

**PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL
COMMITTEE, ODISHA HELD ON 07TH JULY 2023**

The SEAC met on 07th July 2023 at 10:30 AM in the Conference Hall of Odisha State Pollution Control Board, Bhubaneswar under the Chairmanship of Sri Sashi Paul. The following members were present in the meeting.

1. Sri Sashi Paul	-	Chairman (through VC)
2. Dr. K. Murugesan	-	Member Secretary
3. Dr. Chittaranjan Panda	-	Member
4. Prof. (Dr.) H.B. Sahu	-	Member (through VC)
5. Sri Jayant Das	-	Member
6. Er. Fakir Mohan Panigrahi	-	Member (through VC)
7. Prof. (Dr.) B.K. Satpathy	-	Member
8. Dr. K.C.S Panigrahi	-	Member (through VC)
9. Prof. (Dr.) Abanti Sahoo	-	Member (through VC)
10. Dr. Ashok Kumar Sahu	-	Member
11. Dr. Rabinarayan Patra	-	Member

Draft proceedings of the meeting was finalized by the members through e-mail and final proceedings 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 FOR TANTRA BAUXITE MINE WITH PROPOSED EXCAVATION OF 1000000 TPA OF BAUXITE HAVING OVER AN AREA OF 106.138 HA. LOCATED AT VILLAGE: TANTRA, SUB-DIVISION- BONAI, DISTRICT SUNDARGARH OF SRI PRABHU DAYAL AGRAWAL - 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. This proposal is for Terms of Reference to obtain Environmental Clearance for Tantra Bauxite Mine with proposed excavation of 1000000 TPA of Bauxite having over an area of 106.138 Ha. Located at Village: Tantra, Sub-division- Bonai, District Sundargarh of Sri Prabhu Dayal Agrawal.
3. **Category:** As per the EIA Notification S.O. 1533, dated 14th September 2006 and subsequent amendments, this project falls under Category B1 (Minor Mineral Projects).
4. Originally the mining lease was granted in favour of Shri Prabhu Dayal Agrawal on 08.07.1991 over an area of 106.138 hectares or 262.271 acres for 20 years. But as per the Mines and Minerals (Development and Regulation) Amendment Act 2015 read with rule 66 of OMMC Rule 2016, the period of lease has been extended up to 20 years i.e., 07.07.2031 through Renewal Mining Lease Deed dtd. 08.07.2011.
5. The Tanta Bauxite Mine is a Mining Lease area was executed for Mining of Bauxite ore in favour of Shri Prabhu Dayal Agrawal over an area of 106.138 ha. or 262.271 acres comes under village Tantra, Bandhal & Rengua in Koida Tahasil of Sundargarh District, Odisha.

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6. The copy of representation letter no. Tantra/108 dt. 20.01.2023 received from Sri P.D. Agrawal to inform that the aforesaid mining lease was executed on 08.07.1991 for a period of 20 years in favour of Sri P.D. Agrawal. The term of a said lease expired on 07.07.2011. The lessee has filed 1st RML application on 16.03.2010 over the entire area for Bauxite, Iron & Manganese Ore under the provision of rule 24A (1) of MC Rules, 1960 in due time which is pending for disposal. The mining operation in the leasehold area was discontinued due to expiry of original lease w.e.f. 08.07.2011 & remained non-operational for continuous period of 2 years up to 07.07.2013 which attracts the provision of section 4A (4) of MMDR Act, 1957. As such the State Govt. declared the said lease as lapsed w.e.f. 07.07.2013 under section 4A (4) of MMDR Act, 1957 read with rule 28(1) of MC Rules, 1960 vide Govt. Proceeding No. 9625/SM dt. 29.09.2015.
7. The lessee preferred Revision application against the said lapsing order of State Govt., where in the Revisional authority set aside the impugned order of State Govt. dt. 29.09.2015 and directed the State Govt. to re-consider the lapsing in view of observations of Hon'ble Supreme Court of India in its order dt.04.04.2016 in WP(C) No. 114/2014 (Common Cause) which is being re- examined by the State Govt. through personal hearing of the lessee. Moreover, under section 8A (3) of MMDR Amendment Act, 2015, the State Govt. have not extended the validity of lease period i.e. up to 07.07.2041. As such the said lease would be deemed to be consider as subsisting lease.
8. In pursuance to the judgment dt. 02.08.2017 of Hon'ble Supreme Court of India, the DDM, Koira has issued Demand notice vide his letter No. 4356/Mines dt.18.11.2021 to the lessee for payment of compensation amount of Rs.14,23,524/- under section 21(5) of MMDR Act, 1957 in violation for production of minerals show raised without lawful authority or in excess of the lower of approved limit under statutory clearance for the period from 2000-2001 to 2010-2011 in respect of the mine, which has already been paid by the lessee through e-challan on 03.01.2022.
9. The lessee has processed before the concerned authorities for obtaining of valid statutory clearances such as Mining Plan, Forest Clearance, Environmental Clearance etc. in respect of the mines which is pre-requisite for extension of the validity period of the said lease under section 8A (3) of MMDR Amendment Act, 2015.
10. As per the documents submitted by the lessee, 3rd meeting of Project Screening Committee of the proposals in respect of Tantra Bauxite Mine held on 18.01.2023 for processing as per F.C Rules, 2022 through VC, wherein the lessee was directed to file approval of Mining Plan online for FC. Approval of Review of Mining Plan without such clearance the extension of validity of lease period under section 8A (3) of MMDR Amendment Act, 2015 is not feasible.
11. Earlier, Terms of Reference (TOR) issued by MoEF & CC, New Delhi vide letter number J-11015/178/2009-IA. II(M) dated 19th August 2010 for undertaking mining operation in the lease area.

12. Consent to establish has been obtained from State Pollution Control Board, Odisha vide letter no. 1739/III-CON (NOC)-296/2009-10 dtd. 21.06.2011 and for 100 TPH crusher unit, Consent to Establish has been issued vide letter no.11459/IND-I-CON-5654 dated 20.07.2009.
13. Earlier, public hearing for renewal of mining lease and enhancement of Bauxite ore 1.2LTPA to 1.0 MTPA in production was conducted on 12.05.2011.
14. The present proposal for environment clearance is proposed for enhancement in production of bauxite from 3,786,75 TPA to 9,997,02 TPA from the lease area.
15. The entire area is DLC forest land having class - pahad as per land schedule.
16. **Location and connectivity:** Tantra bauxite mining lease area is situated in village Tantra of Bonai Tehsil in Sundargarh district, Orissa. The area forms a forest land. This area falls under latitude $21^{\circ} 53' 46''$ N to $21^{\circ} 54' 33''$ N and Longitude $85^{\circ} 10' 18''$ E - $85^{\circ} 11' 10''$ E in the toposheet no. 73 G/1. The total area of the mining lease is 106.138 Ha. The highest altitude of the area is 784.0 m from M.S.L and the lowest altitude is 643.1 M.S.L.
17. **Reserves and production:** The revised mineable reserve of useable bauxite in the lease area is 1,63,45,127 MT. Keeping in view the production of bauxite @ 9,99,702 per annum, life of the mine will be 16.3 years or say 16 years after this modified scheme period.
18. **Mining method:** Presently the mining is being carried out by semi mechanized opencast method. However, with the existing proposal there is the planning for fully mechanized mining operation in the lease area. There is an existing 200 TPH crusher present in the lease area and proposal for installation of another 200 TPH crusher in the lease area. The crushing screening and sorting will be carried out within the lease area. The saleable bauxite will be raised and stacked near earmarked stack yard after being crushed as per the requirement. The usable refractory grade and steel grade bauxites will be transported by hiring trucks. The trucks will be loaded by pay loaders.
19. **Waste generation and management:** A quantity of 1884450m^3 of swollen waste will be generated due to mining during the conceptual period. The waste generated during excavation will be utilized for mine road construction and other allied infrastructure and if required will be shifted to the proposed dump. At the end of the conceptual period a total area of 45.1175 hectare is to be degraded under mining. As no part of the lease area is getting exhausted, no backfilling proposal has been proposed in this scheme period.
20. **Water requirement:** Water requirement for the project is 15 KLD and will be met from ground water.
21. **Greenbelt:** Till date 0.5 Ha. of plantation zone with 1000 saplings has been made within the ML area. Huge plantation has been carried out within the lease area i.e., along the Safety Zone, OB dump and dump Slope. During this monitoring period 1000 nos. of plantation has been done over an area of 0.5 Ha.
22. **Manpower:** Total 116 nos. of workers will be indirectly employed, and 30 nos. will be directly employed for mining of Bauxite ore in the lease area.
23. **Project cost:** The cost of the project will be 14 Crores.

24. Environment Consultant: The Environment consultant **M/s Green Circle. INC., Vadodara** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s Green Circle. INC., Vadodara** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- a) Certified copy of the production limit set for the unit prior to 1994 and after 1994.
- b) Certified copies of year-wise production details prior to 1994 and after 1994 from mining officer.
- c) Copy of approved mining plan prior to 1994.
- d) Copy of letter of Steel and Mines Department, Govt. of Odisha to the lessee validating the grant of extension of the mining lease in favour of the lessee.
- e) The lease lapses in 2011 but, mining operation was continued after 2011 and concerned DFO stopped mining operation for not having Environmental Clearance and Forest Clearance. In pursuance to the judgment dt. 02.08.2017 of Hon'ble Supreme Court of India, the DDM, Koira has issued Demand notice vide his letter No. 4356/Mines dt.18.11.2021 to the lessee for payment of compensation amount of Rs.14,23,524/- under section 21(5) of MMDR Act, 1957 in violation for production of minerals show raised without lawful authority or in excess of the lower of approved limit under statutory clearance for the period from 2000-2001 to 2010-2011 in respect of the mine, which has already been paid by the lessee through e-challan on 03.01.2022. Justification that why it should not be considered as a violation case? With supporting documents of Notification along with the production figures.
- f) Earlier, Terms of Reference (TOR) issued by MoEF&CC, New Delhi vide letter number J-11015/178/2009-IA. II(M) dated 19th August 2010 for undertaking mining operation in the lease area. Earlier, public hearing for renewal of mining lease and enhancement of Bauxite ore 1.2 LTPA to 1.0 MTPA in production was conducted on 12.05.2011 and final EIA report was submitted to MoEF&CC, Govt. of India for Consideration of EC. Reason for non-consideration of EC by MoEF&CC, Govt. of India for the proposal at that time with supporting documents.
- g) Copy of all Consent to Establish and Consent to Operate obtained from the Pollution Control Board, Odisha.
- h) Detailed note on history of the mine chronologically and details of statutory clearances obtained for operation of the mines.
- i) Supporting documents that the mining lease has not lapsed and is in name of Lessee. Copy of the extension of the mining lease from the Steel and Mines Department.
- j) Receipt of Royalty paid (if any).
- k) Approved mining plan of Bauxite mine along with Cross sectional Sketch plan of Bauxite mine.
- l) Current Status and supporting documents that the applicant has applied for Forest Clearance for the project.
- m) Details analysis of quantity and quality of bauxite present in mine.
- n) Note on blasting management, slope study analysis and water management.

