PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE, ODISHA HELD ON 28th JANUARY, 2022

The SEAC met on 28th January, 2022 through video conferencing in Google Meet under the Chairmanship of Sri. B.P. Singh. The following members were present in the meeting.

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

CONSIDERATION OF OLD PROPOSALS (COMPLIANCE RECEIVED):

The compliances furnished by the proponents were verified by the members through e-mail and also proceedings of the meeting were confirmed by the members through e-mail. The decision of the committee on case-to-case basis as follows:

ITEM NO. 01

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S. RUNGTA MINES LTD. FOR CONSTRUCTION OF PROPOSED (S+10) STORIED RESIDENTIAL COLONY OVER AN AREA OF 28.447 ACRES LOCATED IN VILLAGE – JHARBANDH, DIST- DHENKANAL, ODISHA WITH TOTAL BUILT UP AREA - 3053352 SFT (283768.77 SMT.) OF SRI PRADEEP KUMAR CHATURVEDI (DIRECTOR) - EC

1. The proposal is for Environmental Clearance of M/s. Rungta Mines Ltd. for construction of proposed (S+10) Storied Residential Colony over an area of 28.447 acres located in village – Jharbandh, Dist- Dhenkanal, Odisha with total built up area - 3053352 SFT of Sri Pradeep Kumar Chaturvedi (Director).
2. The project falls under category “B” or activity 8 (b)-Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. ToR has been granted by SEIAA, Odisha for proposed project vide letter no. 2650/SEIAA, (SEIAA File No. 67031/37-MIS/08-2021), dated 04.09.2021.
4. M/s. Rungta Mines Ltd. is located at villages Jharbandh in District Dhenkanal, Odisha. The location of plant and study area can be seen in Survey of India Open Series No. F45T1, F45T2, F45T5 & F45T6 bounded by Latitude **-** 20° 46’ 14’’ to 20° 46’ 33’’N and Longitude - 85° 18’ 58’ to 85° 19’ 13”E. The site is accessible by all-weather road from the district headquarter Dhenkanal (32 km) and town Angul (18.2 km). The site is located near NH-55 (1.3 km aerially from it), which connects Bhubaneswar to Angul. The nearest railway station is Meramandali at a distance of 3.4 km. The nearest airport is at Bhubaneswar, which is approximately 77 km from the site.

5. M/s. Rungta Mines Ltd., Dhenkanal steel Plant has obtained Environmental Clearance from MOEF&CC vide letter no J-11011/309/2018-IA II(I) dated 09.02.2021 for its Dhenkanal Steel Plant and Consent to Operate obtained from OSPCB Vide letter no 6969/IND-I-CON-6646 dated 06.05.2021 for part of Dhenkanal Steel Plant. M/s Rungta Mines Limited has proposed this Residential colony near Dhenkanal Steel Plant to accommodate the non-native employees.

6. The Building Details of the Residential colony:

Particular	Proposed	Permissible
Project Name	Proposed (S+10) Storied Residential Township Project	--
Plot Area	1239151 SFT(115162.73 SMT.)	--
Ground Coverage	480649 SFT(44669.98 SMT.)	--
Total Built up Area	3053352 SFT(283768.77 SMT.)	--
Total FAR Area	2678160 SFT(248899.62 SMT.)	--
FAR	2.16	2.75
Maximum Height	35 meter (Residential)	--
Parking Area	749709 SFT (69675.55 SMT.) (27.93 %)	669540 SFT(62224.9 SMT.) (25 % of Residential)
Green Belt Area	248078 SFT (20.02 % of Plot area)	247830 SFT (23032.52 SMT) (20% of Plot area)
Landscape Area	52413 SFT (4.22 % of Plot area)	--
Power/Electricity Requirement & Sources	Power from GRID – 12,816.96 KW Power from Solar – 703.04 KW Total Power Requirement – 13,520 KW	--
No. of DG sets	2 x 625 KVA	--
Fresh Water requirement & Sources	1154 KLD 1155KLDSource: Surface Water	--
Sewage Treatment & Disposal	STP Capacity 1500 KLD	--
Estimated Population-Residential, Floating/visitors	13673 nos.	--

7. **Water requirement**: Fresh make up of 1154 m^3/day will be required for the project which will be sourced from Surface water. Waste water of 1478 KLD will be treated in a STP of 1507 KLD capacity, which includes primary, secondary and tertiary treatment.

8. **Waste water details**: Township sewage water shall be used as makeup water after treatment in steel plant. Total waste water generated is 1474 KLD .The wastewater will be treated in the STP of capacity of 1500 KLD provided within the complex. Total treated water will be generated 1356 KLD will be recycled within the project for flushing (584 m3/day), landscaping (205 KLD), and dust suppression 567 KLD will be used in case of non-monsoon period. In monsoon season will be recycled in with town ship for flushing (584 KLD), Reuse in plant premises (567 KLD) and car washing & internal Road (205 KLD).

9. **Power requirement:** The daily power requirement for the proposed Residential Project is preliminarily assessed as 13520 KW (Power from GRID – 12,816.96 KW and Power from

Solar – 703.04 KW). In order to meet emergency, power requirements during the grid failure, there is provision of 2 nos. of DG set having 625 KVA (2 Nos.) capacities for power back up in the residential colony.

10. **Rain Water Harvesting:** Rain Water will be harvested through 79 nos. of recharging pits. Proposed rain water tank/tanks of 1533 mtr^3 storage capacity. All roof rain water down takes is to be diverted to this tank.

11. **Parking Requirement:** Total Parking Area provided = 749709 SFT(69675.55 Sqm) (27.93 %)/ 2564 ECS has been provided for vehicles parking in the project.

12. **Firefighting Installations:** Firefighting system will be installed as per recommendation of the Firefighting Officer, Odisha and as per the guideline of NBC (part-4).

13. **Green Belt Development:** Green belt will be developed over an area of 248078 SFT (20.02 % of Plot area) and Landscape Area 52413 SFT (4.22 % of Plot area) by using the local species like Radhachuda, Nageswar, Akash Neem, Ashok, Polanga, Karang, Bela, Pijuli, Kaniara, Tagar, Hena, etc.

14. **Solid Waste Management:** From the residential complex solid waste in form of food waste from kitchen and miscellaneous waste will be generated @ 0.45 kg/person/day, which will be about 5360 kg/day.

15. The total population of project after proposed will be 13673 persons.

16. The estimated project cost is ` 504 Crores. Environment Management Cost = ` 5.0 Crores.

17. The Environment consultant M**/s Centre for Envotech & Management Consultancy Pvt. Ltd., Bhubaneswar** along with the proponent has made a presentation on the proposal before the Committee on 16.11.2021.

18. The SEAC members have raised certain queries as follows. Out of such queries, some queries have to be stipulated as specific conditions in Environmental Clearance and some queries have to be complied by the proponent.

Sl. No.	Queries raised by the SEAC	To be complied by the proponent and / or specific condition to be stipulated in EC.
i)	Kisam of the entire land on which the construction of the residential colony is proposed need to be necessarily “Gharabari” for which PP must submit the “Khatian” from the appropriate Revenue Authority without which construction work shall not start.	Specific condition to be stipulated in EC.
ii)	Domestic waste water generation is stated to be 1478 KLD and the corresponding STP of 1500 KLD. The capacity of STP is inadequate are thus, it must be 10-20% higher than waste water generation. As such, the PP need to submit the revised capacity and design of STP suitably.	To be complied by the project proponent
iii)	It is stated by the PP that there will be zero “discharge” and the entire excess waste water will be	To be complied by the project

Sl. No.	Queries raised by the SEAC	To be complied by the proponent and / or specific condition to be stipulated in EC.
	sent to their Dhenkanal Steel Plant through pipe line. But at some other place, in the report, it is mentioned that excess waste water will be discharged to nearby drains along with the storm water. Then the following be confirmed: A. Depth of the pipeline to be laid below the surface. B. Which nearby drain and its start and fall out including the authority of the drain? C. Internal drains network for both storm water / treated waste water with dimension along with its connectivity to the main drain be submitted.	proponent
iv)	Fresh water of 1154 KLD will be drawn from Brahmani River. Permission obtained from WR Department, Govt. of Odisha be submitted including document of ownership of the land in which pipeline will be laid from Brahmani River to proposed colony be submitted.	Specific condition to be stipulated in EC. Document of ownership of the land in which pipe line will be laid from Brahmani river to proposed colony to be submitted-to be complied.
v)	Power requirement is 13,520 KVA and of which 91.58 KVA will be met through Solar Power which works out 0.67% of the total power demand. So, PP to submit the plan with detail calculation of generation and consumption of solar power of atleast 5% of the total power demand.	To be complied by the project proponent
vi)	Internal road map network of the colony work dimensions including free movement of fire Tender be submitted.	To be complied by the project proponent
vii)	Parking area is stated to be calculated with norms of 25% of total area. But this norm is same for shopping complex & Dispensary. So, parking area need to be re-calculated and submitted. In terms of ECS, it is shown to be 2564 ECS as again 2560 flats with norm of 23 m^2/car for open parking & 28 m^2/car for covered parking per ECS. Thus, the following needed to be confirmed: (a) Norm of space for each ECS for open parking as well as closed parking and documentary evidence to the said effect. (b) Provision for parking two wheelers to be made. (c) At least, 10 % provision made to be made for visitors and floating population including shopping complex and dispensary. So, with the above, the entire chapter on parking need to be re-verified and resubmitted.	To be complied by the project proponent

Sl. No.	Queries raised by the SEAC	To be complied by the proponent and / or specific condition to be stipulated in EC.
viii)	DG set position (location) w.r.t. to predominant wind direction and the location of the building tower along with installation drawing / layout be shown and submitted with 40 meter stack height. Basis of selection of no. and capacity of DG sets be submitted.	To be complied by the project proponent
ix)	Level of Service (LOS) findings from Traffic study be submitted as per IRC norm and accordingly, mitigation / de-congestion plan at intersection with NH be submitted.	To be complied by the project proponent
x)	79 recharge (Rain Water Harvesting Pits) pits is proposed with 80 mm/hr rain fall as peak rain fall in 24 hours taken which looks very high. Thus the following be submitted; (a) Maximum hourly rainfall be taken based on 30 years data (Climate logic data) and accordingly, no. of rain water harvesting pits be calculated / decided along with the design of the pit including retention time (hold) showing the norms for the same. Thus, this is to be re-submitted:	To be complied by the project proponent
xi)	Since, the proposed colony is surrounded with water bodies, surface water quality study and monitoring mechanism be submitted.	To be complied by the project proponent
xii)	Permission from concerned Fire Service Authority be submitted.	Specific condition to be stipulated in EC.

19. The SEAC in its meeting held on Dt: 16.11.2021 decided to take decision on the proposal after receipt of certain information / documents from the proponent.

20. The project proponent has furnished compliances as requested by the SEAC and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
i)	Domestic waste water generation is stated to be 1478 KLD and the corresponding STP of 1500 KLD. The capacity of STP is inadequate are thus, it must be 10-20% higher than waste water generation. As such, the PP need to submit the revised capacity and design of STP suitably.	The capacity of STP is increase 20% higher than waste water generation. The capacity of STP is 975 KLD and 800 KLD. STP showing in plan is enclosed as **Annexure -1** water demand for residential colony and water demand is also enclosed as water demand is also enclosed as **Annexure-1A.**
ii)	ii) It is stated by the PP that there will be zero “discharge” and the entire excess waste water will be sent to their Dhenkanal Steel	a) Depth of the pipeline to be laid 1.2m below the surface. b) All the excess water to be send to the reservoir at plant site and no

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	Plant through pipe line. But at some other place, in the report, it is mentioned that excess waste water will be discharged to nearby drains along with the storm water. Then the following be confirmed: a) Depth of the pipeline to be laid below the surface. b) Which nearby drain and its start and fall out including the authority of the drain? c) Internal drains network for both storm water / treated waste water with dimension along with its connectivity to the main drain be submitted.	waste water shall be discharged to any drain. c) Internal drain work for both storm water and treated water is showing in plant and is enclosed as **Annexure -2**.
iii)	Fresh water of 1154 KLD will be drawn from Brahmani River. Document of ownership of the land in which pipeline will be laid from Brahmani River to proposed colony be submitted.	We wish to submit deed of license made of 93 land ownership and is enclosed as **Annexure-3**.
iv)	Power requirement is 13,520 KVA and of which 91.58 KVA will be met through Solar Power which works out 0.67% of the total power demand. So, PP to submit the plan with detail calculation of generation and consumption of solar power of atleast 5% of the total power demand. Proponent needs to submit the capacity of solar power PV system planned to install along with the nos of solar lights etc planned and total kVA, then % of total power load.	Total 1830 Nos. of Solar Panel of capacity 320 watt and also 1272 nos. of Solar Light of capacity 72 watt each is provided in the proposed colony project Solar Power load calculation is enclosed as **Annexure 4**.
v)	Internal road map network of the colony work dimensions including free movement of fire Tender be submitted.	Internal road of 7.5 m width has been provided all around the project area. Road map network of the colony including free movement of fire tender is enclosed as **Annexure-5**.
vi)	Parking area is stated to be calculated with norms of 25% of total area. But this norm is same for shopping complex & Dispensary. So, parking area need to be re-calculated and submitted.	Total parking area required for the proposed project is 754152.2 sqft and we are providing 764.932 sqft, which is equivalent to 2630 ECS. So, parking area re-calculated and is given in **Annexure-6**. Map is enclosed as **Annexure-5**.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	In terms of ECS, it is shown to be 2564 ECS as again 2560 flats with norm of 23 m2/car for open parking & 28 m2/car for covered parking per ECS.Thus, the following needed to be confirmed: a) Norm of space for each ECS for open parking as well as closed parking and documentary evidence to the said effect. b) Provision for parking two wheelers to be made. c) At least, 10 % provision made to be made for visitors and floating population including shopping complex and dispensary. So, with the above, the entire chapter on parking need to be re-verified and resubmitted.	
vii)	DG set position (location) w.r.t. to predominant wind direction and the location of the building tower along with installation drawing / layout be shown and submitted with 40 meter stack height. Basis of selection of no. and capacity of DG sets be submitted.	The predominant wind direction of the proposed project area is South and the DG set will be installed as wind flow from South to North. The DG set position is marked in the layout with respect to predominant wind direction and location of the building tower along with installation drawing/ Layout is enclosed as **Annexure-7**. Selection of no and capacity of DG is enclosed as **Annexure-7A**.
viii)	Level of Service (LOS) findings from Traffic study be submitted as per IRC norm and accordingly, mitigation / de-congestion plan at intersection with NH be submitted.	Level of service (LOS) finding from traffic study seems to be Very Good. • Movement of 9-10 dumpers/day will not cause much traffic congestion at the junction of NH-55 & road connecting to project site as because the width of the NH is 7.5 m which is adequate enough not to create any congestion and at present expansion of this road is under progress, whole width will become 20 m. • But during initial period of project implementation the no. of dumpers

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		may be more. So to avoid congestion, night time transport of construction material will be preferred. However mitigation/ de-congestion plan is furnished as **Annexure -8.**
ix)	79 recharge (Rain Water Harvesting Pits) pits is proposed with 80 mm/hr rain fall as peak rain fall in 24 hours taken which looks very high. Thus the following be submitted; a) Maximum hourly rainfall be taken based on 30 years data (Climate logic data) and accordingly, no. of rain water harvesting pits be calculated / decided along with the design of the pit including retention time (hold) showing the norms for the same. Thus, this is to be re-submitted:	Revised calculation is given below Diameter of pit(d) - 3.0 m Radius (r) - 1.5 m Pit Depth (h) - 5.0 m Volume of 1 No rain water harvesting pit $= 1.0 \times \pi \pi^2 h$ $= 1.0 \times 3.14 \times (1.5)\ 2 \times 5.0$ $= 35.325\ m^3$ Total no of rain water harvesting pit required = 995/35.3 = 28.13 So total no of Rain water harvesting pit is 29 nos is enclosed **as Annexure-9**.
x)	Since, the proposed colony is surrounded with water bodies, surface water quality study and monitoring mechanism be submitted.	The baseline status of surface and ground water quality in the study area was carried out by collecting representative samples. Results are enclosed as **Annexure-10**. The detail of environmental monitoring mechanism in construction phase is enclosed as **Annexure-10A.**

Considering the information furnished and the presentation made by the consultant, M**/s Centre for Envotech & Management Consultancy Pvt. Ltd., Bhubaneswar** along with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 7 years with stipulated conditions as per **Annexure – A** in addition to the following specific conditions**.**

i) Kisam of the entire land on which the construction of the residential colony is proposed need to be necessarily "Gharabari" for which PP must submit the "Khatian" from the appropriate Revenue Authority without which construction work shall not start. **The Proponent before implementation of the project shall convert the land to Gharabari and shall take the ownership of the land if not already taken.**

ii) The proponent shall obtain permission from WR Department, Govt. of Odisha for drawal of water from Brahmani River.

iii) The proponent shall obtain permission from concerned Fire Service Authority.

iv) The proponent shall use solar energy of 5% of total Power consumption.

v) Trees located within the project area shall be de-rooted and re-rooted / transplanted to alongside the boundary green development area instead of cutting. If there will be any tree cutting required, requisite permission for the same shall be obtained from the Forest Department.

vi) To reduce discharge of treated water to open drain, the proponent shall use more water for increased number of trees proposed to be planted in the green belt area & shall also utilize this treated water for car washing, floor washing to minimize the surplus discharge to drain.

vii) The Proponent shall obtain permission from the appropriate authority for discharge of excess treated water if any to the nearest existing drain. Also in case of the connecting drain passing through others land (Govt. or Private land), the Proponent shall obtain the permission and possession as the case may be.

viii) The proponent shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of project report.

ITEM NO. 02

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S D.N. HOMES PVT. LTD. FOR PROPOSED CONSTRUCTION OF RESIDENTIAL PROJECT (DWELLING UNIT-2B+G+20 AND SOCIETY CLUB & CONVENIENT SHOPS-2B+G+3) WITH TOTAL PLOT AREA - 12,439.93 SQM., AND TOTAL BUILT UP AREA-71,876.70 SQM LOCATED AT MOUZA - MADANPUR, TAHASIL-BHUBANESWAR, DIST-KHORDHA OF SRI. RATNAMALA SWAIN (DIRECTOR) – EC

1. The proposal is for Environmental Clearance of M/s D.N. Homes Pvt. Ltd. for proposed construction of Residential Project (Dwelling Unit-2B+G+20 and Society Club & Convenient Shops-2b+G+3) with total plot area - 12,439.93 sqm., and total built up area-71,876.70 sqm located at Mouza - Madanpur, Tahasil - Bhubaneswar, Dist-Khordha of Sri. Ratnamala Swain (Director).

2. The project falls under category “B” or activity 8 (a) - Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.

3. M/s D.N. Homes Pvt. Ltd. aims to provide a Residential Colony Project at Mouza-Madanpur, District - Khurda, Bhubaneswar, Odisha. The plot area of the project site is 12,439.93 m^2 (3,074 acres). and estimated built-up area of the project is 71,876.70 m^2.

4. The project facilities include: Dwelling Units (2B+G+20) and Society Club & convenient Shops (2B+G+3).

5. **Location and Connectivity** - The Project Site is located at – Mouza - Madanpur, District-Khurda, Bhubaneswar, Odisha on Plot No. 311,314,315,316,317 of Khata no.300/637, Plot No.308,313 of Khata no.300/636, Plot No. 306/1173 of Khata no. 306/1667, Plot No.-307 of Khata no. 300/1668 & Plot no. 312 of Khata no. 300/1676, The Geographical coordinates of the project site is: Latitude: 20°14‘44.53"N and Longitude: 85°43‘06.18"E. The Project site is located Mouza- Madanpur, District - Khurda, Bhubaneswar, Odisha on a land measuring 3.074 acres or 12,439.93 m2. The Project Site is well connected by Badaraghunathpur Road which is approx. 150 m in North direction. NH-16 is approx. 2.4 km in SE direction.

The nearest railway station is Retang Railway Station approx. 6.5 km in SE direction from the project site and Biju Patnaik International Airport is at a distance of approx. 9.3 km in East direction from the project site.

6. The Detailed Area Statement of The Building:

S. NO.	PARTICULARS		AREA (SQ.M.)
i)	Total Plot area		12,439.93
ii)	Permissible Ground coverage (@40%)		4,975.97
iii)	Proposed Ground coverage @ 26.87 % of plot area)		3,342.76
iv)	Permissible F.A.R (@ 7 of plot area)		87,079.51
v)	Proposed F.A.R (@ 3.879 of plot area)		**48,254.73**
	a.	Residential	46,669.52
	b.	Society Club & Convenient Shop	1502.17
	c.	Security, Public washroom etc.	83.040
vi)	Non F.A.R		6,024.37
vii)	Basement Area		17,597.60
viii)	**Total Built-up Area (5+6+7)**		**71,876.70**
ix)	Maximum Height of the Building (m) (2B+G+20)		67.28
x)	Landscape area (35.78 % of plot area)		**4,451.87**

7. **Water requirement**: The total water requirement will be met through Ground water and Bore well which is approx. 300 KLD, out of which total domestic water requirement is 282 KLD. The total fresh water requirement is approx. 185 KLD.

8. **Wastewater Generation & Treatment** - It is expected that the project will generate approx. 245 KLD of wastewater. The wastewater will be treated in an onsite STP of 300 KLD capacity. The treated effluent will be reused for flushing, horticulture. Surplus treated effluent will be discharged to external sewer.

9. **Power requirement**: The power supply will be supplied by State Electricity Board. The requirement load for the project will be approx. 1687 kVA. There is provision of 2 nos. of DG sets total 1500 kVA (2*750 kVA) capacity for power back up and stack height is 73meters.

10. **Rain Water Harvesting**: Total Runoff from Storm Water from Site is 293.5m³ /hr so based on 1no. Harvesting pit volume 17.2 cum required 5 nos. Rain water Harvesting Pits.

11. **Parking Requirement**: Total Parking required Area is 14,523 m2. Parking area proposed is 15,676.06 m or 541 ECS.

12. **Firefighting Installations:** Firefighting system will be installed as per recommendation of the Firefighting Officer, Odisha and as per the guideline of NBC (part-4).

13. **Green Belt Development:** Total green area measures 4,451.87 m2 i.e. (35.78 % of the plot area) which will include Plantation area-2,612.38 m2 (21%) + Lawn area-1,838.62 m2 (14.78%). No. of trees required = 1 tree/80 sq.m. of plot area =12,439.93/80 = 155.5 say 156 Nos. Total no. of trees proposed = 160 no.

14. **Solid Waste Management:** The solid waste generated from the project shall be approx. 1128 kg per day.

15. The total estimated population of the project will be 2612 persons (including Residents+staff+visitors).

16. The estimated project cost is ` 82 Crores. Environment Management Cost = Rs.53 lakhs and recurring cost is 22 lakhs/year.

17. The project proponent along with the consultant **M/s Grass Roots Research And Creation India Pvt. Ltd., Noida** made a detailed presentation on the proposal on 16.11.2021.

18. The SEAC members have raised certain queries as follows. Out of such queries, some queries have already been complied by the proponent, some queries have to be stipulated as specific conditions in Environmental Clearance and some queries have to be complied by the proponent.

Sl. No.	Queries raised by the SEAC	Already complied by the proponent / To be complied by the proponent and / or specific condition to be stipulated in EC.
i)	About 245 KLD of treated waste water has been proposed to be discharge to the public drain. On this the following to be confirmed: (a) Breakup of the discharge during monsoon, non-monsoon and winter. (b) To which public drain it will be discharged and the permission from the authority of the drain to be submitted to take the additional load indicating the start and fall out of the said public drain. (c) Internal drains network with dimensions, both for treated waste water and surface runoff / storm water be submitted. (d) The ownership of the land to be used by project proponent for connecting their internal drains to above public drain and permission to use the same.	Plan showing internal drainage network with outfall point and connectivity to final disposal point is attached as **Annexure-V.** Permission vide letter no.-6252 dated 03/11/2021 from Office of the Executive Engineer, Bhubaneswar (R&B) Division No.III, Bhubaneswar for discharging the storm water and surplus treated water from the project to the existing earthen drain which alternately connecting to the nearby cross drainage work which is 200 m away from the connecting point. Copy of the same is attached as **Annexure-VI.**
ii)	Green belt width with contour (dimensional layout be submitted). Plan for augmentation of green belts in space and number of trees be submitted to reduce the load of discharge of treated waste water.	Total green area is proposed to be **4,451.87 m^2** (35.78 % of plot area). Plantation area-2,612.38 m^2 (21%) + Lawn area-1,838.62 m^2 (14.78%) No. of trees required = 1 tree/80 sq.m. of plot area =12,439.93/80 = 156 Earlier proposed trees= **160 Nos.** **As per SEAC suggestions, we are increasing the trees from 160 no's to 269 no's**

Sl. No.	Queries raised by the SEAC	Already complied by the proponent / To be complied by the proponent and / or specific condition to be stipulated in EC.
		Landscape plan showing green area with increased trees and Undertaking for reuse of treated water is attached as **Annexure- I (a & b**). **b & a to be complied.** **Storm water and treated waste water is stated to be discharged to existing "earthen drain" which falls after 200 mtr with cross drainage work. It appears from the letter of Executive Engineer R&B that proposal is for construction of RCC drain during improvement of road widening. Thus it is apprehended that earthen drain cannot take this load of discharge .As such the following need to be submitted by PP:** **To obtain confirmation on construction of RCC drain details, R&B Dept. With time frame including the widening of road**
iii)	DG set location w.r.t. predominant wind direction and location of building towers be submitted. Basis of selection of no. of DG Sets and the capacity be submitted.	DG Stack calculations are attached as **Annexure-VII.** **1. Basis of selection of number and capacity of DG set to be submitted.** 2. **Installation drawing of stack/exhaust pipe with dimension to be submitted.**
iv)	**<u>Rain Water Harvesting</u>** 5 numbers of rain water harvesting pits (RWHP) have been proposed considering 40 mm/hr peak hour rainfall in 24 hours and 20 minutes retention time. As such, peak hour rainfall considered is too low and so also no. of pits. This will cause flooding with heavy rainfall. Thus the following be submitted. i) Maximum hourly rainfall be taken based on 30 years data (Climate logic data) and accordingly, no. of rain water harvesting pits be calculated / decided along with the corresponding design of the pit including retention time (Hold)showing the norms for the same.	Earlier, we proposed 5 no's of the RWH Pits and after taking the 30 years of IMD data, it has been revised to 11 no's. Detailed calculations with RWH pit diagram and location plan of RWH pits are attached as **Annexure-IV (a, b & c).** **Calculation of number of proposed Rain water harvesting pits appears to be wrong and hence to be recalculated and re submitted.**

Sl. No.	Queries raised by the SEAC	Already complied by the proponent / To be complied by the proponent and / or specific condition to be stipulated in EC.
v)	**Parking:** 541 ECS is provisioned for 331 dwelling units with only 07 ECS for open space parking and without provision for two wheeler parking, taking the space of 32 m^2 /Car for basement and 23 m^2 /Car for open space. Thus, the following need to be confirmed: (a) Provision for parking two wheelers to be made. (b) At least, 10% provision made to be made for visitors and floating population and increasing suitably the open space parking from 07 nos. indicated above. (c) Norm of space for each ECS for open parking as well as basement parking with documentary evidence to the said effect be submitted. Thus, with the above, the entire chapter on parking need to be re-verified and re-submitted work layout and dimension as well. (d) Level of Service (LOS) from Traffic study is shown as 'B' as per IRC standard with the statement that the road design can take this load Since the road is very narrow and weak thus certification from appropriate Govt. Authority (RCB/RD/HUD) to this effect be submitted as per MoEF Guidelines.	Area proposed for Basement-1 (Upper) parking = 7,615.93/32 m^2 = **238 ECS** Area proposed for Basement-2 (Lower) parking = 7,905.09/32 m^2 = **247 ECS** Area proposed for Open Parking = 155.04/23 m^2 Earlier proposed Surface parking= 7 ECS **Increased Surface parking=15 ECS** Total Parking Area proposed = **15,676.06 m^2** Parking proposed = 238+247+15 = **500 ECS** Visitors Parking = 10% of the proposed parking = 49 ECS Total Parking proposed = 500+49 = **549 ECS** The parking details, plan and basis of parking as per NBC 2016 norms is attached as **Annexure-II (a, b & c).** Traffic Study Report with management measures is attached as **Annexure-VIII.** **1. Provision of two wheeler parking in terms of ECS with space in the layout map to be submitted.** **2. Adjacent intersecting road is very narrow and weak for two way simultaneous movement of vehicles and take the load and hence, required at least two lane strong road (7.5 mtr) as considered by PP.** **Thus confirmation to this effect be obtained from R&B/appropriate authority of the government.**
vi)	Solar Power consumption has been shown as 84.35 KVA as against the total load of 1687 KVA (Exact 5 %). Generation and consumption of solar power with plan and detail calculation	Total electric load is 1687 kVA and we are saving 20% energy of the total electric load. Out of which 5% energy will be from solar. Roof Top panel : 400 W - 181 No's :72.4

Sl. No.	Queries raised by the SEAC	Already complied by the proponent / To be complied by the proponent and / or specific condition to be stipulated in EC.
	be submitted.	kW. Landscape and Garden street lights : 60 Wx20 nos : 12 kW Roof Top Solar Water Heater @ 100 ltrs per flat (331 dwelling units x 100 ltrs : 33100 ltrs.). Provided 67 nos of 500 ltrs capacity solar water heater : 33500 ltrs of total solar water heater. So, we have provided total of 84.4 kW or 105.5 kVA solar energy saving from solar panels and solar street lights which is more than 5% of total energy demand. The Undertaking for 5 % energy saving and Solar panel layout are attached as **Annexure-III (a & b).** **Detailed calculation of generation and consumption of solar power need to be submitted.**
vii)	"Khatian" (Patta after Mutation) for the entire land from the appropriate Revenue Authority with 'Kisam' as Gharabari be submitted before which construction work shall not start.	To be stipulated as specific condition in EC.
viii)	PP should submit the NOC from DFO stating that the project is not coming under the ESZ of Nandan Kanan WLS.	We had applied for NOC to DFO of Chandaka Dampara WIS on 22.09.2021 and they forwarded our application to DFO of City Forest Division, Bhubaneswar on 21.10.2021. Now, We have received NOC vide no.-6563/4F(Misc.)315/2021 Dated 17.11.2021 stating that the project is not coming under the ESZ of Chandaka Dampara WLS. Copy of the same is attached as **Annexure-IX**

19. The SEAC in its meeting held on Dt: 16.11.2021 decided to take decision on the proposal after receipt of following information / documents from the proponent including a site visit by Sub-Committee of SEAC.

20. The sub-Committee of SEAC visited the project site on dated 16.12.2021 and following observations and recommendations were made:

    i. The project site is connected with wide road (double road) with drains being constructed at one side.

ii. The drain map was shown and also the connectivity to main road drain (to be constructed by R&B Deptt). NOC from R&B authority shown. NOC from Panchayat to be submitted along with map of main road drain connections.

iii. Land documents shown as Gharabari.

iv. Although, all information asked were answered, a summary documents with following information may be submitted by proponent for record: stack height and direction vs building height, green belt%, parking area & % with number of units and parking area for visitors.

v. Solar calculation details were shown.

vi. On receiving compliances, further recommendations may be considered.

