

**PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE,
ODISHA HELD ON 18TH MAY, 2022**

The SEAC met on 18th May, 2022 at 10:30 AM in the Conference Hall of Odisha State Pollution Control Board, Bhubaneswar under the Chairmanship of Sri B. P. Singh. The following members were present in the meeting.

1. Sri B. P. Singh	-	Chairman
2. Dr. K. Murugesan	-	Secretary
3. Dr. D. Swain	-	Member
4. Prof. (Dr.) H.B. Sahu	-	Member
5. Sri J. K. Mahapatra	-	Member
6. Sri K. R. Acharya	-	Member
7. Prof. (Dr.) B.K. Satpathy	-	Member
8. Prof. (Dr.) P.K. Mohanty	-	Member
9. Dr. K.C.S Panigrahi	-	Member
10. Dr. Sailabala Padhi	-	Member

Draft proceeding of the meeting was finalized by the members through e-mail and also final proceeding of the meeting was confirmed by the members through e-mail. The agenda-wise proceedings and recommendations of the committee are detailed below.

ITEM NO. 01

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S. STALWART PROJECT PVT LTD FOR PROPOSED B1+B2+G+6(BLOCK-A) COMMERCIAL, B1+B2+S+31(BLOCK-B) RESIDENTIAL BUILDING, B1+B2+S+13 (BLOCK-C) RESIDENTIAL BUILDING & G+3 CLUB HOUSE (BLOCK-D) OVER BUILT-UP AREA OF 63560.91 SQM STORIED RESIDENTIAL COM COMMERCIAL BUILDING AT MOUZA- PATIA, BHUBANESWAR, DIST – KHORDHA OF SRI SARAT KUMAR SAHU – EC

1. The proposal is for Environmental Clearance of M/s. Stalwart Project Pvt Ltd for proposed B1+B2+G+6(Block-A) Commercial, B1+B2+S+31(Block-B) Residential Building, B1+B2+S+13 (Block-C) Residential Building & G+3 Club House (Block-D) over built-up area of 63560.91 sqm storied residential com commercial building at Mouza- Patia, Bhubaneswar, Dist – Khordha of Sri Sarat Kumar Sahu.
2. As per EIA Notification dated 14th Sept, 2006, as amended from time to time; this project falls under Category “B”, Project or Activity 8(a) Building and Construction projects (EIA Notification dated 14th Sep, 2006 as amended on 2009).
3. M/s Stalwart Projects Pvt. Ltd. has proposed for Development of Housing Project on 2.44 Acres of land at Plot No.: 306/1712/4449, 306/1712/4450, 306/1712/4935, 306/1712/4256, 306/1712/4840, 306/1712/4812, 306/1712/4841, 306/1712/4963, 306/1712/4033, 306/1712/4163, 306/1712/4695, 306/1712/4255, 306/1712/3986, 306/1712/5692, 306/1817, 306/1711/5556, 306/1711/5557 & 306/1711/5558 on Khata No- 474/2770, 474/2771, 474/3474, 474/3700, 474/3160, 474/3162, 474/6177, 474/3988, 474/2369, 474/2506, 474/3470, 474/3000, 474/2601, 474/2331, 474/6210, 474/5007, 474/5008 & 474/5009, Near NH-16 Road, at-Patia, Bhubaneswar, Odisha.
4. **Location and Connectivity** – The proposed site is located at Patia, Bhubaneswar, Odisha. The Geographical co-ordinate of the project site is: Latitude - 20° 21' 34.1" N & Longitude - 85° 49' 41.8" E. The project site is well connected with National Highway-16 (Jharpokharia-Chennai Road). The nearest railway station is Patia P.H. Railway station at a distance of approx 1.9 Km. The nearest

airport is Biju Pattnaik International Airport Bhubaneswar at a distance of approx. 12.4 Km in South-West direction from project site.

5. The site is coming under Bhubaneswar Development Authority.
6. Bhubaneswar Municipal Corporation has provisionally approved the building plan vide letter no. 23849, dated 05.05.2022.
7. Height Clearance from Airport Authority of India vide NoC Id no. BHUB/EAST/B/110421/633732, dated 11.11.2021.
8. The building details of the Project:

Particular	Proposed	Permissible
Project Name	Proposed B1+B2+G+6 (Block-A) Commercial, B1+B2+S+31 (Block-B) Residential Building, B1+B2+S+13 (Block-C) Residential Building & G+3 Club House (Block-D)	--
Plot Area	9895.0 sqm	--
Ground Coverage	3940.04 sqm (39.82 % of Plot area)	--
Total FAR Area	63560.91 sqm	--
Built Up Area (Residential)	54396.79 sqm	--
Built Up Area (Commercial)	9164.12 sqm	--
Total Built up Area	80683.44 sqm	
FAR	6.42	--
Maximum Height	92.07 mtr (Residential) 25.2 mtr (Commercial)	--
Road & Paved Area	4122.16 sqm	--
Parking Area	17928.48 sqm (30 % of Residential FAR Area + 50 % of commercial FAR Area)	17751.78 sqm (30 % of Residential FAR Area + 50 % of commercial FAR Area)
Green Belt Area	2218.45 sqm (22.42% Plot Area)	1979.0 sqm (20% Plot Area)
Power/Electricity Requirement & Sources	3372 KW Source: TPCODL	--
No. of DG sets	4 x 750 KVA	--
Fresh Water requirement & Sources	270.48 KLD Source-Ground Water	--
Sewage Treatment & Disposal	STP Capacity 350 KLD	--
Estimated Population- Residential, Floating/visitors	3146 nos.	--
Estimated Population- Commercial, Floating/visitors	150 nos.	--

9. **Water Requirement** – Fresh make up of 270.48 m³/day will be required for the project which will be sourced from Ground water. Waste water of 342.59 KLD will be treated in a

STP of 350 KLD capacity, which includes primary, secondary and tertiary treatment. After treatment the treated water will be discharge to the Nearest Drain.

10. **Total no.of Rain water Harvesting pits** – 11 nos for the project.
11. **Power Requirement** - The daily power requirement for the proposed Project is preliminarily assessed as 3372 KW source from TPCODL of Odisha State Electricity Board. In order to meet emergency power requirements during the grid failure, there is provision of 4 nos. of DG set having 750 KVA (4 Nos.) capacities for power back up in the Housing Project.

For energy saving,

Energy Conservation by using Solar Street Lighting = 70 x 72= 5040 W, 5.04 KW

Energy generated by 85 nos. of PV solar panel per day = 175.92 KW

Total Energy Saving = (175.92+5.04) KW = 180.96 KW

Total Solar Energy saving = 180.96/3372 = 0.0536 x 100 = 5.36 %

12. **Solid waste Management** - From the proposed Housing project solid waste in form of food waste from kitchen and miscellaneous waste will be generated @0.45 kg/person/day, which will be about 1287.0 kg/day and waste generated from the commercial will be @0.15 kg/day, which will be 22.5 kg/day. The waste generated from floating population in residents will be @ 0.15 kg/day, which will be 42.9 kg/day.

S. No.	Category	Counts (heads)	Waste generated
1.	Residents	2860 @ 0.45 kg/day	1287.0 kg/day
2.	Commercial population(including Floating Population)	150 @ 0.15 kg/day	22.5 kg/day
3.	Floating population in residents	286 @ 0.15 kg/day	42.9 kg/day
4.	STP sludge		60.0 kg/day
Total Solid Waste Generated			1412.4 kg/day

13. **Green Belt-** Green belt will be developed over an area of 2218.45 sqm (22.42 %) of the plot area; by using the local species like Radhachuda, Nageswar, Akash Neem, Ashok, Polanga, Karang, Bela, Pijilu, Kaniara, Tagar, Hena, etc.
14. **Parking Details** – Total parking area allocated to the project is 17928 sqm/ 576 ECS.
15. The project cost is ` 75 crores and Environmental Monitoring programme – 2.2 crores.
16. The proponent along with the consultant **M/s. Centre for Envotech & Management Consultancy Pvt. Ltd. Bhubaneswar** made a detailed presentation before the SEAC on the proposal.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s. Centre for Envotech & Management Consultancy Pvt. Ltd. Bhubaneswar**, the SEAC decided to take decision on the proposal after receipt of the following information / documents from the project proponent followed by site visit of the Sub-Committee of SEAC.

- (i) 2 separate Entry and Exit gates for commercial and Residential units.
- (ii) No. of DG sets calculation needs to be rechecked.
PP has stated to have 4 nos. of DG sets with capacity of 750KVA each, totalling to 3000KVA. The basis of deriving the number & capacity be submitted and reworked out to reduce the number & cumulative capacity and be submitted.
- (iii) Capacity of STP needs to be increased, and submission of calculation of water balance of 135KLD.
Basis of arriving at population of residents, visitors, club and commercial complex be submitted with details of water consumption, flushing water & water balance thereof. Accordingly, STP capacity be revisited and confirmed.
- (iv) Excess treated waste water is said to be discharged to nearby drain. Thus, the distance of the drain from the project boundary and the ownership / Row of the said land be submitted along with the permission from drain Authority to take the Addl. load of this project. Besides, the start & the fall out of the drain to which the treated waste water will be discharged be informed.
- (v) No of rain water harvesting pits (RWHP) 11 Nos has been calculated. This calculation be re-visited taking in to consideration of hourly maximum rainfall in 24hours is past 30 years based on logical climate data with real time input an co-efficient of run-off & retention time or reference be submitted on their basis.
- (vi) Structural Stability Certificate from an institute of repute like- NIT, IIT etc. shall be submitted as per the bye law of the Development Authority.
- (vii) Parking in terms of ECS & space, both for 4 wheelers / 2 wheelers / Bicycle for residential apartment as well as commercial complex as per the norms showing the demarcation in the layout map be submitted, considering the residents, visitors & floating population for commercial complex as well be submitted.
- (viii) Availability of surface water through PHED/WATCO pipeline and evidence of refusal.
- (ix) Permission from WR Deptt. to be taken for water both for residential and use in commercial complex.
- (x) Provisions of solar power (5.36%) of total power demand in stated to have been made. Details of plan and consumption calculation vis-s-vis the generation of the same be submitted.
- (xi) Fresh traffic study to be carried out by an institute of repute (the vetted report will not be acceptable) and submitted once again.
- (xii) Location of the DG set w.r.t predominant wind direction vis-à-vis the location of the apartment & commercial complex be submitted along with installation drawing of the exhaust pipe of the stack of DG Set be submitted. The capacity numbers and location of DG set to be reviewed to prevent noise and air pollution impact on the residents.
- (xiii) Stretch and width of greenbelt with number of plants to be planted and species be submitted. The space for mechanical ventilation units and rain water harvesting pit should not be calculated as part of the greenbelt and landscape.
- (xiv) Layout of internal drainage map showing the drain network till fall out and RWH and Recharging pits.
- (xv) Source of water is stated to be ground water to the tune of 270.58 KLD. PP need to submit a letter from the authority (Watch/ PHD/ Municipality) that they will not be able to supply pipe water.
- (xvi) It is stated that 134.70 KLD treated waste water will be reused for vehicle/ AC make up/ other use. The detail calculation be submitted.

- (xvii) Power of Attorney from all land owners in favour of the PP for the plot s area be submitted and Kisam of the land in "Sabik & Haal" land record with conversion to Gharabari be submitted.
- (xviii) Number of overhead tanks with capacity and norms of water consumption for fresh water in residential areas and commercial areas.
- (xix) Similarly, no. of OH Tank for storage of STP treated wastewater for reuse in flushing of toilets supplied through dual plumbing system.
- (xx) The Fire safety recommendation by the State Fire Service Wing be submitted.

ITEM NO. 02

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF CHASIKHANDA BILUAKHAI NADI SAND QUARRY FOR PRODUCTION OF 24282 CUM/ ANNUM OVER ML AREA 10.117 HA IN VILLAGE CHASIKHANDA, TAHASIL - BIRIDI, DIST- JAGATSINGHPUR, ODISHA OF TAHASILDAR, BIRIDI - EC

1. The proposal is for Environmental Clearance for Chasikhanda Biluakhai Nadi Sand Quarry for production of 24282 Cum/ annum over ML area 10.117 Ha in Village Chasikhanda, Tahasil - Biridi, Dist- Jagatsinghpur, Odisha of Tahasildar, Biridi.
2. The project falls under category "B1" or activity 1 (a) – Mining of Minerals projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. The mining lease of Chasikhanda Sand Quarry has been granted in favour of Sri Nisakar Mohanty, at Kajipatna, Po: Uttampur, Cuttack being successful bidder Vide letter no- 39, dated 05.01.2021 from Tahsildar cum-Competent Authority, Biridi Odisha.
4. Mining Plan has been approved for the project under Rule 28(4) of the Odisha Minor Mineral Concession Rule-2016 in name of Tahsildar, Biridi, Jagatsinghpur by the Deputy Director of Geology, Bhubaneswar on 20.10.2020.
5. The TOR issued by SEIAA vide letter no – 1245/SEIAA dated 09.04.2021.
6. The public hearing has been conducted on 27.09.2021(10:30 am) at RI Office Purana of Jagatsinghpur district. Odisha. The issues raised during public hearing are plantation, road maintenance, dust suppression.
7. **Location and Connectivity** – The lease area is located on Govt. Land, Khata No 712, Plot No 157, Kisam- Nadi comes under F45U3, F45U4, F45T15 survey of India, Topo sheet. The coordinates of lease area are Latitude:N20°18'56.20" to N20°18'46.66" & Longitude :E86°03'44.93" to E86°04'02.31" The mine lease area is connected to National Highway (NH-55) 2.41Km away & State Highway SH-60) 13km away. Nearest Railway station is Raghunathpur Railway Station-10 Km Nearest town Jagatsinghpur town at 5.2 km. The nearest Airport is Bhubaneswar Airport at a distance of 63km.
8. **Reserves and Proposed Production** – The total geological reserves is 252925 cu.m and mineable reserves is 216825cu.m. The proposed production is 24282 cum /year or 121410 TPA of Sand.
9. **Basic Requirements For The Project**
10. **Manpower:** About 36 persons will be given employment to the people of nearby villages.
11. **Water Requirement:** There is requirement of approx. 3.0 KLD water for this project. 0.5 KLD will be for drinking/domestic purpose, 0.5KLD for green belt and 2.0KLD from dust suppression

which will be sourced from the nearby village by water tanker.