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ITEM NO. 02

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR KHANJAMAHAL STONE QUARRY (CLUSTER APPROACH) OVER AN AREA OF 244.50 AC./98.94 HA. (KHATA NO-144, PLOT NO-161, 165, 164, 318, 168, 167, 166, 266, 287, 264, 265, 263) IN VILLAGE KHANJAMAHAL, UNDER SORO TAHASIL IN BALASORE DISTRICT OF TAHASILDAR SORO - 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. This proposal is for Terms of Reference for obtaining Environmental Clearance for Khanjamahal Stone Quarry (Cluster Approach) over an area of 244.50 Ac./98.94 Ha. (Khata No-144, Plot No-161, 165, 164, 318, 168, 167, 166, 266, 287, 264, 265, 263) in village Khanjamahal, under Soro Tahasil in Balasore district of Tahasildar Soro.
3. **Category:** The project is categorized in Category-B-1 of Schedule under Item 1(a)-Mining of minerals in the EIA notification, 2006 and its subsequent amendments.
4. There are 61 numbers of quarries leases existing within 500m periphery of each other thus forming a cluster and does not come under DLC certified by Tahasildar vide letter no 2390 dated 09/05/2023.
5. The Cluster lease area has been proposed by Tahasildar, Soro vide Letter No- 175 dated: 15.01.21
6. The Cluster of Khanjamahal consists of 61 numbers of individual stone quarries. The individual stone quarries will be auctioned by the Tahasildar, Soro and allocated to the successful bidder for mining activity on a long-term basis i.e., 5 years from the date of execution of lease deed.
7. The Cluster Mining plan has been approved by The Deputy Director Geology & Authorized Officer, The Directorate of Geology, Bhubaneswar, Odisha vide Letter No. GXVII(g) - 86/216334/DG, Dt. 30.10.2021.
8. **Location and connectivity:** The lease area under reference featured in the Survey of India Topo sheet no. F45O/11 is on Khata No-144, Plot No-161, 165, 164, 318, 168, 167, 166, 266, 287, 264, 265, and 263. The geo coordinates of the lease area is 21°20'39.53"N to 21°21'32.76"N and longitude 86°39'38.52"E to 86°40'41.07"E. The area is located 40 km from District Headquarters Balasore and 140 Km from State Capital Bhubaneswar. Nearest railway stations is Soro at a distance of 6.54 Km. Nearest Airport is Bhubaneswar Airport which is at a distance of 149.36 Km. The nearest habitation is Mahumuhan at a distance of 0.5 Km (W), the main connectivity of the lease area for transportation is Mangalpurpur Bagudi PWD Road which is at a distance of 0.7 Km, which is further connected to NH-16 at Soro at a distance of 6.14 KM. Nearest reserve forest is Kuldiha reserve forest which is 1.03 Kms away from the proposed site.
9. **Reserves and total production:** Estimated geological reserve for all the 61 mines (cluster) is 39.608 Million Cum and Mineable Reserve is 20.881 Million Cum. The total production will be 12.247 Million Cum during the plan period. Annual Production capacity for 61 mines will be 2.484 Million cum/Annum. **Details taken from presentation.**

Year	Volume (Million m ³)
1 ST YEAR	2.484
2 ND YEAR	2.484
3 RD YEAR	2.484
4 TH YEAR	2.484
5 TH YEAR	2.484
TOTAL	12.427

10. **Mining method:** Mining operations will be carried out by Semi-mechanized opencast mining method. Conventional method of mining will be adopted in lease area. In the present plan period, it is proposed to shape the quarry with bench height and width of 6m and 6m respectively. The slope of individual bench will be maintained around 80° to 85° with ultimate pit slope of less than 45°. Quarrying activities will be done following all the security majors. Rules and regulations of DGMS and IBM will be observed during the Quarrying operations to avoid unwanted circumstances. Deep & short hole blasting will be carried out with the help of Slurry as explosive and shock tube as accessories for loosening the hard rock. A total of 2972102 m³ of waste will be generated during this plan period. Mined out material will be loaded into the dumpers with the help of JCB and will be send to the nearby established crusher outside the lease area and finally the material of commercial use as per the demand of the market will be transported by Covered trucks / dumpers to its destination.

11. **Water requirement:** Water requirement for the Khanjamahal cluster project is 164 KLD for mining, spraying, greenbelt development and domestic uses and will be sourced from the nearby available water source/accumulated rainwater in mined out pits.

S. No	Description	Water Requirement (KLD)
1	Drinking & Domestic purpose	31.2
2	Dust suppression	82.0
3	Green Belt	50.8
Total		164.0

12. **Waste generation and management:** Total waste generation will be 2.972 Million cum during the plan period. The waste generated from Khanjamahal Stone Quarry (cluster) will be dumped temporarily at the designated place as per the approved Mining Plan and subsequently utilized for road construction and maintenance during the plan period.

13. **Transportation:** The open cast semi mechanized method and 10-to-20-ton capacity Tippers and Hyva will be engaged for transportation of minerals.

14. **Power requirement:** The power required for the office is minimal, shall be taken from the General Electric supply of the area. However, if required for lighting in the project area at night power will be sourced from State Grid.

15. **Greenbelt:** About 13113 saplings of local species will be planted under the green belt (safety zone) and non-mineralized area for five years. The plantation proposed in the buffer area and avenue plantation will be carried out in open places in and around the quarry lease area. The budget for afforestation will be around Rs. 19,66,950/-.

Year	No.of samplings	Species
1st	2625	Mango, Subabul, Chakunda with local species
2nd	2622	
3rd	2622	
4th	2622	
5th	2622	
Total	13113	

16. **Manpower:** Total manpower requirement will be 1348 no's for the proposed project.

17. **Project cost:** The capital cost of Khanjamahal cluster project is 610 Lakhs (6.10 Crore). EMP capital cost of the project is 91.50 Lakhs and EMP Recurring cost is 69.22 Lakhs.

S. No.	Environmental Work	Capital cost in rupees	Recurring cost in rupees	
1	Water sprinkling for dust suppression	Rs.8,00,000/-	Two times water sprinkling per day costs 4000/- including manpower cost and water, tanker cost.	Per year Rs. 12,00,000/-
2	Greenbelt	Rs.19,66,950/-	Daily watering, monitoring and periodic manure, other fertilizer spending's (Cost per month for13113 plants: Rs.1,50,000/-) 10 months in a year =1,50,000x10	Per year Rs. 15,00,000/-
3	Retaining wall, Garland Drain	Rs.15,00,000/-	Regular monitoring and periodic changes, per year 2 times Rs.3,00,000/- each time.	Per year Rs. 6,00,000/-
4	Septic tank and related	Rs. 5,00,000/-	Yearly once cleaning @ Rs. 1,00,000/-	Per year about Rs. 1,00,000/-
5	Environmental monitoring	Rs. 18,61,050/-	Monthly Rs. 1,00,000/-	Per year about Rs. 10,00,000/-
6	First aid Facility	Rs.5,00,000/-	Per month about Rs.50,000/- (medicines, checkups as per need)	Per year Rs. 5,00,000/-
7	PPE kit	Rs 20,22,000/-	One time per year Rs. 1,500 Per head 1348x1,500 = 20,22,000/-	Per yearRs.20,22,000/-
Total in Rupees		91,50,000/-	69,22,000/-	

18. Environment Consultant: The Environment consultant **M/s EHS 360 Labs Private Limited, Chennai** along with the proponent 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 EHS 360 Labs Private Limited**, the SEAC prescribed the following specific ToRs in addition to standard ToRs in cluster approach as per **Annexure – A** for conducting detailed EIA study.

- i. Installation of STP of adequate capacity and requisite design.
- ii. ToRs has been proposed for 1-15 quarries, which is not acceptable. The EIA study shall be carried out and the EMP will be prepared in cluster approach for 61 quarries which will be submitted during submission of Final Environmental Impact Assessment Report at SEIAA. The EIA report should include existing (i.e. EC obtained) and proposed stone quarries in cluster.
- iii. Copies of Previous obtained EC which SEIAA has granted as informed by the proponent.
- iv. Traffic study duly vetted by reputed institution.
- v. Green belt in safety zone of each mine and all-round the clusters to be confirmed with details.
- vi. Arrangement of pipeline sprinkling (permanent water line) to be explored and confirmed.
- vii. Silt management and SoP for the same to arrest /remedy of silt ingress to surrounding agricultural lands.
- viii. Kisam of land to be submitted.
- ix. Safety measures during blasting including provision of warning to be submitted.
- x. Distance of boundary of Kuldiha Wildlife Sanctuary and boundary of its Eco-Sensitive Zone (ESZ) to be Certified by concerned, DFO. Also certificate from DFO that the said cluster is not coming within Eco-Sensitive Zone of Kuldiha wildlife Sanctuary.
- xi. Map showing ESZ, Sanctuary boundary and lease boundary.
- xii. Distance of nearest elephant corridor from cluster.
- xiii. Site photographs along with the consultant.
- xiv. Access road for transportation of mined products from each of the 61 stone quarries, space for storing mined wasted products as well as mined mineral products along with drainage system of rainwater (surface run off) for each 61 quarries to be shown in a common layout map certified by the RQP as per the approved mining plan.
- xv. RL of water table in the mineral stone quarry zone comprising of all 61 quarries during summer and rainy season to be provided along with the RL of the surface post mining as per the approved mining plan of each of 61 leases in the cluster.
- xvi. Individual mining plan for each quarry/mine in the cluster as the proponent has submitted cluster mining plan.
- xvii. Nos of proposed blasting per day as per the approved mining plan for all 61 leases under the cluster approach to be presented.

- xviii. Latest KML file demarcating each quarry of the cluster. Geo-coordinates of the mining lease area boundary of each of 61 leases under the cluster approach superimposed on the cadastral map to be furnished.
- xix. Standard Operating Procedures (SOP) for Blasting of all the quarries along with blasting management.
- xx. Dust Management.
- xxi. Layout of the entire area of 244.50 Ac./98.94 Ha. of Khanjamahal Stone Quarry (Cluster Approach) indicating the location of all 61 mining leases to be considered under the cluster approach along with location of waste dump, product storage area, route of transportation of the mined mineral products to the market, system of rainwater drainage (Garland drain) etc. of each of the above-mentioned leases along with the location of the proposed STP as per the approved mining plan.
- xxii. Details of any court case if any pending for the cluster or any of 61 leases under it.

ITEM NO. 03

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR MANTRAJHOLLA STONE QUARRIES CLUSTER OVER AN AREA OF 11.936 HECTARES IN MANTRAJHOLLA VILLAGE OF RAYAGADA TAHASIL, DISTRICT- RAYAGADA OF TAHASILDAR RAYAGADA – EC (SUBMITTED UNDER CLUSTER APPROACH WITH TOTAL CLUSTER AREA 11.936 HECTARES WITH CONSISTING OF 8 STONE QUARRIES)

1. This proposal is for Environmental Clearance for Mantrajholla Stone Quarries Cluster over an area of 11.936 hectares in Mantrajholla village of Rayagada Tahasil, District- Rayagada of Tahasildar Rayagada.
2. **Category:** As per the EIA notification 2006 and its subsequent amendment, Proposed Project falls in Category B1 under schedule of activity 1(a)-Mining of minerals.
3. The proposed project is in Cluster Situation as other leases are within 500 m radius of lease & total lease area becomes greater than 5 ha. The proposed project is not comes under
4. DLC land present at the site.
5. There are Four other quarries lies within 500m of the lease area i.e. Mantrajholla Stone Quarry & Mantrajholla Stone Quarry (I, II, III), is granted by Tahasildar Rayagada situated over a cluster area of 11.936 ha which is greater than 5 ha.
6. **Details of mine lease:**

Table: **DETAILS OF MINE LEASE AREA (Proposed Quarries)**

S. No.	Name of Quarry	TOR Details	Lease area (Ha.)	Land Schedule	Kissam
1	Mantrajholla Stone Quarry IV	Letter no 5181 dated 19.08.2022	1.214	Khata No- 20 Plot No - 118	Pahad
2	Mantrajholla Stone Quarry V	Letter no 5346 dated 02.09.2022	1.214	Khata No- 20 Plot No - 122	Pahad
3	Mantrajholla Stone Quarry VI	Letter no 5177 dated 19.08.2022	2.023	Khata No- 20 Plot No - 102	Pahad
4	Mantrajholla Stone Quarry VII	Letter no 5183 dated	1.214	Khata No- 20 Plot No - 102	Pahad

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		19.08.2022			
Total			5.665		

Table: DETAILS OF MINE LEASE AREA (Existing Quarries)

S. No.	Name of Quarry	Lease area (Ha.)	Land Schedule	Kissam
1	Mantrajholla Stone Quarry	2.023	Khata No- 20 Plot No - 118	Pahad
2	Mantrajholla Stone Quarry I	2.023	Khata No- 20 Plot No - 118	Pahad
3	Mantrajholla Stone Quarry II	1.011	Khata No- 20 Plot No - 118	Pahad
4	Mantrajholla Stone Quarry III	1.214	Khata No- 20 Plot No - 122/1	Pahad
Total		6.271		