21. The project proponent has furnished compliances as requested by the SEAC and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
i)	Storm water and treated waste water is stated to be discharged to existing "earthen drain" which falls after 200 mtr with cross drainage work. It appears from the letter of Executive Engineer R&B that proposal is for construction of RCC drain during improvement of road widening. Thus it is apprehended that earthen drain cannot take this load of discharge .As such the following need to be submitted by PP. To obtain confirmation on construction of RCC drain details from R&B Dept. With time frame including the widening of road.	Plan showing internal drainage network with outfall point and connectivity to final disposal point is attached as **Annexure-I.** Permission has been obtained from the Office of the Executive Engineer, Bhubaneswar (R&B) Division No. III, Bhubaneswar vide letter No. 6252 dated 03/11/2021 for discharging the storm water and surplus treated water from the project to the existing earthen drain; which alternately connecting to the nearby cross drainage work which is 200 m away from the connecting point. Copy of the same is attached as **Annexure-II.** NOC for connecting drain from Madanpur Panchayat is under process which will be submitted in due course of time. An undertaking regarding the same is enclosed as **Annexure-III**. Master plan of Madanpur Panchayat for drainage connectivity is attached as **Annexure-IV.**
ii)	Basis of selection of number and capacity of DG set to be submitted. Installation drawing of stack/exhaust pipe with dimension to be submitted.	**Calculating Stack Height of DG sets:** The minimum height of stack to be provided with each generator set can be worked out using the following formula: $H = h+0.2 \times \sqrt{KVA}$

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		Where: H = Total height of stack in meter h = Height of the building in meters where the generator set is to be installed kVA = Total generator capacity of the set in KVA H = h+0.2 x √ KVA H = 62.28+0.2 x √ 750 H = 62.28+0.2 x 27.39 H = 62.28+5.578 DG stack height shall be = 67.76 meters Total DG sets will be 2*750 kVA Predominant wind direction is East to West and the DG stack location is in NE direction.
iii)	Calculation of number of proposed Rain water harvesting pits appears to be wrong and hence to be recalculated and re submitted.	As suggested, calculation of RWH pits has been revised taking 30 years of IMD data into consideration. As per revised calculation, 11 no's of RWH pits being proposed. Detailed calculations with RWH pit diagram and location plan of RWH pits are attached as **Annexure-V (a, b & c).**
iv)	Provision of two wheeler parking in terms of ECS with space in the layout map to be submitted. Adjacent intersecting road is very narrow and weak for two way simultaneous movement of vehicles and take the load and hence, required at least two lane strong road (7.5 mtr) as considered by PP. Thus, confirmation to this effect be obtained from R&B/appropriate authority of the government.	Area proposed for Basement-1 (Upper) parking = 7,615.93/32 m2 = 238 ECS Area proposed for Basement-2 (Lower) parking = 7,905.09/32 m2 = 247 ECS Area proposed for Open Parking = 155.04/23 m2 Earlier proposed Surface parking= 7 ECS **Increased Surface parking=15 ECS** Total Parking Area proposed = **15,676.06 m2** Parking proposed = 238+247+15 = **500 ECS** Visitors Parking = 10% of the proposed parking = **49 ECS** Total Parking proposed = 500+49 = **549 ECS** Parking details, plan and basis of parking

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		as per NBC 2016 norms; is attached as **Annexure-VI (a, b & c).**
v)	Detailed calculation of generation and consumption of solar power need to be submitted. Proponent needs to submit the capacity of solar power PV system planned to install along with the nos of solar lights etc planned and total kVA, then % of total power load.	Total electric load is 1687 kVA and we are saving 20% energy of the total electrical load. Out of which 5% energy will be from solar. Roof Top panel: 400 W – 181 No's:72.4 kW. ➢ Landscape and Garden street lights : 60 Wx20 nos : 12 kW ➢ Roof Top Solar Water Heater @ 100 ltrs per flat (331 dwelling units x 100 ltrs: 33100 ltrs.). ➢ Provided 67 nos of 500 ltrs capacity solar water heater: 33500 ltrs of total solar water heater. So, we have provided total of 84.4 kW or 105.5 kVA solar energy saving from solar panels and solar street lights which is more than 5% of total energy demand. The Undertaking for 5 % energy saving and Solar panel layout are attached as **Annexure-VII (a& b).**
vi)	Land papers stating land is Gharabari.	Land papers are attached as **Annexure-VIII**.
vii)	The traffic assessment details considering 10 years future scenario with traffic management measures.	Traffic Study Report with management measures is attached as **Annexure-IX**.
viii)	AAI NOC should be submitted.	AAI NOC vide no. BHUB/EAST/B/032521/537293 dated 19.04.2021 is attached as **Annexure-X**.
ix)	Fire NOC should be submitted.	We have received Fire recommendation letter vide no. RECOMM1204130062021000293 dated 21.10.2021 from Odisha Fire Service. A copy of the same is attached as **Annexure-XI.** NOC will be received, once the project will be operational phase.
x)	NOC from CGWA for ground water extraction should be submitted.	We have received NOC from CGWA vide letter no. CGWA/NOC/INF/ORIG/2021/13870 dated 30.11.2021. Copy of the same is attached as **Annexure-XII**.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
xi)	NOC for Electricity should be submitted.	We have received NOC from TPCODL vide letter no. F697 dated 25.10.2021. Copy of the same is attached as **Annexure-XIII**.
xii)	PP should submit the NOC from DFO stating that the project is not coming under the ESZ of Nandan Kanan WLS.	NOC has been obtained from the DFO vide letter No. -6563/4F (Misc.) 315/2021 dated 17.11.2021 stating that the project is not coming under the ESZ of Chandaka Dampara WLS. Copy of the same is attached as **Annexure-XIV**.

Considering the information furnished and the presentation made by the consultant, **M/s Grass Roots Research And Creation India Pvt. Ltd., Noida** along with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 7 years with stipulated conditions as per **Annexure – B** in addition to the following specific conditions**.**

i) "Khatian" (Patta after Mutation) for the entire land from the appropriate Revenue Authority with 'Kisam' as Gharabari shall be obtained along with ownership before which construction work shall not start. **The Proponent before implementation of the project shall convert the land to Gharabari and shall take the ownership of the land if not already taken.**

ii) The Proponent shall obtain permission from the appropriate authority for discharge of excess treated water if any to the nearest existing drain. Also in case of the connecting drain passing through others land (Govt. or Private land), the Proponent shall obtain the permission and possession as the case may be.

iii) Since, discharge of treated waste water/ storm water is a great concern and pose a serious problem for dwellers later, besides being a major pollution/ environmental issue," NOC/ clearance/ permission from appropriate authority are not submitted and instead, stated to be " under process/ will be submitted in due course of time/ will deposit cost with BDA" etc. are very subjective statements without definite time frame which later on may not get due attention and ultimately, habitants suffer environment gets polluted.

iv) The drain map was shown and also the connectivity to main road drain (to be constructed by R&B Deptt). NOC from R&B authority has been obtained by the proponent. The proponent shall obtain the NOC to connect the drain from Madanpur Panchayat within 3 months in case it is to be constructed by them.

v) The proponent shall use solar energy of 5% as proposed.

vi) Trees located within the project area shall be de-rooted and re-rooted / transplanted to alongside the boundary green development area instead of cutting. If there will be any tree cutting required, requisite permission for the same shall be obtained from the Forest Department.

vii) To reduce discharge of treated water to open drain, the proponent shall use more water for increased number of trees proposed to be planted in the green belt area & shall also utilize this treated water for car washing, floor washing to minimize the surplus discharge to drain.

viii) The proponent shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of project report.

ix) **All the compliances submitted/ committed by PP (s) shall be strictly adhered to by them.**

ITEM NO. 03

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S UNITED CONSTRUCTION CORPORATION FOR PROPOSED CONSTRUCTION OF "RESIDENTIAL COLONY PROJECT WITH TOTAL PLOT AREA - 9,124.19SQM., AND TOTAL BUILT UP AREA-24,601.44 SQM AT MOUZA - BADARAGHUNATHPUR, BHUBANESWAR, KHORDHA OF SRI. TAPAN KUMAR MOHANTY (PARTNER) - EC

1. The proposal is for Environmental Clearance of M/s. United Construction Corporation for proposed construction of "Residential Colony Project with total plot area - 9,124.19Sqm.,and total built up area-24,601.44 sqm at Mouza - Badaraghunathpur, Bhubaneswar, Khordha of Sri. Tapan Kumar Mohanty (Partner).
2. The project falls under category "B" or activity 8 (a)-Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. M/s United Construction Corporation aims to provide a Residential Project located at Khata Nos. 270/3122, 270/3123, 400/3933, 400/3934 of Mouza- Badaraghunathpur, District Khurda, Bhubaneswar, Odisha on a land measuring 2.25 acres or 9124.19 m2. The project facilities include: 1 Towers i.e. Residential having 2 BHK (no. of dwelling units 186), gym, society room and departmental store. The site is coming under development plan of Bhubaneswar Development Authority.
4. **Location and Connectivity** - The Geographical coordinates of the project site is: Latitude: 20°13'43.38"N and Longitude: 85°43'41.86"E. The Nearest Highway is NH-16 which is 2.3 km (SE) away from project site, NH-57 which is 10 km (SSW) away from project site, NH-316 which is 13.0 (E) away from project site.SH-13 is 7.5 km towards NW direction. The nearest Railway Station is Retang Railway Station, 4.7 km (SE) away from the project site. Biju Patnaik International Airport, Bhubaneswar at 8.7 km (ENE) from project site.
5. The Detailed Area Statement of The Building:

S. No.	Description	Area (in m^2)
i)	Plot area	9,124.19
ii)	Permissible Ground Coverage (@50% of plot area)	4,562.095
iii)	Proposed Ground Coverage (@ 35.73% of plot area)	3,260.073

iv)	Permissible FAR (@3.0 of plot area)		27,372.57
v)	Proposed FAR (@ 2.14 of plot area)		**19,502.70**
	a.	Residential FAR	15105.38
	b.	Common Area FAR	4397.32
vi)	Non-FAR Area		**5,098.74**
	a.	Mumty + Service area	714.21
	b.	Stilt Floor	4384.53
vii)	Total Built-up area		24,601.44
viii)	Proposed Landscape area (33.12 % of plot area)		1472.80
ix)	Height of the tallest building (m)		14.95 m (up to terrace level)

6. **Water requirement**: The total water requirement will be Ground water met through Bore well which is approx.141 KLD, out of which total domestic water requirement is 129 KLD. The total domestic water will be 129 KLD, out of which fresh water requirement is approx. 85 KLD & flushing water will 44 KLD.
7. **Wastewater Generation & Treatment** - The project will generate approx. 112 KLD of wastewater. The wastewater will be treated in an onsite STP of 135 KLD capacity. The treated water (101KLD @ 90% of total waste water) will be reused for flushing (44 KLD), horticulture (12 KLD). Surplus treated water during dry season (45KLD), monsoon season (55 KLD) and winter season (52 KLD) will be discharged to external sewer with the requisite permission.
8. **Power requirement**: The power supply will be supplied by State Electricity Board. The requirement load for the project will be approx.760 kVA. 1 nos. of DG sets total 225 kVA capacity for power back up in the residential block and the services and annexure block. Silent DG sets (Radiator cooled). Separate generator yard will be constructed for the residential block.
9. **Rain Water Harvesting**: Total Runoff from Storm Water from Site is 264.31m^3 /hr so based on 1no. Harvesting pit volume 14.13 cum required 6 nos. Rain water Harvesting Pits.
10. **Parking Requirement**: Total Parking required Area is 4875.67 m2. Parking area proposed is 6275m2 or 214 ECS.
11. **Firefighting Installations:** Firefighting system will be installed as per recommendation of the Firefighting Officer, Odisha and as per the guideline of NBC (part-4).
12. **Green Belt Development:** Total green is proposed to be 3021.93 m^2 (33.12% of plot area) which will include Plantation area = 1916.07 m2 (21%) + Lawn area = 1105.86 m2 (12.12%). No. of Trees to be planted = 165 Nos.
13. **Solid Waste Management:** The solid waste generated from the project shall be approx. 503 kg per day.

14. The total estimated population of project is 1070 persons (including Residents + staff + visitors).

15. The estimated project cost is ` 57.942 Crores, Environment Management Cost = Rs.155 lakhs and recurring cost is 48 lakhs/year.

16. The project proponent along with the consultant **M/s Grass Roots Research And Creation India Pvt. Ltd., Noida** made a detailed presentation on the proposal on 16.11.2021.

17. The SEAC members have raised certain queries as follows. Out of such queries, some queries have already been complied by the proponent, some queries have to be stipulated as specific conditions in Environmental Clearance and some queries have to be complied by the proponent.

Sl. No.	Queries raised by the SEAC	Already complied by the proponent / To be complied by the proponent and / or specific condition to be stipulated in EC.
i)	The public drain to which the excess treated waste water will be discharged and the permission from the authority of the drain to be submitted to take the additional load indicating the starting point and fall out of the said public drain.	Plan showing internal drainage network with outfall point is attached as Annexure- VI. We will discharge the surplus treated water to existing drain which is situated at approx. 300 m in SE direction from the site and we are in progress to obtain the permission for the same. We will submit the copy of permission in due course of time. Copy of undertaking for the same is attached as **Annexure-II**. **Permission of the authority of the drain for use with additional load and the ownership of the land is required to be submitted.**
ii)	Internal drain network with dimensions, both for treated waste water and surface run off / storm water to be submitted.	
iii)	The ownership of the land to be used by project proponent for connecting their internal to the above public drain and permission to use the same.	To be complied by the proponent
iv)	"NOC" from CGWA and permission from Water Resource Department Govt. of Odisha to be submitted for drawl of ground water.	Specific condition to be stipulated in EC
v)	Green belt width with contour (dimensional layout be submitted). Plan for augmentation of green belts in space and number of trees be submitted to reduce the load of	**Total green is proposed to be** 3021.93 m^2 **(33.12 % of plot area).** > **Plantation area-1916.07 m^2 (21%) + Lawn area- 1105.86 m^2 (14.78%)**

	discharge of treated waste water.	> **No. of trees required = 1 tree/80 sq.m. of plot area =9124.19/80 = 112 no's Earlier, Total no. of trees proposed = 165 no's** **Now, As suggested by SEAC, Odisha, we are proposing the total no. of trees proposed =** 190 Nos. **Landscape plan is attached as** Annexure-I. **The undertaking w.r.t to increase the trees and for reuse of treated water is attached as** Annexure-II.
vi)	DG Set location w.r.t. predominant wind direction and location of the building towers be submitted through calculation of height of stack of DG Set works out to be 18 meters as per CPCB norms, it is mentioned as 6 meters and hence, needs correction Besides, the basis of selection of no. of DG Set and the capacity be submitted	To be complied by the proponent **Installation drawing of stack/exhaust pipe with dimension to be submitted.**
vii)	214 ECS is provisioned for 186 dwelling units including for visitors and floating population and without provision for two wheeler parking, taking the space of 18 m^2 /ECS. Thus, the following need to be confirmed: (a) Provision for two wheelers parking to be made and shown in the layout with dimension. (b) Provision need to be made for open parking for visitors and floating population and no. to be submitted. (c) Norm of space for each ECS with documentary evidence to the said effect to be submitted.	For residential area (25% of Proposed F.A.R) = 19,502.70*25/100 = 4875.67 m^2 Total Parking required Area = 4875.67 m^2 The parking provision: Area proposed for Surface parking = 488/23m^2 = 21 ECS Area proposed for Stilt Parking = 5787/28 m^2 = 207 ECS Parking proposed = 21+207 = 228 ECS The basis of parking as per NBC 2016 norms is attached as **Annexure-III**. **Provision of two wheeler parking in terms of ECS with space in the layout map to be submitted.**
viii)	Traffic study and its findings in terms of LOS (Level of Service) as per IRC norm to be submitted and mitigation plan as and if necessary be submitted	Traffic Study Report with management measures is attached as Annexure-VIII.
ix)	6 numbers rain water harvesting pits have been proposed. This is to be revisited and resubmitted. Considering maximum hourly rainfall based on 30 years data (Climate Logic	Earlier, we proposed 6 no's of the RWH Pits and after taking the 30 years of IMD data, it has been revised to 11 no's. Detailed calculations with RWH pit diagram and location plan of

	Data) and accordingly, no of rain water harvesting pits (RWHP) be calculated / decided along with the corresponding design of the pit including retention time (hold)showing the norms for the same	RWH pits are attached as Annexure-V (a & b).
x)	Internal road network with dimension be shown in the layout map and submitted along with provision for free movement of fire Tender	To be complied by the proponent.
xi)	Generation and consumption of solar power with plan and detail calculation be submitted, showing the percentage of the same against the total power demand	Total Load in KW = 854.0 KW The total energy will be 21 % (179.34 kVA) of total power load (854 kW or 1067.5 kVA). Break -up of the same is as follows: 5% (42.7 kVA) energy of total power load from solar lighting will be done in the common areas, stair cases, landscape areas, signages, entry/exit gates and boundary walls. 11% (93.94 kVA) will be through LEDs used in all rooms. 5% (42.7 kVA) will also be through LEDs in outdoor and common areas. Undertaking and Calculations for the same is given as Annexure-IV (a &b). **Solar power consumption detailed calculation be given against generation proposed.**
xii)	"Khatian" of the land with ownership/title of the land be submitted with 'Kisam' as "Gharabari"	Specific condition stipulated in EC.

18. The SEAC in its meeting held on Dt: 16.11.2021 decided to take decision on the proposal after receipt of following information / documents from the proponent including a site visit by Sub-Committee of SEAC.

19. The sub-Committee of SEAC visited the project site on dated 13.12.2021 and following observations and recommendations were made:

    i. From the proposed gate (entry & exit) of the proposed colony till the service road of the adjacent NH, the lead road distance around 500-700 m is narrow for two lane commutation. The PP stated that the road is 30ft wide. As such , the PP need to confirm the length & width of the said lead road with sketch & dimension and submit no objection from the land owner. In case of no objection from the land owner, PP should develop the present road to a good blacktop/concrete road to accommodate the traffic after development of the site.

    ii. There exist a gap of about 50 m between the tail end of the above lead road and the adjacent NH service road. The PP need to submit 'No Objection' from the land

owner/NH authority for movement of vehicles of the residents of the above said residential colony.

iii. The two separate gates (entry & exit) of appropriate dimension with corresponding pedestrian pathways shall be maintained as shown in the south side of the boundary. The PP need to confirm the above with dimension showing of the layout map.

iv. The PP stated and showed an uncovered RCC drain (existing) in south-east direction adjacent to east side of the plot for some lead distance followed by swampy area (Spread of Earthen Nala (type) joining the Govt drain passing underneath the NH which ultimately stated to have fallen in Gangua nala for discharge of excess treated waste water & excess storm water. Thus, the PP needs to comply the following:

a) Construction of appropriate covered RCC drain till it falls the Govt. drain at NH indicated above including the ROW of the land for the purpose from the land owner.

b) Permission from the appropriate authority of the drain at NH to take the additional load of liquid discharge (excess treated waste water & excess storm water) of this proposed residential colony.

20. The project proponent has furnished compliances as requested by the SEAC and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
i)	Permission of the authority of the drain for use with additional load and the ownership of the land is required to be submitted.	We are in process to obtain permission for drain from the concerned authority. We will submit copy of permission in due course of time. An undertaking regarding the same, is attached as **Annexure-I**.
ii)	The ownership of the land to be used by project proponent for connecting their internal to the above public drain and permission to use the same. The storm water drain and surplus STP treated water drain should be different. The size of sewerage drain will be increased by PP. Permissions required from concerned Authorities. RCC Drain and Pipeline should be provided. Site plan showing connectivity of the drain should be submitted.	The Land connecting to the public drain was sold to Kalinga Builders (P) Ltd. which has been purchased by M/s United Construction Corporation. Kalinga Builders have already submitted 1% cost of the total project cost to BDA for infrastructure development. Copy of the letter is attached as **Annexure-II.** The storm water drain and Sewerage drain will be different as per suggestions of SEAC. The PP will bear the cost of maintenance of the drain to increase the size with permission of concerned authority. We are in process to obtain the requisite permission. We will submit copy of the same in due course of time. An undertaking in this regard, is attached as

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		Annexure-I. The Plan showing connectivity of the Drain is attached as **Annexure-III (a& b).**
iii)	DG Set location w.r.t. predominant wind direction and location of the building towers be submitted through calculation of height of stack of DG Set works out to be 18 meters as per CPCB norms, it is mentioned as 6 meters and hence, needs correction. Besides, the basis of selection of no. of DG Set and the capacity be submitted. **Installation drawing of stack/exhaust pipe with dimension to be submitted.**	The stack height of DG sets will be provided as per the CPCB guidelines: Formula:- H = h+0.2√ kVA Where: H = Total height of stack in meter h = Height of the building in meters kVA = Total generator capacity of the set in kVA • For 225 kVA DG Sets Stack Height= 14.95 +.2 x√250 = 14.95 + 0.2 x 15 = 17.95 mtr say 18 mtr **Predominant wind direction is East to West and the DG stack location is in NE direction.**
iv)	Provision of two wheeler parking in terms of ECS with space in the layout map to be submitted.	For residential area (25% of Proposed F.A.R) = 19502.70*25/100 = 4875.67 m2 Total Parking required Area = 4875.67 m2 Earlier, we have proposed 207 ECS. Revised parking details are given below : Area proposed for Surface Parking = 488/23 m2 = 21.21 ECS SAY 21 ECS Area proposed for Stilt Parking = 5787/28 m2 = 206.67 ECS SAY 207 ECS Parking proposed = 21+207 = 228 ECS Total Parking Area proposed=5787 m2 We have increased 20 no's (10 ECS) of 2 wheeler parking on surface Parking proposed = 21+207+10 = 238

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		ECS Visitors Parking = 10% of the proposed parking = 23.8 say 24 ECS **Total Parking proposed including visitors parking = 238+24 = 262 ECS** Parking plan and the basis of parking as per NBC 2016 norms is attached as **Annexure-IV (a & b)**
v)	Internal road network with dimension be shown in the layout map and submitted along with provision for free movement of fire Tender.	The site plan has been designed as per BDA bye laws and 6.0 m road is sufficient for Fire tender Movement. The main road width is 30 feet is also as per BDA norms. The Plan showing the Internal road network with dimension along with provision for free movement of fire Tender is enclosed as Annexure-IV (a) and copy of the relevant pages of BDA byelaws; are attached as Annexure-V (a & b).
vi)	Solar power consumption detailed calculation be given against generation proposed. Proponent needs to submit the capacity of solar power PV system planned to install along with the nos of solar lights etc planned and total kVA, then % of total power load	Total electrical load in kW = 854.0 KW That the total energy will be 21 % (179.34 kVA) of total power load (854 kW). Break - up of the same is as follows: • 5% (42.7 kVA) energy of total power load from solar lighting will be done in the common areas, stair cases, landscape areas, signages, entry/exit gates and boundary walls. • 11% (93.94 kVA) will be through CFL/LEDs used in all rooms. • 5% (42.7 kVA) will also be through LEDs in outdoor and common areas. Calculation and Undertaking for the same is given as **Annexure-VI(a) and Annexure-VI(b)**.
vii)	Rain water harvesting calculation should be revised	Earlier, the RWH pits were proposed 6 no's and the revised RWH pits will be 11 no's. Revised Rain Water Harvesting Calculations are enclosed as **Annexure-VII.**
viii)	Continuous green belt should be in Landscape plan.	We left some areas only for facilities i.e Entry/Exit, DG/Transformers, STP, Road etc, rest area have continuous green belt. Landscape plan is attached as **AnnexureVIII**.

Considering the information furnished and the presentation made by the consultant, **M/s Grass Roots Research And Creation India Pvt. Ltd., Noida** along with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 7 years with stipulated conditions as per **Annexure – C** in addition to the following specific conditions**.**

i) "NOC" from CGWA and permission from Water Resource Department Govt. of Odisha shall be obtained for drawl of ground water.

ii) "Khatian" of the land with ownership/title of the land shall be converted with 'Kisam' as "Gharabari" before going for construction activity. **The Proponent before implementation of the project shall convert the land to Gharabari and shall take the ownership of the land if not already taken.**

iii) The Proponent shall obtain permission from the appropriate authority for discharge of excess treated water if any to the nearest existing drain. Also in case of the connecting drain passing through others land (Govt. or Private land), the Proponent shall obtain the permission and possession as the case may be.

iv) Since, discharge of treated waste water/ storm water is a great concern and pose a serious problem for dwellers later, besides being a major pollution/ environmental issue," NOC/ clearance/ permission from appropriate authority are not submitted and instead, stated to be " under process/ will be submitted in due course of time/ will deposit cost with BDA" etc. are very subjective statements without definite time frame which later on may not get due attention and ultimately, habitants suffer environment gets polluted.

v) **All the compliances submitted/ committed by PP (s) shall be strictly adhered to by them**.

vi) From the proposed gate (entry & exit) of the proposed colony till the service road of the adjacent NH, the lead road distance around 500-700 m is narrow for two lane commutation. The PP stated that the road is 30ft wide. As such, the PP need to confirm the length & width of the said lead road with sketch & dimension and submit no objection from the land owner. In case of no objection from the land owner, PP should develop the present road to a good blacktop/concrete road to accommodate the traffic after development of the site.

vii) There exist a gap of about 50 m between the tail end of the above lead road and the adjacent NH service road. The PP shall obtain 'No Objection' from the land owner/NH authority for movement of vehicles of the residents of the above said residential colony.

viii) The two separate gates (entry & exit) of appropriate dimension with corresponding pedestrian pathways shall be maintained as shown in the south side of the boundary.

ix) The PP stated and showed an uncovered RCC drain (existing) in south-east direction adjacent to east side of the plot for some lead distance followed by swampy area (Spread of Earthen Nala (type) joining the Govt drain passing underneath the NH which ultimately

stated to have fallen in Gangua nala for discharge of excess treated waste water & excess storm water. Thus, the PP shall comply the following:

a) Construction of appropriate covered RCC drain till it falls the Govt. drain at NH indicated above including the ROW of the land for the purpose from the land owner.

b) Permission from the appropriate authority of the drain at NH to take the additional load of liquid discharge (excess treated waste water & excess storm water) of this proposed residential colony.

x) The proponent shall use solar energy of 5% of total power consumption as proposed.

xi) Trees located within the project area shall be de-rooted and re-rooted / transplanted to alongside the boundary green development area instead of cutting. If there will be any tree cutting required, requisite permission for the same shall be obtained from the Forest Department.

xii) To reduce discharge of treated water to open drain, the proponent shall use more water for increased number of trees proposed to be planted in the green belt area & shall also utilize this treated water for car washing, floor washing to minimize the surplus discharge to drain.

xiii) The proponent shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of project report.

xiv) The EC is subject to permissions from all statutory authority including BDA for the connecting road width and ownership or right to use of the road from the appropriate authority.

ITEM NO. 04

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S. BUILDERS CONSORTIUM TRIDEV FOR PROPOSED CONSTRUCTION OF "RESIDENTIAL COLONY PROJECT WITH TOTAL PLOT AREA -16,156.74SQM., AND TOTAL BUILT UP AREA-39,757.3 SQM AT NEAR PRATAPNAGARI, DIST-CUTTACK OF SRI. CHETAN KUMAR TEKARIWAL (PARTNER) – EC

1. The proposal is for Environmental Clearance of M/s. Builders Consortium Tridev for proposed construction of "Residential Colony Project with total plot area -16,156.74Sqm., and total built up area-39,757.3 sqm at near Pratapnagari, Dist-Cuttack of Sri. Chetan Kumar Tekariwal (Partner).
2. The project falls under category "B" or activity 8 (a)-Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. M/s Builders Consortium Tridev aims to provide a Residential Colony Project located at Plot No. 1966, 1967, 1977/3199, 1978, 1981, 1987, 1988, 1989/6084, 1990, 1991, 1993, 1995, 1998, 1999, 2001, 2004, 2005, 2006, 2009, 2029, Khata No.932,922/210,918,985/385,11D-1,863,90,365,985/665,985/666,937,938,985/668, 985/667, 916,363, 985/667,985/668,985/669, 922/210, Mouza- Pratapnagari, District-Cuttack, Odisha. The site is coming under development plan of Cuttack Development Authority. There are Total 7 Towers i.e. Residential having 2 & 3 BHK. Residential Dwelling Units

(265 nos.), Departmental Store, Club House and Swimming Pool.

4. **Location and Connectivity** - The Geographical coordinates of the project site is: Latitude: 20°23‘45.83"N and Longitude: 85°53‘03.59"E. The nearest Railway Station being Gopalpur Balikuda Railway Station & Bhubaneswar New Junction Railway Station are about 4 km (ESE) & 5 km (WSW) away from the project site and Biju Patnaik International Airport is at 17 km (SSW) from project site.

5. The Detailed Area Statement of The Building:

S. No.	Description	Area (in m^2)
i)	Plot area	16,156.74
ii)	Permissible Ground Coverage (@50% of plot area)	8,078.37
iii)	Proposed Ground Coverage (@ 49.9% of plot area)	8,062.213
iv)	Permissible FAR (@7 of plot area)	1,06,097.18
v)	Total Proposed FAR (@ 1.95 of plot area)	31,505.95
vi)	**Non-FAR Area**	8,251.35
	• Services Area	597.43
	• Mumty Area	266.99
	• Stilt Area	7,386.93
vii)	Total Built-up area	39,757.3
viii)	Proposed Open Area	2,725.647
ix)	Required Parking Area as per bye laws (@25% of FAR area)	7876.49
x)	Proposed Parking Area (@30.36% of FAR area)	9565.56
xi)	Proposed Green Area (@33.23% of the plot area)	5,368.88 [which includes 22% area (3,554.48 sqm) for Green belt & 11.23 % area (590.576 sqm) for lawn]
xii)	Height of the tallest building (m) (up to terrace level)	14.95m

6. **Water requirement**: The total water requirement will be Ground water met through Bore well which is approx.210 KLD, out of which total domestic water requirement is 187 KLD. The total domestic water will be 187 KLD, out of which fresh water requirement is approx. 123 KLD & flushing water will 64 KLD.

7. **Wastewater Generation & Treatment** - The project will generate approx. 163 KLD of wastewater. The wastewater will be treated in an onsite STP of 196 KLD capacity. The treated water (147KLD @ 90% of total waste water) will be reused for flushing (64 KLD), horticulture (22 KLD). Surplus treated water during dry season (61 KLD), monsoon season (80 KLD) and winter season (72 KLD) will be discharged to external sewer/drain with the requisite permission.

8. **Power requirement**: The power supply will be supplied by State Electricity Board. The requirement load for the project will be approx. 1968 kW. 1 nos. of DG sets total 340 kVA capacity for power back up in the residential block and the services and annexure block.

Silent DG sets (Radiator cooled). Separate generator yard will be constructed for the residential block.

9. **Rain Water Harvesting**: Total 4 RWH tanks at different locations will be constructed. Volume of each tank will be (6.5 m × 5.5 m × 2.5 m) = 89.37 m^3.
10. **Parking Requirement**: Total Parking required Area is 19.61.62 m^2. Parking area proposed is 8935.56 m^2 or 299 ECS.
11. **Firefighting Installations:** Firefighting system will be installed as per recommendation of the Firefighting Officer, Odisha and as per the guideline of NBC (part-4).
12. **Green Belt Development:** Total green is proposed to be 5,368.88 m^2 (33.23 % of plot area which includes Plantation Area-21% + Lawn area –11.23%). No. of Trees to be planted = 287 Nos.
13. **Solid Waste Management:** The solid waste generated from the project shall be approx. 749 kg per day.
14. The total estimated population of project is 1659 persons (including Residents + staff + visitors).
15. The estimated project cost is ` 95.55 Crores. Environment Management Cost = ` 40.318 lakhs and recurring cost is ` 19.079 lakhs/year.
16. The project proponent along with the consultant **M/s Grass Roots Research And Creation India Pvt. Ltd., Noida** made a detailed presentation on the proposal on 16.11.2021.
17. The SEAC members have raised certain queries as follows. Out of such queries, some queries have already been complied by the proponent, some queries have to be stipulated as specific conditions in Environmental Clearance and some queries have to be complied by the proponent.