12. **Mining Method:** Mining will be done by manual method. Since the depth of sand deposit is 1m, excavator, handpicks, spade, hand shovel will be used by laborers for extracting & loading of sand. The proposed mined out areas will gradually get filled up by river sands transported with water from upstream direction.
13. **Baseline Study:** The baseline data was collected for the pre-monsoon season i.e. Dec-20 to February 2021 in the 10 km study area results. The maximum value for PM_{2.5} was observed, as 24.8 µg /m³ at Village-Gousanagar (A3) while 24 hours applicable limit is 60µg/m³ mixed use areas. The area observes average PM_{2.5} concentration in the range of 8.4-24.8 µg/m³ with the lowest concentration of 8.4 µg/m³ recorded at Village-ChasikhandaVillage (A6).
14. The maximum value for PM₁₀ was observed, as 62.3µg/m³ at village-Baliastore (A2) while 24 hours applicable limit is 100µg/m³ for mixed use areas. The area observes average PM₁₀ concentration in the range of 35.6 -62.3µg/m³ with the lowest concentration of 35.6 µg/m³ recorded at Village-Kamalpur(A7).
15. The maximum value for SO₂ was observed, as 19.2µg/m³ at Village- Sanakharaamanga Village (A8) while 24 hours applicable limit is 80µg/m³ for industrial and mixed use areas. The area observes average SO₂ concentration in the range of 4.0- 19.2 µg/m³ with the lowest concentration of 4.0 µg/m³ recorded at Village-Project Site (A1) & Baliastore(A2). All the villages have observed value well under the prescribed limit.
16. The maximum value for NO_x was observed, as 19.4 µg/m³ at Village- Kamalpur (A7) while 24 hours applicable limit is 80µg/m³ for industrial and mixed use areas. The area observes average NO_x concentration in the range of 8.2- 19.4-µg/m³ with the lowest concentration of 8.2 µg/m³ recorded at Village- Baliastore(A2). All the villages have observed value well under the prescribed limit.
17. Total 6 Groundwater samples and 5 surface water samples were analyzed and concluded that: The ground water from all sources remains suitable for domestic purposes as all the constituents are within the limits prescribed by drinking water standards by Indian Standards IS: 10500. From the Surface water analysis it is evident that most of the parameters of the samples comply with IS-2296: 1992 Category "C" standards of CPCB, indicating their suitability for Drinking water source after conventional treatment and disinfection.
18. Soil Samples collected from identified locations indicate the soil is Loamy type and the pH value ranging from 6.28 to 6.70 which indicating that soil samples is neutral in nature.
19. For the said project replenishment study has been done during the pre-monsoon (April-2021) and post-monsoon season (Oct. - 2021) by field survey (volumetric survey) method. Amount of sand Replenishment within the quarry area is 18454 Cum/annum & proposed production is 24282 cum/annum i.e. appox. 76 % replenishment can be done. Therefore the areas for sand exploitation within the lease area is been divided into two zones, one for First-Third-Fifth years' mining and the other for Second-Fourth years' mining. Overall, after the planned period.
20. **Greenbelt Development:** Plantation will be done in safety zone and haul road of lease area. About 7500 numbers of trees will be planted with consultation with the local authorities. Apart from this 1250nos of tress will be planted along the roads, in schools and public building and other social forestry programme.

21. **Project Cost Estimation:** The estimated cost of the project is Rs. 18.0 lakh and EMP budget 5.80lakh.
22. The Environment consultant **M/s VVN Technologies Pvt. Ltd., Hyderabad** along with the proponent has made a presentation on the proposal before the Committee.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s VVN Technologies Pvt. Ltd., Hyderabad**, the SEAC recommended for grant of Environmental Clearance for the proposal valid upto lease period with stipulated conditions as per **Annexure – A** in addition to the following specific conditions.

1. Revised mining plan shall be prepared based on essential physical criteria as per Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India enclosed as **Annexure - B**. Lay out of Progressive Mine Closure Plan shall also be incorporated in the Revised Mining Plan.
2. Replenishment study to be carried out periodically and any revised mining plan/production based on the study to be submitted with an action plan.
3. Provision of Bio-toilet shall be made at the site.
4. Avenue plantation and plantation on both sides of the haulage road in consultation with/ on the advice of concerned Forest Department, Government of Odisha & W.R. Department Government of Odisha as well.
5. Stone patching with plantation in between along the stretch of the bank associated with sand mining and necessary ramp construction shall be made.
6. In view of the likely revision of DSR for Jagatsinghpur District in future the details of this Minor Mineral reserve to be ascertained in the revised DSR.
7. In view of the difference commonly found in sand deposits, the determination of Mining lease by local Tahasildar considering the Dimensions like average length, breadth and height of the deposit to be re-ascertained by the Revenue Department and RQP for final exploitation of sand and higher revenue for the state of Odisha.
8. All the provisions of Sand Policy of Govt. Of Odisha Dtd 2.09.2021 to be followed for this sand mining project.
9. CSR activities to be made with consultation with district administration.

ITEM NO. 03

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF SANAWAUBARI DEVI NADI SAND QUARRY FOR PRODUCTION OF 19426 CUM/ANNUM OVER ML AREA 8.093 HA. IN VILLAGE SANAWAUBARI, TAHASIL – BIRIDI, DISTRICT - JAGATSINGHPUR, ODISHA OF TAHASILDAR, BIRIDI – EC

1. The proposal is for Environmental Clearance for Chasikhanda Biluakhai Nadi Sand Quarry for production of 24282 Cum/ annum over ML area 10.117 Ha in Village Chasikhanda, Tahasil - Biridi, Dist- Jagatsinghpur, Odisha of Tahasildar, Biridi.
2. The project falls under category “B1” or activity 1 (a) – Mining of Minerals projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. The mining lease of Sanawaubari Devi Nadi Sand Quarry has been granted in favour of Smt. Krishna Das W/o- Rasabihari Das At- Maindipur, Ps- Biridi, Jagatsinghpur, Odisha over an area of 8.093 Ha Khata No.85, Plot No.306,307& 311, Sanawaubarai Village, Biridi Tehsil, Jagatsinghpur District, Odisha.

4. The Mining Plan of the Mining Project has been approved by Joint Director of Geology, Dhenkanal, Odisha vide memo no. 1169 on dated 19.10.2020.
5. The TOR issued vide letter No.58823/89-MINB1/12-2020 dated 11.05.2021.
6. Public Hearing was held at the scheduled venue & time i.e on 24.09.2021(10:30 am) at RI Office Purana of Jagatsinghpur district. The issues raised during public hearing are plantation, road maintenance, dust suppression, Local Employment.
7. **Location and Connectivity** – The lease area is located on Govt. Land, Khata No 85, Plot No 306,307 &311 Kisam- Nadi. The coordinates of lease area are Latitude: N 20°18'55.17" to N20°19' 14.68" & Longitude :E86°01' 37.207" to E86°01' 42.573" The mine lease area is connected to National Highway (NH-16) 15.2Km away & State Highway SH- 43 4km away. Nearest Railway station is Kandapur Railway Station-9 Km Nearest town Jagatsinghpur town at 4km. The nearest Airport is Bhubaneswar Airport at a distance of 70km.
8. **Reserves and Proposed Production** – The total geological reserves is 80937 cu.m and mineable reserves is 38852cu.m. The proposed production is 19426 cum /year or 97130 TPA of Sand.

Basic Requirements for The Project:

9. **Manpower:** About 31 persons will be given employment to the people of nearby villages.
10. **Water Requirement:** There is requirement of approx. 5.0 KLD water for this project. 2 KLD will be for drinking/domestic purpose, 1KLD for green belt and 2.0KLD from dust suppression which will be sourced from the nearby village by water tanker.
11. **Mining Method:** Mining will be done by manual method. Since the depth of sand deposit is 0.5m, excavator, handpicks, spade, hand shovel will be used by laborers for extracting & loading of sand. The proposed mined out areas will gradually get filled up by river sands transported with water from upstream direction.
12. **Baseline Study:** The baseline data was collected for the pre-monsoon season i.e. Dec 2020 to Feb 2021 in the 10 km study area results. The maximum value for PM2.5 was observed, as 24.8 µg /m³ at Village-Parihsankharipur (A3) while 24 hours applicable limit is 60µg/m³ mixed use areas. The area observes average PM2.5 concentration in the range of 11.2-24.8µg/m³ with the lowest concentration of 11.2 µg/m³ recorded at Village-Project Area (A1).
13. The maximum value for PM10 was observed, as 62.7µg/m³ at village-Tarjana (A7) while 24 hours applicable limit is 100µg/m³ for mixed use areas. The area observes average PM10 concentration in the range of 36.0-62.7 µg/m³ with the lowest concentration of 36.0 µg/m³ recorded at Project Area(A1).
14. The maximum value for SO₂ was observed, as 7.3µg/m³ at Village- Project Area (A1) while 24 hours applicable limit is 80µg/m³ for industrial and mixed use areas. The area observes average SO₂ concentration in the range of 4.1-7.3 µg/m³ with the lowest concentration of 4.1 µg/m³ recorded at Village-Badawaubari(A5) & Malisahi (A2). All the villages have observed value well under the prescribed limit.
15. The maximum value for NO_X was observed, as 14.9 µg/m³ at Village- Parisankharisahi (A3) while 24 hours applicable limit is 80µg/m³ for industrial and mixed use areas. The area

observes average NOX concentration in the range of 8.4-14.9µg/m³ with the lowest concentration of 8.4 µg/m³ recorded at Village- Tarjana(A7). All the villages have observed value well under the prescribed limit.

16. Total 5 Groundwater samples and 7 surface water samples were analyzed and concluded that: The ground water from all sources remains suitable for domestic purposes as all the constituents are within the limits prescribed by drinking water standards by Indian Standards IS: 10500. From the Surface water analysis it is evident that most of the parameters of the samples comply with IS-2296: 1992 Category "C" standards of CPCB, indicating their suitability for Drinking water source after conventional treatment and disinfection.
17. Soil Samples collected from identified locations indicate the soil is Loamy type and the pH value ranging from 6.21 to 7.11 which indicating that soil samples is neutral in nature.
18. For the said project replenishment study has been done during the pre-monsoon (April-2021) and post-monsoon season (Oct. - 2021) by field survey (volumetric survey) method. Amount of sand Replenishment within the quarry area is 14245 Cum/annum & proposed production is 19426 cum/annum i.e. approx. 73 % replenishment can be done. Therefore the areas for sand exploitation within the lease area is been divided into two zones, one for First-Third-Fifth years' mining and the other for Second-Fourth years' mining. Overall, after the planned period.
19. **Greenbelt Development:** Plantation will be done in safety zone and haul road of lease area. About 3000 numbers of trees will be planted with consultation with the local authorities. Apart from this trees will be planted along the roads and nearby in schools.
20. **Project Cost Estimation:** The estimated cost of the project is Rs. 12.50 lakh and EMP budget 5.60lakh.
21. The Environment consultant **M/s VVN Technologies Pvt. Ltd., Hyderabad** along with the proponent has made a presentation on the proposal before the Committee.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s VVN Technologies Pvt. Ltd., Hyderabad**, the SEAC recommended for grant of Environmental Clearance for the proposal valid upto lease period with stipulated conditions as per **Annexure – A** in addition to the following specific conditions.

1. Revised mining plan shall be prepared based on essential physical criteria as per Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India enclosed as **Annexure - B**. Lay out of Progressive Mine Closure Plan shall also be incorporated in the Revised Mining Plan.
2. Replenishment study to be carried out periodically and any revised mining plan/production based on the study to be submitted with an action plan.
3. Provision of Bio-toilet shall be made at the site.
4. Avenue plantation and plantation on both sides of the haulage road in consultation with/ on the advice of concerned Forest Department, Government of Odisha & W.R. Department Government of Odisha as well.
5. Stone patching with plantation in between along the stretch of the bank associated with sand mining and necessary ramp construction shall be made.
6. In view of the likely revision of DSR for Jagatsinghpur District in future the details of this Minor Mineral reserve to be ascertained in the revised DSR.

7. In view of the difference commonly found in sand deposits, the determination of Mining lease by local Tahasildar considering the Dimensions like average length, breadth and height of the deposit to be re-ascertained by the Revenue Department and RQP for final exploitation of sand and higher revenue for the state of Odisha.
8. All the provisions of Sand Policy of Govt. Of Odisha Dtd 2.09.2021 to be followed for this sand mining project.
9. CSR activities to be made with consultation with district administration.

ITEM NO. 04

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF BERGAON DECORATIVE STONE FOR PRODUCTION OF DECORATIVE STONE (2100CUM/ANNUM) OVER ML AREA 4.135 HA IN VILLAGE BERGAON, TAHASIL BOIPARIGUDA, DISTRICT - KORAPUT, ODISHA OF SMT EARLA LAKSHMI - EC

1. This is a proposal for Environment Clearance of Bergaon Decorative Stone for production of Decorative Stone(2100Cum/Annum) over ML Area 4.135 ha in village Bergaon, Tahasil Boipariguda, District - Koraput, Odisha of Smt Earla Lakshmi.
2. The project falls under category "B" or activity 1 (a) – Mining of Minerals projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. Bergaon Decorative Stone Quarry over an area of 4.135 Ha of Smt. E. Lakshmi is located in village Bergaon under Boipariguda Tahsil of Koraput District Odisha. The lease was granted to Smrt E. Lakshmi W/o E. Chandra Sekhar At- M.G. Road, Po- Jeypore-764001 being the successful bidder for tenure of 20 (Twenty) years from the date on which this executed deed is registered.
4. The Mining Plan has been approved by the Joint Director of Mines, Directorate of Mines, Bhubaneswar, Odisha. under section 2 of Rule 28 (4) of OMMC, 2016 as per clause 5.
5. The last modification of approved mining plan under rule OMMC,2004 was made during 2013-14 to 2017-18 .Present modification of the approved mining plan over 4.135 ha under Rule 21 of OMMCR,2016 for three years of the scheme period 2020-21 to 2022-23 was approved by Directorate of Mines, Odisha, Bhubaneswar.
6. The present Mining scheme is prepared for 5 years (2018-19 to 2022-23) under rule 18 of Granite Conservation & Development Rule 1999 with progressive Mine closure plan under Rule 21 of OMMC Rumle,2016.
7. Thereafter Mining operation has been suspended by Deputy Director Mines, Koraput vide letter no 492/Mines dated 11.04.2017 for want o permission for Surface Operation.
8. Permission for Surface Operation has been granted by Collector, Koraput vide letter no 439 /Mines dated 07.01.2021.
9. In order to restart the operation Environmental clearance sought as per provision of EIA notification 2006 and amendment thereof.
10. **Location and Connectivity** - The lease area under reference featured in the Survey of India Topo sheet no. 65J/5 is on Khata No 95, 87, 290 Plot No. 1802/p, 1803/p, 1839/p, 1840/p, 1840/2333/p, 1931/p, 934, 1935/p, 1936/p .The geo corordinates of the lease area is 18°45'57.04"N to 18°46'03.06"N & 82°22'01.2"E to 82°22'13.0"E.The area is located 35 km from District Headquarters Koraput and 398 Km from State Capital Bhubaneswar. Nearest railway stations is at Jaypore at an distance of 25 KM(NE) and there is Koraput Railway Station at 45km distance away from the location. The lease area can be

approached from SH: 25 & NH: 326 (Jaypore highway) at a distance of 6.6 Km & 7.0 Km. Nearest Airport is Jay pore Airport which is at a distance of 24 Km. There is neither seasonal nor perennial nala within the lease area. Drainage system in the region is dendritic. Surface runoff water in the region will be discharged to the natural drainage course.

11. **Reserve Estimation as on 10.12.2019** – Mineable reserves has been updated as follows –

Category	Code	Minable Reserve	Grade
Proved	121	28850	Decorative Stone
Probable	122	19494	
Total (Demonstrated)		48344	

12. The lease has proposed to excavate a total of 5985 cum of decorative stone and 2100 cum (max) annually from Bergaon Decorative Stone Quarry. The method of mining is Open cast semi-mechanized.

13. Life of Mines is 24 years.

14. A total of 10260m³ waste is likely to be generated during the plan period.

15. **Power requirement:** Power requirement is 100 KVA shall be required for lighting during night time and shall be taken from the State Grid. Necessary permission shall be taken after commencement of the project. Diesel will be used for running of equipments during mining operation. It is estimated that 1 KLD of diesel will be required and same shall be procured from local pump station.

16. **Water requirement:** Water requirement for the project is 9 KLD for domestic, plantation & dust suppression which will be sourced from Govt sources of water.

17. **Green Belt Development:** About 4000 saplings of local species will be planted over an area of 1.207 ha in 7.5m wide safety zone along lease boundary.

18. **Employment Potential:** Total manpower requirement is 32 no.s. Administrative & supervisory personnel will be 6 numbers and 26 workers will be employed per day under skilled, semi-skilled & un-skilled category in the quarry. Indirect employment through creation of shops/ stalls, hired vehicles etc. also can be generated to full fill the day-to-day requirements of the mining personals.

19. The cost of the project is ` 119 lakhs. EMP capital cost of the project is 19.0 Lakh. EMP Recurring cost is 10.90Lakh/Annum. CSR Budget is 11.50 lakh/Annum

20. The proponent has made a presentation on the proposal before the Committee.

Considering the information / documents furnished by the proponent and presentation made by the proponent, the SEAC decided to take decision on the proposal after receipt of the following information / documents from the proponent.

