Justification for locating the project in the forestland

I. Title of the project:

Approach Road, Downhill Pipe Conveyor and Feed & Transfer Point Area, Transmission Line Cable and Water Pipeline Cable for Rama Iron Ore Mine ML No. 2621 of M/s. JSW Steel Ltd. (Precambrian Iron Ore Mine ML No. 2621 of erstwhile lessee M/s. Rama Rao Paol)

II. Short Narrative of the Project:

Precambrian Iron Ore Mine ML No. 2621 has been auctioned and allocated to M/s. JSW Steel Ltd., Vijayanagar Works, Bellary after the C-Category Mine E-auction on 02.10.2016. The Mining lease is spreaded over 33.80 ha in the Ramandurg Range, Ramanamalai Block Forest, Sandur North Range, Ramgad Village, Sandur Taluk, Ballari District, Karnataka.

Following are the components wise breakup with details:

1. **Approach Road falling in Forestland:** M/s. JSW Steel Ltd. has proposed an approach road starting from the mining lease leading and ending at PWD Road (Ramgad Village to Sushilanagar Village). The said road is spread over 3.63 ha. (3025m. long, 12.0m wide) in the forestland The proposed approach road will go through

In addition to that, we also have proposed to lay down the Downhill Pipe Conveyor from the lease area to transport the Iron ore to the Main Pipe Conveyor over an extent of 4.80 ha. of forestland (4000m. length, 12m. width). The said downhill pipe conveyor is proposed in such a way to reduce the extent of forest area and can be divided in 3 segments. In addition to that, we have proposed three numbers of patches, which are feeding point area, two numbers of Transfer Points. The will facilitate the Downhill Pipe Conveyor (DHPC) with existing ground profile as, there are certain inherent limitations because of the typical project components restricting the turning radius of the DHPC.

2. **Feed point area falling in Forestland:** The feeding point area (Forest Area = **1.71 ha.**) is adjacent to the mining lease as it will accommodate the feeder hopper, conveyor pulleys/drives, weigh bridge, electrical control room and other allied elements.

3. **Segment-1 falling in Forestland: T**he very first segment falling in Forest (Forest Area = **1.62 ha.,** Length = 1350 m., Width = 12.0 m.) of Downhill Pipe Conveyor (DHPC) starts at feeding point area (near the mining lease) and ends at the Forest-Revenue/Patta land (Sy. No. 82, 88, Sushilanagar Village) boundary.

4. **Segment–4 falling in Non-Forestland:** The very first Segment of DHPC falling in non-forest land (entitled as Segment – 4) ends near Sy. No. 29 of Sushilanagar Village (where it again goes to forestland). This segment covers 1.814 ha. (1512m long, 12.0m wide) of revenue area.

5. **Transfer Point–1 falling in Forestland:** At the end of the first non-forest land segment (segment-4), a transfer point entitled as **Transfer Point–1 (Area = 1.797 ha.**), is proposed to facilitate the iron ore transportation from other nearby mines.

6. **Segment – 5 falling in Non-Forest Land:** The second segment of DHPC (entitled as Segment – 5) falling in non-forest land starts at Sy. No. 27 of Sushilanagar (adjacent to forest boundary) and ends at Sy. No. 45 of Sushilanagar Village. This segment covers 0.726 ha. (605m long, 12.0m wide) of revenue area.

7. **Segment – 2 falling in forestland:** The second segment (Forest Area = **2.82 ha.,** Length = 2350 m., Width = 12.0 m.) falling in Forest (starting at the Forest Boundary adjacent to Sy. No. 45 of Sushilanagar Village), ends at Forest-Revenue/Patta land (Sy. No. 4, 5 and 39, Dowlathpura Village) boundary.