7. **Public hearing details:** Public hearing was successfully executed on date 04.03.2023 in Mantrajholla village of Kuli Gram Panchayat of Maligam R.I Circle under Rayagada tahasil of Rayagada district, Odisha. Issues raised during the public hearing are vibrational impact due to drilling and blasting, noise impacts, agricultural impacts, dust pollution, environment protection, protection of water bodies, peripheral development, plantation and employment.
8. **Location and connectivity:** The Mantrajholla Stone Quarry (IV, V, VI, VII) located at village- Mantrajholla, Tehsil - Rayagada, District- Rayagada, Odisha. Geo graphically the ML area lies from Latitude 19°12'46.49" to 19°13'10.86" N and Longitude from 83°27'56.07" to 83° 28'07.11" E with an elevation of about 279 mRL to 331 mRL. The area falls in Survey of India topo sheet No. E44F8. The area represents almost flat land.
9. **Baseline study details:** Meteorological data at the site was monitored during March 2022 to May 2022 representing pre monsoon season.
 - a) **Ambient Air Quality Monitoring (AAQM)** has been carried out at eight locations. The minimum and maximum level of PM_{2.5} recorded within the study area was in the range of 19.21µg/m³ to 54.78µg/m³ with the 98th percentile ranging between 24.61µg/m³ to 54.69µg/m³. The minimum and maximum level of PM₁₀ recorded within the study area was in the range of 53.28µg/m³ to 87.30µg/m³ with the 98th percentile ranging between 65.38µg/m³ to 85.85µg/m³. The minimum and maximum concentration of SO₂ recorded within the study area was 5.44µg/m³ to 18.56µg/m³ with the 98th percentile ranging between 8.49µg/m³ to 17.74µg/m³. The minimum and maximum level of NO₂ recorded within the study area was in the range of was 9.45µg/m³ to 20.31µg/m³ with the 98th percentile ranging between 13.32µg/m³ to 20.17µg/m³.
 - b) **Water quality:** To assess the physical and chemical properties of water in the region, ground water samples from six locations & surface water from two locations were collected from various water sources around the mine lease area. The pH of the ground water samples in the region varied from 6.78 to 7.51. The results indicate groundwater is generally in conformity with the drinking water standards (IS: 10500) and surface water is in conformity with IS-2296 standards.
 - c) **Noise Levels:** The values of noise observed in some of the areas are primarily owing to vehicular traffic. Assessment of hourly night time Leq (Ln) varies from 38.5 to 43.4 dB (A) and

the hourly daytime Leq (Ld) varies from 49.7 to 56.1 dB (A) within the study area. The status of noise quality within the 10 km zone of the study area is, therefore, within the MoEF&CC standards.

- d) Soil quality:** 07 soil samples were collected in and around the mine lease area to assess the present soil quality of the region. The pH of the soil indicates that the soil is slightly alkaline in nature. Based on the results, it is evident that the soils are not contaminated by any polluting sources.

10. Production and Reserves: Mantrajholla Stone Quarry (IV, V, VI, VII) over an Cluster area of 5.665 ha/14.0 Acre for Proposed production of 15,929 cum/year of stone.

Table: Geological and Mineable Reserves: - (Proposed Quarries)

S No.	Name of the Quarry	Geological Reserves	Mineable Reserves
1	Mantrajholla Stone Quarry IV	118858	59595
2	Mantrajholla Stone Quarry V	135312	60502
3	Mantrajholla Stone Quarry VI	207359	110988
4	Mantrajholla Stone Quarry VII	284832	114710
Total		746361	345795

Table: Geological and Mineable Reserves: - (Existing Quarries)

S No.	Name of the Quarry	Geological Reserves	Mineable Reserves
1	Mantrajholla Stone Quarry	520129	189447
2	Mantrajholla Stone Quarry I	334757	157109
3	Mantrajholla Stone Quarry II	-	-
4	Mantrajholla Stone Quarry III	362799	112976
Total		-	-

Table: Production Details: - (Proposed Quarries)

S No.	Name of the Quarry	Production (cum/year)
1	Mantrajholla Stone Quarry IV	4162
2	Mantrajholla Stone Quarry V	3037
3	Mantrajholla Stone Quarry VI	4698
4	Mantrajholla Stone Quarry VII	4032
Total		15929

Table: Production Details: - (Existing Quarries)

S No.	Name of the Quarry	Production (cum/year)
1	Mantrajholla Stone Quarry	4162
2	Mantrajholla Stone Quarry I	4037
3	Mantrajholla Stone Quarry II	2850
4	Mantrajholla Stone Quarry III	4162
Total		15211

11. Mining method: Mining will be done by opencast semi-mechanized method with adoption of drilling & blasting. Mining will be done by deploying machines like jackhammer, drill compressor,

rock breaker, excavator and tractors/trucks. Tipper trucks will be used for transporting stone and waste. Drilling & blasting will be carried out as & when required. Lessee will take all necessary permission and do accordingly DGMS norms. Blasting will be carried out by an employed blaster. Short hole blasting will be practiced. The blasting will be carried out by delay detonators using slurry explosive to achieve fragmentation & less throw. The storage of explosive not proposed, Blasting should be done by only Govt. authorized agency after permission taken by authority.

12. **Waste generation and management:** No top soil is proposed to be generated. No storage is proposed. The Overburden generated from the cluster is expected to be 8850 cum .

S No.	Name of the Quarry	Waste (cum)
1	Mantrajholla Stone Quarry IV	2310
2	Mantrajholla Stone Quarry V	1690
3	Mantrajholla Stone Quarry VI	2610
4	Mantrajholla Stone Quarry VII	2240
Total		8850

13. **Water requirement:** The water requirement for workers for drinking purpose will be around 1.50 KLD & the total water requirement will be around 18.30 KLD. This water will be supplied from the nearby area.

Activity	Calculation	Round off Figure in KLD
Drinking	@ 10 lpcd per labor $10 \times 150 / 1000 = 1.50$ KLD	1.50
Dust Suppression	Total approach road to be water sprinkled = 2400 m $2400 \text{ m} \times 6 \text{ m} \times 0.5 \times 2 \text{ times} / 1000 = 14.40$ KLD	14.40
Plantation	1196 plants (during plan period) @ 2 L/per plant = $1196 \times 2 \text{ lts} = 2392 / 1000 = 2.392$ KLD	2.392
Total		18.292 ~ 18.30

14. **Greenbelt:**

S. No.	Quarry	No. of Plants in Safety zone, along approach road and at other places in village after consulting local authorities
1	Mantrajholla Stone Quarry IV	122
2	Mantrajholla Stone Quarry V	122
3	Mantrajholla Stone Quarry VI	202
4	Mantrajholla Stone Quarry VII	122
5	Mantrajholla Stone Quarry	202
6	Mantrajholla Stone Quarry I	202

7	Mantrajholla Stone Quarry II	102
8	Mantrajholla Stone Quarry III	122
Total		1196

15. Manpower requirement: The number of working people required for the proposed project is 150.

Table: Employment generation In cluster

S. No.	Quarry	Manpower
1	Mantrajholla Stone Quarry	20
2	Mantrajholla Stone Quarry I	23
3	Mantrajholla Stone Quarry II	18
4	Mantrajholla Stone Quarry III	16
5	Mantrajholla Stone Quarry IV	20
6	Mantrajholla Stone Quarry V	16
7	Mantrajholla Stone Quarry VI	18
8	Mantrajholla Stone Quarry VII	19
Total		150

Table: Employment generation (for Proposed Quarries)

S. No.	Quarry	Manpower
1	Mantrajholla Stone Quarry IV	20
2	Mantrajholla Stone Quarry V	16
3	Mantrajholla Stone Quarry VI	18
4	Mantrajholla Stone Quarry VII	19
Total		73

16. Project cost:

Table: (Mantrajholla Stone Quarry IV)

S. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	1,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution	--	50,000 40,000 10,000

	iii) Soil Pollution iv) Noise Pollution		10,000
3.	Green belt development	24,400	10,000
4.	Maintenance of approach road	65,000	52,000
Total		89,400	2,72,000

Table: (Mantrajholla Stone Quarry V)

S. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	1,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	50,000 40,000 10,000 10,000
3.	Green belt development	24,400	10,000
4.	Maintenance of approach road	1,10,000	52,000
Total		1,34,400	2,72,000

Table: (Mantrajholla Stone Quarry VI)

S. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	1,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	50,000 40,000 10,000 10,000
3.	Green belt development	40,400	10,000
4.	Maintenance of approach road	4,250	52,000
Total		44,650	2,72,000

Table: (Mantrajholla Stone Quarry VII)

S. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	1,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution	--	50,000 40,000 10,000 10,000

	iv) Noise Pollution		
3.	Green belt development	24,400	10,000
4.	Maintenance of approach road	1,72,500	52,000
Total		1,96,900	2,72,000

Table: BUDGET ALLOCATION FOR EMP IMPLEMENTATION (Cluster)

S. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	8,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	50,000 40,000 10,000 10,000
3.	Green belt development	2,39,200	80,000
4.	Maintenance of approach road	6,00,000	4,16,000
Total		8,39,200	14,06,000

Table: CER budget- Cluster

S. No.	Activity	Capital Cost (in Rs.)/annum
1.	Financial aid for medical camp in Mantrajholla village. @ Rs. 10,000/ camp (8 camp in a year).	80,000
2.	Skill development program camps like computer learning, sewing etc. in Mantrajholla village. @Rs 10,000/trainer (8 trainer)	80,000
TOTAL		1,60,000

17. **Environment Consultant:** The Environment consultant **M/s P & M Solution, Noida** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s P & M Solution, Noida** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- According to the concerned Tahasildar, 4 quarries out of the 8 quarries has obtained EC from DEIAA and now they are not in operating stage but might operate in near future. But as per the Notification of 28th April 2023, all proposals that were granted EC by DEIAA, they must be reappraised by SEAC. Clarification in writing as to why the proponent has not applied for all the 8 quarries in the cluster but has only applied for 4 quarries. The proponent has to submit revised EIA/EMP report including all stone quarries in cluster (8 quarries)
- DEIAA had the power to grant EC for the lease area 0-5 ha. But, how DEIAA had granted EC for 4 quarries more than 5 ha. This has to be clarified.

- c) RL of water table in the mineral stone quarry zone comprising of all 8 quarries during summer and rainy season to be provided along with the RL of the surface post mining as per the approved mining plan of each of 8 leases in the cluster.
- d) Nos of proposed blasting per day as per the approved mining plan for all 8 leases under the cluster approach to be presented. The sequence of blasting of each of the leases under the cluster to be presented so that simultaneous blasting in adjacent leases in the cluster do not affect the area in between ML area boundaries.
- e) Geo-coordinates of the mining lease area boundary of each of all 8 leases under the cluster approach superimposed on the cadastral map to be furnished.
- f) Layout of the entire area of 5.665 ha/14.0 Acre of Mantrajholla Stone Quarry (Cluster Approach) indicating the location of all 8 mining leases to be considered under the cluster approach along with location of waste dump, product storage area, route of transportation of the mined mineral products to the market, system of rainwater drainage (Garland drain) etc. of each of the above-mentioned leases along with the location of the proposed STP as per the approved mining plan.

ITEM NO. 04

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR DUMANGDIRI STONE QUARRY-IV PROJECT OVER AN AREA OF 13.456 HA FOR PRODUCTION OF 10070 CUM/YEAR OF STONE AT VILLAGE- DUMANGDIRI, TEHSIL- PANPOSH, DISTRICT- SUNDARGARH OF SRI AKSHAYA KUMAR PRAHARAJ - EC

1. This proposal is for Environmental Clearance for Dumangdiri Stone Quarry-IV project over an area of 13.456 Ha for production of 10070 cum/year of stone at Village- Dumangdiri, Tehsil- Panposh, District- Sundargarh of Sri Akshaya Kumar Praharaj.
2. **Category:** As per EIA notification 2006 and its subsequent amendment thereof, proposed project falls in category B1 under Schedule of item of 1(a)-Mining of Minerals.
3. Dumangdiri Stone Quarry-IV is located at village - Dumangdiri, Tehsil- Panposh, District- Sundargarh in Odisha. The project has been proposed by Sri Akshay Kumar Praharaj and doesn't come under DLC land.
4. The mining lease area was granted for 5 years period vide letter no. 489, dated 14.03.2022.
5. The mining plan has been approved vide letter no 386 Dated 16.03.2022. by Director of Mines Odisha, Bhubaneswar.
6. **TOR details:** TOR letter has been Issued vide letter no. 4561/SEIAA dated 19.05.2022.
7. **Public hearing details:** Public hearing was successfully executed on date 07-11-2022 in Dumangdiri Playground, Dumangdiri Village Under Panposh Tahasil of Sundargarh district. Issues raised during public hearing are air pollution and mitigation measures, surface water bodies and their management, ground vibration and noise, land use patten, livestock and pasture land, employment and agriculture.
8. **Location and connectivity:** The Dumangdiri Stone Quarry- IV comes near village-Dumangdiri, Tehsil-Panposh, District- Sundargarh, Odisha. Geo-graphically the ML area extends from Longitude 84°48'28.80"E to 84°48'41.07"E and Latitude-22°21'25.10"N to 22°21'38.40"N. The

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area falls in Survey of India topo sheet No. F45G15. Nearest Electric Transmission is Line Pole is present in Dumangdiri Village at a distance of 900m from the lease boundary. Nearest Town is Panposh Tehsil is 14.71 Km. from the proposed area towards W. Nearest Airport is Biju Patnaik International Airport is approx 210.0 km towards SSE direction. Nearest Railway Station is Kuarmunda railway station at a distance of 6.4 Km in SSE direction. Nearest River Embankment is present at a distance of 1.1km from the lease boundary. Nearest Sanctuary / National Park /Eco-Sensitive Zone / Elephant Corridor/ Conservation Reserve is Ushakothi Wildlife Sanctuary : Approx 104 km from the lease boundary.

