

The MoM of the Advisory Committee has already been approved by the DGF&SS through E-Office a nd the same is attached herewith for completing the process through PARIVESH 2.0 portal.

Previous Deliberation Details:

N/A

Current Deliberation Details:

The MoM of the Advisory Committee has already been approved by the DGF&SS through E-Office a nd the same is attached herewith for completing the process through PARIVESH 2.0 portal.

Recommendation Remark:

Defer

10. Project Name	CIC Balancing Reservoir (Pandhurna Dam)
Proposal Number	FP/MP/HYD/IRRIG/458645/2024
User Agency	Kumkum Kaurav Patel
Forest Land Area(Ha)	136.724
Division	Chhindwara South(T) Division
Recommendation	Accepted

section 2 (1) (ii) of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 for non-forestry use of 136.724 ha Forest land in favour of Water Resource Department, Chhindwara for the construction of CIC (Chhindwara Irrigation Complex Project) Balancing Reservoir (Pandhurna Dam) under Pandhurna District (Formally in Chhindwara District) of Madhya Pradesh State subject to general and standard and following conditions:

i. The State Government shall follow all the regulations of dam safety as per the Dam Safety Act,2021

Agenda No. 24

Online Proposal No. FP/OR/MIN/QRY/470250/2024

Sub: Proposal seeking prior approval of the Central Government under Section 2 (1) (ii) of the Van (Sanrakshan Evam SSub: Proposal for seeking prior approval of Central Government under Section 2 (1) ii) of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 for diversion of 708.204 ha (564.581 ha in Rayagada Forest Division + 143.623 ha in Kalahandi (South) Forest Division) of Forest land (including 11.195 ha earmarked for Safety Zone) within total Mining Lease land in 1548.786 ha of Sijimali Bauxite Mines in Rayagada Forest Division & Kalahandı (South) Forest Division under Rayagada and Kalahandi District respectively in respect of M/s Vedanta Limited (Online Proposal No. FP/OR/MIN/QRY/470250/2024)-reg.

1. The agenda item was considered by the Advisory Committee (AC) in its meeting held on 30.07.2025. The corresponding agenda note may be seen at www.parivesh.nic.in. The DIGF (Central), Regional Office, Bhubaneswar and Nodal Officer, Government of Odisha attended the meeting.
2. During the meeting, all the facts and background of the proposal, along with examination of the proposal in the DSS were presented and explained by the Member Secretary before the AC. The Committee was also apprised of the relevant provisions under other Acts, Rules and Guidelines relevant to the proposal and their significance.
3. The Advisory Committee (AC) after thorough deliberation and discussion observed the following:
    i. The Government of Odisha vide their letter No. FE-DIV-FLD-0017-2025-8268/FE&CC dated 08.04.2025 submitted the above subject proposal through PARIVESH 2.0 portal and uploaded on 09.04.2025 seeking prior approval of the Central Government under Section 2 (1) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980.
    ii. Vedanta Limited has been allocated the Sijimali Bauxite mine spread over Kalahandi and Rayagada districts of Odisha in March 2023, having an estimated reserve of around 311 Million Tonnes for meeting the increased requirement of raw material, Vedanta intends to operate Sijimali block for dispatching Bauxite from mines to its Refinery.

iii. An e-Auction process was conducted in accordance with the tender document for the Sijimali Mineral Block and Vedanta Limited was declared as the "Preferred Bidder" under Rule 9(9)(1) or Rule 10(1A) of Auction Rules dated 09.02.2023. Accordingly, pursuant to Rule 10(2) of the Auction Rules and the terms of the tender document of steel & Mines Department, Government of Odisha, issued Letter of Intent for grant of mine lease for Sijimali Bauxite Block over 1549.022 ha (Geo referenced DGPS Area 1549.022 ha, ROR Authenticated area-1548.786 ha) vide letter No SM-MC2-MC-0006-2023/2103/5&M, Bhubaneswar, dated 01 03 2023.

iv. M/s Vedanta Ltd has the proposal to operate the Sijimali Bauxite Mine with peak Proposed Bauxite Production Capacity of 9.00 Million TPA. The block is located in 18 villages under Thuamul Rampur Tehsil of Kalahandı district and under Kashipur Tahsil of Rayagada district in the State of Odisha.

v. As M/s Vedanta Limited has an existing alumina refinery plant at Lanjigarh of Kalahandı district of Odisha which very soon will be operated at granted EC capacity of 6.0 Million TPA, due to which the total bauxite requirement will be 18.0 Million TPA at a ratio of 3:1 to meet the partial requirement of the bauxite, Vedanta Ltd is proposing the Sijimalı Bauxite Mine with 9.0 Million TPA Capacity, 3. Million TPA from OMC Kodingamali Mine through long term linkage and remaining 60 Million TPA from import.

vi. The area under consideration is well connected by rail and road to all important business and industrial centres of the country. Nearest Railway station is Sikarpai Railway station at a distance of 20 km in SE direction. The Nearest Port and International Airport are at Visakhapatnam at a distance of 194 Km in SSE direction, Distance of SH-44 from the lease area is 1.5 km in West direction from the project site.

vii. The Sijimali Bauxite Block has been explored in different phases with 91 bore holes with a total meterage of 2241.61m The boreholes have been drilled at an interval of about 400m grid pattern within the mineralized land in 12.38 sq. km The bore hole density is about 07 (735) BHs/Sq Km.

viii. The entire geological block land in 1549.022 Ha (As per DGPS) will be brought under mining and allied activities to excavate bauxite. The cross-sectional method has been adopted for estimation of resources of bauxite in the approved mining plan 15 sets of vertical cross sections namely AA', BB', CC' etc in 1.10000 scale have been prepared in E-W direction taking into account 87 boreholes located along the section lines and a few holes adjacent to the section lines are projected. In order to estimate the mineable reserve, development sections were drawn through the block The non-mineable bauxite portions considered

for estimation of mineable reserve from geological resource are as follows. (a) bauxite occurring within 7.5 m along the lease boundary for the purpose of safety zone (b) Blocked bauxite under and outside the ultimate pit slope Production of maximum 9267402 79 TPA bauxite has been planned in the approved mining plan.

ix. Mining operations will be carried out by a fully mechanized opencast method. The extractable bauxite reserve of 299.58 Million tonnes is proposed to be excavated in 31 years. Life of mine is considered as 31 years with two years of construction period including surface reorganization.

x. The total ML area of the Sijimali Bauxite Block is 1548.786 ha. In the applied mining lease area, forest land involved is 708.204 Ha. Non-forest land involved in the Mining Lease is 840.582 ha out of which non-forest private land is 129.089 ha and non-forest Govt. land is 711.493 ha.

xi. The State Govt. has reiterated / clarified that 0.66 ha of land in village Tadader and 1.57 ha of land in village Tijamali (both under Thuamul Rampur Tahasil of Kalahandı District) have been included in the Forest Diversion Proposal as FRA land. The kisam of the above mentioned land (0.66 ha in Tadader village and 1.57 ha in Tijamali village) are of "Unsurveyed Category" in the Sabik record and 'Donger' in the Hal record over which Title under FRA have been issued to individuals by the Collector, Kalahandi. In this context he has informed that, 0.66 ha of land in village Tadades and 1.57 ha in village Tijamali have been included in the Forest Diversion Proposal as FRA land as reported by the DFO, Kalahandi (South) Forest Division.

xii. As per the SIR of DFO, Kalahandi (South, it is revealed that the forest land proposed for diversion is located over 11 patches spreading over 04 no of villages. The Tahasildar Rampur has furnished the land schedule as on 25.10.1980 regarding forest and non-forest land involved in the ML coming under Kalahandi district as well as in Kalahandı (South) forest Division, DFO, Kalahandi (South) has furnished a certificate regarding minimum use of forest land over 143.623 ha.

xiii. The total district wise forest and non-forest land involved in the Mining Lease is tabulated below:

ABSTRACT OF TOTAL LAND of SIJIMALI BAUXITE MINES									
Sl. No.	**District Name**	**Area in Hectares**							
		Revenue Forest	**PF/ FRA Forest**	**Sabik Forest**	**DLC Forest**	**Total Forest**	**Pvt. land**	**Non-Forest Govt.**	**Total**

								land	
1	Kalahandi	12.408	65.512	3.699	62.004	143.623	28.531	565.138	737.292
2	Rayagada	0.000	0.000	6.236	558.345	564.581	100.558	146.355	811.494
Total area in Ha		**12.408**	**65.512**	**9.935**	**620.349**	**708.204**	**129.089**	**711.493**	**1548.786**

xiv. The details of Existing Land Use of total lease area in Ha are as mentioned below:

EXISTING LAND USE OF SIJIMALI BAUXITE MINES										
Sl. No.	**District Name**	**Item**	**All figures are in Hectares**							
			Revenue Forest	**PF/ FRA Forest**	**Sabik Forest**	**DLC Forest**	**Total Forest**	**Pvt. land**	**Non-Forest Govt. land**	**Total**
1	Kalahandi	Existing Undisturbed area	12.408	65.512	3.699	62..004	143.623	28.531	565.138	737.292
2	Rayagada	Existing Undisturbed area	0.000	0.000	6.236	558.345	564.581	100.558	146.355	811.494
	Total in Ha		**12.408**	**65.512**	**9.935**	**620.349**	**708.204**	**129.089**	**711.493**	**1548.786**

xv. Component wise break up of forest land proposed for diversion in the Sigimali Mining Lease has been mentioned in the SIR of DFO, Rayagada and SIR of DFO, Kalahandi (South) The detailed pattern of use of Forest land is tabulated below:

PROPOSED LAND USE PATTERN (DISTRICT WISE)											
S. No.	District Name	Component	Forest Area in Ha					Non-Forest area in ha			
			Revenue Forest	PF/ FRA Forest	Sabik Forest	DLC Forest	Total Forest	Govt. land	Pvt. Land	Total NFL	Total Area Ha
1	Kalahandi	Mined out Area	12.408	32.900	3.699	49.852	98.859	400.557	28.531	429.088	527.947
2		Safety		2.97		0.62	3.59	15.11		15.1	18.71

		Zone Area		0		8	8	7		17	5
3		Untouched Area		29.642		11.524	41.166	149.464		149.464	190.630
Total			**12.408**	**65.512**	**3.699**	**62.004**	**143.623**	**565.138**	**28.531**	**593.669**	**737.292**
1	Rayagada	Mined out Area			6.235	475.351	481.586	96.880	98.717	195.597	677.183
2		Safety Zone Area				7.897	7.597	6.558		6.558	14.155
3		Untouched Area			0.001	75.397	75.398	42.917	1.841	44.758	120.156
Total					6.236	558.345	564.581	146.355	100.558	246.913	811.494
Grand Total			**12.408**	**65.512**	**9.935**	**620.349**	**708.204**	**711.493**	**129.089**	**840.582**	**1548.786**

xvi. The consolidated forest land use pattern of the ML area pertaining to both the Forest Divisions is furnished below:

ABSTRACT OF PROPOSED LAND USE PATTERN OF TOTAL AREA											
S. No.	**District Name**	**Component**	**Area in ha**					**Non-Forest area in ha**			
			Revenue Forest	**PF/ FRA Forest**	**Sabik Forest**	**DLC Forest**	**Total Forest**	**Govt. land**	**Pvt. Land**	**Total NFL**	**Total Area Ha**
1	Kalahandi Rayagada	Mined out area	12.408	32.900	9.934	525.203	580.445	497.437	127.248	624.685	1205.130
2		Safety Zone Area	0	2.970	0	8.225	11.195	21.675	0	21.675	32.870
3		Untouched Area	0	26.642	0.001	86.921	116.564	192.381	1.841	194.222	310.786
		Total	**12.408**	**65.512**	**9.935**	**620.349**	**708.204**	**711.493**	**129.089**	**840.582**	**1548.786**

xvii. The area proposed for diversion is vulnerable to soil erosion due to steep slopes, vegetation loss and mining disturbances leading to rapid

runoff, soil degradation and stream sedimentation Factors like top soil displacement, compaction and blasting will further accelerate erosion.

xviii. The total extent of safety zone in the ML area over 1548.786 ha is 32.87 ha Out of which, 11.195 ha comes under forest land, 21.675 ha comes under Non-Forest Government land within the limit of both the forest divisions. The classification of safety zone over different Kissam of land as well as over the different division jurisdiction is furnished below:

Details of safety zone involved within the Sijimali Bauxite Mines NFL in ha											
Sl. No.	District	Component	Forest land in ha					NFL in ha			
			Rev.	PF/ FRA	Sabik	DLC	Total	Govt.	Pvt.	Total	Total in Ha
1	Kalahandi	Safety Zone	0	2.97	0	0.628	3.598	15.117	0	15.117	18..715
2	Rayagada	-do-	0	0	0	7.597	7.597	6.558	0	6.558	14.155
				2.97	**0**	**8.225**	**11.195**	**21.675**	**0**	**21.675**	**32.870**

xix. The proposed area includes Tropical dry deciduous forest. The vegetation is basically mixed Sal Forest with other miscellaneous species. Further, Wildlife species like Barking deer, wild boar, Monkey, Indian peacock and Indian hare are present in the area.

xx. The presence of bauxite is characterized by long stretches of Plateau land on hilltop with little or no vegetation and vegetation is usually seen in hill slopes.

xxi. No rare and endangered species are available in the Mining lease area coming under Rayagada Forest Division However, as per report of DFO, Kalahandı (South), Elephant habitat in Bijepur RF comes within 10 Kms impact zone. The applied area is not found important from an archaeological point of view. The proposed area does not form part of any National Park, Wildlife Sanctuary and Biosphere Reserve, Tiger Reserve, Elephant corridor or any protected area declared under any law of the State or central Government.

xxii. The DFO, Rayagada has taken up tree enumeration through Range Officer, Kashipur over proposed 564.581 ha forest land of Sijimali Bauxite Block of Vedanta Limited adopting direct counting technique. Due to sparse vegetation on the plateau, the ecological impact of tree felling in this area will be minimal. The plateau's current ecosystem supports limited biodiversity, with most species reliant on valley

vegetation for survival. DFO Rayagada has mentioned that the felling of trees near valley areas could lead to disruption of wildlife habitats and potential displacement of species, increased soil erosion and sedimentation of nearby water bodies.

xxiii. Compensatory Afforestation has been proposed over 724.23 ha of Non-forest Government land measuring 565.50 ha in Rayagada District and 158.73 ha Government NFL in Kalahandi District against the proposed diversion of forest land over 708.204 ha for Sijimali Bauxite Block of M/s Vedanta Ltd.

xxiv. The details of area identified for CA in Rayagada district and Kalahandi district are tabulated below:

Rayagada Division:							
S. No.	**Tehsil**	**RI Circle**	**Mouza**	**Khata No.**	**Plot No.**	**Area in ha**	**Total Area (Ha)**
1	Muniguda	Raghubari	Alibhata	11	1	9.70	36.75
					2	11.73	
					3 (P)	15.32	
2	Muniguda	Raghubari	Baringpadar	12	1(P)	8.0	38.24
					43(P)	16.01	
					44	14.23	
3	Muniguda	Raghubari	Baringpadar	3	1	14.14	87.81
					2	16.26	
					3	15.68	
					4(P)	5.74	
					10	4.05	
					11	19.77	
					14(P)	12.17	
4	Muniguda	Raghubari	Baratarana	9	4(P)	7.47	34.09
					23(P)	5.84	
					24	9.31	
					25	11.47	
5	Muniguda		Dambalu	21	1(P)	3.27	3.279
6	Muniguda	Raghubari	Demupadar	10	129	9.49	58.00
					132(P)	7.71	
					133	7.08	
					134	7.63	
					135(P)	7.76	
					136	11.48	
					137(P)	6.84	

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7	Munigud a	Raghubari	Jambapada fr	7	4(P)	2.388	40.40
					6	8.26	
					25	6.576	
					46(P)	13.242	
					47	9.935	
8	Munigud a	Kumudaba li	Kauguda	9	44(P)	24.136	38.95
					46(P)	14.816	
9	Munigud a	Tikarapad a	Lidipanga	59	208(P)	11.882	46.22
					362	15.714	
					363	12.562	
					364	6.066	
10	Munigud a	Raghubari	Pidel Padar	9	2	16.19	77.81
					3	15.27	
					4	16.39	
					5	15.19	
					219(P)	14.78	
11	Munigud a	Raghubari	Umbere	11	46(P)	7.49	69.66
					87	16.60	
					88(P)	15.24	
					91	12.79	
					92	17.54	
12	Munigud a	Raghubari	Madagalu	4	1	17.179	34.29
					3	5.868	
					5	11.242	

Kalahandi (South) Forest Division							
Sl. No.	Village	Khata No.	Plot No.	Kissam		Area in Ac.	Suitable Area For plantation in Ac
1	Sampala	29	103(P)	Dangar	AAA	25.42	23.65
2			104	Dangar	AAA	32.70	32.70
3			105	Dangar	AAA	36.25	36.25
4			106	Dangar	AAA	42.00	42.00
5			107(P)	Dangar	AAA	41.38	40.07
6			108(P)	Dangar	AAA	38.50	35.28
7	Kanjiguda	32	240(P)	Dangar	Govt. of Odisha	32.50	30.00
8			237(P)	Dangar	Govt. of Odisha	37.50	35.00
9			241(P)	Dangar	Govt. of Odisha	36.15	33.00

10			242(P)	Dangar	Govt. of Odisha	41.73	37.85
11	Malatipadar	38	302	Dangar	AAA	22.50	22.50
12			307(P)	Dangar	AAA	31.50	23.78
						Total area in ac	**392.08**
						Total area in ha	**158.73**

xxv. The CA schemes have been prepared in respect of Rayagada and Kalahandi (South) forest Divisions to the diversion proposal.It has been proposed to adopt chain link wire mesh fencing for the protection of the planted species over the entire area in 17 patches coming under 12 villages. The perimeter proposed for fencing over 17 patches.

xxvi. The total forest land proposed for diversion in the proposal is 708.204 ha. The user agency has provided 565.50 ha NFL in Rayagada forest Division and 158.73 ha NFL in Kalahandi (South) division against the proposed forest land for diversion. Thus, the user agency has provided 724.23 ha NFL land for CA It is required to plant 7,08,204 nos. seedlings in the CA However, both the DFOs have made schemes to plant 2,28,157 + 69,986=2,98,143 nos. seedlings Balance seedlings of 7,08,204 - 2,98,143 = 4,10,061 nos. seedlings will be planted through Additional CA schemes in Rayagada Forest Division. The DFO, Rayagada has identified 546.0 ha of notified degraded forest land in his division to take up the additional CA Plantation.

xxvii. The financial outlay approved by the APCCF (Nodal) for the Addl. CA plantations proposed in Rayagada Division comes to ₹44,71,21,000/-

xxviii. The total financial outlay of the CA and Additional CA schemes pertaining to Rayagada and Kalahandı (South) Forest Division come ₹107,63,89,300 (₹53,09,26,800+ ₹9,83,41,500 + ₹44,71,21,000) The user agency has furnished undertaking to pay the amount of ACA plantation as per the demand of DFO, Rayagada.

xxix. The DFO, Rayagada has prepared the Cost-Benefit analysis of the project pertaining to both the Forest Divisions. The cost of the forest is assessed as ₹42401.893 Lakh and the benefit of the project is estimated at ₹2,76,27,164 65 lakhs The Cost-Benefit ratio comes to 1:651.554.

xxx. The Ministry of Environment, Forest and Climate Change (IA Division) have issued Term of Reference (TOR) vide File No IA-J-11015/6/2023-IA-II(NCM) dt 14.08.2023 for mining of Sijimali Bauxite Block over 1549.022 ha for peak rated Capacity of 9.0 MTPA along with installation of two crushers (2x1200 TPH) located at Thuamul and Kasipur Tahasılsof Kalahandı and Rayagada Districts

respectively/MIN/439954/2023 dt 06.11.2023 to the user agency The ToR would be valid for a period of three years.

xxxi. The Mining plan including Progressive Mine closure plan has been approved by the Regional Controller of Mines, Office of the Regional Controller of Mines, BBSR (IBM) over 1549.022 ha in respect of Sijimali Bauxite Block in Tehsil Rampur and Kasipur Tahasils of Kalahandi and Rayagada Districts in the state of Odisha in favour of M/s Vedanta Ltd vide L: No MCDR- MIFLOBXT/4/2023-BBS-IBM RO BBS dt 16.08.2023 with 17 no of terms and conditions The approval of Mining Plan along with Progressive Mine Closure Plan has been accorded by the Indian Bureau of Mines.

xxxii. The field Inspection envisages that the project involves displacement of 100 nos. of families in 02 villages i. e. Malipadar under Rayagada District and Tijamali Under Kalahandi District In this regard the user agency has furnished an undertaking duly countersigned by the DFO, Rayagada to submit the approved R & R Plan in respect of Sijimali Bauxite Block of M/s5 Vedanta Ltd in Rayagada and Kalahandı Districts to the Competent Authority immediately after its approval under Section 16 of LARR Act, 2013. The user agency has furnished an undertaking duly countersigned by the DFO, Kalahandı (South) to submit the approved R&R Plan in respect of Sijimali Bauxite Block of M/s Vedanta Ltd in Rayagada and Kalahandı Districts to the competent authority immediately after its approval under section 16 of LARR Act, 2013.

xxxiii. A Site-Specific Wildlife Conservation Plan for the project has been approved by the PCCF (WL) and CWLW, Odisha vide Memo No 9718 dt 16.08.2024 The user agency has furnished an undertaking duly countersigned by the DFO, Rayagada to bear the cost of SSWLCP.

xxxiv. As stated by the Additional PCCF, Forest Diversion & Nodal Officer, FC Act, O/o the PCCF & HoFF, Odisha, there are no court cases pending against the user agency on the applied area as revealed from the Site Inspection Reports of report of the DFO, Rayagada and DFO, Kalahandi (South) Divisions. **However, a Writ Petition was filed before the Hon'ble High Court vide WP (C) No 3729 of 2025 (Sri Gobinda Majhi & others-Vrs-Union of India & others) by the Petitioners with the following prayers:**

a. Issue a writ of certiorarı or any other appropriate writ quashing the Gram Sabha resolutions dated 08.12.2023 [Annexure 2 (Series) and Annexure 3 (Series)) and the subsequent certificate issued by the Collector, Kalahandı (Annexure 8) as the same are fraudulent and are against the provisions of FRA, 2006 and the Constitution of India.
b. Issue of writ of mandamus or any other appropriate writ directing the Ops to accept the resolutions passed by the Gram Sabha

held between 30.08.2024 to 04.09.2024 [Annexure 9 (series)] wherein no consent for the diversion of forest land for non-forest purposes have been given by the villagers of the said villages.

c. Issue a writ of mandamus or any other appropriate writ directing the Opposite Parties not to take any further steps pertaining to the Sijimali Bauxite Mine Project till the rights of the villagers in the project affected areas are settled as per the Forest Rights Act, 2006.
d. Issue a writ of mandamus or any other appropriate writs constituting a judicial inquiry into the illegalities committed in the alleged Gram Sabhas which took place on 08.12.2023 in the villagers of Kantamal, Sagaban, Dumerpadar, Aligana, Chulbari, Tijimali, Pelanakona, Katıbhata, Malıpadar and Bondel and an action taken report be submitted before this Hon'ble Court in a time bound manner.
e. Union of India through Secretary, MoEF&CC, Ministry of Tribal Affairs through its Secretary, State of Odisha through Secretary, Department of Revenue & Disaster Management, State of Odisha through Additional Chief Secretary, Forest & Environment Department, Department of Steel & Mines, Collector, Kalahandi, Collector, Rayagada and M/s Vedanta Ltd. were Opposite Parties No 1, 2, 3, 4, 5, 6, 7 & 8 respectively.
f. The Hon'ble High Court vide Order No 1 dated 12.02.2025 had directed the State to issue written instruction on Petitioners allegation recorded in their order and directed to list on 19.02.2025 In the matter, the Collector & District Magistrate, Kalahandi and Collector & District Magistrate, Rayagada were requested to furnish the instruction/ PWC on the aforesaid Writ Petition to the O/o the AG, Odisha, Cuttack at the earliest under intimation to this Department vide this Department Letter No 6289/FE&CC dated 12.03.2025.
g. The Hon'ble High Court vide Judgement dated 05.03.2025 has disposed of the Writ Petition. In the said judgement, the Hon'ble High Court in Para 7 has directed as follows.

"7 Mr. Mohanty submits, his clients have not conceded but on the contrary maintained that Impugned Gram Sabha resolutions were fraudulently got made. He submits, subsequent to impugned resolutions, the Gram Sabhas convened between 30th August, 2024 and 4th September, 2024. They resolved that no consent for diversion was duly obtained. Mr. Mohanty points out, there has not been process duly undertaken to grant recognition to his clients, who are forest dwellers in the area. Mr. Swain disputes on submission that the Gram Sabha

proceedings were video recorded and petitioners were present in those Gram Sabhas, which resulted in impugned resolutions. We would not want to be drawn into this dispute on facts. ***The submission is recorded for being noted by Union of India in dealing with the proposal made by the user agency (opposite party no 8), upon taking into confidence inhabitants of concerned villages, through the Gram Sabhas and otherwise. Petitioners have pointed out their rights under the Act of 2006 as provided under section 3. We reiterate, Union of India must take note*****"**

xxxv. The aforesaid order dated 05.03.2025 of the Hon'ble High Court passed in WP No 3729 of 2025 (Shri Gobinda Majhi & others Vrs Union of India & others) has been received in this Department on 26.03.2025 from the Superintendent of the High Court of Orissa vide his Issue No 8805 (3) dated 13.03.2025. *The copy of the aforesaid letter of the Superintendent of the High Court of Orissa along with a copy of the Order dated. 05.03.2025 of the Hon'ble High Court of Orissa is enclosed for favour of kind information and necessary action of the Ministry.*

xxxvi. The Collector, Rayagada has issued certificate in Form-II under Schedule Tribe and other Traditional Dwellers (Recognition of Forest Rights) Act, 2006 for forest land of 565.70 Ha involved in the Sijimali Bauxite Block leased out in favour of M/s Vedanta Ltd On 24.01.2024

xxxvii. The Collector, Kalahandi has issued certificate in Form No -II under Schedule Tribe and other Traditional Dwellers (Recognition of Forest Rights) Act, 2006 for forest land of 133.95 Ha involved in the Sijimali Bauxite Block leased out in favour of M/s Vedanta Ltd. on 18.01 2024.

xxxviii. The user agency has furnished an undertaking duly countersigned by the DFO, Kalahandi (South) to submit the FRA certificate for the balance forest land over 03 villages coming in Kalahandi district after obtaining from the Revenue authority.

xxxix. The State has informed that the user agency does not have any other existing bauxite mines in Odisha. This will be their first bauxite mine in Odisha. The user agency, Vedanta Ltd., has been declared the Preferred Bidder for this block in the auction held on 09.02.2023 under the MMDR Act, 1957. However, they do operate the Jamkhani opencast coal mine in Sundargarh district with a lease area of 847 ha, a reserve of 222.13 million tonnes, and a capacity of 2.6 MTPA.

xl. The State has informed that the valley area is non-mineralized, has no bauxite presence, and will be left untouched. It is proposed to be developed as a greenbelt.

xli. The State has given justification for the temporary roads, transmission lines, and cultivation which are seen in the forest area. The State has clarified that these features are linked to the villages of Tijimali and Malipadar, which fall within the mining lease area. These villages will be rehabilitated and resettled as per the LARR Act, 2013. A notification under Section 11(1) has already been issued. Seasonal agricultural use is non-permanent and can be vacated anytime.

xlii. The State Govt. has clarified that 116.5 ha of forest area marked as 'untouched' because as per Para 2.11 of the mining plan, this area, part of a non-mineralized valley, was included in the lease block but will remain undisturbed. The total untouched area is 311.02 ha, including 116.5 ha of forest.

xliii. The State has clarified that cultivation and settlements are seen within the lease boundary because the seasonal cultivation is done by local villagers on a temporary basis and does not indicate permanent land use. The settlements are located in Tijimali and Malipadar, which are private lands. These villages are to be relocated under the R&R plan per the LARR Act.

xliv. The State has clarified the requirement of water, electricity, and evacuation from the mine

a. **Water:** Will be drawn from groundwater (approval from CGWA obtained).
b. **Power:** To be supplied through Diesel Generators.
c. **Evacuation:** Bauxite will be transported via PWD road from Malipadar to SH-44, then via rail from Singarama siding to Lanjigarh refinery. A separate proposal has been submitted for diversion of 4.911 ha forest land for constructing an access road to SH-44.

xlv. The State has informed that cultivation is visible on CA land because of seasonal signs of cultivation, but the land is still classified as degraded forest. These signs do not indicate permanent land use and the land is suitable for afforestation, as per the approved CA Plan.

xlvi. A Site-Specific Wildlife Conservation Plan for the 10 km impact zone has been approved by the PCCF (Wildlife) & CWLW, Odisha, with a budget of ₹34.44 Cr. Funds will be deposited in State CAMPA and used in Kalahandi South and Rayagada Forest Divisions. Activities will be implemented under DFO guidance, with a 5-year plan period and monitoring provisions.

xlvii. The Regional Office has inspected the area proposed for diversion and proposed CA land. The DDGF (Central), RO Bhubaneswar has recommended the proposal subject to the following conditions:

i. A total of 310.786 hectares of land located within the mining lease boundary (beyond the safety zone), shall remain undisturbed, as submitted by the User Agency. This area shall

be maintained as a green belt owing to the absence of bauxite reserves. The User Agency shall ensure that no tree felling or mining activity is undertaken in the said forest area.

ii. The State Government shall ensure that 8.082 hectares of forest land, which forms part of the Compensatory Afforestation (CA) area for the Dubna-Sakradihi Mines project (Proposal No. FP/OR/MIN/30349/2017) and have also been included in the present proposal, are compensated by identifying and providing an alternative CA site for the said project. Approval for the partial change in CA site shall be obtained from the competent authority for Proposal No. FP/OR/MIN/30349/2017.

iii. As mining is proposed at the hilltop and may affect the natural catchment area, the User Agency shall implement comprehensive soil conservation measures on the hillock and adjoining forest areas. These measures shall aim to prevent surface runoff from leaving the mining zone and to safeguard downstream ecosystems.

iv. The User Agency shall submit a progressive reclamation plan, along with the restoration schedule and forest land surrender schedule, to the Ministry prior to the grant of final approval.

v. A separate proposal (Proposal No. FP/OR/OTHERS/523366/2025) involving the diversion of 4.911 hectares of forest land in favour of the Odisha Industrial Infrastructure Development Corporation (IDCO) for the construction of an access road from the Sijimali Bauxite Mines (hilltop) to State Highway-44 (SH-44) is presently under consideration by the Ministry of Environment, Forest and Climate Change for "in-principle" approval. As this road is an ancillary component of the Sijimali Bauxite Mines project, the competent authority may consider appraising both proposals concurrently to ensure an integrated evaluation and to avoid any fait accompli situation.

vi. The User Agency shall ensure that all Compensatory Afforestation (CA) sites are free from encroachments before being handed over to the State Forest Department (SFD). The SFD shall ensure that the CA sites are properly fenced, cleared of encroachments, and planted, at the cost of the User Agency.

vii. The State Forest Department (SFD) shall implement the Site-Specific Wildlife Conservation Plan (SSWLCP) for the project, as approved by the Chief Wildlife Warden (CWLW), Odisha, at the cost of the User Agency.

xlviii. The Hon'ble High Court vide Judgement dated 05.03.2025 have disposed of the Wnt Petition In the said judgement, the Hon'ble High Court in Para 7 have directed as follows:

"7 Mr. Mohanty submits, his clients have not conceded but on the contrary maintained that Impugned Gram Sabha resolutions were fraudulently got made. He submits, subsequent to impugned resolutions, the Gram Sabhas convened between 30th August, 2024 and 4th September, 2024. They resolved that no consent for diversion

was duly obtained. Mr. Mohanty points out, there has not been process duly undertaken to grant recognition to his clients, who are forest dwellers in the area. Mr. Swain disputes on submission that the Gram Sabha proceedings were video recorded and petitioners were present in those Gram Sabhas, which resulted in impugned resolutions. We would not want to be drawn into this dispute on facts. The submission is recorded for being noted by Union of India in dealing with the proposal made by the user agency (opposite party no 8), upon taking into confidence inhabitants of concerned villages, through the Gram Sabhas and otherwise. Petitioners have pointed out their rights under the Act of 2006 as provided under section 3. We reiterate, Union of India must take note" order.

xlix. Further, the committee has also noted that a separate proposal for seeking prior approval of the Central Govt. Diversion of 4.911 ha of forest land for construction of access road from Sijimali Bauxite Mines (Hill Top) to SH-44 to facilitate bauxite transportation in Kashipur Tahasil of Rayagada District under Rayagada Forest Division applied by IDCO has been submitted by the State Govt. letter No.FE-DIV-FLD-0025-2025-10894/FE&CC dated 09.05.2025 to the RO Bhubaneswar (Online proposal No. FP/OR/OTHERS/523366/2025). The RO has submitted this proposal to the Ministry for holistic decision.

l. Further, the DDGF (Central) has mentioned that:

   a. The instant proposal pertains to the construction of a road submitted by the Government of Odisha, with the primary objective of facilitating the transportation of bauxite ore via bulkers/trucks from the mines of M/s Vedanta Limited to State Highway 44 (SH-44).
   b. In response to the EDS raised by the Regional Office on 19.05.2025, the State Government has clarified that, apart from serving the aforesaid purpose, the proposed road is also intended to connect the villages of Dumerpadar, Porlang, Sagabari, Bichapinda, and Malipadar, which presently lack road connectivity.
   c. However, as per the KML file submitted, the specifications of the proposed road (width) indicate that it is primarily designed to support the movement of heavy vehicles.
   d. In this context, it is pertinent to mention that the associated mining proposal—vide proposal no. FP/OR/MIN/QRY/470250/2024—is currently under consideration by the Ministry of Environment, Forest and Climate Change (MoEF&CC), New Delhi. The in-principle approval for the same is yet to be granted. In the event that the mining proposal is not favourably considered by the competent authority, positive consideration of the road proposal at this

stage by the Regional Office may lead to a fait accompli situation.

li. The committee further observed that the road proposal has been submitted by the other agency i.e. by IDCO,however the road is primarily proposed keeping in view the requirement of mineral evacuation in the instant mine.The separate proposal for the road construction may be allowed, However, the proposal for road can only be considered for approval once the proposal for the diversion of forest land for the mining lease is approved.

4. **Decision of the Advisory the Advisory Committee:** The Committee had detailed discussion and deliberation with the Dy. DGF (Central), RO, Bhubaneswar and Nodal Officer, Government of Odisha. After going through the facts of the proposal and submissions made by the Nodal Officer, Government of Odisha, the Committee **deferred** the proposal and sought clarification/information on the following for further consideration in the matter:

   i. Keeping in view the Judgement dated 05.03.2025 of the Hon'ble High Court of Odisha w.r.t. the WP (C) No 3729 of 2025 (Sri Gobinda Majhi & others-Vrs-Union of India & others), the state shall ensure strict compliance of the order of the Hon’ble Court and submit a detailed report.

   ii. The State has informed that the area proposed for diversion is vulnerable to soil erosion due to steep slopes. The vegetation loss and mining disturbances lead to rapid runoff, soil degradation and stream sedimentation. The factors like top soil displacement, compaction and blasting will further accelerate erosion. In this regard, the justification and plan to mitigate the soil erosion shall be submitted.

   iii. An area of 8.082 hectares, which forms part of the Compensatory Afforestation (CA) area for the Dubna-Sakradihi Mines project (Proposal No. FP/OR/MIN/30349/2017) has been included in the present proposal. The state shall give justification for keeping this area in the diversion proposal. The State shall provide the status of compensatory afforestation carried out in this area and intimate as to how this area will be compensated.

   iv. The State has informed that the temporary roads, transmission lines, and cultivation seen in the forest area are linked to the villages of Tijimali and Malipadar. In this regard, the state shall examine the matter and submit a report regarding the violation of the Adhiniyam, if any.

   v. The State shall ensure that all Compensatory Afforestation (CA) sites are suitable for plantation and free from encroachments. In this regard, a detailed report for each Compensatory Afforestation area shall be provided.

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Agenda No. 25

Online Proposal No. FP/OR/OTHERS/523366/2025

Sub: Proposal for seeking prior approval of the Central Govt. Diversion of 4.911 ha of forest land for construction of access road from Sijimali Bauxite Mines (Hill Top) to SH-44 to facilitate bauxite transportation in Kashipur Tahasil of Rayagada District under Rayagada Forest Division applied by IDCO.