- i) Year wise production details of mine duly certified by mining officer.
- ii) Cluster certificate from the Mining Officer that there is no mines within 500 meters of proposed quarry.
- iii) Brief write up why the case will not be treated under Violation category.

ITEM NO. 05

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S RAGA TRADECON PVT. LTD. FOR NETRABANDHA PAHAR (WEST) IRON ORE BLOCK FOR PRODUCTION OF 1.0 MTPA IRON ORE ALONG WITH 750 TPH CRUSHING UNIT AND 600 TPH SCREENING UNIT OVER AN AREA OF 74.370 HA IN VILLAGE BALADIHA, TEHSIL - KOIRA, DISTRICT - SUNDARGARH OF SRI RAMAN KUMAR MISHRA – TOR

1. The proposal was considered by the committee to determine the “Terms of Reference (ToR)” for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
2. The project falls under category “B” or activity 1 (a) – Mining of Minerals projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. M/s Raga Tradecon Pvt. Ltd. is for Terms of Reference (ToR) for Netrabandha Pahar (West) Iron Ore block for production of 1.0 MTPA Iron Ore along with 750 TPH crushing unit and 600 TPH screening unit over an area of 74.370 ha in Village Baladiha & Sanua, Tehsil - Koira, District - Sundargarh
4. Netrabandha Pahar (West) Ore block, a virgin block is located over an area of 74.370 ha located Baldihi & Sanua Village under Koida tehsil in Sundargarh district of Odisha.
5. Govt. of Odisha had issued NIT on 07.07.2021 for the auction process as per mineral auction rule, 2015 of the aforesaid iron ore block.
6. In this process, M/s Raga Tradecon Pvt Ltd was declared as the preferred Bidder under Rule 9(9) (iii) or Rule 10(A) of Auction Rules having quoted a final price offer of 139.50%.
7. Further, M/s Raga Tradecon Pvt Ltd Pvt Ltd made payment of Rs 6,99,89,587 (Rupees Six crore Ninety Nine lakhs Eighty Nine thousand Five hundred Eighty seven only) on 22.10.2021 against first instalment being twenty percent of the upfront money.
8. Accordingly, letter of Intent was issued to M/s Raga Tradecon Pvt Ltd for grant of Mining Lease for a period of 50 years vide letter no 8722/IV(B)SM-53/2021/SM dt 28.10.2021 subject to abiding of all rules and regulations.
9. **Location and Connectivity** - The ML area falls within the toposheet no F45N1 and bounded by the latitude and longitude as furnished below: Latitude 21°52’ 20.13” N’ to 21° 53’ 01.24” N and Longitude 85°16’ 46.84” E” to 85°17’ 15.90” E. The mining lease area is 4.1km away from Koira-Barsuan road. 7m wide connecting road is passing adjacent to the lease area. The Koira-Tensa road joins NH 520 at Koira which is at a distance of 4 km towards North West. Koira is located at a distance of 4.0 km in NW part of the Lease area. NH 520 is passing at a distance of 4.0 km towards North- West of the Lease area. Nearest Railway station is at Barsuan (both Passenger and goods train) located at a distance of 27 km in western part and connected by Koira- Barsuan road. Iron ore will be transferred to Barsuan Rly Siding through Koira-Barsuan Road.
10. Total ML area is covering 74.370Ha. 66.242 ha is under forest land category. The Lease has been allocated in favour of the lessee through e-auction process.
11. Forest Clearance has been applied vide State Serial no OR-029/2022 dt 07.04.2022 over total area of 66.242Ha.
12. Mining Plan approved by IBM vide letter no MP/A/24-ORI/BHU/2021-22/1474 dt 07.02.2022 for 1.0 MTPA Iron Ore production.

13. Total Mineral resources in the area is 18.02 Million Tons and Mineable reserve estimated to be 17.27 MT.
14. Mining Method - The mining operation in this area will be carried out by adopting the mechanized opencast mining method with Excavator, Pay Loader, Air Compressor, Jackhammer, conveyor system, Tippers etc for the excavation work. Height & width of overburden bench are proposed to be kept at 10m and 15m respectively. In the ultimate level, the individual slope of benches would be kept 370 from vertical. The massive hard lateritic bed would be excavated mechanically method after breaking through drilling & blasting. Drilling will be done by Compressed air with wagon drill. Power Gel large diameter cartridge and cordex fuse will be used. The blasted material would be loaded by loader into tipper for transportation. The haul road would be developed simultaneously to facilitate the movement of loaded and unloaded tippers with a width of 10m. The gradient of haulage road & ramp is considered as 1:16. It has been planned for production of 1.0 MTPA iron ore.
15. Solid Wastes Management - During this plan period, a total of 8,08,459 cum of waste will be generated. It has been planned to utilize 40% of the generated waste i.e dispose of the waste at two different locations during plan period and part of the waste will be utilised for road maintenance. As per the Mineable reserve calculation total volume of waste during life of the Mine = 17274072 T Generation of waste during plan period = 1049370 T. Remaining waste available for the conceptual period will be = 16224702 T.
16. Water Requirement: The water requirement for the mines is mainly for green belt, dust suppression, ETP, workshop, wheel washing and drinking water purpose. The total water requirement will be 180.0 m³/day.
17. Power Requirement: The power demand for the mining activities is estimated to be 700 KW. It is envisaged that requisite power will be supplied at 33KV by power grid. Emergency power will be met from the generator of 500 KVA capacities. The PP will establish solar Lighting facilities to be used for lighting in office and premises.
18. Resettlement & Rehabilitation - There is no human settlement within the lease area. Hence, R & R plan is not envisaged for this project.
19. Baseline data is continuing from 01st March 2022 by Enviro- Tech Services, QCI Accredited NABL Lab as per the stipulated guidelines of MoEF & CC in the study area of 10 km radius around the ML.
20. Project Schedule & Cost Estimates - The total project cost for the mine expansion for plant & machinery and pre-operative expenses are expected to be Rs. 60.00 crores including Interest during Construction, prevailing taxes and duties.
21. The project proponent along with the consultant **M/s Oceao Enviro Management Solutions (India) Pvt. Ltd.** made a detailed presentation on the proposal.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Oceao Enviro Management Solutions (India) Pvt Ltd**, the SEAC prescribed the following specific ToRs in addition to standard ToRs as per **Annexure – C** for conducting detailed EIA study.

- i) Copy of site-specific Wildlife Management Plan to be submitted.
- ii) Certificate from the concerned DFO indicating that there is no elephant corridor within the lease area to be submitted.

- iii) Any forest land required outside the lease area for use of transportation route, if so, detailed status of diversion of such forest land is to be submitted.
- iv) Details of existing mines and their operational status within 10 kms radius is to be submitted.
- v) The following information to be submitted.
 - a) Compliance of mining plan, including waste and OB dump management, mine closure plan etc.
 - b) Compliance to Common cause judgment
 - c) Status of R&R
 - d) Compliance of plantation
 - e) Compliance of public hearing issues
 - f) Status of complaints/ court cases/legal action
 - g) Any other relevant environmental issue / parameter.
 - h) The following studies be undertaken by domain experts, viz:
 - Blast vibration study if feasible with trial blasts
 - Socio economic study of the neighbouring habitation
 - Biodiversity study with audit mechanism.
 - Slope stability study for both mines and OB /waste dumps.
 - Surface runoff management along with rainwater harvesting and ground water recharge include the design of drainage structures.
 - Traffic density study, both inside the mines and at haulage roads, intersecting points of haulage road with public road.
 - Hydrology study: The study findings and the mitigation measures thereof to be submitted
- vi) Cost of the CER calculated shall be utilized for the concerns of the people in terms of health, education, and infrastructure and environment protection. Project Proponent also shall include the budget for the betterment of schools nearby and to facilitate the online education system by providing Wi-Fi connectivity and desktops/tablets.
- vii) The project proponent should provide in the EIA Report details of all the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.
- viii) The project proponent should submit the revenue plan for mining lease, revenue plan should be imposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land etc.
- ix) The project proponent should submit the real-time aerial footage & video of the mining lease area and of the transportation route. The project proponent should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. The project proponent should submit the number of saplings to be planted, area to be covered under afforestation & green belt,

location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this the project proponent should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted. Presently in India there are many agencies which are developing forest in short interval of time. Thus, for the plantation activities details of the experts/agencies to be engaged needs to be provided with budgetary provisions.

- x) The project proponent should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle needs to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- xi) The project proponent should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this the project proponent should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.
- xii) The project proponent should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & Corporate Environmental Responsibility. The capital and recurring expenditure to be incurred needs to be submitted.
- xiii) The project proponent should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral. The project proponent should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
- xiv) The project proponent should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought out supported with the line source modelling and isopleth. Further, frequency of testing of Poly Achromatic Hydrocarbon needs to be submitted along with budget. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned. The project proponent should provide the source of equations used and complete calculations for computing the emission rate from the various sources.
- xv) The project proponent should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.
- xvi) The project proponent should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.
- xvii) The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC conditions. After perusal of Standard EC conditions if agreed the project proponent should also submit an undertaking by the way of affidavit for Compliance of

Standard EC conditions already prescribed by the Ministry vide O.M. No and Specific condition if prescribed by the SEAC/SEIAA, Odisha.

- xviii) The project proponent should ensure that only NABET accredited consultant shall be engaged for the preparation of EIA/EMP Reports. The project proponent shall ensure that accreditation of consultant shall be valid during the collection of baseline data, preparation of EIA/EMP report and during the appraisal process. The project proponent and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the SEIAA, Odisha are factually correct and the project proponent and consultant are fully accountable for the same.
- xix) The project proponent should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this the project proponent should submit the original test reports and certificates of the labs which will analyze the samples.
- xx) The percentage of iron in the final waste generated and not used as iron ore or its upgradation.
- xxi) Compliance to NEERI recommendations.
- xxii) "Zero discharge" management & "Zero Dust Re-suppression" management with SOP be submitted.
- xxiii) Internal roads, drain management with network of the drain, retaining walls and settling tanks with ETPs be submitted.
- xxiv) Details of air quality monitoring stations of the area and additional stations at entry and exit of mines and haulage roads, habitation to be considered.
- xxv) Construction and perennial maintenance of haulage road with details of plantation and the species thereof to be submitted.
- xxvi) Parking plaza layout with maximum no. of vehicles and types of vehicles that can be parked with basic amenities and facilities.
- xxvii) Forest Clearance details with copy of all Forest Clearance.
- xxviii) Status of complaints/ court cases/legal action regarding to lease along with a detailed write up indicating case no., purpose of the case etc.
- xxix) Copy of lease document.
- xxx) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage.
- xxxi) Project Proponent shall consider developing a good nursery in nearby village for production of saplings of 4-6 feet height for planting in safety zone, sides of external haulage roads and distribution among villagers for planting in their private land/ community land. The nursery may be developed by company on their own or in collaboration with forest department. A detailed proposal to this effect shall be submitted. The proponent shall ensure to use organic fertilizer in the nursery.
- xxxii) Comprehensive water management, water balance with water harvesting and its reuse both monsoon and non-monsoon period.
- xxxiii) STP plan with design with location in the layout map for domestic waste water treatment.

- xxxiv) Provision of solar power (percentage wise) with detail plan.
- xxxv) To submit the network with dimension of concrete cement roads inside the mining lease area and haulage road.
- xxxvi) To submit parking plaza at entry and exit of the mines with basic amenities.
- xxxvii) Plan and SoP to be submitted for water sprinkling inside the mines and outside in haulage road including regular vacuum cleaning and Zero Dust Resuspension system to completely mitigate and arrest fugitive dust emission.
- xxxviii) Wagon drill blasting must be avoided- to confirm.
- xxxix) Details of grade of Fe to be mined, cutoff grade, management of off grade, quantity of each year wise and the dumping or storage plan of off grade and wastes to be provided.
- xl) Total water management including domestic use w.r.t sourcing from borewell, rain water harvesting and recycling of waste water from ETP/STP, both for monsoon and non-monsoon be submitted.
- xli) Measures to be taken for arresting and mitigation of occupational health hazard including identification of the same, both for employees and nearby/surrounding habitation.
- xl ii) Year wise waste/OB management with reference to generation and utilization in consideration with dynamic movement of inventory indicating dump area and dimension of storage be submitted.
- xl iii) Details of grades to be produced, to be discarded as waste and dumps and the utilisation plan.
- xl iv) Details of Trees falling.
- xl v) The road to which the approach road of 3.5 kms as stated to be connected?
- xl vi) Permission/ NOC from CGWA as a contingency measure in case of intersection with ground water and the corresponding Disaster Management plan.
- xl vii) Details of plan and calculation of consumption of solar power including for water sprinkling vis - a - vis the generation and as percentage of total power demand.
- xl viii) Site specific wild Life management plan including protection and conservation of Endangered, Threatened and Near Threatened living species along with their categories be identified and submitted.
- xl ix) Rain water Harvesting Pond(s) details with design.
 - l) Provision of suitable size of sump be planned in the second review of Mining Plan period prior to backfilling of Mined out area. The sump will be beneficial for the storage of water for use of Mines and recharge of groundwater Aquifer.
 - li) Status of private land with reference to ownership covered in lease area of 74.370 Ha.
 - lii) Estimation with detail calculation of rain water harvesting and its use to reduce the load on proposed need of 180KLD of ground water.
 - liii) Projected 20 KLD of rain water harvesting appears to be under estimated.
 - liv) ETP capacity with details of recycling of treated waste water with quantity and flow diagram be submitted along with water balance of the proposed mining

ITEM NO. 06

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S KALVIK BUILDERS PVT. LTD. FOR “RESIDENTIAL APARTMENT” OVER BUILT-UP AREA OF 30400.86 SQM AT MOUZA- PATIA, OF BHUBANESWAR MUNICIPAL CORPORATION IN THE DEVELOPMENT PLAN AREA OF BHUBANESWAR, DISTRICT KHORDA OF SRI BINAYAK PRASAD LENKA - VIOLATION TOR

1. The proposal was considered by the committee to determine the “Terms of Reference (ToR)” for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
2. M/s Kalvik Builders Pvt. Ltd. has applied for “Terms of Reference (ToR)” for “Residential Apartment” over a revised built-up area of 31008.08 sqm at Mouza- Patia, of Bhubaneswar Municipal Corporation in the Development plan area of Bhubaneswar, District Khorda, Odisha.
3. The proponent has already constructed the total project with built-up area 30722.23 sqm. without obtaining Environmental Clearance and planning to increase in the built-up area from 30722.23 sqm to 31800.08 sqm (including services area, stilt and basement areas) and FAR Area is 2.11. Hence, this is a violation case.
4. The category of the project is 8(a) as per EIA Notification, 2006 & its amendments.
5. **Location and Connectivity** - Proposed project comes under Plot no. 486/2177,486/2488/4339, 501 (P), 490(P),486/2488,Khata No.- 474/2960,493/141,402,474/668. The construction was completed within the approved area of 30722.23 sqm). The project has been developed on the land measuring 9958.82 sqm at Village Patia, Bhubaneswar, dist. Khorda , Odisha . The nearest airport is Biju Pattanaik Airport which is 10.34 km away from the project site towards SSW direction. Patia railway station is 1.7 km away from the project site towards E direction. Bhubaneswar railway station is 9.2 km away from the project site towards S direction. (aerial distance).
6. The site is coming under Bhubaneswar Development Authority. The total land acquired is 10075.75 sqm (in Document) or 2.489 Acres and plot area is 9958.82 Sqmt/2.460 Ac. (In Possession) with total built-up area 31800.08 Sq.mt. and Maximum height of above ground building is 20.54 m (Basement+S+4).
7. The Building Details of The Project:

PLOT AREA = 10075.75 SQ.MT (IN DOCUMENT) PLOT AREA = 9958.82 SQ.MT (IN POSSESSION)				
SL. NO.	CATEGORY	APPROVED AREA	EXISTING AREA	DEVIATION
01	BASEMENT FLOOR	5414.43 SQ.MT.	4764.67 SQ.MT.	-----
02	STILT FLOOR	5971.62 SQ.MT.	5212.15 SQ.MT.	-----
03	STILT FLOOR SERVICE AREA	-----	589.05 SQ.MT. (society, gym,panel lift & stair case)	589.05 SQ.MT.
04	FIRST FLOOR	4924.44 SQ.MT.	5106.01 SQ.MT.	181.57 SQ.MT.
05	SECOND FLOOR	4894.85 SQ.MT.	5106.01 SQ.MT.	211.16 SQ.MT.
06	THIRD FLOOR	4894.85 SQ.MT.	5106.01 SQ.MT.	211.16 SQ.MT.
07	FOURTH FLOOR	4907.89 SQ.MT. (4th. floor + society)	5106.01 SQ.MT.	198.12 SQ.MT.
08	TOTAL FAR AREA	19622.03 SQ.MT.	21013.09 SQ.MT.	1391.06 SQ.MT.
09	TOTAL BUILTUP AREA	31008.08 SQ.MT.	30400.86 SQ.MT.	-----
10	FAR	1.97	2.11	0.14

PARKING IN BASEMENT - 4639.30 SQ.MT
PARKING IN STILT - 4623.10 SQ.MT.
TOTAL PARKING - 9262.40 SQMT.(44.07%)
SOCIETY ROOM = 186.22 SQ.MT
DWELLING UNITS = 189 Nos.
LANDSCAPING AREA = 2115.85 SQMT.(21.24%)

8. **Water requirement:** The total water requirement is approx. 134 KLD (domestic + flushing), out of which total domestic water requirement for residential are 89 KLD & flushing water is 45 KLD. The total fresh water requirement is approx 89 KLD on Daily Basis.
9. **Waste water details:** It is expected that the project is generate approx. 116 KLD. The waste water will be treated up to tertiary level in one STP of 130 KLD capacity.