9. **Baseline data:** Meteorological data at the site was monitored during March 2022 to May 2022 representing pre monsoon season.

a) Ambient air quality : The Ambient Air Quality Monitoring reveals that of seven monitoring stations the minimum concentrations of PM₁₀ are 39.59 µg/m³ at AQ7 and maximum 62.54 µg/m³ at AQ3. The results of PM_{2.5} reveal that the minimum concentration of 18.47µg/m³ is recorded at AQ7, while maximum concentration of 30.02µg/m³ is found at AQ3.As far as gaseous pollutants SO₂ and NO_x are concerned, the prescribed CPCB limit of 80 µg/m³ for residential and rural areas had never surpassed at any selected station. The minimum & maximum concentrations of SO₂ are found to be 6.55 µg/m³ at AQ7 and 13.68 µg/m³ at AQ4 respectively. The minimum & maximum concentrations of NO_x are found to be 7.88 µg/m³ at AQ7 and 21.07 µg/m³ at AQ3 respectively.

b) Water quality: To assess the physical and chemical properties of water in the region, ground water samples from six locations& surface water from three locations were collected from various water sources around the mine lease area. The pH of the ground water samples in the region varied from 7.18 to 7.43.The results indicate groundwater is generally in conformity with the drinking water standards (IS: 10500) and surface water is in conformity with IS-2296 standards.

c) Noise Levels: The values of noise observed in some of the areas are primarily owing to vehicular traffic. Assessment of hourly night time Leq (Ln) varies from 32.5 to 44.9 dB (A) and the hourly daytime Leq (Ld) varies from 52.7 to 58.8 dB (A) during the night within the study area. The status of noise quality within the 10 km zone of the study area is, therefore, within the MoEF & CC standards.

d) Soil quality: 07 soil samples were collected in and around the mine lease area to assess the present soil quality of the region. The pH of the soil indicates that the soil is slightly alkaline in nature. Based on the results, it is evident that the soils are not contaminated by any polluting sources.

10. **Topography:** The lease area is undulating land having gentle slope along all direction. The highest elevation of the lease area is 280 mRL towards centre and the lowest elevation is 240 mRL. Thus the maximum difference of 40 meter in altitude. Overall slope of the area is in SW.

11. **Reserves and total production:** The proposed production is 10,070 cu.m/year of stone by opencast Semi-Mechanized Mining Method.

	Category	Recovery Factor (95%)	Quantity in (cum)
Geological Reserves	Proved	0.95	2872422.9
	Probable	0.95	638600.5
	Possible	0.95	638600.5

Total (a)			4149623.8
Mineable Reserve	Proved	0.95	2374650.4
	Probable	0.95	494899.7
Total (b)	-		2869550.1
Total (a+b)	-		7019173.9

Year	Total Production in cum
1 st Year	10070
2 nd Year	10070
3 rd Year	10070
4 th Year	10070
5 th Year	10070
Total	50,350

12. **Mining method:** Mining will be done by opencast semi-mechanized method with adoption of drilling & blasting. Mining will be done by deploying machines like jackhammer, drill compressor, rock breaker, excavator and tractors/trucks. Tipper trucks will be used for transporting stone and waste. Drilling & blasting will be carried out as & when required. Lessee will take all necessary permission and do accordingly DGMS norms. Blasting will be carried out by an employed blaster. Short hole blasting will be practiced.

13. **Water requirement:** The total water requirement will be around 5.50 KLD. This water will be supplied from the nearby area.

Activity	Calculation	Round off Figure KLD
Drinking	@ 10 lpcd per labor $25 \times 10 / 1000 = 0.25$ KLD	0.25 KLD
Dust suppression	Total haulage road to be water sprinkled = 160 m $160 \text{ m} \times 6 \text{ m} \times 0.5 \text{ lt/sqm} \times 2 \text{ times} / 1000 = 0.96$ KLD	0.96 KLD
Plantation	2112 plants in five year @ 2L/per plant = $2112 \times 2 = 4224 / 1000 = 4.224$ KLD	4.224 KLD
Total		5.434 / 5.50 KLD

14. **Waste generation:** A total of 2650 cum waste/rejects is likely to be generated during the plan period. A temporary dump has been proposed on the eastern part of the lease area. The amount of waste generated shall be kept within the lease area for a very short period of time and shall be used for road construction and maintenance time to time. About 0.007 Ha area has been proposed for temporary dump. As the dump shall have only one terrace and the height of dump shall not exceed 8m also the stack shall be for a very short period of time each year hence retaining walls/garland drains are not essential.

Year	Waste /Rejects in cum
1st Year	530
2nd Year	530
3rd Year	530
4th Year	530
5th Year	530
Total	2650

15. Greenbelt:

Year	Green belt Nos.			Total Plantation
	Safety zone	Plantation along Approach road	Plantation at other place in village after consulting local authorities	
1 st	1452	160	100	1712
2 nd	Maintenance	Maintenance	100	100
3 rd			100	100
4 th			100	100
5 th			100	100
Total	1452	160	500	2112

16. **Manpower:** The number of working people required for the proposed project is 25.

17. **Project cost:** Estimated cost of the proposed project is 50 Lakhs. EMP budget includes a capital cost of Rs. 4,62,400 and recurring cost of Rs. 3,26,000

Table: EMP budget

S. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	1,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	50,000 40,000 10,000 10,000
3.	Green belt development	4,22,400	50,000
4.	Maintenance of approach road	40,000	66,000
Total		4,62,400	3,26,000

Table: CER budget

S. No.	Activity	Capital Cost (in Rs.)/annum
1.	Financial aid for medical camp in Dumangdiri village. @ Rs. 25,000/ camp (2 camp in a year).	50,000

2.	Skill development program camps like computer learning, sewing etc. in Dumangdiri village. @Rs 25,000/trainer (2 trainer)	50,000
TOTAL		1,00,000

18. **Environment Consultant:** The Environment consultant **M/s P & M Solution, Noida** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s P & M Solution, Noida** with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- Status of Stone quarry – I, II and III along with distance certificate from concerned Tahasildar from stone quarry – IV.
- Clarify the discrepancy of water requirement and discharging wastewater into nearby Dam in PPT and EIA [as compliance to TOR 9 (ii)].
- The proponent assured (as compliance to TOR 18) to submit the NOC/Certificate from the respective Panchayat to use the road during the final presentation for EC. But they failed to do the same. So, the proponent must submit the same.
- Reduced Level (RL) of the reservoir, RL of ground water level during summer and rainy season as well as RL of surface post mining as per the approved mining plan.
- NOC from Mandira Dam authorities for operation of the mines near to the Dam.
- Details of blasting planning such as numbers of blasting per day, time of each blasting etc.
- Distance from habitation and layout indicating no mining zone towards habitation.

ITEM NO. 05

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR DUMANGDIRI STONE QUARRY - III OVER AN AREA 20.364 HA AT DUMANGDIRI VILLAGE IN PANPOSH TEHSIL, DISTRICT SUNDARGARH OF SRI DULAL CHOUDHARY - EC

- This proposal is for Environmental Clearance for Dumangdiri Stone Quarry - III over an area 20.364 ha at Dumangdiri village in Panposh Tehsil, District Sundargarh of Sri Dulal Choudhary.
- Category:** As per EIA notification 2006 and its subsequent amendment thereof, proposed project falls in category B1 under Schedule of item of 1(a)-Mining of Minerals.
- The Dumangdiri Stone Quarry-III project has been proposed by Sri Dulal Choudhury. The mining plan has been approved vide letter no 1445/Mines Dated 02.07.2020. by Director of Mines Odisha, Bhubaneswar.
- TOR details:** TOR letter has been Issued vide letter no. 4593/SEIAA dated 19.05.2022
- Public hearing details:** Public hearing was successfully executed on date 07-11-2022 at Dumangdiri Playground, Dumangdiri Village Under Panposh Tahasil of Sundargarh district. Issues raised during public hearing are air pollution and mitigation measures, surface water bodies and their management, ground vibration and noise, land use patten, livestock and pasture land, employment and agriculture.
- Location and connectivity:** The Dumangdiri Stone Quarry-III comes near village-Dumangdiri, Tehsil Panposh, District Sundargarh, Odisha. Geo-graphically the ML area extends from

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Longitude 84°47'58.65" E to 84°04'07.14"E and Latitude 22° 22' 08.86"N to 22° 22'27.05" N with an elevation of about 340mRL to 260mRL. The area falls in Survey of India topo sheet No. F45G15. Nearest Electric Transmission Line Pole is present in Dumangdiri Village at a distance of 500m from the lease boundary. Nearest Town is Birmitrapur is at 7.51 Km in NW direction. Nearest Airport is Biju Patnaik International Airport, is approx 210.0 km towards SE direction. Nearest Railway Station is Kaurmunda railway station at a distance of 7.00 Km in SSW. Nearest Highway is NH-143 which is approx 5.54 km in W direction. Nearest river embankment is at a distance of 2.8 Km from the lease boundary.

7. **Baseline data:** Meteorological data at the site was monitored during March 2022 to May 2022 representing pre monsoon season.
 - a) **Ambient air quality:** The Ambient Air Quality Monitoring reveals that of seven monitoring stations the minimum concentrations of PM₁₀ are 39.59 µg/m³ at AQ7 and maximum 62.54 µg/m³ at AQ3. The results of PM_{2.5} reveal that the minimum concentration of 18.47µg/m³ is recorded at AQ7, while maximum concentration of 30.02 µg/m³ is found at AQ3. As far as gaseous pollutants SO₂ and NO_x are concerned, the prescribed CPCB limit of 80 µg/m³ for residential and rural areas had never surpassed at any selected station. The minimum & maximum concentrations of SO₂ are found to be 6.55 µg/m³ at AQ7 and 13.68 µg/m³ at AQ4 respectively. The minimum & maximum concentrations of NO_x are found to be 7.88 µg/m³ at AQ7 and 21.07 µg/m³ at AQ3 respectively.
 - b) **Surface water:** The analysis results indicate that the pH ranges between 7.25 and 7.46. Dissolved Oxygen (DO) was observed in the range of 6.4 to 7.2 mg/l against the minimum requirement of 4 mg/l. BOD values were observed to be in the range of 4.0 - 7.8 mg/l.
 - c) **Ground water:** pH varies from 7.18 at GW1 to 7.43 at GW2 during study period. Total hardness varies from 148.0 mg/l at GW5 to 184mg/l at GW1 during study period. Total dissolved solids vary from 386.0 mg/l at GW5 to 502 mg/l at GW4 during study period.
 - d) **Noise Level:** The values of noise observed in some of the areas are primarily owing to vehicular traffic. Assessment of hourly night time Leq (Ln) varies from 32.5 to 45.6 dB (A) and the hourly daytime Leq (Ld) varies from 52.7 to 58.8 dB (A) during the night within the study area. The status of noise quality within the 10 km zone of the study area is, therefore, within the MoEF & CC standards.
 - e) **Soil quality:** 07 soil samples were collected in and around the mine lease area to assess the present soil quality of the region. The pH of the soil indicates that the soil is slightly alkaline in nature. Based on the results, it is evident that the soils are not contaminated by any polluting sources.
8. **Reserves and total production:** As estimated Geological Reserves and Mineable Reserve of the proposed project is 7446576.9 and 3956682.6 cum respectively.