Sl. No.	Queries raised by the SEAC	Already complied by the proponent / To be complied by the proponent and / or specific condition to be stipulated in EC.
i)	Quantity of discharge of treated waste water to drain be indicated during monsoon, non-monsoon and winter season with variation in use of this same for horticulture purposes.	To be complied by the proponent
ii)	04 no. of rain water harvesting pits (RWHP) have been proposed considering 40 mm/hr peak hour rain fall in 24 hours and 20 minutes retention time as such, peak hour rainfall considered is too low and hence, no. of pits. This will cause flooding with heavy rainfall. Thus, the following be submitted. a) Maximum hourly rainfall be taken based on 30 years data (Climate	Earlier, we proposed 4 no's of the RWH Tanks and after taking the 30 years of IMD data, it has been revised to 5 no's of tanks. Detailed calculations with RWH tank location plan are attached as Annexure-V (a, & b). **Rain water harvesting pits to be recalculated considering the retention time (hold).**

Sl. No.	Queries raised by the SEAC	Already complied by the proponent / To be complied by the proponent and / or specific condition to be stipulated in EC.
	Logic Data) and accordingly no. of rain water harvesting pits be calculated / decided along with the corresponding design of the pit including retention time (hold) showing the norm for the same.	
iii)	Installation drawing with dimension of the DG Set stack height of 30 mtrs proposed be shown against the height of the tallest building of 14.95 mtrs. besides showing the location of the DG Set with reference of predominant wind direction and position of the building tower. Also number of DG Set is proposed as (1) number with capacity of 340 KVA. Thus, the basis of selection of number of DG Set and the capacity be submitted.	The building height will be 14.95 m. We are considering the stack height for 340 kVA DG Sets : Stack Height= 14.95 +.2 xVl500 = 14.95 + 0.2 x 15 = 17.95 mtr say 18 mtr However, Stack height is considered as 30 m as per CPCB norms & the CPCB norms for maintain minimum 30 m height is attached as **Annexure-VIII**. **Stack/exhaust pipe installation drawing for 30 mtr height of DG Set to be submitted.**
iv)	**<u>Parking:</u>** 299 ECS parking is provisioned for 265 dwelling units with only 04 ECS for open space parking and without provisions for two wheeler parking, taking the space of 30 m^2 /Car for stilt parking and 25 m^2 /Car for open parking. Hence, the following need to be confirmed: (a) Provision for parking for two wheelers to be made. (b) Increasing suitability the open space surface parking from 04 nos. indicated above. (c) Norm for space of each ECS with documentary evidence be submitted.	As per Cuttack development authority bye-laws: For residential area including club (25% of Proposed F.A.R) = 7876.49 * 25/100 Total Parking required Area= 1,961.62m^2 Parking Proposed: Area proposed for Stilt parking = 8842.21 Area proposed for 1 ECS of Stilt parking = 28 m^2 Parking proposed for Stilt parking = 316 ECS Area proposed for Surface Parking = 93.35 m^2 Area proposed for 1 ECS of Surface Parking = 23 m^2 Parking proposed for Surface Parking = 4 ECS TOTAL PARKING PROPOSED = 316+ 4 = 320 ECS Detailed parking requirement with provision and the basis of parking as per NBC 2016 norms is attached as

Sl. No.	Queries raised by the SEAC	Already complied by the proponent / To be complied by the proponent and / or specific condition to be stipulated in EC.
		Annexure-III. **1. Parking to be revisited with respect to surface parking which is inadequate and considering floating population of at least 10%.** 2. **Provision of two wheeler parking in terms of ECS with space in the layout map to be submitted.**
v)	Green belt width with contour (dimensional layout be submitted). Plan for augmentation of green belts in space and number of trees be submitted to reduce the load of discharge of treated waste water.	Total green is proposed to be 5368.88 m^2 (33.23% of plot area). > Plantation area-3554.48m^2 (22%) + Lawn area-590.576 m^2 (11.23%) > No. of trees required = 1 tree/80 sqm. of plot area =16156.74/80 = 202 no's Earlier, we proposed no. of trees = 287 Nos. As per SEAC suggestions, we are increasing the trees from 287 no's to 300 no's Landscape plan showing green area with increased trees and Undertaking for reuse of treated water is attached as Annexure-I & II.
vi)	Traffic study and its findings in terms of LOS (Level of Service) as per IRC norm to be submitted and mitigation plan as and if necessary be submitted.	Traffic Study Report with management measures is attached as Annexure-IX.
vii)	Internal road network with dimension be shown in the layout map and submitted along with provision for free movement of fire Tender.	To be complied by the proponent.
viii)	Generation and consumption of solar power with plan and detail calculation be submitted, showing the percentage of the same against the total power demand.	Total electric load is 1968 kW. The total energy will be 22 % (432.96 kW) of total power load (1968 kW). Breakup of the same is as follows : 5% (98 kW) energy of total power load from solar lighting will be done in the common areas, stair cases, landscape areas, signages, entry/exit gates and boundary walls. • 12% (236.16 kW) will be through CFL/LEDs used in all rooms.

Sl. No.	Queries raised by the SEAC	Already complied by the proponent / To be complied by the proponent and / or specific condition to be stipulated in EC.
		• 5% (98kW) will also be through LEDs in outdoor and common areas. The solar energy calculations sheet is attached as Annexure**-IV**.
ix)	"Khatian" of the land with ownership/title of the land be submitted with 'Kisam' as "Gharabari".	Specific condition to be stipulated in EC.
x)	The public drain to which the excess treated waste water will be discharged and the permission from the authority of the drain to be submitted to take the additional load indicating the starting point and fall out of the said public drain.	Plan showing internal drainage network with outfall point is attached as Annexure-VI. There is no existing drain for storm water and surplus treated water discharge in the proposed area. However, we have applied to PHED department (vide letter no. PLG-BP-303/2021) for the same. Acknowledgement copy of the same is attached as Annexure-VII (a). We are in progress to obtaining the permission for the same. We also will submit 1% of total project cost towards construction of the drain for the above said purpose. We will submit the copy of the permission in due course of time. Undertaking stating the same is enclosed as Annexure-II.
xi)	Internal drain network with dimensions, both for treated waste water and surface run off / storm water to be submitted.	
xii)	The ownership of the land to be used by project proponent for connecting their internal to the above public drain and permission to use the same.	To be complied by the proponent.
xiii)	"NOC" from CGWA and permission from Water Resource Department Govt. of Odisha to be submitted for drawl of ground water.	Specific condition to be stipulated in EC.

18. The SEAC in its meeting held on Dt: 16.11.2021 decided to take decision on the proposal after receipt of following information / documents from the proponent including a site visit by Sub-Committee of SEAC.

19. The sub-Committee of SEAC visited the project site on dated 13.12.2021 and following observations and recommendations were made:

    i. The proposed site is a low lying flood prone water logging area on the left side of NH while coming from Cuttack to Bhubaneswar. Further, between NH and plot area, a canal exits, over which, the PP has constructed a bridge of 10-15ft wide. The site needs to be elevated above the height of NH/Highest flood level

(HFL) suitably in consultation with the approved architect & construction engineer of the development authority to prevent water logging/local flooding due to heavy rain.

ii. The proposed site is at 150-200 m distance from the adjacent NH and in between is the Phulnakhara Branch. Thus, the PP needs to construct a strong permanent "**step over**" / cross over the canal to connect the site with NH with due permission of canal Authority of WR Dept, Govt. of Odisha & ROW for it. The step over should be of appropriate width (two lane) for to & fro movement of the 4 wheelers & 2 wheelers vehicles of the residents of the colony including the visitors. Also, the PP needs to obtain ROW from NH authority for use of land adjacent to NH for the above said purpose.

iii. The PP states that they will discharge the excess storm water of the operating project to Phulnakhara Branch situated in the west side of the project. As such, they need to take permission from the appropriate authority of Phulnakhara Branch canal, WR Dept, Govt. of Odisha, including the ROW for the land to be used for the purpose for connecting the storm water drain of the colony to the canal from the land owner.

iv. For discharge of excess treated waste water, the PP stated that they will discharge the same to the natural nala existing on the east side of the project which could not be located and may be located in the revenue map with certification from the concerned RI/Tahasildar as the case may be. As such, the PP is required to locate the same in consultation with "Prachi division" of WR Dept, Govt. Of Odisha and show the layout with sketch of the same with dimension of the cross section and length of the drain and submit the following.

a) Permission from WR Dept that they will allow discharge of the treated waste water into natural nala, if it really exists.

b) Onus of the construction of the RCC Drain, i.e. the PP & WR dept a "deposit scheme" with WR dept.

c) The beginning and end of the said natural nala be confirmed from WR department.

d) 'ROW' of the land for the land between project boundary & the public drain/nala stated above.

v. To confirm the continuous green belt around the boundary, leaving aside the gates showing the dimensions (length, width, and tire of plantation)

vi. To confirm and show with dimension in the layout map for separate gate for entry & exit with corresponding pedestrian pathways with suitable dimension.

20. The project proponent has furnished compliances as requested by the SEAC and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
1.	Quantity of discharge of treated	Total water requirement will be 210 KLD.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	waste water to drain be indicated during monsoon, non-monsoon and winter season with variation in use of this same for horticulture purposes.	Domestic water requirement will be 187 KLD, Out of which, fresh water will be 123 KLD and flushing will be 64 KLD. Surplus treated water will be as follows : 61 KLD during summer season. 80 KLD during monsoon season. 72 KLD during winter season. Water management with water balance diagram is attached as **Annexure-I**.
2.	Rain water harvesting pits to be recalculated considering the retention time (hold).	Revised Rain Water Harvesting Calculations are enclosed as **Annexure-II**.
3.	Stack/exhaust pipe installation drawing for 30 mtr height of DG Set to be submitted.	The building height will be 14.95 m. We are considering the stack height for 340 kVA DG Sets : Stack Height= 14.95 +.2 x√340 = 14.95 + 0.2 x 3.4 = 15.63 say 16 mtr **As per CPCB Stack height formula, the height of DG stack is 16 m. Hence, we will maintain the same.** DG stack location on plan is enclosed as **Annexure-III (a).**
4.	Parking to be revisited with respect to surface parking which is inadequate and considering floating population of at least 10%.Provision of two wheeler parking in terms of ECS with space in the layout map to be submitted.	**As per Cuttack development authority bye-laws:** For residential area including club (25% of Proposed F.A.R) = 31,505.95* 25/100 **Total Parking required Area = 7,876.487m2** **<u>Revised Parking Proposed:</u>** Area proposed for Stilt parking= 8842.21 m² Area proposed for 1 ECS of Stilt parking= 28 m² **Parking proposed for Stilt parking = 316 ECS** Area proposed for Surface Parking = 93.35 m2 Area proposed for 1 ECS of Surface Parking= 23 m² **Parking proposed for Surface Parking = 4 ECS**

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		TOTAL PARKING PROPOSED = 316+ 4 = 320 ECS We have increased 20 no's (10 ECS) of 2 wheeler parking on Stilt. Parking proposed = 316+4+10 = 330 ECS Visitors Parking = 10% of the proposed parking = 33 ECS Total Parking proposed including visitors parking = 330 +33 = 363 ECS Detailed parking calculations, parking plan and the basis of parking as per NBC 2016 norms is attached as **AnnexureIII(a&b).**
5.	Internal road network with dimension be shown in the layout map and submitted along with provision for free movement of fire Tender.	The Internal road network with dimension along with provision for free movement of fire Tender is as per CDA bye laws. The main road width is 9.0 m and Internal road is 6.0 m and the same is sufficient for Fire tender movement. Plan showing all the dimensions and width of the road is attached as **Annexure-III (a)**. Copy of the relevant pages of state bye laws is attached as **Annexure-IV (a&b)**.
6.	The ownership of the land to be used by project proponent for connecting their internal to the above public drain and permission to use the same. The Lake will be used for Storm water only and Sewerage drain should be separate. Permissions should be taken from concerned Authorities. Land ownership papers if any private land is coming to lay the pipeline for connectivity. RCC Drain and Pipeline should be provided.	We will discharge the storm water in Lake after obtaining permission from the concerned authority and the surplus STP treated water will be discharged to sewer drain. Permissions for the same are in process and we will submit in due course of time. Also, we have submitted 1% cost of the total project cost for infrastructure development. We will maintain the same accordingly. Undertaking stating the same is enclosed as **Annexure-V**.
7.	Solar power consumption detailed calculation be given against generation proposed. Proponent needs to submit the capacity of solar power PV system planned to install along with the nos. of solar lights etc. planned and total kVA, then % of total power load.	Total electric load is 1968 kW. The total energy will be 22 % (432.96 kW) of total power load (1968 kW). Breakup of the same is as under: • 5% (98 kW) energy of total power load from solar lighting will be done in the common areas, stair cases, landscape areas, signages, entry/exit gates and boundary walls.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		• 12% (236.16 kW) will be through CFL/LEDs used in all rooms. • 5% (98 kW) will also be through LEDs in outdoor and common areas. The solar energy calculations sheet, is attached as **Annexure-VI**.
8.	The plan showing continuous green belt should be submitted.	We have proposed continuous landscaping as feasible in the plan. We have left the area only for facilities i.e DG, Transformer, STP, Road etc without green belt. Rest the plan showing continuous green belt is attached as **Annexure-III**.

Considering the information furnished and the presentation made by the consultant, **M/s Grass Roots Research And Creation India Pvt. Ltd., Noida** along with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 7 years with stipulated conditions as per **Annexure – D** in addition to the following specific conditions**.**

i) "NOC" from CGWA and permission from Water Resource Department Govt. of Odisha shall be obtained for drawl of ground water.

ii) "Khatian" of the land with ownership/title of the land shall be converted with 'Kisam' as "Gharabari" before going for construction activity. **The Proponent before implementation of the project shall convert the land to Gharabari and shall take the ownership of the land if not already taken.**

iii) The Proponent shall obtain permission from the appropriate authority for discharge of excess treated water if any to the nearest existing drain. Also in case of the connecting drain passing through others land (Govt. or Private land), the Proponent shall obtain the permission and possession as the case may be.

iv) Since, discharge of treated waste water/ storm water is a great concern and pose a serious problem for dwellers later, besides being a major pollution/ environmental issue," NOC/ clearance/ permission from appropriate authority are not submitted and instead, stated to be " under process/ will be submitted in due course of time/ will deposit cost with BDA" etc. are very subjective statements without definite time frame which later on may not get due attention and ultimately, habitants suffer environment gets polluted.

v) **All the compliances submitted/ committed by PP (s) shall be strictly adhered to by them.**

vi) The proposed site is a low lying flood prone water logging area on the left side of NH while coming from Cuttack to Bhubaneswar. Further, between NH and plot area, a canal exits, over which, the PP has constructed a bridge of 10-15ft wide. The site shall be

elevated above the height of NH/Highest flood level (HFL) suitably in consultation with the approved architect & construction engineer of the development authority to prevent water logging/local flooding due to heavy rain.

vii) The proposed site is at 150-200 m distance from the adjacent NH and in between is the Phulnakhara Branch. Thus, the PP shall construct a strong permanent "step over" / cross over the canal to connect the site with NH with due permission of canal Authority of WR Dept, Govt. of Odisha & ROW for it. The step over should be of appropriate width (two lane) for to & fro movement of the 4 wheelers & 2 wheelers vehicles of the residents of the colony including the visitors. Also, the PP shall obtain ROW from NH authority for use of land adjacent to NH for the above said purpose.

viii) The PP states that they will discharge the excess storm water of the operating project to Phulnakhara Branch situated in the west side of the project. As such, they shall take permission from the appropriate authority of Phulnakhara Branch canal, WR Dept, Govt. of Odisha, including the ROW for the land to be used for the purpose for connecting the storm water drain of the colony to the canal from the land owner.

ix) For discharge of excess treated waste water, the PP stated that they will discharge the same to the natural nala existing on the east side of the project which could not be located and may be located in the revenue map with certification from the concerned RI/Tahasildar as the case may be. As such, the PP is required to locate the same in consultation with "Prachi division" of WR Dept, Govt. of Odisha. The proponent shall comply the following.

a) Permission from WR Deptt. shall be obtained for discharge of the treated waste water into natural nala, if it really exists.

b) Onus of the construction of the RCC Drain, i.e. the PP & WR dept a "deposit scheme" with WR dept.

c) The beginning and end of the said natural nala be confirmed from WR department.

d) 'ROW' of the land for the land between project boundary & the public drain/nala stated above.

x) The proponent shall develop the continuous green belt around the boundary, leaving aside the gates showing the dimensions (length, width, and tire of plantation).

xi) The proponent shall provide separate gate for entry & exit with corresponding pedestrian pathways with suitable dimension.

xii) The proponent shall use solar energy of 5% of total power consumption as proposed by installing required capacity Solar PV system.

xiii) Trees located within the project area shall be de-rooted and re-rooted / transplanted to alongside the boundary green development area instead of cutting. If there will be any tree cutting required, requisite permission for the same shall be obtained from the Forest Department.

xiv) To reduce discharge of treated water to open drain, the proponent shall use more water for increased number of trees proposed to be planted in the green belt area & shall also utilize this treated water for car washing, floor washing to minimize the surplus discharge to drain.

xv) Height of DG set shall be minimum 30 mtr as per CPCB guidelines.

xvi) The proponent shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of project report.

ITEM NO. 05

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S. ZJSH SPV PVT. LTD. FOR PROPOSED CONSTRUCTION OF "RESIDENTIAL COLONY PROJECT" WITH TOTAL PLOT AREA-11,549.74SQM., TOTAL BUILT UP AREA-98,078.69 SQM AT CHANDRASEKHARPUR, DISTRICT-KHURDHA OF SRI. TAPAN KUMAR MOHANTY (DIRECTOR) - EC

1. The proposal is for Environmental Clearance of M/s. ZJSH SPV Pvt. Ltd. for proposed construction of "Residential Colony Project" with total plot area-11,549.74Sqm., and total built up area-98,078.69 sqm. at Chandrasekharpur, District-Khurdha of Sri. Tapan Kumar Mohanty (Director).
2. The project falls under category "B" or activity 8 (a)-Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. M/s ZJSH SPV Pvt. Ltd. aims to provide a Residential Project at Plot No. 326 (P) & 324 (P), Khata No.-619, Mouza- Chandrasekharpur, District-Khurda, Bhubaneswar, Odisha on a land measuring 11,549.74 m2 (2.854 acres). The site is coming under development plan of Bhubaneswar Development Authority. There are Total 3 Towers i.e. Residential (Tower 1 to 3) having 2 BHK, 3 BHK & 4 BHK (total dwelling units – 410nos.) swimming pool & Club.
4. **Location and Connectivity** - The Geographical coordinates of the project site is: Latitude: 20°19'19.45"N and Longitude: 85°48'58.85"E. The site is adjacent to Prachi Enclave road in East and Care Hospital Road in South direction. Nearest NH-16 which is approx. 3.2 km in SE direction. The nearest railway station is Mancheswar Railway Station approx. 3.0 km in East direction from the project site and Biju Patnaik International Airport is at a distance of approx. 6.8 km in South direction from the project site.
5. The Detailed Area Statement of The Building:

S. NO.	PARTICULARS	AREA (SQ.M.)
i)	Total Plot area	11,549.74
ii)	Permissible Ground coverage (@40%)	4,619.88
iii)	Proposed Ground coverage @ 39.64 % of plot area)	4,578.92
iv)	Permissible F.A.R (@ 6.48 of plot area)	74,784.30

v)	Proposed F.A.R (@ 6.47 of plot area)		74,741.52
	a.	Residential	71,609.41
	b.	Club	3132.11
vi)	Non FAR area		4096.75
vii)	Stilt area		3262.77
viii)	Refuge area		833.98
ix)	Basement Area		19,240.42
x)	Basement-1		9603.87
xi)	Basement-2		9636.55
xii)	Total Built-up Area (5+6+7)		98,078.69
xiii)	Maximum Height of the Building (m) (2B+G+31)		102 m
xiv)	Landscape area (33.5 % of plot area)		3,862.99

6. **Water requirement**: The total water requirement will be met through Ground Water and Bore well which is approx. 378 KLD, out of which total domestic water requirement is 353 KLD. The total domestic water will be 353 KLD, out of which fresh water requirement is approx. 232 KLD & flushing water will 122 KLD. Makeup water for swimming pool will be 1 KLD.
7. **Wastewater Generation & Treatment** - The project will generate approx. 307 KLD of wastewater. The wastewater will be treated in an onsite STP of 370 KLD capacity. The treated water (276 KLD @ 90% of total waste water) will be reused for flushing (122 KLD), horticulture (24 KLD). Surplus treated water during dry season (130 KLD), monsoon season 152 KLD) and winter season (147 KLD) will be discharged to external sewer with the requisite permission.
8. **Power requirement**: The power supply will be supplied by TP Central Odisha Distribution Limited (TPCODL). The requirement load for the project will be approx. 2145.30 kW or 2681.63 kVA. There is provision of 3 nos. of DG sets total 3010 kVA (1*1500 kVA+1*500 kVA) capacity for power back up in the project. 1*1010 kVA DG set will be kept as stand by. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion.
9. **Rain Water Harvesting**: Total Runoff from Storm Water from Site is 288.99m³ /hr.so based on 1no. Harvesting pit volume 14.13 cum required 5 nos. Rain water Harvesting Pits.
10. **Parking Requirement**: Total parking area requirement will be 22,422.456 m2 and provision will 22,503.19 m2. And Total Parking i.e 781 ECS (710 ECS + 71 Visitor parking) will be provided.
11. **Firefighting Installations:** Firefighting system will be installed as per recommendation of the Firefighting Officer, Odisha and as per the guideline of NBC (part-4).

12. **Green Belt Development:** Total green area measures 3,862.99 m2 i.e. (33.5 % of the plot area) which will include Plantation area-2425.5 m2 (21%) + Lawn area-1,437.49 m2 (12.5%).No. of trees required = 1 tree/80 sq.m. of plot area =11,549.74/80 = 144 Nos. Total no. of trees proposed = 150 Nos.
13. **Solid Waste Management:** The solid waste generated from the project shall be approx. 1418 kg per day.
14. The total estimated population of project is 3363 persons (including Residents + staff + visitors).
15. The estimated project cost is ` 200 Crores. Environment Management Cost = Rs.59.64 lakhs and recurring cost is 23.91 lakhs/year.
16. The project proponent along with the consultant **M/s Grass Roots Research And Creation India Pvt. Ltd., Noida** made a detailed presentation on the proposal on 16.11.2021.
17. The SEAC members have raised certain queries as follows. Out of such queries, some queries have already been complied by the proponent, some queries have to be stipulated as specific conditions in Environmental Clearance and some queries have to be complied by the proponent.

Sl. No.	Queries raised by the SEAC	Already complied by the proponent / To be complied by the proponent and / or specific condition to be stipulated in EC.
i)	"Khatian" (Patta) of the entire land with "Kisam" as Gharabari and title of the land document in favor of the PP to be submitted before starting of the construction work.	Specific condition to be stipulated in EC
ii)	781 ECS is provisioned for 410 dwelling units for 4 wheelers without provision for open space parking for visitors and floating population for two wheelers. Thus, the following need to be confirmed. (a) Provision for parking for two wheelers to be made. (b) To provide open space surface parking for visitors / floating population and show with dimension in the layout map. (c) Norm for space of each ECS to be submitted with documentary evidence.	Parking Proposed : Basement-1 = 9603.87/32 m^2 = 300 ECS Basement-2 = 9636.55/32 m^2 = 301 ECS Earlier Stilt Parking proposed= 3262.77/28 m^2 = 117 ECS Total Parking Area proposed= 22,503.19 m^2 We have increased 10 no's of surface parking Parking proposed = 300+301+117+10 = 728 ECS Visitors Parking = 10% of the proposed parking = 73 ECS Total Parking proposed including visitors parking = 728+73 = 801 ECS Detailed parking calculations, parking plan and the basis of parking as per NBC 2016 norms is attached as Annexure-II (a & b). **Provision of two wheeler parking in terms of ECS with space in the layout map to be**

Sl. No.	Queries raised by the SEAC	Already complied by the proponent / To be complied by the proponent and / or specific condition to be stipulated in EC.
		submitted.
iii)	Discharge of treated waste water drain is stated to be 152 KLD. How much discharge during monsoon? and winter? Staring point of the public drain and fallout of the same be indicated with a distance between the internal drain and public drain be submitted.	To be complied by the proponent
iv)	Permission of the authority of the public drain to take the load of additional treated waste water discharge including the ownership of the land to be used by project proponent for connecting their internal drain to the above public drain.	To be complied by the proponent
v)	The ownership of the land to be used by project proponent for connecting their internal to the above public drain and permission to use the same.	To be complied by the proponent
vi)	Internal drain network with dimensions (both for treated waste water and surface runoff / storm water)	Plan showing internal drainage network with outfall point and connectivity to final disposal point which is adjacent to the site. Plan for the same is attached as Annexure- IV(c). We are in progress to obtain the permission and the same will be submitted in due course of time. An undertaking for the same is attached as Annexure-V.
vii)	Internal road map having provision for free movement of Fire Tender be submitted.	To be complied by the proponent
viii)	Green belt coverage has been shown as 3862.99 m^2 (Exactly 20 % as per the norm) Green belt width with counter (Dimensional layout with calculation) be submitted	Total green is proposed to be 3,862.99 m^2 (33.5 % of plot area). Plantation area-2425.5 m^2 (21%) + Lawn area-1,437.49 m^2 (12.5%) No. of trees required = 1 tree/80 sq.m. of plot area =11,549.74/80 = 144.3 say 144 Nos. Earlier, we proposed no. of trees = 150 Nos. As per SEAC suggestions, we are proposing 160 no's of trees. Landscape plan is attached as Annexure-I.
ix)	DG set location of 3 DG Sets proposed be shown w.r.t. predominant wind direction vis-a-vis the position of the towers and the basis of selection of number of DG Set and the capacity be submitted. Installation drawing of the stack height of all 3 DG Sets be submitted.	To be complied by the proponent

Sl. No.	Queries raised by the SEAC	Already complied by the proponent / To be complied by the proponent and / or specific condition to be stipulated in EC.
x)	Traffic study : Findings of the Traffic Study shows LOS (Level of Service) as C to D per IRC norm which means “poor to very poor”. Thus, mitigation and decongestion measures with implementation plan of the same be submitted.	Traffic Study Report with management measures is attached as Annexure-VII.
xi)	Generation and consumption of solar power with plan and detail calculation be submitted, showing the percentage of the same against the total power demand.	Total electric load is 2145.30 kW or 2681.63 kVA. The total energy will be 21.5 % (576.55 kVA) of total power load (2681.63 kVA or 2145.30 kW). Break up of the same is as follows : 5% (134 kVA or 107.27 kW) energy of total power load from solar lighting will be done in the common areas, stair cases, landscape areas, signages, entry/exit gates and boundary walls. 11.5% (308.55 kVA) will be through LEDs used in all rooms. 5% (134 kVA 107.27 kW) will also be through LEDs in outdoor and common areas. The solar energy saving calculations sheet, undertaking and Solar panel layout are attached as Annexure-III(a, b & c). **1. Detailed calculation of consumption of solar power against proposed generation to be submitted.**
xii)	“Khatian” of the land with ownership/title of the land be submitted with ‘Kisam’ as “Gharabari”.	Specific condition to be stipulated in EC
xiii)	“NOC” from CGWA and permission from Water Resource Department Govt. of Odisha to be submitted for drawl of ground water.	Specific condition to be stipulated in EC
xiv)	5 numbers rain water harvesting pits have been proposed. This is to be revisited and resubmitted. Considering maximum hourly rainfall based on 30 years data (Climate Logic Data) and accordingly, no of rain water harvesting pits (RWHP) be calculated / decided along with the corresponding design of the pit including retention time (hold)showing the norms for the same.	Earlier, we proposed 5 no's of the RWH Pits and after taking the 30 years of IMD data, it has been revised to 8 no's. Detailed calculations with RWH pit diagram and location plan of RWH pits are attached as Annexure-IV (a, b & c). **Rain water harvesting pit detailed to be submitted.**

18. The SEAC in its meeting held on Dt: 16.11.2021 decided to take decision on the proposal after receipt of following information / documents from the proponent including a site visit by Sub-Committee of SEAC.

19. The sub-Committee of SEAC visited the project site on dated 13.12.2021 and following observations and recommendations were made:

    i. The PP stated excess storm water will be discharged to the available storm water drain of BMC adjacent to the project boundary in the East.

       As such, the following needs to be confirmed/submitted by the PP.

       a) Permission from the appropriate authority of the above existing storm water drain to take the additional load of this proposed project.
       b) To confirm the beginning and end of the same said drain, showing in the map of the drain network and with appropriate certificate from the concerned authority.

    ii. No public drain exists as stated in the north side of the project for discharge of excess treated waste water. But a sewer line of low diameter (not operated yet) exists on the north side of the project boundary, on the opposite side of the adjacent service road/lane of about 5 m width. This needs to be confirmed / complied by PP.

       a) Existing sewer line of BMC/sewer board needs to be augmented to take this additional load of treated waste water of the project including permission for the same and necessary augmentations to be done by the PP in consultation with sewer line authority or on deposit scheme by the sewer authority. Necessary letter to this effect to be submitted by PP from appropriate authority.

       b) ROW for use of land adjacent to the service road mentioned above should be submitted. Further, PP should develop its own sewer line within it plot area and connect to the one adjacent to the service road after proper augmentation.

    iii. Since municipality /Public/Govt. water supply is available in the vicinity and considering the dense population surrounding the project site, use of ground water should be strictly prohibited except for stand by purpose. The PP needs to communicate this to the concerned water supply authority and obtain confirmation for supply of water for the housing project on operation. However, the project proponent may have one “Borewell” only to draw minimum ground water during emergency and such drawl be related through a piezometer and communicated to CGWA Periodically.

    iv. Separate entry and exit gate with provision of pedestrian pathways of appropriate dimension should be done on the south side boundary of the project besides a service gate on the east side with appropriate dimension on the layout map and the same be submitted.

    v. The PP needs to submit a layout map showing continuous green belt around the boundary of the project except the gates. Dimensions with tiers of plantation be shown in the layout map.

20. The project proponent has furnished compliances as requested by the SEAC and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
1.	Provision of two wheeler parking in terms of ECS with space in the layout map to be submitted.	Parking Proposed : Basement-1 = 9603.87/32 m2 = **300 ECS** Basement-2 = 9636.55/32 m2 = **301 ECS** **Earlier** Stilt Parking proposed= 3262.77/28 m2 = **117 ECS** Total Parking Area proposed= 22,503.19 m2 We have increased 20 no's (10 ECS) of 2 wheeler parking on surface Parking proposed = 300+301+117+10 = 728 ECS Visitors Parking = 10% of the proposed parking = 73 ECS Total Parking proposed including visitors parking = 728+73 = **801 ECS** Detailed parking calculations, parking plan and the basis of parking as per NBC 2016 norms is attached as **Annexure-I (a &b).**
2.	Discharge of treated waste water drain is stated to be 152 KLD. How much discharge during monsoon? and winter? Staring point of the public drain and fallout of the same be indicated with a distance between the internal drain and public drain be submitted.	Total water requirement will be 378 KLD. Domestic water requirement will be 353 KLD, Out of which, fresh water will be 232 KLD and flushing will be 122 KLD. Surplus treated water will be as follows : 130 KLD during summer season. 152 KLD during monsoon season. 147 KLD during winter season. Water management with water balance diagram is attached as **Annexure-II**. The internal drainage network with outfall point and connectivity to final disposal point shown in the plan which is adjacent to the site. The separate drains will be used for storm water and Surplus STP treated Wastewater. Plan is attached as **Annexure- III.**

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		We are in process to obtain permission to discharge treated wastewater. A copy of the same will be submitted in due course of time. An undertaking is attached as **Annexure-IV**, for kind perusal.
3.	Permission of the authority of the public drain to take the load of additional treated waste water discharge including the ownership of the land to be used by project proponent for connecting their internal drain to the above public drain.	The land is allotted by Bhubaneswar Development Authority. Infrastructure will be maintained by BDA itself. As the drain is connected to the site, we have submitted 1% cost of the total project cost to the authority for infrastructure development. An application has been submitted to PH division, Bhubaneswar for discharge of treated water which is under process, Acknowledgement copy is attached as **Annexure-V**.
4.	The ownership of the land to be used by project proponent for connecting their internal to the above public drain and permission to use the same.	An application for discharge of treated water has been submitted to PH division, Bhubaneswar which is under process. Copy of receiving is attached as **Annexure-V**.
5.	Internal road map having provision for free movement of Fire Tender be submitted.	The road width is 9.0 m all along the boundary and 7.5 m internal road. The road width is as per state bye laws. Layout plan having provision for free movement of fire tender is attached as **Annexure-VI**.
6.	DG set location of 3 DG Sets proposed be shown w.r.t. predominant wind direction vis-a-vis the position of the towers and the basis of selection of number of DG Set and the capacity be submitted. Installation drawing of the stack height of all 3 DG Sets be submitted.	The stack height of DG sets will be provided using the following formula: Formula:- $H = h+0.2\sqrt{}$ kVA Where: H = Total height of stack in meter h = Height of the building in meters kVA = Total generator capacity of the set in kVA • For 1500 kVA DG Sets Stack Height= 102 +.2 x$\sqrt{}$1500 = 102 + 0.2 x 38.73 = 102+7.75 = 110 mtr • For 1010 kVA DG Sets Stack Height= 102 +.2$\sqrt{}$1010 = 102 + 0.2 x 31.78 = 102+6.35= 109 mtr • For 500 kVA DG Sets Stack Height= 102 +.2$\sqrt{}$500 = 102 + 0.2 x 22.36

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		= 102+4.47= 107 mtr Predominant wind direction is East to West and the DG stack location is in NE direction.
7.	Detailed calculation of consumption of solar power against proposed generation to be submitted. Proponent needs to submit the capacity of solar power PV system planned to install along with the nos of solar lights etc planned and total kVA, then % of total power load.	Total electrical load is 2145.30 kW or 2681.63 kVA. The total energy will be 21.5 % (576.55 kVA) of total power load (2681.63 kVA or 2145.30 kW). Breakup of the same is as under: • 5% (134 kVA or 107.27 kW) energy of total power load from solar lighting will be done in the common areas, stair cases, landscape areas, signage's, entry/exit gates and boundary walls. • 11.5% (308.55 kVA) will be through LEDs used in all rooms. • 5% (134 kVA 107.27 kW) will also be through LEDs in outdoor and common areas. The solar energy calculations sheet, undertaking and Solar panel layout are attached as **Annexure-VII (a, b & c)**
8.	Rain water harvesting pit detailed to be submitted.	Earlier, we had proposed 5 no's of the RWH Pits and after taking the 30 years of IMD data, it has been revised to 6 no's. Detailed calculations with RWH pit diagram and location plan of RWH pits are attached as **Annexure-VIII (a, b & c).**
9.	Green belt should be continuous in the Landscape plan.	Landscape plan showing continuous green belt provision is attached as **Annexure-VI**.