WATER CALCULATION								
Particulars	No. of Flats	Population	Total water Requirement			Waste Water Generate		
			Total	Drinking Water	Flushing Water	Fresh water	Flushing water	Total
2 BHK	84	420	56700	37800	18900	30240	18900	49140
3 BHK	96	480	64800	43200	21600	34560	21600	56160
Floating Population	10 %=90	90	12150	8100	4050	6480	4050	10530
			133650	89100	44550	71280	44550	115830
			134 KLD	89 KLD	45 KLD	71.2	45 KLD	116

10. **Power requirement:** The connected load for the Residential Apartment is approx. 898 KW. In order to provide backup power supply for the complex, it is proposed to provide emergency power back up from CPCB compliant radiator cooled Diesel Generators in individual acoustic enclosures. There is provision of Power backup for the project will be through DG sets of total capacity -250 KVA.
11. **Parking Requirement:** Total parking area required 9262.4 Sqm. (47.2 % of FAR Area-19622.03 sqm)/310 ECS and open area and basement parking area will be provided.
12. **Fire fighting Installations:** Fire fighting system will be installed as per recommendation of the Fire fighting Officer, Odisha and as per the guideline of NBC (part-4).
13. **Green Belt Development:** During Operational Phase Total 9262.4 (30% of total built up area) area is provided for parking. The green area will be developed approx. 21.24 % of the plot area.
14. **Solid Waste Management:** Presently total solid waste generation is about 0.445 T/day. Adequate number of colored bins (green, blue and dark grey) separate for biodegradable and non-biodegradable wastes have already been provided at all strategic locations within the site. Solid wastes are being segregated at source and collected. The biodegradable waste (297 Kg/Day) will be processed in OWC(Organic waste Converter) and the non-biodegradable waste (149 kg/day) will be handed over to authorized local vendor.

S. No.	Category	Waste generated (kg/capita/day)	Biodegradable Waste (Kg)	Non- Biodegradable Waste in (Kg)	Waste generated (kg/day)
Residential area					
1.	Residents	900 @ 0.450kg/day	270	135	405
2.	Floating Population	90 @ 0.450 kg/day	27	13.5	40.5
	Total		297	148.5	445.5
	TOTAL SOLID WASTE GENERATED				445.5 kg/day Or say 0.445 Ton/day

15. The residential population of the project will be 990 persons. The population for the Residential is assumed to be 90 (Visitors), So, the total population for the project is envisaged to be 990 persons.
16. The estimated project cost is ` 40 Crores.
17. The project proponent along with the consultant **M/s Visiontek Consultancy Services Pvt. Ltd. (Bhubaneswar)** made a detailed presentation on the proposal.
18. The SEAC observed that the proponent has already constructed the project without obtaining Environmental Clearance as per EIA Notification 14th Sept. 2006 and amendment thereafter.

The SEAC, after detailed deliberations on the proposal in terms of the provisions of the MoEF&CC, Govt. of India Notification dated 14th March, 2017, confirmed the case to be of violation of the EIA Notification, 2006 and recommended for the following:

- (i) The State Government / SPCB to take action against the project proponent under the provisions of section 19 of the Environment (Protection) Act, 1986, and further no consent to operate or occupancy certificate to be issued till the project is granted Environmental Clearance.
- (ii) Grant of Terms of Reference for undertaking EIA and preparation of Environment Management Plan (EMP) as enumerated in **Annexure-D**.
- (iii) The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of Environmental Clearance. The quantum shall be recommended by the SEAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the SEAC and approval of the regulatory authority.

ITEM NO. 07

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR M/S KHEMABEDA DECORATIVE STONE MINES OVER AN AREA OF 4.755 HA. OR 11.75 ACRES IN VILLAGE - KHEMABEDA OF TAHASIL - BOIPARIGUDA IN KORAPUT DISTRICT, ODISHA UNDER CLUSTER APPROACH (CLUSTER AREA 9.696 HA) OF SRI VENKATESH HOTHATHA - TOR

1. The proposal was considered by the committee to determine the "Terms of Reference (ToR)" for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
2. The project falls under category "B1" or activity 1(a) – Mining of Minerals projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. The proposed project is for Khemabeda Decorative Stone Mines over an area of 4.755 Ha. or 11.75 Acres in Village - Khemabeda of Tahasil - Boipariguda in Koraput district, Odisha under cluster approach (cluster area 9.696 ha) of Sri Venkatesh Hotha.
4. Khemabeda decorative stone cluster mines over an area of 9.696 Ha comprises of two individual lease area of 4.755 Ha and 4.916 Ha. The present proposal is for Khemabeda mining lease area for decorative stone (Dolerite/Black Granite) over an area of 11.75Acre or

4.755 Ha (Under cluster approach) located in the village Khemabeda no. 200, under Tahasil Boipariguda, District Koraput, Orissa, in favour of Sri Hotha Venkatesh. The proposed project comes within 500m radius of Khemabeda decorative stone mines over an area of 4.941 Ha which is located at a distance of 50m from the present lease area and therefore comes under cluster condition. Total cluster area for the project will be 9.696 Ha. or 23.96 Acre and the EIA/EMP study will be carried out for the entire cluster area. The other mines over an area of 4.941 Ha obtained environment clearance from SEIAA, Odisha vide letter no. 1442/SEIAA dated 03.06.2021.

5. The applied Mining lease area over 4.755 Hectares or 11.75 Acres in village Khemabeda no. 200, under Boipariguda Tahasil of Koraput district, Odisha was granted by Department of Steel & Mines, Govt. of Odisha vide Letter No. $\frac{1484}{SM-NC2-MC0002-2021}$ / **S&M**, Bhubaneswar, on dated **08.02.2021** in favour of Sri Hotha Venkatesh for 30 years.
6. The Mining Plan along was approved by Director of Mines, Odisha, Bhubaneswar vide letter no. MXXII-(b) 12/2021/9441/DM on dated 02.12.2021 for a period of five years.
7. **Location and Connectivity** – The mining lease area is located in the Survey of India Toposheet no. 65J/6 (E44K6), of latitudes 18°38'09.67261"N to 18°38'15.09113"N & longitudes 82°24'5.57985" E to 82°24'16.79641" E.. The land use pattern of the mining lease area comes under the non forest agricultural land (Abada Ajogya Anabadi), bearing Khata no.315, Plot no. 1355/p and Kissam: Parbat. The nearest railway stations is Koraput Railway Station at an aerial distance of 37 Km. The lease area can be approached from NH:5 & SH: 25 at a distance of 38Km & 6.2 Km. Village road is at 1.5km. Kolab Reservoir is at 20km. Nearest RF is Dasmantpur RF within 5km. Nearest town Boipariguda at 10km and district headquarters Jeypore at 29km. Interstate boundary at 13km. . The area is devoid of any stream. The drainage pattern of the area is dendrite. As the region shows an undulated hilly topography, there is neither any seasonal nor any perennial nala flowing within the applied mining lease area.
8. **Reserves and Production** - As per the estimation the geological reserve is found to be 358480.80m³(proved 275310m³, probable 38952.60m³& possible 44217.60m³) & Mineable reserve for decorative stone is found to be 252128.40m³(proved 2223320.40m³, probable 29808m³). The method of mining belongs to Opencast semi-mechanized method by exposed the spreading sheet. The mode of the working will be semi mechanised, loading hauling & transportations are the various mining operation these will practiced in the Khemabeda Decorative mines. After drilling and blasting excavation will be done mechanically by excavators & dumpers with the help of the common equipment like hand shovel, crowbar, hammer, pick axe etc. Loading will be done through the excavators by the help of dumper. The height of the benches of the quarry will be kept 5mtr and width will be 5mtr or more than the height. The individual slope of benches will be 80° whereas the overall slope of the proposed quarry would be kept 45°. The gradient of the haul road will be maintained at 1:16 with more width than other benches for easy mobilization of man and machinery.
9. The total excavation from the lease area of 4.755 Ha will be maximum upto 3500 cu.m and decorative stone production will be maximum upto 700 cu.m. The total decorative stone from the Cluster area of 9.696 Ha will be maximum upto 4700 cu.m per annum for both the mines.
10. **Waste Generation and Management** - During the total rock mass of 13440 m³ of waste

will be generated during the plan period from the lease area and from the cluster total waste generation will be 58749 Cu.m. These wastes will be utilized for construction of civil and road metals the applicant will intend to sale waste material to the local entrepreneurs with due permission from the competent authority. For storing of these wastes, 0.33 Ha of area has been earmarked in western part of the mining lease area and 1.274 Ha of area has been earmarked for the cluster area.

11. **Water Requirement** - Total water requirement for the project will be 5 KLD out of which 2 KLD will be required for drinking and domestic purpose and 1.5 KLD for dust suppression and 1.5 KLD for plantation purpose. Source of domestic water will be nearby village well.
12. **Power Requirement** - Diesel requirement of 6000litters/month for operation of mining equipment and DG sets.
13. **Green Belt** – There will be proposed for green belt development over an area of 0.329 Ha in and along the periphery of the quarry lease area of during the plan period by 500 nos. of saplings for rehabilitation. For the cluster 0.6520 Ha areas is proposed for green belt development.
14. **Employment Potential** - The mining activity will generate employment for 22nos of from which 13nos skilled worker, 5nos semi-skilled worker & 4nos administrative staffs.
15. The cost of the project is 500 Lakhs.
16. The Environment consultant **M/s Kalyani Laboratories Pvt. Ltd. Plot No. 78/944, Millennium City, Pahala, Bhubaneswar – 752101** along with the proponent has made a presentation on the proposal before the Committee.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories Pvt. Ltd. Plot No. 78/944, Millennium City, Pahala, Bhubaneswar – 752101**, the SEAC prescribed the following specific ToRs in addition to standard ToRs in cluster approach as per **Annexure – E** for conducting detailed EIA study.

- i) Installation of STP of adequate capacity and requisite design.
- ii) Green belt in safety zone of each mine and all-round the clusters to be confirmed with details.
- iii) Arrangement of pipeline sprinkling (permanent water line) to be explored and confirmed.
- iv) Silt management and SOP for the same to arrest /remedy of silt ingress to surrounding agricultural lands.
- v) Kisam of land duly certified by Tahsildar to be submitted.

ITEM NO. 08

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF BASINGGORJA DECORATIVE STONE MINES OVER AN AREA OF 2.428 HECTARES IN VILLAGE - BASINGGORJA UNDER TAHASIL - GUNUPUR OF DISTRICT - RAYAGADA, ODISHA OF SRI G. R. SAMYUKTA - EC

1. This is a proposal for Environment Clearance of for Basinggorja Decorative Stone Mines over an area of 2.428 Hectares in village - Basinggorja under Tahasil - Gunupur of District - Rayagada, Odisha of Sri G. R. Samyukta.
2. The project falls under category “B” or activity 1 (a) – Mining of Minerals projects under EIA Notification dated 14th September 2006 as amended from time to time.

3. Basinggorja Decorative Stone Mine over an area of 2.428Ha of M/s. Stone Fileds, Prop-Smt. G.R.Samyukta is located in village Basinggorja under Gunupur Tahsil of Rayagada District Odisha. The lease was granted to M/s. Stone Fields being the successful bidder for tenure of 20 (Twenty) years from the date on which this executed deed is registered.
4. The Mining Plan has been approved by the Joint Director of Mines, Directorate of Mines, Bhubaneswar, Odisha. under section 2 of Rule 28 (4) of OMMC, 2016 as per clause 5.
5. Mining plan prepared by Sri H.C. Sahoo, vide his IBM's Regn. No. RQP/BBS/033/2001/A was approved on 24.10.2006 by the Directorate of Mines, Odisha, Bhubaneswar for the purpose of grant / execution of the mining lease and mining operation was commenced in FY 2006-07 by the submission of an opening notice to the concerned department of State Govt.
6. Subsequently, Scheme of Mining consisting of review of Mining Plan for 5 years from 2006-07 to 2010-11 and year wise development for next 5 years from 2011-12 to 2015-16 was prepared by the RQP, Sri S.C. Nayak, vide his IBM's Regn.No. RQP/CAL/211/95/A and submitted by the Lessee for approval. Scheme of Mining could not be processed for approval due to sad demise of the proprietor, Late G.N.V Naidu.
7. Since the period of submitted Scheme of Mining was valid up to 31.03.2016, the next Scheme of Mining of Basinggorja Decorative Stone Mine over an area of 2.428 hectares prepared by Sri S.C. Nayak vide his DM's registration number RQP/OD/029/2015 under Rule 18(2) of GCDR, 1999 for a period of 5 years from 2016-17 to 2020-21 was approved by the Directorate of Mines, Odisha, Bhubaneswar.
8. Since the approved Scheme of Mining is valid up to 31.03.2021, the present Scheme of Mining has been prepared by the same RQP, Sri S.C. Nayak vide his DM's Regn No.RQP/OD/029/2015, M/s MINESKETCH Consultants (P) Ltd, Flat No.205, Bhagwan Tower, Cuttack Road, Bhubaneswar-751006
9. **Location and Connectivity** - The lease area under reference featured in the Survey of India Topo sheet no. 65M/16 is on Khata No 9, Plot No.2/p. The geo coordinates of the lease area is 19°06'47.46"N to 19°06'51.60"N & 83°52'11.52"E to 83°52'05.40"E.The area is located 80 km from District Headquarters Rayagada and 246 Km from State Capital Bhubaneswar. Nearest railway stations is at Gunupur at an distance of 7.8 KM(SE). The lease area can be approached from SH: 4 & NH: 326 (Jeypore highway) at a distance of 7.5 Km & 20 Km. Nearest Airport is Jeypore Airport which is at a distance of 206 Km. There is neither seasonal nor perennial nala within the lease area. Drainage system in the region is dendritic. Surface runoff water in the region will be discharged to the natural drainage course.
10. **Reserve Estimation** has been calculated as 273486cum
11. The lease has proposed to excavate a total of 24,000 m³ of decorative stone and 4800 m³ (max) annually from Basinggorja Decorative Stone Quarry. The method of mining is Open cast semi-mechanized.
12. Life of mine is 32 years.
13. A total of 30,000 m³ waste is likely to be generated during the plan period.
14. **Power requirement:** Power requirement is 100 KVA shall be required for lighting during night time and shall be taken from the State Grid. Necessary permission shall be taken after

commencement of the project. Diesel will be used for running of equipments during mining operation. It is estimated that 1 KLD of diesel will be required and same shall be procured from local pump station.