	Category	Recovery Factor (95%)	Quantity in (cum)
Geological Reserves	Proved	0.95	4674358.3
	Probable	0.95	1833942.8
	Possible	0.95	938276.2
Total (a)	-	0.95	7446576.9
Mineable Reserve	Proved	0.95	3077880.3

	Probable	0.95	878802.3
Total (b)	-		3956682.6
Total (a+b)	-		11403259.5

Year	Volume of Rock Mass in cum	Volume of waste rock mass @ 5%: m ³	Vol. of Usable Rock mass(95%) m ³	Total Production in cum
1 st Year	10530	526.5	10004	10004
2 nd Year	10530	526.5	10004	10004
3 rd Year	10530	526.5	10004	10004
4 th Year	10530	526.5	10004	10004
5 th Year	10530	526.5	10004	10004
Total	52650	2632.5	50020	50020

9. **Mining method:** Mining will be done by opencast semi-mechanized method with adoption of drilling & blasting. Mining will be done by deploying machines like jackhammer, drill compressor, rock breaker, excavator and tractors/trucks. Tipper trucks will be used for transporting stone and waste. Drilling & blasting will be carried out as & when required. Lessee will take all necessary permission and do accordingly DGMS norms. Blasting will be carried out by an employed blaster. Short hole blasting will be practiced.
10. **Water requirement:** the water requirement for workers for drinking purpose will be around 0.25 KLD & the total water requirement will be around 11.50 KLD. This water will be supplied from the nearby area.

Purpose	Total (in KLD)
Domestic & drinking	0.25
Dust suppression	3.72
Green belt development	7.47
Total	11.44-11.50 KLD

11. **Waste generation:** A total of 2632.5 cum waste/rejects is likely to be generated during the plan period. Considering swell factor of 1.2 the total broken volume of waste will be 3159 cum which will be dumped in the dumping site which will cover an area of 360 sqm, so the dump height will be 10 m. Depending upon the essentially about 70 % of these waste/rejects will be utilized concurrently for backfilling and construction and maintenance of road in the lease area

Year	Waste /Rejects in cum
1st Year	526.5
2nd Year	526.5
3rd Year	526.5
4th Year	526.5
5th Year	526.5
Total	2632.5

12. Greenbelt:

Year	Greenbelt Nos.			Total Plantation
	Safety Zone Area	Plantation along approach road	Plantation at other places in village after consulting local authorities	
1st	2615	620	100	3335
2nd	Maintenance			100
3rd				100
4th				100
5th				100
Total				2615

13. **Manpower:** The number of working people required for the proposed project is 25.

14. **Project cost:** Total cost of the project is 50 Lakhs. EMP budget includes a capital cost of Rs. 9,02,000 and recurring cost of Rs. 3,26,000.

Table: BUDGET ALLOCATION FOR EMP IMPLEMENTATION

S. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	1,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	50,000 40,000 10,000 10,000
3.	Green belt development	7,47,000	50,000
4.	Maintenance of approach road	1,55,000	66,000
Total		9,02,000	3,26,000

Table: CER cost

S. No.	Activity	Capital Cost (in Rs.)/annum
1.	Financial aid for medical camp in Dumangdiri village. @ Rs. 25,000/ camp (2 camp in a year).	50,000

2.	Skill development program camps like computer learning, sewing etc. in Dumangdiri village. @Rs 25,000/trainer (2 trainer)	50,000
TOTAL		1,00,000

15. **Environment Consultant:** The Environment consultant **M/s P & M Solution, Noida** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s P & M Solution, Noida** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent:

- a) Status of Stone quarry – I, II and IV along with distance certificate from concerned Tahasildar from stone quarry – III.
- b) Clarify the discrepancy of water requirement and discharging wastewater into nearby Dam in PPT and EIA [as compliance to TOR 9 (ii)].
- c) The proponent assured (as compliance to TOR 18) to submit the NOC/Certificate from the respective Panchayat to use the road during the final presentation for EC. But they failed to do the same. So, the proponent must submit the same.
- d) Reduced Level (RL) of the reservoir, RL of ground water level during summer and rainy season as well as RL of surface post mining as per the approved mining plan.
- e) NOC from Mandira Dam authorities for operation of the mines near to the Dam.
- f) Details of blasting planning such as numbers of blasting per day, time of each blasting etc.
- g) Distance from habitation and layout indicating no mining zone towards habitation.

ITEM NO. 06

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR BRAHMANI RIVER SAND QUARRY KATENI (KATENI SAND QUARRY) OVER AN AREA OF 12.50 ACRES/ 5.06 HA. AT VILLAGE - KATENI, TAHASIL - KAMAKHYANAGAR, DISTRICT – DHENKANAL OF SRI. MANORANJAN PATRO - EC

1. This proposal is for Environmental Clearance for Brahmani river sand quarry Kateni (Kateni Sand quarry) over an area of 12.50 acres/ 5.06 Ha. at Village - Kateni, Tahasil - Kamakhyanagar, District – Dhenkanal of Sri. Manoranjan Patro.
2. **Category:** As per the EIA Notification,2006 and its subsequent amendments, this project falls in category B under Schedule of activity 1(a)- Mining of Minerals.
3. Intimation of Successful Bidder has been given to Sri Manoranjan Patro, vide letter no. 1489 on dated 29/03/2022.
4. The Mining plan has been approved by the Joint Director Geology Zonal Survey Dhenkanal vide letter no. 423 dated 29.04.2020.
5. The mining lease area is listed as an identified sand minor mineral in the DSR, Serial no – 26 of the Dhenkanal district.

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Environmental Scientist, SEAC

6. **TOR Details:** Terms of Reference (TOR), was issued by SEIAA, Odisha vide letter no 5185 dated: 19.8.2022.
7. **Public hearing details:** Public Hearing was conducted on 18.11.2022 at 11:00 AM at Kateni Bada Talia Chhak under Tahasil- Kamakhyanagar of Dhenkanal district. News Paper advertisement was given on Odia daily "Dharitri" and English Daily "Indian Express" dated 15.10.2022. The public hearing in respect of the above project was held on 18.11.2022 as per schedule and the venue in accordance with the EIA notification S.O.1533 (E) dt.14.09.2006 near to lease area. Issues raised during public hearing of this project are scarcity of sand, employment to local people and road maintenance. The budget incurred for the action plan of public hearing is Rs.3,50,000.
8. Brahmani Sand Quarry is a sand mining project over an area of 12.50 acres/ 5.06 Ha. located in village - Kateni , Tahasil - Kamakhyanagar in District -Dhenkanal of Odisha. The mining lease granted by Tahasildar, Kamakhyanagar, Dhenkanal and has been auctioned and leased out to the successful bidder Sri. Manoranjan Patro, At/PO – Alipur, PS – Aska, Dist – Ganjam after obtaining statutory clearances. The mining lease will be granted on for long term basis for 5 years and the lease period will start from the date of registration of executed lease deed.
9. **Location and connectivity:** The area under discussion is featured in Survey of India Topo Sheet No – (F45T5, F45T6, F45T9, F45T10) and is bounded between the Latitude -20° 46' 33.37" N to 20° 46' 38.58" N & Longitude – 85° 29' 08.14" E to 85° 29' 19.45" E. The Lease area is located at a distance of 19 km from Dhenkanal town, 17 km from Tehsil Kamakhyanagar and 68 km from the State Capital Bhubaneswar. Mahadia Railway Station is the nearest railway station located at a distance of 2.9 km from the lease area in south direction. Metal road connecting to the lease area with the at distance of 1.25 km. NH – 42 is the nearest national highway which is at distance of 4.3 km in South direction.
10. There is no National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/ Elephant Reserves (existing) is situated within 10km of the mining lease area.
11. **Reserves and production:** The total geological reserve has been estimated as 182160 m³. Similarly, the mineable reserve of river bed sand is worked out to be 94276 m³. The project has been proposed for a total production of 94250 m³ of Sand from this Quarry. During the plan period average of 18850 Cum of sand will be produced per annum by Open Cast Semi mechanized mining method. Excavation and loading of sand into the dumpers and tipper/tractors.
12. **Mining Method:** The sand will be excavated by open cast semi mechanized method and thickness of sand deposit for mining is taken as 2.0m. Mining will be done with semi - mechanized method of excavation & loading into Haiwa/Trucks/tippers for transport to the user's destination. The mining will be undertaken on single shift basis. Keeping in view of the market demand and resource availability in respect of reserves, proposed sand quarry is scheduled to produce @ 18,850 cum/year for the plan period
13. **Replenishment study:** As per the replenishment study, Estimated Minable area is 43646 Sq.m. Pre-Monsoon and Post-Monsoon Standard Elevation are 45.02 and 45.83 respectively. Difference in Elevation is 0.81. Estimated Annual replenishment Volume is 35353.26 m³. Calculated basing on the availability of minable area in the post monsoon study is 36461 m² so that Safe available mineable volume will be 29533.41 m³. The Annual proposed production is 18850 cubic meters.

14. Baseline details: One season data of ambient air quality, water quality, noise level, meteorology, soil and flora and fauna has been collected during pre-monsoon season March 2022 to May 2022.

a) **Air Quality:**

PM₁₀:- The maximum value for PM₁₀ observed at near NH 42 location 74.2 µg/m³ and minimum value for PM₁₀ observed at Kantapal Village 52.8 µg/m³. The 24 hours applicable limit for industrial, Residential Rural and Other Areas is 100 µg/m³.

PM_{2.5}:- The maximum value for PM_{2.5} observed at near NH 42 location 37.1 µg/m³ and minimum value for PM_{2.5} observed at Kantapal Village 31.2 µg/m³. The 24 hours applicable limit for industrial, Residential Rural and Other Areas is 60 µg/m³.

SO₂:- The maximum value for SO₂ observed at near NH 42 location 8.9 µg/m³ and minimum value for SO₂ observed at Kantapal Village 4.3 µg/m³. The 24 hours applicable limit for industrial, Residential Rural and Other Areas is 80 µg/m³.

NO_x:- The maximum value for NO₂ observed at near NH 42 location 15.9 µg/m³ and minimum value for NO₂ observed at Kantapal Village 6.2 µg/m³. The 24 hours applicable limit for industrial, Residential Rural and Other Areas is 80 µg/m³.

CO:- The maximum value for CO observed at near NH 42 location 0.71 mg/m³ and minimum value for CO observed at Kantapal Village 0.33 mg/m³. The 24 hours applicable limit for industrial, Residential Rural and Other Areas is 4 mg/m³.

- b) **Ground Water:** The analysis results of ground water samples showed the pH in range of 7.02-8.5 which are with the specified standard limits of 6.5 to 8.5. Color and turbidity of the samples < 1.0 Hazens and <5.0 NTU respectively. The total hardness of the samples ranged from 269 mg/l – 367.2 mg/l. Calcium and magnesium concentrations ranged from 45.6 mg/l -59.5 mg/l and 12.6 mg/l –16.08 mg/l respectively. The total dissolved solids of the samples ranged from 484.4 mg/l – 645.8 mg/l. The TDS values are within the stipulated 2000 mg/l Range of chlorides and sulphates concentrations ranges from 43.8 mg/l- 70 mg/l and 34.4 mg/l – 66.8 mg/l respectively. Fluoride concentration ranged from 0.06 mg/l – 0.38mg/l and is found to be within the permissible limits. Iron concentrations in ground water varied from 0.03-0.3 mg/l. Zinc levels varied from 0.61mg/l to 0.82 mg/l respectively. Aluminium concentration in ground water is <0.01 mg/l at all locations.
- c) **Surface Water:** The analysis results indicate that pH and total coliform of the surface water was found to be in range of 7.6 – 8.2 and 4500 - 4600 MPN/100ml.
- d) **Soil Quality:** It has been observed that the pH of the soil in the study area ranged from 7.21 to 7.48. The electrical conductivity was observed to be in the range of 348.6 µmhos/cm to 361.3 µmhos/ cm. The total nitrogen values range between 369 to 210 mg/kg. The phosphorus values range between 17 to 37 mg/kg, indicating that the phosphorus content in the study area falls in less to medium category. The potassium values range between 78.5 – 81 mg/kg.
- e) **Noise Quality:** The daytime (Leqday) noise levels are observed to be in the range of 49.7 –54.6 dB(A) which are within the prescribed limit of 55 dB(A). The maximum noise level of 54.6 dB (A) was observed at near NH 42 and the minimum noise level of 49.7 dB(A) was observed at Village Kateni during the study period. It is observed that the day time noise levels are in accordance to the prescribed limit of 55 dB (A). The nighttime (Leqnight) Noise levels are observed to be in the range of 41.8 – 44.9 dB(A) Which are within the prescribed limit of 45 dB(A). The maximum noise level of 44.9 dB (A) was observed at near NH 42 and the minimum noise level of 41.8 dB (A) at Village Kateni during the study period. It has been found that the night time noise levels are in accordance to the prescribed limit of 45 dB (A).