Considering the information furnished and the presentation made by the consultant, **M/s Grass Roots Research And Creation India Pvt. Ltd., Noida** along with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 7 years with stipulated conditions as per **Annexure – E** in addition to the following specific conditions**.**

i) "NOC" from CGWA and permission from Water Resource Department Govt. of Odisha shall be obtained for drawl of ground water.

ii) "Khatian" of the land with ownership/title of the land shall be converted with 'Kisam' as "Gharabari" before going for construction activity. **The Proponent before implementation of the project shall convert the land to Gharabari and shall take the ownership of the land if not already taken.**

iii) The Proponent shall obtain permission from the appropriate authority for discharge of excess treated water if any to the nearest existing drain. Also in case of the

connecting drain passing through others land (Govt. or Private land), the Proponent shall obtain the permission and possession as the case may be.

iv) Since, discharge of treated waste water/ storm water is a great concern and pose a serious problem for dwellers later, besides being a major pollution/ environmental issue," NOC/ clearance/ permission from appropriate authority are not submitted and instead, stated to be " under process/ will be submitted in due course of time/ will deposit cost with BDA" etc. are very subjective statements without definite time frame which later on may not get due attention and ultimately, habitants suffer environment gets polluted.

v) **All the compliances submitted/ committed by PP (s) shall be strictly adhered to by them.**

vi) It is mandatory for the PP to augment sewer line with due permission of Appropriate authority and source of water to be Municipality/ WATCO supply.

vii) The proponent shall use solar energy of 5% of total power consumption as proposed.

viii) Trees located within the project area shall be de-rooted and re-rooted / transplanted to alongside the boundary green development area instead of cutting. If there will be any tree cutting required, requisite permission for the same shall be obtained from the Forest Department.

ix) To reduce discharge of treated water to open drain, the proponent shall use more water for increased number of trees proposed to be planted in the green belt area & shall also utilize this treated water for car washing, floor washing to minimize the surplus discharge to drain.

x) The proponent shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of project report.

xi) The PP stated excess storm water will be discharged to the available storm water drain of BMC adjacent to the project boundary in the East. The proponent shall comply the following:

a) Permission from the appropriate authority of the above existing storm water drain shall be obtained to take the additional load of this proposed project.

b) The beginning and end of the same said drain, showing in the map of the drain network and with appropriate certificate from the concerned authority shall be obtained.

xii) No public drain exists as stated in the north side of the project for discharge of excess treated waste water. But a sewer line of low diameter (not operated yet) exists on the north side of the project boundary, on the opposite side of the adjacent service road/lane

of about 5 m width. This needs to be confirmed / complied by PP.

xiii) Existing sewer line of BMC/sewer board needs to be augmented to take this additional load of treated waste water of the project including permission for the same and necessary augmentations to be done by the PP in consultation with sewer line authority or on deposit scheme by the sewer authority.

xiv) ROW for use of land adjacent to the service road mentioned above shall be decided in consultation with the concerned Authority. Further, PP shall develop its own sewer line within it plot area and connect to the one adjacent to the service road after proper augmentation.

xv) Since municipality /Public/Govt. water supply is available in the vicinity and considering the dense population surrounding the project site, use of ground water should be strictly prohibited except for stand-by purpose. The PP shall communicate this to the concerned water supply authority and obtain confirmation for supply of water for the housing project on operation. However, the project proponent may have one “Borewell” only to draw minimum ground water during emergency and such drawl shall be related through a piezometer and communicated to CGWA Periodically.

xvi) Separate entry and exit gate with provision of pedestrian pathways of appropriate dimension shall be done on the south side boundary of the project besides a service gate on the east side with appropriate dimension.

xvii) The PP shall provide continuous green belt around the boundary of the project except the gates.

xviii) Permissions from all statutory and related authority to be taken with regard to connectivity of road width, drain and fire authority etc.

ITEM NO. 06

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S. UTKAL ENVIROCARE FOR COMMON BIO - MEDICAL WASTE TREATMENT FACILITY PROJECT OVER AN AREA 0.60HA. AT KHATA NO. 81/17, PLOT NO. 15, MOUZA – BALIBAD, TAHASIL – SORO, DIST – BALASORE, ODISHA OF SRI GANESH PRASAD SWAIN (PROPRIETOR) - TOR

1. The proposal was considered by the committee to determine the “Terms of Reference (ToR)” for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
2. The project falls under schedule 7 (da) “Biomedical Waste Treatment Facility” Category-B as per the EIA notifications, 2006 amendments dated 17th April, 2015.
3. M/s. Utkal Envirocare for Common Bio - Medical Waste Treatment Facility Project over an area 0.60Ha. at Khata no. 81/17, Plot No. 15, Mouza – Balibad, Tahasil – Soro, Dist – Balasore, Odisha of Sri Ganesh Prasad Swain (Proprietor).
4. **Location and Connectivity -** Geographical co-ordinates of the Project is Latitude 21°18' 51.04" N & Longitude 86° 40' 54.72" E. Project site is falling in Survey of India Toposheet

No. F45O11, F45O12, F45O15 & F45O16. Soro Railway station – 26 km. NH-16 – 2.2km and metal road at 0.2km. Biju Pattanaik International Airport-148 Km. Nearest river – Pitakalia at 8km. Nearest sanctuary is Kuldiha Wildlife Sanctuary at 5.5km. Nearest habitation are Balibad – 1.2 km.

5. The proposed CBWTF unit consist of Incinerator (3.2TPD) - 1no, Autoclave (2TPD) - 1no., Shredder (2-3TPD) - 1 no. and ETP (10KLD) – 1 no.
6. **Water Requirement** – The total water requirement is 21 KLD and daily fresh water requirement would be 16KLD which would be fetch from Soro Block. The wastewater after treatment in the proposed 10 KLD ETP would be recycled to reduce the consumption of fresh water requirement. Rooftop rain water harvesting would be done to further reduce the consumption of fresh water.
7. **Power Requirement** - The electricity would be taken from the TPNODL (TP Northern Odisha Distribution limited, Odisha with 100 KW and there would be 100 KVA DG set would be installed as a backup.
8. **Waste water Management** - The main wastewater generations sources in the proposed project are recirculating water of quencher- wet scrubber, cleaning of the floors and pavements of the facility and vehicles, vehicle wash area, etc will be treated in ETP (10 KLD).The entire wastewater collected at the sump shall be treated in In-house Effluent Treatment Plant (ETP) and the treated water shall be reused primarily in APCDs connected to the incinerator and will be continuously re-circulated to meet the requirement. No treated wastewater shall be discharged out of the premises of the CBWTF. Unit will be operated as ZLD.The domestic waste water will be disposed in septic tank followed by soak pit.
9. **Solid waste Management -** Wastes will be generated in the form of ash and other residues. Ash will be generated approx. 100 Kg to 150 Kg per day and Quantity of other residues generated will be approx. 10 Kg to 20 Kg per day. Ash residue from high temperature incineration and other material residues shall be collected into containers / bags and stored at temporary ash storage shed and shall be disposed into the secured landfill periodically after sufficient accumulation. All hazardous waste shall be strictly disposed as per Hazardous & Other Waste (Management & Trans-boundary movement) Rule, 2016.
10. **Green Belt**- A three tier canopy green belt will be developed with flowering species to abate dust, noise and odour and to increase the aesthetic value. The green belt will cover 33.19% of the total project area i.e. 2015.28 sqm. About 504 number of saplings are recommended for developing the green belt to abate dust, noise, odour and soil erosion.
11. **Parking Details -** Total parking area will be 303.6 sqm./ 13 ECS.
12. **Employment Potential**: Total employment for the operation will be 48 including support staff, skilled and unskilled workers.
13. **Solid waste generation** -. During operation of the unit main waste will be Ash from incinerator and Sludge from ETP. Total 100-150 kg/day of Incineration Ash and 10-20 kg/day of Residues shall be generated from the Treatment Unit. Ash Residue from High

Temperature Incineration and Other Material Residues from the process shall be collected into Containers / Bags and shall be stored at temporary ash storage shed and shall be disposed into the secured Landfill periodically after sufficient accumulation. Approx. 50-100 kg /month of Sludge will be generated from ETP. During Operation Phase 45 persons are engaged in operation phase and approx. 15 kg/day municipal solid waste is generated. All generated waste shall be disposed to secured Land Fill site as per the direction of OSPCB.

14. The project cost is ` 260 lakhs.

15. The project proponent along with the consultant **M/s Grass Roots Research & Creation India (P) Ltd.**., **Noida** made a detailed presentation on the proposal.

16. The SEAC observed the following during the presentation:

    i) Para 7 (3) of Bio-Medical Waste Management Rules, 2016 stipulates "No occupier shall establish on-site treatment and disposal facility, if a service of Common Bio-medical Waste Treatment Facility is available at a distance of seventy-five kilometers".

    ii) Another proposal of Common Bio-medical Waste Treatment Facility in the name of M/s Ecokart Technology Private Limited has proposed for setting up a Common Bio-Medical Waste Treatment Facility over an area 0.918 Ac./0.3715Ha. located at - Plot No.- D1/54,55,56 Somnathpur Industrial Estate, Tahasil – Remuna, Dist – Balasore, Odisha of Sri Debasis Suara. The SEAC has already recommended for issue of ToRs to this Common Bio-Medical Waste Treatment Facility. The distance between these two Common Bio-Medical Waste Treatment Facility may less than 75 kms.

17. The SEAC in its meeting held on Dt: 08.10.2021 decided to take decision on the proposal after receipt of the certain information / documents from the proponent.

18. The project proponent has furnished compliances as requested by the SEAC and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
1.	Certificate from concerned DFO regarding distance of proposed unit from Eco sensitive zone of Kuldiha wildlife sanctuary.	Copy of Certificate submitted.
2.	Distance of the other Common facility proposed to be established in the name of M/s Ecokart Technology Private Limited located at - Plot No.- D1/54,55,56 Somnathpur Industrial Estate, Tahasil – Remuna, Dist – Balasore to whom ToRs have	The distance of the other common facility proposed doesn't arise because M/s Utkal Envirocare has applied for Environment clearance after obtaining CTE from, R.O. SPCB, Balasore and followed the guide line of rule 5.1 & 5.2 in the "Revised Draft Guideline for Common Biomedical Waste Treatment Facilities" issued by CPCB dated12.07.2016 whereas M/s Ecokart Technology Pvt. Ltd. has directly applied

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	been recommended.	for Environment clearance without obtaining CTE. More ever, it is located at d1/54,55,56, Somnathpur industrial estate, Tahasil-Remuna, Dist-Balasore is absolutely unknown to Regional Office, SPCB,Balasore.
3.	Detailed justification as to why the proposal shall not be rejected as per Para 7 (3) of Bio-Medical Waste Management Rules, 2016 as another facility proposed to be come up within 75 kms..	This rule is applicable for "Occupier" not for Biomedical Waste Treatment Facility Operator. For the Definition of "Occupier" PARA 3(M) of Biomedical Waste Management Rule, 2016 defines as person having administrative control over the premises generating bio-medical waste, which includes clinical establishments. Therefore rule is not applicable.

19. The SEAC opined the following:

a) CPCB guidelines 2016 for CBWTDF stipulates that the coverage area of a CBWTDF located within the respective state/UT shall be allowed to cater healthcare units situated at a radial distance of 75 KMs. However, in a coverage area where 10.000 beds are not available within a radial distance of 75 KMs existing CBWTDF may be allowed to cater the healthcare units situated upto 150 KMs radius w.r.t its location.

b) Another proposal of Common Bio-medical Waste Treatment Facility in the name of M/s Ecokart Technology Private Limited has proposed for setting up a Common Bio-Medical Waste Treatment Facility over an area 0.918 Ac./0.3715Ha. located at - Plot No.- D1/54,55,56 Somnathpur Industrial Estate, Tahasil – Remuna, Dist – Balasore, Odisha of Sri Debasis Suara. The SEAC has already recommended for issue of ToRs to this Common Bio-Medical Waste Treatment Facility. The distance between these two Common Bio-Medical Waste Treatment Facility may less than 75 kms.

c) The SEAC has no power to take any decision to allow this unit violating the guidelines of CPCB issued in this regards. However, the SEIAA may consider to take a decision on the matter to allow such unit and issue ToRs for EIA study after obtaining views from CPCB and / or MoEF&CC, Govt. of India and also obtaining information from other States. Moreover, the SEAC has no objection from technical point of view if such unit is allowed in that area.

ITEM NO. 07

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CHROME ORE BENEFICIATION UNIT OF THROUGHPUT CAPACITY 18,500 TPA OVER AN AREA OF 2.54 ACRE AT VILLAGE: -BYREE, PO - BYREE, DIST- JAJPUR OF M/S A3 MINERALS AND EXPORT PVT LTD, SRI. AKSHAYA KUMAR SAMAL, PROPRIETOR - TOR

1. The proposal was considered by the committee to determine the "Terms of Reference (ToR)" for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
2. The project is coming under category 'B2 'as the throughput capacity of the beneficiation

plant is 18500 TPA (<20,000 TPA) and requires environmental clearance as per EIA notification 2006 and its amendment no. J-13012/12/2013-IA-II (I).

3. M/s A3 Minerals and Metal Export Pvt Ltd proposes for establishment of Chrome ore Beneficiation plant over an area of 2.545 Acres with throughput capacity of 18,500 TPA within the existing Chrome monolithic unit. The promoter of the project is M/s A3 Minerals and Export Pvt Ltd, and Proprietor of the project is Sri. Akshaya Kumar Samal.
4. The existing chrome monolithic unit obtained consent to establish vide letter no. 1198/IND-41 on dated 10.07.2020.
5. The existing Chrome monolithic unit was operating under the ownership of M/s R.C. Metals Industries. The consent to operate was transferred in the name of M/s A3 Minerals on 23.10.2019 for production of 625 TPM monlithics and other refractories.
6. Further M/s R.C Metal Industries obtained consent to operate for production of 30 TPM chrome concentrate which was also transferred in the name of M/s A3 Mineral.
7. The proposed unit is bounded by Latitude: 20°38'25.0"N Longitude:86°01'38.5"E and is featured under the Toposheet No.- F45 T14/F45U2. Khata No- 1268/439, Plot no: 4149/4683, Khata no: 1268/433, Plot no: 4146, Khata no: 1268/432, Plot no: 4157/4872, 4156/4871, Khata no: 1268/431, Plot no: 4152, Khata no: 1268/436, Plot no: 4158, Khata no: 1268/437, Plot no: 4149, Khata no: 1268/438, Plot no: 4159 & Kissam - Gharabari and belongs to the project proponent located at Village - Byree, Po - Byree, Dist - Jajpur, Odisha. The land area required for the project will be 2.545 Acres.
8. The mining lease area is also accessible NH-5 through Kalkala Chatia road which pass near the project site. Bairi railway station is nearest at a distance of 1.2 km from the M.L area. Nearest airport is Biju Pattnaik Bhubaneswar Airport 50 Kms from project site. Nearest river/Jor is Bansi Jor at 2.5km, Mendhakhai river at 8 km & Birupa River at 10 km and. Nearest town is Chatia at 5 km. Nearest forest Dalijoda Reserve forest at 0.3km. Nearest habitation is within 3km from project site. Kapilash wild life sanctuary – 11km.There is no wild life sanctuary, corridor, National park, biosphere reserve located within 10 Km buffer zone of the project site.
9. Raw material linkage has been established for the proposed plant from sukinda chromite mines of OMC, M/s B.C. Mohanty and M/s Misrilal & Sons. which is located at a distance of 35 Km from the project site. The transportation of ore from the mines to the project site will be done through covered trucks.
10. The process is a beneficiation process of conversion of low grade chrome ore having content less than 40% of Cr2O3 into semi high grade ore having content 50-65% of Cr2O3.
11. Generation of solid waste (tailings generated =6500TPA having <10% Cr2O3) will be properly stored in an impervious platform in earmarked area and will be blended with chrome refractory mortar and sold. So there will be no waste generation from the proposed project. However taking into consideration of maximum storage for 1 year on an area of 0.08 Acres has been demarcated for tailing storage.
12. **Employment Potential -** Proposed employment generation from proposed project will be 12 direct employment and 50 indirect employment.
13. **Power Requirement** - The electricity load of 100 kVA will be procured from CESU, Odisha. Also proposed to install 125 KVA DG set.
14. **Water Requirement** - Total water Consumption for the proposed project will be 153 KL/ day out of which 13 KLD will be the makeup water. About 95% of the water will be recirculated in the process and only 5% of the will be makeup water. There will be no

waste water generation from the project. Domestic waste water will be treated through soak pit via septic tank and industrial waste water generated will be treated by settling and reused in the process.

15. The project cost is estimated to be ` 283 lakhs.
16. The project proponent along with the consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** made a detailed presentation on the proposal.
17. The Committee observed the following:
    a) The proponent has applied to consider their project as Category-B2 as per MoEF&CC, Govt. of India O.M. No. J/13012/12/2013-IA-II(I), dated 24.12.2013 as throughput of Mineral Beneficiation activity is less than 20,000 TPA involving only physical beneficiation.
    b) The MoEF&CC, Govt. of India O.M. No. J/13012/12/2013-IA-II(I), dated 24.12.2013 stipulates the Mineral Beneficiation activity listed in the schedule as Category-B will be treated as Category-B2 with throughput ≤ 20,000 TPA, involving only physical beneficiation.
18. The SEAC in its meeting held on Dt: 14.12.2020 decided to take decision on the proposal after receipt of the following from the proponent followed by a site visit of sub-committee of SEAC.

i. Date and year of establishment of existing unit.
ii. Copy of Consent to Establish and Consent to Operate from State Pollution Control Board, Odisha, Bhubaneswar for the existing plant (Chrome Monolithic Plant) to be submitted.
iii. Copy of conversion of land for industrial use as this is an existing unit.
iv. Details of Technology to be used for process of treatment of Hexavalent Chromium in waste water.
v. Detailed linkage of raw materials such as source and agreement copy with the party for supply of raw material i.e., low grade Chromite Ore.
vi. Design of tailing pond and detailed life calculation of area 0.08 acres required for tailing storage including ETP.
vii. Study of Waste Water Management.
viii. Details of ore transportation to the plant.
ix. Details of CSR activities already covered under the existing project.
x. Details of Zero discharge proposal.
xi. Detailed Process Technology for Chrome Ore Beneficiation.
xii. Water Balance for monsoon and non -monsoon period.
xiii. Details of leachate management.
xiv. Details of existing green belt and proposed with plant.
xv. Revised Plant layout to scale for the proposed Plant super imposing the existing setups/infrastructures.

19. The sub-Committee of SEAC visited the project site on dated 16.04.2021 and following observations and recommendations were made:

a) It is an existing operating chrome ore beneficiation & Monolithic unit as stated by the proponent to have been operating prior to 2006 & therefore, Environmental Clearance was not required and not been obtained till now.

b) Now they have sought Environmental Clearance since they want to increase the production / beneficiation capacity to $\leq$ 18,500 MT/ annum.

As such, they may be asked to furnish the following along with EIA report.

i. Technical write up on process & operation.
ii. Current & proposed production / beneficiation.
iii. Production / beneficiation quantity per cycle and cycle time.
iv. Material balance & tailing management.
v. List of equipments and their capacities.

c) Raw material (Chrome ore) was found to be in stock in heap under cover shed. To confirm maximum inventory at any time of raw material of low grade chrome ore and beneficiated high grade product & Monolithic and the corresponding area required for storage of the same with calculation including the layout with the plant layout.

d) No garland drain / drain was found on the south side of the cover shed where the raw material / finished products are stored and was advised for the same.

e) Four nos. water tanks (Cemented chambers) with half full/ full with water were seen and stated to be for fresh / make up water, waste water / treated waste water & water harvesting pond and found to be interconnected as well as an ETP. But their capacities & networking could not be explained well. Therefore, their capacities with dimensions and the net working along with ETP capacity (with supporting document) be submitted along with EIA study containing water management & water balance.

f) Drain management with drain network be submitted.

g) Water harvesting details and the use of it is be submitted.

h) A bore well is existing and stated to be used for both process water as well drinking purpose. As such, NOC from CGWA & permission from Water Resources Deptt, Govt of Odisha is required to be submitted.

i) One layer of Plantation was found alongside the boundary and there is enough space for further planation for required species. Thus, the proponent was advised to have two layer of plantation in hierarchy of required species in consultation with local Govt. Forest authority / botanist as per the norm to cover 33% of the local area.

j) Only one number of gate was found both for the vehicle for goods and the employees. So, to avoid conflict between incoming & outgoing vehicles, two separate gates are requires for goods & a separate gate for employees.

Accordingly, the proponent may submit the layout of the plant with the provision of gate & their dimensions.

k) Form the plant entry gate to the RD public road, there is a gap of about 100-200 mtrs which is presently being used for movement of vehicles by the proponent and stated to be “Anabadi” land. As such, the proponent is required to submit the ‘ROW’ from the concerned authority / land owner for perennial use of it.

l) The vehicles of the plant are plying through few villages before crossing level crossing / before meeting NH. As such, necessary permission may be obtained for use of the village road from the Panchayats duly validated by concerned B.D.O.

m) No provision of solar power found & hence to be provisioned / installed for 5% of total power consumption.

The above complies may be sought along with EIA study along with the document on conversion of land for “Industrial use”

20. The SEAC in its meeting held on Dt: 28.06.2021 decided to take decision on the proposal after the proponent furnish the following information / documents along with EIA study report as pointed out by the Sub-Committee of SEAC in addition to the information/ documents as sought vide SEAC letter no. 797(2)/ SEAC-(Misc)-28, dated: 24.12.2020.

i) Technical write up on process & operation.
ii) Current & proposed production / beneficiation.
iii) Production / beneficiation quantity per cycle and cycle time.
iv) Material balance & tailing management.
v) List of equipments and their capacities.
vi) Raw material (Chrome ore) was found to be in stock in heap under cover shed. To confirm maximum inventory at any time of raw material of low-grade chrome ore and beneficiated high-grade product & Monolithic and the corresponding area required for storage of the same with calculation including the layout with the plant layout.
vii) Proposal for garland drain / drain on the south side of the cover shed where the raw material / finished products are stored.
viii) Four nos. water tanks (Cemented chambers) with half full/ full with water were seen and stated to be for fresh / make up water, waste water / treated waste water & water harvesting pond and found to be interconnected as well as an ETP. But their capacities & networking could not be explained well. Therefore, their capacities with dimensions and the networking along with ETP capacity (with supporting document) be submitted along with EIA study containing water management & water balance.
ix) Drain management with drain network be submitted.
x) Water harvesting details and the use of it is be submitted.
xi) A bore well is existing and stated to be used for both process water as well drinking purpose. As such, NOC from CGWA & permission from Water Resources Deptt, Govt of Odisha is required to be submitted.

xii) One layer of Plantation was found alongside the boundary and there is enough space for further plantation for required species. Thus, the proponent was advised to have two layer of plantation in hierarchy of required species in consultation with local Govt. Forest authority / botanist as per the norm to cover 33% of the local area.

xiii) Only one number of gate was found both for the vehicle for goods and the employees. So, to avoid conflict between incoming & outgoing vehicles, two separate gates are requires for goods & a separate gate for employees. Accordingly, the proponent may submit the layout of the plant with the provision of gate & their dimensions.

xiv) Form the plant entry gate to the RD public road, there is a gap of about 100-200 mtrs which is presently being used for movement of vehicles by the proponent and stated to be "Anabadi" land. As such, the proponent is required to submit the 'ROW' from the concerned authority / land owner for perennial use of it.

xv) The vehicles of the plant are plying through few villages before crossing level crossing / before meeting NH. As such, necessary permission may be obtained for use of the village road from the Panchayats duly validated by concerned B.D.O.

xvi) No provision of solar power found & hence to be provisioned / installed for 5% of total power consumption.

xvii) The document on conversion of land for "Industrial use".

21. The project proponent has furnished compliances as desired by the committee vide SEAC letter no. 797(2)/ SEAC-(Misc)-28, dated: 24.12.2020 and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(i)	Date and year of establishment of existing unit.	The existing unit was established by M/s R.C. Metals Industries and transferred to M/s A3 Minerals. The date of establishment of existing unit was 19.05.2004. Copy of CTE in the name of M/s R.C.Metals attached **Annexure1.**
(ii)	Copy of Consent to Establish and Consent to Operate from State Pollution Control Board, Odisha, Bhubaneswar for the existing plant (Chrome Monolithic Plant) to be submitted.	The Consent to establish for the existing unit is in the name of M/s. R.C Metals Industries copy attached **Annexure 1**. Further consent to operate has been obtained for the existing unit by M/s. A3 minerals vide letter no. 1983/KNG/IND/41 dated 23.10.2021. Copy attached as **Annexure 2.** Further A3 Minerals obtained consent to establish for the proposed enhancement of chrome ore beneficiation plant vide letter no. 1198/IND- on dated10.07.2020.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		The copy of CTE attached as **Annexure 3**
iii)	Copy of conversion of land for industrial use as this is an existing unit.	Converted for industrial use. The copy of the document attached as **Annexure 4**.
v)	Details of Technology to be used for process of treatment of Hexavalent Chromium in waste water.	Detail technology for treatment of hexavalent chromium in waste water is attached as **Annexure – 5**.
v)	Detailed linkage of raw materials such as source and agreement copy with the party for supply of raw material i.e., low grade Chromite Ore.	The raw material i.e. low grade chrome ore will be sourced from mines of Odisha Mining Corporation and Misrilal Mines, Sukinda which is located at a distance of 35 km from the project site. The transportation of ore from the mines to the project site will be done through covered trucks. Linkage document attached **Annexure 6.**
vi)	Design of tailing pond and detailed life calculation of area 0.08 acres required for tailing storage including ETP.	Detail design and calculation of tailing pond attached as **Annexure 7.**
vii)	Study of Waste Water Management.	Detail waste water management plan has been given in **Annexure 5.**
iii)	Details of ore transportation to the plant.	The raw material requirement for beneficiation unit will be 18500 TPA i.e. 66 TPD. The raw material will be stored in a covered storage area within the plant premises. The raw material of chrome ore beneficiation plant is low grade chrome ore (26-40% CrZ03). The raw material i.e. low-grade chrome ore will be sourced from mines of Odisha Mining Corporation, Sukinda which is located at a distance of 3SKm from the project site. The project site is well accessible through NH 5 and Kalkala – Chatia road (50m connecting to Highway) and raw material an transportation will be carried out by covered trucks. About 6 trucks will be used for transportation of raw material and product. The transportation route map attached for reference. **Annexure - 8**
x)	Details of CSR activities already covered under the existing project.	Details of CSR attached as **Annexure-9**
x)	Details of Zero discharge proposal.	Details of Zero liquid discharge proposals attached **Annexure -10.**

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
xi)	Detailed Process Technology for Chrome Ore Beneficiation.	Detailed process for Chrome Ore Beneficiation attached **Annexure 11**
xii)	Water Balance for monsoon and non -monsoon period.	Copy of water balanced attached as **Annexure-12**
iii)	Details of leachate management.	Details of leachate management plan attached **Annexure 7.**
v)	Details of existing green belt and proposed with plant.	Green belt for the proposed project will be developed over an area of 0.84 Acre i.e (33% of total area). Detail green belt plan attached **Annexure 13.**
v)	Revised Plant layout to scale for the proposed Plant super imposing the existing setups/infrastructures.	Copy of Layout plan attached as **Annexure-14.**

22. The SEAC observed that the proponent has not furnished the information / documents as sought vide SEAC letter no. 427(5)/ SEAC-Misc.28, dated 05.07.2021 w.r.t observation of sub-committee of SEAC during site visit.

23. The SEAC in its meeting held on dated 13-09-2021 decided to take decision on the proposal after receipt of compliance to the SEAC letter no. 427(5)/ SEAC-Misc.28, dated 05.07.2021 w.r.t observation of sub-committee of SEAC during site visit.

24. The project proponent vide letter no : A3/031/2021-22 dated 20-09-2021 has requested to issue ToR in order to carry out necessary EIA/EMP study and to furnish compliances as sought by SEAC vide letter no. 427(5)/ SEAC-Misc.28, dated 05.07.2021 w.r.t observation of sub-committee of SEAC during site visit

25. The SEAC opined that some of the points as pointed out in the site visit report of the sub-committee of the SEAC need to be complied by the proponent prior to issue of Terms of References and hence, the request of the proponent is not acceptable.

26. The SEAC in its meeting held on Dt: 05.10.2021 decided to take decision on the proposal after the proponent furnish pointwise compliances as sought by SEAC vide letter no. 427(5)/ SEAC-Misc.28, dated 05.07.2021 w.r.t observation of sub-committee of SEAC during site visit.

27. The project proponent has furnished compliances as requested by the SEAC and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
i)	Technical write up on process & operation.	Technical details of the process and operation is attached as **Annexure-1**.
ii)	Current & proposed production / beneficiation.	M/s. A3 Minerals & Metals Export Pvt Ltd is having valid consent to operate for production of 18000 TPA chrome monolithic and other refectories along with chrome concentrate of 30 TPM.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		The present proposal is for chrome ore beneficiation plant with throughput of 18500 TPA.
iii)	Production / beneficiation quantity per cycle and cycle time.	It is a continuous process. The material input in the hopper continuous through crusher, spiral and hydro cyclone and continues production for 8 hrs/ day. The throughput for beneficiation plant will be 7.5 TPH and production will be 5 TPH.
iv)	Material balance & tailing management.	Material balance and tailing management plan attached as **Annexure 2**.
v)	List of equipment's and their capacities.	The COB plant will consist of following Facilities: • Feeding Hopper • Crushing (jaw crusher & Ball mill) • Wet screening • Wet grinding • Slurry Pump (5 HP capacity) • Spiral separate (3 sets with 4 nos each) 10 Ton capacity • Hydro cyclone: 4 nos (10 Ton Capacity) • Settling tanks • Water Reservoir
vi)	Raw material (Chrome ore) was found to be in stock in heap under cover shed. To confirm maximum inventory at any time of raw material of low-grade chrome ore and beneficiated high-grade product & Monolithic and the corresponding area required for storage of the same with calculation including the layout with the plant layout.	Justification of the land required for storage of raw material and product has been attached as **Annexure 3**. Layout plan showing the details of the project attached as **Annexure 4**.
vii)	Proposal for garland drain / drain on the south side of the cover shed where the raw material / finished products are stored.	Garland drains will be constructed along the raw material storage yard and Finished product storage yard. The dimension of garland drain will be 1m x 1m. Location of garland drain has been shown in the layout map.
viii)	Four nos. water tanks (Cemented chambers) with half full/ full with water were seen and stated to be for fresh / make up water, waste water / treated waste water & water harvesting pond and found to be interconnected as well as an ETP. But their capacities & networking	The details regarding water tank, rain water harvesting and ETP details will be incorporated in the EIA report along with water management and water balance.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	could not be explained well. Therefore, their capacities with dimensions and the networking along with ETP capacity (with supporting document) be submitted along with EIA study containing water management & water balance.	
ix)	Drain management with drain network be submitted.	The raw material stack yard, product stack yard will be provided with garland drain. The surface water drainage will be provided all along the plant.
x)	Water harvesting details and the use of it is be submitted.	Detail calculation of rain water harvesting is attached as **Annexure 5**.
xi)	A bore well is existing and stated to be used for both process water as well drinking purpose. As such, NOC from CGWA & permission from Water Resources Deptt, Govt of Odisha is required to be submitted.	Application will be made to CGWB for bore well. The NOC from CGWB will be submitted during EC application along with EIA EMP report. An undertaking in this regard submitted **Annexure 7**
xii)	One layer of Plantation was found alongside the boundary and there is enough space for further plantation for required species. Thus, the proponent was advised to have two layer of plantation in hierarchy of required species in consultation with local Govt. Forest authority / botanist as per the norm to cover 33% of the local area.	The plantation along the boundary (2 layers) will be developed in 33 % of the plant area. Detail plantation plan is attached as **Annexure 6**.
xiii)	Only one number of gate was found both for the vehicle for goods and the employees. So, to avoid conflict between incoming & outgoing vehicles, two separate gates are requires for goods & a separate gate for employees. Accordingly, the proponent may submit the layout of the plant with the provision of gate & their dimensions.	The revised layout showing two gates is attached as **Annexure 4**.
xiv)	Form the plant entry gate to the RD public road, there is a gap of about 100-200 mtrs which is presently being used for movement of vehicles by the proponent and stated to be “Anabadi” land. As such, the proponent is required to submit the ‘ROW’ from the concerned authority / land owner for	ROW from the concerned authority/ land owner will be submitted along with EIA/EMP report. An undertaking in this regard submitted **Annexure 7**.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	perennial use of it.	
xv)	The vehicles of the plant are plying through few villages before crossing level crossing / before meeting NH. As such, necessary permission may be obtained for use of the village road from the Panchayats duly validated by concerned B.D.O.	The details permission for movement of vehicle from panchayat and BDO will be submitted along with the EIA/ EMP report. An undertaking in this regard submitted **Annexure 7**.
xvi)	No provision of solar power found & hence to be provisioned / installed for 5% of total power consumption.	Solar light will be installed for outdoor lighting and common area light. 5% of the total power requirement will be through solar power.
xvii)	The document on conversion of land for "Industrial use".	The land conversion document attached **Annexure 8**.