15. **Water requirement:** Water requirement for the project is 8 KLD for domestic, plantation & dust suppression which will be sourced from Govt sources of water.
16. **Green Belt Development:** About 2000 sapling of local species will be planted over an area of 0.4 ha in 7.5m wide safety zone along lease boundary, Haul Road side.
17. **Employment Potential:** Total manpower requirement is 42no.s. Administrative & supervisory personnel will be 7 numbers and 32 workers will be employed per day under skilled, semi-skilled & un-skilled category in the quarry with 3 nos. of absentee. Indirect employment through creation of shops/ stalls, hired vehicles etc. also can be generated to full fill the day to day requirements of the mining personnel's.
18. The cost of the project is ` 110 lakhs. EMP capital cost of the project is 14.0 Lakh. EMP Recurring cost is 8.80Lakh/Annum. CSR Budget is 9.0 lakh/Annum
19. The proponent has made a presentation on the proposal before the Committee.

Considering the information / documents furnished by the proponent and presentation made by the proponent, the SEAC decided to take decision on the proposal after receipt of the following information / documents from the proponent.

- i) Year wise production details of mine duly certified by mining officer.
- ii) Cluster certificate from the Mining Officer that there is no mines within 500 meters of proposed quarry.
- iii) Brief write up why the case will not be treated under Violation category.

ITEM NO. 09

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR KIMS MEDICAL COLLEGE & HOSPITAL, OVER AN AREA 7.795 HA. SQM. PLOT NO: 24,25,12/A, 12/C, 14/A & 14/B, MOUZA: PATIA, TAHASIL: BHUBANESWAR, DIST: KHURDA OF SRI RABINDRA NATH DASH – EC

1. The proposal is for Environmental Clearance of for KIMS Medical College & Hospital, over an area 7.795 Ha. Sqm. Plot No: 24,25,12/A, 12/C, 14/A & 14/B, Mouza: Patia, Tahasil: Bhubaneswar, Dist: Khurda of Sri Rabindra Nath Dash.
2. The project falls under category "B" or activity 8 (a)-Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. This project is Construction and Expansion of campus-V(KIMS Hospital) C1+C2+G+4 - storey's named as (KIMS hospital building) situated within the premises of Plot No. 25,24,12/A,12/C,14/A & 14/B at Mouza – Patia under Bhubaneswar Development Authority.
4. **Location and Connectivity** - The Project Site is located at - Mouza-Patia. The Geographical coordinates of the project site is: Latitude – 20° 21'09.90"N to 20° 21'04.47"N & Longitude – 85° 48'49.96"E to 85° 48'42.87"E. The Project Site is well connected with NH 5 at 2.5km. Nearest Railway Station is Bhubaneswar Railway station is 12.1km. Nearest Airport is Biju Pattanaik Airport – 16.3km. Bhubaneswar fire station at 9.32km. Nearest Reserve forest is Bharatapur RF – 2.7 km. No Ecologically Sensitive areas within 10 KM

radius. Project Site is well connected to existing KIMS Hospital road running all the way from in N & E direction and Patia Main road serves in the S direction. The hospital has two gates that serve the dual purpose of entry and exit. The same service road acts as connecting link between one part of the city with the other which is used by the patients and general public.

5. The site is coming under Bhubaneswar Development Authority. Total Plot Area is 77962.68 sqm / 19.264Ac. or 7.795 Ha. Total built up area = 112994.63 Sqm. No. of clinical Beds=1300 nos.

6. The Proposed Area Statement of The Project:

1. Proposed Ramp & Lobby in Hospital Block

Ground floor B.U.A	259.42 sqm
First Floor B.U.A	259.42 sqm
Second Floor B.U.A	259.42 sqm
Third Floor B.U.A	259.42 sqm
Fourth Floor B.U.A	259.42 sqm
Fifth Floor B.U.A	259.42 sqm
Total Floor B.U.A	1297.10 sqm

2. Proposed Cancer Block(Capacity-300)

Lower Basement Floor B.U.A	1578.36 sqm
Upper Basement Floor B.U.A	1469.95 sqm
Ground floor B.U.A	1210.48 sqm
First Floor B.U.A	1231.13 sqm
Second Floor B.U.A	1372.04 sqm
Third Floor B.U.A	1430.96 sqm
Fourth Floor B.U.A	1430.96 sqm
Total Floor B.U.A	9723.88 sqm

3. Proposed Library Block

Basement –I B.U.A	43.00 sqm
Basement-II B.U.A	43.00 sqm
Ground floor B.U.A	1617.85 sqm
First Floor B.U.A	1650.81 sqm
Second Floor B.U.A	1650.81 sqm
Third Floor B.U.A	1650.81 sqm
Fourth Floor B.U.A	1650.81 sqm
Fifth Floor B.U.A	1650.81 sqm
Total Floor B.U.A	9957.9 sqm

4. Basement-I Parking Area : 3733.67 Basement-II Parking Area : 3733.67 Podium Floor Parking Area : 3344.36

5. Proposed Parking Block

Basement-I Parking Area	5499.27 sqm
Basement-II Parking Area	5366.02 sqm
Podium Floor Parking Area	5268.25 sqm
Total Proposed B.U.A	20978.88sqm

6. **Water requirement:** During Operation phase the fresh water requirement is approx. 760 KLD (source is IDCO), out of which for Residents (Student/Patient/ Staff/Doctors/Attendants) – 7,15,000 LPD, Day Working Staff & Patients – 45,000 LPD, Watering of Lawn, Garden & Play Ground – 50,000 LPD, Kitchen, Laundry & Ground Recharge- 50,000 LPD

7. **Waste water details:** Waste Water Generation 409 KLD , will be treated in STP of capacity 400KLD. Treated Waste Water Recovered & to be reused - 280 KLD & to be

reused (Greenbelt – 50KLD & washings and others - 230 KLD) and rest 120 KLD discharge to nearest Municipal Drain.

8. **Power requirement:** The total power requirement approx. 1215 KW and source is from TPCODL. Emergency power back of capacity 6965 KVA through - 3Nos. DG set 1500 KVA, 1No. DG set 600 KVA, 3Nos. DG set 500 KVA, 1No. DG set 365 KVA.
9. **Rain Water Harvesting:** Total Runoff from Storm Water from Site is 1007 m³ so based on 1no. Harvesting pit volume 43 cum we required 61 nos. Rain water Harvesting Pits.
10. **Parking Requirement:** Total area provided for parking is 45373.5 sqm.
11. **Fire fighting Installations:** Fire fighting system will be installed as per recommendation of the Firefighting Officer, Odisha and as per the guideline of NBC (part-4).
12. **Green Belt Development:** Total green area measures 18250.39Sq.mts.
13. **Solid Waste Management:** Total quantity of Municipal Solid Waste:
Bio-degradable waste = 217 kg/day.
Non- bio degradable waste = 76kg/day. Hand Over to Authorized Agencies.
Hospital/Biomedical waste = 110 kg/day disposed to Sani Clean Pvt. Ltd. Segregation, Storage & Disposal as per Bio-medical Waste Management Rules 2016.
14. The estimated project cost is ` 65 Crores and cost for EMP is ` 1332 lakhs.
15. The project proponent along with the consultant **M/s Green Circle INC., Vadodara-390021(Gujurat)** made a detailed presentation on the proposal.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Green Circle INC., Vadodara-390021(Gujurat)**, the SEAC decided to take decision on the proposal after receipt of the following information / documents from the proponent followed by site visit of sub-committee of SEAC.

- i) Statutory clearance status such as Environmental Clearance, Consent to Establish and Consent to Operate from the Board for the existing building.
- ii) BDA letter refers to regularization of the Building from SEIAA for Environmental Clearance. So, construction status of the existing building such as total built-up area constructed prior to 14th September, 2006 and after 14th September, 2006 is to be submitted for academic Block(s) and Hospital Building (s) separately with associated infrastructures.
- iii) Copy of all approval letters of BDA of existing buildings from the inception.
- iv) Existing water consumption is stated to be 493 KLD for hospital and 107 KLD for domestic purpose. Water consumption both for existing set up and proposed expansion be submitted along with basis of calculation and water balance diagram both for monsoon and non-monsoon period.
- v) Agreement copy of PP with Sani clean. Agreement copy submitted found to have been expired since 31st October, 2020.
- vi) Reduce the discharge treated water to drain by increasing the greenbelt indicating presently being discharged & proposed to be discharged with permission from the concerned authority of the drain for the purpose.

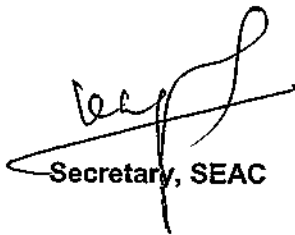
- vii) Detailed land schedule with kissam of land in tabulated form along with supportive land documents of all academic/institutional/clinical buildings/parking space and physical features of the existing and proposed expansion showing the same in layout map including land use pattern. "Kissam" of the land in "Sabik" and "Haal" land record.
- viii) Comparative table showing existing and proposed project in terms of environment features / parameters and physical features / parameters including safety with 3D pictures including the distance between the buildings as against the norm.
- ix) Separate STP and ETP units or brief write up for integrated setup.
To confirm the existing no of STPs with their corresponding capacity(s) and their location in the layout map within put details and output discharge and proposed additional nos. and capacity with location.
Similarly to confirm the existing no of ETPs with corresponding capacity and their location in the layout map with input details & output discharge & where to discharged and disposal of ETP sludge including for the expansion also.
- x) Chemical analysis report on discharge of STP and ETP vis-à-vis norms and discharge of integrated setup of STP and ETP (if existing is integrated).
- xi) Traffic study report from an institute of repute and decongestion plan at intersecting points of exit & entry with public road.
- xii) Provision for Incinerator to be made and if not, to justify, in absence of incinerator, how the organic wastes, infectious waste etc. would be deactivated to avoid further pollution and hazardousness. Also submit how the infectious waste of 436.66kg/ day as stated at present being disposed and proposed to be disposed after expansion indicating the estimated quantity.
- xiii) Monitoring plan and measures to be taken for safely disposal of Bio-medical wastes.
- xiv) Layout of DG set location with respect to wind direction.
- xv) Details of solar panel accommodated and utilized with power generation details vis-à-vis total power used per day for existing and proposed after expansion.
- xvi) Building wise built-up area of existing and proposed expansion both for academic and hospital separately.
- xvii) Permission/NOC from BMC for discharge of treated water to existing drain for existing and additional load
- xviii) Layout and breakup percentage for green belt and landscape for existing and proposed with dimensions & stretch and percentage of the land area excluding land scape.
- xix) Fire-fighting and parking arrangements for existing and for proposed expansion.
- xx) Rain water harvesting and recharging details to be submitted.
- xxi) Parking provision in terms of space and ECS (both for two wheelers and four wheelers) in reference to present beds, OPD and proposed expansion in consideration of patients' visitors, doctors, and medical staff be submitted.
- xxii) Permission/license of proposed HSD storage tank including details of the present arrangement.

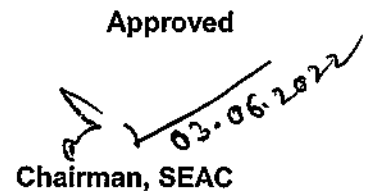
- xxiii) Dimension (Stretch and width) of greenbelt with number of trees Existing and Proposed to be planted.
- xxiv) Layout map showing the drain network (internal), Recharge pits, STP etc. to be submitted.
- xxv) Firefighting arrangements with periphery roads for firefighting and its width to be submitted in layout map including entry and exit gates.
- xxvi) NOC from CGWA and permission from WR department Government of Odisha for current use of ground water and proposed drawl of ground water after expansion to be submitted.
- xxvii) The STP and ETP should not be housed in the same building. The pipelines shouldn't not be inter-connected. Attempt should be made to operate the ETP on zero discharge principle. Detailed proposal to this effect to be submitted.

ITEM NO. 10

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR DUBULA STONE QUARRY OVER AN AREA OF 13.00 ACRES / 5.2611 HA. MOUZA - DUBULA, PS - TARABHA, DIST-SUBARNAPUR HOLD NO- 251, PLOT NO:1370 OF SRI NAROTTAM MOHANTY - EC

The project proponent did not attend the meeting. The proponent has twice missed the presentation. The SEAC decided to return the proposal to SEIAA for further action.


Secretary, SEAC

Approved

Chairman, SEAC

STANDARD ENVIRONMENTAL CLEARANCE CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR SAND MINING

Stipulated Conditions:

1. The project proponent should carry out River bed sand mining manually by engaging local laborers in force to check over exploitation of sand at the source.
2. Any change in the plan or quantity to be produced shall require prior approval of SEIAA.
3. There shall be a 'no working zone' to protect the embankment on both sides, road or rail bridge in the vicinity, if any, dam, weir, water intake structure of irrigation or drinking water project, or any cross drainage structure. 10 % of the width of river shall be left intact along the embankments on both sides as 'no mining zone'. Further, no mining shall be allowed within 200 m of any existing structures dam, weir, water intake structure of irrigation or drinking water project, or any cross drainage structure. In case of River Bridge, this no mining zone shall extend upto a minimum stretch of 200 meters from the bridge and it may extend upto 500 meters in sensitive locations. The lease area shall be accordingly curtailed to carve out the actual sand mining area within the leasehold. Exact map of the lease area, and the 'no mining zone' shall be drawn to scale, showing the DGPS coordinates of all corner points, and the location of the bridge, embankment, extraction route & other structures; and such map has to be submitted to SEIAA by the project proponent through the Tahasildar within three months of the date of issue of the EC. The quantum of sand allowed to be extracted will be worked out on the basis of the actual working area.
4. The lease area and the actual working area shall be demarcated on the ground by erecting durable masonry /concrete pillars by the project proponent.
5. The project proponent shall take prior statutory and regulatory clearance as required from the concerned authorities in respect of the project, before carrying out any operation.
6. Mining is not permissible within the water channel or stream flow area. No stream shall be diverted for the purpose of mining and no natural water course shall be obstructed. The mining or any ancillary activity shall not in any way disturb the flow pattern of the river water during the non monsoon period. There shall be no sand mining in the river during the rainy season or when there is flow of water in the river.
7. Sand mining operations shall not affect the existing sources for irrigation / drinking water / industrial purpose.
8. The natural sand dunes, if any, near or surrounding the lease area shall not be disturbed.
9. No transportation of the minerals shall ordinarily be allowed on any road passing through villages/habitations/forest land without prior explicit permission. Transportation

of minerals through existing rural roads can be allowed only by the concerned Govt. Department/BDO and only after required strengthening, such that the carrying capacity of road is increased to handle the sand truck traffic. The project proponent shall bear the cost towards the widening and strengthening of existing public roads in case the same is proposed to be used for the project. No movement on any road is allowed on existing village road network without appropriately increasing the carrying capacity of such roads. Project proponent shall ensure that the road may not be damaged due to transportation of the mineral and transport of minerals will be as per IRC Guidelines with respect to complying with traffic congestion and traffic density. Plying of sand extraction trucks may be allowed on roads / path ways passing close to schools, temples, hospitals and such other public places only with prior written permission of competent authority.