1. The agenda item was considered by the Advisory Committee (AC) in its meeting held on 30.07.2025. The corresponding agenda note may be seen at www.parivesh.nic.in. The DIGF (Central), Regional Office, Bhubaneswar and Nodal Officer, Government of Odisha attended the meeting.
2. During the meeting, all the facts and background of the proposal, along with examination of the proposal in the DSS were presented and explained by the Member Secretary before the AC. The Committee was also apprised of the relevant provisions under other Acts, Rules and Guidelines relevant to the proposal and their significance.
3. The Advisory Committee (AC) after thorough deliberation and discussion observed the following:
    i. Being a linear category proposal, the State Govt. letter No. FE-DIV-FLD-0025-2025-10894/FE&CC dated 09.05.2025 has submitted the above mentioned proposal to the RO Bhubaneswar. However, the proposal is linked with main proposal no. FP/OR/MIN/QRY/470250/2024 which is currently under consideration with the Ministry. The 'in-principle' approval for the same is yet to be granted. In the event that the mining proposal is not favourably considered by the competent authority, positive consideration of the road proposal at this stage by the Regional Office may lead to a fait accompli situation and forwarded the proposal to the Ministry.
    ii. The Govt. of Odisha has informed that M/s Vedanta Limited has now got the lease for excavation of Sijimali Bauxite ore mines under Kashipur Tehsil of Rayagada district. M/s Vedanta intends to transports the bauxite ore of 9 MTPA from mines to Alumina Refinery plant situated at Lanjigarh through road and rail transport. Since, the road connectivity from Sijimali Mines top to SH-44 is not available at site; it was decided to construct suitable road connectivity from Mines top to SH-44 for transportation of Bauxite ore through Bulkers/trucks. It has been decided to take up the construction of new road from Sijimali Mines top to SH-44 up to a distance 3.4 Km in the State of Odisha. In this connection, a meeting was held on 25.01.2024 at 10.30 AM in the conference room of Chief Secretary under the Chairmanship of Chief Secretary, Odisha on issue of transportation of bauxite from Sijimali Bauxite Mines. In the meeting following points were discussed and decisions taken:
        a. Vedanta to submit the land schedule from Mine top to SH-44 road.
        b. IDCO to facilitate acquisition and transfer of land to PWD and giving NoC to Vedanta for construction of road.
        c. PWD will remain as the owner of the road.

d. As per the above decision IDCO applied online for construction of road of Sijimali Bauxit Mines to SH-44.

iii. The Industrial Infrastructure Development Corporation (IDCO) has submitted a proposal seeking the diversion of **4.911 hectares of forest land** for the **construction of an access road** from **Sijimali Bauxite Mines (Hill Top) to SH-44**. This project is intended to facilitate bauxite transportation and is located in **Kashipur Tahasil** of **Rayagada District**, within the jurisdiction of the **Rayagada Forest Division**, Odisha.

iv. The proposed site lies in **Rayagada district**, Odisha. The forest land involved falls under the **Rayagada Forest Division** and is categorized as **DLC Forest**, with a **vegetation density of less than 0.4**, which falls under **Eco Value Class-III**. An enumeration conducted over the 4.911 ha forest area recorded a total of **91 trees**, while an additional 6.403 ha of non-forest land in the vicinity shows no forest growth.

v. According to the Divisional Forest Officer (DFO), the proposed site has steep slopes and sparse vegetation, making it highly prone to erosion. Any further disturbance such as deep cutting and soil compaction may accelerate erosion and lead to serious soil degradation due to increased runoff.

vi. The proposed site is approximately 2.642 km from the nearest forest boundary. It does not fall within any National Park, Wildlife Sanctuary, Biosphere Reserve, Tiger Reserve, or Elephant Corridor. Additionally, no rare, endangered, or unique species of flora and fauna have been reported in the area. However, commonly found tree species include Shorea robusta (Sal), Terminalia belerica (Bahada), Syzygium cumini (Jamun), Mangifera indica (Amba), and Emblica officinalis (Anla). The fauna reported in the area include barking deer, wild boar, peacock, and Indian hare.

vii. The DFO confirms that no archaeological, heritage, or defense structures are located within the proposed site.

viii. Moreover, no violation of the under Section 2 (1) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 or any related guidelines has been reported.

ix. The user agency has adhered to all necessary legal frameworks, including the FRA certificate issued by the Collector of Rayagada (Order No. 150/XI-117/25, dated 31.01.2025).

x. To compensate for the diversion of forest land, the State Government has identified 6.07 ha of non-forest land (classified as Kisam: Pahad) in Tingarjhola village, Kolnara Tahasil for compensatory afforestation. This land has been certified as encroachment- and encumbrance-free by the Tahasildar and Collector of Rayagada. The CA Scheme has been prepared in Assisted Natural Regeneration (ANR) plantation mode, proposing to plant 1,214 seedlings at the rate of 200 seedlings per hectare. The scheme has been technically approved by the Additional PCCF (Nodal), Odisha with a financial outlay of ₹59,06,200 and includes 20 years of maintenance.

xi. Additionally, 5.00 ha of degraded forest land in Pedakona Extension RF under the Rayagada Forest Division has been earmarked for planting 3,697 additional seedlings under the Additional Compensatory

Afforestation (Addl. CA) Scheme. This has been planned in Artificial Regeneration (AR) mode at 1000 seedlings per hectare, with a financial outlay of ₹54,15,400 and 10 years of maintenance. Both CA and Addl. CA schemes include native species such as Jamun, Sissoo, Neem, Gambar, Karanja, Amla, Panasa, Bahada, Harida, and Khair.

xii. The State Government has clarified that the project does not require Environmental Clearance, and it does not involve any displacement of human habitation; thus, no Resettlement and Rehabilitation (R&R) Plan is needed. Furthermore, as per MoEF&CC guidelines dated 29.12.2023, a Cost-Benefit Analysis is not required for this diversion proposal.

xiii. Further, the State Govt. has informed that Government of India, Ministry of Environment, Forest and Climate Change, New Delhi has been requested to consider the proposal for diversion of 708.204 ha (564.581 ha in Rayagada Forest Division + 143.623 ha in Kalahandi (South) Forest Division) of Forest land (including 11.195 ha earmarked for Safety Zone) within total Mining Lease land over 1548.786 ha in Rayagada Forest Division & Kalahandi (South) Forest Division under Rayagada and Kalahandi District respectively and convey their approval under Section-2 (1) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 in favour of M/s Vedanta Limited, subject to certain conditions (FP/OR/MIN/QRY/470250/2024) vide this Department Letter No.8268/FE&CC dtd.08.04.2025.

xiv. Giving justification, State Govt. reported that as per Minutes of the meeting held on 24.01.2024 under the Chairmanship of Chief Secretary, Odisha on the issue of transportation of Bauxite from Sijimali Mines in Rayagada district, a road from Sijimali Bauxite Mines to SH-44 over a length of around 3.4 Km is required, for which the land will be acquired by IDCO and in turn would be transferred to PWD. Vedanta Limited has been allocated with Sijimali Bauxite mine spread over Kalahandi and Rayagada districts of Odisha in March, 2023, having estimated reserve of around 311 Million Tonnes. For meeting the increased requirement of raw material, Vedanta intends to operate Sijimali block for dispatching Bauxite from mines to its Refinery. In this regard, the total involvement of area is 11.314 Ha in Kashipur Tahasil of Rayagada District, out of which, 4.911 Ha comes under Forest Category and requires forest clearance under Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980.

xv. Three alternative routes have been selected for the proposed access road from the point adjacent to lease area and have been examined. The details are furnished below and also depicted on SoI Toposheet No.E44F2 and E44F3. Comparative Assessment of Surveyed three proposed alignments:

Alternatives	Route Length	Approx. Cost of the project in crore	Total land requirement in ha	Forest area required in ha	Non-forest required in ha	Nature of Ground	Remarks
ALT-1	3.4	54.412	11.314	4.911	6.403	Plain,	Less

	Km					undulating and hilly area	Forest land
ALT-2	3.45 Km	55	11.74	5.95	5.79	Plain, Hilly & Undulating and passes through private land	More forest land
ALT-3	5.63 Km	90	18.594	7.66	10.934	Plain, Hilly & Undulating and passes through private land	

xvi. Keeping in view the above stated parameters among the three surveyed sites the alignment selected (ALT-1) is most suitable and hence considered over the other two sites.

xvii. The total length of the access road from Sijimali Mines top to SH-44 is 2980 mtr. The details are furnished below.

Item	Forest area			Non-forest area			Total area in ha	Total length
	Length in m	Width in m	Area in ha	Length in m	Width in m	Area in ha		
Proposed access road	1370.2	35.84	4.911	1609.8	39.776	6.403	11.314	2980 mtr

xviii. Total land involved in this project is 11.314 ha comprising of 4.911 ha of DLC forest land, 6.243 ha of non-forest Govt. land and 0.160 ha of Private land. The authenticated land schedule of forest land and non-forest land involved in the project has been furnished with the proposal. The Tahasildar, Kashipur has submitted the Hal/Sabik status as per Govt. record as on 25.10.1980 with the proposal. The purpose wise break up of total land involved in this project is given below:

Sl. No.	Item	DLC forest (in ha)	Total forest (in ha)	Pvt. land (in ha)	Non-forest Govt. land (in ha)	Total non-forest land (in ha)	Total (in ha)
1.	Road carriage way	0.982	0.982	0.033	1.151	1.184	2.166

2.	Paved Area	0.421	0.421	0.014	0.450	0.464	0.885
3.	Earthen Shoulder	0.534	0.534	0.017	0.605	0.622	1.156
4.	Earthwork slope	0.764	0.764	0.005	0.938	0.943	1.707
5.	Drain, Breast wall, Retaining Wall & LUVP's etc	2.210	2.210	0.091	3.099	3.190	5.400
	Total	4.911	4.911	0.160	6.243	6.403	11.314

xix. As per Para (ii) of Ministry's letter No.FC-11/158/2024-FC dated 17.01.2025 "Approach road are an integral and ancillary feature related to mining. In such cases, single approval is invariably granted by the Ministry as per proposals submitted by the State Government. However, there may be cases wherein such approach roads may not be included in the mining leases and Mining Plan. Such cases of linear projects linked to mining and conceived subsequently by the User Agency as outlined above shall be treated as stand alone linear projects and shall be dealt and disposed off by the concerned Regional Office of the MoEFE&CC in accordance with the provisions of Guideline given at Para 7.8 (i)(e) of the Consolidated Guidelines.

xx. Upon examination of the forest diversion proposal for the construction of an access road from the Sijimali Bauxite Mines to State Highway-44, the RO observed that the mining lease proposal for the Sijimali project has already been submitted to the Ministry of Environment, Forest and Climate Change (MoEF&CC) under proposal No. FP/OR/MIN/QRY/470250/2024, and Stage-I approval is currently awaited. A separate forest diversion proposal for the road component has also been submitted to the Regional Office under proposal No. FP/OR/OTHERS/523366/2025, treating it as a standalone project.

xxi. However, in reference to Para 7.8(i)(f)(1) of the Consolidated Guidelines issued under the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980, it is specified that "approach roads, conveyor belts, and other ancillary activities related to mining shall be considered as part of the mining project and should therefore be processed accordingly." At the same time, the guidelines state that "supplementary linear projects linked to mining, conceived after the start of the original mining, shall be considered as standalone linear projects" and are to be dealt with by the REC/IRO as per the Van (Sanrakshan Evam Samvardhan) Rules, 2023. In light of this provision, the State Government was requested to re-examine the proposal and take appropriate action.

xxii. In compliance with this request, the Divisional Forest Officer (DFO), Rayagada has clarified that the User Agency (IDCO) has informed that the proposed road is a government road owned by the Public Works Department (PWD), Government of Odisha, and IDCO is acting as the project proponent solely for land acquisition and forest diversion purposes. This road is not being developed exclusively for the

operationalization of Vedanta Limited's mining lease, but as a public infrastructure project that will serve a broader purpose.

xxiii. The DFO further reported that the proposed PWD road will significantly improve connectivity for five remote villages—Dumerpadar, Porlang, Sagabari, Bichapinda, and Malipadar—which currently have no road access to the valley and the mainland. These villages, with a combined population of approximately 1,500 residents, face serious hardships due to the lack of road connectivity, especially in accessing healthcare, markets, and essential services. The road will also enhance the ability of the tribal community residing in the inaccessible hilltop areas to transport horticultural produce and engage more fully with the market economy.

xxiv. Therefore, the road project is not solely intended to serve the mining lease area but is a general-purpose linear infrastructure project being implemented by the PWD, and should not be treated as an ancillary activity of the mining project. In light of the above facts and circumstances, the State Government has concluded that the proposed road does not fall under the scope of sub-para (f) of Para 7.8 of Chapter 7 of the Consolidated Guidelines. Consequently, it should be considered a normal linear project, and processed accordingly under the relevant provisions for linear projects in the Van (Sanrakshan Evam Samvardhan) Rules, 2023.

xxv. After the examination of the above reply, the DIGF (Central) has mentioned that:

xxvi. "Since, this proposal pertains to a mining road which is a standalone project. As evident from the title of the project, where it is explicitly mentioned that this road will expedite bauxite transportation, we may place the proposal for further discussion and advise."

xxvii. Further, the DDGF (Central) has mentioned that:

xxviii. "The instant proposal pertains to the construction of a road submitted by the Government of Odisha, with the primary objective of facilitating the transportation of bauxite ore via bulkers/trucks from the mines of M/s Vedanta Limited to State Highway 44 (SH-44).

xxix. In response to the EDS raised by the Regional Office on 19.05.2025, the State Government has clarified that, apart from serving the aforesaid purpose, the proposed road is also intended to connect the villages of Dumerpadar, Porlang, Sagabari, Bichapinda, and Malipadar, which presently lack road connectivity.

xxx. However, as per the KML file submitted, the specifications of the proposed road (width) indicate that it is primarily designed to support the movement of heavy vehicles.

xxxi. In this context, it is pertinent to mention that the associated mining proposal—vide proposal no. FP/OR/MIN/QRY/470250/2024—is currently under consideration by the Ministry of Environment, Forest and Climate Change (MoEF&CC), New Delhi. The 'in-principle' approval for the same is yet to be granted. In the event that the mining proposal is not favourably considered by the competent authority, positive consideration of the road proposal at this stage by the Regional Office may lead to a fait accompli situation.

xxxii. In view of the above, the instant proposal is forwarded in terms of the provisions of Para 1.10(ii) of Chapter 1 regarding the site specificity of the road-based on its proposed width, and as per sub-para (f) of Para 7.8.i of Chapter 7 of the Consolidated Guidelines and Clarifications issued under the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980, and the Van (Sanrakshan Evam Samvardhan) Rules, 2023, for consideration by the competent authority.

xxxiii. Site inspection report has been carried out by the RO Bhubaneswar in the instant proposal and the DDGF (Central) RO Bhubaneswar has recommended the proposal subject to the following:

i. Although the proposed access road is an ancillary activity integral to the Sijimali Bauxite Mine, it does not fall within the approved Mining Lease area or the sanctioned Mining Plan. The proposal for diversion of forest land pertaining to the Sijimali Bauxite Mine is presently under consideration by the MoEF&CC, New Delhi, and the 'in-principle' (Stage-l) approval is yet to be granted. Accordingly, the competent authority may consider the present proposal for the access road in conjunction with the Sijimali Bauxite Mine project, to enable integrated appraisal to avoid any fait accompli situation.

ii. The Forest Department shall undertake plantation of tall indigenous tree species along both sides of the proposed road, at the cost of the User Agency, to mitigate dust pollution resulting from the movement of heavy vehicles associated with mining activities.

iii. Considering that the proposed area features a medium slope and the road will be used by heavy vehicles, the User Agency shall implement appropriate engineering and safety measures to prevent soil erosion.

iv. The User Agency shall ensure that the Compensatory Afforestation (CA) sites are cleared of all encroachments prior to handing them over to the State Forest Department (SFD). The SFD shall, ensure that the CA sites are free from encroachments, properly fenced, and duly planted at the cost of the User Agency.

xxxiv. The committee observed that the road proposal has been submitted by the other agency i.e. by IDCO, however, the available details and the specifications of the proposed road indicate that it is primarily designed to support the movement of heavy vehicles for the mineral evacuation from the concerned mine. Therefore, the proposal for road should be considered once the proposal for the diversion of forest land for the mining lease is approved.

4. **Decision of the Advisory Committee:** The Committee had detailed discussion and deliberation with the Dy. DGF (Central), RO, Bhubaneswar and Nodal Officer, Government of Odisha. After going through the facts of the proposal and submissions made by the Nodal Officer, Government of Odisha, the Committee deferred the proposal with the following observation:

i. The proposed road is primarily designed to support the movement of heavy vehicles for the mineral evacuation from the Sijimali Bauxite

Mine. Therefore, the proposal for road construction can only be considered once the proposal for the diversion of forest land for the said mining lease is approved. The State government shall therefore submit the proposal after obtaining the in-principle approval for the diversion of forest land in the Sijimali Bauxite Mine.

Agenda No. 26

Online Proposal No. FP/OR/IND/422562/202

Sub: Proposal for seeking prior approval of the Central Government under Section 2 (1) (ii) of the Van (Sanrakshan Envam Samvardhan) Adhiniyam, 1980 in favour of M/s B.R. Sponge & Power Ltd for non-forestry use of 4.775 ha of forest land for Capacity enhancement of Sponge Iron Plan to Integrated Steel Plant in village Bad-Tumakala under Lahunipara Tahasil of Sundargarh District of Rourkela Forest Division.

1. The above stated agenda item was considered by the Advisory Committee in its meeting held on 30.07.2025. The DDGF (Central), Regional Office, MoEFCC, Bhubaneswar and Nodal Officer, Government of Odisha attended the meeting.
2. During the meeting, all the facts and background of the proposal, along with examination of the proposal in the DSS were presented and explained by the Member Secretary before the Advisory Committee. The Committee was also apprised of the relevant provisions under other Acts, Rules and Guidelines relevant to the proposal and their significance.
3. The Advisory Committee after through deliberation and discussion observed that:
    i. The projects envisage for capacity enhancement of Sponge Iron Plant to Integrated Steel Plant by M/s B.R. Sponge & Power Ltd. The proposed project is situated in the state of Odisha, specifically in the Sundargarh District. The State Govt. has submitted the instant proposal on 06.05.2024 to the Regional Office Bhubaneswar under Scenario 4.
    ii. After the examination of the proposal the RO has returned the proposal to the State Govt. by stating that the proposal is involves violation of the Adhiniyam, 1980 therefore, the proposal as per the Rule 10 (2) (v) of Van (Sanrakshan Evam Samvardhan) Rules, 2023 for “ex-post” facto approval of the Central Government for regularization of the violation shall be examined and disposed of by the Central Government at the Ministry level.
    iii. After that, the State Government has submitted the instant proposal under Scenario 7 directly to the Ministry through online PARIVESH 2.0 portal on 08.08.2024.
    iv. The State Govt. has informed that M/s B.R. Sponge Iron and Power Ltd. has an existing DFI Kiln of 2 x 100 TPD configuration and Iron Ore of 1 x 50 TPH. The State Level Single Window Clearance in its meeting held on 09.10.2020 accorded in-principal approval to the proposal of M/s B.R. Sponge Iron and Power Ltd. The IPICOL has also

(Protection) Act, 1972, after extinguishing all existing rights over the land as per legal provisions.

xxxii. As per the Van (Sanrakshan Evam Samvardhan) Rules, 2023 issued by MoEF&CC, GoI, New Delhi in its Gazette Notification no.686 dated 29.11.2023, at chapter 3.5 and 12.8 (h), the category of Relocation of villages form the National Parks/ Sanctuary to alternate forest land has been exempted by the Ministry from payment of Net Present Value (NPV) and the Compensatory Afforestation(CA).

xxxiii. The Committee was apprised of the status of funding of the programme by the Nodal Officer and other State Government officials.

4. **Decision of the Advisory Committee:** The Committee had detailed discussion and deliberation with the IGF (Central), Sub-Office, Hyderabad and Nodal Officer, Government of Telangana. After going through the facts of the proposal and submissions made by the Nodal Officer, Government of Telangana, the Committee recommended the proposal for grant of ***'in-principle'*** approval subject to the General, Standard and following specific conditions:

   i. An area of 20 ha was taken up for Compensatory Afforestation against Palamuru-Rangareddy Lift Irrigation Scheme (PRLIS) during year 2020-21 in Battikunta, within the area proposed for diversion. The State Govt. shall ensure that the 20 ha CA land which are going to be diverted for instant project shall be raised over alternative degraded forest land. The State Govt shall provide CA scheme, KML files and site suitability for the new CA site with Stage-I compliance report.

   ii. The State Government shall provide the details of the schemes where funds have been allocated/ approved for relocation of the villages.

   iii. The State Govt. shall provide the present legal status of the five villages inside the core area of ATR which area proposed for relocation.

   iv. The State Govt. shall ensure that the proposal fulfils all the conditions laid down by the Ministry's guidelines in the dated.29.12.2023 mentioned under Para 12.8 and 12.9.

(*Confirmed through e-mail*)
Pro. KR Sree Harsha
(non-official Member)

(*Confirmed through e-mail*)
Shri Nityanand Srivastava
(non-official Member)

(*Confirmed through e-mail*)
Shri Manoj Pant
(non-official Member)

(*Confirmed through e-mail*)
Dr. Mehraj AS
Deputy Commissioner (NRM)
(Member)

(*Confirmed through e-mail*)
Shri Ramesh Kumar Pandey
Additional Director General of Forests

(*Confirmed through e-mail*)
Shri Ramesh Kumar Pandey
Additional Director General of Forests

490

(FC)
(Member)

(WL)
(Member)

(***Confirmed***)
Shri R. Raghu Prasad
Inspector General of Forests
(Member Secretary)

(*Approved*)
Shri Sushil Kumar Awasthi
(Director General of Forests and Special Secretary)
(Chairperson)

Annexure - A24

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Government of India
Ministry of Environment, Forest and Climate Change
Agenda for Advisory Committee

Agenda ID	FC/AGENDA/AC/788435/2025
Title of Meeting	12th AC meeting
Meeting Venue	Krishna Conference Hall
Meeting Mode	Physical
Agenda Creation Date	30/11/2025
Meeting Dates & Time	Start Date : 02/12/2025 End Date : 02/12/2025

Proposals to be discussed:

S. No.	Proposal No.	Division	Project Name	Project Category	Forest Land Area(ha)	Form Type
1	FP/AP/OTHERS/455305/2023	Anakapalli	Diversion of 148.15 ha. of forest land In compartment no.620 of Robertson RF, Anakapalli Forest Division of Anakapalli District in Visakhapatnam circle of Andhra Pradesh for establishment of New Project of Bhabha Atomic Research Centre (BARC) In favour of Controller, BARC, Mumbai. Detail	Others (please specify)	148.15	Form-A (Part-I): Diversion of Forest Land
2	FP/AS/DEF/518961/2025	Nagaon Division	Underground Storage Facility	Defence	299.201	Form-A (Part-I): Diversion of Forest Land
3	FP/AS/MINOIL/432400/2023	Digboi Division	Diversion of 3.73 Ha. of Forest land for drilling four no. of wells DJM, Well A, Well B, Well C at old Plinth of Bogapani-2in the Upper Dehing Reserved Forest (West Block) under Digboi Forest Division, Assam	Mining of Mineral Oil	3.73	Form-A (Part-I): Diversion of Forest Land
4	FP/BR/RAIL/	Tirhut Division	Hajipur- Sugauli New Rail line project	Railway	2.76	Form-A (Part-I): Diversion of Forest Land

S. No.	Proposal No.	Division	Project Name	Project Category	Forest Land Area(ha)	Form Type
	532531/2025					
5	FP/CG/HYD/IRRIG/536341/2025	KAWARDHA DIVISION	Construction of Headwork & Cannals of Baroda Khurd Minor Tank Scheme in Karranala river near village Baroda Khurd in Tehsil and Block Sahaspur Lohara of District Kabirdham	Hydel / Irrigation	82.25	Form-A (Part-I): Diversion of Forest Land
6	FP/HR/OTHERS/497879/2024	Faridabad Division	Diversion of Forest land falling in PLPA area in Sector-21C-II, 21C-III with Gym Khana Club, Sector-44-47, Sector-45 & Sector-46, Faridabad	Others (please specify)	67.68	Form-A (Part-I): Diversion of Forest Land
7	FP/HR/ROAD/467134/2024	Sonipat Division	Construction of 2 lane Relief Highway from Ghoripur to Delhi Border (Near Hareveli Village) Section from Ch. 57+250 (Panipat-Sonipat at District Border) to Ch. 82+700 (Barwasni) Falling in Sonipat Distt. Including Improvement with Bituminous Overlay from Ch. 82+700 (Barwasni) to Ch. 104.042 (Delhi Border) in the State of Haryana	Construction / Widening of Road including approach road to roadside establishments including bridges	0.5627	Form-A (Part-I): Diversion of Forest Land
8	FP/HR/REDIV/469434/2024	Jhajjar(Central Rohtak) Division	Re -Diversion of 0.807 Hectares Forest land for laying of 200 MM diameter underground carbon steel pipeline from RD 5.75 to RD 23.70 on Bahadurgarh - Jhajjar Road, Haryana	Pipeline	N/A	Form-E (Part-I): Re-Diversion i) Land Use Change ii) Laying of Overhead/ Under Ground OFC/ drinking water pipeline/ slurry pipeline/ electric cable/ CNG/PNG within RoW
9	FP/HP/MIN/QRY/523305/2025	Parbati Division	River Bed Dredging	Mining / Quarrying	13.281	Form-A (Part-I): Diversion of Forest Land

S. No.	Proposal No.	Division	Project Name	Project Category	Forest Land Area(ha)	Form Type
10	FP/KA/ROAD/464144/2024	Bagalkot Division	Widening to 2L+PS from Km 71.00 to 104.00 of Sarjapur to Pattadkallu on Bhanapur-Gaddankeri section of NH 367 in the State of Karnataka. Job No NH-367-KNT-2022-23-972	Construction / Widening of Road including approach road to roadside establishments including bridges	4.1479	Form-A (Part-I): Diversion of Forest Land
11	FP/KA/ROAD/487310/2024	Bangalore Rural Division	Construction of Road, RCC drain, high level causeway for the existing mud road. In addition, dining hall and pump house construction at Kouchugal Sri. Muneshwara swami temple Survey No: 53, Majara Mylanahalli Kavalu, Mylanahalli village , Solur Hobli , Magadi Taluk, Ramanagara District.	Construction / Widening of Road including approach road to roadside establishments including bridges	0.3865	Form-A (Part-I): Diversion of Forest Land
12	FP/MP/HYD/IRRIG/516717/2024	Rewa(T) Division	M/S Marshall Small Hydel Power Project	Hydel / Irrigation	9.08	Form-A (Part-I): Diversion of Forest Land
13	FP/MP/MIN/QRY/508237/2024	Tikamgarh(T) Division	MACHIGARH PYROPHYLLITE AND DIASPORE DEPOSIT	Mining / Quarrying	10.07	Form-A (Part-I): Diversion of Forest Land
14	FP/MP/MIN/QRY/437171/2023	Rewa(T) Division	MINING LEASE FOR TIKAR BAUXITE PHASE-1 (28.379 HA.)	Mining / Quarrying	31.4161	Form-A (Part-I): Diversion of Forest Land
15	FP/MP/MIN/QRY/4	Umaria(T) Division	Proposed Pathora West Coal Block (Sohagpur Coalfield) has an area of 640.520 ha and the project area is 554.0843 ha with targeted production capacity of	Mining / Quarrying	149.6878	Form-A (Part-I): Diversion of Forest Land

S. No.	Proposal No.	Division	Project Name	Project Category	Forest Land Area(ha)	Form Type
	64461/2024		0.80 MTPA (Peak-rated capacity of 1.2 MTPA) located in the Villages of Ghunghuti, Githauri, and PatnarKalan, Tehsil Pali, District Umaria, State Madhya Pradesh. It is an underground mechanized Coal Mine.			
16	FP/MP/HYD/IRRIG/468270/2024	Sendhwa(T) Division	Kalamba Tank	Hydel / Irrigation	50.745	Form-A (Part-I): Diversion of Forest Land
17	FP/MP/MIN/QRY/504139/2024	Shahdol South(T) Division	Damini underground Coal Mine	Mining / Quarrying	9.621	Form-A (Part-I): Diversion of Forest Land
18	FP/MP/HYD/IRRIG/483015/2024	Chhindwara East(T) Division	SHAKKAR PENCH LINK COMBINED PROJECT PHASE-1 HARD DAM	Hydel / Irrigation	513.4	Form-A (Part-I): Diversion of Forest Land
19	FP/MH/MIN/QRY/407839/2022	Central Chanda Division	Diversion of 17.00 Ha. Forest land for Mining lease of Naranda Limestone Block in favour of M/S. Dalmia Cement (Bharat) Limited,	Mining / Quarrying	17	Form-A (Part-I): Diversion of Forest Land
20	FP/MH/HYD/IRRIG/515850/2024	Alibag Division	Saidongar-1 Karjat (3000 MW) Off-stream Open Loop Pumped Storage Project	Hydel / Irrigation	233	Form-A (Part-I): Diversion of Forest Land
2	FP/O	Bona	Raikela Iron Ore Mines, Shiv Dutt Sha	Mining / Qu	7	Form-A (Part-I): Di

S. No.	Proposal No.	Division	Project Name	Project Category	Forest Land Area(ha)	Form Type
1	R/MIN/QRY/505523/2024	i Division	rma	arrying		version of Forest Land
22	FP/OR/MIN/QRY/445466/2023	Malkanagiri Division	Proposed Kottameta Limestone Mine (Auctioned Block) (ML Area: 802.25 ha) with total excavation of 7.6 million TPA (Limestone Production Capacity – 3.0 Million TPA, Soil 0.5 Million TPA and Waste 4.1 Million TPA) along with 1000 TPH Crusher located at Village – Katamater, Tehsil & District – Malkangiri, Odisha by M/s. Dalmia Cement (Bharat) Ltd.	Mining / Quarrying	575.16	Form-A (Part-I): Diversion of Forest Land
23	FP/OR/MIN/QRY/500511/2024	Bonai Division	Diversion of 100.797 ha.(100.439 ha lease area + 0.358 ha. for connecting road & 11 KV Power transmission line) of forest land in respect of Kedesala North East Iron Ore Block of M/s. Rungta Mines Ltd.	Mining / Quarrying	100.797	Form-A (Part-I): Diversion of Forest Land
24	FP/OR/HYD/IRRIG/500690/2024	Kalahandi South Division	Upper Indravati Pumped Storage Project	Hydel / Irrigation	107.596	Form-A (Part-I): Diversion of Forest Land
25	FP/OR/MIN/QRY/470250/2024	Kalahandi South Division	Sijimali Bauxite Mines	Mining / Quarrying	708.204	Form-A (Part-I): Diversion of Forest Land
26	FP/PB/REDIV/469166/2024	SAS Nagar Division	Acess for path to the site of Perch dam reservoir's already diverted land proposed to be re-diverted for the purpose of restoring the reservoir's original capacity and further processing the desilted material.	Others (please specify)	N/A	Form-E (Part-I): Re-Diversion i) Land Use Change ii) Laying of Overhead/ Under Ground OFC/ drinking water pipe

S. No.	Proposal No.	Division	Project Name	Project Category	Forest Land Area(ha)	Form Type
						line/ slurry pipeline/ electric cable/ CNG/PNG within RoW
27	FP/RJ/REHAB/414712/2023	Tonk Territorial Division	Diversion of Forest Land for Rehabilitation of Bhairupura Village from Ranthambore Tiger Reserve to Kumhariya, Forest Block- Devli Main under Forest Division- Tonk in the State of Rajasthan	Rehabilitation from Protected Area	198.488	Form-A (Part-I): Diversion of Forest Land
28	FP/RJ/WATER/464011/2024	Udaipur (North) Territorial Division	PLANNING, DESIGN AND CONSTRUCTION OF DEWAS III & IV DAMS, TEHSIL GOGUNDA, DISTRICT UDAIPUR, RAJASTHAN STATE	Drinking Water	174.1106	Form-A (Part-I): Diversion of Forest Land
29	FP/SK/OTHERS/484235/2024	Gangtok Division	Diversion of 63.73 Ha of forest land for regularization (8.0 ha in Gangtok District, 39.84 ha in Namchi District and 15.89 ha in Pakyong District) pre- 1980 settlements in Forest Land-Conversion of Forest Village into Revenue Village in the State of Sikkim by RDD, GoS	Others (please specify)	56.67	Form-A (Part-I): Diversion of Forest Land
30	FP/SK/DEF/483603/2024	Gangtok Division	Diversion 0.263 ha for construction of Border Intelligence Post at Sherathang by the Sibsidiary Intelligence Bureau, Govt. of India	Defence	0.263	Form-A (Part-I): Diversion of Forest Land
31	FP/SK/OTHERS/514965/2024	Namchi Division	Diversion of forest land for construction of Common Biomedical Waste Treatment Facility at Payong, Melli, Namchi District by Health & Family Welfare Deptt. GoS	Others (please specify)	2.4281	Form-A (Part-I): Diversion of Forest Land
32	FP/TR/MINOIL/51	North District Fores	Exploration of Hydrocarbon / Natural Gas through Drilling Waste-pit and Approach Road of Exploratory location AA-ONO-212-KPA-A	Mining of Mineral Oil	2.2068	Form-A (Part-I): Diversion of Forest Land

S. No.	Proposal No.	Division	Project Name	Project Category	Forest Land Area(ha)	Form Type
	4247/2024	t Division				
33	FP/RJ/OTHERS/509218/2024	Bharatpur Territorial Division	Beautification and Renovation work in Kaila Devi Temple Jheel Ka Bada, Bayana, Bharatpur	Others (please specify)	4.487	Form-A (Part-I): Diversion of Forest Land

Other Item Details:

AC Members Details:

S.No.	Name	Designation	Email ID
1	Shri Sushil Kumar Awasthi	DGF&SS, MoEFCC	dgfi****@nic.in
2	Shri Santosh Tewari	Additional Director General (FC)	bh15*@ifs.nic.in
3	Shri Ramesh Kumar Pandey	Additional Director General of Forest, MOEFCC	rame*********@nic.in
4	Shri R Raghu Prasad	Inspector General of Forest, MEF	ragh********@gov.in
5	Manoj Pant	AC MEMBER	mpan*****@gmail.com
6	Dr. Mehraj A. Shaikh	AC MEMBER	ac.n*******@gov.in
7	Kr Sree Harsha	Member (EAC)	sree**************@gmail.com

Remarks:

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Government of India
Ministry of Environment, Forest and Climate Change
Minutes of Meeting for Advisory Committee

MoM ID	FC/MOM/AC/473103/2025
Agenda ID	FC/AGENDA/AC/788435/2025
Title of Meeting	12th AC meeting
Meeting Venue	Krishna Conference Hall
Meeting Mode	Physical
Meeting Dates & Time	Start Date : 02/12/2025 End Date : 02/12/2025

List of AC Members:

S.No.	Name	Designation	Email ID
1	Manoj Pant	AC MEMBER	mpan*****@gmail.com
2	Shri Sushil Kumar A wasthi	DGF&SS, MoEFCC	dgfi****@nic.in
3	Shri Santosh Tewari	Additional Director General (FC)	bh15*@ifs.nic.in
4	Shri Ramesh Kumar Pandey	Additional Director General of Fores t, MOEFCC	rame*********@nic.in
5	Shri R Raghu Prasad	Inspector General of Forest, MEF	ragh********@gov.in
6	Dr. Mehraj A. Shaikh	AC MEMBER	ac.n*******@gov.in
7	Kr Sree Harsha	Member (EAC)	sree***************@gmail. com

Proposals considered during Meeting:

1. Project Name	Beautification and Renovation work in Kaila Devi Temple Jheel Ka Bada, Bayan a, Bharatpur
Proposal Number	FP/RJ/OTHERS/509218/2024
User Agency	Chhailbihari Sharma
Forest Land Area(Ha)	4.487
Division	Bharatpur Territorial Division
Recommendation	Accepted

Brief Description of Project:

The Minutes of the meeting of the Advisory Committee meeting held on 02.12.2025 has already been approved in the E-file and the same is attached herewith for completing the process through PARIVESH portal.

Recommendation Remark:

Deferred.

8. Project Name	Acess for path to the site of Perch dam reservoir's already diverted land proposed to be re-diverted for the purpose of restoring the reservoir's original capacity and further processing the desilted material.
Proposal Number	FP/PB/REDIV/469166/2024
User Agency	Harmanpreet Singh
Forest Land Area(Ha)	
Division	SAS Nagar Division
Recommendation	Accepted

Brief Description of Project:

The Minutes of the meeting of the Advisory Committee meeting held on 02.12.2025 has already been approved in the E-file and the same is attached herewith for completing the process through PARIVESH portal.

Previous Deliberation Details:

N/A

Current Deliberation Details:

The Minutes of the meeting of the Advisory Committee meeting held on 02.12.2025 has already been approved in the E-file and the same is attached herewith for completing the process through PARIVESH portal.

Recommendation Remark:

Recommended for grant of Stage-I approval.

9. Project Name	Sijimali Bauxite Mines
Proposal Number	FP/OR/MIN/QRY/470250/2024
User Agency	Purnendu Pandey
Forest Land Area(Ha)	708.204
Division	Kalahandi South Division
Recommendation	Accepted

Brief Description of Project:

The Minutes of the meeting of the Advisory Committee meeting held on 02.12.2025 has already been approved in the E-file and the same is attached herewith for completing the process through PARIVESH portal.

Previous Deliberation Details:

N/A

Current Deliberation Details:

The Minutes of the meeting of the Advisory Committee meeting held on 02.12.2025 has already been approved in the E-file and the same is attached herewith for completing the process through PARIVESH portal.

Recommendation Remark:

Recommended for grant of Stage-I approval.

10. Project Name	Upper Indravati Pumped Storage Project
Proposal Number	FP/OR/HYD/IRRIG/500690/2024
User Agency	Jogesh Chandra Sahu
Forest Land Area(Ha)	107.596
Division	Kalahandi South Division
Recommendation	Raise EDS

Brief Description of Project:

The Minutes of the meeting of the Advisory Committee meeting held on 02.12.2025 has already been approved in the E-file and the same is attached herewith for completing the process through PARIVESH portal.

Previous Deliberation Details:

N/A

Current Deliberation Details:

The Minutes of the meeting of the Advisory Committee meeting held on 02.12.2025 has already been approved in the E-file and the same is attached herewith for completing the process through PARIVESH portal.

Recommendation Remark:

Deferred.