28. The MoEF&CC, Govt. of India O.M. No. J/13012/12/2013-IA-II(I), dated 24.12.2013 stipulates the Mineral Beneficiation activity listed in the schedule as Category-B will be treated as Category-B2 with throughput ≤ 20,000 TPA, involving only physical beneficiation.

29. The SEAC, Odisha observed that the proposed Chrome Ore Beneficiation plant is having throughput 18,500 TPA involving only physical beneficiation. However, the Committee opined that the Chrome Ore Beneficiation plant is having significant environmental impact to the surrounding areas in terms of water pollution and tailing disposal and there is a need for detailed EIA study.

30. The SEAC, Odisha recommended to consider the project as Category-B2 as per MoEF&CC, Govt. of India O.M. No. J/13012/12/2013-IA-II(I), dated 24.12.2013 for exemption of public hearing. However, the Committee recommended to consider Environmental Clearance for the proposal after the proponent submits detailed EIA study report.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar**, the SEAC recommended to issue Terms of References (ToRs) exempting public hearing for conducting EIA study as per **Annexure – F**.

ITEM NO. 08

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR ADDITIONAL INSTALLATION OF CHROME ORE BENEFICIATION UNIT OF THROUGHPUT CAPACITY 18,500 TPA WITHIN THE EXISTING CAMPUS OF M/S SHREE MONOLITHIC PVT. LTD. OVER AN AREA OF 7.76 ACRE OR 3.14 HA. IN PLOT NO. 30/301, AT VILLAGE: JAMINIBANDHA, P.O: BHANDARIPOKHARI, DISTRICT - BHADRAK, ODISHA-756120 OF M/S SHREE MONOLITHIC PVT. LTD (TOR)

1. The proposal was considered by the committee to determine the "Terms of Reference (ToR)" for undertaking detailed EIA study for the purpose of obtaining environmental

clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.

2. The project falls under Category “B2”, as the throughput capacity of the beneficiation plant is 18,500 TPA (<20,000 TPA) as per schedule of EIA Notification dated 14th Sep, 2006 as amended from time to time.
3. M/s Shree Monolithics Pvt. Ltd. proposes for establishment of Chrome Ore Beneficiation plant over an area of 7.76 Acres or 3.14 Ha with throughput capacity of 18,500 TPA within the existing Chrome Monolithic Unit.
4. The chrome monolithic unit does not attract Environment Clearance as it is only mixing of raw materials without any use of heat and chemical treatment. The present application for environment clearance is being made as the proponent is now proposing for installation of additional Chrome ore beneficiation plant within the existing premises.
5. The existing chrome monolithic unit has obtained Consent to Operate vide Consent Order No. 270/2017-18 (WPC and APC) issued vide letter no. 594/con-908 / 2000 on dated 24.02.2018.
6. **Connectivity:** The proposed unit is located at Village - Jaminibindha, P.O. Bhandaripokari, Dist: Bhadrak, Odisha. The lease area is bounded by Latitude: $20^0$57’26.88”N Longitude: $86^0$21’21.67”E. with Toposheet No.:73L/5 & 73K/8 having Plot No:25/285, 19, 27, 17, 18, 30, 20, 21, 96/321, 29, 30/301 and Khata No.: 9/9,92/67,9/5,92/61,9/6,92/65,92/62 and 92/64. The land area required for the project will be 7.76Ac. or 3.14 Ha. which comes under agricultural waste land category and belongs to the project proponent Nearest Railway Station is Bhadrak Railway station – 7 Km and nearest airport is Bhubaneswar Airport 180 Kms from project site. There is no wild life sanctuary, corridor, National park, biosphere reserve located within 10Km buffer zone of the project site. The project is accessible through a 50ft wide road which connect to NH – 5 is located at a distance of 0.3 Km from the project site. Nearest railway station is at Manjuri road PH located at a distance of 7Km from the project site.
7. **Power Requirement:** The electricity load of 100 kVA will be procured from NESCO, Odisha. Also proposed to install125kVA DG set.
8. **Water Requirement:** Total water Consumption for the proposed project will be 153 KL/ day out of which 13 KLD will be the makeup water. About 95% of the water will be re-circulated in the process and only 5% of the will be makeup water. There will be no waste water generation from the project. Domestic waste water will be treated through soak pit via septic tank and industrial waste water generated will be treated by settling and reused in the process.
9. The raw material i.e. low grade chrome ore will be sourced from mines of Odisha Mining Corporation, Sukinda which is located at a distance of 46 Km from the project site. The transportation of ore from the mines to the project site will be done through covered trucks**.**
10. **Green Belt:** Out of the total land 33% has been demarcated for development of green belt.

11. **Employment Potential** - The project generates employment opportunities for 12 personnel which includes operator -2, supervisor 2, 4 no of semi-skilled labour and 4no of unskilled labour.

12. **Solid Waste Generation -** The major solid waste will be the tailings generated from the beneficiation process. The quantity of tailings to be 6500TPA having <10% Cr2O3. The tailings will be collected & treated with Ferro-Sulphate solution and dried through a filter press. Further, the tailing will be stored in the tailing dump. After drying the tailing will be blended in the chrome refractory mortar as per the demand of the customer. An area has been demarcated for storage of tailing within the plant premises. The land allocated for tailing storage will be 0.25 Acres. However, the tailing generated from the plant will be completely utilized in the chrome refractory mortar unit and thus there will be no tailing dumping in the long term. Further, an area of 0.25 acres has been demarcated for storage of tailing in case of any adverse situation, if tailing could not be sold out by the proponent

13. The project cost is ` 283 lakhs.

14. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee.

15. The Committee observed the following:

    c) The proponent has applied to consider their project as Category-B2 as per MoEF&CC, Govt. of India O.M. No. J/13012/12/2013-IA-II(I), dated 24.12.2013 as throughput of Mineral Beneficiation activity is less than 20,000 TPA involving only physical beneficiation.

    d) The MoEF&CC, Govt. of India O.M. No. J/13012/12/2013-IA-II(I), dated 24.12.2013 stipulates the Mineral Beneficiation activity listed in the schedule as Category-B will be treated as Category-B2 with throughput ≤ 20,000 TPA, involving only physical beneficiation.

16. The SEAC in its meeting held on Dt: 09.12.2020 decided to take decision on the proposal after receipt of the following from the proponent followed by a site visit of sub-committee of SEAC

(i) Date and year of establishment of existing unit.

(ii) Copy of Consent to Establish and Consent to Operate from State Pollution Control Board, Odisha, Bhubaneswar to be submitted.

(iii) Copy of conversion of land for industrial use as this is an existing unit.

(iv) Details of Technology to be used for process of treatment of Hexavalent Chromium in waste water.

(v) Details of existing green belt and proposed with plant layout.

(vi) Details of solar energy to be used.

(vii) Details calculation and plant Layout showing location of rain harvesting recharging pits and quantity to be harvested.

(viii) Documents supporting previous water consumption in the plant.

(ix) Undertaking by project proponent for maintenance of haulage road.

(x) Status of NOC/permission letter from CGWA/WR Deptt, Govt. of Odisha respectively for drawl of ground water.

(xi) Details of Tailing and leaching management.

(xii) Material Balance of the process.

(xiii) Detailed linkage of raw materials such as source and agreement copy with the party for supply of raw material i.e., low grade Chromite Ore.

(xiv) Revise Plant layout with all detailed features to scale super imposing the existing set ups/infrastructures/utilities/features.

17. The sub-Committee of SEAC visited the project site on dated 16.04.2021 and following observations and recommendations were made:

a) It is an existing monolithic unit / Plant having CTO for five products namely monolithic with low grade chrome ore, slag processing for metal extractions, hot mix for road construction etc.

They stated to have installed an old beneficiation unit in 2010 and is not operating since then. Now they want to operate it with capacity $\leq$ 18,500 MT and hence, they have sought Environmental Clearance.

As such, they may be asked to furnish the following along with EIA report:

i. Technical write up on process & operations.
ii. List of old equipment's & their capacities.
iii. Proposal production / beneficiation quantity.
iv. Production / beneficiation quantity per cycle & cycle time.
v. Material balance & failing management.

b) There is no separate boundary / demarcation of different products for which CTO has been obtained. As such, a composite plant layout with dimension & demarcation containing operation of all products / process be submitted.

c) In the monolithic unit, chrome ore (the raw material) was found to be stored in heap under open sky with a tarpaulin cover having no garland drain.

d) An old ramp in complete damaged condition was seen and so also, two water tanks in completely damaged & broken condition was found proximate to the beneficiation unit.

e) No organized drain network / management is found to be in place.

f) No provision for renewable energy / solar plant & water harvesting is in place.

g) A DG set was found and in operating as and when required in open condition whose capacity could not be known, having no stack / chimney as per the norms.

h) A single gate exists for entry & exit of incoming & outgoing vehicles.

i) There is a gap of about 100 mtrs between NH-16 & their plant and the land belong to NH Authority as stated by the proponent & used by them for movement of their vehicles to & from the plant.

j) A petrol pump exists just adjacent to the plant and agricultural land exist adjacent to the boundary of the plant in North, West & South side of the plant.

k) Immense dust inside plant was found.

l) The plant land is stated to be not converted to “Industrial use”

In the light of the above observations and recommendation the following are further recommended for compliance during EIA study / before EIA presentation.

I. A complete drain management with network for individual operation for which CTO has been granted and the integration of the same thereof along with for proposed installation of chrome ore beneficiation unit.

II. Location & layout of the storage for maximum inventory along with area & height of raw material i.e., chrome ore for monolithic unit & the proposed beneficiation plant. Single storage space for both will avoid duplication.

III. Tailing management with detail design of tailing pond & the corresponding ETP and reuse of treated waste water.

IV. Water management with water balance for the proposed unit & composite water management with water balance for the whole industrial premises having multiple operations.

V. Water harvesting & management with use of it / recharging of it.

VI. A bore well was found to be working and in use. ‘NOC’ from CGWA & permission from Water resources Deptt., Govt. of Odisha is required to be submitted.

VII. DG set details with requisite stack height as per the norm & housing of the same to be submitted.

VIII. Green belt as per the norm with required species in consultation with local Govt. Forest authority / botanist to be done. Only Eucalyptus plants were found around the boundary of the plant.

IX. Separate material gate, both for entry & exit of incoming & outgoing vehicles and separate gate for employees to be installed of requisite size / dimension.

X. No provision of solar power / renewable energy was seen. Hence, provision of solar power of at least 5% of total consumption be planned & detail worked out plan within a time frame for the same be submitted.

XI. Internal roads inside the plant need to be concreted and provision of auto permanent water sprinkling arrangement be installed for dust suppression.

XII. Clearance from OISD (Oil Industry Safety Directorate) of Govt. of India to be submitted in view of available petrol tank/pump adjacent to the plant on East – South side of the plant.

XIII. Since multiple operations are happening inside one premises & a petrol pump is existing adjacent of the plant, a dedicated fire tender corridor be made and shown in the layout & submitted including clearance from fire Deptt. Govt of Odisha for the firefighting systems to be in place.

XIV. 'ROW' from NH-16 or concerned appropriate Authority for perennial use of the land including constructed culvert on the canal for use & plying of vehicles of the proponent be submitted.

XV. Document on conversion of the said land for "Industrial use" from appropriate authority be submitted.

XVI. Copies of CTE/ CTO for five products / operations to be submitted.

18. The SEAC in its meeting dated 28.06.2021 recommended to consider the proposal after the proponent furnish the following information / documents along with EIA study report as pointed out by the Sub-Committee of SEAC in addition to the information/ documents as sought vide SEAC letter no. 794/ SEAC-(Misc)-28, dated: 24.12.2020.

I) Technical write up on process & operations.

II) List of old equipment's & their capacities.

III) Proposal production / beneficiation quantity.

IV) Production / beneficiation quantity per cycle & cycle time.

V) Material balance & failing management.

VI) A complete drain management with network for individual operation for which CTO has been granted and the integration of the same thereof along with for proposed installation of chrome ore beneficiation unit.

VII) Location & layout of the storage for maximum inventory along with area & height of raw material i.e., chrome ore for monolithic unit & the proposed beneficiation plant. Single storage space for both will avoid duplication.

VIII) Tailing management with detail design of tailing pond & the corresponding ETP and reuse of treated waste water.

IX) Water management with water balance for the proposed unit & composite water management with water balance for the whole industrial premises having multiple operations.

X) Water harvesting & management with use of it / recharging of it.

XI) A bore well was found to be working and in use. 'NOC' from CGWA & permission from Water resources Deptt., Govt. of Odisha is required to be submitted.

XII) DG set details with requisite stack height as per the norm & housing of the same to be submitted.

XIII) Green belt as per the norm with required species in consultation with local Govt. Forest authority / botanist to be done. Only Eucalyptus plants were found around the boundary of the plant.

XIV) Separate material gate, both for entry & exit of incoming & outgoing vehicles and separate gate for employees to be installed of requisite size / dimension.

XV) No provision of solar power / renewable energy was seen. Hence, provision of solar power of at least 5% of total consumption be planned & detail worked out plan within a time frame for the same be submitted.

XVI) Internal roads inside the plant need to be concreted and provision of auto permanent water sprinkling arrangement be installed for dust suppression.

XVII) Clearance from OISD (Oil Industry Safety Directorate) of Govt. of India to be submitted in view of available petrol tank/pump adjacent to the plant on East – South side of the plant.

XVIII) Since multiple operations are happening inside one premises & a petrol pump is existing adjacent of the plant, a dedicated fire tender corridor be made and shown in the layout & submitted including clearance from fire Deptt. Govt of Odisha for the firefighting systems to be in place.

XIX) 'ROW' from NH-16 or concerned appropriate Authority for perennial use of the land including constructed culvert on the canal for use & plying of vehicles of the proponent be submitted.

XX) Document on conversion of the said land for "Industrial use" from appropriate authority be submitted.

XXI) Copies of CTE/ CTO for five products / operations to be submitted.

19. The project proponent has furnished compliances as desired by the committee vide SEAC letter no. letter no. 794/ SEAC-(Misc)-28, dated: 24.12.2020 and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(i)	Date and year of establishment of existing unit.	The unit was established for production of chrome refractory bricks and chrome mortar since 31.12.2010. copy of Acknowledgement receipt from DIC,

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		Bhadrak attached **Annexure 1**
(ii)	Copy of Consent to Establish and Consent to Operate from State Pollution Control Board, Odisha, Bhubaneswar to be submitted.	The consent to establish for the existing is attached **Annexure 2**. The existing chrome monolithic unit obtained Consent to operate vide Consent Order No. 270/2017-18 (WPC and APC) issued vide Letter No. 594/con-908 / 2000 on dated 24.03.2018. Copy attached as **Annexure 3**. Copy of the certified compliance report attached as **Annexure 3 A**
(iii)	Copy of conversion of land for industrial use as this is an existing unit.	The land conversion is under process. The copy of the document attached as **Annexure 4**.
(iv)	Details of Technology to be used for process of treatment of Hexavalent Chromium in waste water.	Details technology for treatment of hexavalent chromium in waste water is attached as **Annexure 5.**
(v)	Details of existing green belt and proposed with plant layout.	There is the existing plantation of about 200 plants along the boundary. Further with the commencement of beneficiation plant there will be plantation over an area of 8903 Sq.m with plantation of 1200 saplings. The layout plan showing the existing and proposed green belt given in as **Annexure 6.**
(vi)	Details of solar energy to be used.	There is the proposal for installation of 10 KW solar power for outdoor lighting.
(vii)	Details calculation and plant Layout showing location of rain harvesting recharging pits and quantity to be harvested.	Rain water harvesting details has been given as **Annexure 7**
(viii)	Documents supporting previous water consumption in the plant.	There is no use of water in the process as the processes only include mixing of ore.
(ix)	Undertaking by project proponent for maintenance of haulage road.	The haulage road from the plant to the highway is only 100m. The document regarding the maintenance of haulage road attached **Annexure 8.**
(x)	Status of NOC/permission letter from CGWA/WR Deptt, Govt. of Odisha respectively for drawl of ground water.	The project proponent will made application for obtaining permission from CGWA for water withdrawal. An undertaking in this regard is attached. The NOC will be submitted along with the final EIA/EMP report.
(xi)	Details of Tailing and leaching	Details of trailing and leaching

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	management.	management attached **Annexure 9**
(xii)	Material Balance of the process.	Material balance attached **Annexure 10**
(xiii)	Detailed linkage of raw materials such as source and agreement copy with the party for supply of raw material i.e., low grade Chromite Ore.	The raw material i.e low-grade chrome ore will be sourced from mines of Odisha Mining Corporation, Sukinda which is located at a distance of 46km from the project site. The plant has MoU with OMC for the procurement of raw material. Linkage document attached **Annexure 11.**
(xiv)	Revise Plant layout with all detailed features to scale super imposing the existing set ups/infrastructures/utilities/features.	Revised plant layout attached **Annexure 12**

20. The SEAC observed that the proponent has not furnished the information / documents as sought vide SEAC letter no. 427(5)/ SEAC-Misc.28, dated 05.07.2021 w.r.t observation of sub-committee of SEAC during site visit.

21. The project proponent vide letter no : nil dated 20-09-2021 has requested to issue ToR in order to carry out necessary EIA/EMP study and to furnish compliances as sought by SEAC vide letter no. 427(5)/ SEAC-Misc.28, dated 05.07.2021 w.r.t observation of sub-committee of SEAC during site visit.

22. The SEAC opined that some of the points as pointed out in the site visit report of the sub-committee of the SEAC need to be complied by the proponent prior to issue of Terms of References and hence, the request of the proponent is not acceptable.

23. The SEAC in its meeting held on Dt: 05.10.2021 decided to take decision on the proposal after receipt of point wise compliances to the SEAC letter no. 427(5)/ SEAC-Misc.28, dated 05.07.2021 w.r.t observation of sub-committee of SEAC during site visit.

24. The project proponent has furnished compliances as requested by the SEAC and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
i)	Technical write up on process & operations.	Detail technical write-up on process and operations is attached as **Annexure 1**.
ii)	List of old equipment's & their capacities.	Details of existing equipment as per DIC application attached as **Annexure 2**.
iii)	Proposal production / beneficiation quantity.	The throughput of the beneficiation plant is 18500 TPA and production capacity is 12000 TPA.
iv)	Production / beneficiation quantity per cycle & cycle time.	It is a continuous process. The material input in the hopper continues through crusher, spiral and hydro cyclone and

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		continues production for 8hrs/ day. The throughput for beneficiation plant will be 7.5 TPH and production will be 5 TPH.
v)	Material balance & failing management.	Material balance and tailing management plan attached as **Annexure 3**.
vi)	A complete drain management with network for individual operation for which CTO has been granted and the integration of the same thereof along with for proposed installation of chrome ore beneficiation unit.	A Detail drainage map showing the existing and proposed facility is given in the layout plan **Annexure 4**.
vii)	Location & layout of the storage for maximum inventory along with area & height of raw material i.e., chrome ore for monolithic unit & the proposed beneficiation plant. Single storage space for both will avoid duplication.	As per the suggestion of Hon'ble subcommittee we will confirmed the raw material storage at one place. Raw material requirement per day: 66 TPD Raw material storage requirement for 15 days: 990 TPD=1980Cu.m Area requirement for storage of raw material for 15 days = 660Sq.m (Height Max 3m) However, the storage area provided for raw material storage is 3715 sq.m which is sufficient for storage of raw material for a month. Location of the storage area has been shown in the layout plan. **Annexure 4**.
viii)	Tailing management with detail design of tailing pond & the corresponding ETP and reuse of treated waste water.	Tailing management, design of tailing pond and corresponding ETP details has been given in **Annexure 5**.
ix)	Water management with water balance for the proposed unit & composite water management with water balance for the whole industrial premises having multiple operations.	Other plant operations like hotmix plant, monolithic unit and ferrochrome recovery plant does not require any water in the process. Water will be required only for Chrome ore beneficiation process. The detail water balance for the beneficiation unit is attached as **Annexure 6**.
x)	Water harvesting & management with use of it / recharging of it.	Detail of rain water harvesting is given in Annexure 7. The harvested rain water will be used as makeup water for the beneficiation process, dust suppression and plantation purpose.
xi)	A bore well was found to be working and in use. 'NOC' from CGWA & permission from Water resources Deptt., Govt. of Odisha is required to be submitted.	NOC from CGWA will be submitted along with final EIA/EMP report. Undertaking in this regard submitted **Annexure 8**.
xii)	DG set details with requisite stack	The DG set installed in the plant premises

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	height as per the norm & housing of the same to be submitted.	is of 100 KVA capacities. A stack of 1.5m height will be installed with the DG set. Enclosure will be provided for the DG set.
xiii)	Green belt as per the norm with required species in consultation with local Govt. Forest authority / botanist to be done. Only Eucalyptus plants were found around the boundary of the plant.	Detail proposal for given belt is attached as **Annexure 9**.
xiv)	Separate material gate, both for entry & exit of incoming & outgoing vehicles and separate gate for employees to be installed of requisite size / dimension.	The layout plan showing separate material gate, both for entry & exit of incoming & outgoing vehicles and separate gate for employees is submitted **Annexure 4**.
xv)	No provision of solar power / renewable energy was seen. Hence, provision of solar power of at least 5% of total consumption be planned & detail worked out plan within a time frame for the same be submitted.	Solar power will be used for outdoor lighting and common area lighting. Solar cell will be installed within the premises. 15 nos of solar lights of 30w capacity will be installed within the plant premises.
xvi)	Internal roads inside the plant need to be concreted and provision of auto permanent water sprinkling arrangement be installed for dust suppression.	Undertaking is submitted for concreting the internal road and installation of water sprinklers along the road for dust suppression. **Annexure 10**.
xvii)	Clearance from OISD (Oil Industry Safety Directorate) of Govt. of India to be submitted in view of available petrol tank/pump adjacent to the plant on East – South side of the plant.	Clearance will be submitted from OISD (Oil Industry safety Directorate) of Govt. of India at the time of submission of EIA/EMP report submission. EIA/EMP report submission. Undertaking attached **Annexure 8**.
xviii)	Since multiple operations are happening inside one premises & a petrol pump is existing adjacent of the plant, a dedicated fire tender corridor be made and shown in the layout & submitted including clearance from fire Deptt. Govt of Odisha for the firefighting systems to be in place.	The fire corridor outside the plant premises and inside the plant premises has been demarcated in the layout plan. Further the road width inside the premises will be 7.5m width through which fire vehicle can easily move.
xix)	'ROW' from NH-16 or concerned appropriate Authority for perennial use of the land including constructed culvert on the canal for use & plying of vehicles of the proponent be submitted.	ROW' from NH-16 or concerned appropriate Authority for perennial use of the land including constructed culvert on the canal for use & plying of vehicles will be submitted along with the final EIA EMP report.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		Undertaking attached **Annexure 8**.
xx)	Document on conversion of the said land for "Industrial use" from appropriate authority be submitted.	The land conversation is under process. The copy of the document attached as **Annexure 11**.
xxi)	Copies of CTE/ CTO for five products / operations to be submitted.	Copy of CTE and CTO is attached **Annexure 12**.

25. The MoEF&CC, Govt. of India O.M. No. J/13012/12/2013-IA-II(I), dated 24.12.2013 stipulates the Mineral Beneficiation activity listed in the schedule as Category-B will be treated as Category-B2 with throughput ≤ 20,000 TPA, involving only physical beneficiation.

26. The SEAC, Odisha observed that the proposed Chrome Ore Beneficiation plant is having throughput 18,500 TPA involving only physical beneficiation. However, the Committee opined that the Chrome Ore Beneficiation plant is having significant environmental impact to the surrounding areas in terms of water pollution and tailing disposal and there is a need for detailed EIA study.

27. The SEAC, Odisha recommended to consider the project as Category-B2 as per MoEF&CC, Govt. of India O.M. No. J/13012/12/2013-IA-II(I), dated 24.12.2013 for exemption of public hearing. However, the Committee recommended to consider Environmental Clearance for the proposal after the proponent submits detailed EIA study report.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar**, the SEAC recommended to issue Terms of References (ToRs) exempting public hearing for conducting EIA study as per **Annexure – G**.

ITEM NO. 09

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S CHARIOT CEMENT COMPANY (CSPPL) (A UNIT OF CHARIOT STEEL AND POWER PVT. LTD.) FOR PROPOSED NEW CEMENT GRINDING UNIT TO BE ESTABLISHED AT KALUNGA INDUSTRIAL ESTATE, TAHASIL - LATHIKATA, DISTRICT - SUNDARGARH OF SRI SURESH JOSHI – EC

1. The proposal is for Environmental Clearance of M/s Chariot Cement Company (CSPPL) (a unit of Chariot Steel and Power Pvt. Ltd.) for proposed new Cement Grinding Unit to be established at Kalunga Industrial Estate, Tahasil-Lathikata, District-Sundargarh.
2. The project falls under schedule 3 (b) "Cement plants" Category-B as per the EIA notifications, 2006 amendments thereafter.
3. Chariot Cement Company, A unit of Chariot Steel & Power (P) Ltd. (CSPPL) has acquired the assets of M/s Saraf Agencies Pvt. Ltd. (SAPL) at Kalunga Industrial Estate. The old plant is already dismantled / disposed. Required land is already under possession of CSPPL.
4. Therefore, CSPPL will set up a new cement grinding plant at the same location for

production of 0.99 Lakh TPA PSC/PPC/OPC Cement (300 TPD) over an area of 6.6 acres.

5. SEAC granted **TOR** vide Letter no. 319/SEAC-12/19 dated **19.10.2019** or conducting EIA/EMP study.
6. EIA study has been carried out collecting Baseline Data from **December 2019 to February 2020 (Winter Season).**
7. **Public Hearing** was conducted successfully on **04.12.2020** at IDC Field, Jhartarang, Near Tarini Mandir, Lathikata, Sundargarh
8. The project is located in Plot No- 202, Industrial Estate, Kalunga, Tehsil-Lathikata, District- Sundargarh, Odisha, bounded by Latitude 22^0 13' 35" N to 22^0 13' 39" N and Longitude 84^0 45' 41" E to 84^0 45' 49" E & which falls on Toposheet No- F 45 G 16 (73 B/16). The site is well connected by road (NH – 23 at 1.7km and SH – 10 at 1.1km) and by rail nearest is Kalunga Railway Station, on Kolkata – Mumbai trunk route of South Eastern Railway, is only 2.9 KM from site. Nearest Airport is Jharsuguda Airport is 90km southwest. Nearest habitation is Village Jhartarang located at distance of 1.7 KM SE. Nearest River is Koel River at 2.3 KM. No national park or sanctuary is present within 10km radius from project site. Nearby industries are Sri Trinetra Iron & Steel (P) Ltd. around 50meters, Shree Jagannath Engineers Pvt. Ltd., Kalunga around 450meters, Nixon and Steel and power around 700meters and Times Steel & Power Pvt. Ltd., Kalunga around 750meters.
9. Rake loading exists at Kalunga Railway Station which is at a distance of 2.9 km (WSW) from the site.
10. Raw materials like Clinker, Fly ash, Slag, Gypsum & Coal will be required for production of cement and the raw materials will be sourced from open market / industries.
11. Clinker, Slag, Fly Ash & gypsum will be grounded at required proportion in the Ball Mill to produce different types of cement (PSC/PPC/OPC) as per the market demand. Cement will be stored in silo for onward dispatch through road / rail. Hot air required for the purpose of drying of slag shall be generated through coal fired Hot Air Generator (HAG) of 10 TPH capacity.
12. Water Requirement - Water will be required for equipment cooling, dust suppression, green belt, domestic & Fire fighting purposes. 8.33 KLD water (2.5 KLD Domestic & 5.83 KLD Industrial water) will be sourced from industrial water supply facilities available in Kalunga Industrial Estate.
13. Power Requirement - 1200 KVA power will be required for operation of proposed cement grinding unit. This will be sourced from WESCO's substation catering 33 KVHT line to site. In case of power failure, D.G. Set shall be used (250 KVA capacity) in Emergency only. Renewable Solar energy is about 75KW i.e 7.5% of total power consumption.
14. About 95 persons will be engaged in the plant as direct manpower and indirectly more than 200 people will be engaged due to establishment of proposed cement plant.
15. Cement grinding unit does not generate any industrial waste water. Domestic waste will be discharged to soak pit through septic tank. Back wash of Raw Water Treatment Plant

shall be reused for mill spray. Dust collected by the Bag Filters will be completely reused in the cement manufacturing process. Other solid waste will be in the form of rejected conveyor belts, torn / damaged cement bags, paper / wooden / plastic waste etc. which are not hazardous in nature and will be sold to recyclers on regular basis.

16. Plantation will be carried out in 3.3 Acres out of 10 Acres of acquired land.
17. Baseline data was collected from Dec 2019 to Feb 2019 for environmental components like AAQ, Ground & surface water quality, soil quality, noise level, traffic study, ecology and socioeconomic study. Concentrations of all monitored parameters are below the permissible limits of CPCB. There is no endangered and endemic species in the 10km radius study area.
18. Environment Management Plan - Bag filters will be installed at cement grinding mill, packing plant and coal dryer to control air pollution. Water sprinkling will also be carried out to suppress fugitive dust. Cement grinding unit does not generate any industrial waste water. Domestic waste will be treated in STP and reused for green belt. Back wash of Raw Water Treatment Plant shall be reused for mill spray. Dust collected by the Bag Filters will be completely reused in the cement manufacturing process. The equipments shall be provided with acoustic shields or enclosures to limit the sound level inside the plant. The proposed green belt over 2.45 acre will also help to prevent noise and dust generated within the plant from spreading beyond the plant boundary.
19. An Environment Management Cell (EMC) will be established in the plant which will be responsible for environmental monitoring, developing greenbelt, ensuring good housekeeping, ensuring statutory compliance as well as creating environmental awareness among work forces. Regular monitoring of the important environmental parameters will be taken up.
20. Public Consultation was conducted successfully on 04.12.2020 at IDC Field, Jhartarang, Near Tarini Mandir, Lathikata, Sundargarh under the Chairmanship of Addl. District Magistrate and assisted by Regional Officer, Rourkela. Compliance to the points raised by the public and time bound action plan was prepared.
21. As per the TOR, 2.5% of the project cost i.e. about ` 31.2 Lakhs will be earmarked towards the Enterprise Social Commitment (ESC) to implement the activities complying to the points raised by public during public hearing.
22. Capital cost of the project is estimated as ` 12.47 Crores. For environment management, capital cost is estimated as ` 65 Lakhs with recurring cost of ` 11.5 Lakh/annum.
23. The Environment Consultant **M/s Centre for Envotech and Management Consultancy Pvt. Ltd. Bhubaneswar** along with the proponent made a detailed presentation on the proposal before the Committee.
24. The SEAC in its meeting held on dated 07.12.2021 decided to take decision on the proposal after receipt of the following information / documents from the project proponent followed by a site visit by the sub-Committee of SEAC to verify the constructional status of the project.