10. Vehicles hired for transportation of sand from the site should be in good condition and should have pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
11. The vehicles shall not be overloaded and shall be covered with Tarpaulin. The Tahasildar may collect an appropriate road maintenance levy from the lessee as part of the lease conditions on the basis of quantum of sand transported, and utilize the proceeds of the levy for proper maintenance of the extraction paths and roads to prevent their degradation on account of plying of sand trucks.
12. The project proponent shall take all precautionary measures against causing damage to flora and fauna of the locality. The PP shall plant and nurse to full establishment a minimum of 50 number of saplings of native tree species along the approach roads, river banks and in community areas in consultation with the Gram Panchayat.
13. Water spray should be made on the road/extraction paths to control dust emission during transportation of sand.
14. The Project Proponent shall undertake phased restoration, reclamation and rehabilitation of land affected by mining and completes this work before abandonment of mine.
15. Environmental Management Plan (EMP) shall be implemented by PP to ensure compliance with the environmental conditions specified above. The year wise funds earmarked for environmental protection measures shall be kept in separate account and shall be spent according to the plan proposed. Year wise progress of implementation of EMP shall be reported to the SEIAA, Odisha and OSPCB along with the compliance report.
16. The proponent shall take necessary measures to ensure that there is no adverse impact of the mining operations on the human habitation if any, existing nearby.
17. It shall be mandatory for the project management to submit quarterly compliance reports on the status of implementation of the above stipulated environmental safeguards to the SEIAA, Odisha / SPCB, Odisha/ Regional Office of the MoEF&CC, Bhubaneswar, in hard and soft copies on 1st day of January, April, July, October of each calendar year, failing which EC is liable to be revoked.

18. River Bank stabilization shall be made through stone patching. Plantation of adequate number native species on river banks and both sides of haulage roads shall be made.
19. Since NH200, Kuccha Road and temple are only at a distance of 800 mtr, 570 mtr and 500 mtr respectively, all traffic safety measures shall be taken to avoid any kind of accidents.
20. Bio - toilet provision shall be made.
21. As raised during public Hearing and committed by PP, Loknathpur Sasan village road shall not be used for transportation of sand.
22. Stone patching on river bank with plantation in-between and the ramp construction shall be done in consultation with and advice of concerned W.R.Deptt, Government of Odisha.
23. Necessary sprinkling on Haulage Road and Avenue plantation shall be done.
24. At the end of mine closure, the proponent shall immediately remove all the sheds put up in the quarry and all the equipment in the area before closure of the quarry.
25. The conditions stipulated in the environmental clearance will be closely monitored on the ground by the lease granting authority, i.e. the Tahasildar, who shall ensure compliance of the stipulated conditions and take corrective measures promptly in case of any non- compliance and also ensure that the project proponent submits quarterly compliance reports.
26. The concerned Regional Office of the MoEF&CC/ SPCB, Odisha shall periodically monitor compliance of the stipulated conditions as applicable for this project. The project authorities should extend full cooperation to the MoEF&CC officer(s)/SPCB officer(s) by furnishing the requisite data / information / monitoring reports.
27. A copy of the clearance letter shall be sent by the proponent to concerned Gram Panchayat /Panchayat Samiti /Zilla Parisad /Municipal Corporation / Urban Local Body as the case may be.
28. Project proponent shall obtain Consent to Operate from the OSPCB and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the State Pollution Control Board.
29. The SEIAA, Odisha may revoke or suspend this EC, if implementation of any of the above conditions is not satisfactory. The SEIAA, Odisha reserves the right to alter /modify the above conditions or stipulate any further condition in the interest of environment protection.
30. The Project Proponent (lease holder) shall inform the SEIAA of any change in ownership of the mining lease. In case, there is any change in ownership or mining lease is transferred, then mining operation can be carried out only after transfer of EC as per provisions of the para 11 of EIA Notification, 2006, as amended from time to time.

31. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this environment clearance besides attracting penal provisions in the Environment (Protection) Act, 1986.
32. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court and any other Court of Law relating to the subject matter.
33. This Environmental Clearance (EC) is subject to orders/judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.
34. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

Annexure - B

ESSENTIAL PHYSICAL CRITERIA AS PER ENFORCEMENT AND MONITORING GUIDELINES FOR SAND MINING, JANUARY 2020 OF MOEF&CC, GOVT. OF INDIA

Sl. No.	Essential Criteria	Reference
1.	"No Mining Zone": 1/4th the part of the river width (excluding 3/4th the central part of the river width) on both sides of the river towards the river bank	4.1.1 (Para - e) Page - 16
2.	a) Distance between two clusters : ≥ 2.5 km b) Area of mining lease area in a cluster: ≤ 10 ha.	4.1.1 (Para - k) Page - 19
3.	Concave River Bank : No extraction of sand	
4.	No mining if a) Upstream: Lease is 1 km from major Bridge and high ways or $5(x)$ of the Bridge / public civil structure / water intakes point subject to lease is located at a minimum 250 meter distance. Where x = Span of the bridge. b) Downstream side: Lease is 1 km from the major bridge and Highways Or $10x$ of the bridge / public civil structure / water intake point Subject to lease is located at a minimum distance of 500 meter where x = span of the bridge	4.3 (Para - h) Page - 23
5.	Mining depth : ≤ 3 meter (maximum 3 meter)	4.3 (Para - m) Page - 24
6.	Mining distance from river bank: $1/4^{\text{th}}$ of the river width, But subject to not less than 7.5 meter	4.31 (Para - m) Page - 24
7.	Area for removal of minerals : $\leq 60\%$ of mine lease area	4.3 (Para - s) Page - 25
8.	Minable sand per ha. Available for actual mining : $\leq 60,000$ MT/Annum	
9.	Regular replenishment study and replenishment rate	

TERMS OF REFERENCE (ToR) FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT FOR M/S RAGA TRADECON PVT. LTD. FOR NETRABANDHA PAHAR (WEST) IRON ORE BLOCK FOR PRODUCTION OF 1.0 MTPA IRON ORE ALONG WITH 750 TPH CRUSHING UNIT AND 600 TPH SCREENING UNIT OVER AN AREA OF 74.370 HA IN VILLAGE BALADIHA, TEHSIL - KOIRA, DISTRICT - SUNDARGARH OF SRI RAMAN KUMAR MISHRA – TOR.

A. STANDARD TOR FOR MINING PROJECT

1. The Environmental Clearance will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
2. Department of Mining & Geology, State Government shall ensure that mining operation shall not commence till the entire compensation levied, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
3. Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
4. A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
5. All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
6. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
7. Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
8. Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
9. It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system

of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.

10. The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
11. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
12. Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
13. A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
14. Status of forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
15. Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
16. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
17. A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
18. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
19. A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary

allocation of funds for implementing the same should be made as part of the project cost.

20. Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.
21. Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects failing under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
22. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs/STs and other weaker sections of the society in the study area, a need-based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine (lease area) will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
23. One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season) ; December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM₁₀, particularly for free silica, should be given.
24. Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
25. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
26. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided,
28. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
29. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater, Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter- alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
30. Details of any stream, seasonal or otherwise, passing through the tease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be.
31. Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.
32. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
33. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
34. Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
35. Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be

detailed along with budgetary allocations.

38. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
39. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
40. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
41. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
42. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
43. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
44. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
45. The activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be as per MoEF&CC, Govt. of India O.M No 22-65/2017-IA. II (M) dated 01.05.2018 and the action plan on the activities proposed under CER shall be submitted at the time of appraisal of the project included in the EIA/EMP Report.
46. The Action Plan on the compliance of the recommendations of the CAG as per MoEF&CC, Govt. of India Circular No. J-11013/71/2016-IA.I (M), dated 25,10.2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.
47. Compliance of the MoEF&CC, Govt. of India Office Memorandum No. F: 3-50/2017-IA.III (Pt.), dated 30.05.2018 on the judgement of Hon'ble Supreme Court, dated the 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India needs to be submitted and included in the EIA/EMP Report.

B. Specific TOR: Recommendation of CSIR-NEERI Report on "Carrying Capacity Study for Environmentally Sustainable Iron and Manganese Ore Mining Activity in Keonjhar, Sundargarh and Mayurbhanj districts of Odisha State"

1. Department of Steel & Mines, Govt, of Odisha should prepare 5 years regional plan for annual iron ore requirement from the state, which in turn shall be met from different mines/zones (e.g. Joda, Koira.) in the state. Accordingly, sustainable annual production (SAP) for each zone/mine may be followed adopting necessary environmental protection measures.
2. The expansion or opening of new manganese ore mines may be considered only when the actual production of about 80% is achieved. Further, the mines that have not produced Mn ore for last two years and have no commitment in the current year as well: EC capacity in such cases may be reviewed. The Department of Steel & Mines, Govt, of Odisha shall submit the Annual Report on this issue to the MoEF&CC for further necessary action.

3. Analysis of baseline environmental quality data for the year 2014 and 2016 indicates that existing mining activities appear to have little / no potential impact on environmental quality, except on air environment, which was mainly due to re-suspension of road dust. Therefore, all the working mines can continue to operate with strict compliance to monitoring of environmental quality parameters as per EC and CTE/CTO conditions of the respective mine, and implementation of suggested measures for control of road dust and air pollution. Odisha State Pollution Control Board has to ensure the compliance of CTE/CTO. Regional office of the MoEF&CC, Bhubaneswar shall monitor the compliance of the EC conditions. Regional office of the Indian Bureau of Mines (IBM) shall monitor the compliance of mining plan and progressive mine closure plan. Any violation by mine lease holder may invite actions per the provisions of applicable acts.
4. Considering the existing environmental quality, EC capacity, production rate, iron ore resources availability and transport infrastructure availability, the share of Joda and Koira sector works out to be 70% and 30% respectively for the existing scenario for the year 2015-16. However, for additional EC capacity, it can be 50:50 subject to commensurate infrastructure improvement (viz. SOTM. pollution free road transport, enhancement of rail network etc.) in the respective regions.
5. Continuous monitoring of different environmental quality parameters as per EC and CTE/CTO conditions with respect to air, noise, water (surface and ground water) and soil quality in each region shall be done. The environmental quality parameters should not indicate any adverse impact on the environment. Monitoring within the mines should be done by individual mine lease holders, whereas outside the mine lease area, monitoring should be done by the Govt, of Odisha through various concerned departments/ authorized agencies. Various monitoring/ studies should be conducted through national reputed institutes, NABET/ MoEF&CC accredited laboratories/organizations. The reports submitted by individual mine lease holders and study reports prepared by other concerned departments/agency for each of the regions should be evaluated and examined by SPCB/ MoEF&CC.
6. Construction of cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development along the roads and also construction of road minimum 300 m inside the mine should be done. This should be done within one year for existing mines and new mine should have since beginning. The concerned departments should extend full support; wherever the land does not belong to the respective mine lease holders. The Department of Steel & Mines, Govt, of Odisha should ensure the compliance and should not issue the Mining Permits, if mine lease holder has not constructed proper cement concrete road as suggested above.
7. In view of high dust pollution and noise generation due to road transport, it is proposed to regulate/guide the movement of iron and manganese ore material based on the EC capacity of the mines. Accordingly, ore transport mode has been suggested, as given below in Table.

Table : EC Capacity based Suggested Ore Transport Mode (SQTM)

Code	EC	Suggested Ore Transport Mode
SOTM 1	> 5 MTPA	100% by private railway siding or conveyor belt up to public railway siding or pipeline for captive mines and 70% for non-captive mines

Code	EC	Suggested Ore Transport Mode
SOTM 2	Between 3 and <5 MTPA	Minimum 70% by public railway siding, through conveyor belt and maximum 30% by road - direct to destination or other public railway siding or above option
SOTM 3	Between 1 and < 3 MTPA	Minimum 70% by public railway siding and maximum 30% by road - direct to destination or by other public railway siding or above options
SOTM 4	<1 MTPA	100 % by 10/17 Ton Trucks or above options

It is mentioned by State Govt, of Odisha that currently about 45% of the iron ore is despatched using rail network and progressively it will be increased to about 60% by rail/slurry over a period of 5 years, taking into account time required to set up more railway sidings.

In view of present ore transport practices and practical limitations, all the existing mines should ensure adoption of SOTM within next 5 years. New mines or mines seeking expansion should incorporate provision of SOTM in the beginning itself, and should have system in place within next 5 years. However, the State Govt, of Odisha shall ensure dust free roads in mining areas wherever the road transportation of mineral is involved. The road shoulders shall be paved with fence besides compliance with IRC guidelines. All the roads should have proper drainage system and apart from paving of entire carriage width the remaining right of way should have native plantation (dust capturing species). Further, regular maintenance should also be ensured by the Govt. of Odisha.

Transportation of iron & manganese ore through river (jetty) to nearest Sea port (Sea cargo option) may be explored or connecting Sea ports with Railway network from the mines to be improved further so that burden on existing road and rail network and also pollution thereof can be minimized.

Progress on development of dust free roads, implementation of SOTM, increased use of existing rail network, development of additional railway network/conveyor belt/ pipelines etc. shall be submitted periodically to MoEF&CC and SEIAA, Odisha. Responsibility: Department of Steel & Mines, Govt. of Odisha; Time Period: 5 Years for developing railway/ conveyor belt facilities

8. Development of parking plazas for trucks with proper basic amenities/ facilities should be done inside mine. This should be done within one year for existing mines and new mines should have since beginning. Small capacity mines (in terms of lease area or production) not having enough space within the mine lease areas should develop parking plaza at a common place within the region with requisite facilities. Responsibility: Individual Mine Lease Holders; Time Period: 1 Year
9. Construction of NH 215 as minimum 4 lane road with proper drainage system and plantation and subsequent regular maintenance of the road as per IRC guidelines. Construction of other mineral carrying roads with proper width and drainage system along with road side plantation to be carried out. Responsibility: Department of Steel & Mines with PWD / NHAI Time Period: 2 Years.
10. Regular vacuum cleaning of all mineral carrying roads aiming at "Zero Dust Resuspension" may be considered. Responsibility: PWD / NHAI/ Mine Lease Holders; Time Period: 3 months for existing roads.

11. Expansion of existing mines and new mines should be considered after conducting recent EIA Study as per the provisions of EIA Notification 2006, as amended time to time) with proper justification on demand scenario for iron ore requirement and availability of pollution free transport network in the region. Responsibility: IBM, Department of Steel & Mines and MoEF&CC, New Delhi.
12. **Mine-wise Allocation of Annual Production:** In case the total requirement of iron ore exceeds the suggested limit for that year, permission for annual production by an individual mine may be decided depending on approved EC capacity (for total actual dispatch) and actual production rate of individual mine during last year or any other criteria set by the State Govt., i.e. Dept. of Steel & Mines. Department of Steel and Mines in consultation with Indian Bureau of Mines-RO should prepare in advance mine-wise annual production scenario as suggested in Table, so that demand for iron ore can be anticipated, and actual production/dispatch does not exceed the suggested annual production.

**Table: Allocation of Production to Different Mines for 5 Years
(as per approved Mining Plan)**

Mine Lease	EC Capacity (MTPA)	Suggested Annual Production (MT)				
		2016-17	2017- 18	2018-19	2019-20	2020-21
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Mine 1	X1					
Mine 2	X2					
Mine 3	X3					
Mine n	Xn					
Total	160 +	105	129	153	177	201
Next year allocation = Average of EC Capacity and Last year production						

13. Expansion of Existing Mines having Validity up to 2020: In view of implementation of MMDR Act 2015, wherein many non-captive mines are expected to be closed by March 2020, total iron ore production scenario has been. It is expected that the non-captive mines having validity till 2020 shall try to maximize their production (limited to EC capacity) in the remaining period. Further, depending upon availability of iron ore resources, these mines may also seek expansion of EC capacity. It may be noted here that total EC capacity of existing 25 working mines having validity upto 2020 is about 85 MTPA, whereas actual production from these mines has been only 44.677 MT (52.6%) during 2015-16 and 57.07 MT (67.1%) during 2016-17. Also, it is expected that these mines would not even be able to achieve ore production as per existing EC capacity till March 2020. Therefore, these existing mines should go for production to the fullest extent to meet the requisite demand from the State. However, where EC limit is exhausted, application for expansion may be considered. Further, the EC process (i.e. Grant of TOR, Baseline data collection, Mining plan/ scheme approval, Public hearing, preparation of EIA/EMP Report. Appraisal by the EAC and grant of EC) takes about one year time. Under such circumstances, it is suggested that further applications for grant of TOR or grant of EC for expansion of production capacity of the mine should be considered for those existing mines, which have exhausted their capacity subject to consideration of all environmental aspects. Responsibility: Department of Steel & Mines and MoEF&CC, New Delhi.