11. Project Name	Diversion of 100.797 ha.(100.439 ha lease area + 0.358 ha. for connecting road & 11 KV Power transmission line) of forest land in respect of Kedesala North East Iron Ore Block o f M/s. Rungta Mines Ltd.
Proposal Number	FP/OR/MIN/QRY/500511/2024

ii. The site-specific Wildlife and Biodiversity Management Plan, duly approved by the Chief Wildlife Warden, shall be implemented at the cost of the User Agency.

iii. As per DSS analysis, out of 143.968 ha non forest land within the project area, 18.25 ha was found within forest boundary. The state has clarified that the overlap reflected in DSS arises solely from boundary-layer generalisation at map-scale and does not represent any additional forest land requiring inclusion. In this regard the State shall take up the matter with FSI for the correction of digital boundaries.

iv. The State Government shall ensure that the land-use plan indicated in the proposal remains unchanged. A copy of the document or approval issued by the competent authority, confirming a land-use plan consistent with that submitted in the proposal, shall be furnished along with the compliance report.

v. The State Government shall ensure that muck is disposed of, only at designated sites located in non-forest areas. The State Government shall adopt controlled blasting mitigation measures and ensure that no blasting materials are stored within forest areas.

vi. The Catchment Area Treatment Plan, duly approved by the PCCF/competent authority shall be implemented at the project cost.

Agenda No. 38

Proposal No. FP/OR/MIN/QRY/470250/2024

Sub: Proposal seeking prior approval of the Central Government under Section 2 (1) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 for diversion of 708.204 ha (564.581 ha in Rayagada Forest Division + 143.623 ha in Kalahandi (South) Forest Division) of Forest land (including 11.195 ha earmarked for Safety Zone) within total Mining Lease land in 1548.786 ha of Sijimali Bauxite Mines in Rayagada Forest Division & Kalahandı (South) Forest Division under Rayagada and Kalahandi District respectively in respect of M/s Vedanta Limited (Online Proposal No. FP/OR/MIN/QRY/470250/2024)-reg.

1. The agenda item was considered by the Advisory Committee (AC) in its meeting held on 02.12.2025. The corresponding agenda note may be seen at www.parivesh.nic.in. The DDGF (Central), Regional Office, Bhubaneswar and APCCF and CCF in the office of Nodal Officer (FCA), Government of Odisha attended the meeting.
2. During the meeting, all the facts and background of the proposal, along with examination of the proposal in the DSS were presented and explained to the Advisory Committee. The Committee was also apprised of the relevant provisions under other Acts, Rules and Guidelines relevant to the proposal and their significance.
3. The Advisory Committee (AC) after thorough deliberation and discussion observed the following:

i. The Government of Odisha vide their letter No. FE-DIV-FLD-0017-2025-8268/FE&CC dated 08.04.2025 submitted the above subject proposal through PARIVESH 2.0 portal and uploaded on 09.04.2025 seeking prior approval of the Central Government under Section 2 (1) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980.

ii. Vedanta Limited has been allocated the Sijimali Bauxite mine spread over Kalahandi and Rayagada districts of Odisha in March 2023, having an estimated reserve of around 311 Million Tonnes for meeting the increased requirement of raw material, Vedanta intends to operate Sijimali block for dispatching Bauxite from mines to its Refinery.

iii. An e-Auction process was conducted in accordance with the tender document for the Sijimali Mineral Block and Vedanta Limited was declared as the "Preferred Bidder" under Rule 9(9)(1) or Rule 10(1A) of Auction Rules dated 09.02.2023. Accordingly, pursuant to Rule 10(2) of the Auction Rules and the terms of the tender document of steel & Mines Department, Government of Odisha, issued Letter of Intent for grant of mine lease for Sijimali Bauxite Block over 1549.022 ha (Geo referenced DGPS Area 1549.022 ha, ROR Authenticated area-1548.786 ha) vide letter No SM-MC2-MC-0006-2023/2103/5&M, Bhubaneswar, dated 01 03 2023.

iv. M/s Vedanta Ltd has the proposal to operate the Sijimali Bauxite Mine with peak Proposed Bauxite Production Capacity of 9.00 Million TPA. The block is located in 18 villages under Thuamul Rampur Tehsil of Kalahandı district and under Kashipur Tahsil of Rayagada district in the State of Odisha.

v. As M/s Vedanta Limited has an existing alumina refinery plant at Lanjigarh of Kalahandı district of Odisha which very soon will be operated at granted EC capacity of 6.0 Million TPA, due to which the total bauxite requirement will be 18.0 Million TPA at a ratio of 3:1 to meet the partial requirement of the bauxite, Vedanta Ltd is proposing the Sijimalı Bauxite Mine with 9.0 Million TPA Capacity, 3. Million TPA from OMC Kodingamali Mine through long term linkage and remaining 60 Million TPA from import.

vi. The area under consideration is well connected by rail and road to all important business and industrial centres of the country. Nearest Railway station is Sikarpai Railway station at a distance of 20 km in SE direction. The Nearest Port and International Airport are at Visakhapatnam at a distance of 194 Km in SSE direction, Distance of SH-44 from the lease area is 1.5 km in West direction from the project site.

vii. The Sijimali Bauxite Block has been explored in different phases with 91 bore holes with a total meterage of 2241.61m The boreholes have been drilled at an interval of about 400m grid pattern within the mineralized land in 12.38 sq. km The bore hole density is about 07 (735) BHs/Sq Km.

viii. The entire geological block land in 1549.022 Ha (As per DGPS) will be brought under mining and allied activities to excavate bauxite. The cross-sectional method has been adopted for estimation of resources of bauxite in the approved mining plan 15 sets of vertical cross sections namely AA', BB', CC' etc in 1.10000 scale have been prepared in E-W direction taking into account 87 boreholes located along the section lines and a few holes

adjacent to the section lines are projected. In order to estimate the mineable reserve, development sections were drawn through the block. The non-mineable bauxite portions considered for estimation of mineable reserve from geological resource are as follows. (a) bauxite occurring within 7.5 m along the lease boundary for the purpose of safety zone (b) Blocked bauxite under and outside the ultimate pit slope Production of maximum 926740279 TPA bauxite has been planned in the approved mining plan.

ix. Mining operations will be carried out by a fully mechanized opencast method. The extractable bauxite reserve of 299.58 Million tonnes is proposed to be excavated in 31 years. Life of mine is considered as 31 years with two years of construction period including surface reorganization.

x. The total ML area of the Sijimali Bauxite Block is 1548.786 ha. In the applied mining lease area, forest land involved is 708.204 Ha. Non-forest land involved in the Mining Lease is 840.582 ha out of which non-forest private land is 129.089 ha and non-forest Govt. land is 711.493 ha.

xi. The State Govt. has reiterated / clarified that 0.66 ha of land in village Tadader and 1.57 ha of land in village Tijamali (both under Thuamul Rampur Tahasil of Kalahandı District) have been included in the Forest Diversion Proposal as FRA land. The kisam of the above mentioned land (0.66 ha in Tadader village and 1.57 ha in Tijamali village) are of "Unsurveyed Category" in the Sabik record and 'Donger' in the Hal record over which Title under FRA have been issued to individuals by the Collector, Kalahandi. In this context he has informed that, 0.66 ha of land in village Tadades and 1.57 ha in village Tijamali have been included in the Forest Diversion Proposal as FRA land as reported by the DFO, Kalahandi (South) Forest Division.

xii. As per the SIR of DFO, Kalahandi (South), it is revealed that the forest land proposed for diversion is located over 11 patches spreading over 04 no of villages. The Tahasildar Rampur has furnished the land schedule as on 25.10.1980 regarding forest and non-forest land involved in the ML coming under Kalahandi district as well as in Kalahandı (South) forest Division, DFO, Kalahandi (South) has furnished a certificate regarding minimum use of forest land over 143.623 ha.

xiii. The total district wise forest and non-forest land involved in the Mining Lease is tabulated below:

ABSTRACT OF TOTAL LAND of SIJIMALI BAUXITE MINES

Sl. No.	District Name	Area in Hectares							
		Revenue Forest	PF/FRA Forest	Sabik Forest	DLC Forest	Total Forest	Pvt. land	Non-Forest Govt. land	Total
1	Kalahandi	12.408	65.512	3.699	62.004	143.623	28.531	565.138	737.292

2	Rayagada	0.000	0.000	6.236	558.345	564.581	100.558	146.355	811.494
Total area in Ha		**12.408**	**65.512**	**9.935**	**620.349**	**708.204**	**129.089**	**711.493**	**1548.786**

xiv. The details of Existing Land Use of total lease area in Ha are as mentioned below:

EXISTING LAND USE OF SIJIMALI BAUXITE MINES										
Sl. No.	**District Name**	**Item**	**All figures are in Hectares**							
			Revenue Forest	**PF/FRA Forest**	**Sabik Forest**	**DLC Forest**	**Total Forest**	**Pvt. land**	**Non-Forest Govt. land**	**Total**
1	Kalahandi	Existing Undisturbed area	12.408	65.512	3.699	62..004	143.623	28.531	565.138	737.292
2	Rayagada	Existing Undisturbed area	0.000	0.000	6.236	558.345	564.581	100.558	146.355	811.494
	Total in Ha		**12.408**	**65.512**	**9.935**	**620.349**	**708.204**	**129.089**	**711.493**	**1548.786**

xv. Component wise break up of forest land proposed for diversion in the Sigimali Mining Lease has been mentioned in the SIR of DFO, Rayagada and SIR of DFO, Kalahandi (South) The detailed pattern of use of Forest land is tabulated below:

PROPOSED LAND USE PATTERN (DISTRICT WISE)										
S. No.	District Name	Component	Forest Area in Ha					Non-Forest area in ha			
			Revenue Forest	PF/FRA Forest	Sabik Forest	DLC Forest	Total Forest	Govt. land	Pvt. Land	Total NFL	Total Area Ha
1	Kalahandi	Mined out Area	12.408	32.900	3.699	49.852	98.859	400.557	28.531	429.088	527.947

2		Safety Zone Area		2.970		0.628	3.598	15.117		15.117	18.715
3		Untouched Area		29.642		11.524	41.166	149.464		149.464	190.630
Total			**12.408**	**65.512**	**3.699**	**62.004**	**143.623**	**565.138**	**28.531**	**593.669**	**737.292**
1	Rayagada	Mined out Area			6.235	475.351	481.586	96.880	98.717	195.597	677.183
2		Safety Zone Area				7.897	7.597	6.558		6.558	14.155
3		Untouched Area			0.001	75.397	75.398	42.917	1.841	44.758	120.156
Total					6.236	558.345	564.581	146.355	100.558	246.913	811.494
Grand Total			**12.408**	**65.512**	**9.935**	**620.349**	**708.204**	**711.493**	**129.089**	**840.582**	**1548.786**

xvi. The consolidated forest land use pattern of the ML area pertaining to both the Forest Divisions is furnished below:

ABSTRACT OF PROPOSED LAND USE PATTERN OF TOTAL AREA											
S. No.	**District Name**	**Component**	**Area in ha**					**Non-Forest area in ha**			
			Revenue Forest	**PF/ FRA Forest**	**Sabik Forest**	**DLC Forest**	**Total Forest**	**Govt. land**	**Pvt. Land**	**Total NFL**	**Total Area Ha**
1	Kalahandi	Mined out area	12.408	32.900	9.934	525.203	580.445	497.437	127.248	624.685	1205.130

2	Rayagada	Safety Zone Area	0	2.970	0	8.225	11.195	21.675	0	21.675	32.870
3		Untouched Area	0	26.642	0.001	86.921	116.564	192.381	1.841	194.222	310.786
		Total	**12.408**	**65.512**	**9.935**	**620.349**	**708.204**	**711.493**	**129.089**	**840.582**	**1548.786**

xvii. The area proposed for diversion is vulnerable to soil erosion due to steep slopes, vegetation loss and mining disturbances leading to rapid runoff, soil degradation and stream sedimentation Factors like top soil displacement, compaction and blasting will further accelerate erosion.

xviii. The total extent of safety zone in the ML area over 1548.786 ha is 32.87 ha Out of which, 11.195 ha comes under forest land, 21.675 ha comes under Non-Forest Government land within the limit of both the forest divisions. The classification of safety zone over different Kissam of land as well as over the different division jurisdiction is furnished below:

Details of safety zone involved within the Sijimali Bauxite Mines NFL in ha											
Sl. No.	District	Component	Forest land in ha					NFL in ha			
			Rev.	PF/FRA	Sabik	DLC	Total	Govt.	Pvt.	Total	Total in Ha
1	Kalahandi	Safety Zone	0	2.97	0	0.628	3.598	15.117	0	15.117	18..715
2	Rayagada	-do-	0	0	0	7.597	7.597	6.558	0	6.558	14.155
				2.97	**0**	**8.225**	**11.195**	**21.675**	**0**	**21.675**	**32.870**

xix. The proposed area includes Tropical dry deciduous forest. The vegetation is basically mixed Sal Forest with other miscellaneous species. Further, Wildlife species like Barking deer, wild boar, Monkey, Indian peacock and Indian hare are present in the area.

xx. The presence of bauxite is characterized by long stretches of Plateau land on hilltop with little or no vegetation and vegetation is usually seen in hill slopes.

xxi. No rare and endangered species are available in the Mining lease area coming under Rayagada Forest Division However, as per report of DFO, Kalahandı (South), Elephant habitat in Bijepur RF comes within 10 Kms

impact zone. The applied area is not found important from an archaeological point of view. The proposed area does not form part of any National Park, Wildlife Sanctuary and Biosphere Reserve, Tiger Reserve, Elephant corridor or any protected area declared under any law of the State or central Government.

xxii. The DFO, Rayagada has taken up tree enumeration through Range Officer, Kashipur over proposed 564.581 ha forest land of Sijimali Bauxite Block of Vedanta Limited adopting direct counting technique. Due to sparse vegetation on the plateau, the ecological impact of tree felling in this area will be minimal. The plateau's current ecosystem supports limited biodiversity, with most species reliant on valley vegetation for survival. DFO Rayagada has mentioned that the felling of trees near valley areas could lead to disruption of wildlife habitats and potential displacement of species, increased soil erosion and sedimentation of nearby water bodies.

xxiii. Compensatory Afforestation has been proposed over 724.23 ha of Non-forest Government land measuring 565.50 ha in Rayagada District and 158.73 ha Government NFL in Kalahandi District against the proposed diversion of forest land over 708.204 ha for Sijimali Bauxite Block of M/s Vedanta Ltd.

xxiv. The details of area identified for CA in Rayagada district and Kalahandi district are tabulated below:

Rayagada Division:							
S. No.	**Tehsil**	**RI Circle**	**Mouza**	**Khata No.**	**Plot No.**	**Area in ha**	**Total Area (Ha)**
1	Munigud a	Raghubari	Alibhata	11	1	9.70	36.75
					2	11.73	
					3 (P)	15.32	
2	Munigud a	Raghubari	Baringpada r	12	1(P)	8.0	38.24
					43(P)	16.01	
					44	14.23	
3	Munigud a	Raghubari	Baringpada r	3	1	14.14	87.81
					2	16.26	
					3	15.68	
					4(P)	5.74	
					10	4.05	
					11	19.77	
					14(P)	12.17	

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4	Munigud a	Raghubari	Baratarana	9	4(P)	7.47	34.09
					23(P)	5.84	
					24	9.31	
					25	11.47	
5	Munigud a		Dambalu	21	1(P)	3.27	3.279
6	Munigud a	Raghubari	Demupadar	10	129	9.49	58.00
					132(P)	7.71	
					133	7.08	
					134	7.63	
					135(P)	7.76	
					136	11.48	
					137(P)	6.84	
7	Munigud a	Raghubari	Jambapada fr	7	4(P)	2.388	40.40
					6	8.26	
					25	6.576	
					46(P)	13.242	
					47	9.935	
8	Munigud a	Kumudaba li	Kauguda	9	44(P)	24.136	38.95
					46(P)	14.816	
9	Munigud a	Tikarapad a	Lidipanga	59	208(P)	11.882	46.22
					362	15.714	
					363	12.562	
					364	6.066	
10	Munigud a	Raghubari	PidelPadar	9	2	16.19	77.81
					3	15.27	
					4	16.39	
					5	15.19	
					219(P)	14.78	
11	Munigud a	Raghubari	Umbere	11	46(P)	7.49	69.66
					87	16.60	

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					88(P)	15.24	
					91	12.79	
					92	17.54	
12	Munigud a	Raghubari	Madagalu	4	1	17.179	34.29
					3	5.868	
					5	11.242	

Kalahandi (South) Forest Division							
Sl. No.	Village	Khata No.	Plot No.	Kissam		Area in Ac.	Suitable Area For plantation in Ac
1	Sampala	29	103(P)	Dangar	AAA	25.42	23.65
2			104	Dangar	AAA	32.70	32.70
3			105	Dangar	AAA	36.25	36.25
4			106	Dangar	AAA	42.00	42.00
5			107(P)	Dangar	AAA	41.38	40.07
6			108(P)	Dangar	AAA	38.50	35.28
7	Kanjiguda	32	240(P)	Dangar	Govt. of Odisha	32.50	30.00
8			237(P)	Dangar	Govt. of Odisha	37.50	35.00
9			241(P)	Dangar	Govt. of Odisha	36.15	33.00
10			242(P)	Dangar	Govt. of Odisha	41.73	37.85
11	Malatipadar	38	302	Dangar	AAA	22.50	22.50
12			307(P)	Dangar	AAA	31.50	23.78
						Total area in ac	**392.08**
						Total area in ha	**158.73**

xxv. The CA schemes have been prepared in respect of Rayagada and Kalahandi (South) forest Divisions to the diversion proposal. It has been proposed to adopt chain link wire mesh fencing for the protection of the planted species over the entire area in 17 patches coming under 12 villages. The perimeter proposed for fencing over 17 patches.

xxvi. The total forest land proposed for diversion in the proposal is 708.204 ha. The user agency has provided 565.50 ha NFL in Rayagada forest Division and 158.73 ha NFL in Kalahandi (South) division against the proposed forest land for diversion. Thus, the user agency has provided 724.23 ha NFL land for CA It is required to plant 7,08,204 nos. seedlings in the CA However, both the DFOs have made schemes to plant 2,28,157 + 69,986=2,98,143 nos. seedlings Balance seedlings of 7,08,204 - 2,98,143 = 4,10,061 nos. seedlings will be planted through Additional CA schemes in Rayagada Forest Division. The DFO, Rayagada has identified 546.0 ha of notified degraded forest land in his division to take up the additional CA Plantation.

xxvii. The financial outlay approved by the APCCF (Nodal) for the Addl. CA plantations proposed in Rayagada Division comes to ₹44,71,21,000/-

xxviii. The total financial outlay of the CA and Additional CA schemes pertaining to Rayagada and Kalahandı (South) Forest Division come ₹107,63,89,300 (₹53,09,26,800+ ₹9,83,41,500 + ₹44,71,21,000) The user agency has furnished undertaking to pay the amount of ACA plantation as per the demand of DFO, Rayagada.

xxix. The DFO, Rayagada has prepared the Cost-Benefit analysis of the project pertaining to both the Forest Divisions. The cost of the forest is assessed as ₹42401.893 Lakh and the benefit of the project is estimated at ₹2,76,27,164 65 lakhs The Cost-Benefit ratio comes to 1:651.554.

xxx. The Ministry of Environment, Forest and Climate Change (IA Division) have issued Term of Reference (TOR) vide File No IA-J-11015/6/2023-IA-II(NCM) dt 14.08.2023 for mining of Sijimali Bauxite Block over 1549.022 ha for peak rated Capacity of 9.0 MTPA along with installation of two crushers (2x1200 TPH) located at Thuamul and Kasipur Tahasıls of Kalahandı and Rayagada Districts respectively/MIN/439954/2023 dt 06.11.2023 to the user agency The ToR would be valid for a period of three years.

xxxi. The Mining plan including Progressive Mine closure plan has been approved by the Regional Controller of Mines, Office of the Regional Controller of Mines, BBSR (IBM) over 1549.022 ha in respect of Sijimali Bauxite Block in Tehsil Rampur and KasipurTahasils of Kalahandi and Rayagada Districts in the state of Odisha in favour of M/s Vedanta Ltd vide L: No MCDR- MIFLOBXT/4/2023-BBS-IBM RO BBS dt 16.08.2023 with 17 no of terms and conditions The approval of Mining Plan along with Progressive Mine Closure Plan has been accorded by the Indian Bureau of Mines.

xxxii. The field Inspection envisages that the project involves displacement of 100 nos. of families in 02 villages i. e. Malipadar under Rayagada District and Tijamali Under Kalahandi District. In this regard the user agency has furnished an undertaking duly countersigned by the DFO, Rayagada to

submit the approved R & R Plan in respect of Sijimali Bauxite Block of M/s Vedanta Ltd in Rayagada and Kalahandı Districts to the Competent Authority immediately after its approval under Section 16 of LARR Act, 2013. The user agency has furnished an undertaking duly countersigned by the DFO, Kalahandı (South) to submit the approved R&R Plan in respect of Sijimali Bauxite Block of M/s Vedanta Ltd in Rayagada and Kalahandı Districts to the competent authority immediately after its approval under section 16 of LARR Act, 2013.

xxxiii. A Site-Specific Wildlife Conservation Plan for the project has been approved by the PCCF (WL) and CWLW, Odisha vide Memo No 9718 dt 16.08.2024 The user agency has furnished an undertaking duly countersigned by the DFO, Rayagada to bear the cost of SSWLCP.

xxxiv. As stated by the Additional PCCF, Forest Diversion & Nodal Officer, FC Act, O/o the PCCF &HoFF, Odisha, there are no court cases pending against the user agency on the applied area as revealed from the Site Inspection Reports of report of the DFO, Rayagada and DFO, Kalahandi (South) Divisions. However, a Writ Petition was filed before the Hon'ble High Court vide WP (C) No 3729 of 2025 (Sri Gobinda Majhi& others-Vrs-Union of India & others) by the Petitioners with the following prayers:

a. Issue a writ of certiorari or any other appropriate writ quashing the Gram Sabha resolutions dated 08.12.2023 [Annexure 2 (Series) and Annexure 3 (Series)) and the subsequent certificate issued by the Collector, Kalahandı (Annexure 8) as the same are fraudulent and are against the provisions of FRA, 2006 and the Constitution of India.
b. Issue of writ of mandamus or any other appropriate writ directing the Ops to accept the resolutions passed by the Gram Sabha held between 30.08.2024 to 04.09.2024 [Annexure 9 (series)] wherein no consent for the diversion of forest land for non-forest purposes have been given by the villagers of the said villages.
c. Issue a writ of mandamus or any other appropriate writ directing the Opposite Parties not to take any further steps pertaining to the Sijimali Bauxite Mine Project till the rights of the villagers in the project affected areas are settled as per the Forest Rights Act, 2006.
d. Issue a writ of mandamus or any other appropriate writs constituting a judicial inquiry into the illegalities committed in the alleged Gram Sabhas which took place on 08.12.2023 in the villagers of Kantamal, Sagaban, Dumerpadar, Aligana, Chulbari, Tijimali, Pelanakona, Katıbhata, Malıpadar and Bondel and an action taken report be submitted before this Hon'ble Court in a time bound manner.
e. Union of India through Secretary, MoEF&CC, Ministry of Tribal Affairs through its Secretary, State of Odisha through Secretary, Department of Revenue & Disaster Management, State of Odisha through Additional Chief Secretary, Forest & Environment Department, Department of Steel & Mines, Collector, Kalahandi, Collector,

Rayagada and M/s Vedanta Ltd. were Opposite Parties No 1, 2, 3, 4, 5, 6, 7 & 8 respectively.

f. The Hon'ble High Court vide Order No 1 dated 12.02.2025 had directed the State to issue written instruction on Petitioners allegation recorded in their order and directed to list on 19.02.2025 In the matter, the Collector & District Magistrate, Kalahandi and Collector & District Magistrate, Rayagada were requested to furnish the instruction/ PWC on the aforesaid Writ Petition to the O/o the AG, Odisha, Cuttack at the earliest under intimation to this Department vide this Department Letter No 6289/FE&CC dated 12.03.2025.

g. The Hon'ble High Court vide Judgement dated 05.03.2025 has disposed of the Writ Petition. In the said judgement, the Hon'ble High Court in Para 7 has directed as follows.

"7 Mr. Mohanty submits, his clients have not conceded but on the contrary maintained that Impugned Gram Sabha resolutions were fraudulently got made. He submits, subsequent to impugned resolutions, the Gram Sabhas convened between 30th August, 2024 and 4th September, 2024. They resolved that no consent for diversion was duly obtained. Mr. Mohanty points out, there has not been process duly undertaken to grant recognition to his clients, who are forest dwellers in the area. Mr. Swain disputes on submission that the Gram Sabha proceedings were video recorded and petitioners were present in those Gram Sabhas, which resulted in impugned resolutions. We would not want to be drawn into this dispute on facts. The submission is recorded for being noted by Union of India in dealing with the proposal made by the user agency (opposite party no 8), upon taking into confidence inhabitants of concerned villages, through the Gram Sabhas and otherwise. Petitioners have pointed out their rights under the Act of 2006 as provided under section 3. We reiterate, Union of India must take note"

xxxv. The aforesaid order dated 05.03.2025 of the Hon'ble High Court passed in WP No 3729 of 2025 (Shri GobindaMajhi& others Vrs Union of India & others) has been received in this Department on 26.03.2025 from the Superintendent of the High Court of Orissa vide his Issue No 8805 (3) dated 13.03.2025. *The copy of the aforesaid letter of the Superintendent of the High Court of Orissa along with a copy of the Order dated. 05.03.2025 of the Hon'ble High Court of Orissa is enclosed for favour of kind information and necessary action of the Ministry.*

xxxvi. The Collector, Rayagada has issued certificate in Form-II under Schedule Tribe and other Traditional Dwellers (Recognition of Forest Rights) Act, 2006 for forest land of 565.70 Ha involved in the Sijimali Bauxite Block leased out in favour of M/s Vedanta Ltd On 24.01.2024

xxxvii. The Collector, Kalahandi has issued certificate in Form No -II under Schedule Tribe and other Traditional Dwellers (Recognition of Forest

Rights) Act, 2006 for forest land of 133.95 Ha involved in the Sijimali Bauxite Block leased out in favour of M/s Vedanta Ltd. on 18.01 2024.

xxxviii. The user agency has furnished an undertaking duly countersigned by the DFO, Kalahandi (South) to submit the FRA certificate for the balance forest land over 03 villages coming in Kalahandi district after obtaining from the Revenue authority.

xxxix. The State has informed that the user agency does not have any other existing bauxite mines in Odisha. This will be their first bauxite mine in Odisha. The user agency, Vedanta Ltd., has been declared the Preferred Bidder for this block in the auction held on 09.02.2023 under the MMDR Act, 1957. However, they do operate the Jamkhani opencast coal mine in Sundargarh district with a lease area of 847 ha, a reserve of 222.13 million tonnes, and a capacity of 2.6 MTPA.

xl. The State has informed that the valley area is non-mineralized, has no bauxite presence, and will be left untouched. It is proposed to be developed as a greenbelt.

xli. The State has given justification for the temporary roads, transmission lines, and cultivation which are seen in the forest area. The State has clarified that these features are linked to the villages of Tijimali and Malipadar, which fall within the mining lease area. These villages will be rehabilitated and resettled as per the LARR Act, 2013. A notification under Section 11(1) has already been issued. Seasonal agricultural use is non-permanent and can be vacated anytime.

xlii. The State Govt. has clarified that 116.5 ha of forest area marked as 'untouched' because as per Para 2.11 of the mining plan, this area, part of a non-mineralized valley, was included in the lease block but will remain undisturbed. The total untouched area is 311.02 ha, including 116.5 ha of forest.

xliii. The State has clarified that cultivation and settlements are seen within the lease boundary because the seasonal cultivation is done by local villagers on a temporary basis and does not indicate permanent land use. The settlements are located in Tijimali and Malipadar, which are private lands. These villages are to be relocated under the R&R plan per the LARR Act.

xliv. The State has clarified the requirement of water, electricity, and evacuation from the mine

a. **Water:** Will be drawn from groundwater (approval from CGWA obtained).

b. **Power:** To be supplied through Diesel Generators.

c. **Evacuation:** Bauxite will be transported via PWD road from Malipadar to SH-44, then via rail from Singarama siding to Lanjigarh refinery. A separate proposal has been submitted for diversion of 4.911 ha forest land for constructing an access road to SH-44.

xlv. The State has informed that cultivation is visible on CA land because of seasonal signs of cultivation, but the land is still classified as degraded forest. These signs do not indicate permanent land use and the land is suitable for afforestation, as per the approved CA Plan.

xlvi. A Site-Specific Wildlife Conservation Plan for the 10 km impact zone has been approved by the PCCF (Wildlife) & CWLW, Odisha, with a budget of ₹34.44 Cr. Funds will be deposited in State CAMPA and used in Kalahandi South and Rayagada Forest Divisions. Activities will be implemented under DFO guidance, with a 5-year plan period and monitoring provisions.

xlvii. The Regional Office has inspected the area proposed for diversion and proposed CA land. The DDGF (Central), RO Bhubaneswar has recommended the proposal subject to the following conditions:

(a) A total of 310.786 hectares of land located within the mining lease boundary (beyond the safety zone), shall remain undisturbed, as submitted by the User Agency. This area shall be maintained as a green belt owing to the absence of bauxite reserves. The User Agency shall ensure that no tree felling or mining activity is undertaken in the said forest area.

(b) The State Government shall ensure that 8.082 hectares of forest land, which forms part of the Compensatory Afforestation (CA) area for the Dubna-Sakradihi Mines project (Proposal No. FP/OR/MIN/30349/2017) and have also been included in the present proposal, are compensated by identifying and providing an alternative CA site for the said project. Approval for the partial change in CA site shall be obtained from the competent authority for Proposal No. FP/OR/MIN/30349/2017.

(c) As mining is proposed at the hilltop and may affect the natural catchment area, the User Agency shall implement comprehensive soil conservation measures on the hillock and adjoining forest areas. These measures shall aim to prevent surface runoff from leaving the mining zone and to safeguard downstream ecosystems.

(d) The User Agency shall submit a progressive reclamation plan, along with the restoration schedule and forest land surrender schedule, to the Ministry prior to the grant of final approval.

(e) A separate proposal (Proposal No. FP/OR/OTHERS/523366/2025) involving the diversion of 4.911 hectares of forest land in favour of the Odisha Industrial Infrastructure Development Corporation (IDCO) for the construction of an access road from the Sijimali Bauxite Mines (hilltop) to State Highway-44 (SH-44) is presently under consideration by the Ministry of Environment, Forest and Climate Change for "in-principle" approval. As this road is an ancillary component of the Sijimali Bauxite Mines project, the competent authority may consider appraising both proposals concurrently to ensure an integrated evaluation and to avoid any fait accompli situation.

(f) The User Agency shall ensure that all Compensatory Afforestation (CA) sites are free from encroachments before being handed over to the State Forest Department (SFD). The SFD shall ensure that the CA sites are properly fenced, cleared of encroachments, and planted, at the cost of the User Agency.

(g) The State Forest Department (SFD) shall implement the Site-Specific Wildlife Conservation Plan (SSWLCP) for the project, as approved by the Chief Wildlife Warden (CWLW), Odisha, at the cost of the User Agency.

xlviii. The Hon'ble High Court vide Judgement dated 05.03.2025 have disposed of the Wnt Petition In the said judgement, the Hon'ble High Court in Para 7 have directed as follows:

"7 Mr. Mohanty submits, his clients have not conceded but on the contrary maintained that Impugned Gram Sabha resolutions were fraudulently got made. He submits, subsequent to impugned resolutions, the Gram Sabhas convened between 30th August, 2024 and 4th September, 2024. They resolved that no consent for diversion was duly obtained. Mr. Mohanty points out, there has not been process duly undertaken to grant recognition to his clients, who are forest dwellers in the area. Mr. Swain disputes on submission that the Gram Sabha proceedings were video recorded and petitioners were present in those Gram Sabhas, which resulted in impugned resolutions. We would not want to be drawn into this dispute on facts. The submission is recorded for being noted by Union of India in dealing with the proposal made by the user agency (opposite party no 8), upon taking into confidence inhabitants of concerned villages, through the Gram Sabhas and otherwise. Petitioners have pointed out their rights under the Act of 2006 as provided under section 3. We reiterate, Union of India must take note" order.

xlix. Further, the committee has also noted that a separate proposal for seeking prior approval of the Central Govt. Diversion of 4.911 ha of forest land for construction of access road from Sijimali Bauxite Mines (Hill Top) to SH-44 to facilitate bauxite transportation in KashipurTahasil of Rayagada District under Rayagada Forest Division applied by IDCO has been submitted by the State Govt. letter No.FE-DIV-FLD-0025-2025-10894/FE&CC dated 09.05.2025 to the RO Bhubaneswar (Online proposal No. FP/OR/OTHERS/523366/2025). The RO has submitted this proposal to the Ministry for holistic decision.

l. Further, the DDGF (Central) has mentioned that:

a. The instant proposal pertains to the construction of a road submitted by the Government of Odisha, with the primary objective of facilitating the transportation of bauxite ore via bulkers/trucks from the mines of M/s Vedanta Limited to State Highway 44 (SH-44).

b. In response to the EDS raised by the Regional Office on 19.05.2025, the State Government has clarified that, apart from serving the aforesaid purpose, the proposed road is also intended to connect the villages of Dumerpadar, Porlang, Sagabari, Bichapinda, and Malipadar, which presently lack road connectivity.

c. However, as per the KML file submitted, the specifications of the proposed road (width) indicate that it is primarily designed to support the movement of heavy vehicles.

d. In this context, it is pertinent to mention that the associated mining proposal—vide proposal no. FP/OR/MIN/QRY/470250/2024—is currently under consideration by the Ministry of Environment, Forest and Climate Change (MoEF&CC), New Delhi. The in-principle approval for the same is yet to be granted. In the event that the mining proposal is not favourably considered by the competent authority, positive consideration of the road proposal at this stage by the Regional Office may lead to a fait accompli situation.

li. The committee further observed that the road proposal has been submitted by the other agency i.e. by IDCO, however the road is primarily proposed keeping in view the requirement of mineral evacuation in the instant mine. The separate proposal for the road construction may be allowed, However, the proposal for road can only be considered for approval once the proposal for the diversion of forest land for the mining lease is approved.

lii. The above facts were considered in the Advisory Committee meeting held on 30.07.2025. After going through the facts of the proposal and submissions made by the Nodal Officer, Government of Odisha, the Committee deferred the proposal and sought clarification/information on the following for further consideration in the matter:

a. Keeping in view the Judgement dated 05.03.2025 of the Hon'ble High Court of Odisha w.r.t. the WP (C) No 3729 of 2025 (Sri GobindaMajhi& others-Vrs-Union of India & others), the state shall ensure strict compliance of the order of the Hon’ble Court and submit a detailed report.

b. The State has informed that the area proposed for diversion is vulnerable to soil erosion due to steep slopes. The vegetation loss and mining disturbances lead to rapid runoff, soil degradation and stream sedimentation. The factors like top soil displacement, compaction and blasting will further accelerate erosion. In this regard, the justification and plan to mitigate the soil erosion shall be submitted.

c. An area of 8.082 hectares, which forms part of the Compensatory Afforestation (CA) area for the Dubna-Sakradihi Mines project (Proposal No. FP/OR/MIN/30349/2017) has been included in the present proposal. The state shall give justification for keeping this area in the diversion proposal. The State shall provide the status of compensatory afforestation carried out in this area and intimate as to how this area will be compensated.

d. The State has informed that the temporary roads, transmission lines, and cultivation seen in the forest area are linked to the villages of Tijimali and Malipadar. In this regard, the state shall examine the matter and submit a report regarding the violation of the Adhiniyam, if any.

e. The State shall ensure that all Compensatory Afforestation (CA) sites are suitable for plantation and free from encroachments. In this

regard, a detailed report for each Compensatory Afforestation area shall be provided.

liii. The State Govt. submitted the reply online on 18.08.2025 which was examined by the Advisory Committee wherein the committee observed that:

a. The State Govt. has submitted the detailed report submitted by the District Collector Rayagad and Kalahandi alongwith all supportive documents mentioning therein that the process has been completed in a fair and transparent manner. However, the reports are silent on the concerns raised by the people in their representations and in the petition before the Hon'ble Court.

b. An area of 8.082 hectares, which forms part of the Compensatory Afforestation (CA) area for the Dubna-Sakradihi Mines project (Proposal No. FP/OR/MIN/30349/2017) has been included in the present proposal. The State has not provided the status of compensatory afforestation carried out in this area.

c. The State has informed that the area proposed for diversion is vulnerable to soil erosion due to steep slopes. The vegetation loss and mining disturbances lead to rapid runoff, soil degradation and stream sedimentation. The factors like top soil displacement, compaction and blasting will further accelerate erosion. In this regard, the plan to mitigate the soil erosion has not been submitted.

d. The State govt. has informed that as per data available in the census handbook of District Koraput and Kalahandi for year 1981, it is found that village Tijimali and Malipadar were existing during 1981 i.e. have been existing much before the enactment of Forest Conservation Act, 1980 due to which some patches of the Revenue Forest land have been used by the villagers for the purpose of cultivation prior to 1980. Similarly, temporary roads were also being used by the local villagers much before 1980. Hence, the breaking of forest land for the purpose of cultivation and road may not be treated as violation under Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 in respect of the project. However, the details of existing transmission lines have not been provided.

e. The RO in the SIR had mentioned that presence of shifting cultivation and village paths has been found in maximum proposed CA sites. Accordingly, the State was asked to ensure that all Compensatory Afforestation (CA) sites are suitable for plantation and free from encroachments. In this regard, a detailed report for each Compensatory Afforestation was asked. In this regard the State has referred to the detailed CA scheme only and the detailed report for each site ensuring that it is free from all encumbrances has not been submitted.

f. The State has informed that the temporary roads, transmission lines, and cultivation seen in the forest area are linked to the villages of Tijimali and Malipadar. Moreover, the State has not mentioned

anything about the transmission lines. In this regard, the state shall examine the matter and submit a detailed report regarding the violation of the Adhiniyam, if any.

liv. The committee further observed that the area has the presence of elephants and therefore it would be prudent to seek comments from the Project Elephant Division in the matter.

lv. The proposal was considered in Advisory Committee meeting held on 25.8.2025. The Committee deferred the proposal and sought clarification/information on the following for further consideration in the matter:

(a) The State Govt. has submitted the detailed report submitted by the District Collector Rayagad and Kalahandi alongwith all supportive documents mentioning therein that the process has been completed in a fair and transparent manner by following due procedure. However, the reports are silent on the concerns raised by the people in their representations and in the petition before the Hon'ble Court. Keeping in view the Judgement dated 05.03.2025 of the Hon'ble High Court of Odisha w.r.t. the WP (C) No 3729 of 2025 (Sri Gobinda Majhi & others-Vrs-Union of India & others), the state shall address the concerns raised by the petitioners and those raised by the local people in their representations.