8. **Segment – 6 falling in Non-Forest Land:** The third Segment Falling in non-forest land (entitled as Segment – 6) ends in Sy. No. 39 of Dowlathpura Village adjacent to Forest. This segment covers 0.726 ha. (605m long, 12.0m wide) of revenue area.
9. **Segment – 3 falling in forestland:** The third segment (Forest Area = **0.402** ha., Length = 335 m., Width = 12.0 m.) falling under forestland ends at another transfer point entitled as Transfer Point – 2**.**

10. **Transfer point – 2 falling in Forestland:** The Transfer Point–2 patch is spread over 4.044 ha. adjacent to Forest-Revenue/Patta Land Boundary

The corridor for Downhill Pipe Conveyor will also serve to lay down the transmission line all along the stretch of conveyor in the ground. JSW Steel Ltd. have also proposed to lay down the water pipeline in the same alignment, which will serve the purpose of using the minimum use of the forestland. The Main Pipe Conveyor will then, transport the ore to the JSW Steel Plant for further processing. The proposed Downhill Pipe Conveyor will be facilitated by the approach road only for installation and future maintenance of the DHPC. This will also reduce the accidents, which might occur due to the Dumper Tipper Transport Mechanism. The Pipe Conveyor Mechanism will lower the cost of transporting the iron ore drastically. The forestland & non-forestland involved is shown in the following table:

SL No.	Particulars	Land	Length	Width	Area	Starts as	Ending at
1.	Approach Road (A to B)	Forest	3025.00	12.0	3.630	Feeding point area near lease	Sy. No. 87, 88 Shusheelanagar Village
2.	Approach Road in Revenue	Non-forest	1160.00	12.0	1.392	Sy. No. 87, 88 Shusheelanagar Village	Sy. No. 81 & 32 of Shusheelanagara Village
3.	Feeding point area	Forest	-	-	1.710	Nonlinear patch adjacent to Lease boundary	
4.	Segment -1	Forest	1350.00	12.0	1.612	Feeding Point Area	Boundary Sy. No. 82, 88 of Sushilanagar Village.

5.	Segment–4	Non-Forest	1512.00	12.0	1.814	Sy. No. 87, 88 Sushilanagar Village	Sy. No. 29 of Sushilanagar Village
6.	Transfer Point – 1	Forest	-	-	1.797	Adjacent to the boundary of Sy. No. 29,27 & 28 in Sushilanagar Village	
7.	Segment-5	Non-forest	605.00	12.0	0.726	Sy. No. 27, Sushilanagar Village	Sy. No. 45, Sushilanagar Village
8.	Segment – 2	Forest	2350.00	12.0	2.820	Boundary of Sy. No. 45, Sushilanagar Village	Boundary of Sy. No. 4, 5, 39, Dowlathpura Village
9.	Segment-6	Non-forest	335.00	12.0	0.402	Starts & end in Sy. No. 39 of Dowlathpura Village	
10.	Segment – 3	Forest	300.00	12.0	0.360	Boundary of Sy. No 39, Dowlathpura Village	Transfer Point – 2(adjacent to Sy. No. 40, 46, 47)
11.	Transfer point – 2	Forest	-	-	4.474	Adjacent to Sy. No. 40, 46, 47	
7 Forest Patch/Segments & 4 Non-forest Segments			Total Area including Forest & Non Forest Land = 20.315 Ha.				

III. Justification for locating the forest land:

1. **For the feeding point area:** M/s. JSW Steel Ltd. had meticulously planned and prepared the mining plan and has been approved by Indian Bureau of Mines. As per the mining plan, most of the area of the mining lease will be used for various activities like mining, dumps, workshops, roads and other allied activities. Therefore, we are not able to accommodate the area needed to facilitate the Downhill Pipe Conveyor in the mining lease. The location of the feeding area was restricted and it was needed to keep outside the mining lease in the forest area only. The downhill pipe conveyor is proposed to be assisted by a feeder conveyor. Moreover, the feeder conveyor installment with truck hopper needs a good profile ground to make sure that the trusses of the said DHPC is firm in the ground. In addition to that, the feeder conveyor and main DHPC will require mechanical driving drives/pulley with an electrical control room. The iron ore has to be weighed before transporting through the DHPC to Main Pipe Conveyor, therefore a weighbridge is also required to be installed. With the existing ground profile and area requirement for the said component installment, we are bound to locate the feeding point area in Forestland instead of mining lease.