15. **Water Requirement:** Water requirement for the project will be 3.0 KLD. Water required in the project will be for drinking purpose and dust suppression, which will be sourced from water tanker. NOC will be obtained from Gram Panchayat.
16. **Mine Drainage:** The shallow depth excavation on dry/ nominally wet sand has been proposed, which will have negligible or no impact on drainage. Abandoned stream channels on terrace and inactive flood plains have been preferred rather than active channels.
17. **Power Requirement:** No use of electric power as the operation will be done in day time.
18. **Employment Potential:** Employment Generation from the project is 16 nos. of people. 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. **Greenbelt:** Greenbelt will be developed in the buffer zone of mine lease area and village haulage roads side also. It is proposed for planting 250 saplings suitable per annum by the lessee in vicinity of the riverbank and haulage road side. Plantation shall be done with suitable local species like teak, mango, Jammu, jhaun, neem etc. per year and along the approach road during the plan period.
20. **Project cost:** The project cost is estimated to be Rs. 40.0 lakhs and there is a budgetary provision of EMP is Rs.4.7 lakhs as capital cost and Rs.2.35 Lakhs as recurring cost

S. No.	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1.	Air pollution Control: Dust Suppression/ Water Sprinkling	30,000	1,00,000
2.	Road Maintenance	50,000	60,000
3.	Greenbelt	40,000	25,000
4.	Personal Protective Equipment	-	20,000
5.	Environmental monitoring	-	30,000
6.	Addressal of Public Hearing issues	3,50,000	-
Total		4,70,000/-	2,35,000

21. **Environment Consultant:** The Environment consultant **M/s Parivesh Environmental Engineering Services, Lucknow** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, consultant **M/s Parivesh Environmental Engineering Services, Lucknow** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- Layout of alternative road duly certified by the concerned Tahasildar and undertaking for not using the village road for transportation.
- Rectify the proposed no. of working days in mining of sand.

ITEM NO. 07

PROPOSAL FOR AMENDMENT OF ENVIRONMENTAL CLEARANCE OF M/S ASTROZ CREATORS PVT. LTD. FOR RESIDENTIAL BUILDING PROJECT (S+5) STORIED AT MOUZA-SATYABHAMAPUR, TAHASIL- BALIANTA, DIST- KHORDHA, ODISHA OF SRI SANJAY KUMAR MOHARANA – MOD EC.

1. This proposal is for amendment of Environmental Clearance of M/s Astroz Creators Pvt. Ltd. for Residential Building Project (S+5) storied at Mouza- Satyabhamapur, Tahasil- Baliana, Dist- Khordha, Odisha of Sri Sanjay Kumar Moharana.
2. **Category:** This project falls under Category “B”, Project or Activity 8(a) Building and Construction projects as per EIA Notification dated 14th Sep, 2006 as its amendments.
3. **Project details:** M/s Astroz Creators Pvt. Ltd. had earlier applied for Environmental Clearance (File No.- 213302/38-MIS/05-2021) for the proposed residential building with B+G+4 storied with built up area of 22250.248 sqm. Environmental Clearance had been granted by SEIAA to the proposed residential building then through EC Identification No.- EC22B038OR127553 dated 06.04.2022 for a period of 7 (Seven) years. Now, the commercial area of the proposed project is being changed for residential purpose. The built-up area of the residential building has been revised from 22250.248 sqm to 24390.045 sqm and the configuration of the proposed building has been changed to S+5 storied (2 blocks).
4. Approval from BDA has been taken vide Letter No- BNB/NOC/2023/010,Dt. 20/04/2023
5. **Location and Connectivity:** The proposed project is located at Plot No-612, 557, 556, Khata No - 277/94 & 277/191 in Mouza- Satyabhamapur, Tahasil- Baliana District – Khordha, Odisha bounded by Latitude 20°14' 45.08" N and Longitude 85° 53' 30.17" E. The Project Site is a part of the Survey of India Toposheet No. F45T15. The geographical co-ordinates of project site are Latitude 20° 14' 43.28" N to 20° 14' 46.84" N and Longitude 85° 53' 29.11" E to 85° 53' 32.24" E. The project site is located at a distance of 0.04 km from mouza Satyabhamapur and 7.1 km from tahasil Baliana. Khordha District is at a distance of 29.0 Km. NH-316 is at a distance of 3.5 km. Baichuan Road is at a distance of 0.07 km. Bhubaneswar town is located at a distance of 9.0 km. Biju Patnaik Airport is at a distance of 7.8 km. Bhubaneswar Railway station is at a distance of 5.6 km. Bhubaneswar Fire Station is located at a distance of 5.5 km and Bhubaneswar govt. hospital is located at a distance of 7.4 km from the project site.

6. Project Area Details:

S. No	Details of Land Use	Area in Sqm
1.	Plot Area	8052.12
2.	Net Site Area	7765.33
3.	Total Proposed FAR Area	18650.31
4.	Total Proposed Non-FAR Area	5739.735
5.	Total Built-up Area	24390.045
6.	Total Green Area	1553.06
7.	Height of the Building	14.75

7. Environmental Clearance Amendment details:

S.No.	Details of Residential Building	Previous Configuration (EC granted by SEIAA)	Proposed Configuration
1.	No. of Floors	B+G+4 (Blocks A & B)	S+5 (Blocks A & B)

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2.	Built up Area	22250.248 sqm	24390.045 sqm
3.	Building Height	14.75 m	14.75 m
4.	Total Water Requirement	123.0 KLD	137.0 KLD
5.	Fresh Water Requirement	58.0 KLD	81.0 KLD
6.	STP Capacity	85 KLD	130 KLD
7.	STP Technology	MBBR	MBBR
8.	Treated Waste water	65 KLD	96 KLD
9.	Total Green Belt Area	805.0 sqm (10.0%)	1553.06 sqm (20.0%)
10.	Total Parking Area	6007.458 sqm	5724.39 sqm
11.	Recharge pits	23 Nos.	23 nos.

7. Parking Area: Parking Required as per BDA is (30% of Proposed F.A.R) 5595.09 sqm. The total parking required for the project is 5595.09 sqm and the total parking area provided is 5724.39 sqm. Visitor's parking provided is 559.50 sqm. Total ECS provided is 181 nos.

8. Water Requirement/STP: Total water of 123 KLD will be required for the residential building which will be sourced from Ground Water. Fresh water required is 81 KLD. NOC from CGWA is obtained vide NOC No. CGWA/NOC/INF/ORIG/2021/10631 for 63.0 KLD and NOC for additional water is applied to CGWA. It is expected that the project will generate approx. 107.0 KLD of wastewater. The wastewater will be treated in the STP with MBBR Technology of capacity of 130.0 KLD provided within the plot boundary.

S.NO	REQUIREMENT	QUANTITY (KLD)
1	Domestic Water	81
2	Flushing Water	42
	Total	123

9. Solid Waste Management: Total solid waste generation will be 482 Kg/Day. Garbage will be 467.35 Kg/Day in which Biodegradable Waste 280.41 Kg/Day @ 60% will be treated in In-house Organic Waste Converter and Non-Biodegradable waste 186.94 Kg/Day @ 40% will be Sent to Authorized Vendors as per SWM Rules 2016. Landscape waste will be 0.077 Kg/Day. STP Sludge generation will be 14.98 Kg/day

WASTE SOURCE	DISPOSAL
Garbage – 467.35 Kg/day	<ul style="list-style-type: none"> ▪ Segregation at Source & Disposed properly as per SWM Rules 2016 ▪ Bio-Degradable – 280.41 Kgs/day – Organic Waste Converter ▪ Non-Bio-Degradable – 186.94 Kgs/day – (Authorized Recyclers/vendors)
STP Sludge – 14.98 Kg/day	<ul style="list-style-type: none"> ▪ Which is used as manure
Landscape waste - 0.077	<ul style="list-style-type: none"> ▪ Which is used as manure

10. Rainwater Harvesting: Rain Water will be harvested through 7 nos. of Rain Water recharging pits.

Rainwater Harvesting				
Type of Area	Area (in m ²)	Coefficient of run-off	Peak rainfall intensity during one hour of rainfall (in m)	Rain water harvesting potential/hour (in m ³)
Roof-top area	5599.64	0.95	0.027	143.63
Green Area	1553.06	0.10	0.027	4.19
Paved area	899.42	0.80	0.027	19.43
Total storm water load on the site with per hour retention is				167.25
Considering 15 minutes retention time, total storm water load				41.8
Taking the radius as 1.5 m and effective depth as 3.0 m , volume of a RWH pit (πr^2h)				6.3
Hence no. of pits required in approx = Total storm water load considering 15 minutes retention time / Volume of a RWH pit				7 nos

11. Power Requirement: The total consolidated electrical load estimate for proposed project is about 595.63 KW which will be sourced from TPCODL. Power backup in case of grid failure will be by 1 nos. of DG set of 250 KVA.

12. Renewable energy / Solar Power Generation: Solar power generation is 32 KW (5.4%) with PV solar panels. This will be utilized for solar assisted water heating system.

Description	Energy Required (KW)	Energy Saved (KW)	Energy Saved (KW) in %
Compact Fluorescent Lamp(CFL)	152	152	35.7
Light Emitting Diodes (LED)	78		
Conventional Street Lights	3.12	2.88	
Solar Street Light	2.88		
Electrical Water Heaters	198	58	
Solar Water Heaters	87		
Other Energy Requirements	74.63	-	
Total Energy Requirement in Project	595.63	212.88	

13. Green Belt Development: Green belt will be developed over an area of 1553.06 Sqm (20.00%) of the plot area; by planting 100 nos. of the local species like Eucalyptus, Mango, Neem, Daffodils, Night Blooming Jasmine.

14. Firefighting Arrangements: The height of the building is upto 14.75 mts. Firefighting system will be installed as per recommendation of Odisha Fire Service Department and as per the guideline of NBC. NOC for the same is applied to and is in process.

15. Traffic Study: Traffic Composition after development of the project will be very good. Traffic study report was prepared by School of Civil Engineering, KIIT Deemed to be University, Bhubaneswar.

16. Project cost: The project cost is estimated to be Rs. 48 crores and there is a budgetary provision of Rs.48 Lakhs as capital cost and Rs.10 Lakhs as recurring during operational phase towards environmental protection measures.

S.No	Activity	Capacity /Area/Nos.	Capital Cost (Lakhs)	Recurring Cost (Lakhs)
1	STP	130 KLD	30.0	5.0
2	Landscaping & Planting trees	100.0	3.0	1.0
3	Solid waste Management	482 Kg/Day	5.0	1.5
4	RWH Pit Installation	23.0	5.0	1.0
5	Environmental Monitoring*	Air, Water, Soil & Noise	5.0	2.0
Total			48.0	10.0

17. Environment Consultant: The Environment consultant **M/s Rightsource Industrial Solutions Pvt. Ltd., Hyderabad** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s Rightsource Industrial Solutions Pvt. Ltd., Hyderabad** along with the project proponent, the SEAC recommended the following:

A. The proponent may be asked to submit the following for further processing of EC application:

- a) Previous EC conditions compliance certificate from Regional Office, MoEF&CC, Govt. of India.
- b) NOC/permission from concerned authority for drainage to discharge treated water to public drain.
- c) Ensure that the differences between the reduced level of bottom of rainwater harvesting pits and the reduced level of ground water during rainy season are adequate for effective discharge of collected rainwater and submit the report along with correct total no. of rainwater harvesting pits.
- d) Comparative statements of all the physical and environmental parameters in tabular form of both previous project for which EC obtained and proposed modification for which EC applied.

B. The proposed site shall be visited by Sub-Committee of SEAC to verify the followings

- i) Environmental settings of the project site.
- ii) To ensure how much construction activities has been completed.
- iii) Road connectivity to the project site.
- iv) Drainage network at the site.

- v) Discharge point for discharge of treated water and distance of the discharge point from the project site.
- vi) Any other issues including local issues.