(b) An area of 8.082 hectares, which forms part of the Compensatory Afforestation (CA) area for the Dubna-Sakradihi Mines project (Proposal No. FP/OR/MIN/30349/2017) has been included in the present proposal. The State has not provided the status of compensatory afforestation carried out in this area.The same shall be provided.

(c) The State has informed that the area proposed for diversion is vulnerable to soil erosion due to steep slopes. The vegetation loss and mining disturbances lead to rapid runoff, soil degradation and stream sedimentation. The factors like top soil displacement, compaction and blasting will further accelerate erosion. In this regard, the plan to mitigate the soil erosion has not been submitted, which shall be submitted.

(d) The RO in the SIR had mentioned that presence of shifting cultivation and village paths has been found in maximum proposed CA sites. Accordingly, the State was asked to ensure that all Compensatory Afforestation (CA) sites are suitable for plantation and free from encroachments and a detailed report for each Compensatory Afforestation site was asked. In this regard the State has referred to the detailed CA scheme only and the detailed report for each site ensuring that it is free from all encumbrances has not been submitted.

(e) The State was asked to submit a report on the status of violation wherein the State has not mentioned anything about the existing transmission lines. In this regard, the state shall examine the matter

and submit a detailed report regarding the violation of the Adhiniyam, if any.

(f) The presence of elephants has been reported in the proposed area therefore the comments from the Project Elephant Division may also be sought on the matter.

lvi. The observation of Advisory Committee conveyed to the State Government vide EDS dated 01.09.2025. In this reference, State Government vide letter dated 23.09.2025 has reported that all concerns raised by the petitioners and local inhabitants have been carefully examined and duly addressed in a fair and transparent manner by the District Administration. Further, adequate safeguards have been ensured under the provisions of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 alongwith the Rules of 2007 and the Amendment Rules of 2012 so as to ensure proper and effective implementation of the FRA.

lvii. The Committee has observed that the User Agency has submitted the "Scheme to Mitigate Soil Erosion" proposing various structural and biological measures such as construction of retaining walls (45422 m), garland drains (7511 m), check dams (28 Nos), settling ponds (11 Nos), contour bunds (447 m), Loose Boulder Check Dams (LBCDs-100 Nos), periodic de-silting, and associated plantation works.

lviii. With regard to compensate the reduction of 8.082 ha of CA land of OMC Ltd., an additional 8.082 ha has also been included in the total CA land of 724.23 ha, allotted by both the District Collectors in Kalahandi and Rayagada districts towards Compensatory afforestation of the project. Further clarified that no Compensatory Afforestation has been raised over the aforesaid 8.082 ha, which forms part of the CA area for the Dubna-Sakradihi Mines Project (Proposal No FP/OR/MIN/30349/2017) and has now been included in the lease area of the instant proposal.

lix. State Government has informed that the presence of certain seasonal land-use features, including temporary cultivation and footpaths. As certified by the Tahasildars and jointly endorsed by the Range Officers, these activities represent temporary usages by local villagers in the past and can be discontinued or removed at any point of time. Such transient indicators do not amount to any permanent change in land use, and accordingly, the identified land patches are considered suitable for afforestation.

lx. The State has informed that the existing transmission line was established under the Deen Dayal Upadhyaya Gram Jyou Yojana (DDUGJY) (RGGVY XII Plan), for electrification of Malipadar village within the present Sijimali Bauxite Block prior to its auction. It is evident that the establishment of the said transmission line predates the involvement of the present applicant, Vedanta Ltd. and therefore no violation of the Van (SanrakshanEvamSamvardhan) Adhiniyam, 1980, is attributable to the User Agency.

lxi. Further, the State has informed that as per the Summer and Winter Elephant Census, figures for the year 2024-25, a total of 35 elephants have

been recorded in the Rayagada Forest Division. There is one resident male elephant in Rayagada Forest Division at aerial distance of approximately 85-90 km from the lease boundary in Gunupur Range, while the remaining elephants are migratory, frequently moving in and out of Rayagada into adjacent Divisions**.**The Division encompasses two elephant corridors (Ref Elephant Corridors of India, 2023 published by MoEF CC), namely the Kotgarh-Chandrapur Corridor and the KarlapatUrladani Corridor Both corridors are situated beyond the 10 km impact zone of the Sijimali Mining Lease boundary, however, elephant movement has been recorded at aerial distances of approximately 15-20 km from the lease boundary during the years 2022-23 (2 Elephants), 2024-25 (10 Elephants), and 2025-26 (4 Elephants) in the recent past. Further, to mitigate any potential negative impacts a Site-Specific Wildlife Conservation Plan (SSWLCP) has been prepared and duly approved by the PCCF (Wildlife)-cum-CWLW, Odisha, vide Letter No. 9718 dated 16.08.2024.

lxii. The committee observed that the Hon'ble High court while disposing the matter ha iter-alia observed that "*Mr. Swain disputes on submission that the Gram Sabha proceedings were video recorded and petitioners were present in those Gram Sabhas, which resulted in impugned resolutions. We would not want to be drawn into this dispute on facts. The submission is recorded for being noted by Union of India in dealing with the proposal made by the user agency (opposite party no.8), upon taking into confidence inhabitants of concerned villages, through the Gram Sabhas and otherwise. Petitioners have pointed out their rights under the Act of 2006 as provided under section 3. We reiterate, Union of India must take note*".

lxiii. The above facts were considered in the Advisory Committee meeting held on 27.10.2025. After going through the facts of the proposal and submissions made by the Nodal Officer, Government of Odisha, the Committee deferred the proposal and sought clarification/information on the following for further consideration in the matter

a. The State Government shall submit a copy of affidavits filed by the petitioner and respondents in W.P. (C) No.3729 of 2025 (Sri Gobinda Majhi & Others-Vrs-Union Of India & Others) filed before Hon'ble High Court of Odisha for further necessary action in the Ministry.
b. The copy of affidavit filed by state may also be given.

lxiv. The observation of Advisory Committee was conveyed to the State Government vide EDS dated 06.11.2025.

lxv. The committee noted that the State Government vide letter dated 13.11.2025 has reported that there was no affidavit filed by the Petitioner nor the Respondents. State Government has submitted copies of the Orders dtd. 12.02.2025, 05.03.2025 and 02.09.2025 passed in the W.P. (C) No.3729 of 2025 (Sri Gobinda Majhi & Others-Vrs-Union Of India & Others) and dtd.09.10.2025 passed in IA No.4490 of 2025 by the Hon'ble High Court of Orissa. Further, State Government has reported that Counter Affidavit has not been filed by State in the said Writ Petition.

lxvi. The Committee noted that several representations have been received alleging irregularities and fraudulent conduct of Gram Sabha proceedings related to the proposal. Recently, another representation dated 22.11.2025 has also been received, alleging that misleading replies were submitted to the Ministry. The Committee took note of the judgment of the Hon'ble High Court dated 05.03.2025, wherein the Hon'ble Court directed that the submission of petitioner is recorded for being noted by Union of India in dealing with the proposal made by the user agency.

lxvii. In compliance with the Hon'ble High Court's directions, the Ministry requested the State Government to examine and address the concerns raised in the representations and in the petition. The State Government in this regard forwarded the response of the District Collectors of Rayagada and Kalahandi. Both the District Collectors have affirmed that the entire FRA process, including Gram Sabha proceedings, was undertaken in a fair and transparent manner and in accordance with due procedure. The Committee noted that, under the provisions of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA, 2006), the District Collector is the competent statutory authority responsible for issuing the FRA compliance certificate. The District Collectors of Rayagada and Kalahandi have maintained that the entire process pertaining to FRA compliance, including Gram Sabha proceedings, has been conducted in a fair and transparent manner without any procedural lapses. The Committee observed that these confirmations from the statutory authorities form the basis of FRA compliance for the proposal.

4. **Decision of Advisory Committee:-** The Committee after detailed discussion and deliberation with the DDGF (Central), Regional Office, Bhubaneswar and the CCF in the office of Nodal officer (FCA), Government of Odisha '***recommended'*** the Stage-I / In-principle approval for diversion of 708.204 ha (564.581 ha in Rayagada Forest Division + 143.623 ha in Kalahandi (South) Forest Division) of Forest land (including 11.195 ha earmarked for Safety Zone) within total Mining Lease area in 1548.786 ha of Sijimali Bauxite Mines in Rayagada Forest Division & Kalahandı (South) Forest Division under Rayagada and Kalahandi District respectively in respect of M/s Vedanta Limited subject to general, standard and following specific conditions:-

i. The State Government shall ensure complete compliance of the provisions of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA, 2006);

ii. A total of 310.786 hectares of land located within the mining lease boundary (beyond the safety zone) shall remain undisturbed, as the User Agency has indicated that no bauxite reserves are present in this area. This land shall be maintained as a green belt, and the User Agency shall ensure that no tree felling, mining operations, or any other form of land disturbance is carried out within this area.

iii. The State Government shall take steps to ensure that the approval for the change in CA site for 8.082 ha CA area shall be obtained from the competent authority in case of Proposal No. FP/OR/MIN/30349/2017.

iv. As mining is proposed at the hilltop and may affect the natural catchment area, the User Agency shall implement comprehensive soil conservation measures on the hillock and adjoining forest areas. These measures shall aim to prevent surface runoff from leaving the mining zone and to safeguard downstream ecosystems.The Plan for the same shall be approved by the State Forest Department and implemented under its supervision.

v. The User Agency shall submit a progressive reclamation plan, including the restoration schedule and the schedule for surrender of forest land, along with the compliance report.

vi. The User Agency shall ensure that all Compensatory Afforestation (CA) sites are free from encroachments before being handed over to the State Forest Department (SFD). The SFD shall ensure that the CA sites are properly fenced, cleared of encroachments, and planted, at the cost of the User Agency.

vii. A comprehensive site-specific Wildlife Management Plan shall be prepared and implemented at the cost of the user agency to reduce the adverse effect of project on wildlife. This will also include a comprehensive Human–Elephant Conflict Monitoring and Mitigation Plan. The preparation of the Wildlife Management Plan and monitoring of its implementation shall be done by Wildlife Institute of India (WII). The plan shall include systematic monitoring of human–elephant interactions, research on habitat use and conflict drivers, and capacity-building programmes for local communities, forest managers, and mine developers to ensure effective conflict prevention and management.

Additional Agenda No. 1

Proposal No. FP/RJ/OTHERS/509218/2024

Subject: Proposal for seeking Ex-Post Facto approval of the Central Government under Section 2 (1) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 for diversion of 4.487 ha Protected forest land in favour of Assistant Engineer, Public Works Department of Rajasthan for Beautification and Renovation work in Kaila Devi Temple Jheel KaBada, Bayana Tehsil, Bharatpur District of Rajasthan State

1. The agenda for the above subject proposal was considered by the Advisory Committee (AC) in its meeting held on 02.12.2025. The corresponding agenda note may be seen at www.parivesh.nic.in. The IGF (Central), RO Gandhinagar and Nodal Officer (FCA), Govt. of Rajasthan were present in the meeting.
2. During the meeting, all the facts and background of the proposal, along with examination of the proposal in the DSS were presented and explained to the Advisory Committee. The Committee was also apprised of the relevant provisions

c. SFD shall take necessary precautions to prevent any adverse effect especially on the floral and fauna of the adjoining forest land and also prevent Human Wildlife conflicts in the future

xv. The Committee noted that the State Forest Department has issued notice dated 18.8.2025 to Devasthan Department and forest officials. The Nodal Officer informed the Committee that the action against the violations and the forest officials for not stopping the violation is under process. The Committee noted the same.

4. **Decision of the Advisory Committee:** The Committee after detailed discussion and deliberation with the IGF (Central), Regional Office, Gandhinagar and officials from Government of Rajasthan, recommended the proposal for grant of ***'in-principle'*** approval for diversion of 4.487 ha Protected forest land in favour of Assistant Engineer, Public Works Department of Rajasthan for Beautification and Renovation work in Kaila Devi Temple Jheel KaBada, Bayana Tehsil, Bharatpur District of Rajasthan State subject to the general, standard and following specific conditions:

i. The penalty for violation shall be equal to NPV of forest land per hectare for each year of violation from the date of actual diversion as reported by the inspecting officer withmaximum up to five (5) times the NPV plus 12 percent simple interest from the date ofraising of such demand till the deposit is made.

ii. The Regional Office, Gandhinagar shall initiate action against violations in accordance with the provisions of Sections 3A and 3B of the Van (SanrakshanEvamSamvardhan) Adhiniyam, 1980.

iii. The matter regarding imposition of penal CA is under consideration for the formulation of a uniform policy guideline in the matter. Keeping this in view, the imposition of penal CA (if any) shall be as per the said guideline, if issued.

iv. To safeguard the undisturbed area of the forest block and to prevent any further expansion of the temple associated infrastructure, State Govt. shall construct a boundary wall all around the temple and its associated infrastructure developed.

v. The State Forest Department shall take necessary precautions to prevent any adverse effect especially on the floral and fauna of the adjoining forest land and also prevent Human Wildlife conflicts in the future.

(Confirmed through E-mail)
Dr. K R Sree Harsha
(non-official Member)

(Confirmed through E-mail)
Shri Nityanand Srivastava
(non-official Member)

(Confirmed through E-mail)
Dr. Mehraj AS

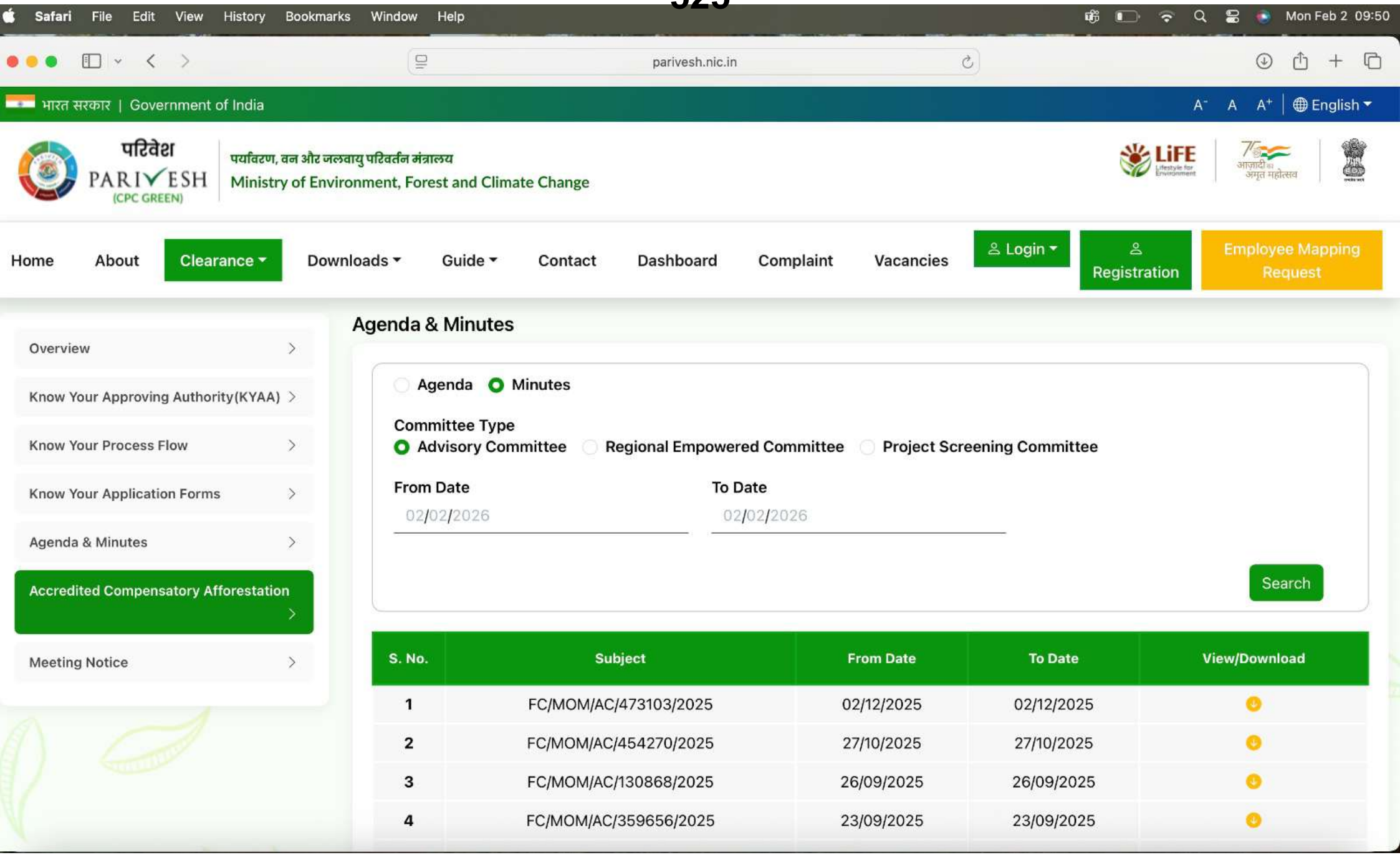
Deputy Commissioner (NRM)
(Member)

(Confirmed on file)
Shri Santosh Tiwari
Additional Director General of Forests (FC)
(Member)

(Confirmed through E-mail)
Shri Ramesh Kumar Pandey
Additional Director General of Forests (WL)
(Member)

(Confirmed on file)
Shri R. Raghu Prasad
Inspector General of Forests
(Member Secretary)

(Approved)
Shri Sushil Kumar Awasthi
(Director General of Forests and Special Secretary)
(Chairperson)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Regional Empowered Committee
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Bhupendra Singh Poonia, IAS
Managing Director

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LETTER OF AUTHORIZATION

I/We do hereby authorized to sign all the documents/maps for filing of the Forest Diversion Proposal in respect of diversion of forest land measuring 4.911 ha in the village Sagabari and Porlang under Kashipur Tahasil of Rayagada district for construction of approach road from Sijimali Bauxite Mines (hill top) to SH-44 for facilitating Bauxite transportation by M/s Vedanta Ltd.

Managing Director
IDCO, Bhubaneswar

Authorized Signatory

Consultant(Env.)
11/2/25

Managing Director
IDCO, Bhubaneswar

Odisha Industrial Infrastructure Development Corporation
(A Government of Odisha Undertaking)
IDCO, IDCO Towers, Janpath, Bhubaneswar – 751022, Odisha, INDIA
+91- 0674 - 2541525, 2540820 | Fax: 2542956 / 2541982
cgmenv@idco.in | www.idco.in

BRIEF DESCRIPTION OF THE PROJECT

As per Minutes of the meeting held on 24.01.2024 under the Chairmanship of Chief Secretary, Odisha on the issue of transportation of Bauxite from Sijimali Mines in Raygada district, a road from Sijimali Bauxite Mines to SH-44 over a length of 2.98 Km for which the land will be acquired by IDCO and in turn would be transferred to PWD. However the total length of the road is 3.4 Km as has been mentioned in the DPR which includes 0.42 km within the Sijimali Bauxite ML area.

Vedanta Limited has been allocated with Sijimali Bauxite mine spread over Kalahandi and Rayagada districts of Odisha in March 2023, having estimated resource of around 311 Million Tonnes. For meeting the increased requirement of raw material, Vedanta intends to operate Sijimali block for dispatching Bauxite from mines to its Refinery.

In this regard, the total involvement of area is 11.314 Ha in Kashipur tehsil of Rayagada District, out of which, 4.911 Ha comes under Forest Category and requires forest clearance under FC Act 1980.

Need of the project

M/s Vedanta Limited has now got the lease for excavation of Sijimali Bauxite ore mines under Kashipur Tehsil of Rayagada district. M/s Vedanta intends to transports the Bauxite ore of 9 MTPA from mines to Alumina Refinery plant situated at Lanjigarh through road and rail transport. Since, the road connectivity from Sijimali Mines top to SH-44 is not available at site; it was decided to execute suitable road connectivity from Mines top to SH-44 for transportation of Bauxite ore through Bulkers/trucks. It has decided to take up the construction of new road from Sijimali Mines top to SH 44 up to a distance 3.4 km in the state of Odisha.

The Sijimali mining site is located in the south-western part of Rayagada district in Odisha. The lease area of 1548.786 hectares falls under Thuamul-Rampur Tehsil of Kalahandi district and Kashipur Tehsil of Rayagada district in the state of Odisha. The lease area falls under the Survey of India Toposheet nos. E44F2 and E44F3 and bounded by latitude of 19° 28' 42.42" to 19° 32' 02.35" N & longitude of 83° 06' 04.66" to 83° 09' 49.80" E.

Consultant Environment
IDCO, Bhubaneswar

VEDANTA LIMITED

The proposed access road project is a linear one. The project area falls in the village Bichhapinda, Dumerpadar, Porlang & Sagabari under Kashipur Tahasil in the district of Rayagada, Odisha.

Name of Projects: Construction of access road over an area of 11.314 ha for transportation of Bauxite ore through Bulkers/trucks from Sijimali Bauxite Mines of M/s Vedanta Ltd.

Total Length of the access road from Sijimali mines top to SH-44= 2980 mtr
Total average width of the access road= 37.966 mtr

Sl. No	Item	Forest area			Non-Forest area			Total area in Ha
		Length in m	Width in m	Area in Hect	Length in m	Width in m	Area in Hect	
1	Proposed access Road	1370.236	35.84	**4.911**	1609.764	39.776	**6.403**	**11.314**

Land requirement of the project

The total land requirement for the access road project is 11.314 Ha and out of total area 4.911 ha is DLC forest. The details are furnished below.

ABSTRACT OF TOTAL LAND INVOLVED WITHIN THE ACCESS ROAD OF SIJIMALI BAUXITE MINES									
All Figures area in Hectares									
Sl.No	Village	RF, PRF & Rev. Forest	DLC Forest	Status of land as on 25.10.1980	Total Forest	Pvt. Land	Non-forest Govt. land	Total NF area	Total
1	Bichapinda	0	0	0	**0**	0	2.356	**2.356**	**2.356**
2	Dumerapadar	0	0	0	**0**	0.160	0.505	**0.665**	**0.665**
3	Porlang	0	0.196	0	**0.196**	0	0	**0**	**0.196**
4	Sagabari	0	4.715	0	**4.715**	0	3.382	**3.382**	**8.097**
	Total in Ha	**0**	**4.911**	**0**	**4.911**	**0.160**	**6.243**	**6.403**	**11.314**

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The details of Existing Land Use of total lease area in Ha are as mentioned below:

EXISTING LAND USE OF SIJIMALI ACCESS ROAD

All Figures area in Hectares

Sl.No	Item	RF, PRF & Rev. Forest	DLC Forest	Status of land as on 25.10.1980	Total Forest	Pvt. Land	Non-forest Govt. land	Total NF area	Total
1	Undisturbed area	0	4.911	0	4.911	0.160	6.243	6.403	11.314
	Total in Ha	**0**	**4.911**	**0**	**4.911**	**0.160**	**6.243**	**6.403**	**11.314**

The total cost of the project comes to **56.35 Cr** as approved in DPR.
The details of the employment likely to be generated as furnished below.

DURING CONSTRUCTION PHASE:	
Permanent Employment	
a. No. of Permanent Employment	02
b. Period of Employment (No. of day) 06 months	180 Days
No. of Man-days [x] = [a] X [b]	360 Mandays
Temporary Employment	
Temporary /Contractual Employment (No. Of man-days) [y]	180 Days
Total man-days [x + y]	540 Mandays
DURING OPERATIONAL PHASE:	
Permanent Employment	
a. No. of Permanent Employment	01
b. Period of Employment (No. of day)	365 Days
No. of Man-days [y] = [a] * [b] (For 87 Days)	365 Mandays
Temporary Employment	
Temporary /Contractual Employment (No. Of man-days) [y] (Working – 5* 365 Days)	1825 Days
Total man-days [x + y]	2190 Mandays

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Justification for locating the project in forest area

As per Minutes of the meeting held on 24.01.2024 under the Chairmanship of Chief Secretary, Odisha on the issue of transportation of Bauxite from Sijimali Mines in Raygada district, a road from Sijimali Bauxite Mines to SH 44 over a length of around 2.98 km for which the land will be acquired by IDCO and in turn would be transferred to PWD. However the total length of the road is 3.4 Km as has been mentioned in the DPR which includes 0.42 km within the Sijimali Bauxite ML area.

Vedanta Limited has been allocated with Sijimali Bauxite mine spread over Kalahandi and Rayagada districts of Odisha in March 2023, having estimated resource of around 311 Million Tonnes. For meeting the increased requirement of raw material, Vedanta intends to operate Sijimali block for dispatching Bauxite from mines to its Refinery.

In this regard, the total involvement of area is 11.314 Ha in Kashipur tehsil of Rayagada District, out of which, 4.911 Ha comes under Forest Category and requires forest clearance under FC Act 1980.

It was tried to explore 3 alternative routes to have an option of the proposed access road for dispatching our ore through trucks, Dumpers etc to different destinations. The options are as follows:

The route selection is given below:

For the purpose of construction of the access road from the point adjacent to the lease area, 03 (three) nos of the alternatives have been examined. The same are furnished below and also depicted on SOI Toposheet No. E44F2 & E44F3.

Comparative Assessment of surveyed three proposed alignments

Alter-Natives	Route Length	Approx. Cost of the project in crore	Total land Requirement in ha	Forest area Required in ha	Non-forest Area required in ha	Nature of Ground	Remarks
ALT-1	2.98 Km	54.412	11.314	4.911	6.403	Plain, undulating and hilly area	Less Forest land
ALT-2	3.45 Km	55.000	11.74	5.95	5.79	Plain, Hilly & Undulating and passes through private land	More forest land
ALT-3	5.63 Km	90.000	18.594	7.66	10.934	Plain, Hilly & Undulating and passes Ihrough private land	

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Conclusion

Keeping in view the above stated parameters in between the three surveyed sites, the alignment selected **(ALT - 1)** has the following merits over the other two sites.

- Least road length is required for construction of the access road.
- Least extent of forest land is involved.
- Shortest route
- Cost of erection, maintenance and time of commissioning is low.

Based on the above analysis it can be seen that the site of **ALT-1** is most suitable and justified site for construction of the access road and hence it was selected for detailed survey.

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IDCO, Bhubaneswar

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PLATE - II

MAP SHOWING THE LAYOUT OF PROPOSED ACCESS ROAD CONNECTING FROM SIJIMALI BAUXITE MINES (HILL TOP) TO SH No. 44 BY IDCO BHUBANESWAR , ODISHA

0 70 140 280 420 560 Meters

Scale 1:3,960

N

W E

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LAND SCHEDULE

Sl.No.	Khata No.	Village Name	Plot No.	Total Area in Ac	Acquired Area in Ac	HAL Kissam	Tenant Name	Class of land
1	5	Bichapindha	23	8.000	1.948	Pahada	Abada Ajogya Anabadi	Govt. land
2	5	Bichapindha	24	8.000	3.873	Pahada	Abada Ajogya Anabadi	Govt. land
3	72	Dumerapadar	377	9.000	1.094	Pahada	Abada Ajogya Anabadi	Govt. land
4	72	Dumerapadar	374	21.250	0.086	Pahada	Abada Ajogya Anabadi	Govt. land
5	70	Dumerapadar	375	1.220	0.068	Rasta	Sarbasadharana	Govt. land
6	44	Dumerapadar	377/437	2.130	0.396	Dangara	Jaya Majhi	Pvt. land
7	35	Porlang	280	16.000	0.485	Pahada	Abada Ajogya Anabadi	DLC Forest
8	156	Sagabari	4	26.380	7.274	Pahada	Abada Ajogya Anabadi	DLC Forest
9	156	Sagabari	31	9.000	1.369	Pahada	Abada Ajogya Anabadi	Govt. land
10	154	Sagabari	32	0.500	0.185	Rasta	Sarbasadharana	Govt. land
11	156	Sagabari	5	32.750	4.376	Pahada	Abada Ajogya Anabadi	DLC Forest
12	156	Sagabari	6	14.250	1.768	Pahada	Abada Ajogya Anabadi	Govt. land
13	156	Sagabari	732	9.300	1.76	Pahada	Abada Ajogya Anabadi	Govt. land
14	156	Sagabari	733	7.750	1.329	Pahada	Abada Ajogya Anabadi	Govt. land
15	156	Sagabari	770	8.500	1.946	Pahada	Abada Ajogya Anabadi	Govt. land
		Total area in Ac			27.957			
		Total area in Ha			11.314			

Scale 16 Inches to 1 Mile
Scale of METRES
CHAINS

ମୌଜା ବିଚାପିଣ୍ଡା
ଥାନା କାଶିପୁର ନଂ.୧୮
ତହସିଲ୍ କାଶିପୁର ନ.୧୮
BICHHAPINDA
Thana Kashipur No.18
ଜିଲ୍ଲା କୋରାପୁଟ
ସ୍କେଲ୍ ୧୬ଇଞ୍ଚି=୧ମାଇଲ୍ Scale 16 Inches = 1 Mile
ସନ ୧୯୫୩-୫୪ Year 1953-54

ମୌଜା ଶାଗବାରି, ସିଟ ନଂ୧
ଥାନା କାଶିପୁର ନଂ୨
ତହସିଲ୍ କାଶିପୁର ନଂ୨
SAGABARI SHEET No1
Thana Kashipur No.82.
ଜିଲ୍ଲା କୋରାପୁଟ
ସ୍କେଲ୍ ୧୬ଇଞ୍ଚି=୧ମାଇଲ୍ Scale 16-1 Mile
ସନ ୧୯୫୩-୫୪ Year 1953-54

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୩. ଗଛମୂଳସୀମା ... ⊕
୪. ଝୁଲାସୀମା ...
୫. ଆଲପଥ ...
୬. ଗାଡ଼ି ...
୭. ଜଳାଧାରସୀମା ...
୮. ଜଳାଶୟ ...
୯. ଘରବାଡ଼ି ...

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Certified that this map has been finally framed and a copy of it has been finally published in accordance with rule 23 read with rule 60 of O.S.&.S rules 1962 on 11th September 1993.

Legend
PROPOSED ROAD COORIDOR
FOREST PATCHES OF ROAD COORIDOR

Consultant-Environment IDCO Bhubaneswar

Revenue Inspector Adatakiri

Tahasildar Kashipur Dist. Rayagada

Forest Range Officer Kashipur Range

ମୌଜା ଶାଗବାରି
ଥାନା କାଶିପୁର
ତହସିଲ୍ କାଶିପୁର
SAGABARI SHE
Thana Kashipur
ଜିଲ୍ଲା କୋର
ସ୍କେଲ୍ ୧୬ଇଞ୍ଚି
ସନ ୧୯୫୩-୫୪ Year

Certified that this map has been finally framed and a copy of it has been finally published in accordance with rule 23 read with rule 60 of O.S. & S rules 1962
25th February 1995.

Settlement Officer

Certified that this map has been finally
it has been finally published in accordan
with rule 60 of O.S. & S rules 1962 on

VEDANTA LIMITED

EDS History

Proposal No: **FP/OR/OTHERS/523366/2025**

Area (in ha): **4.911**

Proponent Name: **IDCO**

EDS Raised by: **All**

Raised On Date: **N/A**

Raised On	S.No.	Query	Reply
12/08/2025	1	**Raised By:** Divisional Forest Officer (DFO) **Query:** EDS **Description:** Please furnish compliance to the EDS raised GoI, MoEF&CC, New Delhi on dated 07.08.2025.	**Replied By:** Project Proponent **Replied On:** 12/12/2025 **Reply:** MOEFCC in the EDS has asked to submit the proposal after obtaining in principle approval for the diversion of forest land in sijimali bauxite mines.Now MOEFCC has accordated in princile approval for diversion of forest land for sijimali bauxite mines (Copy Attached). Hence the diversion proposal for the road may please be processed and Satge I approval may please be accorded. **Document:** eds replay sijimali.pdf
11/08/2025	2	**Raised By:** State Secretary (SS) **Query:** EDS **Description:** For necessary compliance.	Reply not received

Raised On	S.No.	Query	Reply
	3	**Raised By:** MoEF&CC **Query:** EDS **Description:** The proposed road is primarily designed to support the movement of heavy vehicles for the mineral evacuation from the Sijimali Bauxite Mine. Therefore, the proposal for road construction can only be considered once the proposal for the diversion of forest land for the said mining lease is approved. The State government shall therefore submit the proposal after obtaining the in-principle approval for the diversion of forest land in the Sijimali Bauxite Mine.	Reply not received
11/08/2025	4	**Raised By:** Nodal Officer **Query:** EDS **Description:** Please furnish compliance to the EDS raised GoI, MoEF&CC, New Delhi on dated 07.08.2025.	Reply not received
	5	**Raised By:** State Secretary (SS) **Query:** EDS **Description:** For necessary compliance	**Replied By:** Nodal Officer **Replied On:** 29/05/2025 **Reply:** Compliance to the online EDS dated 19.05.2025 of GoI, MoEF&CC, RO, BBSR, Odisha is sent herewith vide No.11767 dated 29.05.2025. **Document:** 11767 sijimali compliance with annexures.pdf

Raised On	S.No.	Query	Reply
15/04/2025	6	**Raised By:** Nodal Officer **Query:** EDS **Description:** Please furnish compliance to the observations communicated vide Memo No.8467 dated 15.04.2025 through e-mail.	**Replied By:** **Replied On:** 19/05/2025 **Reply:** Compliance on the EDS raised by the Nodal vide memo no.8467 dt.15.04.2025. **Document:** 2154-proposal for diversion of 4.911 ha land for construction of road ..pdf

Raised On	S.No.	Query	Reply
05/04/2025	7	**Raised By:** Divisional Forest Officer (DFO) **Query:** Please comply the following shortcomings (EDS) pointed out in Form-A (Part-I). **Description:** 1. KML Details of Forest Patches: i. As per your EDS reply vide Letter No. 8239 dated 24.03.2025, it is noted that there are two forest patches involved. However, in Form-A (Part-I), three forest patches have been mentioned. This inconsistency needs to be corrected. ii. Further, in the KML file uploaded on the PARIVESH portal along with Form-A (Part-I), the patches have been incorrectly labeled as Patch I and Patch III. Additionally, the three distinct segments of Patch II—Segment-1, Segment-2, and Segment-3—have not been labeled appropriately in the KML file. A revised and correctly labeled KML file should be uploaded.2. Location Details of Forest Land:While the location details for Porlang village, including the relevant Toposheet number, have been entered, the corresponding details for Sagabari village are missing and should be included.3. Total Forest Land Area (KML-wise) for Diversion:In Form-A (Part-I), the Total Forest Land Area is incorrectly mentioned as 0.196 ha, with Total Non-Forest Land Area as 0 ha, and Total Area as 0.196 ha. These figures should be revised to reflect the actual areas as per the Forest Diversion Proposal (FDP), i.e., 4.911 ha of Forest Land, 6.403 ha of Non-Forest Land, and a Total Area of 11.314 ha. 4. The corrected map, as per your EDS reply, showing the proposed land use plan of the forest area, may kindly be uploaded at the appropriate sectio	**Replied By:** **Replied On:** 19/05/2025 **Reply:** Compliance to EDS raised vide Letter No. 1926 dtd 05.04.2025 of DFO Rayagada **Document:** replay to eds of dfo, rayagada (vedanta).pdf

Raised On	S.No.	Query	Reply
05/03/2025	8	**Raised By:** Divisional Forest Officer (DFO) **Query:** You are requested to comply the shortcomings pointed out in the FDP at an early date and re-submit the proposal to this office for taking further action at this end **Description:** Details of Shortcomings:-1. Four distinct patches of forest land are visible, whereas the Forest Diversion Proposal (FDP) mentions only three and DGPS Map mentions only two. Ensure that all four patches are accurately reflected in all necessary documents, including the DGPS map, KML of the project area, KML of forest patches, and patch-wise details.2. Specify the total length of the road as well as the length and width of the road passing through each forest patch.3. Provide a detailed category-wise breakup of land, specifying private land, government non-forest land, and forest land.4. The use of forest land for non-forest purposes should be limited to the minimum extent required. In this regard: i. Submit a land use plan and map clearly specifying the component-wise breakup of land, detailing the area required for various elements of the road, including the carriageway, paved and earthen shoulders, RCC retaining walls, breast walls, culverts, drains, LVUPs, etc ii. Justify the proposed Right of Way (RoW) of 33 to 48 meters as stated in the DPR, considering that the required RoW for a two-lane road with shoulders is typically much lower. iii. Additionally, provide justification for variations in RoW across stretches with similar elevation and sections without turns. iv. The KML data also indicates that RoW exceeds 48 meters in some locations—please provides a justification for	**Replied By:** **Replied On:** 19/05/2025 **Reply:** Compliance to EDS raised Vide Letter no-1202 Dated-4.03.2025 of DFO Rayagada Forest Division submitted vide this office letter no 8239 Dated-24.03.2025.This may please be noted that the DGPS map of project area has already been uploaded in portal at iteam no 7 of part 1 of FDP application. **Document:** compliance to eds (vedanta, rayagada).pdf

Raised On	S.No.	Query	Reply
17/04/2025	9	**Raised By:** Divisional Forest Officer (DFO) **Query:** EDS **Description:** Please comply the EDS point no.1, 3 & 4 pointed out by the Addl. PCCF (FD & NO), O/o the PCCF, Odisha, Bhubaneswar.	**Replied By:** **Replied On:** 19/05/2025 **Reply:** Compliance to EDS raised by DFO vide Letter No. 2075 dtd 16.04.2025 submitted vide this office Letter No. 11044 dtd 17.04.2025 **Document:** eds reply vedanta.pdf

OFFICE OF THE DIVISIONAL FOREST OFFICER : RAYAGADA FOREST DIVISION

E.Mail: dforgda17@gmail.com, dfo.rayagada@odisha.gov.in

Letter No 1202 **4F (Misc.) 1984/2025.**
Dated, Rayagada the 04 **th March, 2025.**

To

The Consultant (Env), IDCO,
IDCO Tower, Janapath,
Bhubaneswar.