14. **Sustained Iron Ore Production beyond 2020:** Considering the implementation of MMDR Act 2015, total production of iron ore in Odisha State is anticipated to be about 111 MT during 2016-17 (actual production was - 102.663 MT), 136 MT during 2017-18, 146 MT during 2018-19 and 146 MT during 2019-20. Then there will be substantial drop in total production (to the tune of 73 MT during 2020-21 onwards) due to closure of mines, which are valid up to 2020. Therefore, in order to maintain operation/sustained growth of downstream industries, iron ore mining in the region needs to be continued at a sustainable rate. The State Govt. through Department of Steel and Mines should initiate appropriate action to ensure continued availability of iron ore from the region, as per suggested sustainable annual production
15. **Reserves Estimation**-Mining Plan and Exploration; Appropriate actions (geo- technical investigation for qualitative and quantitative resource estimation & other preparations for auction of mines), may be initiated taken into account the existing working mines, and the mines which were operational at some point of time (but closed presently due to various reasons). The total iron ore reserves/ resources available within the total lease area of each mine should be estimated by State Govt./NMET/ GSI (or any other approved agency) with respect to: (i) Total lease area of mine (surface), (ii) Maximum depth to which resources could be available, (iii) Resources below the ground water table (if intersected), (iv) Reserves are to be estimated as per UNFC code with respect to quantity and quality (% Fe content), (v) Maximum mining rate and area for auction (after 2020) will be calculated based on total resources available and proposed life of mine leading to closure of mine in a stipulated time period. Responsibility: Department of Steel & Mines, IBM and GSI; Time frame: 1 year for the mines to be auctioned for next 2 years. The above mentioned organizations shall ensure the compliance with respect to timelines for implementations.
16. Depending upon availability of extractable iron ore resources within a mine, mining below the ground water table may be permitted after conducting necessary geological and hydro-geological study by GSI and requisite approval from the CGWB/CGWA (Central Ground Water Board/Authority). This can be explored at least in few mines on trial/pilot basis. Further, within a mine, it will be desirable to operate one pit at a time, and next pit should be opened after extracting maximum possible resources from the first pit, so that the exhausted pit can be used for back filling/ storing of low grade iron ore. However, depending upon the quantity and/or quality of iron/ manganese ore, other mine pits in the same mine lease may also be opened for sustainable scientific mining, as per approved mining plan/scheme of mining by IBM. The Department of Steel & Mines, Govt. of Odisha should initiate the pilot project so that minerals are fully utilized.
17. **Commercial Utilization of Low Grade Ore:** R&D studies towards utilization of low-grade iron ore should be conducted through research/academic institutes like IMMT, Bhubaneswar, NML, Jamshedpur, and concerned metallurgical departments in IITs, NITs etc., targeting full utilization of low-grade iron ore (Fe content upto 45% by 2020 and upto 40% by 2025). In fact, life cycle assessment of whole process including environmental considerations should be done for techno-economic and environmental viability. R&D studies on utilization of mine wastewater having high concentration of Fe content for different commercial applications in industries such as cosmetics, pharmaceutical, paint industry should also be explored. Responsibility: IBM, Dept, of Steel & Mines, Individual Mine Lease Holders.

18. The mining activity in Joda-Koira sector is expected to continue for another 100 years, therefore, it will be desirable to develop proper rail network in the region. Rail transport shall not only be pollution free mode but also will be much economical option for iron ore transport. The rail network and/or conveyor belt system upto public railway siding needs to be created. The total length of the conveyor belt system/ rail network to be developed from mines to nearest railway sidings by 11 mines in Joda region is estimated to be about 64 km. Similarly, in Koira region, total length of rail network/ conveyor system for 8 mines (under SOTM 1 & 2) is estimated to be around 95 km. Further, it is suggested to develop a rail network connecting Banspani (Joda region) and Roxy railway sidings in Koira region. Responsibility: Dept, of Steel & Mines, Govt, of Odisha and Concerned Mines along with Indian Railways. Time Period: Maximum 7 years (by 2025). The Department of Steel & Mines. Govt, of Odisha should follow-up with the concerned Departments and railways so that proposed proper rail network is in place by 2025.
19. State Govt, of Odisha shall make all efforts to ensure exhausting all the iron & manganese ore resources in the existing working mines and from disturbed mining leases/zones in Joda and Koira region. The criteria suggested shall be applicable while suggesting appropriate lease area and sustainable mining rate. Responsibility: Dept, of Steel & Mines, Govt, of Odisha.
20. Large and medium mine leases contribute to better implementation of reclamation and rehabilitation plans to sustain the ecology for scientific and sustainable mining. The small leases do not possess scientific capability of environmentally sustainable mining. Therefore, new mine leases having more than 50 ha area should be encouraged, as far as possible. This will ensure inter-generational resource availability to some extent. Responsibility: Dept, of Steel & Mines, Govt, of Odisha.
21. **Mining Operations/Process Related:** (i) Appropriate mining process and machinery (viz. right capacity, fuel efficient) should be selected to carry out various mining operations that generate minimal dust/air pollution, noise, wastewater and solid waste, e.g. drills should either be operated with dust extractors or equipped with water injection system, (ii) After commencement of mining operation, a study should be conducted to assess and Quantify emission load generation (in terms of air pollution, noise, waste water and solid wasted from each of the mining activity (Including transportation) on annual basis. Efforts should be made to further eliminate/ minimize generation of air pollution/dust, noise, wastewater, solid waste generation in successive years through use of better technology. This shall be ensured by the respective mine lease holders, (iii) Various machineries/equipment selected (viz. dumpers, excavators, crushers, screen plants etc.) and transport means should have optimum fuel/power consumption, and their fuel/power consumption should be recorded on monthly basis. Further, inspection and maintenance of all the machineries/ equipment/ transport vehicles should be followed as per manufacturer's instructions/ recommended time schedule and record should be maintained by the respective mine lease holders, (iv) Digital processing of the entire lease area using remote sensing technique should be carried out regularly once in 3 years for monitoring land use pattern and mining activity taken place. Further, the extent of pit area excavated should also be demarcated based on remote sensing analysis. This should be done by ORSAC (Odisha Space Applications Centre, Bhubaneswar) or an agency of national repute or if done by a private agency, the report shall be vetted/ authenticated by ORSAC, Bhubaneswar. Expenses towards the same shall be borne by

the respective mine lease holders. Responsibility: Individual Mine Lease Holders.

22. **Air Environment Related:** (i) Fugitive dust emissions from all the sources should be controlled regularly on daily basis. Water spraying arrangement on haul roads, loading and unloading and at other transfer points should be provided and properly maintained. Further, it will be desirable to use water fogging system to minimize water consumption. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the GPCB in this regard, (ii) The core zone of mining activity should be monitored on daily basis. Minimum four ambient air quality monitoring stations should be established in the core zone for SPM, PM10, PM2.5, SO₂, NO_x and CO monitoring. Location of air quality monitoring stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board (based on Emission Load Assessment Study). The number of monitoring locations may be more for larger capacity mines and working in larger area. Out of four stations, one should be online monitoring station in the mines having more than 3 MTPA EC Capacity, (iii) Monitoring in buffer zone should be carried out by SPCB or through NABET accredited agency. In addition, air quality parameters (SPM, PM₁₀, PM_{2.5}, SO₂, NO_x and CO) shall be regularly monitored at locations of nearest human habitation including schools and other public amenities located nearest to source of the dust generation as applicable. Further, 11 continuous air quality monitoring systems may be installed in Joida and Koira regions and one in Baripada/ Rairangpur region, (iv) Emissions from vehicles as well as heavy machinery should be kept under control and regularly monitored. Measures should be taken for regular maintenance of vehicles used in mining operations and in transportation of mineral, (v) The vehicles shall be covered with a tarpaulin and should not be overloaded. Further, possibility of using closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport route within the mine (periodically, near truck entry and exit gate). Responsibility: Individual Mine Lease Holders and SPCB.
23. **Noise and Vibration Related:** (i) Blasting operation should be carried out only during daytime. Controlled blasting such as Nonel, should be practiced. The mitigation measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented, (ii) Appropriate measures (detailed in Section 5.4) should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone. Further, date, time and distance of measurement should also be indicated with the noise levels in the report. The data should be used to map the noise generation from different activities and efforts should be made to maintain the noise levels with the acceptable limits of CPCB (CPCB, 2000) (iv) Similarly, vibration at various sensitive locations should be monitored atleast once in month, and mapped for any significant changes due to successive mining operations. Responsibility: Individual Mine Lease Holders.
24. **Water/Wastewater Related :** (i) In general, the mining operations should be restricted to above ground water table and it should not intersect groundwater table.

However, if enough resources are estimated below the ground water table, the same may be explored after conducting detailed geological studies by GSI and hydro- geological studies by CGWB or NIH or institute of national repute, and ensuring that no damage to the land stability/ water aquifer system shall happen. The details/ outcome of such study may be reflected/incorporated in the EIA/EMP report of the mine appropriately, (ii) Natural watercourse and/or water resources should not be obstructed due to any mining operations. Regular monitoring of the flow rate of the springs and perennial nallas should be carried out and records should be maintained. Further, regular monitoring of water quality of nallas and river passing thorough the mine lease area (upstream and downstream locations) should be carried out on monthly basis, (iii) Regular monitoring of ground water level and its quality should be carried out within the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out on monthly basis, (iv) In order to optimize water requirement, suitable conservation measures to augment ground water resources in the area should be undertaken in consultation with Central Ground Water Board (CGWB). (v) Suitable rainwater harvesting measures on long term basis should be planned and implemented in consultation with CGWB, to recharge the ground water source. Further, CGWB can prepare a comprehensive plan for the whole region, (vi) Appropriate mitigation measures (viz. ETP, STP, garland drains, retaining walls, collection of runoff etc.) should be taken to prevent pollution of nearby river/other water bodies. Water quality monitoring study should be conducted by State Pollution Control Board to ensure quality of surface and ground water sources on regular basis. The study can be conducted through NABL/ NABET approved water testing laboratory. However, the report should be vetted by SPCB. (vii) Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated in ETP so as to conform to the discharge standards applicable, (viii) Oil and grease trap should be installed before discharge of workshop effluents. Further, sewage treatment plant should be installed for the employees/colony, wherever applicable, (ix) Mine lease holder should ensure that no silt originating due to mining activity is transported in the surface water course or any other water body. Appropriate measures for prevention and control of soil erosion and management of silt should be undertaken. Quantity of silt/soil generated should be measured on regular basis for its better utilization, (x) Erosion from dumps site should be protected by providing geotextile matting or other suitable material, and thick plantation of native trees and shrubs should be carried out at the dump slopes. Further, dumps should be protected by retaining walls.(xi) Trenches / garland drain should be constructed at the foot of dumps to arrest silt from being carried to water bodies. Adequate number of check dams should be constructed across seasonal/perennial nallas (if any) flowing through the mine lease areas and silt be arrested. De-silting at regular intervals should be carried out and quantity should be recorded for its better utilization, after proper soil quality analysis, (xii) The water so collected in the reservoir within the mine should be utilized for the sprinkling on hauls roads, green belt development etc. (xiii) There should be zero waste water discharge from the mine. Based on actual water withdrawal and consumption/ utilization in different activities, water balance diagram should be prepared on monthly basis, and efforts should be made to optimize consumption of water per ton of ore production in successive years. Responsibility: Individual Mine Lease Holders, SPCB and CGWB.

25. **Land/ Soil/ Overburden Related** : (i) The top soil should temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long (not more than 3 years

or as per provisions mentioned in the mine plan/ scheme). The topsoil should be used for land reclamation and plantation appropriately, (ii) Fodder plots should be developed in the non-mineralised area in lieu of use of grazing land, if any. (iii) Over burden/ low grade ore should be stacked at earmarked dump site(s) only and should not be kept active for long period. The dump height should be decided on case to case basis, depending on the size of mine and quantity of waste material generated. However, slope stability study should be conducted for larger heights, as per IBM approved mine plan and DGMS guidelines. The OB dump should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles should be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Proper records should be maintained regarding species, their growth, area coverage etc, (iv) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine operation, soil, OB and mineral dumps. The water so collected can be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de-silted, particularly after monsoon and should be maintained properly. Appropriate documents should be maintained. Garland drain of appropriate size, gradient and length should be constructed for mine pit, soil, OB and mineral dumps and sump capacity should be designed with appropriate safety margin based on long term rainfall data. Sump capacity should be provided for adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and de-silted at regular intervals, (v) Backfilling should be done as per approved mining plan/scheme. There should be no OB dumps outside the mine lease area. The backfilled area should be afforested, aiming to restore the normal ground level. Monitoring and management of rehabilitated areas should continue till the vegetation is established and becomes self-generating, (vi) Hazardous waste such as, waste oil, lubricants, resin, and coal tar etc. should be disposed off as per provisions of Hazardous Waste Management Rules, 2016, as amended from time to time. Responsibility: Individual Mine Lease Holders.

26. **Ecology/Biodiversity (Flora-Fauna) Related:** (i) As per the Red List of IUCN (International Union for Conservation of Nature), six floral species and 21 faunal species have been reported to be under threatened, vulnerable & endangered category. Protection of these floral and faunal species should be taken by the State Forest & Wildlife Department on priority, particularly in the mining zones, if any, (ii) The mines falling within 5-10 km of the Karo- Karampada Elephant corridor buffer need to take precautionary measures during mining activities. The forest and existing elephant corridor routes are to be protected and conserved. Improvement of habitat by providing food, water and space for the elephants is required to be ensured to avoid Man- Elephant conflicts. Though as per the records of State Forest Department, movement of elephants in the Karo-Karampada elephant corridor within 10 km distance from the mines in Joda and Koira is not observed, the Forest Department shall further record and ensure that elephant's movement is not affected due to mining activities, (iii) All precautionary measures should be taken during mining operation for conservation and protection of endangered fauna namely elephant, sloth bear etc. spotted in the study area. Action plan for conservation of flora and fauna should be prepared and implemented in consultation with the State Forest and Wildlife Department within the mine lease area, whereas outside the mine lease area, the same should be maintained by State Forest Department, (iv) Afforestation is to be done by using local and mixed species saplings within and outside the mining lease area. The

reclamation and afforestation is to be done in such a manner like exploring the growth of fruit bearing trees which will attract the fauna and thus maintaining the biodiversity of the area. As afforestation done so far is very less, forest department needs to identify adequate land and do afforestation by involving local people in a time bound manner, (v) Green belt development carried out by mines should be monitored regularly in every season and parameters like area under vegetation/plantation, type of plantation, type of tree species /grass species/scrubs etc., distance between the plants and survival rate should be recorded, (vi) Green belt is an important sink of air pollutants including noise. Development of green cover in mining area will not only help reducing air and noise pollution but also will improve the ecological conditions and prevent soil erosion to a greater extent. Further, selection of tree species for green belt should constitute dust removal/dust capturing plants since plants can act as efficient biological filters removing significant amounts of particulate pollution. Thus, the identified native trees in the mine area may be encouraged for plantation. Tree species having small leaf area, dense hair on leaf surface (rough surface), deep channels on leaves should be included for plantation, (vii) Vetiver plantation on inactive dumps may be encouraged as the grass species has high strength of anchoring besides medicinal value, (viii) Details of compensatory afforestation done should be recorded and documented by respective forest divisions, and State Forest Department should present mine-wise annual status, along with expenditure details, (ix) Similarly, Wildlife Department is also required to record and document annual status of wildlife in the region and should identify the need for wildlife management on regional level, (x) Maintenance of the ecology of the region is prime responsibility of the State Forest and Wildlife Department. They need to periodically review the status and identify the need for further improvement in the region. The required expenditure may be met from the funds already collected in the form of compensatory afforestation and wildlife management. Further, additional fund, if required can be sought from DMF. Responsibility: Individual Mine Lease Holders and State Forest & Wildlife Department.