ITEM NO. 08

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR BENIPALLI & GIRISOLA SAND QUARRIES CLUSTER OVER AN AREA OF 30.750 ACRES OR 12.4445 HECTARES IN VILLAGE BENIPALLI & GIRISOLA, TAHASIL BELLAGUNTHA, DISTRICT GANJAM OF TAHASILDAR BELLAGUNTHA - EC (SUBMITTED UNDER CLUSTER APPROACH WITH CONSISTING OF 2 SAND QUARRIES)

1. This proposal is for Environmental Clearance for Benipalli & Girisola Sand Quarries Cluster over an area of 30.750 acres or 12.4445 hectares in village Benipalli & Girisola, Tahasil Bellaguntha, District Ganjam of Tahasildar Bellaguntha.
2. **Category:** As per the EIA notification 2006 and its subsequent amendment, proposed project fall in category B1 under Schedule of item 1(a)-Mining of Minerals.
3. **Project details:** Girisola & Benipalli Sand Quarry is located at Village- Girisola & Benipalli, Tehsil- Bellaguntha, District- Ganjam, State- Odisha. The project is proposed by Tahasildar Bellaguntha on the behalf of Successful Bidder.
4. The proposed project is in cluster situation as one other lease lies within 500 m radius of lease & total lease area becomes greater than 5 ha.
5. LOI has been issued for Girisola and Benipalli vide letter no 2859 dated 21.09.21 and vide letter no 1486 and 26.04.2022 respectively.
6. Mining plan is approved for Girisola and Benipalli vide letter no 1199 dated 02.12.2021 and vide letter no 361 dated 28.03.2022 by Deputy Director, Geology, South zone, Berhampur respectively.
7. **TOR details:** Terms of Reference (ToRs) was granted by SEIAA, Odisha vide letter no 5175 dated 19.08.2022(For Girisola) and vide letter no 5173 dated 19.08.2022(For Benipalli).
8. **Public hearing details:** Public hearing was successfully executed on date 31.01.2023 at 11:00 AM over the vacant Land adjacent to Gram Panchayat Office, Benipalli in Khata Mo. 858, Plot No. - 149, under Bellaguntha Tahasil of Ganjam District. Issues raised during public hearing are transportation of sand and maintenance of these roads, transporting vehicles shall be covered with tarpaulin and community development. Budget for issues raised in Public Hearing has been shown under CER Budget (Rs.120000) and EMP budget towards maintenance of road and dust suppression.
9. **Location and connectivity:** The mine lease area is located in Village- Girisola & Benipalli, Tehsil- Bellaguntha, District- Ganjam, Odisha is on Khata No. 970, & Plot No. 01, of Girisola, & Khata No. 859 & Plot No- 210 & 211, of Benipalli of Barha river covered in the Survey of India Topo Sheet No – 74A/9 and is bounded between the Latitude - 19°50'23.10"N to 19°51'00.95"N and Longitude – 84°37'32.80"E to 84°37'35.73"E. Nearest Railway Station is Khalikote Railway Station, approx 38.22 km towards ESE direction.; Nearest Airport is Biju Patnaik International Airport is approx 130.0 km towards NE direction; Nearest Highway: SH-30 is approx 2.50 km in E direction; NH-157 is approx 3.30 km in W direction; SH-21 is approx 4.50 km in N direction.

Nearest ecological sensitive areas are Bishnuchakra Reserve Forest, approx. 3.50 Km E; Dumdumi East Reserve Forest, approx. 8.40 Km SW; Malati Reserve Forest, approx. 9.50 Km SSW; Kaliamba Reserve Forest, approx. 6.50 Km WNW and Tilki Reserve Forest, approx. 9.85 Km NW.

10. **Topography:** The Sand bed is on the Barha River. The river flows from West-East direction along the quarry lease area. The quarry lease area is present about 1.0 km towards the NE of the village Girisola. The proposed area is more or less flat with highest elevation of 44m above msl. The Sand bed is on the Barha River. The river flows from South-North direction along the quarry lease area. The quarry lease area is present about 0.4 km towards the SW of the village Benipalli. The proposed area is more or less flat with highest elevation of 59m above msl.
11. **Replenishment study:** The volume of sand available in Girisola sand quarry after post monsoon study is around 31245.28 m³, which can be treated as safe extractable within the framework of the study after arrival of river level. As it is a new mine no excavation has done in this year. So, total minable reserve available for mining is 35506 + 31245.28 = 66,751.28 m³ whereas, approved production capacity for the year is 5000 m³. the volume of sand available in Benipalli sand quarry after post monsoon study is around 37755.48 m³, which can be treated as safe extractable within the framework of the study after arrival of river level. As it is a new mine no excavation has done in this year. So, total minable reserve available for mining is 37755.48 + 57789 = 95,544.48 m³ whereas, approved production capacity for the year is 7500 m³.
12. **Reserves and production:** As estimated, geological and mineable reserves of the proposed project (Benipalli) is 77730 and 57789 cum respectively while for Girisola, geological and mineable reserves is 41954 and 35506 cum respectively.

Year	Surface area of sand (m ²)	Thickness of Sand (m)	Volume in cum	Recovery factor (100%)	Production of Sand in (m ³ /annum)
Girisola Sand Quarry					
1 st	5000	1.0	5000	1.0	5000
2 nd	5000	1.0	5000	1.0	5000
3 rd	5000	1.0	5000	1.0	5000
4 th	5000	1.0	5000	1.0	5000
5 th	5000	1.0	5000	1.0	5000
Total					25000
Benipalli Sand Quarry					
1 st	5000	1.5	7500	1.0	7500
2 nd	5000	1.5	7500	1.0	7500
3 rd	5000	1.5	7500	1.0	7500
4 th	5000	1.5	7500	1.0	7500
5 th	5000	1.5	7500	1.0	7500
Total					37500

13. **Baseline study:** The data collected during the month of March 2022 to Dec. 2022 & data collected has been used to understand the existing environment scenario around the proposed Quarry against which the potential impacts of the project can be assessed.
- a) **Ambient Air Quality :** Ambient Air Quality Monitoring reveals that the minimum & maximum concentrations of PM10 for all the 8 AQ monitoring stations were found to be 50.12 $\mu\text{g}/\text{m}^3$ at AQ8 and 88.32 $\mu\text{g}/\text{m}^3$ at AQ1, respectively. The minimum & maximum concentrations of PM2.5 were found to be 22.62 $\mu\text{g}/\text{m}^3$ at AQ8 and 46.25 $\mu\text{g}/\text{m}^3$ at AQ1, respectively. As far as the gaseous pollutants SO_2 and NO_x are concerned, the prescribed CPCB limit of 80 $\mu\text{g}/\text{m}^3$ for residential and rural areas has never surpassed at any station. The minimum & maximum concentrations of SO_2 were found to be 6.05 $\mu\text{g}/\text{m}^3$ at AQ8 & 10.28 $\mu\text{g}/\text{m}^3$ at AQ1, respectively. The maximum & minimum concentrations of NO_x were found to be 10.19 $\mu\text{g}/\text{m}^3$ at AQ8 & 20.23 $\mu\text{g}/\text{m}^3$ at AQ1, respectively. The maximum & minimum concentrations of CO were found to be 0.31 mg/m^3 at AQ8 & 1.20 mg/m^3 at AQ1, respectively.
- b) **Noise quality:** Noise monitoring was carried out at six locations. The results of the monitoring program indicated that both the daytime and nighttime levels of noise were well within the prescribed limits of NAAQS, at all the 8 locations monitored.
- c) **Water quality:** The ground water from all sources remains suitable for drinking purposes as all the constituents are within the limits prescribed by drinking water standards promulgated by Indian Standards IS: 10500. From the Surface water analysis, it is evident that most of the parameters of the samples comply with 'Category 'C' standards of CPCB indicating their suitability for Drinking water source after conventional treatment and disinfection.
- d) **Soil quality:** Samples collected from identified locations indicate the soil is sandy type and the pH value ranging from 7.39 to 7.89, which shows that the soil is alkaline in nature.
14. **Mining method:** The sand will be excavated by open cast manual method. Since the depth of mining is 1.0m for Girisola Sand Bed & 1.50m for Benipalli Sand Bed, excavator, handpicks, spade, hand shovel will be used by laborers for extracting & loading of sand. Benching parameters is not feasible in case of sand mining. The maximum depth of mining will be 1.0m for Girisola Sand Quarry & 1.50m for Benipalli Sand Quarry. The mine will be developed in North to South direction. At the end of plan period the quarry floor will be 54 m RL for Girisola Sand Bed & 59 m RL for Benipalli Sand Bed.
15. **Water requirement:** The water requirement for workers for drinking purpose will be around 0.36 KLD & the total water requirement will be around 15.44 or 16.00 KLD. This water will be supplied from the nearby area.

Activity	Calculation	Round off Figure in KLD
Drinking	@ 10 lpcd per labor $10 \times 36 / 1000 = 0.36$ KLD	0.36
Dust Suppression	Total approach road to be water sprinkled = 2100 m $2100 \text{ m} \times 6 \text{ m} \times 0.5 \times 2 \text{ times} / 1000 = 12.60$ KLD	12.60
Plantation	1240 plant (during plan period) @ 2 L/per plant = $1240 \times 2 \text{ lts} = 2480 / 1000 = 2.48$ KLD	2.48
Total		15.44 ~ 16.00

16. **Greenbelt:** A time bound progressive green belt plan is given in cluster.

Year	No of plants along both side of approach road	No. of plants in buffer zone consulting local authorities	Location	Species
1 st	1050	190	Approach road –1050 nos. – along both sides 1.05 km of approach road at spacing of 2 m. Village area – 190 nos. In village area like school premises, Aangawadi, Panchayat bhavan	Guava, mango, Jamun, jhaun, neem etc
2 nd	Maintenance			
3 rd				
4 th				
5 th				
Total	1050	190		
Total	1240			

17. **Manpower:** The number of working people required for the proposed project is 36(14 nos of persons -Girisola; nos of persons 22-Benipalli).

18. **Project cost:** Total Cost of the project will be Rs 60 Lakhs (Girisola Sand Quarry= Rs. 30 Lakhs + Benipalli Sand Quarry= Rs. 30 Lakhs). CER cost will be 2.0% of the total amount i.e., 1,20,000/- Rs. 2,36,000 is budget for Occupational Health.

Table: Budget allotted for the Environmental Management Plan for Girisola Sand Quarry

Sl. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	1,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	50,000 40,000 20,000 10,000
3.	Green belt development	1,23,200	50,000
4.	Maintenance of haul road	2,62,500	75,000
Total		3,85,700	3,45,000

Budget allotted for the Environmental Management Plan for Benipalli Sand Quarry

Sl. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	1,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	50,000 40,000 20,000 10,000
3.	Green belt development	1,24,800	50,000

4.	Maintenance of haul road	2,62,500	62,400
Total		3,87,300	3,32,400

Budget allotted for the Environmental Management Plan for Cluster

Sl. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	2,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	1,00,000 80,000 40,000 20,000
3.	Green belt development	2,48,000	1,00,000
4.	Maintenance of haul road	5,25,000	1,37,400
Total		7,73,000	6,77,400

Table: CER cost

S. No.	Activity	Capital Cost (in Rs.)/annum
1.	Financial aid for medical camp in Girisola & Benipalli village. @ Rs. 15,000/ camp (4 camp in a year)	60,000
2.	Skill development program camps like computer learning, sewing etc. in Girisola & Benipalli village. (In Both Village) @Rs 30,000/trainer (2 trainer)	60,000
TOTAL		1,20,000

19. **Environment Consultant:** The Environment **M/s P & M Solution, Noida** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s P & M Solution, Noida** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- a) Latest KML file as the KML file was old one.
- b) Live video of site and also showing approach road.
- c) Details of all mines in cluster (including existing and proposed).
- d) As per the specific TOR point, regarding the distance of bridge, submit the distance certificate duly certified by concerned Tahasildar.