Sub: - Proposal for diversion of 4.911 Ha. Forest Land in village Sagabari and Porlang under Kashipur Tahasil for Construction of Road from Sijimali Bauxite Mines top to SH -44 under Rayagada District/Division.

Ref: - Your Letter No. 4391 dt.12.02.2025.

Sir,

With reference to the above cited letter number on the captioned subject, it is seen that, you have submitted the proposal through Parivesh-2.0 for diversion of 4.911 Ha. Forest Land in village Sagabari and Porlang under Kashipur Tahasil for Construction of Road from Sijimali Bauxite Mines top to SH -44 under Rayagada District/Division. On verification of the forest diversion proposal, the following shortcomings are noticed.

Details of Shortcomings:-

1. Four distinct patches of forest land are visible, whereas the Forest Diversion Proposal (FDP) mentions only three and DGPS Map mentions only two. Ensure that all four patches are accurately reflected in all necessary documents, including the DGPS map, KML of the project area, KML of forest patches, and patch-wise details.
2. Specify the total length of the road as well as the length and width of the road passing through each forest patch.
3. Provide a detailed category-wise breakup of land, specifying private land, government non-forest land, and forest land.
4. The use of forest land for non-forest purposes should be limited to the minimum extent required. In this regard:
    i. Submit a land use plan and map clearly specifying the component-wise breakup of land, detailing the area required for various elements of the road, including the carriageway, paved and earthen shoulders, RCC retaining walls, breast walls, culverts, drains, LVUPs, etc
    ii. Justify the proposed Right of Way (RoW) of 33 to 48 meters as stated in the DPR, considering that the required RoW for a two-lane road with shoulders is typically much lower.
    iii. Additionally, provide justification for variations in RoW across stretches with similar elevation and sections without turns.
    iv. The KML data also indicates that RoW exceeds 48 meters in some locations—please provides a justification for this as well.

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5. Verify the project cost, as it appears to be mistakenly mentioned as ₹56,35,42,229 lakhs.
6. As the stated purpose of the road is to facilitate bauxite transportation from the Sijimali Bauxite Block to SH-44, and the mine lease period is limited to 50 years, provide a justification for seeking diversion of forest land for a period of 99 years for the road connecting Sijimali Top to SH-44.
7. Include a map showing the distance of the project from various Protected Areas (PAs).
8. Submit a Survey of India (SOI) Topographic Map depicting the 10 km buffer area around the project site. Additionally, provide the corresponding KML file for reference.
9. Clearly specify whether the project falls within the Eco-Sensitive Zone (ESZ) of any Protected Area (PA).
10. Serially Page numbering of all the documents of hard copy submitted by the UA has not been done.
11. The Letter of Authority to file the application has not been uploaded on the Parivesh portal.
12. Checklist Sl. No. 7: The statement detailing the forest land involved in the project (in the prescribed format) has not been signed by the Tahasildar, Kashipur.
13. Checklist Sl. No. 8: The statement detailing the non-forest land involved in the project (in the prescribed format) has not been signed by the Tahasildar, Kashipur.
14. Checklist Sl. No. 16: The Tahasildar, Kolnara, has issued a Non-Encroachment and Non-Encumbrance Certificate for the non-forest government land allotted for Compensatory Afforestation (CA). However, the KML file submitted by the User Agency indicates that a portion of the area is under agricultural encroachment. Please clarify.
15. Checklist Sl. No. 34 to 36: The undertakings to pay PCA, RWLMP, and SSWLCP have not been submitted/uploaded by the User Agency.

Since there are legitimate concerns regarding the actual extent of forest land to be diverted, the site inspection is deferred until the User Agency submits compliance with the EDS and clarifies the land use plan and Right of Way (RoW) requirements.

Hence, you are requested to comply the same at an early date and re-submit the proposal to this office for taking further action at this end.

Yours faithfully,

Divisional Forest Officer,
Rayagada Division

Memo No. 1203 / Dt. 04-03-2025

Copy submitted to the Regional Chief Conservator of Forests Koraput Circle, Koraput for favour of kind information and necessary action.

Divisional Forest Officer,
Rayagada Division

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Memo No. 1204 / Dt. 04-03-2025

Copy submitted to the Addl. Principal Chief Conservator of Forests (Forest Diversion & Nodal Officer, F.C. Act), O/o. the Principal Chief Conservator of Forests, Odisha, Bhubaneswar for favour of kind information and necessary action.

Divisional Forest Officer,
Rayagada Division

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Sri Ashok Kumar Mishra
Consultant (Env)

idco Your power to grow ISO 9001 & 14001 Corporation | ODISHA NEW OPPORTUNITIES

No. HO-CGM(Env)/394/2024 8239 **Date: 24/03/2025**

To,

Divisional Forest Officer
Rayagada Forest Division
Rayagada

Sub: Proposal for diversion of forest land measuring 4.911 ha in the village Sagabari and Porlang under Kashipur Tahasil for construction of road from SH-44 to Sijimali Bauxite Mines (hill top) under Rayagada District.

Ref:- Your letter No.1202, dt.04/03/2025.

Sir,

The observations communicated vide your letter cited above on Diversion Proposal of land measuring 4.911 ha of forest land in the village Sagabari and Porlang under Kashipur Tahasil of Rayagada district for construction of approach road from Sijimali Bauxite Mines (hill top) to SH-44 for facilitating Bauxite transportation by M/s Vedanta Ltd. are complied as enclosed. The compliance alongwith the annexures are submitted herewith for further action at your end.

Encl: As above

Yours faithfully,

Consultant (Env.)

24/3

Memo No._____/ Date:24/03/2025

Copy submitted to the Addl PCCF, Nodal, FC Act, O/o the PCCF for kind information & necessary action, with reference to memo No.1204, dt.04/03/2025 of Divisional Forest Officer, Rayagada Forest Division.

Consultant (Env.)

Memo No._____/ Date:24/03/2025

Copy submitted to the RCCF, Koraput Circle, Koraput for kind information & necessary action, with reference to memo No.1203, dt.04/03/2025 of Divisional Forest Officer, Rayagada Forest Division.

Consultant (Env.)

Memo No._____/ Date:24/03/2025

Copy forwarded to the CGM(Land), IDCO for information & necessary action.

Consultant (Env.)

Odisha Industrial Infrastructure Development Corporation
(A Government of Odisha Undertaking)
IDCO, IDCO Towers, Janpath, Bhubaneswar – 751022, Odisha, INDIA
+91- 0674 - 2541525, 2540820 | Fax: 2542956 / 2541982
cgmenv@idco.in | www.idco.in

Sri Ashok Kumar Mishra
Consultant (Env)

Memo No._____/ Date:24/03/2025

Copy forwarded to the Project Head- Sijimali Bauxite Mine, M/s Vedanta Ltd., 5th Floor, Module C/2, Fortune Towers, Chandrasekharpur, Bhubaneswar for information and necessary action.

Consultant (Env.)

<table>
<tr><th>SN</th><th>EDS POINTS</th><th>EDS REPLY</th></tr>
<tr><td>1</td><td>Four distinct patches of forest land are visible, whereas the Forest Diversion Proposal (FDP) mentions only three and DGPS Map mentions only two. Ensure that all four patches are accurately reflected in all necessary documents, including the DGPS map, KML of the project area, KML of forest patches, and patch-wise details.</td><td>Although 4 patches are visible in the Forest Diversion Proposal, 2 patches have been shown as per combined revenue map of village Porlang and Shagabari. Basing on the revenue map, ORSAC has prepared the DGPS survey map in two patches according to villages, one in village Porlang and another patch in village Shagabari.

The KML, maps and the details in the FDP proposal have been corrected to two numbers of patches. Corrected KML file and project map have been uploaded and enclosed as Annexure-1 & 2.
The patch wise details are as below:

<table>
<tr><th>Patch</th><th>Village</th><th>Khata No</th><th>Plot No</th><th>Area in Ha (Sub-total)</th><th>Area in Ha (Total)</th></tr>
<tr><td>Patch-1</td><td>Porlang</td><td>35</td><td>280(P)</td><td>0.196</td><td>0.196</td></tr>
<tr><td rowspan="2">Patch-2</td><td rowspan="2">Shagabari</td><td>156</td><td>4(P)</td><td>2.944</td><td rowspan="2">4.715</td></tr>
<tr><td>156</td><td>5(P)</td><td>1.771</td></tr>
<tr><td colspan="5">Total Area of Forest land</td><td>4.911</td></tr>
</table>
</td></tr>
<tr><td>2</td><td>Specify the total length of the road as well as the length and width of the road passing through each forest patch.</td><td>The total length of the proposed road is 3.4 Km as mentioned in the DPR which includes 0.42 km within the ML area. However, the length of the proposed road up to the mines boundary is 2.98 Km out of which 1.37 km passes through the forest area for which the proposal has been revised and uploaded accordingly. The land schedule submitted is for 2.98 Km length of the road.
Total length & average width of Road in forest land is as under.
Patch I: Length 63.254 m, Width 31 m,
Patch II, segment-1: Length 678.158 m, Width 38 m,
Patch II, segment-2: Length 261.765 m, Width 34 m,
Patch II, segment-3: Length 367.059 m, Width 34 m</td></tr>
<tr><td>3</td><td>Provide a detailed category-wise breakup of land, specifying private land, government non-forest land, and forest land.</td><td>The required information has already been submitted as Annexure-IV of FDP. However, the category -wise break -up enclosed herewith as Annexure-3.</td></tr>
<tr><td>4</td><td>The use of forest land for non-forest purposes should be limited to the minimum extent required. In this regard:
i. Submit a land use plan and map clearly specifying the component-wise breakup of land, detailing the area required for various elements</td><td>i. Land use map showing the area of various components of proposed road is enclosed as Annexure-4.
ii. As per IRC 73 2023 clause 4.1, additional land is required at locations involving deep cuts to maintain stability of slopes, high fills and unstable/land slide areas, so proposed ROW has been accordingly decided. (Ref. Annexure-5)</td></tr>
</table>

Consultant Environment
IDCO, Bhubaneswar

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	of the road, including the carriageway, paved and earthen shoulders, RCC retaining walls, breast walls, culverts, drains, LVUPs, etc. ii. Justify the proposed Right of Way (RoW) of 33 to 48 meters as stated in the DPR, considering that the required RoW for a two-lane road with shoulders is typically much lower. iii. Additionally, provide justification for variations in RoW across stretches with similar elevation and sections without turns. iv. The KML data also indicates that RoW exceeds 48 meters in some Locations— please provides a Justification for this as well.	This is a hilly road, and 4 types of typical cross sections are considered for the entire length of road. As mentioned in the DPR, TCS-1: 33m, TCS-2: 38m, TCS-3: 48m, TCS-4: 33m. (To accommodate all the components i.e., the carriageway, paved and earthen shoulders, RCC retaining walls, breast walls, culverts, drains, RoW of 33 to 48 meters is required. iii. The road stretch coming under plot 5(P), is completely in the hill slope side with elevation difference from 939m to 922m. There is a sharp curve and an elevation difference near to plot 280(P) from 930m to 900m. In plot No. 4(P), segment-1 & segment-2, both are in slopy side of the hill and curve in segment-1 and segment-3 is in the uphill side with difference in elevation. The RoW has been decided to accommodate sharp curves, steep elevations and looking at the safety point of view. Considering the cutting/fillings for utility corridors and for accommodating all the components of road, the width is different across stretches. The final elevation of the road as mentioned in the DPR is post construction (cutting/ filling). The RoW is certain section varies to counter the elevation, topography and terrain factor. iv. Corrected KML has been uploaded and is enclosed herewith for your information. **(Ref: Annexure-6)**
5	Verify the project cost, as it appears to be mistakenly mentioned as 56,35,42,229 lakhs.	The project cost is Rs 56,35,42,229/- and has been corrected to 5635.42 lakh
6	As the stated purpose of the road is to facilitate bauxite transportation from the Sijimali Bauxite Block to SH-44, and the mine lease period is limited to 50 years, provide a justification for seeking diversion of forest land for a period of 99 years for the road connecting Sijimali Top to SH-44.	The period considered i.e. 99 years for the road which will be owned by PWD, and it is not limited to transportation of bauxite by Vedanta only. The bauxite mine lease period is 50 years, if exhaustion of bauxite has not been done by VL, the mine may go for Re Auction. At that point in time, the road shall also be used by that future lessee for transportation and also for all govt. purposes.

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7	Include a map showing the distance of the project from various Protected Areas (PAs).	The details have been shown on a map and enclosed as **Annexure-7**
8	Submit a Survey of India (SOI) Topographic Map depicting the 10 km buffer area around the project site. Additionally, provide the corresponding KML file for reference.	The topo map and detailed KML file are enclosed as **Annexure- 8 & 9** respectively.
9	Clearly specify whether the project falls within the Eco-Sensitive Zone (ESZ) of any Protected Area (PA).	No, the project area doesn't come under any ESZ or PA (Map is enclosed as **Annexure-8**)
10	Serially Page numbering of all the documents of hard copy submitted by the UA has not been done.	Shall be done
11	The Letter of Authority to file the application has not been uploaded in the Parivesh portal.	The original letter of authority is enclosed as **annexure-10** and the same has been uploaded on the portal
12	Checklist Sl. No. 7: The statement detailing the forest land involved in the project (in the prescribed format) has not been signed by the Tahsildar, Kashipur.	The document has been authenticated by the concerned Tahsildar and the same has been uploaded as **annexure-11.**
13	Checklist Sl. No. 8: The statement detailing the non-forest land involved in the project (in the prescribed format) has not been signed by the Tahsildar, Kashipur.	The document has been authenticated by the concerned Tahsildar and the same has been uploaded as **Annexure-12.**
14	Checklist Sl. No. 16: The Tahsildar, Kolnara, has issued a non-encroachment and Non-Encumbrance Certificate for the non-forest government land allotted for Compensatory Afforestation (CA). However, the KML file submitted by the User Agency indicates that a portion of the area is under agricultural encroachment. Please clarify.	Tahsildar, Kashipur has mentioned in his letter No. 945/XVIII-31/2024 dated 19.03.2025, that it is a common phenomenon that vacant lands are used by locals for seasonal cultivation which can be removed at any time. The letter of Tahsildar is enclosed as **annexure-13.**
15	15. Checklist Sl. No. 34 to 36: The undertakings to pay PCA, RWLMP, and SSWL.CP have not been submitted/uploaded by the User Agency.	Undertakings Sl No 34 to 36 have been enclosed as **annexure -14, 15 & 16** respectively.

Consultant Environment
IDCO, Bhubaneswar

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OFFICE OF THE DIVISIONAL FOREST OFFICER : RAYAGADA FOREST DIVISION
E.Mail: dforgda17@gmail.com, dfo.rayagada@odisha.gov.in

Letter No 1926 4F (Misc.) 1984/2025.
Dated, Rayagada the 05 th April, 2025.

To

The Consultant (Env), IDCO,
IDCO Tower, Janapath,
Bhubaneswar.

Sub: - Proposal for diversion of 4.911 Ha. Forest Land in village Sagabari and Porlang under Kashipur Tahasil for Construction of Road from Sijimali Bauxite Mines top to SH -44 under Rayagada District/Division.

Ref: - This Office Letter No.1202 dt.04.03.2025 and Your Letter No. 8239 dt.24.03.2025.

Sir,

With reference to the above-cited letter number on the captioned subject and the compliance submitted in response to the EDS raised by this office vide Letter No. 1202 dated 04.03.2025, the same has been examined. It has been observed that during the course of submission, certain entries in the online Form-A (Part I) have been altered, resulting in discrepancies between the approved details and the information currently reflected. The following issues are accordingly brought to your notice for immediate correction and compliance.

1. KML Details of Forest Patches:
   i. As per your EDS reply vide Letter No. 8239 dated 24.03.2025, it is noted that there are two forest patches involved. However, in Form-A (Part-I), three forest patches have been mentioned. This inconsistency needs to be corrected.
   ii. Further, in the KML file uploaded on the PARIVESH portal along with Form-A (Part-I), the patches have been incorrectly labeled as Patch I and Patch III. Additionally, the three distinct segments of Patch II—Segment-1, Segment-2, and Segment-3—have not been labeled appropriately in the KML file. A revised and correctly labeled KML file should be uploaded.
2. Location Details of Forest Land:While the location details for Porlang village, including the relevant Toposheet number, have been entered, the corresponding details for Sagabari village are missing and should be included.
3. Total Forest Land Area (KML-wise) for Diversion:In Form-A (Part-I), the Total Forest Land Area is incorrectly mentioned as 0.196 ha, with Total Non-Forest Land Area as 0 ha, and Total Area as 0.196 ha. These figures should be revised to reflect the actual areas as per the Forest Diversion Proposal (FDP), i.e., 4.911 ha of Forest Land, 6.403 ha of Non-Forest Land, and a Total Area of 11.314 ha.
4. The corrected map, as per your EDS reply, showing the proposed land use plan of the forest area, may kindly be uploaded at the appropriate section of Form-A (Part-I) on the PARIVESH portal.

In view of the above, you are requested to make the necessary corrections and resubmit the proposal to this office at the earliest to enable further action.

Yours faithfully,

Divisional Forest Officer,
Rayagada Division

P.T.O

Memo No. 1927 / Dt. 05-04-2025

Copy submitted to the Regional Chief Conservator of Forests Koraput Circle, Koraput for favour of kind information and necessary action.

Divisional Forest Officer,
Rayagada Division

Memo No. 1928 / Dt. 05-04-2025

Copy submitted to the Addl. Principal Chief Conservator of Forests (Forest Diversion & Nodal Officer, F.C. Act), O/o. the Principal Chief Conservator of Forests, Odisha, Bhubaneswar for favour of kind information and necessary action.

Divisional Forest Officer,
Rayagada Division

Sri Ashok Kumar Mishra
Consultant (Env)

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No. HO-CGM(Env)/394/2024 9966 **Date: 07/04/2025**

To,

Divisional Forest Officer
Rayagada Forest Division
Rayagada

Sub: Proposal for diversion of forest land measuring 4.911 ha in the village Sagabari and Porlang under Kashipur Tahasil for construction of road from SH-44 to Sijimali Bauxite Mines (hill top) under Rayagada District.

Ref:- Your EDS raised vide your letter No.1926, dt.05/04/2025.

Sir,

The EDS raised by your good office, vide letter No.1926, dt.05/04/2025 are complied as below:-

SN	Details of EDS	Compliance
1	KML Details of Forest Patches: 1. As per your EDS reply vide Letter No. 8239 dated 24.03.2025, it is noted that there are two forest patches involved. However, in Form-A (Part-I), three forest patches have been mentioned. This inconsistency needs to be corrected.	There are two forest patches involved, and the same has been corrected & uploaded on the portal.
	2. Further, in the KML file uploaded on the PARIVESH portal along with Form-A (Part-I), the patches have been incorrectly labelled as Patch I and Patch III. Additionally, the three distinct segments of Patch II—Segment-1, Segment-2, and Segment-3—have not been labelled appropriately in the KML file. A revised and correctly labelled KML file should be uploaded.	KML file has been correctly labelled and uploaded.
2	Location Details of Forest Land: While the location details for Porlang village, including the relevant Toposheet number, have been entered, the corresponding details for Sagabari village are missing and should be included.	The details regarding the location of the entire forest land, along with the relevant Topo sheet number, have been entered and uploaded.

P.T.O

Odisha Industrial Infrastructure Development Corporation
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Sri Ashok Kumar Mishra
Consultant (Env)

3	Total Forest Land Area (KML-wise) for Diversion: In Form-A (Part-I), the Total Forest Land Area is incorrectly mentioned as 0.196 ha, with Total Non-Forest Land Area as 0 ha, and Total Area as 0.196 ha. These figures should be revised to reflect the actual areas as per the Forest Diversion Proposal (FDP), i.e., 4.911 ha of Forest Land, 6.403 ha of Non-Forest Land, and a Total Area of 11.314 ha.	The total area of non-forest & forest land for the diversion, according to the KML file, has been corrected in the portal.
4	The corrected map, as per your EDS reply, showing the proposed land use plan of the forest area, may kindly be uploaded at the appropriate section of Form-A (Part1) on the PARIVESH portal.	The map of the proposed land use plan of the forest area has been uploaded in the appropriate section (additional document section) of Form-A (Part-I) on the Parivesh Portal.

This is for your information and necessary action.

Encl: As above

Yours faithfully,

Consultant (Env.)

Memo No._____/ Date:07/04/2025

Copy submitted to the Addl PCCF, Nodal, FC Act, O/o the PCCF for kind information & necessary action, with reference to memo No.1928, dt.05/04/2025 of Divisional Forest Officer, Rayagada Forest Division.

Consultant (Env.)

Memo No._____/ Date:07/04/2025

Copy submitted to the RCCF, Koraput Circle, Koraput for kind information & necessary action, with reference to memo No.1927, dt.05/04/2025 of Divisional Forest Officer, Rayagada Forest Division.

Consultant (Env.)

Memo No._____/ Date:07/04/2025

Copy forwarded to the CGM(Land), IDCO for information & necessary action.

Consultant (Env.)

Memo No._____/ Date:07/04/2025

Copy forwarded to the Project Head- Sijimali Bauxite Mine, M/s Vedanta Ltd., 5th Floor, Module C/2, Fortune Towers, Chandrasekharpur, Bhubaneswar for information and necessary action.

Consultant (Env.)

Sri Ashok Kumar Mishra
Consultant-cum-CGM(Env)

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No. HO-CGM(Env)/394/2024 11044 **Date: 17/04/2025**

To,

Divisional Forest Officer
Rayagada Forest Division
Rayagada

Sub: Proposal for diversion of forest land measuring 4.911 ha in the village Sagabari and Porlang under Kashipur Tahasil for construction of road from SH-44 to Sijimali Bauxite Mines (hill top) under Rayagada District- **EDS raised by Nodal Officer on 15/04/2025.**

Ref:- Your letter No.2075, dt.16/04/2025.

Sir,

In connection with the above mentioned subject, the replay to EDS raised by Nodal Officer, O/o PCCF, Odisha on the above mentioned project on 15/04/2025 is complied as under:-

SN	Details of EDS	Reply of EDS
1	As per sub-para (f) of para 7.8 of Chapter 7 of Consolidated Guidelines and Clarifications issued under Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 and Van (Sanrakshan Evam Samvardhan) Rules, 2023, the approach road/ conveyor belt and other additional activities related to mining shall be considered as part of the Mining Project and should therefore be processed accordingly. But the UA has applied access path as standalone project. As per sub para (I) (3) the UA needs to submit the cogent and convincing reason/ justification of not including such linear infrastructure at the inception stage. So, the UA should submit the required clarification.	1. There are 5 villages namely Dumerpadar, Porlang, Sagabari, Bichapinda & Malipadar having no road connectivity to the mainland below the valley. Around 1500 people are residing in these villages and they are facing hardship for their day-to-day family maintenance especially for health security. 2. The people are disconnected with the market system due to lack of road connectivity. Mostly they are dependent on barter system for their day-to-day needs. 3. Government has proposed to make a road connecting to all these villages for their ease of living. Beside this, the proposed road will facilitate to dispose any horticultural crop grow-up by the tribal community residing in the inaccessible remote area in hilltop. 4. Further government has leased out a bauxite mines to M/s Vedanta limited, which is located at the hilltop of same landscape. This road will provide

Sri Ashok Kumar Mishra
Consultant-cum-CGM(Env)

		access to the ML area for operationalization of the mines. The road proposed is solely not meant for the Vedanta limited, for which it is going to be constructed by the state PWD department. 5. The project should not be considered as a stand alone linear project of Sijimali mine rather it should be treated as normal linear road project 6. From the above points it does not attract the provision of sub-para (f) of para 7.8 of Chapter 7 of Consolidated Guidelines and Clarifications issued under Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 and Van (Sanrakshan Evam Samvardhan) Rules, 2023.
2	6.07 ha non-forest Govt. land identified for CA in village Tingarjhola under Kolanara Tahasil out of which 3.0 ha is non-forest category (DSS Analysis report) and balance area is MDF/ VDF. But the DFO, Rayagada Forest Division has proposed to plant 1214 Nos. of plant over entire non-forest land in ANR mode @ 200 seedlings per ha. So, it needs clarification from DFO, Rayagada Forest Division.	
3	The Joint verification report of Non-Forest Govt. land identified in village Tingarjhola under Kolanara Tahasil duly signed by both the forest and revenue officials is not enclosed.	JV Report Attached
4	The GPS reading of the start and end point of the road has not been enclosed with the proposal.	**Latitude** / **Longitude** **Start Point**: 83° 6' 5.532" / 19° 30' 27.829" **End Point**: 83° 5' 15.470" / 19° 30' 37.983"

Encl: As above

Yours faithfully,

Consultant-cum-CGM(Env)

Odisha Industrial Infrastructure Development Corporation
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cgmenv@idco.in | www.idco.in

Sri Ashok Kumar Mishra
Consultant-cum-CGM(Env)

Memo No._____/ Date:17/04/2025
Copy submitted to the Addl PCCF, Nodal, FC Act, O/o the PCCF for kind information & necessary action, with reference to memo No.2077, dt.16/04/2025 of Divisional Forest Officer, Rayagada Forest Division.

Consultant-cum-CGM(Env)

Memo No._____/ Date:17/04/2025
Copy submitted to the RCCF, Koraput Circle, Koraput for kind information & necessary action, with reference to memo No.2076, dt.16/04/2025 of Divisional Forest Officer, Rayagada Forest Division.

Consultant-cum-CGM(Env)

Memo No._____/ Date:17/04/2025
Copy forwarded to the CGM(Land), IDCO for information & necessary action.

Consultant-cum-CGM(Env)

Memo No._____/ Date:17/04/2025
Copy forwarded to the Project Head- Sijimali Bauxite Mine, M/s Vedanta Ltd., 5th Floor, Module C/2, Fortune Towers, Chandrasekharpur, Bhubaneswar for information and necessary action.

Consultant-cum-CGM(Env)

555

JOINT FIELD VERIFICATION MEMORANDOM OF TAHASILDAR KOLNARA, REVENUE SUPERVISOR KOLNARA, REVENUE INSPECTEOR REKHAPADAR, FORESTER REKHAPADAR, FOREST GUARD, REKHAPADAR, FOR IDENTIFICATION OF GOVT. WASTE LAND FOR AFFORESTATION

In pursuance of instructions of higher authorities for identification of suitable patch of degraded forest land for compensatory afforestation, a joint field visit has been made on 24.04.2024 compromising of forest and Revenue department personnel. During land identification, the following schedule of land is verified on the spot and found feasible for compensatory afforestation. The schedule of land is given below.

MOUZA	KHATA No.	RECORDED TENENT	PLOT No.	KISSAM	TOTAL AREA IN Ac.	PROPOSED AREA IN Ac.
Tingarjholla	13	PAHADA AAA	13	PAHADA	30.00	15.00
			14	PAHADA	42.32	30.00
			15	PAHADA	25.62	15.00
			62	PAHADA	21.40	15.00
			68	PAHADA	15.00	10.00
			69	PAHADA	11.65	10.00
Total					Ac.145.99	Ac.95.00

As per guideline the identified land below 25 Ha. Hence the land is not bit to inclusion in the land bank.

FORESTER
Kumtelpeta Section

TAHASILDAR, KOLNARA
TAHASILDAR, KOLNARA

Priyanka Behera, Tarabai beat
FOREST GUARD

REVENUE SUPERVISOR, KOLNARA
Revenue Supervisor
Kolnara Tahasil

FOREST GUARD

REVENUE INSPECTOR, REKHAPADAR

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OFFICE OF THE DIVISIONAL FOREST OFFICER : RAYAGADA FOREST DIVISION
E.Mail: dforgda17@gmail.com, dfo.rayagada@odisha.gov.in

Memo Letter No 3312 4F (Misc.) 1984/2025.
Dated, Rayagada the 28 th May, 2025.

To

The Addl. Principal Chief Conservator of Forests,
(Forest Diversion & Nodal Officer, F.C. Act),
O/o. the Principal Chief Conservator of Forests,
Odisha, Bhubaneswar.

Sub: - Proposal for diversion of 4.911 Ha. Forest Land in village Sagabari and Porlang under Kashipur Tahasil for Construction of Road from Sijimali Bauxite Mines top to SH -44 under Rayagada District/Division. -**Regarding submission of compliance on the EDS raised by the Regional Office, MoEF & CC, GoI, Bhubaneswar on dated.19.05.2025.**

Ref: - Proposal No. FP/OR/OTHERS/523366/2025.

In inviting a kind reference to the above cited subject, I am submitting herewith the compliance on the EDS raised by the Regional Office, MoEF & CC, GoI, Bhubaneswar on dated.19.05.2025 on the Proposal for diversion of 4.911 Ha. Forest Land in village Sagabari and Porlang under Kashipur Tahasil for Construction of Road from Sijimali Bauxite Mines top to SH -44 under Rayagada District/Division.

SL No	Details of EDS	Compliance
1	On examination of the proposal, it is observed that in Sijimali mining lease, the proposal for the mining lease has been submitted vide No. FP/OR/MIN/QRY/470250/2024 to the MoEF & CC and the stage – I approval is awaited. A separate proposal for the Road Project to the mining lease has been submitted Vide No. FP/OR/OTHERS/523366/2025 to regional office as a standalone Project. However, as per para 7.8(I)(f)(1) of the consolidated guidelines issued under the van (sanrakshan Evam Samvardhan) Adhamiyam,1980," Approach Road/conveyor belt and other ancillary activities related to mining shall be considered as part of the mining project and should therefore be processed accordingly. However, supplementary linear Projects linked to mining that are conceived after the start of the original mining should be considered as	In compliance to the EDS, the User Agency has intimated that, the PWD, Government of Odisha is the owner of the proposed road and IDCO is the Project Proponent for land acquisition and for diversion of the forest land involved in the road project. This Government Road will also help in connecting to all the villages on & around the hilltop for their ease of living, through PWD. Beside this, the proposed road will facilitate to dispose any horticultural crop grow-up by the tribal community residing in the inaccessible remote area in & nearby hilltop. This road will provide access to the ML area for operationalize of the mines. The road proposed is solely not meant for the Vedanta limited, for which it is going to be constructed by the state PWD department. Further, there are 5 no. villages namely Dumerpadar, Porlang, Sagabari, Bichapinda & Malipadar having no road connectivity to the mainland below the valley. Around 1500 people are residing in these villages and they are facing hardship for their day-to-day family maintenance especially for health security. The people are disconnected with the market

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	standalone linear projects and decisions on according approval for those shall be made at the REC/IRO concerned, as per the provisions provided in the Van (Sanrakshan Evam Samvardhan) Rules,2023."In view of the above provisions, the state Government is requested to kindly re-examine the proposal in light of the aforementioned rules and do the needful.	system due to lack of road connectivity. The project should not be considered as a standalone linear project of Sijimali mine rather it should be treated as normal linear road project by PWD, Govt of Odisha. From the above points it does not attract the provision of sub-para (f) of para 7.8 of Chapter 7 of Consolidated Guidelines and Clarifications issued under Van (San Rakshan Evam Samvardhan) Adhiniyam, 1980 and Van (Sanrakshan Evam Samvardhan) Rules, 2023. Hence the compliance submitted by the UA is submitted herewith as **Annexure-I**.
2	As per DSS analysis, agriculture encroachment (19°8'10.42"N / 83°33'27.10"E) is observed heavily in non-forest CA patch and shifting cultivation (19°3'37.50"N / 83°52'10.17"E) is present in addl.CA patch. An encroachment free non-forest land for CA should be provided by the state govt.	In compliance to the EDS, the Tahasildar, Kolnara has informed that some seasonal agriculture encroachment are being used by local villagers over the Non-Forest CA land and which can be vacate at any point of time. (Copy enclosed as **Annexure-II**) Further the Range Officer, Gunupur have submitted the field verification report of the additional CA patch and reported that, although some seasonal signs of land use are discernible, the area remains classified as degraded forest land under the administrative control of the forest department. These transient indicators do not represent any permanent land use change. The identified patch is suitable for afforestation and will be appropriately treated and developed under plantation activities in accordance with the approved compensatory afforestation plan. (The report of the Range Officer, Gunupur Range is enclosed as **Annexure-III**)

This is for favour of your kind information and necessary consideration.

Divisional Forest Officer,
Rayagada Division

Memo No. 3313 / Dt. 28-05-2025

Copy submitted to the Regional Chief Conservator of Forests, Koraput Circle, Koraput for favour of kind information and necessary action.

Divisional Forest Officer,
Rayagada Division

Memo No. 3314 / Dt. 28-05-2025

Copy submitted to the project Head, Sijimali Bauxite Mine, M/s Vedanta Limited for favour of kind information and necessary action.

Divisional Forest Officer,
Rayagada Division

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Annexure – I

Sri Ashok Kumar Mishra
Consultant-cum-CGM(Env)

559

idco Your power to grow ISO 9001 & 14001 Corporation

ODISHA NEW OPPORTUNITIES

No. HO-CGM(Env)/394/2024 14965 Date: 22/05/2025

To,

Divisional Forest Officer,
Rayagada Forest Division,
Rayagada

Sub: Proposal for diversion of forest land measuring 4.911 ha in the village Sagabari and Porlang under Kashipur Tahasil for construction of road from SH-44 to Sijimali Bauxite Mines (hilltop) under Rayagada District- **Compliance to EDS**

Sir,

In response to the EDS raised by MoEF & CC, GoI on 19/05/2025 on the above mentioned Diversion Proposal, the compliance is submitted as enclosed herewith.

Enclosed - As above

Yours faithfully,

Consultant-cum-CGM(Env)

Memo No. 14966 / Date: 22/05/2025

Copy forwarded to the Addl PCCF & Nodal Officer (FC Act & FD), Odisha for favour of kind information & necessary action.

Consultant-cum-CGM(Env)

Odisha Industrial Infrastructure Development Corporation
(A Government of Odisha Undertaking)
IDCO, IDCO Towers, Janpath, Bhubaneswar – 751022, Odisha, INDIA
+91- 0674 - 2541525, 2540820 | Fax: 2542956 / 2541982
cgmenv@idco.in | www.idco.in

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Sl No	EDS	Compliance
1	On examination of the proposal, it is observed that in Sijimali mining lease, the proposal for the mining lease has been submitted vide No. FP/OR/MIN/QRY/470250/2024 to the MoEF & CC and the stage – I approval is awaited. A separate proposal for the Road Project to the mining lease has been submitted Vide No. FP/OR/OTHERS/523366/2025 to Regional office as a standalone Project. However, as per para 7.8(i)(f)(1) of the consolidated guidelines issued under the van (Sanrakshan Evam Samvardhan) Adhiniyam,1980," Approach road / conveyor belt and other ancillary activities related to mining shall be considered as part of the mining project and should therefore be processed accordingly. However, supplementary linear Projects linked to mining that are conceived after the start of the original mining should be considered as standalone linear projects and decisions on according approval for those shall be made at the REC/IRO concerned, as per the provisions provided in the Van (Sanrakshan Evam Samvardhan) Rules,2023."In view of the above provisions, the state Government is requested to kindly re-examine the proposal in light of the aforementioned rules and do the needful.	**i.** PWD Department, Government of Odisha is the owner of the proposed road and IDCO is the Project Proponent for land acquisition and for diversion of the forest land involved in the road project. **ii.** This Government road will also help in connecting to all the villages on & around the hilltop for their ease of living, through PWD. Beside this, the proposed road will facilitate to dispose any horticultural crop grow-up by the tribal community residing in the inaccessible remote area in & nearby hilltop. **iii.** This road will also provide access to the ML area for operationalize of the mines. The road proposed is solely not meant for the Vedanta limited, for which it is going to be constructed by the state PWD Department. **iv.** There are 5 villages namely Dumerpadar, Porlang, Sagabari, Bichapinda & Malipadar having no road connectivity to the mainland below the valley. Around 1500 people are residing in these villages and they are facing hardship for their day-to-day family maintenance especially for health security. **v.** The people are disconnected with the market system due to lack of road connectivity. **vi.** The project should not be considered as a standalone linear project of Sijimali mine rather it should be treated as normal linear road project by PWD, Govt. of Odisha. **vii.** From the above points it does not attract the provision of sub-para (f) of para 7.8 of Chapter 7 of Consolidated Guidelines and Clarifications

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		issued under Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 and Van (Sanrakshan Evam Samvardhan) Rules, 2023.
2	As per DSS analysis, agriculture encroachment (19°8'10.42"N / 83°33'27.10"E) is observed heavily in non-forest CA patch and shifting cultivation (19°3'37.50"N / 83°52'10.17"E) is present in addl. CA patch. An encroachment free non-forest land for CA should be provided by the state Govt.	I. For non-forest land, non-encroachment certificate has been issued by the Tahasildar, Kolnara and Tahasildar in his letter No.945, dt.19/03/2025 has stated that, a small portion of the land has been used by the local villagers for cultivation and can be removed at any point of time. (copy attached) II. Hence, the said land is free from encroachment & encumbrance as per certificate issued by Tahasildar and can be covered under Compensatory Afforestation and declared as PF before Stage-II Approval.