2. **For the transfer point number 1& 2:** The transfer points are planned in such a way that it will facilitate M/s. JSW Steel Ltd. to acquire the iron ore & transport it from nearby existing iron ore mines and some virgin planned mining leases which are going to be auctioned in near future by Govt. of Karnataka. The turning radius parameters becomes the crucial factor while installing the trusses and it is always planned to avoid the sharp turns (it can be noticed at both the transfer points). This further will require area to install weighbridge, feeder hopper, electrical control room, workshop for the maintenance. The proposal for the downhill pipe conveyors from the nearby mines and virgin mines to be auctioned in future will lower the load due

to the transport caused to the PWD roads. In addition to that, a maximum of the 9km of trusses can be installed in a single flight. Therefore it has to be broken up to maintain a safe distance of Segment 7 (6.608 km) which falls in non-forest land For the abovementioned requirements and advantages over the Dumper Transport Mechanism, the project is located in the forestland.

3. **For the approach road:** The approach road is the crucial component for transporting the iron ore, men and machinery and it will also facilitate the installment of Down Hill Pipe Conveyor and its future maintenance. The profile of the forestland from the lease to downward side is steep and installment of trusses will become difficult without any other mean to access and install on such a steep terrain. Therefore, approach road has been proposed to be located in forestland only.

4. **For the Downhill Pipe Conveyor Segments:** We have proposed to adopt a very environment friendly and a cost effective mode of transporting the material from the mine head to the JSW Steel Plan at Toranagallu. We have planned to install the Pipe Conveyor leading to our steel plant, which will be facilitated, by a number of Downhill Pipe Conveyor from the Mine heads of JSW Mining Leases. One of the Downhill Pipe Conveyor has been planned to be laid down from Rama Iron Ore Mine ML No. 2621 to the route of the Main Pipe Conveyor at Sy. No. 124/4, Bhujanganagara Village. The extent of forest area involved in those segments is 4.8 ha. (Length 4000.00m., width 12.0m.) We also have planned to lay down the main transmission line and a water pipe line all along the trusses of the above-mentioned downhill conveyor to our mine head. This initiative will eliminate the diversion of extra forestland for transmission line & water pipeline.

The transportation of Iron ore using Pipe conveyor has many advantages:

i. Best means of transportation to ensure zero spillage and save precious mineral resources.

ii. Saves fossil fuel which otherwise would be used for road transport.

iii. Reduces burden on the transport infrastructure such as road and rail, prevents accidents.

iv. Reduces emissions associated with road transport such as gaseous pollutants, dust and particulate matter.

v. Minimal particulate emissions at loading and unloading points.

vi. Faster means of transportation and saves times and resources.

vii. Flexibility in transportation and continuity of Conveying.

viii. Hassle free transportation and least logistic issues.

ix. Extremely high environmental friendliness. It is pollution free transportation and no dust, fugitive emissions as in case of any other means of transportation.

x. Less strain on the existing government infrastructure and facilities.

To optimize the conveyor profile with existing ground profile, choice of route is restricted. The route has been planned to minimize forestland. The corridor for the downhill conveyor is kept bare minimum of 12m. In addition, there were some inherent limitation because of typical project components making restriction on the turning radius of the downhill pipe conveyors. Since the approach road is a critical element, which will serve the access to the mining lease for transporting Men, Machinery & Material, the project is located in the forestland. The material will also be transported by using Dumper or Dumper-rail mechanism, until the pipe conveyor comes in operation. In addition to that, as per the Hon'ble Supreme Court judgment dated 21.03.2017 passed in IA No. 247 & other IA's in Writ Petition Civil No. 562/2009 have approved construction of Conveyor Belt System, Railway Siding and Railway Subline as the most significant step towards controlling the environmental pollution that has persisted on account of open movement of iron ore by road.