ITEM NO. 09

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF M/S. ORISSA BRIDGE AND CONSTRUCTION CORPORATION LIMITED FOR CONSTRUCTION OF DHARMASAL AS [G+3 STORIED BUILDING CONSISTING 5 BLOCKS(1,2,3,4 & 5), WHERE BLOCK-1 IS COMING UNDER ‘RESIDENTIAL’ HOTEL (A-5) & BLOCK-2,3,4& 5 IS COMING UNDER “RESIDENTIAL”

(LODGING & ROOMING HOUSES) OVER AN BUILT-UP AREA –38989.57 M2 AT BASELISAH I IN THE HERITAGE CITY OF PURI UNDER ABHADA SCHEME ON TURNKEY BASIS, OVER PLOT NO. 12,13 & 14, MOUZA-PURI SAHARA, UNIT NO.-2, MARKENDESWARA SAHI, DIST-PURI OF SRI SUNDARA MADHABA PADHI - EC

1. This proposal is for Environmental Clearance of M/s. Orissa Bridge and Construction Corporation Limited for Construction of Dharmasal as [G+3 storied building consisting 5 Blocks(1,2,3,4 & 5), where Block-1 is coming under ‘Residential” Hotel (A-5) & Block-2,3,4& 5 is coming under “Residential” (Lodging & Rooming Houses) over an Built-up Area – 38989.57 m2 At Baselisahi In The Heritage City of Puri Under Abhada Scheme On Turnkey Basis, Over Plot No. 12,13 & 14, Mouza-Puri Sahara, Unit No.-2, Markendeswara Sahi, Dist-Puri of Sri Sundara Madhaba Padhi .
2. **Category:** As per EIA Notification,2006 and its subsequent amendments, the proposed project falls under Category B2 Under Schedule of item 8 (a) Building and Construction project.
3. The land comes under Puri Konark Development Authority area. Total land required for this proposed project is Ac 11.09 Dec /44912.34 m² / 4.4912 Ha. The Proposed Construction of Dharmasala Project has been approved by approved by Puri Municipal Corporation.
4. **Location and connectivity:** The proposed project is located at Plot No. 12,13 & 14, Mouza-Puri Sahara, Unit No.-2, Markendeswara Sahi, Dist-Puri, Odisha and bounded by Latitude: 19°48'48.79"N and Longitude: 85°48'34.83"E bearing Toposheet No.E45B13].Project site is well connected with SH-59 -Brahmagiri Road (Puri- Satapada Road) Road which connects to NH-316 near Mangalahat Chawk at the distance of 200 m. South-West direction. Hence, no new road is required. Puri Railway station is 2.9 Km-ESE away from Project site. Janakadeipur Railway Station is 8.22 km away in North-North-East. Malatipatpur Railway Station is 5.99 km away in North-East. Biju Patnaik International Airport 48.34 km in North West. NH 59(Puri Satpada Rd) -0.100ENE; NH 316-0.21-WNW; Bada Danda-1.32-SE ; Bay Of Bengal -2.48-SSE
5. **Project details:** Total Plot Area is Ac 11.09 Dec /44912.34 m2 / 4.4912 Ha. Total Built up Area 38989.57 m² Max building height: 13.65 m. Total No. of Floors Proposed is [Dharmasalas [G+3 storied building consisting 5 Blocks(1,2,3,4 & 5), where Block-1 is coming under ‘Residential” Hotel (A-5) & Block-2,3,4& 5 is coming under “Residential” (Lodging & Rooming Houses)].Total No. of Blocks Proposed is 5 Blocks.
6. **Seismic Zone:** Puri area falls in the Seismic Zone III & Seismic Intensity "moderate". This zone is called the moderate damage risk Zone & Zone factor Z = 0.16 as per IS: 1893 (Pt.1).
7. **Lulc Of Total Project Area :**

LULC OF PROJECT SITE	AREA IN SQM	AREA IN HA	%
OPEN PARKING	11332	1.133200	25.2
GROUND COVERAGE	10149.35	1.014935	22.6
INTERNAL ROAD	9176.84	0.917684	20.4
GREENBELT AREA	11415	1.141500	25.4
OTHERS	1554	0.155400	3.5
PAVED AREA	1285.15	0.128515	2.9

TOTAL AREA	44912.34	4.491234	100.0
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8. **Parking Facilities:** During Operational Phase, parking details is as follows

	AREA IN M2
Parking area required(30% OF FAR)	11,426.48
Parking area (provided)	11,485
Covered parking (in Block-1)	153
Open parking area	11332
Total Car Parking No's (Provided) Including Visitors Parking	Parking provision for 496 four-wheeler and 237 Two wheelers

9. **Power requirement:** The power supply shall be supplied by TPCODL. The maximum demand load is estimated at 753.456 KW. Permission for Electrical supply to the proposed project site is received from office of the Divisional Manager (Electrical) through through Order No:- RC. NO. 460000700 on dated 31/01/2023. There is provision of Power backup for the residential project will be through DG sets of total capacity 1 Nos. 1000KVA 415Volts DG Sets with acoustic enclosure with DG Synchronisation Facility Height of the DG Set Stack = 20 m. DG Set will be placed in the direction of SW Corner of the Plot

10. **Water Requirement and management:** During Operation Phase total water requirement of 538.5 KLD out of which Fresh water requirement is 362 KLD and flushing water will be 176.5 KLD. Fresh water of 362 KLD will be met from WATCO/Ground water and flushing water of 176.5 KLD will be met from recycled water. Wastewater will be treated in STP of capacity 480 KLD.

11. **Reuse of treated waste water:** Flushing is 176 KLD; gardening is 114 KLD and discharge to municipal drain is 55 KLD in dry season and 170 KLD in monsoon season. Presently there is public water supply system from WATCO is located near project site. Hence daily freshwater requirement will be met through supply water during the operation phase. The unit has obtained the permission from Office of the Manager WATCO Sub-Division, Puri vides order no. 69 on dated 10.01.2023.

12. **Rainwater harvesting:**

STORM WATER CALCULATION							
S. No.	Type of Surface	Catchment Area (A)		Runoff Coefficient (C)	Rainfall intensity (mm/hr (I))	Total Discharge	
		sqm	Hectare			(Q)=10	CIA
						(m3/hr)	
1	Paved Area (Parking)	11332	1.1332	0.8	75	679.92	
2	Paved Area (Driveway and footpath) (Paved and internal road)	0462	1.0462	0.15	75	117.6975	
3	Building Terrace (i/c)	10149	1.0149	0.9	75	685.0575	

	Substation, 200 sqm and HVAC Plant, 150 sqm)					
4	Lawn Area (Soft scape)	11415	1.141	0.15	75	128.3625
5	Unpaved area (Setback Line)	1554	0.1554	0.3	75	34.965
	Total	44912	3.07			1646.0025
DESIGN DETAILS						
Rational formula for calculating runoff = $Q = 10X (C I A)$						
Q = Runoff in m ³ /sec						
I = Intensity of rainfall in mm/ hr.						
A = Drainage area in hectares.						
C = Co-efficient of run off as below						
TOTAL RUN-OFF: Terrace (Rooftop) Area						
Average rain water as per Odisha Bye law			6.0cum/100sqmt of Roof area			
Terrace area in sqmt (as per measuring in drawing)			10149	Sqmt		
Volume of rainwater from terrace			685	Cum/hr		
Considering 20 Minutes (0.33 Hr) Retention Period			228	Cum		
Considering RWH pit of size Diameter-2M & Liquid Depth-2M Volume of the pit			6.28	Cum		
No of Pits required			36	nos		
No of Pits Provided			46	nos		

13. Energy Conservation: The power supply shall be supplied by TPCODL. The maximum demand load is estimated at 753.456 KW. Permission for Electrical supply to the proposed project site is received from office of the Divisional Manager (Electrical) through Order No:- RC. NO. 4600000700 on dated 31/01/2023. There is provision of Power backup for the residential project will be through DG sets of total capacity 1 Nos. 1000KVA 415Volts DG Sets with acoustic enclosure with DG Synchronisation Facility Height of the DG Set Stack = 20 m.

S. NO.	DESCRIPTION	% SAVING
1	LED and other types of Low Wattage High Lumen fittings for all Common Areas Like Stair Hall & Lift Lobbies, Landscaped Areas, Entry Gates and Area Lighting	0.80
2	LED and other types of Low Wattage High Lumen Light Source for Dwelling units	14

3	The Solar Power Demand For Campus area Light , Main Gate Light will be 37 KW (5% of total demand)	10
4	Post Top Lamps in three alternative circuits for need based use (by alternative switching off of the lamps)	0.20
	TOTAL	25%

14. **Green belt area:** About 650 no of trees of 15 types of species (Neem, Peepal, Mango, Shisham, Sirish, Babool, Gulmohar or local plants as per the advice of forest officers) will be planted both inside the project area And all along the boundary to create a boundary of greenery. The project being a well-planned activity will result in organized open spaces and green areas. About 11415 sqm (25.41 % of plot area) of the area is earmarked for greenbelt development. The biodiversity in the area will increase due to the proposed green areas. The project will have an overall positive impact on the existing land use and will not cause any disturbance to the local ecology. Proposed activity shall have no impact on surroundings.

15. **Solid waste management:** The solid waste generated from project will be mainly domestic in nature and the quantity of the waste will be 0.614 Ton/day. Solid wastes generated will be segregated into biodegradable 0.732 T/Day (waste vegetables and foods etc.) and Non-biodegradable or recyclable 1.098 Ton/day (papers, cartons, thermo-col, plastics, glass etc.) Components will be collected in separate bins. The biodegradable organic wastes will be treated inside the premises by OWC (Organic Waste Converter) of capacity to treat 750 kg/day. Recyclable and non-recyclable wastes will be disposed through Govt. approved agency.

S. No.	Description	Occupant Load (Persons)	Bio-degradable Gm/day	Non-bio-degradable Gm/day
1	Block 1			
	Kitchen and Dining area	450	45000	67500
	Office and Shops (Staff)	20	2000	3000
	Office and Shops (Visitors)	80	8000	12000
	Residents	690	124200	186300
	Sub Total (1)	1,240	179200	268800
2	Block 2			
	Office (Staff)	3	300	450
	Office (Visitors)	15	1500	2250
	Residents	918	165240	247860
	Sub Total (2)	936	167040	250560
3	Block 3			
	Office (Staff)	3	300	450
	Office (Visitors)	15	1500	2250
	Residents	918	165240	247860

	Sub Total (3)	936	167040	250560
4	Block 4			
	Office (Staff)	3	300	450
	Office (Visitors)	15	1500	2250
	Residents	918	165240	247860
	Sub Total (4)	936	167040	250560
5	Block 5			
	Residents	288	51840	77760
	Sub Total (5)	288		
	TOTAL POPULATION	4,336		
	TOTAL WASTE GENERATE		732160	1098240
			732.160	1098.24
			KG/DAY	KG/DAY

16. **Project Cost:-**The estimated cost of the project is 136.5 Cr. EMP cost of the proposed project includes capital cost of 133 lakhs and recurring cost of 3.1 lakhs

Source	Capital Cost (In Lacs)	Recurring Cost (In lacs)
Landscaping	10	0.5
Rain Water Harvesting	20	0.2
Solid Waste Management	10	0.5
STP	80	1.2
Acoustic Enclosure & DG Set Stack	10	0.2
Environmental Monitoring	3	0.5
Total	133	3.1

17. **Environment Consultant:** The Environment **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** along with the project proponent, the SEAC recommended the following:

A. **The proponent may be asked to submit the following for further processing of EC application:**

- Land documents and kisam of land.
- Copy of Revenue map.
- NOC from Puri Municipality to discharge treated water into the public drain along with the cross-section.

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Environmental Scientist, SEAC

- d) Provision for plantation alongside the road.
- e) Ensure that the differences between the reduced level of the bottom of rainwater harvesting pits and the reduced level of ground water during rainy season are adequate for effective recharge of collected rainwater and submit the report for the same.
- f) Traffic study vetted by a reputed institute.
- g) Undertaking that there will be no structure that will be built on the Jalasaya.
- h) Whether the site is coming within the purview of ASI. If so, status of permission from ASI.

B. The proposed site shall be visited by Sub-Committee of SEAC to verify the followings

- i) Environmental settings of the project site.
- ii) Construction activity, if any started at the site.
- iii) Road connectivity to the project site.
- iv) Applicability of CRZ Clearance.
- v) Drainage network at the site.
- vi) Discharge point for discharge of treated water and distance of the discharge point from the project site.
- vii) Any sand dune is there in site.
- viii) Any other issues including local issues.



MEMBER SECRETARY

TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY IN CLUSTER APPROACH AND INFORMATION TO BE INCLUDED IN THE EIA/EMP REPORT FOR KHANJAMAHAL STONE QUARRY (CLUSTER APPROACH) OVER AN AREA OF 244.50 AC./98.94 HA. (KHATA NO-144, PLOT NO-161, 165, 164, 318, 168, 167, 166, 266, 287, 264, 265, 263) IN VILLAGE KHANJAMAHAL, UNDER SORO TAHASIL IN BALASORE DISTRICT OF TAHASILDAR SORO - 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.**