Consultant-cum-CGM(Env)
Chief General Manager(Env.)
IDCO, Bhubaneswar

Annexure–II

562

OFFICE OF THE TAHASILDAR, KOLNARA

Letter No. 945 **/XVIII-31/2024** **Date.** 19.03.25

To

The Consultant(Env.),
IDCO, Bhubaneswar

Sub: Regarding clarification on issue of Non-Encroachment & Non-Encumbrance Certificate in respect of land identified in Tigarijhola Mouza for Compensatory Afforestation.

Ref: 1. Letter no. 178/25, dated 19.03.2025 of the Vedanta Limited, Bhubaneswar.

2. Letter no. 1202. Dated 04.03.2025 of the DFO, Rayagada addressed to IDCO, Bhubaneswar.

Sir,

In inviting kind reference to the letter on the subject cited above, I am to furnish herewith the clarification on the shortcomings found by the DFO, Rayagada vide his letter no. 1202. Dated 04.03.2025 addressed to IDCO, Bhubaneswar at point no. 14 as follows.

Land Schedule

Mouza	Khata No.	Plot No.	Area (in Hact.)	Kissam
Tingarijhola	13	13	6.07	Pahad

As per field verification of the above Non Forest Govt. land, it is found that, a small portion of the land is used for seasonal cultivation by local villagers that can be removed at any time.

This is for your kind information and necessary action.

Yours faithfully,

Tahasildar, Kolnara

Memo No. 946 **/ 2025** **Date:** 19.03.2025

Copy forwarded to the Divisional Forest Officer, Rayagada for kind information and necessary action with reference to his letter no. 1202. Dated 04.03.2025 addressed to IDCO, Bhubaneswar.

Tahasildar, Kolnara

Memo No. 947 **/ 2025** **Date:** 19.03.2025

Copy forwarded to the Project Head, Sijimali Bauxite Mines, Vedanta Limited, Bhubaneswar for information with reference to his letter no. 178/25, dated 19.03.2025.

Tahasildar, Kolnara

Annexure – III

OFFICE OF THE FOREST RANGE OFFICER, GUNUPUR
At/Po. Bikrampur, Pin - 764062 e-mail:rogunupur@gmail.com

To

The Divisional Forest Officer,
Rayagada Forest Division.

Subject: Proposal for diversion of 4.911 Ha. Forest Land in village Kuruguda under Gunupur Tahasil for Construction of Road from Sijimali Bauxite Mines top to SH -44 under Rayagada District / Division.

With reference to the observations regarding the below mentioned proposed sites for Additional Compensatory Afforestation (ACA) under the above-mentioned forest diversion proposal, it is submitted that although some seasonal signs of land use are discernible, the area remains classified as degraded forest land under the administrative control of the Forest Department. These transient indicators do not represent any permanent land use change. The identified patches are suitable for afforestation and will be appropriately treated and developed under plantation activities in accordance with the approved Compensatory Afforestation Plan.

Sl No	Site	Forest Block	Beat	Section	Range	Area (Ha.)	Mode
1	Kuruguda	Pedakonda Extn.RF	Chinasari	Gunupur	Gunupur	05.00	AR 1000

Ratnamala Hzal F.G
Forest Guard
Chinasari Beat

P. Ch Patro (for)
Forester
Gunupur Section
Section Forester
Gunupur

Forest Range Officer
Gunupur Range
Forest Range Officer
Gunupur Range

SCAN AnyScanner

STATE FOREST HEADQUARTERS, ODISHA
OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS & HoFF
PLOT NO. GD-2/12, ARANYA BHAWAN, CHANDRASEKHARPUR
BHUBANESWAR-751023
E-mail-: nodal.pccfodisha@gmail.com

ADDITIONAL CHIEF SECRETARY TO GOVT. ★ FOREST, ENV. & CLIMATE CHANGE DEPTT. ★
17 DEC 2025

No. 25316 /9F (Others) – 343/2025
Dated, Bhubaneswar the 17th December' 2025

From

Dr. K. Murugesan, IFS
Additional Principal Chief Conservator of Forests
(Forest Diversion & Nodal Officer, FC Act)
O/o the PCCF & HoFF, Odisha, Bhubaneswar

To

The Deputy Director General of Forests (Central)
Government of India, Ministry of Environment, Forest & Climate Change
Regional Office, A/3, Chandrasekharpur
Bhubaneswar-751023

Sub: **Proposal for diversion of 4.911 ha of forest land for construction of access road from Sijimali Bauxite Mines (Hill Top) to SH-44 to facilitate bauxite transportation in Kashipur Tahasil of Rayagada District under Rayagada Forest Division applied by IDCO – Compliance to online querry of GoI dated 07.08.2025 regarding.**

Ref-: Online EDS dated 07.08.2025 of Govt. of India, MoEF & CC.

Sir,

In inviting a reference to the above mentioned subject, this is to inform that Government of India, Ministry of Environment, Forest & Climate Change has raised Online EDS dated 07.08.2025 in Parivesh 2.0 Portal for necessary compliance in respect of diversion of 4.911 ha of forest land for construction of access road from Sijimali Bauxite Mines (Hill Top) to SH-44 to facilitate bauxite transportation in Kashipur Tahasil of Rayagada District under Rayagada Forest Division applied by IDCO. The compliance based on the report of DFO Rayagada is as follows:-

Online EDS-: ***The proposed road is primarily designed to support the movement of heavy vehicles for the mineral evacuation from the Sijimali Bauxite Mine. Therefore, the proposal for road construction can only be considered once the proposal for the diversion of forest land for the said mining lease is approved. The State Government shall therefore submit the proposal after obtaining the in-principle approval for the diversion of forest land in the Sijimali Bauxite Mine.***

Compliance-: In compliance to the above, the DFO, Rayagada Forest Division has reported that the Advisory Committee in its 12th meeting held on 02.12.2025 has **"recommended the Stage-I/in-principle"** approval for diversion of **708.204 ha** of forest land [564.581 ha in

Rayagada Forest Division and 143.623 ha in Kalahandi (South) Forest Division] including 11.195 ha earmarked for the Safety Zone within total Mining Lease area of 1548.786 ha of the **Sijimali Bauxite Mines**, falling under Rayagada Forest Division and Kalahandi (South) Forest Division in Rayagada and Kalahandi Districts respectively in favour of M/s Vedanta Limited. The copy of the minutes of the 12th Advisory Committee meeting is enclosed herewith as **Annexure-A** for kind reference.

In view of the above, the compliance to the online EDS dated 07.08.2025 of the Govt. of India, MoEF & CC is sent herewith for favour of kind consideration and further course of action in respect of proposal for diversion of 4.911 ha of forest land for construction of access road from Sijimali Bauxite Mines (Hill Top) to SH-44 to facilitate bauxite transportation in Kashipur Tahasil of Rayagada District under Rayagada Forest Division applied by IDCO.

Encl: Annexure as above

Yours faithfully

Additional Principal Chief Conservator of Forests
(Forest Diversion and Nodal Officer, FC Act)

Memo No. 25317 / Dt. 17-12-2025.

Copy alongwith its compliance forwarded to the Additional Chief Secretary to Government, Forest, Environment and Climate Change Department, Odisha, Bhubaneswar for information and necessary action with reference to online EDS dated 07.08.2025 of Govt. of India, MoEF & CC (FC Division), New Delhi.

Encl: Annexure as above

17/12/2025
Chief Conservator of Forests (Nodal)

Memo No. 25318 /Dt. 17-12-2025.

Copy forwarded to the RCCF, Koraput Circle for information and necessary action with reference to Memo No. 6861 dated 15.12.2025 of DFO, Rayagada Forest Division.

17/12/2025
Chief Conservator of Forests (Nodal)

Memo No. 25319 /Dt. 17-12-2025.

Copy forwarded to the DFO, Rayagada Forest Division for information and necessary action with reference to his Memo No. 6860 dated 15.12.2025.

17/12/2025
Chief Conservator of Forests (Nodal)

Memo No. 25320 /Dt. 17-12-2025.

Copy forwarded to the Project Head, Sijimali Bauxite Mine, M/s Vedanta Limited, 5th Floor, Module C/2, Fortune Towers, Chandrasekharpur, Bhubaneswar-751023 for information and necessary action with reference to online EDS dated 07.08.2025 of Govt. of India, MoEF & CC (FC Division), New Delhi.

17/12/2025
Chief Conservator of Forests (Nodal)

Memo No. 25321 /Dt. 17-12-2025.

Copy forwarded to the Consultant (Env), IDCO, IDCO Tower, Janpath, Bhubaneswar for information and necessary action with reference to online EDS dated 07.08.2025 of Govt. of India, MoEF & CC (FC Division), New Delhi and Memo No. 6862 dated 15.12.2025 of DFO, Rayagada Forest Division.

17/12/2025
Chief Conservator of Forests (Nodal)

EDS Raised	Reply to EDS
The proposed road is primarily designed to support the movement of heavy vehicles for the mineral evacuation from the Sijimali Bauxite Mine. Therefore, the proposal for road construction can only be considered once the proposal for the diversion of forest land for the said mining lease is approved. The State government shall therefore submit the proposal after obtaining the in-principle approval for the diversion of forest land in the Sijimali Bauxite Mine.	It is noted that the in-principle approval for the diversion of forest land for the Sijimali Bauxite Mine has already been granted, as per the Minutes of Meeting published on 12.12.2025 (attached). In view of this, the proposal for the construction of the said road may now be considered for Stage-1 forest clearance approval, subject to compliance with all applicable norms and conditions.

12/12/25
Consultant Environment
IDCO, Bhubaneswar

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ii. The site-specific Wildlife and Biodiversity Management Plan, duly approved by the Chief Wildlife Warden, shall be implemented at the cost of the User Agency.

iii. As per DSS analysis, out of 143.968 ha non forest land within the project area, 18.25 ha was found within forest boundary. The state has clarified that the overlap reflected in DSS arises solely from boundary-layer generalisation at map-scale and does not represent any additional forest land requiring inclusion. In this regard the State shall take up the matter with FSI for the correction of digital boundaries.

iv. The State Government shall ensure that the land-use plan indicated in the proposal remains unchanged. A copy of the document or approval issued by the competent authority, confirming a land-use plan consistent with that submitted in the proposal, shall be furnished along with the compliance report.

v. The State Government shall ensure that muck is disposed of, only at designated sites located in non-forest areas. The State Government shall adopt controlled blasting mitigation measures and ensure that no blasting materials are stored within forest areas.

vi. The Catchment Area Treatment Plan, duly approved by the PCCF/competent authority shall be implemented at the project cost.

Agenda No. 38

Proposal No. FP/OR/MIN/QRY/470250/2024

Sub: Proposal seeking prior approval of the Central Government under Section 2 (1) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 for diversion of 708.204 ha (564.581 ha in Rayagada Forest Division + 143.623 ha in Kalahandi (South) Forest Division) of Forest land (including 11.195 ha earmarked for Safety Zone) within total Mining Lease land in 1548.786 ha of Sijimali Bauxite Mines in Rayagada Forest Division & Kalahandı (South) Forest Division under Rayagada and Kalahandi District respectively in respect of M/s Vedanta Limited (Online Proposal No. FP/OR/MIN/QRY/470250/2024)-reg.

1. The agenda item was considered by the Advisory Committee (AC) in its meeting held on 02.12.2025. The corresponding agenda note may be seen at www.parivesh.nic.in. The DDGF (Central), Regional Office, Bhubaneswar and APCCF and CCF in the office of Nodal Officer (FCA), Government of Odisha attended the meeting.
2. During the meeting, all the facts and background of the proposal, along with examination of the proposal in the DSS were presented and explained to the Advisory Committee. The Committee was also apprised of the relevant provisions under other Acts, Rules and Guidelines relevant to the proposal and their significance.
3. The Advisory Committee (AC) after thorough deliberation and discussion observed the following:

i. The Government of Odisha vide their letter No. FE-DIV-FLD-0017-2025-8268/FE&CC dated 08.04.2025 submitted the above subject proposal through PARIVESH 2.0 portal and uploaded on 09.04.2025 seeking prior approval of the Central Government under Section 2 (1) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980.

ii. Vedanta Limited has been allocated the Sijimali Bauxite mine spread over Kalahandi and Rayagada districts of Odisha in March 2023, having an estimated reserve of around 311 Million Tonnes for meeting the increased requirement of raw material, Vedanta intends to operate Sijimali block for dispatching Bauxite from mines to its Refinery.

iii. An e-Auction process was conducted in accordance with the tender document for the Sijimali Mineral Block and Vedanta Limited was declared as the "Preferred Bidder" under Rule 9(9)(1) or Rule 10(1A) of Auction Rules dated 09.02.2023. Accordingly, pursuant to Rule 10(2) of the Auction Rules and the terms of the tender document of steel & Mines Department, Government of Odisha, issued Letter of Intent for grant of mine lease for Sijimali Bauxite Block over 1549.022 ha (Geo referenced DGPS Area 1549.022 ha, ROR Authenticated area-1548.786 ha) vide letter No SM-MC2-MC-0006-2023/2103/5&M, Bhubaneswar, dated 01 03 2023.

iv. M/s Vedanta Ltd has the proposal to operate the Sijimali Bauxite Mine with peak Proposed Bauxite Production Capacity of 9.00 Million TPA. The block is located in 18 villages under Thuamul Rampur Tehsil of Kalahandı district and under Kashipur Tahsil of Rayagada district in the State of Odisha.

v. As M/s Vedanta Limited has an existing alumina refinery plant at Lanjigarh of Kalahandı district of Odisha which very soon will be operated at granted EC capacity of 6.0 Million TPA, due to which the total bauxite requirement will be 18.0 Million TPA at a ratio of 3:1 to meet the partial requirement of the bauxite, Vedanta Ltd is proposing the Sijimalı Bauxite Mine with 9.0 Million TPA Capacity, 3. Million TPA from OMC Kodingamali Mine through long term linkage and remaining 60 Million TPA from import.

vi. The area under consideration is well connected by rail and road to all important business and industrial centres of the country. Nearest Railway station is Sikarpai Railway station at a distance of 20 km in SE direction. The Nearest Port and International Airport are at Visakhapatnam at a distance of 194 Km in SSE direction, Distance of SH-44 from the lease area is 1.5 km in West direction from the project site.

vii. The Sijimali Bauxite Block has been explored in different phases with 91 bore holes with a total meterage of 2241.61m The boreholes have been drilled at an interval of about 400m grid pattern within the mineralized land in 12.38 sq. km The bore hole density is about 07 (735) BHs/Sq Km.

viii. The entire geological block land in 1549.022 Ha (As per DGPS) will be brought under mining and allied activities to excavate bauxite. The cross-sectional method has been adopted for estimation of resources of bauxite in the approved mining plan 15 sets of vertical cross sections namely AA',

BB', CC' etc in 1.10000 scale have been prepared in E-W direction taking into account 87 boreholes located along the section lines and a few holes adjacent to the section lines are projected. In order to estimate the mineable reserve, development sections were drawn through the block. The non-mineable bauxite portions considered for estimation of mineable reserve from geological resource are as follows. (a) bauxite occurring within 7.5 m along the lease boundary for the purpose of safety zone (b) Blocked bauxite under and outside the ultimate pit slope Production of maximum 9267402 79 TPA bauxite has been planned in the approved mining plan.

ix. Mining operations will be carried out by a fully mechanized opencast method. The extractable bauxite reserve of 299.58 Million tonnes is proposed to be excavated in 31 years. Life of mine is considered as 31 years with two years of construction period including surface reorganization.

x. The total ML area of the Sijimali Bauxite Block is 1548.786 ha. In the applied mining lease area, forest land involved is 708.204 Ha. Non-forest land involved in the Mining Lease is 840.582 ha out of which non-forest private land is 129.089 ha and non-forest Govt. land is 711.493 ha.

xi. The State Govt. has reiterated / clarified that 0.66 ha of land in village Tadader and 1.57 ha of land in village Tijamali (both under Thuamul Rampur Tahasil of Kalahandı District) have been included in the Forest Diversion Proposal as FRA land. The kisam of the above mentioned land (0.66 ha in Tadader village and 1.57 ha in Tijamali village) are of "Unsurveyed Category" in the Sabik record and 'Donger' in the Hal record over which Title under FRA have been issued to individuals by the Collector, Kalahandi. In this context he has informed that, 0.66 ha of land in village Tadades and 1.57 ha in village Tijamali have been included in the Forest Diversion Proposal as FRA land as reported by the DFO, Kalahandi (South) Forest Division.

xii. As per the SIR of DFO, Kalahandi (South), it is revealed that the forest land proposed for diversion is located over 11 patches spreading over 04 no of villages. The Tahasildar Rampur has furnished the land schedule as on 25.10.1980 regarding forest and non-forest land involved in the ML coming under Kalahandi district as well as in Kalahandı (South) forest Division, DFO, Kalahandi (South) has furnished a certificate regarding minimum use of forest land over 143.623 ha.

xiii. The total district wise forest and non-forest land involved in the Mining Lease is tabulated below:

ABSTRACT OF TOTAL LAND of SIJIMALI BAUXITE MINES									
Sl. No.	District Name	Area in Hectares							
		Revenue Forest	PF/FRA Forest	Sabik Forest	DLC Forest	Total Forest	Pvt. land	Non-Forest Govt. land	Total

1	Kalahandi	12.408	65.512	3.699	62.004	143.623	28.531	565.138	737.292
2	Rayagada	0.000	0.000	6.236	558.345	564.581	100.558	146.355	811.494
Total area in Ha		**12.408**	**65.512**	**9.935**	**620.349**	**708.204**	**129.089**	**711.493**	**1548.786**

xiv. The details of Existing Land Use of total lease area in Ha are as mentioned below:

EXISTING LAND USE OF SIJIMALI BAUXITE MINES										
Sl. No.	**District Name**	**Item**	**All figures are in Hectares**							
			Revenue Forest	**PF/ FRA Forest**	**Sabik Forest**	**DLC Forest**	**Total Forest**	**Pvt. land**	**Non-Forest Govt. land**	**Total**
1	Kalahandi	Existing Undisturbed area	12.408	65.512	3.699	62..004	143.623	28.531	565.138	737.292
2	Rayagada	Existing Undisturbed area	0.000	0.000	6.236	558.345	564.581	100.558	146.355	811.494
	Total in Ha		**12.408**	**65.512**	**9.935**	**620.349**	**708.204**	**129.089**	**711.493**	**1548.786**

xv. Component wise break up of forest land proposed for diversion in the Sigimali Mining Lease has been mentioned in the SIR of DFO, Rayagada and SIR of DFO, Kalahandi (South) The detailed pattern of use of Forest land is tabulated below:

PROPOSED LAND USE PATTERN (DISTRICT WISE)										
S. No.	District Name	Component	Forest Area in Ha					Non-Forest area in ha			
			Revenue Fores	PF/ FRA Fore	Sabik For	DLC Forest	Total Forest	Govt. land	Pvt. Land	Total N	Total Area Ha

			t	st	est					FL	
1	Kalahandi	Mined out Area	12.408	32.900	3.699	49.852	98.859	400.557	28.531	429.088	527.947
2		Safety Zone Area		2.970		0.628	3.598	15.117		15.117	18.715
3		Untouched Area		29.642		11.524	41.166	149.464		149.464	190.630
Total			**12.408**	**65.512**	**3.699**	**62.004**	**143.623**	**565.138**	**28.531**	**593.669**	**737.292**
1	Rayagada	Mined out Area			6.235	475.351	481.586	96.880	98.717	195.597	677.183
2		Safety Zone Area				7.897	7.597	6.558		6.558	14.155
3		Untouched Area			0.001	75.397	75.398	42.917	1.841	44.758	120.156
Total					6.236	558.345	564.581	146.355	100.558	246.913	811.494
Grand Total			**12.408**	**65.512**	**9.935**	**620.349**	**708.204**	**711.493**	**129.089**	**840.582**	**1548.786**

xvi. The consolidated forest land use pattern of the ML area pertaining to both the Forest Divisions is furnished below:

ABSTRACT OF PROPOSED LAND USE PATTERN OF TOTAL AREA					
S. N	**District**	**Component**	**Area in ha**	**Non-Forest area in ha**	

o.	Name		Revenue Forest	PF/ FRA Forest	Sabik Forest	DLC Forest	Total Forest	Govt. land	Pvt. Land	Total NFL	Total Area Ha
1	Kalahandi Rayagada	Mined out area	12.408	32.900	9.934	525.203	580.445	497.437	127.248	624.685	1205.130
2		Safety Zone Area	0	2.970	0	8.225	11.195	21.675	0	21.675	32.870
3		Untouched Area	0	26.642	0.001	86.921	116.564	192.381	1.841	194.222	310.786
		Total	**12.408**	**65.512**	**9.935**	**620.349**	**708.204**	**711.493**	**129.089**	**840.582**	**1548.786**

xvii. The area proposed for diversion is vulnerable to soil erosion due to steep slopes, vegetation loss and mining disturbances leading to rapid runoff, soil degradation and stream sedimentation Factors like top soil displacement, compaction and blasting will further accelerate erosion.

xviii. The total extent of safety zone in the ML area over 1548.786 ha is 32.87 ha Out of which, 11.195 ha comes under forest land, 21.675 ha comes under Non-Forest Government land within the limit of both the forest divisions. The classification of safety zone over different Kissam of land as well as over the different division jurisdiction is furnished below:

Details of safety zone involved within the Sijimali Bauxite Mines NFL in ha

Sl. No.	District	Component	Forest land in ha					NFL in ha			
			Rev.	PF/ FRA	Sabik	DLC	Total	Govt.	Pvt.	Total	Total in Ha
1	Kalahandi	Safety Zone	0	2.97	0	0.628	3.598	15.117	0	15.117	18..715
2	Rayagada	-do-	0	0	0	7.597	7.597	6.558	0	6.558	14.155
				2.97	**0**	**8.225**	**11.195**	**21.675**	**0**	**21.675**	**32.870**

xix. The proposed area includes Tropical dry deciduous forest. The vegetation is basically mixed Sal Forest with other miscellaneous species. Further,

Wildlife species like Barking deer, wild boar, Monkey, Indian peacock and Indian hare are present in the area.

xx. The presence of bauxite is characterized by long stretches of Plateau land on hilltop with little or no vegetation and vegetation is usually seen in hill slopes.

xxi. No rare and endangered species are available in the Mining lease area coming under Rayagada Forest Division However, as per report of DFO, Kalahandı (South), Elephant habitat in Bijepur RF comes within 10 Kms impact zone. The applied area is not found important from an archaeological point of view. The proposed area does not form part of any National Park, Wildlife Sanctuary and Biosphere Reserve, Tiger Reserve, Elephant corridor or any protected area declared under any law of the State or central Government.

xxii. The DFO, Rayagada has taken up tree enumeration through Range Officer, Kashipur over proposed 564.581 ha forest land of Sijimali Bauxite Block of Vedanta Limited adopting direct counting technique. Due to sparse vegetation on the plateau, the ecological impact of tree felling in this area will be minimal. The plateau's current ecosystem supports limited biodiversity, with most species reliant on valley vegetation for survival. DFO Rayagada has mentioned that the felling of trees near valley areas could lead to disruption of wildlife habitats and potential displacement of species, increased soil erosion and sedimentation of nearby water bodies.

xxiii. Compensatory Afforestation has been proposed over 724.23 ha of Non-forest Government land measuring 565.50 ha in Rayagada District and 158.73 ha Government NFL in Kalahandi District against the proposed diversion of forest land over 708.204 ha for Sijimali Bauxite Block of M/s Vedanta Ltd.

xxiv. The details of area identified for CA in Rayagada district and Kalahandi district are tabulated below:

Rayagada Division:							
S. No.	**Tehsil**	**RI Circle**	**Mouza**	**Khata No.**	**Plot No.**	**Area in ha**	**Total Area (Ha)**
1	Munigud a	Raghubari	Alibhata	11	1	9.70	36.75
					2	11.73	
					3 (P)	15.32	
2	Munigud a	Raghubari	Baringpadar	12	1(P)	8.0	38.24
					43(P)	16.01	
					44	14.23	
3	Munigud a	Raghubari	Baringpadar	3	1	14.14	87.81
					2	16.26	

					3	15.68	
					4(P)	5.74	
					10	4.05	
					11	19.77	
					14(P)	12.17	
4	Munigud a	Raghubari	Baratarana	9	4(P)	7.47	34.09
					23(P)	5.84	
					24	9.31	
					25	11.47	
5	Munigud a		Dambalu	21	1(P)	3.27	3.279
6	Munigud a	Raghubari	Demupadar	10	129	9.49	58.00
					132(P)	7.71	
					133	7.08	
					134	7.63	
					135(P)	7.76	
					136	11.48	
					137(P)	6.84	
7	Munigud a	Raghubari	Jambapadaf r	7	4(P)	2.388	40.40
					6	8.26	
					25	6.576	
					46(P)	13.242	
					47	9.935	
8	Munigud a	Kumudabal i	Kauguda	9	44(P)	24.136	38.95
					46(P)	14.816	
9	Munigud a	Tikarapada	Lidipanga	59	208(P)	11.882	46.22
					362	15.714	
					363	12.562	
					364	6.066	
10	Munigud a	Raghubari	PidelPadar	9	2	16.19	77.81
					3	15.27	

					4	16.39	
					5	15.19	
					219(P)	14.78	
11	Munigud a	Raghubari	Umbere	11	46(P)	7.49	69.66
					87	16.60	
					88(P)	15.24	
					91	12.79	
					92	17.54	
12	Munigud a	Raghubari	Madagalu	4	1	17.179	34.29
					3	5.868	
					5	11.242	

Kalahandi (South) Forest Division							
Sl. No.	Village	Khata No.	Plot No.	Kissam		Area in Ac.	Suitable Area For plantation in Ac
1	Sampala	29	103(P)	Dangar	AAA	25.42	23.65
2			104	Dangar	AAA	32.70	32.70
3			105	Dangar	AAA	36.25	36.25
4			106	Dangar	AAA	42.00	42.00
5			107(P)	Dangar	AAA	41.38	40.07
6			108(P)	Dangar	AAA	38.50	35.28
7	Kanjiguda	32	240(P)	Dangar	Govt. of Odisha	32.50	30.00
8			237(P)	Dangar	Govt. of Odisha	37.50	35.00
9			241(P)	Dangar	Govt. of Odisha	36.15	33.00
10			242(P)	Dangar	Govt. of Odisha	41.73	37.85
11	Malatipadar	38	302	Dangar	AAA	22.50	22.50

12			307(P)	Dangar	AAA	31.50	23.78
						Total area in ac	**392.08**
						Total area in ha	**158.73**

xxv. The CA schemes have been prepared in respect of Rayagada and Kalahandi (South) forest Divisions to the diversion proposal. It has been proposed to adopt chain link wire mesh fencing for the protection of the planted species over the entire area in 17 patches coming under 12 villages. The perimeter proposed for fencing over 17 patches.

xxvi. The total forest land proposed for diversion in the proposal is 708.204 ha. The user agency has provided 565.50 ha NFL in Rayagada forest Division and 158.73 ha NFL in Kalahandi (South) division against the proposed forest land for diversion. Thus, the user agency has provided 724.23 ha NFL land for CA It is required to plant 7,08,204 nos. seedlings in the CA However, both the DFOs have made schemes to plant 2,28,157 + 69,986=2,98,143 nos. seedlings Balance seedlings of 7,08,204 - 2,98,143 = 4,10,061 nos. seedlings will be planted through Additional CA schemes in Rayagada Forest Division. The DFO, Rayagada has identified 546.0 ha of notified degraded forest land in his division to take up the additional CA Plantation.

xxvii. The financial outlay approved by the APCCF (Nodal) for the Addl. CA plantations proposed in Rayagada Division comes to ₹44,71,21,000/-

xxviii. The total financial outlay of the CA and Additional CA schemes pertaining to Rayagada and Kalahandı (South) Forest Division come ₹107,63,89,300 (₹53,09,26,800+ ₹9,83,41,500 + ₹44,71,21,000) The user agency has furnished undertaking to pay the amount of ACA plantation as per the demand of DFO, Rayagada.

xxix. The DFO, Rayagada has prepared the Cost-Benefit analysis of the project pertaining to both the Forest Divisions. The cost of the forest is assessed as ₹42401.893 Lakh and the benefit of the project is estimated at ₹2,76,27,164 65 lakhs The Cost-Benefit ratio comes to 1:651.554.

xxx. The Ministry of Environment, Forest and Climate Change (IA Division) have issued Term of Reference (TOR) vide File No IA-J-11015/6/2023-IA-II(NCM) dt 14.08.2023 for mining of Sijimali Bauxite Block over 1549.022 ha for peak rated Capacity of 9.0 MTPA along with installation of two crushers (2x1200 TPH) located at Thuamul and Kasipur Tahasıls of Kalahandı and Rayagada Districts respectively/MIN/439954/2023 dt 06.11.2023 to the user agency The ToR would be valid for a period of three years.

xxxi. The Mining plan including Progressive Mine closure plan has been approved by the Regional Controller of Mines, Office of the Regional Controller of Mines, BBSR (IBM) over 1549.022 ha in respect of Sijimali

Bauxite Block in Tehsil Rampur and KasipurTahasils of Kalahandi and Rayagada Districts in the state of Odisha in favour of M/s Vedanta Ltd vide L: No MCDR- MIFLOBXT/4/2023-BBS-IBM RO BBS dt 16.08.2023 with 17 no of terms and conditions The approval of Mining Plan along with Progressive Mine Closure Plan has been accorded by the Indian Bureau of Mines.

xxxii. The field Inspection envisages that the project involves displacement of 100 nos. of families in 02 villages i. e. Malipadar under Rayagada District and Tijamali Under Kalahandi District. In this regard the user agency has furnished an undertaking duly countersigned by the DFO, Rayagada to submit the approved R & R Plan in respect of Sijimali Bauxite Block of M/s Vedanta Ltd in Rayagada and Kalahandı Districts to the Competent Authority immediately after its approval under Section 16 of LARR Act, 2013. The user agency has furnished an undertaking duly countersigned by the DFO, Kalahandı (South) to submit the approved R&R Plan in respect of Sijimali Bauxite Block of M/s Vedanta Ltd in Rayagada and Kalahandı Districts to the competent authority immediately after its approval under section 16 of LARR Act, 2013.

xxxiii. A Site-Specific Wildlife Conservation Plan for the project has been approved by the PCCF (WL) and CWLW, Odisha vide Memo No 9718 dt 16.08.2024 The user agency has furnished an undertaking duly countersigned by the DFO, Rayagada to bear the cost of SSWLCP.

xxxiv. As stated by the Additional PCCF, Forest Diversion & Nodal Officer, FC Act, O/o the PCCF &HoFF, Odisha, there are no court cases pending against the user agency on the applied area as revealed from the Site Inspection Reports of report of the DFO, Rayagada and DFO, Kalahandi (South) Divisions. However, a Writ Petition was filed before the Hon'ble High Court vide WP (C) No 3729 of 2025 (Sri Gobinda Majhi& others-Vrs-Union of India & others) by the Petitioners with the following prayers:

a. Issue a writ of certiorari or any other appropriate writ quashing the Gram Sabha resolutions dated 08.12.2023 [Annexure 2 (Series) and Annexure 3 (Series)) and the subsequent certificate issued by the Collector, Kalahandı (Annexure 8) as the same are fraudulent and are against the provisions of FRA, 2006 and the Constitution of India.
b. Issue of writ of mandamus or any other appropriate writ directing the Ops to accept the resolutions passed by the Gram Sabha held between 30.08.2024 to 04.09.2024 [Annexure 9 (series)] wherein no consent for the diversion of forest land for non-forest purposes have been given by the villagers of the said villages.
c. Issue a writ of mandamus or any other appropriate writ directing the Opposite Parties not to take any further steps pertaining to the Sijimali Bauxite Mine Project till the rights of the villagers in the project affected areas are settled as per the Forest Rights Act, 2006.

d. Issue a writ of mandamus or any other appropriate writs constituting a judicial inquiry into the illegalities committed in the alleged Gram Sabhas which took place on 08.12.2023 in the villagers of Kantamal, Sagaban, Dumerpadar, Aligana, Chulbari, Tijimali, Pelanakona, Katıbhata, Malıpadar and Bondel and an action taken report be submitted before this Hon'ble Court in a time bound manner.

e. Union of India through Secretary, MoEF&CC, Ministry of Tribal Affairs through its Secretary, State of Odisha through Secretary, Department of Revenue & Disaster Management, State of Odisha through Additional Chief Secretary, Forest & Environment Department, Department of Steel & Mines, Collector, Kalahandi, Collector, Rayagada and M/s Vedanta Ltd. were Opposite Parties No 1, 2, 3, 4, 5, 6, 7 & 8 respectively.

f. The Hon'ble High Court vide Order No 1 dated 12.02.2025 had directed the State to issue written instruction on Petitioners allegation recorded in their order and directed to list on 19.02.2025 In the matter, the Collector & District Magistrate, Kalahandi and Collector & District Magistrate, Rayagada were requested to furnish the instruction/ PWC on the aforesaid Writ Petition to the O/o the AG, Odisha, Cuttack at the earliest under intimation to this Department vide this Department Letter No 6289/FE&CC dated 12.03.2025.

g. The Hon'ble High Court vide Judgement dated 05.03.2025 has disposed of the Writ Petition. In the said judgement, the Hon'ble High Court in Para 7 has directed as follows.

"7 Mr. Mohanty submits, his clients have not conceded but on the contrary maintained that Impugned Gram Sabha resolutions were fraudulently got made. He submits, subsequent to impugned resolutions, the Gram Sabhas convened between 30th August, 2024 and 4th September, 2024. They resolved that no consent for diversion was duly obtained. Mr. Mohanty points out, there has not been process duly undertaken to grant recognition to his clients, who are forest dwellers in the area. Mr. Swain disputes on submission that the Gram Sabha proceedings were video recorded and petitioners were present in those Gram Sabhas, which resulted in impugned resolutions. We would not want to be drawn into this dispute on facts. The submission is recorded for being noted by Union of India in dealing with the proposal made by the user agency (opposite party no 8), upon taking into confidence inhabitants of concerned villages, through the Gram Sabhas and otherwise. Petitioners have pointed out their rights under the Act of 2006 as provided under section 3. We reiterate, Union of India must take note"

xxxv. The aforesaid order dated 05.03.2025 of the Hon'ble High Court passed in WP No 3729 of 2025 (Shri GobindaMajhi& others Vrs Union of India & others) has been received in this Department on 26.03.2025 from the Superintendent of the High Court of Orissa vide his Issue No 8805 (3) dated 13.03.2025. *The copy of the aforesaid letter of the Superintendent of the High Court of Orissa along with a copy of the Order dated. 05.03.2025 of the Hon'ble High Court of Orissa is enclosed for favour of kind information and necessary action of the Ministry.*

xxxvi. The Collector, Rayagada has issued certificate in Form-II under Schedule Tribe and other Traditional Dwellers (Recognition of Forest Rights) Act, 2006 for forest land of 565.70 Ha involved in the Sijimali Bauxite Block leased out in favour of M/s Vedanta Ltd On 24.01.2024

xxxvii. The Collector, Kalahandi has issued certificate in Form No -II under Schedule Tribe and other Traditional Dwellers (Recognition of Forest Rights) Act, 2006 for forest land of 133.95 Ha involved in the Sijimali Bauxite Block leased out in favour of M/s Vedanta Ltd. on 18.01 2024.

xxxviii. The user agency has furnished an undertaking duly countersigned by the DFO, Kalahandi (South) to submit the FRA certificate for the balance forest land over 03 villages coming in Kalahandi district after obtaining from the Revenue authority.

xxxix. The State has informed that the user agency does not have any other existing bauxite mines in Odisha. This will be their first bauxite mine in Odisha. The user agency, Vedanta Ltd., has been declared the Preferred Bidder for this block in the auction held on 09.02.2023 under the MMDR Act, 1957. However, they do operate the Jamkhani opencast coal mine in Sundargarh district with a lease area of 847 ha, a reserve of 222.13 million tonnes, and a capacity of 2.6 MTPA.

xl. The State has informed that the valley area is non-mineralized, has no bauxite presence, and will be left untouched. It is proposed to be developed as a greenbelt.

xli. The State has given justification for the temporary roads, transmission lines, and cultivation which are seen in the forest area. The State has clarified that these features are linked to the villages of Tijimali and Malipadar, which fall within the mining lease area. These villages will be rehabilitated and resettled as per the LARR Act, 2013. A notification under Section 11(1) has already been issued. Seasonal agricultural use is non-permanent and can be vacated anytime.

xlii. The State Govt. has clarified that 116.5 ha of forest area marked as 'untouched' because as per Para 2.11 of the mining plan, this area, part of a non-mineralized valley, was included in the lease block but will remain undisturbed. The total untouched area is 311.02 ha, including 116.5 ha of forest.

xliii. The State has clarified that cultivation and settlements are seen within the lease boundary because the seasonal cultivation is done by local villagers on a temporary basis and does not indicate permanent land use. The

settlements are located in Tijimali and Malipadar, which are private lands. These villages are to be relocated under the R&R plan per the LARR Act.

xliv. The State has clarified the requirement of water, electricity, and evacuation from the mine

a. **Water:** Will be drawn from groundwater (approval from CGWA obtained).

b. **Power:** To be supplied through Diesel Generators.

c. **Evacuation:** Bauxite will be transported via PWD road from Malipadar to SH-44, then via rail from Singarama siding to Lanjigarh refinery. A separate proposal has been submitted for diversion of 4.911 ha forest land for constructing an access road to SH-44.

xlv. The State has informed that cultivation is visible on CA land because of seasonal signs of cultivation, but the land is still classified as degraded forest. These signs do not indicate permanent land use and the land is suitable for afforestation, as per the approved CA Plan.

xlvi. A Site-Specific Wildlife Conservation Plan for the 10 km impact zone has been approved by the PCCF (Wildlife) & CWLW, Odisha, with a budget of ₹34.44 Cr. Funds will be deposited in State CAMPA and used in Kalahandi South and Rayagada Forest Divisions. Activities will be implemented under DFO guidance, with a 5-year plan period and monitoring provisions.

xlvii. The Regional Office has inspected the area proposed for diversion and proposed CA land. The DDGF (Central), RO Bhubaneswar has recommended the proposal subject to the following conditions:

(a) A total of 310.786 hectares of land located within the mining lease boundary (beyond the safety zone), shall remain undisturbed, as submitted by the User Agency. This area shall be maintained as a green belt owing to the absence of bauxite reserves. The User Agency shall ensure that no tree felling or mining activity is undertaken in the said forest area.