25. The project proponent has furnished compliances as requested by the SEAC and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
1.	"Kisam" of the land conversion to "Industrial use" from appropriate Revenue Authority to be submitted	Land Kisam has already been converted to industrial land (Plot No.131). Copy of RoR is enclosed as **Annexure-1.**
2.	To confirm specific measures including permanent arrangement of water sprinkling against fugitive dust emission	• Nuisance Dust collector will be installed to collect the fugitive dust from the transfer points and put it back into the cement grinding system for recycling. • Plant roads, approach roads, truck parking areas will be made of concrete and fixed water sprinklers will be installed along the roads. • Dry fog system will be installed at hopper of coal crusher. • Silo vents will be connected to Bag Filter. • To prevent fugitive dust from being air borne, Covered sheds will be provided for coal, slag and gypsum. Fly ash will be stored in silo.
3.	Provision of solar power with plan & exact calculation for consumption vis-à-vis the generation and the percentage of total power demand to be submitted	Details is attached in **Annexure-2.**
4.	Design capacity of STP to be submitted for about 200 manpower	Details are attached in **Annexure-3.**
5.	Design of coal & Gypsum shed with garland drain to be submitted so that no fines enter into the drain. Also submit the justification why Gypsum cannot be stored in "Silo" i.e silo provision for Gypsum?	Design of Coal & Gypsum shed with garland drain is enclosed as **Annexure-4.** **Justification for Gypsum Storage:** Gypsum contains moisture about 8 to 12% and is cohesive in nature. If it is stored in silo, lumps will be created inside silo and extraction shall be very difficult. Also gypsum cannot be dried before use, because its chemical properties will be altered, which may render it unsuitable for production of cement. Therefore it is proposed to store gypsum in the covered shed and not in the silo.
6.	"Carbon balance" with carbon neutrality be submitted as against and carbon emission furnished	Plantation will be carried out in 37% of plant area, which will convert CO_2 to O_2 by photosynthesis process.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		"Carbon Dioxide Scrubber" may be installed at the outlet of coal burning furnace to neutralize the proposed CO_2 emission from the plant. **Function of CO_2 Scrubber:** 1. Air polluted with carbon dioxide is pumped into the CO_2 scrubber. 2. The air comes into contact with an ion exchange resin, which attracts the carbon dioxide molecules. 3. The cleaned air is then pumped out of the CO2 scrubber. 4. The ion exchange resin will be cleaned periodically to retain its usefulness.
7.	Inversion / Dispersion modeling study be undertaken by domain expert and finding be submitted with mitigation measures (if required)	Dispersion Modelling has been carried out by domain expert, Dr. C. R. Panda who is NABET accredited EIA Coordinator and FAE in the area of Air Pollution. Findings of modelling and mitigations measures are enclosed as **Annexure-5.**
8.	Finding of traffic study undertaken be compared with IRC norms and accordingly, traffic decongestion plan as & if required be submitted	TRAFFIC STUDY has been conducted taking the Indian Road Congress Guidelines i.e. IRC – 106:1990. Findings of study and management plan are enclosed as **Annexure- 6**.
9.	Water management with rain water harvesting details be submitted	In order to minimize consumption of fresh water from the source, industrial water after treatment is proposed to be recycled and reused. After cooling and suitable treatment makeup water will be added to compensate for the losses in closed circuit circulation system. **Roof Top Rain Water Harvesting** Roof Top of the admin building, canteen, First-aid room, Security Shed and time office are proposed for roof top rain water harvesting. As per the land utilization plan, the area of roof top will be about 0.8 acre. Area of roof top = 0.8 acre X 4046 = 3237 sqm.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		Run-off coefficient of Roof Top = 0.85 Annual Rain Fall of the area = 1300 mm Rain Water Harvesting potential = 3237 x 0.85 x 1300 / 1000 = 3577 cum / annum. This quantity of rain water will be diverted to the raw water reservoir and will be used for plant utilization purpose or can be recharged to increase the level of ground water.
10.	Cement being dust prone industry and values of $PM_{2.5}$ & PM_{10} are close to prescribed standards, detail dust suppression management be submitted	**Dust Control / Suppression System to control particulate Matter Emission:** • Efficiency of Bag filters will be more than 99 % in order to reduce dust emission from point sources as per the norms i.e. < 30 mg/Nm^3. • Plant internal roads and connecting roads will be concreted. • Fixed water sprinklers will be installed along the roads. • Dry fog system will be installed at hopper of coal crusher. • Covered sheds will be provided for coal, slag and gypsum. Fly ash will be stored in silo.
11.	Detail "Zero Discharge" Management (specific) be submitted	" Zero Discharge" Management : • No waste water will be generated from cement manufacturing process. • Domestic waste water (2 KLD) to be generated from toilets will be treated in Sewage Treatment Plant (Capacity 5 KLD) and treated water will be reused in plantation. • Raw Water Treatment plant back wash water (0.43 KLD) will be used for mill spray / dust suppression etc. • Cooling tower blow down water (2 KLD) will be reused for dust suppression / fire fighting. • CSPPL will construct storm water drains inside the plant area, so that during rain, storm water will not be mixed with other sources.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		• All storm water drains will be channelized to garland drain around the plant to collect surface run-off during rainy season. • A settling pond of size 20m X 17m X 4m will be constructed for collection of surface run-off water. After settlement, clear water will be diverted to the raw water storage pond and excess water if any will be discharged to outside. Calculation of Settling Tank Size: Area of Plant= 6.6 Acre Hourly rain fall = 20mm Surface run off = 6.6 Acre X 4047 X 20 X 0.6/1000 X 4 hrs= 1282 m^3 (Maximum) Size of settling pond proposed= 20m X 17m X 4m.
12.	Copy of Land allotment letter of IDCO for the purpose of Cement Plant	Land was allotted by Govt. of Odisha prior to formation of IDCO and the copy of lease agreement with Govt. of Odisha is enclosed as **Annexure-7**.

After detailed discussion, the SEAC decided to take decision on the proposal after site visit by the sub-Committee of SEAC to verify the constructional status of the project.

ITEM NO. 10

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF SHIVA CEMENT LTD., FOR KHATKURBAHAL LIMESTONE & DOLOMITE MINE (ML AREA-72.439 HA) WITH EXPANSION IN PRODUCTION CAPACITY FROM 0.3475 MILLION TPA TO 1.50 MILLION TPA LIMESTONE (INCLUDING SUB-GRADE), 0.20 MILLION M3 PER ANNUM OB/WASTE/SB/IB/LOW GRADE DOLOMITE AND 0.108 MILLION M3 PER ANNUM TOP SOIL WITH MOBILE CRUSHER WITH SCREEN OF 500 TPH CAPACITY LOCATED NEAR VILLAGES- KHATKURBAHAL & KULENBAHAL, TAHASIL – KURTA, DISTRICT- SUNDERGARH OF SRI. MANOJ KUMAR RUSTAGI (DIRECTOR) – EC

1. This is a proposal for Environmental Clearance of M/s Shiva Cement Limited for Khatkurbahal Limestone & Dolomite Mines with expansion in production capacity from 0.3475 Million TPA to 1.50 Million TPA Limestone (Including Sub-grade) with mobile crusher with screen of 500 TPH Capacity over an area of 72.439 ha near Villages- Khatkurbahal & Kulenbahal, Tehsil – Kurta, District- Sundergarh (Odisha).

2. The project falls under Category" B" Project or Activity 1(a) – 4 for "Mining of Minerals" and S. No. 2, Project or Activity 2 (b) - 3 for "Mineral Beneficiation" as per MoEF&CC, Govt. of India Notification as the Mining Lease Area is less than 100 ha (as per S.O. 3977, dt.14.08.2018).

3. **Location and Connectivity** – The mine is situated near Villages- Khatkurbahal & Kulenbahal, Tehsil – Kurta, District- Sundergarh (Odisha). The latitude is $22^0$16'42.55755" N to $22^0$16'53.70413" N and longitude is $84^0$27'35.99047" E to $84^0$29'04.10197" E. The mine is well connected with SH-10 (~5.4 Km in SSW Direction). The nearest railway is

available at Sonakhan (~12.9 km in SE direction), the nearest airport is Rourkela (~33 km in East Direction) and Jhasuguda (~70 km in SW Direction) & the nearest city is Rajgangpur (~13.5 km in SE direction). There is no National Park, Wildlife Sanctuary, Biosphere Reserves, Tiger Reserves, and Wildlife Corridors, etc. within 10 km radius of the mining lease area. There are 3 Protected Forests and 13 Reserve Forests falls within 10 km radius study area.

4. The mining lease of Khatkurbahal limestone & dolomite mine over an area of 72.439 ha was executed in favor of M/s. Shiva Cement Limited on 04.11.1997 for a period of 20 years w.e.f.15.01.1992. The first renewal application was made in the year 2010, for 20 years w.e.f. 14.01.2012 but later on as per section 8A of the Mines & Mineral (Development & Regulation) Amendment Act 2015, the lease period was extended for 50 years from first grant i.e. up-to 14-01-2042. Supplementary lease deed for the same was executed on 10.11.2016.

5. Environment Clearance for expansion in limestone production capacity from 0.12 Million TPA to0.3475 Million TPA limestone was issued in the form of NGT Order vide letter dated 04.03.2014. Compliance report of the conditions stipulated in the Environment Clearance has been certified by Regional Office of Ministry of Environment, Forest and Climate Change vide their letter No. 101-642/10/EPE/GY.Y dated 13.07.2020, subsequently a letter was issued by the R.O Bhubaneshwar based upon the action taken report submitted by SCL to MoEF&CC. Consent to Operate under Air & Water Act has been obtained by OSPCB vide letter no 5344/IND-I-CON-1904 dated 27.03.2021 (valid up to 31.03.2022).

6. Demand Notice was issued to Shiva Cement Limited by DDM, Rourkela dated 30.07.2020 whereby it has been directed to pay an amount of Rs. 18,57,73,619 purportedly towards compensation under Section 21(5) of the MMDR Act for production as per the judgment of Hon'ble Supreme court dated the 2nd August 2017 in writ Petition (civil) No. 114 of 2014 in the matter of common cause versus Union of India & Ors as applicable. Company has challenged the Demand Notice dated 30.07.2020 before the Central Government (Ministry of Mines), New Delhi on. 05-10-2020 by Application No. RA/22/22/2020-RC-1 under Rule 35 of the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 ("Revision Application") and the interim protection was granted to company vide order dated 24.02.2021. The matter was earlier heard on 26.10.2021 and the Mines Tribunal, New Delhi directed the State Govt. to provide clarifications in this matter. Subsequently, during the hearing on 30-11-2021, the Ld. Counsel of state govt. sought time to clarify the matter. The Revision Application is pending before the Central Government (Ministry of Mines), New Delhi. Final outcome of the issue under adjudication shall be followed by the company.

7. **R&R:** This is an operating mine and expansion in limestone production capacity is proposed within existing mining lease area. Therefore, no additional land will be required. Out of total mining lease area, 1.822 ha is grazing land. An area equivalent to the grazing land will be acquired in nearby area. Budget of Rs. 1.62 crore has been allocated for acquiring the alternate grazing land under R&R plan. Out of the total Private land, company has surface rights on 19.51 ha & remaining land will be acquired under the "Right to fair

Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act-2013 (LARR Act, 2013)".

8. The Application for Environmental Clearance was submitted to SEIAA, Odisha on 19.06.2019 and accordingly, the standard ToR was issued on 14.08.2020. Base line data were generated from October to December, 2020. The Public Hearing for the proposal has already been conducted on 24.08.2021. Accordingly, the final EIA report submitted to SEIAA, Odisha for Environmental Clearance on 24.08.2021.

9. **Method of Mining**: The Khatkurbahal Limestone & Dolomite Mine is in operation since 1992. The method of mining adopted as opencast semi mechanized as well as manual with development of bench from ground level to top. It is proposed to deploy surface miner specially designed for hard and massive rock to avoid drilling and blasting as much as possible. Surface miner is eco-friendly mining solution for operation in the close proximity of habitants. So opencast mechanized mining by forming systematic benches of 6.0 m height with proper width of about more than 10 m and combination of surface miner as well as conventional drilling blasting will be adopted for excavation of limestone as well as waste as per requirement and site conditions/constraints due to proximity of habitations. The drilling of blast holes will be done by rig mounted hydraulic rock drills instead of existing jack hammers. This will be transformed gradually during next three years of planning; the hole diameter will be 32-55 m and the machines will be operated by compressed air. The average rate of drilling will be about 8m/hr. Staggered pattern drilling will be done with limiting of 3 rows maximum per blast. Required yield per holes will be 54.675 ton (1.5m burden x 3.0m spacing x 4.5 m average depth x 2.7 specific gravity). Blasting will be done as per MMR 1961 under the supervision of qualified blasting in-charge/Blaster certificate holder and other competent personals. Blasting will be done beyond the danger zone. The loading of limestone will be done by hydraulic excavators of 1.6 cum as well as loaders of 1.3 cum bucket capacity. The transport of blasting material is being done by 16-25-ton capacity dumpers from mine faces to mobile crusher. Mobile crusher with screening arrangement/sizer of capacity 500 TPH will be procured at the mines site to bring down the limestone to less than 50 mm to make it suitable for feeding to the grinding system. The mobile crusher with screen will be procured and placed at the location within lease area. Screening will be done in view of mineral conservation by separating the interstitial clay from the ROM. Cross belt analyzer will be installed to monitor the homogeneity of limestone and to make suitable corrections in crusher feeding from mines. The ultimate transport of limestone from mine face to the cement plant is mainly by road using tippers of 16-25-ton capacity. The distance between mining lease area and cement plant is ~19.2 kilometers.

10. **Top Soil and Solid waste generation and management** : The top soil within the applied area is Silty loam in nature and brown in color. Top soil is about 2 m thick. About 0.187 million tone (0.162 million tonnes & 0.025 million tonnes during 2018-2019 & 2019-2020 respectively) of top soil has been generated since year 1998 to 2020, part of which has been utilized for plantation and the remaining top soil temporarily stacked and will be eventually used for greenbelt/ plantation. Total 0.656 million cum of top soil will be generated. Topsoil will be used in plantation to stabilize the backfilled area. The waste materials occurring within the ore zone is intercalated/overburden and inter-burden. About

59746 cum of waste have been generated till date. All OB generated throughout the years are adjusted in our two dumps which are well stabilized by plantation and around these dumps garland drains have been provided. at the conceptual stage, Total 4.7 Million cum of material consisting of 3.28 million cum OB/IB/SB/Waste/Low grade Dolomite & 1.42 million cum mineral reject/ sub grade will be generated. Once the reserve will be exhausted in the Eastern part of the lease area then the waste accumulated will be backfilled in the pit 1 & pit 2. (Phase wise/Concurrent reclamation shall be initiated after this plan period). The backfilled area would be covered with topsoil and plantation will be done over the same to restore the environmental setup

11. **Land use:** At present 1.0 ha has been covered under greenbelt/plantation with 1800 saplings. During plan period 0.8 ha will be covered 1200 saplings. Total 21.07 ha area will be covered under Green belt and plantation (6.58 ha on backfilled area + 1.50 ha area under greenbelt along 7.5 m lease boundary in Eastern, Western and southern direction + 5.73 ha area on safety zone of Village habitation (3.58 along Khatkurbahal and 2.15 along Malatoli) + 7.26 ha area on safety zone of roads). An area of 22.259 ha area will remain undisturbed.

12. **Water Requirement:** Existing water requirement for the project is 62 KLD. Additional water requirement for the proposed expansion project will be 10KLD therefore the total water requirement after expansion will be 72 KLD. Water will be sourced from the ground water and rainwater collected in mine sump. NOC from CGWA has been obtained vide letter no. 21-4(304)/CGWA/SER/2011/66 dated 14.02.2011 and vide NOC no CGWA/NOC/MIN/ORIG/2021/12245 dated 07.07.2021

13. **Power requirement:** The existing power requirement is 10 KW.Additional power requirement for proposed expansion will be 740 KW. Therefore, Total power requirement after proposed expansion will be 750 KW

14. **Employment Potential:** Existing manpower for the project is 100 persons which will be 142 after expansion (including 17 Persons for EMP). The Unskilled /semi-skilled manpower are being sourced from the local area whereas the skilled manpower is being sourced from local as well as outside. Preference is given to the locals as per their skills set, qualification and eligibility.

15. No forest land falls within the lease area. No schedule I species found in the study area. Letter for the same has been received from Regional Chief Conservator of Forests, Rourkela Circle vide Memo no 2852/3F-799/2021 dated 05.10.2021. There are 3 Protected Forests and 13 Reserve Forests falls within 10 km radius of the study area

16. **Baseline Data:** The primary baseline data for site specific micro meteorology data, ambient air quality, water quality, noise level, soil and flora & fauna was collected during Post Monsoon Season (October to December, 2020). The baseline monitoring results of ambient air, soil, ambient noise level and ground water have been reported and the same were compared with respective prescribed standards viz. NAAQS-2009 (for air monitoring), IS:10500-2012 (for ground water) and ambient noise limits prescribed by CPCB.–Concentrations of PM10 and PM2.5 for all the 11 AAQM stations were found between 42.3 to 94.8 µg/m^3 and 20.4 to 58.7 µg/m^3 respectively. The concentrations of SO_2

and NO_2 were found to be in range of 5.05 to 12.75 µg/m^3 and 11.95 to 27.63 µg/m^3, respectively. Noise levels varied from 48.9 to 66.2 Leq dB (A) during day time and from 40.9 to 59.5 Leq dB (A) during night time and found within the limits prescribed by CPCB. The ground water /drinking water samples were collected from 8 locations, the ground water was found potable. The pH of collected water samples varied from 6.88 to 7.58. Total hardness varied from 62 mg/l to 295 mg/l. Total dissolved solids varied from 97 mg/l to 384 mg/l. The water samples contain, chloride from 7.39 to 87.4 mg/l, SO_4 varies from BDL (DL 1.0 mg/l) to 32.4 mg/l, Ca from 10.02 to 78.16 mg/l, Mg varies from 7.29 to 19.44 mg/l. The analysis results of soil show that soil is moderately acidic to slightly acidic in nature, the pH value ranges from 4.55 to 7.12, the soil texture is silty clay loam. The impact prediction carried through modeling indicated maximum incremental concentrations w.r.t. PM10 as 3.433 µg/m^3.

17. **Public Hearing:** Public hearing for the project was conducted on 24.08.2021 at 12:00 Noon Behind Jagannath Temple, Khatkurbahal Village under Kutra Block of District Sundergarh, Odisha under chairmanship of Shri Biswajit Mohapatra Additional District Magistrate, Sundargarh and Shri Dr. P.K. Mohapatra, Regional Officer, Rourkela, State Pollution Control Board, Odisha. Issues raised during public hearing were about Employment, health facility, education facility, land acquisition, local area development, grazing land, Noise and dust pollution, better infrastructure etc. Budget for addressing the Public Hearing issues is Rs. 2.30 Crore.

18. **Project Cost:** Total project cost is Rs. 65 Crore. Cost for Environment Protection is 7.57 Crore. Recurring Cost for EMP is Rs. Rs. 1.0 Crore per annum.

19. The proponent along with the consultant **M/s JM EnviroNet Pvt. Ltd. Gurugram (Haryana)** made a detailed presentation before the SEAC on the proposal.

20. Earlier the proposal was placed before the SEAC meeting held on 07.12.2021 and the committee decided to take decision on the proposal after receipt of certain information / document. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
1.	Breakup of the land (private & Govt) with the corresponding "Kisam" of the land and conversion of the same to "Mining use" be submitted from appropriate Authority including the same in favor of Project Proponent.	Total mine lease area = 70.439 Ha or 179 acres, in which Govt. Land is 15.89 Acres (6.43 ha) and Pvt. land is 163.11 Acres (66.009 ha). Land hold by Shiva Cement is 69.2 Acres (28.004 ha). Conversion of land has been done for 69.2 Acres. Breakup of the land with the corresponding kisam as well as the RoR of land conversion documents are enclosed as **Annexure-1**.
2.	Status of land acquisition of the land to be submitted.	➢ Total lease area is 179 Acres (72.439 ha) ➢ Land under possession of Shiva Cement is 69.20 Acres or 28 ha (Pvt. Land 66.04 Acres (26.72 ha) and Govt. land

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th></tr>
<tr><td></td><td></td><td>3.16 Acres (1.28 ha))
➢ Out of 109.80 Acres or 44.439 ha of land, SCL has proposed to acquire 87.06 acres of land as below:

<table><tr><td>Village name</td><td>Govt. Land (acres)</td><td>Pvt. Land (acres)</td><td>Total Land (acres)</td></tr><tr><td>Khatkurbahal</td><td>5.86</td><td>64.58</td><td>70.44</td></tr><tr><td>Kulenbahal</td><td>0.90</td><td>15.72</td><td>16.62</td></tr><tr><td>Total</td><td>6.76</td><td>80.3</td><td>87.06</td></tr></table>
➢ Administrative approval for acquisition of 87.06 acres of land has been received from the Deptt. of Steel & Mines vide our letter dated 02-11-2021. Copy of the same is attached in Annexure-2a.
➢ Status and schedule of land acquisition is enclosed as Annexure-2b</td></tr>
<tr><td>3.</td><td>Certificate of compliance to EC conditions of existing project from the Regional Office, MoEF&CC, Govt. of India and also compliance to existing CTE/CTO conditions from OSPCB be submitted.</td><td>➢ Compliance report of the conditions stipulated in the Environment Clearance has been certified by Regional Office of Ministry of Environment, Forest and Climate Change vide their letter No. 101-642/10/EPE/GY.Y dated 13.07.2020. A letter was also issued by the R.O Bhubaneshwar based upon the action taken report submitted by SCL to MoEF&CC. Copy of Certified compliance report of EC conditions from MoEF&CC, R.O. Bhubaneswar is enclosed as Annexure-3a.
➢ Certified compliance report of CTO has been received from Regional Office of SPCB, Rourkela vide letter no 01/CTO/0453 dated 01.01.2022. Copy of certified compliance report is enclosed as Annexure-3b.</td></tr>
<tr><td>4.</td><td>Comparison in form of tabular form for the existing & the proposed expansion towards physical features, natural resources and environmental parameters be submitted showing the physical features in the layout map with Dimension.</td><td>Comparison of physical features, natural resources and environmental parameters for existing and after expansion are enclosed as Annexure-4.</td></tr>
<tr><td>5.</td><td>OB/SB/IB waste management for existing & proposed expansion be submitted with annual moving inventory</td><td>➢ <u>Existing waste management</u> = Total OB/IB/SB/Top soil generation since 1998 to 2021 (up to Dec’21) is 503127 Tones out of which 75000 Tons of top soil/ OB has been utilized for plantation in safety zone. The waste is stacked in the mine for backfilling.</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	& the corresponding area for it showing in the layout map.	➢ Proposed waste management: Total waste expected to be generated during the year 2022 to 2042 is11619787Tonneswhich will be stacked temporarily and will be backfilled from 10th years onwards. ➢ OB/SB/IB waste management for existing and after expansion with moving inventory and corresponding area is enclosed as **Annexure-5**
6.	Detail legal status be submitted including pending in different judiciary Court (S) and appeal with Govt.	➢ Demand Notice dated 30.07.2020 was issued directing the Company to pay Rs. 18.58 Crore after adjusting Rs. 68.89 Lakh purportedly towards compensation under Section 21(5) of the MMDR Act 1957 which was before the Central Government (Ministry of Mines), New Delhi by Application No. RA/22/22/2020-RC-1 under Rule 35 of the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 ("Revision Application") ➢ The matter was last heard on 03-01-2022 wherein the Mines Tribunal/ RA directed the State Govt. to provide clarifications as to the justification for raising revised demand for the same period. Clarification from the State Govt. is awaited. ➢ Chronology and present status of legal case pending before the Mines Tribunal along with an affidavit regarding compliance with the final outcome of the matter under adjudication is enclosed as **Annexure-6.**
7.	Plan with time frame with technology on use of mine pit water for irrigation purpose of agriculture land as raised during public hearing and also protection of grazing land.	➢ Total water (mine seepage and rainwater) expected to be accumulated in the mine pit at the end of 5 year plan will be 1043.6 M3 /day out of which approx. 582 M3 /day will be supplied to nearby villages for agriculture and irrigation. Balance water will be used to meet mine and cement plant requirements. ➢ Detailed year-wise plan with time frame for use of mine pit water for irrigation along with plan for protection of grazing land is enclosed as **Annexure-7**.
8.	Provision with plan & calculation of generation & consumption of solar power vis-à-vis the percentage of the same against the total demand of power.	Total power demand for this mine is 750 KW and Shiva Cement Ltd has a proposal for Total solar power generation up to 16.5 KW (2.2% of total power) by the end of year 2023 using below: 1) 5 KW solar power generations through rooftop panels for office lighting. 2) 1.5 KW solar street lighting on mines and village roads (no. of lights 5 of 300 W each). 3) 10 KW solar power generations in cement plant through rooftop panels.
9.	Since yearly study data	Specific mitigation measures to reduce fluoride conc. In ground

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th></tr>
<tr><td></td><td>indicate fluoride as very near to the prescribed standard, specific mitigation measures to arrest it and so also PM_{10} & $PM_{2.5}$.</td><td>water:
1) Company has proposed rainwater harvesting and artificial groundwater recharge to the tune of 174091 m3 /annum from the first year which will subsequently increase to 543824 M3/annum as per following details:

<table>
<tr><th>Sources</th><th>1st Year</th><th>2nd Year</th><th>3rd Year</th><th>4th Year</th><th>5th Year</th></tr>
<tr><td>Mine-1 pit</td><td>73291</td><td>108302</td><td>121373</td><td>136545</td><td>166888</td></tr>
<tr><td>Mine-2 pit</td><td>35595</td><td>45806.5</td><td>71307</td><td>92547</td><td>118339</td></tr>
<tr><td>Existing Pond (new)</td><td>65205</td><td>65205</td><td>65205</td><td>65205</td><td>65205</td></tr>
<tr><td>Proposed ponds (3 nos)</td><td>0</td><td>0</td><td>193392</td><td>193392</td><td>193392</td></tr>
<tr><td>Total</td><td>174091</td><td>219313.5</td><td>451277</td><td>487689</td><td>543824</td></tr>
</table>
The above mentioned quantum of groundwater will certainly contribute to reducing the fluoride conc. through dilution of groundwater.
2) Provision of R.O. plant in village Khatkurbahal for drinking water
Specific mitigation measures for reduction in PM-10 and PM 2.5 levels:
➢ Drilling machines will be equipped with water spray arrangement
➢ Controlled blasting will be adopted to minimize the air pollution
➢ Permanent water sprinkling arrangements for main haulage road
➢ Haul roads and loading & unloading areas will be regularly sprayed with water to arrest dust from becoming air-borne.
➢ Plantation (backfilled area, along roads and habitations) covering an area of 19.57 Ha with total 35218 no. of saplings from 3rd year onwards till the life of mine.
➢ Green belt around 7.5 m periphery covering an area of 1.50 ha
➢ Development of bypass CC road for mineral transportation
➢ Personal Protective Equipment like dust masks are being/will be provided to all employees.
➢ 4 Ambient Air Quality Monitoring Stations at Mine Site and display board at Mines Main Gate
➢ Regular monitoring of Fugitive dust emission near Mine office and near working pit.</td></tr>
<tr><td>10.</td><td>To confirm with details (drawing) of the separate road (to</td><td>A separate dedicated road of 1.0 km length has been planned to be constructed for mineral transport. The road will be completed within 2 years after grant of EC. Budget of Rs. 4.0</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	construct) with definite time frame for transportation of mineral to avoid traffic congestion in existing haulage road.	Crore has been allocated for the same. The road marked on the map is shown in **Annexure-8**.
11.	Details of haulage road (with drawing & dimension) to be submitted along with permanent sprinkler arrangement on the road & inside the mines to arrest fugitive dust emission.	Details of haulage road and sprinklers with map are enclosed as **Annexure-9.**
12.	Details of rain water harvesting / artificial recharging including dewatering of mines seepage water along with disaster management.	➢ Rainwater harvesting and groundwater recharge is proposed to be done through mine pit, construction of ponds, check dams and earthen bunds outside mine lease. ➢ Approx. 1043.6 M3 /day water will be accumulated in the mine pit (mine seepage and rainwater) out of which approx. 582 M3 /day water will be supplied for irrigation in nearby villages. ➢ Details of rainwater harvesting / artificial recharge and mine pit dewatering along with disaster management are enclosed as **Annexure-10**.
13.	To explain how the present requirement of water is 62 KLD & after expansion of about 15 times, there is usage of addl. requirement of 10 KLD of water.	➢ The existing water requirement is 32 KLD which has been erroneously mentioned as 62. So, the net increase in water requirement is 40 KLD. ➢ Further, till now the water spraying on the haul road is being done through conventional tankers whereas after expansion we will install water sprinklers along the haul road and dry fog spray in crusher which are more efficient and consume about 50% less water compared to water tankers and conventional sprinklers.
14.	Details of STP with design & capacity and re-use of treated waste water be submitted.	The STP is designed for a flow of average 10 M^3 /day; Plant is designed based on the biological treatment concept. The waste is treated in 3 stages. 1) Pre-treatment consists of screening and equalization tank 2) Secondary treatment consists of biological treatment, Tube setller, disinfection and sludge disposal system 3) Tertiary treatment consists of sand media filter and activated carbon filter. Filtered water will be collected in the Irrigation water tank from where it will be for desired non potable application. Backwashed water from filters will return back to equalization tank. Design details of 10 KLD STP enclosed as **Annexure-11.**
15.	Socio – economic, Bio-diversity & Traffic study	Details of Socio-economic, Biodiversity and traffic study has already been done and submitted with Final EIA/EMP Report.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	be undertaken (if not) and action plan based on the finding be submitted.	Action plan based on Socio-economic, biodiversity & traffic study is enclosed as **Annexure 12**.
16.	Detailed year wise production figure from 1994 to till date duly certified by concerned DDM.	Past production details has been duly authenticated by Deputy Director of Mines, Rourkela vide letter no 1642/Mines dated 09.09.2021. Copy of same is enclosed as **Annexure-13**.

Considering the information furnished and the presentation made by the consultant, **M/s JM EnviroNet Pvt. Ltd. Gurugram (Haryana)** along with the project proponent, the SEAC recommended for grant of Environmental Clearance with stipulated conditions as per **Annexure – H** and following additional conditions.

i) The proponent shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of project report.

ii) The proponent shall implement an appropriate technology for control of fluoride below the permissible limits after identifying its source. The fluoride concentrations in and around the mine shall be monitored periodically.

iii) Separate road shall be constructed (as proposed) with definite time frame for transportation of mineral to avoid traffic congestion in existing haulage road.

iv) Haulage road shall be developed and maintained perennially and perpetually by the proponent in consultation with the concerned authority of the Govt.

v) The mining authority shall assess the impact of blasting by carrying out a few trial blasts in the beginning through an institution/organization having the domain expertise and the optimum blasting parameters should be established in order to avoid any adverse impact.

vi) As per EIA report in project description, Bench width, height and angle is indicated along with Quarry slope and the proponent shall follow it as per approved mining plan and so also blasting procedure.

vii) This Environmental Clearance is issued without prejudice to the legal cases if pending in the different Court.

ITEM NO. 11

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR GURUDA BLOCK MANGANESE MINES OF M/S SERAJUDDIN & CO. LTD. FOR PRODUCTION OF MANGANESE ORE @ 1.5 LAKH TON PER ANNUM OVER MINING LEASE AREA 40.064 HA. OF SITUATED AT VILLAGE - GURUDA, TAHASIL-BARBIL, DIST-KEONJHAR (VIOLATION TOR).

1. The proposal was considered by the committee to determine the “Terms of Reference (ToR)” for undertaking detailed EIA study for the purpose of obtaining environmental

clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.

2. Guruda Block Manganese Mines of M/s Serajuddin & Co. is located in village- Guruda, Tahasil- Barbil, Keonjhar district of Odisha spread over an area of 40.064 Ha. This is a proposal for production of manganese ore @ 1.5 lakh ton/Annum.
3. Mine lease area is bounded by Latitude 210 54' 55.6" to 210 55' 08" North and Longitude 850 22' 34" to 850 23' 40" East & belongs to Topo Sheet Number 73 G/5. The mine is at a distance of 5.4 Km from nearest railway station Jaroli. Joda town is at a distance of 10.2 Km from the mine. State Capital Bhubaneswar is at a distance of 186 Km from the mine. Black topped road passes along N-S direction close to the area connecting Joda township.
4. The manganese Ore deposit in the area forms a part of the Singhbhum-Keonjhar-Bonai belt, also known as the Jamda-Koira valley and is represented by a narrow NNEly plunging folded synclinorium of 60 Km. long and 25 Km in width.
5. The proponent had made an application for mining lease over an area of 99.0 acres was made on 06/12/1949 for manganese ore in the Guruda Block, Keonjhar District.
6. State Government was pleased to grant mining lease over an area of 93.1 acres in Guruda Block of Keonjhar District in favor of M/s Serajuddin & Co. for manganese ore for period of 20 years vide State Government proceeding No. 1720/mines dated 16.05.1955.
7. However after final survey and demarcation the granted area of mining lease area was revised to 99.0 acres vide State Government proceedings No. 263/Mines dated 27.07.1955.
8. Whereas the company was allowed to execute the mining lease deed vide State Government order No. 5697/MG, dated 26.07.1958. The company filed to execute the deed and the said grant order was revoked by the State Government vide order No. 3876 dated 04.04.1962. Against the order of revocation, the company filed Revision Petition on dated 18.04.1962 before Govt. of India which was rejected by Govt. of India in their letter No. MV-1(122)/62, dated 08.06.1965. A notice was served upon the company to vacate the possession in govt. letter No. 5201/MG dated 22.09.1967.
9. Whereas the company filed Civil Revision case No. 2013(W) of 1967 and appeal in FM4-240/71, in the Hon'ble High Court of Calcutta. The High Court of Calcutta in their judgment dated 07.09.1973 allowed the appeal and set aside the revocation order of State Government.
10. The State Govt. preferred S.L.P in the Supreme Court against the orders of Calcutta High Court. The S.L.P Civil Appeal No. 1312/1976 was dismissed on 27.08.1991.
11. The company filed renewal of mining lease application on 02.08.1974 which was rejected by State Government order no. 6063 dated 27.05.1976 and the company filed Revision application to Govt. of India 26.06.1976, which was also rejected by government of India by their order dated 10.05.1978.