27. **Socio-Economic Related:** (i) Public interaction should be done on regular basis and social welfare activities should be done to meet the requirements of the local communities. Further, basic amenities and infrastructure facilities like education, medical, roads, safe drinking water, sanitation, employment, skill development, training institute etc. should be developed to alleviate the quality of life of the people of the region, (ii) Land outees and land losers/affected people, if any, should be compensated and rehabilitated as per the national/state policy on Resettlement and Rehabilitation, (iii) The socioeconomic development in the region should be focused and aligned with the guidelines/initiatives of Govt, of India/ NITI Aayog / Hon'ble Prime Minister's Vision centring around prosperity, equality, justice, cleanliness, transparency, employment, respect to women, hope etc. This can be achieved by providing adequate and quality facilities for education, medical and developing skills in the people of the region. District administration in association with mine lease holders should plan for "*Samagra Vikas*" of these blocks well as other blocks of the district. While planning for different schemes in the region, the activities should be prioritized as per Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY), notified by Ministry of Mines, Govt, of India, vide letter no. 16/7/2017-M.VI (Part), dated September 16, 2015. Responsibility: District Administration and Individual Mine Lease Holders.
28. **Road Transport Related:** (i) All the mine lease holders should follow the suggested ore transport mode (SOTM) based on its EC capacity within next 5 years, (ii) The

mine lease holders should ensure construction of cement road of appropriate width from and to the entry and exit gate of the miner as suggested in Chapter 10. Further, maintenance of all the roads should be carried out as per the requirement to ensure dust free road transport, (iii) Transportation of ore should be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/dust takes place. Further, air quality in terms of dust, PMin should be monitored near the roads towards entry & exit gate on regular basis, and be maintained within the acceptable limits. Responsibility: Individual Mine Lease Holders and Dept, of Steel & Mines.

29. **Occupational Health Related:** (i) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects periodically, (ii) Occupational health surveillance program for all the employees/workers (including casual workers) should be undertaken periodically (on annual basis) to observe any changes due to exposure to dust, and corrective measures should be taken immediately, if needed, (iii) Occupational health and safety measures related awareness programs including identification of work related health hazard, training on malaria eradication, HIV and health effects on exposure to mineral dust etc., should be carried out for all the workers on regular basis. A full time qualified doctor should be engaged for the purpose. Periodic monitoring (on 6 monthly basis) for exposure to respirable minerals dust on the workers should be conducted, and record should be maintained including health record of all the workers. Review of impact of various health measures undertaken (at an interval of 3 years or less) should be conducted followed by follow-up of actions, wherever required. Occupational health centre should be established near mine site itself. Responsibility: Individual Mine Lease Holders and District Administration (District Medical Officer),
30. **Reporting of Environmental Sustainability Achievement:** All the mines should prepare annual environmental sustainability report (ESR), highlighting the efforts made towards environmental protection with respect to different environmental components vis-a-vis production performance of the mine on monthly basis. The data collected as per EC and CTE/CTO conditions should be utilized to prepare the annual sustainability report. The mines performing high with effective environmental safeguards may be suitably recognized/rewarded. "Star Rating Format" formulated by the Ministry of Mines along with environmental sustainability report may be used,
31. **Environmental Monitoring Requirements at Regional Level:** Apart from strict compliance and monitoring by individual mine lease holder, there is a need for simultaneous monitoring in each of the regions by competent expert agencies under the guidance/ supervision of concerned regulatory agency. Details of the studies required to be done on regular basis (continuously for 5 years) through responsible agency (organization of national/state repute) and time frame are suggested in Table.

Table: Suggested Environmental Monitoring Requirements and Action Plans at

Sl. No.	Study component / Action Plan	Responsibility	Monitoring and Reporting Time Frame (Approx.)
1.	Environmental Quality Monitoring with respect to Air, Water, Noise and Soil	SPCB	Continuous Annually

Sl. No.	Study component / Action Plan	Responsibility	Monitoring and Reporting Time Frame (Approx.)
	<p>Quality in each region (Joda, Koira and Baripada/Rairangpur) as per specified frequency shall be done by a third party (preferably Govt.) and/or laboratory approved/ recognized by NABET/ CPCB/ SPCB/ MoEF&CC.</p> <p>All the water bodies (rivers, nalias, ponds etc.) shall be monitored. National/State level research/ academic institutes may be involved initially for couple of years to streamline the activity. The report shall be brought out annually by June each year. The study shall be conducted in consultation with MoEF&CC-RO.</p>		
	Installation of online ambient air quality monitor for PM10, PMP.S, SOx and NOx within the mine havina more than 3 MTPA EC Caoacitv	Respective Mine Lease Holders	Continuous Annually
	Installation of online ambient air quality monitor for PM ₁₀ , PM _{2.5} , SOx and NOx in the Joda and Koira Region (total 11 locations).	SPCB	Continuous Annually
2.	Status of flora and fauna in each of the regions shall be assessed on annual basis. Changes, if any, taking place in the region shall be brought out clearly. The study shall be conducted in consultation with State Forest and Wildlife Department.	State Forest & Wildlife Dept.	Annually in mining zone and once in 3 years in the region
3.	Socio-economic study incorporating developments taking place in each of the region, CSR initiatives made by the mining companies shall be conducted on annual basis. Further, micro level developmental needs shall be clearly brought out in the report for each region. The study shall be conducted in consultation with district administration.	Respective District Administration	Annually
4.	A detailed hydro-geological study in each of the regions shall be	SPCB	Once in 2 years

Sl. No.	Study component / Action Plan	Responsibility	Monitoring and Reporting Time Frame (Approx.)
	conducted in an integrated manner in consultation with Regional Director, Central Ground Water Board. Accordingly, all project proponents shall implement suitable conservation measures to augment ground water resources in the area.		
5.	The State Govt. shall ensure construction and maintenance of dust free common roads/ appropriate rail network for transport of ore from mines to the consumer end.	Dept. of Steel & Mines	12 months for road network and 5-7 years for rail network
6.	Construction and maintenance of dust free roads from respective mine to the main road	Respective Mine Lease Holders	Continuous 6 months
7.	Traffic/road inspection study addressing the condition of traffic/roads leading to different mines and connecting to different railway sidings shall be undertaken on annual basis. Further, detailed traffic study shall be undertaken on every 5 yearly basis to ensure adequacy of road/rail infrastructure in each of the regions. The study can be undertaken through national/ state level research/ academic institute (such as CSIR-CRRI, New Delhi).	Dept. of Steel & Mines	Continuous 6 months
8.	Assessment of land use/ land cover changes in each of the regions, with particular focus on mining areas, afforestation activities, variation in flow path of various water bodies etc. using remote sensing data	ORSAC	Annually
9.	R&D Studies for utilization of low-grade iron ore	Dept. of Steel & Mines through R&D / Academic Institutes	Upto 45% by 2020 and upto 40% by 2025

The data so generated for the region should be made available on the website of Department of Steel & Mines and also at MoEF&CC website, so that it can be effectively utilized by Individual Mine Lease Holders for preparing EIA/ EMP reports. This will meet the requirement for separate one season baseline environmental quality data collection by the individual proponents, if the mine proposed is in the same study region. Further, MoEF&CC through EAC1 can also utilize the data base available in evaluating the proposals for

expansion of existing mines or new mines while granting ToR or EC to the mine, taking an holistic view of the region. State Govt, of Odisha should bring out an integrated environmental sustainability report for each of the regions (mainly for Joda and Koia region) incorporating ESR of individual mines and data collected in the region through various agencies, once in 5 years, to plan level of scientific and sustainable mining for the next 5 years.

32. Institutional Mechanism for Implementation of Environmentally Sustainable Mining: The present study is not a one-time study, but a process to ensure environmentally sustainable mining activities in the region on long term basis. Looking into the large-scale mining activities and long term perspective for mining vis-a-vis environmentally sustainable mining and upliftment of people of the region, there is a need to create an agency, who will integrate all the aspects relating to sustainable mining in the region on long term basis. It could be a SPV of Govt, of Odisha or a cell within the overall control and supervision of Dept, of Steel & Mines, with members from

IBM, GSI, OSPCB, MoEF&CC-RO and other concerned Departments and Mine Owners (EZMA), District Administration. It is found that the strong database available for the region needs to be taken into account to map and establish environmental quality of the region on daily, monthly, seasonal and annual basis. Further, the efforts and initiatives of the mines towards environmental protection as well as upliftment of the people of the region are required to be integrated, and a systematic plan at the block/regional level needs to be framed for the overall benefit of the local society, region, district, state and the country as a whole. It will be desirable to have proper environmental quality data management and analysis by NEERI or any other agency for next 5 years (six monthly compliance reports followed by field verification) ensuring sustainable mining practices in the region leading to an overall development of the region. District Mineral Funds should be utilized appropriately for various developmental activities/needs of the region. Further, an environmental sustainability report incorporating environmental status of region coupled with social upliftment may be brought out by SPCB or any other authorized agency on annual basis. This report can be used for supporting the regional EIA study, and also need for environmental quality monitoring by individual mine seeking environmental clearance for new mine/ expansion of mine, including public hearing. Since, outcome of the above study reports shall be in the overall interest of all the stakeholders (including local population) of the region, further planning for the region shall warrant cooperation and assistance of all the stakeholders (mine operators, industries, transporters, State & Central Government Offices, MoEF&CC, CPCB, SPCB, Dept, of Steel & Mines, IBM, IMD, NGOs and local people) in sharing the relevant data/information/ reports/documents etc. to continuously improve upon the environmentally sustainable development plan for economic growth in mining sector as well as for improvement in quality of life of the people of the region.

- C.** Besides the above, the below mentioned general points are also to be followed:-
- a) All documents to be properly referenced with index and continuous page numbering.
 - b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
 - c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original

analysis/testing reports should be available during appraisal of the Project.

- d) Where the documents provided are in a language other than English, an English translation should be provided.
- e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
- f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006- IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.
- g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.
- h) As per the circular no. J-11011/618/2010-IA.II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
- i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) Sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

D. The prescribed TOR would be valid for a period of four years for submission of the EIA/EMP report.

ANNEXURE-D

TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT FOR M/S KALVIK BUILDERS PVT. LTD. FOR “RESIDENTIAL APARTMENT” OVER BUILT-UP AREA OF 30400.86 SQM AT MOUZA- PATIA, OF BHUBANESWAR MUNICIPAL CORPORATION IN THE DEVELOPMENT PLAN AREA OF BHUBANESWAR, DISTRICT KHORDA OF SRI BINAYAK PRASAD LENKA - VIOLATION TOR.

1. Project description, its importance and the benefits,
2. Project site details (location, toposheet of the study area of 10 km, coordinates, google map, layout map, land use, geological features and geo-hydrological status of the study area, drainage),
3. Land use as per the approved Master Plan of the area, Permission/approvals required from the land owning agencies, Development Authorities, Local Body, Water Supply & Sewerage Board, etc,
4. Land acquisition status, R&R details,
5. Forest and Wildlife and eco-sensitive zones, if any in the study area of 10 km - Clearances required under the Forest (Conservation) Act, 1980, the Wildlife (Protection) Act, 1972 and/or the Environment (Protection) Act, 1986,
6. Baseline environmental study for ambient air (PM₁₀, PM_{2.5}, SO₂, NO_x & CO), water (both surface and ground), noise and soil for one month (except monsoon period) as per MoEF&CC/CPCB guidelines at minimum 5 locations in the study area of 10 km,
7. Details on flora and fauna and socio-economic aspects in the study area
8. Likely impact of the project on the environmental parameters (ambient air, surface and ground water, land, flora and fauna and socio-economic, etc),
9. Source of water for different identified purposes with the permissions required from the concerned authorities, both for surface water and the ground water (by CGWA) as the case may be, Rain water harvesting, etc,
10. Waste water management (treatment, reuse and disposal) for the project and also the study area,
11. Management of solid waste and the construction & demolition waste for the project vis-a-vis the Solid Waste Management Rules, 2016 and the Construction & Demolition Rules, 2016,
12. Energy efficient measures (LED lights, solar power, etc.) during construction as well as during operational phase of the project,
13. Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.

Environmental Scientist, SEAC

14. Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.
15. The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter in the EIA report by the accredited consultants.
16. **The prescribed TOR would be valid for a period of four years for submission of the EIA/EMP report.**

TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY IN CLUSTER APPROACH AND INFORMATION TO BE INCLUDED IN THE EIA/EMP REPORT FOR M/S KHEMABEDA DECORATIVE STONE MINES OVER AN AREA OF 4.755 HA. OR 11.75 ACRES IN VILLAGE - KHEMABEDA OF TAHASIL - BOIPARIGUDA IN KORAPUT DISTRICT, ODISHA UNDER CLUSTER APPROACH (CLUSTER AREA 9.696 HA) OF SRI VENKATESH HOTHATHA – TOR.

1. Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
2. A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
3. Name and area of other mines within 500 meter of the lease area.
4. All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
5. All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/Topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
6. Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
7. Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
8. It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
9. Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
10. The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

11. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
12. Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given. Proposal for Common Non-Mineralized Zone for dumping of rejects / OB.
13. A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
14. Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
15. Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
16. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
17. A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
18. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
19. A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.
20. Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be

indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.

21. Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
22. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
23. One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season) ; December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM₁₀, particularly for free silica, should be given.
24. Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
25. Environment Impact Assessment / Environment Management Plan document shall be in accordance with the provisions & generic structure stipulated in the EIA Notification 2006 dated 14.09.2006 & subsequent amendments.
26. EIA-EMP document shall be based on the maximum achievable mineral extraction of the mine and according to the impact of mines in cluster (within 500m) of the said mine.
27. EIA-EMP document shall include complete profile of the all the Project Proponent, implementing organization of mines in cluster (within 500m) of the said mine.
28. EIA-EMP document shall corer land description of project site (plot/survey / khasara number, village, tehsil, district, state & extent of land involved), of mines in cluster (within

500m) of the said mine.

29. EIA-EMP document shall include deposit conditions working depth mining scheme, details of machinery, backfilling of mine pit with type of blasting, drilling and explosives.
30. The general features such as surface drainage, mineral transportation and process flow of beneficiation plant, power and water supply shall be indicated.
31. The baseline environmental status within 10km radius from the boundary limit of mining lease area (buffer zone) and core zone with respect to air, water, noise and soil shall be covered of mines in cluster(within 500m) of the said mine.
32. Baseline data generation for one season (post monsoon) with respect to air, water, noise and soil shall be generated on the same sampling locations for obtaining EC
33. EIA-EMP document shall include land use pattern including agriculture, forest land, water bodies and settlements.
34. Existence of National Park, Wild Life sanctuary, migratory routes of wild animals within 10 km of mine lease area shall be brought out.
35. Topographical map of study area (core & buffer zone -10 km from the boundary of core zone) showing major topographical features shall be included.
36. EIA-EMP document shall include biological environment (flora and fauna) and socio-economic environment within the study area.
37. EIA-EMP document shall include anticipated impacts on land, air, noise and water environment and the mitigation measures of mines in cluster (within 500m) of the said mine.
38. Environmental Monitoring Programme and the environment management plan shall also be covered measures of mines in cluster (within 500m) of the said mine.
39. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
40. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
41. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
42. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
43. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

44. Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
45. Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.
46. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
47. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
48. Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
49. Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
50. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
51. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
52. Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
53. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
54. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

55. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
56. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
57. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
58. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
59. Besides the above, the below mentioned general points are also to be followed
 - a) All documents to be properly referenced with index and continuous page numbering.
 - b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
 - c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
 - d) Where the documents provided are in a language other than English, an English translation should be provided.
 - e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
 - f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J- 11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.
 - g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.
 - h) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
 - i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.
60. **The prescribed TOR would be valid for a period of four years for submission of the EIA/EMP report.**