(b) The State Government shall ensure that 8.082 hectares of forest land, which forms part of the Compensatory Afforestation (CA) area for the Dubna-Sakradihi Mines project (Proposal No. FP/OR/MIN/30349/2017) and have also been included in the present proposal, are compensated by identifying and providing an alternative CA site for the said project. Approval for the partial change in CA site shall be obtained from the competent authority for Proposal No. FP/OR/MIN/30349/2017.

(c) As mining is proposed at the hilltop and may affect the natural catchment area, the User Agency shall implement comprehensive soil conservation measures on the hillock and adjoining forest areas. These measures shall aim to prevent surface runoff from leaving the mining zone and to safeguard downstream ecosystems.

(d) The User Agency shall submit a progressive reclamation plan, along with the restoration schedule and forest land surrender schedule, to the Ministry prior to the grant of final approval.

(e) A separate proposal (Proposal No. FP/OR/OTHERS/523366/2025) involving the diversion of 4.911 hectares of forest land in favour of the Odisha Industrial Infrastructure Development Corporation (IDCO) for the construction of an access road from the Sijimali Bauxite Mines (hilltop) to State Highway-44 (SH-44) is presently under consideration by the Ministry of Environment, Forest and Climate Change for "in-principle" approval. As this road is an ancillary component of the Sijimali Bauxite Mines project, the competent authority may consider appraising both proposals concurrently to ensure an integrated evaluation and to avoid any fait accompli situation.

(f) The User Agency shall ensure that all Compensatory Afforestation (CA) sites are free from encroachments before being handed over to the State Forest Department (SFD). The SFD shall ensure that the CA sites are properly fenced, cleared of encroachments, and planted, at the cost of the User Agency.

(g) The State Forest Department (SFD) shall implement the Site-Specific Wildlife Conservation Plan (SSWLCP) for the project, as approved by the Chief Wildlife Warden (CWLW), Odisha, at the cost of the User Agency.

xlviii. The Hon'ble High Court vide Judgement dated 05.03.2025 have disposed of the Wnt Petition In the said judgement, the Hon'ble High Court in Para 7 have directed as follows:

"7 Mr. Mohanty submits, his clients have not conceded but on the contrary maintained that Impugned Gram Sabha resolutions were fraudulently got made. He submits, subsequent to impugned resolutions, the Gram Sabhas convened between 30th August, 2024 and 4th September, 2024. They resolved that no consent for diversion was duly obtained. Mr. Mohanty points out, there has not been process duly undertaken to grant recognition to his clients, who are forest dwellers in the area. Mr. Swain disputes on submission that the Gram Sabha proceedings were video recorded and petitioners were present in those Gram Sabhas, which resulted in impugned resolutions. We would not want to be drawn into this dispute on facts. The submission is recorded for being noted by Union of India in dealing with the proposal made by the user agency (opposite party no 8), upon taking into confidence inhabitants of concerned villages, through the Gram Sabhas and otherwise. Petitioners have pointed out their rights under the Act of 2006 as provided under section 3. We reiterate, Union of India must take note" order.

xlix. Further, the committee has also noted that a separate proposal for seeking prior approval of the Central Govt. Diversion of 4.911 ha of forest land for construction of access road from Sijimali Bauxite Mines (Hill Top) to SH-44 to facilitate bauxite transportation in KashipurTahasil of Rayagada District under Rayagada Forest Division applied by IDCO has been submitted by the State Govt. letter No.FE-DIV-FLD-0025-2025-10894/FE&CC dated 09.05.2025 to the RO Bhubaneswar (Online

proposal No. FP/OR/OTHERS/523366/2025). The RO has submitted this proposal to the Ministry for holistic decision.

I. Further, the DDGF (Central) has mentioned that:
   a. The instant proposal pertains to the construction of a road submitted by the Government of Odisha, with the primary objective of facilitating the transportation of bauxite ore via bulkers/trucks from the mines of M/s Vedanta Limited to State Highway 44 (SH-44).
   b. In response to the EDS raised by the Regional Office on 19.05.2025, the State Government has clarified that, apart from serving the aforesaid purpose, the proposed road is also intended to connect the villages of Dumerpadar, Porlang, Sagabari, Bichapinda, and Malipadar, which presently lack road connectivity.
   c. However, as per the KML file submitted, the specifications of the proposed road (width) indicate that it is primarily designed to support the movement of heavy vehicles.
   d. In this context, it is pertinent to mention that the associated mining proposal—vide proposal no. FP/OR/MIN/QRY/470250/2024—is currently under consideration by the Ministry of Environment, Forest and Climate Change (MoEF&CC), New Delhi. The in-principle approval for the same is yet to be granted. In the event that the mining proposal is not favourably considered by the competent authority, positive consideration of the road proposal at this stage by the Regional Office may lead to a fait accompli situation.

Ii. The committee further observed that the road proposal has been submitted by the other agency i.e. by IDCO, however the road is primarily proposed keeping in view the requirement of mineral evacuation in the instant mine. The separate proposal for the road construction may be allowed, However, the proposal for road can only be considered for approval once the proposal for the diversion of forest land for the mining lease is approved.

Iii. The above facts were considered in the Advisory Committee meeting held on 30.07.2025. After going through the facts of the proposal and submissions made by the Nodal Officer, Government of Odisha, the Committee deferred the proposal and sought clarification/information on the following for further consideration in the matter:
   a. Keeping in view the Judgement dated 05.03.2025 of the Hon'ble High Court of Odisha w.r.t. the WP (C) No 3729 of 2025 (Sri GobindaMajhi& others-Vrs-Union of India & others), the state shall ensure strict compliance of the order of the Hon'ble Court and submit a detailed report.
   b. The State has informed that the area proposed for diversion is vulnerable to soil erosion due to steep slopes. The vegetation loss and mining disturbances lead to rapid runoff, soil degradation and stream sedimentation. The factors like top soil displacement,

compaction and blasting will further accelerate erosion. In this regard, the justification and plan to mitigate the soil erosion shall be submitted.

c. An area of 8.082 hectares, which forms part of the Compensatory Afforestation (CA) area for the Dubna-Sakradihi Mines project (Proposal No. FP/OR/MIN/30349/2017) has been included in the present proposal. The state shall give justification for keeping this area in the diversion proposal. The State shall provide the status of compensatory afforestation carried out in this area and intimate as to how this area will be compensated.

d. The State has informed that the temporary roads, transmission lines, and cultivation seen in the forest area are linked to the villages of Tijimali and Malipadar. In this regard, the state shall examine the matter and submit a report regarding the violation of the Adhiniyam, if any.

e. The State shall ensure that all Compensatory Afforestation (CA) sites are suitable for plantation and free from encroachments. In this regard, a detailed report for each Compensatory Afforestation area shall be provided.

liii. The State Govt. submitted the reply online on 18.08.2025 which was examined by the Advisory Committee wherein the committee observed that:

a. The State Govt. has submitted the detailed report submitted by the District Collector Rayagad and Kalahandi alongwith all supportive documents mentioning therein that the process has been completed in a fair and transparent manner. However, the reports are silent on the concerns raised by the people in their representations and in the petition before the Hon'ble Court.

b. An area of 8.082 hectares, which forms part of the Compensatory Afforestation (CA) area for the Dubna-Sakradihi Mines project (Proposal No. FP/OR/MIN/30349/2017) has been included in the present proposal. The State has not provided the status of compensatory afforestation carried out in this area.

c. The State has informed that the area proposed for diversion is vulnerable to soil erosion due to steep slopes. The vegetation loss and mining disturbances lead to rapid runoff, soil degradation and stream sedimentation. The factors like top soil displacement, compaction and blasting will further accelerate erosion. In this regard, the plan to mitigate the soil erosion has not been submitted.

d. The State govt. has informed that as per data available in the census handbook of District Koraput and Kalahandi for year 1981, it is found that village Tijimali and Malipadar were existing during 1981 i.e. have been existing much before the enactment of Forest Conservation Act, 1980 due to which some patches of the Revenue Forest land have been used by the villagers for the purpose of cultivation prior to 1980. Similarly, temporary roads were also being

used by the local villagers much before 1980. Hence, the breaking of forest land for the purpose of cultivation and road may not be treated as violation under Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 in respect of the project. However, the details of existing transmission lines have not been provided.

e. The RO in the SIR had mentioned that presence of shifting cultivation and village paths has been found in maximum proposed CA sites. Accordingly, the State was asked to ensure that all Compensatory Afforestation (CA) sites are suitable for plantation and free from encroachments. In this regard, a detailed report for each Compensatory Afforestation was asked. In this regard the State has referred to the detailed CA scheme only and the detailed report for each site ensuring that it is free from all encumbrances has not been submitted.

f. The State has informed that the temporary roads, transmission lines, and cultivation seen in the forest area are linked to the villages of Tijimali and Malipadar. Moreover, the State has not mentioned anything about the transmission lines. In this regard, the state shall examine the matter and submit a detailed report regarding the violation of the Adhiniyam, if any.

liv. The committee further observed that the area has the presence of elephants and therefore it would be prudent to seek comments from the Project Elephant Division in the matter.

lv. The proposal was considered in Advisory Committee meeting held on 25.8.2025. The Committee deferred the proposal and sought clarification/information on the following for further consideration in the matter:

(a) The State Govt. has submitted the detailed report submitted by the District Collector Rayagad and Kalahandi alongwith all supportive documents mentioning therein that the process has been completed in a fair and transparent manner by following due procedure. However, the reports are silent on the concerns raised by the people in their representations and in the petition before the Hon'ble Court. Keeping in view the Judgement dated 05.03.2025 of the Hon'ble High Court of Odisha w.r.t. the WP (C) No 3729 of 2025 (Sri Gobinda Majhi & others-Vrs-Union of India & others), the state shall address the concerns raised by the petitioners and those raised by the local people in their representations.

(b) An area of 8.082 hectares, which forms part of the Compensatory Afforestation (CA) area for the Dubna-Sakradihi Mines project (Proposal No. FP/OR/MIN/30349/2017) has been included in the present proposal. The State has not provided the status of compensatory afforestation carried out in this area.The same shall be provided.

(c) The State has informed that the area proposed for diversion is vulnerable to soil erosion due to steep slopes. The vegetation loss

and mining disturbances lead to rapid runoff, soil degradation and stream sedimentation. The factors like top soil displacement, compaction and blasting will further accelerate erosion. In this regard, the plan to mitigate the soil erosion has not been submitted, which shall be submitted.

(d) The RO in the SIR had mentioned that presence of shifting cultivation and village paths has been found in maximum proposed CA sites. Accordingly, the State was asked to ensure that all Compensatory Afforestation (CA) sites are suitable for plantation and free from encroachments and a detailed report for each Compensatory Afforestation site was asked. In this regard the State has referred to the detailed CA scheme only and the detailed report for each site ensuring that it is free from all encumbrances has not been submitted.

(e) The State was asked to submit a report on the status of violation wherein the State has not mentioned anything about the existing transmission lines. In this regard, the state shall examine the matter and submit a detailed report regarding the violation of the Adhiniyam, if any.

(f) The presence of elephants has been reported in the proposed area therefore the comments from the Project Elephant Division may also be sought on the matter.

lvi. The observation of Advisory Committee conveyed to the State Government vide EDS dated 01.09.2025. In this reference, State Government vide letter dated 23.09.2025 has reported that all concerns raised by the petitioners and local inhabitants have been carefully examined and duly addressed in a fair and transparent manner by the District Administration. Further, adequate safeguards have been ensured under the provisions of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 alongwith the Rules of 2007 and the Amendment Rules of 2012 so as to ensure proper and effective implementation of the FRA.

lvii. The Committee has observed that the User Agency has submitted the "Scheme to Mitigate Soil Erosion" proposing various structural and biological measures such as construction of retaining walls (45422 m), garland drains (7511 m), check dams (28 Nos), settling ponds (11 Nos), contour bunds (447 m), Loose Boulder Check Dams (LBCDs-100 Nos), periodic de-silting, and associated plantation works.

lviii. With regard to compensate the reduction of 8.082 ha of CA land of OMC Ltd., an additional 8.082 ha has also been included in the total CA land of 724.23 ha, allotted by both the District Collectors in Kalahandi and Rayagada districts towards Compensatory afforestation of the project. Further clarified that no Compensatory Afforestation has been raised over the aforesaid 8.082 ha, which forms part of the CA area for the Dubna-Sakradihi Mines Project (Proposal No FP/OR/MIN/30349/2017) and has now been included in the lease area of the instant proposal.

lix. State Government has informed that the presence of certain seasonal land-use features, including temporary cultivation and footpaths. As certified by the Tahasildars and jointly endorsed by the Range Officers, these activities represent temporary usages by local villagers in the past and can be discontinued or removed at any point of time. Such transient indicators do not amount to any permanent change in land use, and accordingly, the identified land patches are considered suitable for afforestation.

lx. The State has informed that the existing transmission line was established under the Deen Dayal Upadhyaya Gram Jyou Yojana (DDUGJY) (RGGVY XII Plan), for electrification of Malipadar village within the present Sijimali Bauxite Block prior to its auction. It is evident that the establishment of the said transmission line predates the involvement of the present applicant, Vedanta Ltd. and therefore no violation of the Van (SanrakshanEvamSamvardhan) Adhiniyam, 1980, is attributable to the User Agency.

lxi. Further, the State has informed that as per the Summer and Winter Elephant Census, figures for the year 2024-25, a total of 35 elephants have been recorded in the Rayagada Forest Division. There is one resident male elephant in Rayagada Forest Division at aerial distance of approximately 85-90 km from the lease boundary in Gunupur Range, while the remaining elephants are migratory, frequently moving in and out of Rayagada into adjacent Divisions.The Division encompasses two elephant corridors (Ref Elephant Corridors of India, 2023 published by MoEF CC), namely the Kotgarh-Chandrapur Corridor and the KarlapatUrladani Corridor Both corridors are situated beyond the 10 km impact zone of the Sijimali Mining Lease boundary, however, elephant movement has been recorded at aerial distances of approximately 15-20 km from the lease boundary during the years 2022-23 (2 Elephants), 2024-25 (10 Elephants), and 2025-26 (4 Elephants) in the recent past. Further, to mitigate any potential negative impacts a Site-Specific Wildlife Conservation Plan (SSWLCP) has been prepared and duly approved by the PCCF (Wildlife)-cum-CWLW, Odisha, vide Letter No. 9718 dated 16.08.2024.

lxii. The committee observed that the Hon'ble High court while disposing the matter ha iter-alia observed that "*Mr. Swain disputes on submission that the Gram Sabha proceedings were video recorded and petitioners were present in those Gram Sabhas, which resulted in impugned resolutions. We would not want to be drawn into this dispute on facts. The submission is recorded for being noted by Union of India in dealing with the proposal made by the user agency (opposite party no.8), upon taking into confidence inhabitants of concerned villages, through the Gram Sabhas and otherwise. Petitioners have pointed out their rights under the Act of 2006 as provided under section 3. We reiterate, Union of India must take note*".

lxiii. The above facts were considered in the Advisory Committee meeting held on 27.10.2025. After going through the facts of the proposal and submissions made by the Nodal Officer, Government of Odisha, the Committee deferred the proposal and sought clarification/information on the following for further consideration in the matter

a. The State Government shall submit a copy of affidavits filed by the petitioner and respondents in W.P. (C) No.3729 of 2025 (Sri Gobinda Majhi & Others-Vrs-Union Of India & Others) filed before Hon'ble High Court of Odisha for further necessary action in the Ministry.
b. The copy of affidavit filed by state may also be given.

lxiv. The observation of Advisory Committee was conveyed to the State Government vide EDS dated 06.11.2025.

lxv. The committee noted that the State Government vide letter dated 13.11.2025 has reported that there was no affidavit filed by the Petitioner nor the Respondents. State Government has submitted copies of the Orders dtd. 12.02.2025, 05.03.2025 and 02.09.2025 passed in the W.P. (C) No.3729 of 2025 (Sri Gobinda Majhi & Others-Vrs-Union Of India & Others) and dtd.09.10.2025 passed in IA No.4490 of 2025 by the Hon'ble High Court of Orissa. Further, State Government has reported that Counter Affidavit has not been filed by State in the said Writ Petition.

lxvi. The Committee noted that several representations have been received alleging irregularities and fraudulent conduct of Gram Sabha proceedings related to the proposal. Recently, another representation dated 22.11.2025 has also been received, alleging that misleading replies were submitted to the Ministry. The Committee took note of the judgment of the Hon'ble High Court dated 05.03.2025, wherein the Hon'ble Court directed that the submission of petitioner is recorded for being noted by Union of India in dealing with the proposal made by the user agency.

lxvii. In compliance with the Hon'ble High Court's directions, the Ministry requested the State Government to examine and address the concerns raised in the representations and in the petition. The State Government in this regard forwarded the response of the District Collectors of Rayagada and Kalahandi. Both the District Collectors have affirmed that the entire FRA process, including Gram Sabha proceedings, was undertaken in a fair and transparent manner and in accordance with due procedure. The Committee noted that, under the provisions of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA, 2006), the District Collector is the competent statutory authority responsible for issuing the FRA compliance certificate. The District Collectors of Rayagada and Kalahandi have maintained that the entire process pertaining to FRA compliance, including Gram Sabha proceedings, has been conducted in a fair and transparent manner without any procedural lapses. The Committee observed that these confirmations from the statutory authorities form the basis of FRA compliance for the proposal.

4. **Decision of Advisory Committee:-** The Committee after detailed discussion and deliberation with the DDGF (Central), Regional Office, Bhubaneswar and the CCF in the office of Nodal officer (FCA), Government of Odisha '***recommended***' the Stage-I / In-principle approval for diversion of 708.204 ha (564.581 ha in Rayagada Forest Division + 143.623 ha in Kalahandi (South) Forest Division) of Forest land (including 11.195 ha earmarked for Safety Zone) within total Mining Lease area in 1548.786 ha of Sijimali Bauxite Mines in Rayagada Forest Division & Kalahandı (South) Forest Division under Rayagada and Kalahandi District respectively in respect of M/s Vedanta Limited subject to general, standard and following specific conditions:-

i. The State Government shall ensure complete compliance of the provisions of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA, 2006);
ii. A total of 310.786 hectares of land located within the mining lease boundary (beyond the safety zone) shall remain undisturbed, as the User Agency has indicated that no bauxite reserves are present in this area. This land shall be maintained as a green belt, and the User Agency shall ensure that no tree felling, mining operations, or any other form of land disturbance is carried out within this area.
iii. The State Government shall take steps to ensure that the approval for the change in CA site for 8.082 ha CA area shall be obtained from the competent authority in case of Proposal No. FP/OR/MIN/30349/2017.
iv. As mining is proposed at the hilltop and may affect the natural catchment area, the User Agency shall implement comprehensive soil conservation measures on the hillock and adjoining forest areas. These measures shall aim to prevent surface runoff from leaving the mining zone and to safeguard downstream ecosystems.The Plan for the same shall be approved by the State Forest Department and implemented under its supervision.
v. The User Agency shall submit a progressive reclamation plan, including the restoration schedule and the schedule for surrender of forest land, along with the compliance report.
vi. The User Agency shall ensure that all Compensatory Afforestation (CA) sites are free from encroachments before being handed over to the State Forest Department (SFD). The SFD shall ensure that the CA sites are properly fenced, cleared of encroachments, and planted, at the cost of the User Agency.
vii. A comprehensive site-specific Wildlife Management Plan shall be prepared and implemented at the cost of the user agency to reduce the adverse effect of project on wildlife. This will also include a comprehensive Human–Elephant Conflict Monitoring and Mitigation Plan. The preparation of the Wildlife Management Plan and monitoring of its implementation shall be done by Wildlife Institute of India (WII). The plan shall include systematic monitoring of human–elephant interactions, research on habitat use and conflict drivers, and capacity-building programmes for local communities,

forest managers, and mine developers to ensure effective conflict prevention and management.

Additional Agenda No. 1

Proposal No. FP/RJ/OTHERS/509218/2024

Subject: Proposal for seeking Ex-Post Facto approval of the Central Government under Section 2 (1) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 for diversion of 4.487 ha Protected forest land in favour of Assistant Engineer, Public Works Department of Rajasthan for Beautification and Renovation work in Kaila Devi Temple Jheel KaBada, Bayana Tehsil, Bharatpur District of Rajasthan State

1. The agenda for the above subject proposal was considered by the Advisory Committee (AC) in its meeting held on 02.12.2025. The corresponding agenda note may be seen at www.parivesh.nic.in. The IGF (Central), RO Gandhinagar and Nodal Officer (FCA), Govt. of Rajasthan were present in the meeting.
2. During the meeting, all the facts and background of the proposal, along with examination of the proposal in the DSS were presented and explained to the Advisory Committee. The Committee was also apprised of the relevant provisions under other Acts, Rules and Guidelines relevant to the proposal and their significance.
3. The Advisory Committee after through deliberation and discussion observed that:
    i. The Govt. of Rajasthan through their letter No F.No.1(25)forest/2025 dated 21.02.2025 forwarded an online proposal on dated 09.04.2025 to the Ministry for seeking Ex-Post Facto approval of the Central Government under Section 2 (1) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 for diversion of 4.487 ha Protected forest land for Beautification and Renovation work in Kaila Devi Temple JheelKaBada, Bayana, Bharatpur District of Rajasthan State.
    ii. The proposed forest area is having canopy density of 0.3 (Eco Class-3) and 222 number of trees have been proposed to be felled.The State Govt. has informed that the proposed area to be diverted falls in the TTZ (Taz Trapezium Zone) but working agency has given a certificate ensuring that it will not cut any trees coming in the diversion area.
    iii. The State Govt. has informed that the proposed area should be diverted as there is high inflow of pilgrims for the temple. It would be better that area is diverted and some other area is given to the forest department where better ecosystem could be developed adjoining to existing forest patch. The present area already has many structures whichcan not revived back to the forest ecosystem.
    iv. The justification of the locating the project in forest area is that theChief Minister's budget announcement in the year (2022-23) of the Hon'ble Chief Minister, administrative approval has been given to get the work done in the limit of Rs. 5.00 crore for the renovation and development

vedanta
transforming for good

Letter No: **VL/Road/SIJIMALI/ 187/25** **Date: 12.12.2025**

To,
The Consultant (Environment),
IDCO, BBSR
Odisha

Sub: Compliance to EDS raised by MoEF & CC, GoI on diversion proposal of forest land measuring 4.911 Ha in the village Shagabari and Porlang under Kashipur Tahasil for construction of road from SH-44 to Sijimali Bauxite Mines (hilltop) under Rayagada District.

Ref: 1. MoM (FC/MOM/AC/473103/2025) dated 12.12.2025
2. IDCO Letter No. HO-CGM(Env)/394/2024 dated 12.08.2025
3. MoM (FC/MoM/AC/278834/2025) dated 07.08.2025

Dear Sir,

With reference to the subject and the letter issued from your esteemed office, we would like to inform you that the in-principle approval for diversion of forest land for the Sijimali Bauxite Mine has already been granted by the Ministry of Environment, Forest and Climate Change (MoEF & CC), as per the Minutes of Meeting published on 12.12.2025 (copy attached for reference).

In view of the above, the proposal for construction of the said road may now kindly be considered for Stage-1 forest clearance approval.

We request your good office to kindly acknowledge this compliance submission and take necessary action at your end. Further, we also request you to kindly forward this compliance report to the Divisional Forest Officer, Rayagada Forest Division for further processing of the proposal at their level.

Thanking You,

For M/s Vedanta Limited

VEDANTA LIMITED

Shuvrendu Roy Choudhury
Chief New Mines & Approvals

Encl:
1. The Reply to the EDS is enclosed as annexure-1

VEDANTA LIMITED
5th Floor, Module C/2, Fortune Towers, Chandrasekharpur, Odisha, India – 751023.
T - 06645666989
Website: www.vedantalimited.com
CIN: L13209MH1965PLC291394

EDS Raised	Reply to EDS
The proposed road is primarily designed to support the movement of heavy vehicles for the mineral evacuation from the Sijimali Bauxite Mine. Therefore, the proposal for road construction can only be considered once the proposal for the diversion of forest land for the said mining lease is approved. The State government shall therefore submit the proposal after obtaining the in-principle approval for the diversion of forest land in the Sijimali Bauxite Mine.	It is noted that the in-principle approval for the diversion of forest land for the Sijimali Bauxite Mine has already been granted, as per the Minutes of Meeting published on 12.12.2025 (attached). In view of this, the proposal for the construction of the said road may now be considered for Stage-1 forest clearance approval, subject to compliance with all applicable norms and conditions.

VEDANTA LIMITED

OFFICE OF THE DIVISIONAL FOREST OFFICER : RAYAGADA FOREST DIVISION
E.Mail: dforgda17@gmail.com, dfo.rayagada@odisha.gov.in

Memo Letter No. 6860 / 4F (Misc.) 1984/2025. Dt. 15/12/2025

To

The Principal Chief Conservator of Forests (FD & NO, F.C. Act)
O/o. the Principal Chief Conservator of Forests,
Odisha, Bhubaneswar.

Sub: - Proposal for diversion of 4.911 Ha. Forest Land in village Sagabari and Porlang under Kashipur Tahasil for Construction of Road from Sijimali Bauxite Mines top to SH -44 under Rayagada District/Division- Regarding compliance of the EDS. (Proposal No. FP/OR/OTHERS/523366/2025).

Ref: - 1. MoM ID. FC/MOM/AC/473103/2025 Dt.02.12.2025 of the FAC (MoEF & CC), GoI, New Delhi.
2. Letter No.394 dated.12.12.2025 of the Consultant (Env), IDCO, IDCO Tower, Janapath, Bhubaneswar.

In inviting a reference to the above-cited subject and related correspondence, it is hereby informed that, as per the EDS dated 07.08.2025 issued by the Ministry of Environment, Forest & Climate Change (MoEF&CC), Government of India, New Delhi, in connection with the proposal for diversion of 4.911 ha of forest land in Sagabari and Porlang villages under Kashipur Tahasil for construction of a road from the Sijimali Bauxite Mines top to SH-44 in Rayagada District/Division, it has been observed that "the proposed road is primarily intended to facilitate the movement of heavy vehicles for mineral evacuation from the Sijimali Bauxite Mine. Hence, the proposal for road construction can only be considered after approval of the proposal for diversion of forest land for the said mining lease."

Further, as per the Minutes of Meeting of the Advisory Committee held on 02.12.2025, the Ministry of Environment, Forest & Climate Change, Government of India, New Delhi, has recommended Stage-I (In-principle) approval for diversion of 708.204 ha of forest land (564.581 ha in Rayagada Forest Division and 143.623 ha in Kalahandi (South) Forest Division), including 11.195 ha earmarked for the Safety Zone, out of the total Mining Lease area of 1548.786 ha of the Sijimali Bauxite Mines, falling under Rayagada Forest Division and Kalahandi (South) Forest Division in Rayagada and Kalahandi Districts respectively, in favour of M/s Vedanta Limited.

In view of the above, the proposal for diversion of 4.911 ha of forest land in Sagabari and Porlang villages under Kashipur Tahasil for construction of a road from the Sijimali Bauxite Mines top to SH-44 in Rayagada District/Division is hereby transmitted for your kind consideration, decision, and onward transmission as deemed appropriate.

Divisional Forest Officer
Rayagada Division

Memo No 6861 Date 15/12/2025

Copy submitted to the Regional Chief Conservator of Forests, Koraput Circle, Koraput for favour of kind information and necessary action.

Divisional Forest Officer
Rayagada Division

Memo No 6862 Date 15/12/2025

Copy submitted to the Consultant (Env), IDCO, IDCO Tower, Janapath Bhubaneswar for favour of kind information and necessary action.

Divisional Forest Officer
Rayagada Division

Sri Ashok Kumar Mishra
Consultant (Environment)

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No. HO-CGM(Env)/394/2024 35507 **Date:**/2/12/2025

To,

The Divisional Forest Officer
Rayagada Forest Division
Rayagada

Sub: Compliance to EDS raised by MoEF & CC, GoI on diversion proposal for diversion of forest land measuring 4.911 ha in the village Sagabari and Porlang under Kashipur Tahasil for construction of road from SH-44 to Sijimali Bauxite Mines (hilltop) under Rayagada District.

Sir,

In inviting a reference to the EDS raised by MoEF & CC, GoI. on 12/08/2025, the Stage-I Clearance for Sijimali Bauxite Mines under Rayagada District has been issued by MoEF & CC, GoI. vide Proposal No.FP/OR/MIN/QRY/470250/2024 is enclosed herewith in compliance to EDS for further action at your end.

Encl:- As above (Reply of Project Proponent along with Stage-I Clearance of Sijimali mines)

Yours faithfully,

✓ **Consultant (Environment)**
12/12

Memo No._____/ Date: /12/2025
Copy Submitted to the Addl. PCCF, Nodal Officer, Odisha, Bhubaneswar for kind information & necessary action.

Consultant (Environment)

Memo No._____/ Date: /12/2025
Copy Submitted to the Forests, Environment & Climate Change Department, Government of Odisha for kind information & necessary action.

Consultant (Environment)

Memo No._____/ Date: /12/2025
Copy forwarded to the Addl. CGM(Land), IDCO for information & necessary action.

Consultant (Environment)

Memo No._____/ Date: /12/2025
Copy forwarded to the Project Head- Sijimali Bauxite Mine, M/s Vedanta Ltd., 5th Floor, Module C/2, Fortune Towers, Chandrasekharpur, Bhubaneswar for information & necessary action.

Consultant (Environment)

Odisha Industrial Infrastructure Development Corporation
(A Government of Odisha Undertaking)
IDCO, IDCO Towers, Janpath, Bhubaneswar – 751022, Odisha, INDIA
+91- 0674 - 2541525, 2540820 | Fax: 2542956 / 2541982
camenv@idco.in | www.idco.in

OSD com SS

OFFICE OF THE DIVISIONAL FOREST OFFICER: RAYAGADA FOREST DIVISION
E.Mail: dforgda17@gmail.com, dfo.rayagada@odisha.gov.in

Letter No 180 4F (Misc.) 1984/2026.
Dated, Rayagada the 09 th January, 2026.

To

The Consultant (Env), IDCO,
IDCO Tower, Janapath,
Bhubaneswar.

Sub: - Proposal for diversion of 4.911 Ha. Forest Land in village Sagabari and Porlang under Kashipur Tahasil for Construction of Road from Sijimali Bauxite Mines top to SH -44 under Rayagada District/Division-**Demand Notice for payment of NPV, the cost of CA & ACA Scheme.**(Proposal No. FP/OR/OTHERS/523366/2025).

Ref: - Memo No. 587 Dt. 09.01.2026 of the Chief Conservator of Forests (Nodal), O/o. the Pr. CCF, Odisha, Bhubaneswar.

Sir,

In inviting a reference to the instructions issued by the Conservator of Forests (Nodal), O/o the Principal Chief Conservator of Forests, Odisha vide Memo No. 587 dated 09.01.2026, you are hereby directed to deposit the amounts detailed below towards Compensatory Afforestation (CA), Additional Compensatory Afforestation (ACA), and Net Present Value (NPV), as a mandatory pre-condition for further processing of the forest diversion proposal.

All funds required to be deposited under this proposal shall be transferred only through the MoEF&CC online portal (https://parivesh.nic.in/) into the CAMPA Account of the State of Odisha. Any amount deposited through any other mode shall not be accepted as valid compliance of the Stage-I (In-Principle) approval. Accordingly, you are required to deposit the following amounts and submit the online transaction particulars along with UTR numbers to this office for verification and onward action:

Compensatory Afforestation (CA) &Additional Compensatory Afforestation (ACA): You are required to deposit:

- ₹59,06,200/- (Rupees Fifty-Nine Lakh Six Thousand Two Hundred only) towards Compensatory Afforestation (CA) for 06.07 ha of non-forest land identified at Village Tingarjhola, KolnaraTahasil, Rayagada District; and
- ₹54,15,400/- (Rupees Fifty-Four Lakh Fifteen Thousand Four Hundred only) towards Additional Compensatory Afforestation (ACA) for 05.00 ha of degraded forest land identified at Pedakonda Extension Reserved Forest, Rayagada Division.

Net Present Value (NPV):

- In accordance with the conditions stipulated in the Stage-I (In-Principle) approval dated 05.01.2026 issued by the Government of India, MoEF&CC, Regional Office, Bhubaneswar, and in compliance with the Orders of the Hon'ble Supreme Court of India dated 28.03.2008, 24.04.2008 and 09.05.2008 in Writ Petition (Civil) No. 202 of 1995, read with the guidelines of MoEF&CC issued vide letters No. 5-3/2011-FC (Vol-I) dated 06.01.2022 and 22.03.2022, you are hereby directed to deposit the Net Present Value (NPV) in respect of 4.911 ha of forest land being diverted under this proposal.
- Accordingly, an amount of ₹47,03,658/- (Rupees Forty-Seven Lakh Three Thousand Six Hundred Fifty-Eight only), being the NPV calculated at the prevailing rate of ₹9,57,780 per hectare applicable to Eco-Class III (Open Forest with canopy density below 0.4), shall be transferred online through the MoEF&CC portal into the CAMPA Account of the State of Odisha within 30 (thirty) days from the date of receipt of this letter.
- The online transaction receipt along with the UTR number in support of the above payment shall be submitted to this office immediately for further processing.
- Further, as mandated under the Stage-I approval and Supreme Court directions, you shall also furnish an undertaking to pay any additional amount of NPV, if so determined in future, in accordance with the final decision of the Hon'ble Supreme Court of India and/or revised rates notified by the Government of India.

Submission of Stage-I Compliance:

Further, you are directed to submit all compliances stipulated in the Stage-I (In-Principle) approval issued by the Government of India, MoEF& CC, Regional Office, Bhubaneswar vide order dated 05.01.2026, to this office for onward transmission to the Principal Chief Conservator of Forests (Forest Diversion & Nodal Officer, FC Act), O/o the Pr. CCF, Odisha through the Regional Chief Conservator of Forests, Koraput Circle.

Failure to deposit the above amounts and submit the required compliances within the stipulated time shall result in non-processing of the forest diversion proposal and shall be treated as non-compliance of Stage-I approval conditions.

Summary of Financial Obligations:

Sl. No.	Component	Area (ha)	Location	Amount (₹)
1	Compensatory Afforestation (CA)	6.07	Tingarjhola Village, KolnaraTahasil	59,06,200/-
2	Additional Compensatory Afforestation (ACA)	5.00	Pedakonda Ext. RF, Rayagada Division	54,15,400/-
3	Net Present Value (NPV)	4.911	Proposed Approach Road, Rayagada Division	47,03,658/-
	Total Payable			**1,60,25,258/-**

The above demands are raised in compliance with the conditions stipulated in the Stage-I (In-Principle) approval and the prevailing guidelines of the Government of India. This shall not preclude the Department from raising any additional demands towards CA, ACA, NPV, Penal NPV, cost of mitigation measures, or any other statutory levy, if so required on the basis of revised rates, further directions of the Hon'ble Supreme Court of India, or instructions of the Government of India / State Government at any stage prior to grant of final (Stage-II) approval.

Yours faithfully

9.1.26

Divisional Forest Officer,
Rayagada Division

Memo No. 181 /4F Date. 09-01-2026

Copy submitted to the Principal Chief Conservator of Forests, Forest Diversion & Nodal Officer, F. C. Act.), O/o. the PCCF, Odisha, Bhubaneswar for favour of kind information and necessary action with reference to his memo no.587 dt.09.01.2026.

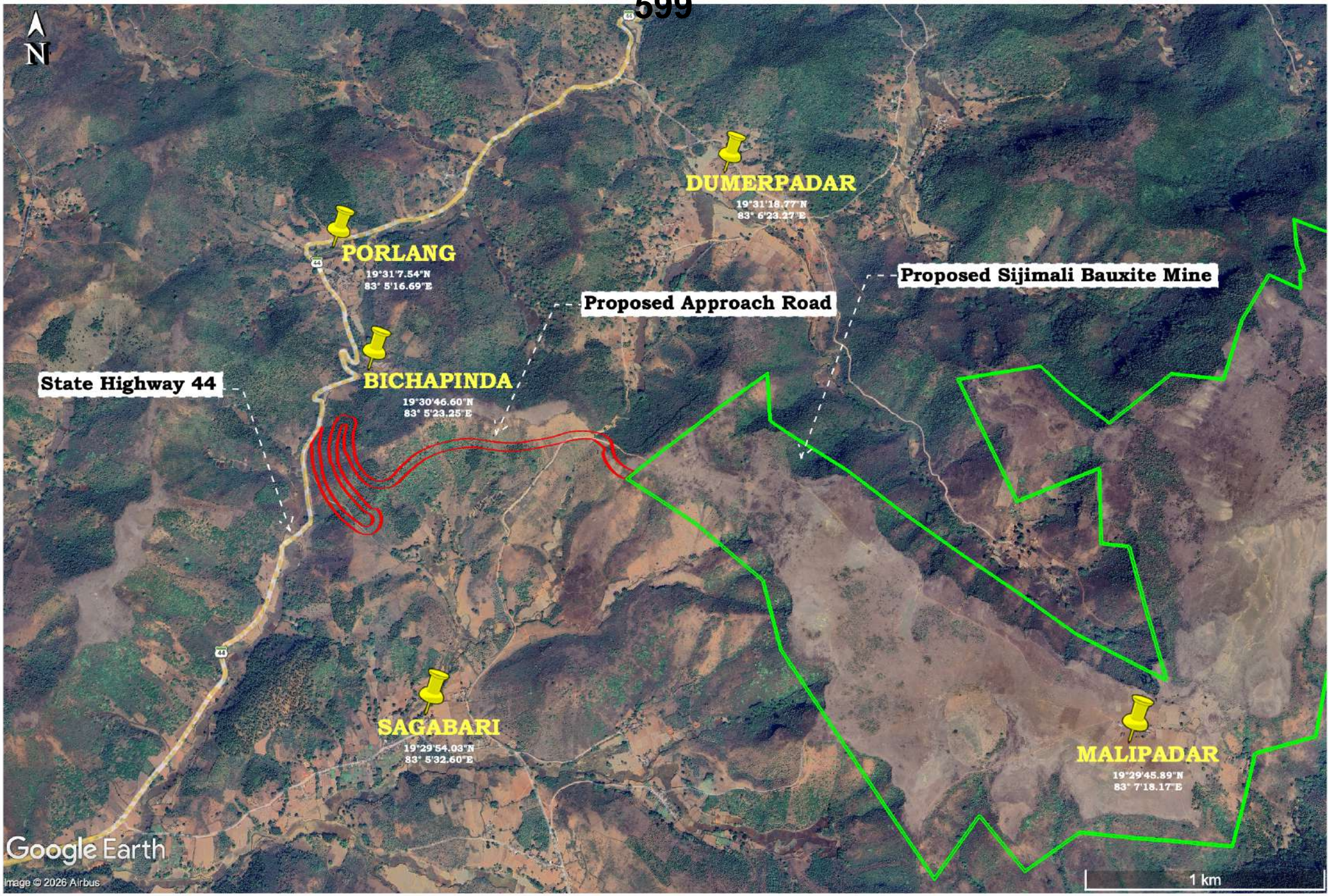
Divisional Forest Officer,
Rayagada Division

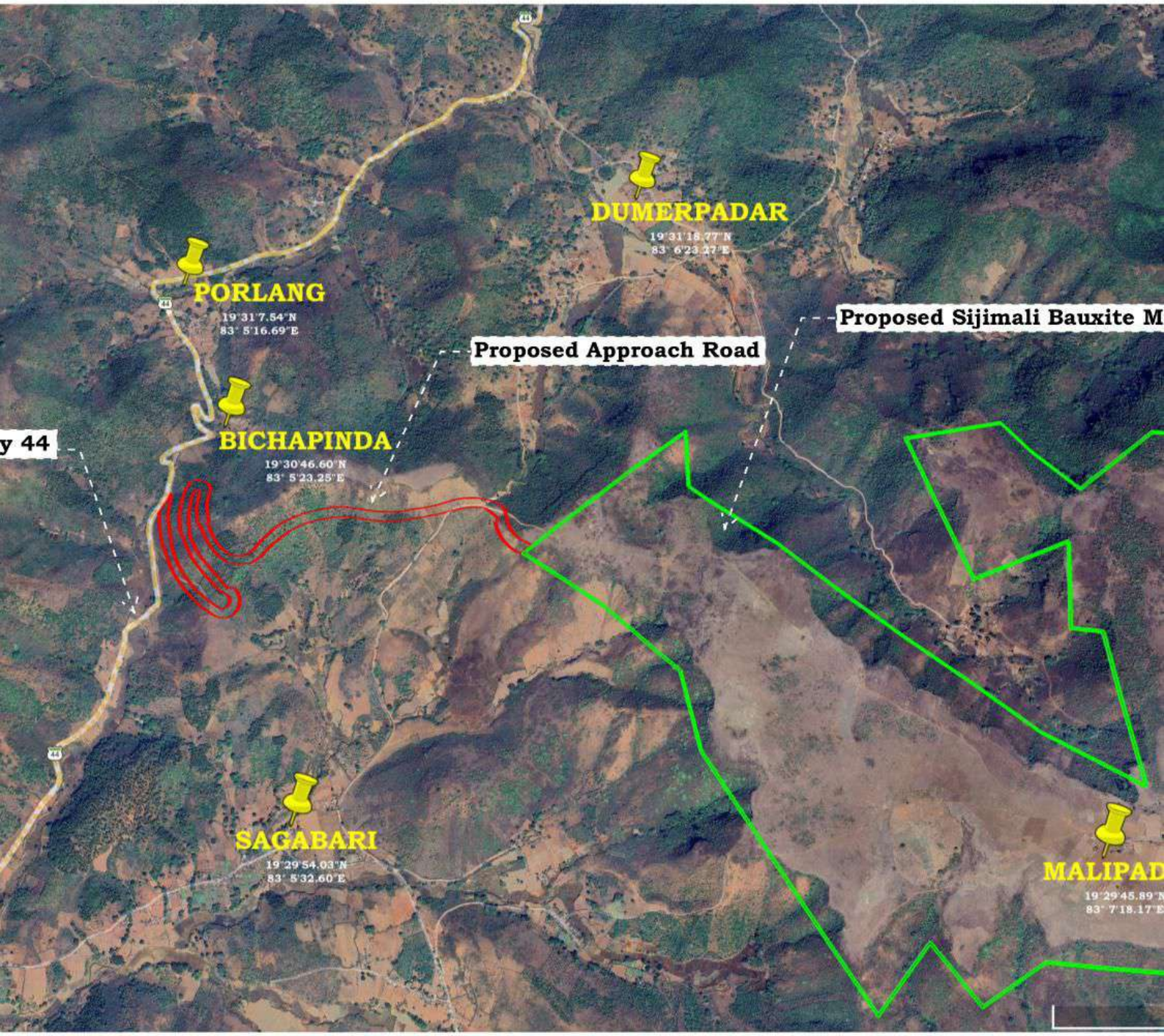
Memo No. 182 /4F Date. 09-01-2026

Copy Submitted to the Regional Chief Conservator of Forests, Koraput Circle, Koraput for favour of kind information and necessary action with reference to memo no.589 dt.09.01.2026 of the Conservator of Forests (Nodal), O/o. the PCCF, Odisha, Bhubaneswar to his address.

Divisional Forest Officer,
Rayagada Division

Annexure - A27




DUMERPADAR
19°31'18.77"N
83° 6'23.27"E
PORLANG
19°31'7.54"N
83° 5'16.69"E
Proposed Sijimali Bauxite M
Proposed Approach Road
BICHAPINDA
19°30'46.60"N
83° 5'23.25"E
y 44
SAGABARI
19°29'54.03"N
83° 5'32.60"E
MALIPAD
19°29'45.89"N
83° 7'18.17"E

Annexure - A28

INTEGRATED TRIBAL DEVELOPMENT AGENCY, RAYAGADA

e-Mail-itdarayagada@gmail.com, Contact No.06856-235165, Pin Code-765001

No. 157 /XI117/2024 Dated. 03 .02.2025

To

The Chief General Manager (Env),
Industrial Infrastructure Development Corporation,
Odisha, Bhubaneswar

Sub: Issuance of FRA Certificate for development of Road from Sijimali Bauxite Mines top to SH-44 for facilitating Bauxite Transportation by M/s Vedanta in Rayagada district.

Ref: Your letter No.HO-CGM(Env)/394/2024 Dated.31.08.2024

Sir,

In inviting a reference to the letter on the subject cited above, I am to send herewith the FRA certificate in Form-I to an extent of 12.135 Acre for development of Road from Sijimali Bauxite Mines top to SH-44 for facilitating Bauxite Transportation by M/s Vedanta in village Porlang & Sagabari under Kashipur Tahasil of Rayagada district .

This is for information and necessary action.

Yours faithfully,

3/2/25

Project Administrator-
Cum-Nodal Officer, FRA
ITDA, Rayagada

Memo No. 158 /2025 Dated. 03 .02.2025

Copy submitted to the Additional District Magistrate, Rayagada for favour of kind information and necessary action with reference to District Office (Revenue Section) Letter No.2570/XXXV-08/2024 (Part-II) dated.06.09.2024.

3/2/25

Project Administrator-
Cum-Nodal Officer, FRA
ITDA, Rayagada

FORM – I

(for linear projects)

Government of Odisha

Office of the District Collector, Rayagada.

No. 150/XI-117/25 Date:- 31/01/2025

TO WHOM SOEVER IT MAY CONCERN

In compliance of the Ministry of Environment and Forest (MoEF) Government of India's letter No.11-9/98-FC (Pt.) dated–3rd August 2009 wherein the MoEF issued guidelines on submission of evidences for having initiated and completed the process of settlement of rights under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA for short) on the forest land proposed to be diverted for non-forest purposes read with MoEF letter dated 5th February 2013 wherein MoEF issued certain relaxation in respect of linear project, it is to certify that **12.135 Acre** (includes 11.650 acre in village Sagabari and 0.485 Acre in village Porlang) proposed to be diverted in favour of **Odisha Industrial Infrastructure Development Corporation (IDCO), Bhubaneswar** for development of **road from Sijimali Bauxite mines top to SH-44 for facilitating Bauxite Transportation by M/S Vedanta Ltd.** in **Rayagada district** falls within jurisdiction of **Kashipur Tahasil**. The detail land schedule is enclosed at **Annexure-I**.

It is further certified that:

(a) The complete process of identification and settlement of rights under the FRA has been carried out for the **12.135 Acre** (includes 11.650 acre in village Sagabari and 0.485 Acre in village Porlang) proposed for development of road from Sijimali Bauxite mines top to SH-44 for facilitating Bauxite Transportation by M/S Vedanta Ltd. A copy of records of all consultations and meetings of the Sub-Divisional Level Committee(s) and District Level Committee are enclosed as **Annexure-II and Annexure-III**.

(b) The diversion of forest land for facilities managed by the Government as required under section3 (2) of the FRA have been completed and the Gram Sabhas have given their consent to it.

(c) The proposal does not involve recognized rights of Primitive Tribal Groups (PTG) and Pre-agriculture communities (PAC).

Encl: As above.

30/1/25

Parul Patwari, IAS,
Collector-Cum-Chairperson,
DLC, FRA, Rayagada.

Annexure-I

Name of Tahasil- Kashipur

Name of RI Circle- Adatakiri

Name of District- Rayagada

Sl No	Village	Khata No.	Plot No.	Total Area(Ac.)	Alloted Area (Ac.)	Kissam
1	Porlang	35	280	16.00	0.485	Pahada (DLC listed land)
2	Sagabari	156	4(P)	26.38	7.274	Pahada (DLC listed land)
3			5(P)	32.75	4.376	Pahada (DLC listed land)
Total Area(Ac.)					**12.135**	

N.B: No IFR titles have been issued on the above proposed plots

30/1/15

Collector, Rayagada

Annexure - II 609 07.12.24

PROCEEDING OF THE SUB-DIVISIONAL LEVEL COMMITTEE MEETING HELD ON 19.11.2024 AT 11.00AM IN THE CONFERENCE HALL OF SUB-COLLECTOR OFFICE, RAYAGADA ON IMPLEMENTATION OF SCHEDULE TRIBES AND OTHER TRADITIONAL FOREST DWELLERS (Recognition of Forest Rights Act-2006).

The SDLC meeting of Rayagada Sub-Division was held in the Conference Hall of Sub-Collector's Office, Rayagada on 19.11.2024 at 11.00 AM. The Sub-Collector-cum-Chairman, SDLC, Rayagada presided over the meeting.

At the outset, the Chairman-Cum-Sub-Collector welcomed the members present in the meeting and focused on the guidelines and procedures involved in the implementation of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights Act-2006).The list of Members present in the meeting is enclosed at Annexure-I.

The following matters have been taken into consideration in the meeting.

Discussion on IFR, CFR & CFRR Case Records

The proposals of 374 IFR claims have been received from Rayagada, Kolnara and Kashipur Tehsils duly recommended by the concerned FRC and Gram Sabha/ Palli Sabha. The members of SDLC verified and scrutinized all the claims. On verification 114 claims are found correct and genuine. Accordingly SDLC has approved 114 IFR claims and decided to recommend before the DLC to issue title certificate in favour of the beneficiaries.

Secondly, the rest 258 IFR claims have been found incomplete due to various reasons which shall be returned to the concerned Gram Shabha through concerned Tahsildars for reverification and resubmission to the SDLC.

Sl. No.	Name of the Block	Name of GP	Name of Village	Approved Claims
		Pitamahal	Podi	07
		Tadama	Perigaon	45
		Kuli	Nandabadi	06
		Dangalody	Kundam	02
2	Kolnara	Rekhapadar	Muteli	19
		Bankili	Badisola	04
3	Kashipur	Siripai	Balkapai	13
		Siripai	Sirlijhodi	11
		Siripai	Leliguma	07
Total				114

The following 03 nos of Community Right and 03 nos of Community Forest Resources Right claims have been received from the Tahasildar Kashipur after due compliance from Gramsabha. Accordingly, the committee has decided to recommend before the DLC to issue title.

Sl. NO.	Name of the Block	Village	CFR	CRR
1	Kashipur	Leliguma	01	01
2		Balkapai	01	01
3		Sirlijhodi	01	01
Total			03	03

PROPOSAL FOR ISSUE OF NOC FOR DIVERSION OF FOREST LAND TO AN EXTENT OF Ac 12.135 FOR DEVELOPMENT OF ROAD FROM SIJIMALI BAUXITE MINES TOP TO SH-44

As per the letter No. 2269 dated 24.09.2024 of the Project Administrator-cum-Nodal Officer, FRA, ITDA, Rayagada, the proposal of diversion of an area Ac 12.135 of forest land to non-forest purpose for development of road from Sijimali Bauxite Mines top to SH-44 for facilitating Bauxite transportation by M/S Vedanta Ltd. Under Kashipur Tahasil in Rayagada District has been discussed in the meeting.

As per the guideline provided by the Ministry of Environment and Forest (MoEF) Government of India 5th February 2013 there is certain relaxation in respect of linear project that resolution/consent of the Gram Shabha of the area may not be required for the project like construction of roads, canals, laying of pipelines/Optical fibers and transmission lines.

Accordingly, report received from Tahasildar and BDO Kashipur have been taken into the consideration for this linear Project It is ascertained that no Primitive Tribal Goups (PTG) or Pre-Agriculture Communities (PAC) are staying in the area.

The committee has decided to recommend the proposal of diversion of the following area 12.135 Ac for the purpose of linear project to the DLC for issuing Certificate under Forest Right Act. (The report of Tahasildars and BDOs are enclosed)

Sl. No.	Name of Tahasil	Name of Village	Khata No	Plot No.	Area (Ac)
1	Kashipur	Sagabari	156	4 (P)	7.274
2		Sagabari	156	5 (P)	4.376
3		Porlang	35	280 (P)	0.485
Grand Total					12.135

Other Matter

The Tahasil level FRA Cell Committee under Rayagada Sub-Division were instructed by the Chairman to follow up the guidelines laid down by the Government from time to time regarding implementation of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights Act-2006) and do the needful with regard to the FRA application received as and when at their level and place the same after proper scrutiny and verification in all respect.

The meeting ended with vote of thanks to the Chair and participants.

19.11.2024

Sub Collector-cum- Chairman
SDLC, Rayagada

Memo No 5826 /2024 Dated: 19/11/2024

Copy to all the members of the Committee for information and necessary action.

Copy to concerned FRC committee for information and necessary action.

19.11.2024

Sub Collector-cum- Chairman
SDLC, Rayagada

Memo No 5827 /2024 Dated: 19/11/2024

Copy to all the Tahasildars of this Sub division for information and necessary action.

Copy to all the WEOs of this Sub division for information and necessary action.

19.11.2024

Sub Collector-cum- Chairman
SDLC, Rayagada

Memo No 5828 /2024 Dated: 19/11/2024

Copy submitted to Collector-Cum- Chairman, District level (FRA) Committee, Rayagada/ PA-ITDA, Rayagada for information and necessary action.

19.11.2024.

Sub Collector-cum- Chairman
SDLC, Rayagada

Annexure-III

Proceedings of the District Level Committee meeting held on 18.12.2024 on implementation of Schedule Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 and Amendment Rule, 2012

Date of Meeting : 18.12.2024
Time : 10:30 A.M
Venue : Sadbhabana Sabhagruha, Collectorate, Rayagada

The District Level Committee (DLC) meeting on implementation of Schedule Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 and Amendment Rule, 2012 was convened on 18.12.2024 at 10:30 A.M in the Sadbhabana Sabhagruha, Collectorate, Rayagada under the Chairmanship of the Collector-cum-Chairperson, DLC, FRA, Rayagada. The following members attended the meeting.

- Collector-cum-Chairperson, DLC, FRA, Rayagada
- Divisional Forest Officer, Rayagada
- Divisional Forest Officer, Paralakhemundi (Virtual)
- Sub-Collector-Cum-Chairperson, SDLC, Gunupur
- Sub-Collector-Cum-Chairperson, SDLC, Rayagada
- Project Administrator-Cum-Nodal Officer, ITDA, Rayagada
- District Welfare Officer, Rayagada
- ADWO, ITDA, Rayagada
- ADWO, Sub-Collector Office,Rayagada
- Sri Igan Gomango, Zillaparishad Member, Gunupur
- Sri Barratom Vara Prasad Rao, Zillaparishad Member, K.Singhpur

At the outset the Project Administrator-cum-Nodal Officer, ITDA, Rayagada welcomed all the members present in the meeting and the Collector-cum-Chairperson, DLC, FRA, Rayagada initiated the agenda wise discussion.

Agenda No.1:
Discussion on IFR cases received from SDLC, Gunupur & Rayagada

The Project Administrator-Cum-Nodal Officer, ITDA, Rayagada apprised that the following IFR cases were received from the SDLC, Gunupur duly approved in the SDLC meeting held on dated.24.10.2024 (Copy enclosed) and SDLC Rayagada duly approved in the SDLC meeting held on dated 19.11.2024 and 29.11.2024(Copy enclosed).

Sl. No	Name of The Sub-Division	Name of the Tahasil	Name of the Village	No. of IFR Cases received	No. of cases approved	No. of Cases to be Remanded	Total Area to be Aproved (in Acre)
1	Gunupur	Gunupur	Garamul	15	15	0	28.330
2		Gudari	Parikupuda	12	12	0	19.800
3			Rengam	3	3	0	6.200
4		Chandrapur	Raibiji	15	15	0	33.865
5			Bakaguda	11	11	0	19.257
6			Siripadara	17	16	1	60.939
7			Patsanda	9	9	0	5.567
8			Nauduguda	19	19	0	30.646
9			Balakabaju	16	16	0	30.660
10			Batalaguda	5	5	0	16.989
11			Ghogopadar	20	20	0	43.278
12		Padmapur	Gundripadar	7	7	0	0.169
13			Nandra	14	14	0	0.457
14			Dakrapanga	14	14	0	23.290
15			Rajpur	23	23	0	0.480
16			Pangedikua	10	10	0	0.526
17			Santinagar	36	36	0	6.211
18			Sribhalabapur	25	25	0	5.720

19		Bissamcuttack	Libharakana	15	14	1	9.560
20			Badajamiti	14	11	3	17.810
21			Dachupai	10	10	0	25.010
22			Rekhapai	2	2	0	3.460
23			Goudaguda	3	1	2	1.000
24			Lakhabhata	15	15	0	12.284
25			Kalipanga	16	6	10	7.694
26			Sanyasiguda	18	17	1	17.120
27			Kumbhia	14	14	0	34.190
28			Lelingpadar	22	19	3	27.220
29			Dedipada	29	29	0	41.206
30		Muniguuda	Sana Manjurikupa	6	6	0	7.101
31			Sana Siringul	11	11	0	7.527
32			Kathabadi	18	18	0	13.919
33			Ghatana	20	20	0	41.686
34			Sakadagaon	18	8	10	8.007
Total				**502**	**471**	**31**	**607.178**
35	Rayagada	Kalyansingpur	Kangsari	10	10	0	17.61
36			Siripur	23	23	0	36.759
37			Pipiliguda	10	10	0	8.46
38			Sadalasa	19	19	0	9.074
39			Talaramba	24	24	0	14.815
40			Kusumasila	10	10	0	10.105
41			Kaliaguda	10	10	0	35.92
42		Kashipur	Kichikhal	25	25	0	38.61
43			Gobarghati	50	50	0	82.88
44			Balkapai	13	13	0	20.39
45			Sirlijhodi	11	11	0	23.62
46			Irripiput	41	41	0	69.33
47			Gumuraput	29	29	0	40.33
48			Kiajhol	35	35	0	74.83
49			Leliguma	7	7	0	5.60
50		Kolnara	Muteli	19	19	0	41.376
51			Badisola	9	9	0	0.173
52			Tarapali	10	10	0	12.45
53			Hazaridang	10	10	0	20.820
54			Rainasikabadi	27	27	0	22.180
55			Fakiri	3	3	0	1.05
56			Dengasargi	32	32	0	36.251
57			Bankili	13	13	0	6.401
58			Kamasing	21	21	0	15.318
59			Arabi	20	20	0	34.57
60		Rayagada	Podi	7	7	0	9.504
61			Perigoan	44	44	0	117.916
62			Nandabadi	6	6	0	13.008
63			Kundam	2	2	0	4.132
Total				**540**	**540**	**0**	**823.482**
Grand Total				**1042**	**1011**	**31**	**1430.66**

The Project Administrator-Cum-Nodal Officer, ITDA, Rayagada placed the above IFR cases before the Committee for examination and consideration. The Committee after careful examination approved 1011 IFR cases.

The following 31 IFR cases would be remanded back to the SDLC, Gunupur for re-examination of the cases on following grounds.

1. In 9 IFR cases from Muniguda and 11 from Bissamcuttack Tahasil it is found that the allotted area is more than the available area of concerned plot as per Bhulekh.
2. One case from Chandrapur, where allotted plot is not available in the said khata as per Bhulekh.
3. 10 cases from Bissamcuttack , where it is found that the signature of the concerned officials missing.

Agenda No.2:

Discussion on CR/CFR cases received from SDLC, Rayagada

The following 18 CFR and 18 CFRR cases have been received from the SDLC, Rayagada.

Sl. No	Name of The Sub-Division	Name of the Tahasil	Name of the Village	No. of CFR Cases	No. of CFRR Cases	Total	No. of cases found okay	No. of Cases to be Returned	Total Area to be Aproved (in Acre)
1	Rayagada	Kashipur	Leliguma	1	1	2	2	0	22.980
2			Iripiput	1	1	2	2	0	81.950
3			Kiajhola	1	1	2	2	0	22.270
4			Uppersupel	1	1	2	2	0	38.490
5			Gumuraput	1	1	2	2	0	20.170
6			Perpa	1	1	2	2	0	33.148
7			Adajore	1	1	2	0	2	
8			Adatakiri	1	1	2	0	2	
9			Nikesh	1	1	2	0	2	
10			Bahardulki	1	1	2	2	0	32.780
11			Balmaska	1	1	2	2	0	52.490
12			Kichikal	1	1	2	2	0	28.432
13			Ghobarghati	1	1	2	2	0	54.340
14		Kolnara	Tarapalli	1	1	2	2	0	453.450
15			Rainasikabadi	1	1	2	2	0	75.700
16			Andupadu	1	1	2	2	0	671.855
17			Kamasingi	1	1	2	2	0	46.000
18			Badagumuda	1	1	2	2	0	132.240
	Total			18	18	36	30	6	1766.295

On verification 15 CFR and 15 CFRR cases found eligible and 3 CFR and 3CFRR cases of village Adajore, Adatakri and Pukesh found that the kissam of the suit land stands recorded as Pahada & Parbat. Hence, the committee after careful examination approved 15 CFR and 15 CFRR cases and decided to remand back the 3 CFR & 3 CFRR cases to SDLC, Rayagada for verification of SABIK record whether the allotted plots were in Jungle kissam or the allotted plots included in DLC.

Agenda No.3:

Discussion on Conversion of Forest Village to Revenue Village cases received from SDLC,Rayagada

The following cases have been received from SDLC, Rayagada for conversion of Forest village to Revenue village.

Sl. No	Name of The Sub-Division	Name of the Tahasil	Name of the Village
1	Rayagada	Kashipur	Iripiput
2			Kiajhola
3			Gumuraput

After careful examination the committee approved all the 3 cases for conversion of forest village to Revenue village and recommended for submission to the Board of Revenue, Odisha, Cuttack for further action at their end.

Agenda No.4:

Discussion on issuance of FRA certificate for diversion of Forest Land to lay 18"/12" Dia. Underground Natural Gas Pipeline along with Optical Fiber Cable

The Chief Manager (Const.), GAIL (India) Limited has submitted proposal for issuance of FRA certificate for diversion of Forest land to an extent of 25.2276 Ha. To lay 18"/12" Dia Underground Natural Gas Pipeline along with 40 Mm Dia. Optical Fibre Cable (OFC) in Rayagada district vide Letter No.GAIL/SAPl/FOREST-RAYAGADA/FRA/CTC/04/2023 DATED. 22.06.2023.

Sl No.	Name of the Tahasil	Area (In Ha.)
1	Rayagada	3.7571
2	Kolnara	4.4724
3	K.Singhpur	4.5350
4	Kashipur	7.5544
5	Gunupur	1.0188
6	Ramanaguda	3.8899
Total		**25.2276**
7	Gunupur	0.3147
Total		**0.3147**

The Pallisabha/Gramsabha of village-Naura, under Gunupur Tahasil has approved the proposal in its Special Gramasabha meeting held on dated 16.09.2024. Similarly, the Pallisabha/Gramsabha of village-Patraput, Jarling, Suluri & Kataki under Ramanaguda Tahasil have approved the proposal in Special Gramasabha meeting held on dated. 13.09.2024 & 14.09.2024. Accordingly the Sub-Collector-cum-Chairperson, SDLC, Gunupur has recommended the proposal after due approval in its SDLC meeting held on dated. 24.10.2024 for issuance of FRA Certificate in favour of GAIL (India) Limited.

The Sub-Collector-cum-Chairperson, SDLC, Rayagada has submitted the report in respect of Rayagada, Kolnara, K.Singhpur and Kashipur Tahasil with a recommendation for issuance of FRA Certificate in favour or GAIL (India) Limited after due approval in SDLC meeting held on dated. 30.07.2024.

After verification of the reports received from the SDLC, Gunupur & Rayagada, the DLC approved the proposal for issuance of FRA certificate in favour of GAIL (India) Limited for diversion of Forest land to an extent of 25.2276 Ha. to lay 18"/12" Dia Underground Natural Gas Pipeline along with 40 Mm Dia. Optical Fibre Cable (OFC) in Rayagada district. The details of the IFR titles issued in the proposed diversion area is enclosed in **Annexure-I**.

Further The Chief Manager (Const.), GAIL (India) Limited has submitted proposal for issuance of FRA certificate for diversion of Forest land to an extent of 0.3147 Ha. to lay 18"/12" Dia Underground Natural Gas Pipeline along with 40 MM Dia. Optical Fibre Cable (OFC) in Rayagada and vide Letter No. GAIL/SAPl/FOREST-RAYAGADA/FRA/CTC/05/2023 DATED. 22.06.2023. This patch of land is coming under the Paralakhemundi Forest Division. Accordingly the DFO, Paralakhemundi has been intimated to join the DLC Meeting.

The DFO, Paralakhemundi has joined the meeting virtually and the committee has approved proposal for issuance of FRA certificate in favour of GAIL (India) Limited for diversion of Forest land to an extent of 0.3147 Ha. to lay 18"/12" Dia Underground Natural Gas Pipeline along with 40 MM Dia. Optical Fibre Cable (OFC) in Rayagada district. The details of the IFR titles issued in the proposed diversion area is enclosed in **Annexure-II**.

Agenda No.5:

Discussion on issuance of FRA certificate in favour of Vedanta Limited, Lanjigarh for Linear project for Y-connection Railway line

The Head-Legal, Land & External Affairs, Vedanta Limited has submitted a proposal for diversion of forest land for non-forest purpose to an extent of 1.148 Ha in village Anajodi under Muniguda Tahasil for Linear project for Y-connection Railway line. In this connection the SDLC, Gunupur has submitted a report and recommended for issuance of FRA Certificate in favour of Vedanta Limited, Lanjigarh after due approval in SDLC meeting held on dated.24.10.2024.

The committee has approved the proposal for issuance of FRA Certificate to an extent of 1.148 Ha. in favour of Vedanta Limited, Lanjigarh for Linear project for Y-connection Railway line. The details of the IFR titles issued in the proposed diversion area is enclosed in **Annexure-III.**

Agenda No.6:

Discussion on issuance of FRA certificate for Tikiri-Bhalumaska Railway Road Doubling project

The Deputy Chief Engineer (Con) II, E. Co. Railway, Rayagada applied for issuance of certificate for Tikiri-Bhalumaska Railway Road Doubling project to an extent of 57.322 Ha. vide letter dated.08.05.2023. The Sub-Collector-Cum-Chairperson, SDLC, Rayagada has submitted the report after due approval in SDLC Meeting held on dated. 29.11.2024 and recommended for issuance of FRA certificate in favour of the Deputy Chief Engineer (Con) II, E. Co. Railway, Rayagada. Accordingly the committee approved the project and decided to issue FRA Certificate to an extent of 57.322 Ha. in favour of the Deputy Chief Engineer (Con) II, E. Co. Railway, Rayagada.

Agenda No.7:

Discussion on issuance of FRA certificate for diversion of Forest Land for non-forest purpose for Development of Road from Sijimali Bauxite Mines top to SH-44

The Chief General Manager (Env.) IDCO, Bhubaneswar has requested for issue of FRA certificate for Ac.11.650 in village Sagabari and Ac.0.485 in village Porlang vide letter No.26050 dated.06.09.2024. The report in this regard has been received from SDLC, Rayagada after due approval in its meeting held on dated.19.11.2024. After careful examination the committee has approved for issuance of FRA certificate in favour of the Chief General Manager (Env.) IDCO, Bhubaneswar for development of Road from Sijimali Bauxite Mines top to SH-44 for facilitating Bauxite transportation by M/S Vedanta Ltd.

The meeting ended with vote of thanks to the Chair and the members.

18.12.2024
P.A.-Cum-Nodal Officer,
ITDA,Rayagada

18/12/24
District Welfare Officer,
Rayagada

18.12.24
Divisional Forest Officer,
Rayagada

18.12.2024
Divisional Forest Officer,
Paralakhemundi
Dist-Gajapati

18/12/24
Collector-cum-Chairperson
DLC, FRA, Rayagada

Memo No. 2677/2024 Dated.18.12.2024

Copy submitted to the Director (ST), ST & SC Development Department, Odisha, Bhubaneswar for favour of kind information.

18/12/24
Collector-Cum-Chairperson,DLC,
FRA,Rayagada

Memo No. 2678/2024 Dated.18.12.2024

Copy submitted to the Chief Conservator of Forest, Odisha for favour of kind information.

18/12/24
Collector-Cum-Chairperson,DLC,
FRA,Rayagada

Annexure - A29

F. No. 11-9/1998-FC (pt)
Government of India
Ministry of Environment and Forests
(FC Division)

Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi – 110510.
Dated : 03.08.2009

To

The Chief Secretary / Administrator
(All State/UT Governments except J&K)

Subject: Diversion of forest land for non-forest purposes under the Forest (Conservation) Act, 1980 - ensuring compliance of the *Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006.*

Sir,

In continuation to this Ministry's letter of even number dated 30.07.2009, I am directed to invite the attention of the State Government to the operationalization of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 which has become effective from 01.01.2008. It is observed that the proposals under the Forest (Conservation) Act, 1980 are being received from different states/UT Governments with the submission that the settlement of rights under Forest Rights Act, 2006 (FRA) will be completed later on.

Accordingly, to formulate unconditional proposals under the Forest (Conservation) Act, 1980, the State/UT Governments are, wherever the process of settlement of Rights under the FRA has been completed or currently under process, required to enclose evidences **for having initiated and completed the above process, especially among other sections, Sections 3(1)(i), 3(1)(e) and 4(5).** These enclosures of evidence shall be in the form of following:

a. A letter from the State Government certifying that the complete process for identification and settlement of rights under the FRA has been carried out for the entire forest area proposed for diversion, with a record of all consultations and meetings held;

b. A letter from the State Government certifying that proposals for such diversion (with full details of the project and its implications, in vernacular / local languages) have been placed before each concerned Gram Sabha of forest-dwellers, who are eligible under the FRA;

c. A letter from each of the concerned Gram Sabhas, indicating that all formalities/processes under the FRA have been carried out, and that **they have given their consent to the proposed diversion and the compensatory and ameliorative measures if any,** having understood the purposes and details of proposed diversion.

d. A letter from the State Government certifying that the diversion of forest land for facilities managed by the Government as required under section 3(2) of the FRA have been completed and that the Gram Sabhas have consented to it.

e. A letter from the State Government certifying that discussions and decisions on such proposals had taken place only when there was a quorum of minimum 50% of members of the Gram Sabha present;

f. Obtaining the written consent or rejection of the Gram Sabha to the proposal.

g. **A letter from the State Government certifying that the rights of Primitive Tribal Groups and Pre-Agricultural Communities, where applicable, have been specifically safeguarded as per section 3(1)(e) of the FRA.**

h. Any other aspect having bearing on operationalisation of the FRA.

The State/UT Governments, where process of settlement of Rights under the FRA is yet to begin, are required to enclose evidences supporting that settlement of rights under FRA 2006 will be initiated and completed before the final approval for proposals.

This is issued with the approval of the Minister of Environment and Forests.

(C.D. Singh)
Sr. Assistant Inspector General of Forests

Copy to:-

1. The PMO (kind attention: Director, PMO)
2. The Secretary, Ministry of Tribal Afffairs, Shastri Bhawan, New Delhi.
3. The Principal Chief Conservator of Forests, All States / UTs.
4. The Nodal Officer (FCA), O/o the PCCFs, All States / UTs.
5. All Regional Offices of MoEF located at Bhopal, Shillong, Bangalore, Lucknow, Bhubaneshwar and Chandigarh.
6. The RO (HQ), DIGF(FP), Sr.AIGF(FC)/AIGF(FC), MoEF, New Delhi.
7. Monitoring Cell, FC Division, MoEF, New Delhi for placing the same on the website of the MoEF.
8. Guard File.

(C.D. Singh)
Sr. Assistant Inspector General of Forests

F. No. 11-9/ 98-FC (pt.)
Government of India
Ministry of Environment and Forests
(FC Division)

Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi - 110 510.
Dated: 5th February, 2013

To

The Principal Secretary (Forests),
All State / Union Territory Governments

Sub: Diversion of forest land for non-forest purposes under the Forest (Conservation) Act, 1980 – ensuring compliance of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.

Sir,

I am directed to refer to this Ministry's letter of even number dated 03.08.2009 wherein this Ministry issued detailed guidelines on submission of evidences for having initiated and completed the process of settlement of rights under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.

This Ministry has received representations from various Ministries to exempt projects like construction of roads, canals, laying of pipelines/optical fibres and transmission lines *etc.* where linear diversion of forest land in several villages are involved, from the requirement of obtaining consent of Gram Sabha, as stipulated in this Ministry's said letter dated 3.8.2009.

The matter has also been examined by an inter-ministerial Committee. The Committee after examination of the matter had *inter alia* recommended that a resolution of the Gram Sabha of the area, based on full and prior information of the project and a public hearing, endorsing that the project is in the interest of the people living on the forest land, use of which is proposed to be diverted for non-forest purposes may not be required for the projects like construction of roads, canals, laying of pipelines/optical fibres and transmission lines etc. where linear diversion of use of forest land in several villages are involved, unless recognised rights of Primitive Tribal Groups (PTG) and Pre-Agricultural Communities (PAC) are being affected.

The Hon'ble Minister for Tribal Affairs in his D.O. letter dated 21.01.2013 addressed to the Hon'ble Minister of State (Independent Charge) for Power has informed that the Ministry of Tribal Affairs agrees with the recommendation of said Committee that resolution of the Gram Sabha may not be required in cases of projects like transmission lines where linear diversion of forest land in several villages are involved, unless recognised rights of PTG/ PAC are being affected.

05/04/2013

Accordingly, I am directed to say that proposals seeking prior approval of Central Government under the Forest (Conservation) Act, 1980 for projects like construction of roads, canals, laying of pipelines/ optical fibres and transmission lines *etc.* where linear diversion of use of forest land in several villages are involved, unless recognised rights of PTG/ PAC are being affected, are exempted from the requirement of obtaining consent of the concerned Gram Sabha(s) as stipulated in clause (c) read with clause (b), (e) and (f) in second para of this Ministry's said letter dated 03.08.2009.

This issues with approval of the Hon'ble Minister of State (Independent Charge) for Environment and Forests.

Yours faithfully,

(H.C. Chaudhary)
Assistant Inspector General of Forests

Copy to:-

1. Shri Sanjay Lohiya, Director, Prime Minister's Office, New Delhi.
2. Secretary, Ministry of Road Transport and Highways, New Delhi.
3. The Secretary, Ministry of Power, New Delhi.
4. The Secretary, Ministry of Petroleum, and Natural Gas, New Delhi.
5. The Chairman, Railways Board, New Delhi.
6. The Secretary, Ministry of Tribal Affairs, New Delhi.
7. The Chairman, National Highways Authority of India (NHAI), New Delhi.
8. Principal Chief Conservator of Forests, all State/UT Governments.
9. Nodal Officer, the Forest (Conservation) Act, 1980, all State/UT Governments.
10. All Regional Offices, Ministry of Environment & Forests.
11. Joint Secretray in-charge, Impact Assessment Division, MoEF.
12. All Assistant Inspector General of Forests in Forest Conservation Division, MoEF.
13. Director R.O. (HQ), Ministry of Environment & Forests, New Delhi.
14. Sr. Director (Technical), NIC, MoEF with a request to place a copy of the letter on website of this Ministry.
15. Sr. PPS to the Secretray, Environment and Forests.
16. Sr. PPS to the Director General of Forests & Special Secretray, MoEF.
17. Guard File.

(H.C. Chaudhary)
Assistant Inspector General of Forests