12. Again the company filed OJC No. 5301 of 1996 in the High Court of Orissa against the orders of rejection of Renewal of ML application and implementation of orders of High Court of Calcutta dated 07.09.1973.

13. The company submitted a representation to the state Govt. to allow execution of the said mining lease with an undertaking dated 12.07.1999 to withdraw the writ petition of OJC No. 5301 of 1996 filed in High Court of Odisha.

14. Therefore, after careful consideration, Govt. of Odisha was pleased to order that the mining lease granted in favor of M/s Serajuddin & Co. vide proceeding No. 1720/Mines, dated 16.05.1955 and allowed execution and subsequently revoked state Govt. order no. 3876/MG, dated 04.04.1962 is hereby restored and company is allowed to execute the said mining lease a fresh for a period of twenty years from the date of execution only after withdrawal of OJC 5301 of 1996 filed by company in the High Court of Orissa.

15. However, the lease had been worked prior to 2000 and the same was mentioned in a letter issued by Dy. Director of Mines during the period from 1966 to 1975 vide letter No.4770/Mines dated 24.03.2000 and a total of 88,079.847 Mt of manganese was produced during these period.

16. The said lease was executed on 22.04.2000 and the production started from the year 2001-02 till 2009-10. However the mine was being worked in the pre-existing quarries (prior to 2000) without obtaining Forest Clearance under FC Act, 1980.

17. The working of the Guruda Manganese ore mine was discontinued due to statutory clearance i.e. Forest Clearance, Environment Clearance and Consent to Operate etc.

18. As the lessee has applied for Forest Clearance, the certification of broken up area is required on the basis of the approved surface plan of mining plan in the year 2000.

19. Subsequently, as the mine had gone for production of 22,586.00 Mt from 2000-2010 which was without obtaining an Environmental Clearance as required under Environment Protection Act 1986, a demand had been raised by Dy. Director of Mines, Joda vide order of Hon'ble Supreme Court dated 02/08/2017 u/s 21(5) of MMDR Act, 1957 for an amount of ` 6,92,98,143/- as compensation vide letter No. 4126/Mines dated 02.09.2017. The lessee has paid in full on dated 27.12.2017 vide Treasury Challan reference no-27DDEF65AC & Lessee latter dated 27.12.2017 no- S & Co/625/17-18. The said demand is against the violation of EC only and there has not been any violation against F.C. Act, 1980 which is also evident from the list of 51 leases who have violated F.C.Act,1980 (Submitted to CEC) in which Guruda Manganese Mines is not included. The list of 51 mining leases which have violated F.C. Act, 1980 has been produced.

20. A joint verification was conducted on Dated 29.09.2018, vide DDM letter no. 3906/ Mines, dated 20.09.2018 for the certification of broken up area in Guruda Manganese Mines.

21. With regard to Environmental Clearance, the lessee applied to the MoEF&CC, Govt. of India vide its letter dated 24.09.2007 for the same. Terms of Reference (ToR) was issued by MoEF&CC, Govt. of India vide its letter dated 25.06.2008. However, Environmental

Clearance has not granted by MoEF&CC, Govt. of India due to non-submission Final EIA/EMP report within the validity period of Terms of Reference (ToR).

22. That pursuant to the demand made by the Divisional Forest Officer, Keonjhar for the payment of Net Present Value (NPV) in respect of 8.045 ha. of entire forest area, the Revisionist has duly deposited the aforesaid NPV amount of ` 58,72,850/- in from of demand draft on dated 28.02.2014 and communicated vide letter no BBI/512/13-14 , dated 05.03.2014. However, after the in inclusion of sabik forest, a fresh demand may be raised by DFO after the joint verification and during the processing of Forest Diversion proposal.

23. As the mine was not having all the required statutory clearances, a show cause vide letter No.2880/SM, dated 30.03.2017 was issued by Secretary, Steel & Mines, Govt. of Odisha and the hearing is still continuing.

24. The lease has been executed on dated 22.04.2000 and is valid up to 20 (Twenty years) i.e. 21.04.2020.

25. The Mining plan under Rule 22 of MCDR, 1988 was approved by, Indian Bureau of Mines, Calcutta vide letter no. BBS/KJ/Mn/MP/-53 dated 31.10.2000 and the 1st Scheme of Mining for the period from 2005-06 to 2009-10 was approved by the Controller of Mines (CZ), IBM, Nagpur vide their letter no: 314 (3)/2007-MCCM(CZ)/S-03/284,dated 13.06.2007 under Rule 12 of MCDR 1988. Mining operations in the area commenced from 2001-02 At present the operation is suspended under Rule 13/ (2) of MCDR' 1988 by Indian Bureau of Mines, Bhubaneswar vide letter No-ORI/MN/KJR/MCDR-06/BBS dated – 21.02.2012 for violation of Rule 12(2) & (3). The scheme of mining for the period from 2010-11 to 2014-15 has been approved by Regional Controller of Mines, Indian Bureau of Mines vide letter No-MS/OTFM/48/ORI/BHU/2014-15/145, dated.26.03.2015 and the Scheme of Mines for the period from (2015-20) has been submitted on dated 07.01.2015 referring No. S & Co/2014-15/716 to the competent Authority of Indian Bureau of Mines, Bhubaneswar for approval.

26. The lease area comprises of 40.064 Ha. of 23.476 Ha. of non-forest land and 16.588 Ha. of forest land. The ML area is located on a hill terrain sloping towards east and surrounded by rugged hilly tracts both in east and west directions and elevation varies from 603 m to 690 m above MSL. The narrow valleys have been occupied by few low order ephemeral streams which form part of the Baitarani River system. These streams flow North-Westernly, Westernly and South-Westernly and are dendritic in nature.

27. As per the exploration survey, total geological reserve is estimated as 23.18 Lakh Tons & total mineable reserve as 22.33 Lakh Tons. Therefore, anticipated life of the mine beyond 2020 would be 12 years considering maximum production capacity 1.5 LTPA.

28. The mine shall be operated by Open Cast Method with deployment of HEMM and categorized under Category "A (OTFM)". Mining equipments like jack hammer; air compressor, tractors, dumpers and hydraulic excavators shall be used. The mining is proposed to be carried out through 6m X 6m benching pattern. As per the scheme of mining, 3,65,075 CuM of Waste will be generated in 5 year and 19.36 Lakh Ton CuM of waste will be generated in the conceptual period. The average stripping ratio is 1:1.02 ton

per CuM of waste. Inclined drilling shall be adopted. Hard materials shall be dislodged by drilling & blasting prior to excavation and loading. With the production target of 1.5 LTPA, the ultimate size of the pits will cover surface area of 15.874 Ha., out of which 7.438 Ha. is proposed to be degraded up to first 5 year of working and 8.436 Ha. is likely to be degraded at the end of life of mines.

29. About 62 nos. of manpower will be engaged in the mine. 50 KLD of water will be required for drinking, dust suppression & green belt. About 1 MW electricity from Odisha Electricity Board for mine site will be consumed and 150 Liters per day HSD shall be required for activities viz. compressor for drilling, excavators for excavation work, vehicles for transportation and DG set for generating electricity for office requirement.

30. The existing road connecting from Guruda to Bamebari joining Keonjhar and Barbil, will be used for transportation of ore. No new road/ rail line will be required for the proposed project. Nearest Railway Siding at Jaroli at 5.4 km in NE direction from the lease area, can also be used for transportation of ore to different destinations. Existing roads will be strengthened which will be used for communication.

31. The project cost is ` 100 crores.

32. The Environment Consultant **M/s Centre for Envotech and Management Consultancy Pvt. Ltd. Bhubaneswar** along with the proponent made a detailed presentation before the Committee on the proposal.

33. The SEAC in its meeting held on dated 20.05.2019 decided to take decision on the proposal after the proponent submits the modified Form – I along with following information/ documents:

34. The project proponent has furnished compliances as requested by the SEAC and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	The Form-I prepared by the proponent / consultant is theoretical and it should be modified incorporating the actual data w.r.t no. of mines within the periphery of the mine, list of mining equipment with capacity and other environmental parameters.	The Form-I is modified incorporating the actual data w.r.t no. Of mines within the periphery of the mine, list of mining equipment's with capacity and other information's etc. The modified copy of Form I is annexed herewith as **Annexure - I**
(i)	Year-wise production details of the mine from the inception of the mine till the date of closure duly authenticated by the Steel & Mines Department, Govt. of Odisha.	The year wise production since the inception of the mine i.e. 2001-2002 till 2010-11 as reported by Deputy Director of Mines, Joda is enclosed as **Annexure-II**.
(ii)	Copy of the documents in support of the fact that the Proponent is the rightful lessee of the mine should be given.	The lease grant order and the lease deed w.r.t Guruda Manganese Ore Mine in favour of M/s Seerajuddin & Co. is enclosed as **Annexure-III.**

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
(iii)	Consent to Operate status (copy of the CTO order if any) of the mine from the State Pollution Control Board, Odisha.	Consent to Operate for 13904.835 TPA of Manganese Ore was valid till 31.03.2011 and the copy s enclosed as **Annexure-IV**.
(iv)	This is a violation case as the mine had gone for excess production of 22,586.00 Mt from 2000-2010 which was without obtaining an Environmental Clearance for which a demand had been raised by Dy. Director of Mines, Joda vide order of Hon'ble Supreme Court dated 02/08/2017 u/s 21(5) of MMDR Act, 1957 for an amount of ` 6,92,98,143/- as compensation vide letter No. 4126/Mines dated 02.09.2017. Supportive documents w.r.t application made in violation portal of MoEF&CC, Govt. of India within the due date.	Though the mine has gone for excess production between 2000-2010, the proponent has already applied for Prior Environmental Clearance on 24.09.2007 under EIA Notification 2006. Our proposal was considered in the EAC Meeting and the Terms of Reference (TOR) was granted vide File no. J-11015/1051/2007-IA.II (M) dated 25.06.2008. Referring TOR, we prepared the Draft EIA/EMP Report and submitted to Pollution Control Board for conducting Public Hearing. The State Pollution Control Board, Odisha had issued letter to District Magistrate for fixation of date to conduct the public hearing on dated 22.07.2009 vide letter no.11625/IND-II-PH-358. But The District Collector did not fix the date of Public Hearing due to various other reasons. State Pollution Control Board had also issued reminder to District Collector on dated 19.01.2010. Meanwhile, due to the Shah Commission was constituted to assess the illegal mining in Keonjhar and Sundergarh district, the District Collector could not fix the date for Public Hearing. During this period, almost six years lapsed and finally the Shah Commission report came during 2017. From then, we were issued demand notice to pay for excess production and the lessee paid accordingly. After completing all the formalities, we again applied to issue a fresh TOR as the earlier TOR was valid only for three years from the date of issue and long time was lapsed after that. Hence, we applied once again to SEIAA for grant of TOR on 05.11.2018. Our case was discussed in SEAC Meeting dated 20.05.2019 and clarification sought. By this time, the violation portal of MOEF was closed and the pending cases could not apply through violation portal till date. Meanwhile, MOEF&CC issued an office memorandum dated 09.07.2019 stating Category B

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		proposal which were submitted prior to the violation window period but not under violation category and later during the appraisal by the State Level Expert Appraisal Committee identified as violation proposal, may be considered in terms of provisions of Ministry's Notification dated 14.03.2017 & 08.03.2018 by the SEIAA. Hence, we request the committee to consider our case under the above mentioned category and grant us TOR. The OM dated 09.09.2019 and Ministry's Notification dated 14.03.2017 & 08.03.2018 along with all the correspondence of earlier EC Application is enclosed herewith as **Annexure-V** for reference.
(v)	Year-wise breakup for penalty deposited for violation of provision of Environment Protection Act, 1986 and F.C Act, 1980.	Office of The Deputy Director of Mines, Joda Circle vide letter no. 4126/Mines Dated 02.09.2017 raised a demand notice of Rs. 6,92,98,143.16 (Rupees Six Crore Ninety Two Lakhs Ninety Eight Thousand One Hundred Forty Three and Sixteen Paise Only). Subsequently, lessee on dated 27.12.2017 deposited the same amount vide e- Challan Reference Id 27DDEF65AC.The document related to deposit of payment is enclosed herewith as **Annexure VI**.
(vi)	Land schedule and kissam of land (Plot and khata no. wise).	The Lease area is spread over an area of 40.064 ha which comprises of 23.476 ha of Non- Forest Land and 16.588 ha of Forest Land. The Land Schedule of the ML area along with Kissam, Plot No. , Khata No. And Sabik kissam is enclosed herewith as **Annexure-VII**.
(vii)	Mines existing within 10 Km radius of the mine.	There are another 25 nos. of mining leases apart from Guruda Managanese Mine granted to various mining lease holders exist within 10km radius of the mines. Map depicting the position of ML areas is enclosed herewith as **Annexure VIII.**
(viii)	Villages existing within 10 Km radius of the mine.	The 10km surrounding of the ML area falls within the Keonjhar and Sundergarh district and there are in total 70 nos. of villages falling within the area. The name and location of the villages with respect to mine is as follows.
(ix)	Status of forest clearance for forest land involved in the lease area and copy of the Forest	The Application for obtaining Forest Clearance of the Forest land within the ML area is applied through online platform on

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	Diversion Proposal filed.	dated 12.07.2017. For the compliance of the same, the lessee has already undertaken following steps. Document related to Forest Diversion Proposal and its acknowledgement is enclosed as **Annexure-IX**. • Paid NPV amounting to Rs. 58,72,850.00 (Fifty Eight Lakhs Seventy Two Thousand Eight Hundred Fifity Only) as demanded by DFO, Keonjhar vide letter no. 5241/Mining dated 30.07.2021. • Compensatory Afforestation Land over 16.558 ha has already been allotted within Banspal Tehsil of Keonjhar district. • Applied to obtain NOC under Scheduled Tribe & other Traditional Forest Dwellers Act. • GDPD map survey has been carried out and submitted to CRSAC for approval.
(x)	Copy of approved Mining Plan / mining scheme for the current period.	The mining plan/scheme is submitted through online mode and is annexed as **Annexure – X**. The previous Scheme of mining was valid from 2015-20
(xi)	Copy of Authorization / MoEF&CC, Govt. of India letter allowing working in broken up Non Forest Land pending diversion of DLC Forest land during the period 22.04.2000 to 21.04.2020.	The mining operation were carried out in Non-Forest Land over which the Surface Right was obtained and the document enclosed as **Annexure – XI**.
(xii)	An undertaking by way of affidavit to comply with all the statutory requirements and judgment of the Hon'ble Supreme Court of India dated 02nd August 2017 in Writ Petition (Civil) No.114 of 2014 in the matter of Common Cause versus Union of India and Ors.	An undertaking for the above said matter is enclosed herewith as **Annexure –XII**.
(xiii)	Status of permission (NOC) for ground water drawal from Water Resources Department, Govt. of Odisha to meet the water requirement for mining and domestic activities.	The water requirement is assessed to be 90 Cub M/day will be tapped from ground source. An online application in this regard in submitted to Central Ground Water Board and is enclosed as **Annexure- XIII.**
(xiv)	Copy of recommendations of Saha Commission w.r.t this mine.	Copy of recommendation of Saha Commission with rest to Guruda Mine is

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		enclosed as **Annexure – XIV**.
(xv)	List of mining equipment and its capacity linked with environmental pollution and their emission.	The details of mining machineries and equipment to be used during the futuristic mining activity
(xvi)	Details of water balance used up for mining.	
(xvii)	Study and identification of occupational health hazards and Mitigation programme.	Comprehensive Occupational Health Report is enclosed as **Annexure-XV**. However, a detailed study shall be undertaken during the process of preparation of EIA/EMP Report.
(xviii)	Biodiversity of the lease area.	Bio Diversity Study as suggested in Proposed TOR. Once Terms of Reference is granted, the same shall be surveyed and report will be a part of the EIA/EMP Report
(xix)	Details of cost breakup.	The total capital investment of the project is estimated to be 24.50 Crore and Operation cost is estimated to be 17.85 Crore per annum.

35. The Committee observed the following:

i) The mine has gone for excess production between 2000-2010 without Environmental Clearance. Hence, this is a violation case and to be appraised as per procedure laid down by the MoEF&CC, Govt. of India.

ii) The proponent had already applied for Prior Environmental Clearance on 24.09.2007 under EIA Notification 2006. Their proposal was considered in the EAC Meeting and the Terms of Reference (TOR) was granted vide File no. J-11015/1051/2007-IA.II (M), dated 25.06.2008. Referring TOR, They had prepared the draft EIA/EMP Report and submitted to Pollution Control Board for conducting Public Hearing. The State Pollution Control Board, Odisha had issued letter vide no.11625/IND-II-PH-358, dated 22.07.2009 to District Magistrate for fixation of date to conduct the public hearing. But, the District Collector did not fix the date of Public Hearing due to various other reasons. State Pollution Control Board had also issued reminder to District Collector on dated 19.01.2010.

iii) Meanwhile, due to the Shah Commission was constituted to assess the illegal mining in Keonjhar and Sundergarh district, the District Collector could not fix the date for Public Hearing. During this period, almost six years lapsed and finally the Shah Commission report came during 2017. From then, they were issued demand notice to pay for excess production and the lessee paid accordingly.

iv) After completing all the formalities, they again applied to issue a fresh TOR as the earlier TOR was valid only for three years from the date of issue and long-time was lapsed after that.

v) Hence, they applied once again to SEIAA for grant of TOR on 05.11.2018. Their case was discussed in SEAC Meeting dated 20.05.2019 and clarification sought. By this time, the violation portal of MOEF was closed and the pending cases could not apply through violation portal till date. Meanwhile, MOEF&CC issued an office memorandum dated 09.09.2019 stating Category B proposal which were submitted prior to the violation window period but not under violation category and later during the appraisal by the State Level Expert Appraisal Committee identified as violation proposal, may be considered in terms of provisions of Ministry's Notification dated 14.03.2017 & 08.03.2018 by the SEIAA.

36. The proponent has requested the committee to consider their case as per OM vide no. 22-10/2019-IA.III, dated 09.09.2019 of MoEF&CC, Govt. of India and issue ToRs under violation category.

37. The OM vide no. 22-10/2019-IA.III, dated 09.09.2019 of MoEF&CC, Govt. of India stipulates the following:

i) The Ministry of Environment, Forest and Climate Change issued a Notification vide S.O 804 (E) dated 14th March 2017 under the Environmental (Protection) Act, 1986 to appraise the projects, which have started the work 'onsite without taking prior environmental clearance in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006. Time period of six months (14.03.2017 to 13.09.2017) was given vide aforesaid Notification to the proponents to submit proposals.

ii) Soon after the publication of aforesaid notification, a PIL challenging the validity of the Notification dated 14.03,2017 was filed in Hon'ble High Court of Madras. Hon'ble High Court of Madras vide Order dated 7th June, 2017 prohibited from taking any further action pursuant to the Notification dated 14.03.2017 and therefore appraisal process for violation cases could not be taken up further. Hon'ble High Court of Madras vide order dated 13.10.2017 vacated the order while upholding validity of the Notification dated 14.03.2017.

iii) Pursuant to the notification dated 14th March 2017, Ministry received a number of proposals relating to all sectors covered under category A and category B. As per the said notification all the proposals of violation, irrespective of its categories were required to be appraised at Central level by the Expert Appraisal Committee (EAC).

iv) Further, Ministry vide Notification S.O 1030 (E) dated 08.03.2018 amended the Notification S.O 804 (E) dated 14.03.2017 and delegated the power to the States for appraisal of category B proposals which are under violation of EIA Notification.

v) Subsequently, the Ministry issued an OM dated 15.03.2018 for the implementation of Notification S. O 1030 (E) dated 08.03.2018. All the category B proposals were transferred to the concerned State Level Environment Impact Assessment Authority (SEIAA).

vi) The Hon'ble High Court of Madras vide order dated 14.03.2018 was of the view that it will serve the ends of justice if time is extended by 30 (thirty) days from the date of

delivery of the order, thereby extending the time till 13th April 2018, providing time for violators to apply as per the provisions of Notification S.O 804 (E). Therefore, again a one-month window was given from the date of order of Hon'ble High court (14.03.2018-13.04.2018) to submit proposals under violation of EIA Notification. The Ministry has issued OM dated 16.03.2018 for the compliance of the order dated 14.03,2018 of Hon'ble High court of Madras.

vii) Proposals involving violation of EIA Notification, which had applied during the window (14.03.2017 to 13.09.2017 & 14.03.2018 to 13.04.2018) under violation category are being considered by the violation committee. However, in addition to such proposals, there were many category' A proposals submitted in the respective sectoral committees for regular appraisal during or prior to violation window period. Sectoral committee while deliberating on the proposals, identified these as violation of EIA Notification. These proposals were subsequently forwarded to the violation committee after approval by the Competent Authority and such proposals are termed as "lateral entry proposals".

viii) It is possible that there may be certain category B proposals which were submitted at SEIAA during or prior to the violation window period but not under violation category and later during the appraisal by State Level Expert Appraisal committee (SEAC) identified as violation proposals.

ix) The Ministry has been taken a decision that such proposals as mentioned in para (viii) above, may be considered in terms of provisions of Ministry's Notification dated 14.03.2017 & 08.03.2018 by the SEIAA. It is clarified that only those proposals may be taken up for consideration under this provision which had been submitted to SEAC during the window or prior to it as detailed above.

38. The SEAC opined that the proposal can be considered for issue of ToRs under violation category as per MoEF&CC, Govt. of India OM vide no. 22-10/2019-IA.III, dated 09.09.2019 as they had applied for ToRs in 2007 earlier i.e. prior to violation window period.

After detailed deliberations, the SEAC noted that the proponent has gone for excess production of Iron Ore without prior Environmental Clearance under EIA Notification, 2006. Further, the SEAC, after detailed deliberations on the proposal in terms of the provisions of the MoEF&CC, Govt. of India Notification dated 14th March, 2017, confirmed the case to be of violation of the EIA Notification, 2006 and **recommended for issuing Standard Term of Reference as per Annexure- I along with the following specific Terms of Reference** for undertaking EIA and preparation of Environmental Management Plan (EMP):

(i) The State Government to take action against the project proponent under the provisions of section 19 of the Environment (Protection) Act, 1986, and further no Consent to Operate to be issued till the project is granted Environmental Clearance.

(ii) The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of Environmental Clearance. The quantum shall be recommended by the SEAC and finalized by the regulatory authority i.e. SEIAA, Odisha as per para-12 of **Standard Operating Procedure (SoP) for Identification and**

handling of violation cases under EIA Notification 2006 in compliance to order of Hon'ble National Green Tribunal in O.A. No.34/2020 WZ issued by MoEF&CC, Govt. of India vide OM No. 22-21/2020-IA.III, dated 07.07.2021 and OM No. 22-21/2020-IA.III (E 138949), dated 28.01.2022. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the SEAC and approval of the regulatory authority i.e. SEIAA, Odisha.

(iii) Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.

(iv) Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.

(v) The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter in the EIA report by the accredited consultants.

(vi) Public hearing has to be conducted as per provisions of EIA Notification 2006 and amendment thereafter and copy of final EIA/EMP report incorporating the public hearing proceeding shall be submitted for final appraisal.

(vii) One season fresh base line data to be generated for EIA/EMP preparation.

(viii) To submit the lease sketch approved by DMG, at the time of presentation before SEAC.

(ix) Fund allocation for Corporate Environment Responsibility (CER) shall be made as per Ministry's O.M. No. 22-65/2017-IA.III dated 1st May, 2018 for various activities therein. The details of fund allocation and activities for CER shall be incorporated in EIA/EMP report.

(x) Detailed hydrological study to be carried out in core and buffer zone of the project as per the recent GEC guidelines 2015.

(xi) Approved mining plan is to be submitted.

(xii) The following information to be submitted.

a) Compliance of mining plan, including waste and OB dump management, mine closure plan etc.
b) Compliance to Common cause judgment
c) Status of R&R
d) Compliance of plantation
e) Compliance of public hearing issues
f) Status of complaints/ court cases/legal action
g) Any other relevant environmental issue / parameter.

h) The following studies be undertaken by domain experts, viz:

- Blast vibration study
- Socio economic study of the neighbouring habitation
- Biodiversity study with audit mechanism.
- Slope stability study for both mines and OB /waste dumps.
- Surface runoff management along with rainwater harvesting and ground water recharge include the design of drainage structures.
- Traffic density study, both inside the mines and at haulage roads, intersecting points of haulage road with public road.
- Hydrology study: The study findings and the mitigation measures thereof to be submitted

(xiii) Cost of the CER calculated shall be utilized for the concerns of the people in terms of health, education, and infrastructure and environment protection. Project Proponent also shall include the budget for the betterment of schools nearby and to facilitate the online education system by providing Wi-Fi connectivity and desktops/tablets.

(xiv) The project proponent should provide in the EIA Report details of all the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.

(xv) The project proponent should submit the revenue plan for mining lease, revenue plan should be imposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land etc.

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

(xvii) The project proponent should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle needs to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water

harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.

(xviii) The project proponent should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this the project proponent should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.

(xix) The project proponent should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & Corporate Environmental Responsibility. The capital and recurring expenditure to be incurred needs to be submitted.

(xx) The project proponent should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral. The project proponent should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.

(xxi) The project proponent should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought out supported with the line source modelling and isopleth. Further, frequency of testing of Poly Achromatic Hydrocarbon needs to be submitted along with budget. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned. The project proponent should provide the source of equations used and complete calculations for computing the emission rate from the various sources.

(xxii) The project proponent should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.

(xxiii) The project proponent should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.

(xxiv) The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC conditions.

(xxv) The project proponent should ensure that only NABET accredited consultant shall be engaged for the preparation of EIA/EMP Reports. The project proponent shall ensure that accreditation of consultant shall be valid during the collection of baseline date, preparation of EIA/EMP report and during the appraisal process. The project proponent and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the SEIAA, Odisha are factually correct and the project proponent and consultant are fully accountable for the same.

(xxvi) The project proponent should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this the project proponent should submit the original test reports and certificates of the labs which will analyze the samples.

(xxvii) The percentage of iron in the final waste generated and not used as iron ore or its upgradation.

(xxviii) Compliance to NEERI recommendations.

(xxix) "Zero discharge" management & "Zero Dust Re-suppression" management with SOP be submitted.

(xxx) Internal roads, drain management with network of the drain, retaining walls and settling tanks with ETPs be submitted.

(xxxi) Details of air quality monitoring stations of the area and additional stations at entry and exit of mines and haulage roads, habitation to be considered.

(xxxii) Construction and perennial maintenance of haulage road with details of plantation and the species thereof to be submitted.

(xxxiii) Parking plaza layout with maximum no. of vehicles and types of vehicles that can be parked with basic amenities and facilities.

(xxxiv) Forest Clearance details with copy of all Forest Clearance.

(xxxv) Status of complaints/ court cases/legal action regarding to lease along with a detailed write up indicating case no., purpose of the case etc.

(xxxvi) Copy of lease document.

(xxxvii) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage.

(xxxviii) Project Proponent shall consider developing a good nursery in nearby village for production of saplings of 4-6 feet height for planting in safety zone, sides of external haulage roads and distribution among villagers for planting in their private land/ community land. The nursery may be developed by company on their own or in collaboration with forest department. A detailed proposal to this effect shall be submitted. The proponent shall ensure to use organic fertilizer in the nursery.

(xxxix) Comprehensive water management, water balance with water harvesting and its reuse both monsoon and non-monsoon period.

(xl) STP plan with design with location in the layout map for domestic waste water treatment.

(xli) Provision of solar power (percentage wise) with detail plan.

(xlii) To submit the network with dimension of concrete cement roads inside the mining lease area and haulage road.

(xliii) To submit parking plaza at entry and exit of the mines with basic amenities.

(xliv) Plan and SoP to be submitted for water sprinkling inside the mines and outside in haulage road including regular vacuum cleaning and Zero Dust Resuspension system to completely mitigate and arrest fugitive dust emission.

(xlv) Wagon drill blasting must be avoided- to confirm.

(xlvi) Details of grade of Fe to be mined, cutoff grade, management of off grade, quantity of each year wise and the dumping or storage plan of off grade and wastes to be provided.

(xlvii) Total water management including domestic use w.r.t sourcing from borewell, rain water harvesting and recycling of waste water from ETP/STP, both for monsoon and non-monsoon be submitted.

(xlviii) Measures to be taken for arresting and mitigation of occupational health hazard including identification of the same, both for employees and nearby/surrounding habitation.

(xlix) Year wise waste/OB management with reference to generation and utilization in consideration with dynamic movement of inventory indicating dump area and dimension of storage be submitted.

Approved

08.02.2022

SECRETARY, SEAC

CHAIRMAN, SEAC

ANNEXURE - A

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR M/S. RUNGTA MINES LTD. FOR CONSTRUCTION OF PROPOSED (S+10) STORIED RESIDENTIAL COLONY OVER AN AREA OF 28.447 ACRES LOCATED IN VILLAGE – JHARBANDH, DIST- DHENKANAL, ODISHA WITH TOTAL BUILT UP AREA - 3053352 SFT (283768.77 SMT.) OF SRI PRADEEP KUMAR CHATURVEDI (DIRECTOR) - EC.

PART A - SPECIFIC CONDITIONS:

1. Consent to Establish / Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
2. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc. as per National Building Code including protection measures from lightening etc.
3. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
4. The project proponent shall ensure that the guidelines for building and construction projects issued vide this Ministry's OM NO.19-2/2013-IA.III dated 9th June, 2015, are followed to ensure sustainable environmental management.
5. The proponent shall obtain prior clearance from the Standing Committee of the National Board for Wild Life if the project will be located within any Eco-Sensitive Zone of Wild Life Sanctuary.

TOPOGRAPHY AND NATURAL DRAINAGE

6. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape and other Sustainable Urban Drainage Systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
7. The permission from competent authority will be obtained to discharge the excess storm water to drain if any. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially.
8. Permission for construction of drain alongside the adjacent NH under construction for allowing the proponent to discharge the treated waste water as well excess runoff water during monsoon from NH Authority shall be obtained. The construction of drains shall be synchronized with the completion of the construction of the Housing Project.

WATER REQUIREMENT, CONSERVATION, RAIN WATER HARVESTING, AND GROUND WATER RECHARGE

9. As proposed, fresh water requirement from ground water shall not exceed 1154 m^3 per day.
10. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available.

This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

11. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC and SEIAA, Odisha along with six monthly Monitoring reports.
12. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
13. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.
14. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
15. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
16. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits of 79 nos. shall be provided.
17. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering. The proponent shall also obtain permission from Water Resources Department, Govt. of Odisha for drawl of water.
18. The proponent shall keep one bore well as standby domestic water source once municipal water supply is made available in the project area.

SOLID WASTE MANAGEMENT

19. The provisions of the Solid Waste (Management) Rules, 2016, E-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
20. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
21. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials. Wet garbage shall be composted in Organic Waste Converter. Adequate area shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from group housing project will be sent to dumping site.
22. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.
23. A certificate from the competent authority handling municipal solid wastes, indicating the

existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste generated from project shall be obtained.

SEWAGE TREATMENT PLANT

24. Sewage shall be treated in STP of capacity 1500 KLD. The treated effluent from STP shall be reused for flushing, horticulture & Filter backwash.
25. Excess treated water shall be discharged to the drain only after getting the permission from the concerned authority. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially. To this effect the proponent has to give a legal affidavit before going for construction activity.
26. A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/disposal/drainage systems along with the final disposal point.
27. Separate large recharge pits shall be constructed inside the project area to accommodate the rainwater in case the housing project period and the CDP of the Govt. does not synchronize with reference to construction of road and drain.
28. No sewage or untreated effluent water would be discharged through storm water drains.
29. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA, Odisha before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
30. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
31. The proponent shall obtain permission from the concerned authority to discharge the liquid waste to any drain i.e. the competent authority of the drain and “Nala” before commencement of any activity at the project site.

ENERGY

32. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
33. Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.

34. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 5% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher. Follow super ECBC requirement of ECBC 2017 and provide compliance report.

35. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

36. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.

37. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be submitted.

AIR QUALITY AND NOISE

38. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3-meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

39. AII construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

40. **Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.**

41. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

42. For indoor air quality the ventilation provisions as per National Building Code of India shall be provided.

43. Ambient noise levels shall conform to residential standard both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

GREEN COVER

44. No tree cutting/transplantation of existing trees has been proposed in the instant project. A minimum of 1 tree for every 80 m^2 of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping. As proposed approx. 2,48,078 sqft (20.02 % of Plot area) of plot area shall be provided for green area development.

TOP SOIL PRESERVATION AND REUSE

45. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

TRANSPORT

46. A comprehensive mobility plan, as per Ministry of Urban Development best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.

    - Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
    - Traffic calming measures
    - Proper design of entry and exit points.
    - Parking norms as per local regulation

47. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project.

48. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

49. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

50. A dedicated entry/exit and parking shall be provided for commercial activities.
51. Barricades shall be provided around project boundary.
52. Speed of the vehicles shall be restricted upto 15 kmph by erecting speed bumps at regular intervals at project site and proper signage shall be provided for guided vehicular movement and speed restrictions.
53. Parking shall be prohibited on the access road to the proposed project site.
54. Footpath shall be seamless with sufficient width.
55. No vehicles shall be allowed to stop and stand in front of the gate on main access.
56. A buffer of minimum 10 m shall be maintained between the entry/exit gate and the road to avoid traffic congestion.
57. The Traffic Management Plan prepared by the proponent shall be duly validated and certified by the State Concerned Competent Authority and shall have also their consent before implementation.

ENVIRONMENT MANAGEMENT PLAN

58. An Environmental Management Plan (EMP) shall be prepared and implemented to ensure compliance with the environmental conditions specified above. A dedicated Environment Monitoring Cell with defined functions and responsibility shall be put in place to implement the EMP. The environmental cell shall ensure that the environment infrastructure like Sewage Treatment Plant, Landscaping, Rain Water Harvesting, Energy efficiency and conservation, water efficiency and conservation, solid waste management, renewable energy etc. are kept operational and meet the required standards. The environmental cell shall also keep the record of environment monitoring and those related to the environment infrastructure.

OTHERS

59. Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
60. A First Aid Room shall be provided in the project both during construction and operations of the project.
61. The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
62. As per the MoEF&CC, Govt. of India Office Memorandum F.No.22-65/2017-IA.III dated 1st May 2018, the project proponent is required to prepare and implement Corporate Environment Responsibility (CER) Plan. As per para 6(ll) of the said O.M. appropriate funds shall be earmarked for the activities such as infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire

activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

PART B – GENERAL CONDITIONS

1. A copy of the Environmental Clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.
2. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to the SEIAA, Odisha and MoEF&CC, Govt. of India and its concerned Regional Office.
3. Officials from the Regional Office of MoEF&CC, Bhubaneswar who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection.
4. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA, Odisha.
5. The SEIAA, Odisha reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
6. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
7. These stipulations would be enforced among others under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and the EIA Notification, 2006.
8. The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the SEIAA, Odisha. The advertisement shall be made within Seven days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the Regional Office of MoEF&CC, Bhubaneswar.
9. Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
10. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The

clearance letter shall also be put on the website of the company by the proponent.

11. The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

12. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC, Govt. of India by E-mail.

Environmental Scientist, SEAC

ANNEXURE - B

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR M/S D.N. HOMES PVT. LTD. FOR PROPOSED CONSTRUCTION OF RESIDENTIAL PROJECT (DWELLING UNIT-2B+G+20 AND SOCIETY CLUB & CONVENIENT SHOPS-2B+G+3) WITH TOTAL PLOT AREA - 12,439.93 SQM., AND TOTAL BUILT UP AREA-71,876.70 SQM LOCATED AT MOUZA - MADANPUR, TAHASIL-BHUBANESWAR, DIST-KHORDHA OF SRI. RATNAMALA SWAIN (DIRECTOR) – EC.

PART A - SPECIFIC CONDITIONS:

1. Consent to Establish / Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
2. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc. as per National Building Code including protection measures from lightening etc.
3. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
4. The project proponent shall ensure that the guidelines for building and construction projects issued vide this Ministry's OM NO.19-2/2013-IA.III dated 9th June, 2015, are followed to ensure sustainable environmental management.
5. The proponent shall obtain prior clearance from the Standing Committee of the National Board for Wild Life if the project will be located within any Eco-Sensitive Zone of Wild Life Sanctuary.

TOPOGRAPHY AND NATURAL DRAINAGE

6. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape and other Sustainable Urban Drainage Systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
7. The permission from competent authority will be obtained to discharge the excess storm water to drain if any. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially.
8. Permission for construction of drain alongside the adjacent NH under construction for allowing the proponent to discharge the treated waste water as well excess runoff water during monsoon from NH Authority shall be obtained. The construction of drains shall be synchronized with the completion of the construction of the Housing Project.

WATER REQUIREMENT, CONSERVATION, RAIN WATER HARVESTING, AND GROUND WATER RECHARGE

9. As proposed, fresh water requirement from ground water shall not exceed 185 m^3 per day.
10. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available.

This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

11. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC and SEIAA, Odisha along with six monthly Monitoring reports.
12. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
13. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.
14. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
15. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
16. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits of 05 nos. shall be provided.
17. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering. The proponent shall also obtain permission from Water Resources Department, Govt. of Odisha for drawl of water.
18. The proponent shall keep one bore well as standby domestic water source once municipal water supply is made available in the project area.

SOLID WASTE MANAGEMENT

19. The provisions of the Solid Waste (Management) Rules, 2016, E-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
20. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
21. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials. Wet garbage shall be composted in Organic Waste Converter. Adequate area shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from group housing project will be sent to dumping site.
22. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.

23. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste generated from project shall be obtained.

SEWAGE TREATMENT PLANT

24. Sewage shall be treated in STP of capacity 300 KLD. The treated effluent from STP shall be reused for flushing, horticulture & Filter backwash.
25. Excess treated water shall be discharged to the drain only after getting the permission from the concerned authority. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially. To this effect the proponent has to give a legal affidavit before going for construction activity.
26. A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/disposal/drainage systems along with the final disposal point.
27. Separate large recharge pits shall be constructed inside the project area to accommodate the rainwater in case the housing project period and the CDP of the Govt. does not synchronize with reference to construction of road and drain.
28. No sewage or untreated effluent water would be discharged through storm water drains.
29. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA, Odisha before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
30. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
31. The proponent shall obtain permission from the concerned authority to discharge the liquid waste to any drain i.e. the competent authority of the drain and "Nala" before commencement of any activity at the project site.

ENERGY

32. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
33. Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.

34. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 5% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher. Follow super ECBC requirement of ECBC 2017 and provide compliance report.

35. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

36. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.

37. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be submitted.

AIR QUALITY AND NOISE

38. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3-meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

39. AII construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

40. **Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.**

41. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

42. For indoor air quality the ventilation provisions as per National Building Code of India shall be provided.

43. Ambient noise levels shall conform to residential standard both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

GREEN COVER

44. No tree cutting/transplantation of existing trees has been proposed in the instant project. A minimum of 1 tree for every 80 m^2 of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping. As proposed approx. 4,451.87 m^2 i.e. (35.78 % of the plot area) of plot area shall be provided for green area development.

TOP SOIL PRESERVATION AND REUSE

45. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

TRANSPORT

46. A comprehensive mobility plan, as per Ministry of Urban Development best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.

    - Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
    - Traffic calming measures
    - Proper design of entry and exit points.
    - Parking norms as per local regulation

47. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project.

48. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

49. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

50. A dedicated entry/exit and parking shall be provided for commercial activities.
51. Barricades shall be provided around project boundary.
52. Speed of the vehicles shall be restricted upto 15 kmph by erecting speed bumps at regular intervals at project site and proper signage shall be provided for guided vehicular movement and speed restrictions.
53. Parking shall be prohibited on the access road to the proposed project site.
54. Footpath shall be seamless with sufficient width.
55. No vehicles shall be allowed to stop and stand in front of the gate on main access.
56. A buffer of minimum 10 m shall be maintained between the entry/exit gate and the road to avoid traffic congestion.
57. The Traffic Management Plan prepared by the proponent shall be duly validated and certified by the State Concerned Competent Authority and shall have also their consent before implementation.

ENVIRONMENT MANAGEMENT PLAN

58. An Environmental Management Plan (EMP) shall be prepared and implemented to ensure compliance with the environmental conditions specified above. A dedicated Environment Monitoring Cell with defined functions and responsibility shall be put in place to implement the EMP. The environmental cell shall ensure that the environment infrastructure like Sewage Treatment Plant, Landscaping, Rain Water Harvesting, Energy efficiency and conservation, water efficiency and conservation, solid waste management, renewable energy etc. are kept operational and meet the required standards. The environmental cell shall also keep the record of environment monitoring and those related to the environment infrastructure.

OTHERS

59. Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
60. A First Aid Room shall be provided in the project both during construction and operations of the project.
61. The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
62. As per the MoEF&CC, Govt. of India Office Memorandum F.No.22-65/2017-IA.III dated 1st May 2018, the project proponent is required to prepare and implement Corporate Environment Responsibility (CER) Plan. As per para 6(ll) of the said O.M. appropriate funds shall be earmarked for the activities such as infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire

activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

PART B – GENERAL CONDITIONS

1. A copy of the Environmental Clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.
2. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to the SEIAA, Odisha and MoEF&CC, Govt. of India and its concerned Regional Office.
3. Officials from the Regional Office of MoEF&CC, Bhubaneswar who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection.
4. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA, Odisha.
5. The SEIAA, Odisha reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
6. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
7. These stipulations would be enforced among others under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and the EIA Notification, 2006.
8. The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the SEIAA, Odisha. The advertisement shall be made within Seven days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the Regional Office of MoEF&CC, Bhubaneswar.
9. Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
10. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The

clearance letter shall also be put on the website of the company by the proponent.

11. The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

12. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC, Govt. of India by E-mail.

Environmental Scientist, SEAC

ANNEXURE - B

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR M/S UNITED CONSTRUCTION CORPORATION FOR PROPOSED CONSTRUCTION OF "RESIDENTIAL COLONY PROJECT WITH TOTAL PLOT AREA - 9,124.19SQM., AND TOTAL BUILT UP AREA-24,601.44 SQM AT MOUZA - BADARAGHUNATHPUR, BHUBANESWAR, KHORDHA OF SRI. TAPAN KUMAR MOHANTY (PARTNER) - EC.

PART A - SPECIFIC CONDITIONS:

1. Consent to Establish / Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
2. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc. as per National Building Code including protection measures from lightening etc.
3. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
4. The project proponent shall ensure that the guidelines for building and construction projects issued vide this Ministry's OM NO.19-2/2013-IA.III dated 9th June, 2015, are followed to ensure sustainable environmental management.
5. The proponent shall obtain prior clearance from the Standing Committee of the National Board for Wild Life if the project will be located within any Eco-Sensitive Zone of Wild Life Sanctuary.

TOPOGRAPHY AND NATURAL DRAINAGE

6. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape and other Sustainable Urban Drainage Systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
7. The permission from competent authority will be obtained to discharge the excess storm water to drain if any. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially.
8. Permission for construction of drain alongside the adjacent NH under construction for allowing the proponent to discharge the treated waste water as well excess runoff water during monsoon from NH Authority shall be obtained. The construction of drains shall be synchronized with the completion of the construction of the Housing Project.

WATER REQUIREMENT, CONSERVATION, RAIN WATER HARVESTING, AND GROUND WATER RECHARGE

9. As proposed, fresh water requirement from ground water shall not exceed approx. 85 KLD per day.
10. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available.

This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

11. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC and SEIAA, Odisha along with six monthly Monitoring reports.
12. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
13. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.
14. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
15. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
16. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits of 06 nos. shall be provided.
17. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering. The proponent shall also obtain permission from Water Resources Department, Govt. of Odisha for drawl of water.
18. The proponent shall keep one bore well as standby domestic water source once municipal water supply is made available in the project area.

SOLID WASTE MANAGEMENT

19. The provisions of the Solid Waste (Management) Rules, 2016, E-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
20. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
21. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials. Wet garbage shall be composted in Organic Waste Converter. Adequate area shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from group housing project will be sent to dumping site.
22. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.

23. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste generated from project shall be obtained.

SEWAGE TREATMENT PLANT

24. Sewage shall be treated in STP of capacity 135 KLD. The treated effluent from STP shall be reused for flushing, horticulture & Filter backwash.
25. Excess treated water shall be discharged to the drain only after getting the permission from the concerned authority. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially. To this effect the proponent has to give a legal affidavit before going for construction activity.
26. A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/disposal/drainage systems along with the final disposal point.
27. Separate large recharge pits shall be constructed inside the project area to accommodate the rainwater in case the housing project period and the CDP of the Govt. does not synchronize with reference to construction of road and drain.
28. No sewage or untreated effluent water would be discharged through storm water drains.
29. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA, Odisha before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
30. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
31. The proponent shall obtain permission from the concerned authority to discharge the liquid waste to any drain i.e. the competent authority of the drain and "Nala" before commencement of any activity at the project site.

ENERGY

32. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
33. Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.

34. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 5% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher. Follow super ECBC requirement of ECBC 2017 and provide compliance report.

35. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

36. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.

37. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be submitted.

AIR QUALITY AND NOISE

38. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3-meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

39. AII construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

40. **Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.**

41. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

42. For indoor air quality the ventilation provisions as per National Building Code of India shall be provided.

43. Ambient noise levels shall conform to residential standard both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

GREEN COVER

44. No tree cutting/transplantation of existing trees has been proposed in the instant project. A minimum of 1 tree for every 80 m^2 of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping. As proposed 3021.93 m^2 (33.12% of plot area) of plot area shall be provided for green area development.

TOP SOIL PRESERVATION AND REUSE

45. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

TRANSPORT

46. A comprehensive mobility plan, as per Ministry of Urban Development best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.

    - Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
    - Traffic calming measures
    - Proper design of entry and exit points.
    - Parking norms as per local regulation

47. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project.

48. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

49. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

50. A dedicated entry/exit and parking shall be provided for commercial activities.
51. Barricades shall be provided around project boundary.
52. Speed of the vehicles shall be restricted upto 15 kmph by erecting speed bumps at regular intervals at project site and proper signage shall be provided for guided vehicular movement and speed restrictions.
53. Parking shall be prohibited on the access road to the proposed project site.
54. Footpath shall be seamless with sufficient width.
55. No vehicles shall be allowed to stop and stand in front of the gate on main access.
56. A buffer of minimum 10 m shall be maintained between the entry/exit gate and the road to avoid traffic congestion.
57. The Traffic Management Plan prepared by the proponent shall be duly validated and certified by the State Concerned Competent Authority and shall have also their consent before implementation.

ENVIRONMENT MANAGEMENT PLAN

58. An Environmental Management Plan (EMP) shall be prepared and implemented to ensure compliance with the environmental conditions specified above. A dedicated Environment Monitoring Cell with defined functions and responsibility shall be put in place to implement the EMP. The environmental cell shall ensure that the environment infrastructure like Sewage Treatment Plant, Landscaping, Rain Water Harvesting, Energy efficiency and conservation, water efficiency and conservation, solid waste management, renewable energy etc. are kept operational and meet the required standards. The environmental cell shall also keep the record of environment monitoring and those related to the environment infrastructure.

OTHERS

59. Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
60. A First Aid Room shall be provided in the project both during construction and operations of the project.
61. The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
62. As per the MoEF&CC, Govt. of India Office Memorandum F.No.22-65/2017-IA.III dated 1st May 2018, the project proponent is required to prepare and implement Corporate Environment Responsibility (CER) Plan. As per para 6(ll) of the said O.M. appropriate funds shall be earmarked for the activities such as infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire

activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

PART B – GENERAL CONDITIONS

1. A copy of the Environmental Clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.
2. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to the SEIAA, Odisha and MoEF&CC, Govt. of India and its concerned Regional Office.
3. Officials from the Regional Office of MoEF&CC, Bhubaneswar who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection.
4. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA, Odisha.
5. The SEIAA, Odisha reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
6. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
7. These stipulations would be enforced among others under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and the EIA Notification, 2006.
8. The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the SEIAA, Odisha. The advertisement shall be made within Seven days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the Regional Office of MoEF&CC, Bhubaneswar.
9. Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
10. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The

clearance letter shall also be put on the website of the company by the proponent.

11. The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

12. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC, Govt. of India by E-mail.

Environmental Scientist, SEAC

ANNEXURE - D

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR M/S BUILDERS CONSORTIUM TRIDEV FOR PROPOSED CONSTRUCTION OF "RESIDENTIAL COLONY PROJECT WITH TOTAL PLOT AREA -16,156.74SQM., AND TOTAL BUILT UP AREA-39,757.3 SQM AT NEAR PRATAPNAGARI, DIST-CUTTACK OF SRI. CHETAN KUMAR TEKARIWAL (PARTNER) – EC.

PART A - SPECIFIC CONDITIONS:

1. Consent to Establish / Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
2. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc. as per National Building Code including protection measures from lightening etc.
3. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
4. The project proponent shall ensure that the guidelines for building and construction projects issued vide this Ministry's OM NO.19-2/2013-IA.III dated 9th June, 2015, are followed to ensure sustainable environmental management.
5. The proponent shall obtain prior clearance from the Standing Committee of the National Board for Wild Life if the project will be located within any Eco-Sensitive Zone of Wild Life Sanctuary.

TOPOGRAPHY AND NATURAL DRAINAGE

6. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape and other Sustainable Urban Drainage Systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
7. The permission from competent authority will be obtained to discharge the excess storm water to drain if any. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially.
8. Permission for construction of drain alongside the adjacent NH under construction for allowing the proponent to discharge the treated waste water as well excess runoff water during monsoon from NH Authority shall be obtained. The construction of drains shall be synchronized with the completion of the construction of the Housing Project.

WATER REQUIREMENT, CONSERVATION, RAIN WATER HARVESTING, AND GROUND WATER RECHARGE

9. As proposed, fresh water requirement from ground water shall not exceed approx. 123 KLD per day.
10. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available.

This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

11. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC and SEIAA, Odisha along with six monthly Monitoring reports.
12. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
13. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.
14. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
15. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
16. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits of adequate nos. shall be provided.
17. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering. The proponent shall also obtain permission from Water Resources Department, Govt. of Odisha for drawl of water.
18. The proponent shall keep one bore well as standby domestic water source once municipal water supply is made available in the project area.

SOLID WASTE MANAGEMENT

19. The provisions of the Solid Waste (Management) Rules, 2016, E-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
20. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
21. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials. Wet garbage shall be composted in Organic Waste Converter. Adequate area shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from group housing project will be sent to dumping site.
22. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.

23. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste generated from project shall be obtained.

SEWAGE TREATMENT PLANT

24. Sewage shall be treated in STP of capacity 196 KLD. The treated effluent from STP shall be reused for flushing, horticulture & Filter backwash.
25. Excess treated water shall be discharged to the drain only after getting the permission from the concerned authority. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially. To this effect the proponent has to give a legal affidavit before going for construction activity.
26. A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/disposal/drainage systems along with the final disposal point.
27. Separate large recharge pits shall be constructed inside the project area to accommodate the rainwater in case the housing project period and the CDP of the Govt. does not synchronize with reference to construction of road and drain.
28. No sewage or untreated effluent water would be discharged through storm water drains.
29. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA, Odisha before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
30. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
31. The proponent shall obtain permission from the concerned authority to discharge the liquid waste to any drain i.e. the competent authority of the drain and "Nala" before commencement of any activity at the project site.

ENERGY

32. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
33. Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.

34. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 5% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher. Follow super ECBC requirement of ECBC 2017 and provide compliance report.

35. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

36. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.

37. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be submitted.

AIR QUALITY AND NOISE

38. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3-meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

39. AII construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

40. **Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.**

41. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

42. For indoor air quality the ventilation provisions as per National Building Code of India shall be provided.

43. Ambient noise levels shall conform to residential standard both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

GREEN COVER

44. No tree cutting/transplantation of existing trees has been proposed in the instant project. A minimum of 1 tree for every 80 m^2 of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping. As proposed 5,368.88 m^2 (33.23 % of plot area) of plot area shall be provided for green area development.

TOP SOIL PRESERVATION AND REUSE

45. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

TRANSPORT

46. A comprehensive mobility plan, as per Ministry of Urban Development best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
    - Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
    - Traffic calming measures
    - Proper design of entry and exit points.
    - Parking norms as per local regulation

47. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project.

48. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

49. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

50. A dedicated entry/exit and parking shall be provided for commercial activities.
51. Barricades shall be provided around project boundary.
52. Speed of the vehicles shall be restricted upto 15 kmph by erecting speed bumps at regular intervals at project site and proper signage shall be provided for guided vehicular movement and speed restrictions.
53. Parking shall be prohibited on the access road to the proposed project site.
54. Footpath shall be seamless with sufficient width.
55. No vehicles shall be allowed to stop and stand in front of the gate on main access.
56. A buffer of minimum 10 m shall be maintained between the entry/exit gate and the road to avoid traffic congestion.
57. The Traffic Management Plan prepared by the proponent shall be duly validated and certified by the State Concerned Competent Authority and shall have also their consent before implementation.

ENVIRONMENT MANAGEMENT PLAN

58. An Environmental Management Plan (EMP) shall be prepared and implemented to ensure compliance with the environmental conditions specified above. A dedicated Environment Monitoring Cell with defined functions and responsibility shall be put in place to implement the EMP. The environmental cell shall ensure that the environment infrastructure like Sewage Treatment Plant, Landscaping, Rain Water Harvesting, Energy efficiency and conservation, water efficiency and conservation, solid waste management, renewable energy etc. are kept operational and meet the required standards. The environmental cell shall also keep the record of environment monitoring and those related to the environment infrastructure.

OTHERS

59. Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
60. A First Aid Room shall be provided in the project both during construction and operations of the project.
61. The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
62. As per the MoEF&CC, Govt. of India Office Memorandum F.No.22-65/2017-IA.III dated 1st May 2018, the project proponent is required to prepare and implement Corporate Environment Responsibility (CER) Plan. As per para 6(ll) of the said O.M. appropriate funds shall be earmarked for the activities such as infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire

activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

PART B – GENERAL CONDITIONS

1. A copy of the Environmental Clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.
2. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to the SEIAA, Odisha and MoEF&CC, Govt. of India and its concerned Regional Office.
3. Officials from the Regional Office of MoEF&CC, Bhubaneswar who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection.
4. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA, Odisha.
5. The SEIAA, Odisha reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
6. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
7. These stipulations would be enforced among others under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and the EIA Notification, 2006.
8. The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the SEIAA, Odisha. The advertisement shall be made within Seven days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the Regional Office of MoEF&CC, Bhubaneswar.
9. Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
10. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The

clearance letter shall also be put on the website of the company by the proponent.

11. The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

12. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC, Govt. of India by E-mail.

Environmental Scientist, SEAC

ANNEXURE - D

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR M/S ZJSH SPV PVT. LTD. FOR PROPOSED CONSTRUCTION OF "RESIDENTIAL COLONY PROJECT" WITH TOTAL PLOT AREA-11,549.74SQM., TOTAL BUILT UP AREA-98,078.69 SQM AT CHANDRASEKHARPUR, DISTRICT-KHURDHA OF SRI. TAPAN KUMAR MOHANTY (DIRECTOR) - EC.

PART A - SPECIFIC CONDITIONS:

1. Consent to Establish / Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
2. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc. as per National Building Code including protection measures from lightening etc.
3. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
4. The project proponent shall ensure that the guidelines for building and construction projects issued vide this Ministry's OM NO.19-2/2013-IA.III dated 9th June, 2015, are followed to ensure sustainable environmental management.
5. The proponent shall obtain prior clearance from the Standing Committee of the National Board for Wild Life if the project will be located within any Eco-Sensitive Zone of Wild Life Sanctuary.

TOPOGRAPHY AND NATURAL DRAINAGE

6. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape and other Sustainable Urban Drainage Systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
7. The permission from competent authority will be obtained to discharge the excess storm water to drain if any. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially.
8. Permission for construction of drain alongside the adjacent NH under construction for allowing the proponent to discharge the treated waste water as well excess runoff water during monsoon from NH Authority shall be obtained. The construction of drains shall be synchronized with the completion of the construction of the Housing Project.

WATER REQUIREMENT, CONSERVATION, RAIN WATER HARVESTING, AND GROUND WATER RECHARGE

9. As proposed, fresh water requirement from ground water shall not exceed approx. 232 KLD per day.
10. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available.

This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

11. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC and SEIAA, Odisha along with six monthly Monitoring reports.
12. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
13. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.
14. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
15. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
16. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits of 05 nos. shall be provided.
17. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering. The proponent shall also obtain permission from Water Resources Department, Govt. of Odisha for drawl of water.
18. The proponent shall keep one bore well as standby domestic water source once municipal water supply is made available in the project area.

SOLID WASTE MANAGEMENT

19. The provisions of the Solid Waste (Management) Rules, 2016, E-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
20. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
21. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials. Wet garbage shall be composted in Organic Waste Converter. Adequate area shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from group housing project will be sent to dumping site.
22. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.

23. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste generated from project shall be obtained.

SEWAGE TREATMENT PLANT

24. Sewage shall be treated in STP of capacity 370 KLD. The treated effluent from STP shall be reused for flushing, horticulture & Filter backwash.
25. Excess treated water shall be discharged to the drain only after getting the permission from the concerned authority. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially. To this effect the proponent has to give a legal affidavit before going for construction activity.
26. A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/disposal/drainage systems along with the final disposal point.
27. Separate large recharge pits shall be constructed inside the project area to accommodate the rainwater in case the housing project period and the CDP of the Govt. does not synchronize with reference to construction of road and drain.
28. No sewage or untreated effluent water would be discharged through storm water drains.
29. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA, Odisha before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
30. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
31. The proponent shall obtain permission from the concerned authority to discharge the liquid waste to any drain i.e. the competent authority of the drain and "Nala" before commencement of any activity at the project site.

ENERGY

32. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
33. Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.

34. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 5% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher. Follow super ECBC requirement of ECBC 2017 and provide compliance report.

35. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

36. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.

37. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be submitted.

AIR QUALITY AND NOISE

38. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3-meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

39. AII construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

40. **Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.**

41. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

42. For indoor air quality the ventilation provisions as per National Building Code of India shall be provided.

43. Ambient noise levels shall conform to residential standard both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

GREEN COVER

44. No tree cutting/transplantation of existing trees has been proposed in the instant project. A minimum of 1 tree for every 80 m^2 of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping. As proposed 3,862.99 m^2 i.e. (33.5 % of the plot area) of plot area shall be provided for green area development.

TOP SOIL PRESERVATION AND REUSE

45. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

TRANSPORT

46. A comprehensive mobility plan, as per Ministry of Urban Development best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.

    - Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
    - Traffic calming measures
    - Proper design of entry and exit points.
    - Parking norms as per local regulation

47. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project.

48. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

49. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

50. A dedicated entry/exit and parking shall be provided for commercial activities.
51. Barricades shall be provided around project boundary.
52. Speed of the vehicles shall be restricted upto 15 kmph by erecting speed bumps at regular intervals at project site and proper signage shall be provided for guided vehicular movement and speed restrictions.
53. Parking shall be prohibited on the access road to the proposed project site.
54. Footpath shall be seamless with sufficient width.
55. No vehicles shall be allowed to stop and stand in front of the gate on main access.
56. A buffer of minimum 10 m shall be maintained between the entry/exit gate and the road to avoid traffic congestion.
57. The Traffic Management Plan prepared by the proponent shall be duly validated and certified by the State Concerned Competent Authority and shall have also their consent before implementation.

ENVIRONMENT MANAGEMENT PLAN

58. An Environmental Management Plan (EMP) shall be prepared and implemented to ensure compliance with the environmental conditions specified above. A dedicated Environment Monitoring Cell with defined functions and responsibility shall be put in place to implement the EMP. The environmental cell shall ensure that the environment infrastructure like Sewage Treatment Plant, Landscaping, Rain Water Harvesting, Energy efficiency and conservation, water efficiency and conservation, solid waste management, renewable energy etc. are kept operational and meet the required standards. The environmental cell shall also keep the record of environment monitoring and those related to the environment infrastructure.

OTHERS

59. Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
60. A First Aid Room shall be provided in the project both during construction and operations of the project.
61. The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
62. As per the MoEF&CC, Govt. of India Office Memorandum F.No.22-65/2017-IA.III dated 1st May 2018, the project proponent is required to prepare and implement Corporate Environment Responsibility (CER) Plan. As per para 6(ll) of the said O.M. appropriate funds shall be earmarked for the activities such as infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire

activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

PART B – GENERAL CONDITIONS

1. A copy of the Environmental Clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.
2. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to the SEIAA, Odisha and MoEF&CC, Govt. of India and its concerned Regional Office.
3. Officials from the Regional Office of MoEF&CC, Bhubaneswar who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection.
4. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA, Odisha.
5. The SEIAA, Odisha reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
6. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
7. These stipulations would be enforced among others under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and the EIA Notification, 2006.
8. The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the SEIAA, Odisha. The advertisement shall be made within Seven days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the Regional Office of MoEF&CC, Bhubaneswar.
9. Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
10. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The

clearance letter shall also be put on the website of the company by the proponent.

11. The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

12. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC, Govt. of India by E-mail.

Environmental Scientist, SEAC

ANNEXURE- F

STANDARD TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY FOR MINERAL BENEFICIATION PROJECTS AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT

1. The alternate sites considered, the relative merits and demerits and the reasons for selecting the proposed site for the Beneficiation Plant should be indicated.
2. Details of the technology and process involved for beneficiation should be given.
3. Location of the proposed Plant w.r.t. the source of raw material and mode of transportations of the ore from mines to the beneficiation plant should be justified.
4. Treatment of run of mine (ROM) and or of the fines/waste dump should be spelt out.
5. Estimation of the fines going into the washings should be made and its management described.
6. Details of the equipment, settling pond etc. should be furnished.
7. Detailed material balance should be provided.
8. Sources of raw material and its transportation should be indicated. Steps proposed to be taken to protect the ore from getting air borne should be brought out.
9. Management and disposal of tailings and closure plan of the tailing pond, if any after the project is over, should be detailed in a quantified manner.
10. 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 also be indicated.
11. A copy of the document in support of the fact that the Proponent is the rightful lessee of the unit should be given.
12. All documents including EIA and public hearing should be compatible with one another in terms of the production levels, waste generation and its management and technology and should be in the name of the lessee.
13. All corner coordinates of the Unit, superimposed on a High Resolution Imagery/Toposheet should be provided. Such an Imagery of the proposed Unit should clearly show the land use and other ecological features of the study area (core and buffer zone).
14. Issues relating to Safety should be detailed. The proposed safeguard measures in each case should also be provided. Disaster management plan shall be prepared and included in the EIA/EMP Report.
15. The study area will comprise of 10 km zone around the Plant.
16. Cumulative impact study of both Beneficiation Plant with suggested mitigation measures as per the study should be described.

17. Option to provide only silo for storage of minerals instead of open stacking to avoid fugitive dust should be explored and arrangements finalized justified.

18. 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 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.

19. Details of the land for any Over Burden Dumps outside the lease, such as extent of land area, distance from lease, its land use, R&R issues, if any, should be given.

20. 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.

21. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.

22. A study shall be got done to ascertain the impact of the 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.

23. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, 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.

24. 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.

25. Proximity to Areas declared as 'Critically Polluted' shall also be indicated and where so required, clearance certifications from the prescribed Authorities, such

as the SPCB/CPCB shall be secured and furnished to the effect that the proposed activities could be considered.

26. 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 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.

27. 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 unit in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

28. 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.

29. 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.

30. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be secured and copy furnished. .

31. 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.

32. 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.

33. Details of any stream, seasonal or otherwise, passing through the project area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

34. 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. 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 the pollution.

35. 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.

36. Details of the onsite shelter and facilities to be provided to the workers should be included in the EIA report.

37. 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 should be detailed.

38. 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.

39. 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.

40. Public hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

41. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the project should be given.

42. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

43. A brief background of the Project, its financial position, Group Companies and legal issues etc. should be provided with past and current important litigations if any.

44. Benefits of the Project, if the project is implemented should be outlined. The benefits of the projects shall clearly indicate environmental, social, economic, employment potential, etc.

45. Besides the above, the below mentioned general points are also to be followed:-

    (a) Executive Summary of the EIA/EMP Report

(b) All documents to be properly referenced with index and continuous page numbering.

(c) Where data are presented in the report especially in Tables, the period in which the data were collected and the sources should be indicated.

(d) 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.

(e) Where the documents provided are in a language other than English, an English translation should be provided.

(f) The Questionnaire for environmental appraisal of project as devised earlier by the Ministry shall also be filled and submitted.

(g) While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF&CC 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 also be followed.

(h) 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.

(i) 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. 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 by the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

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

ANNEXURE- G

STANDARD TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY FOR MINERAL BENEFICIATION PROJECTS AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT

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5. Estimation of the fines going into the washings should be made and its management described.
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8. Sources of raw material and its transportation should be indicated. Steps proposed to be taken to protect the ore from getting air borne should be brought out.
9. Management and disposal of tailings and closure plan of the tailing pond, if any after the project is over, should be detailed in a quantified manner.
10. 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 also be indicated.
11. A copy of the document in support of the fact that the Proponent is the rightful lessee of the unit should be given.
12. All documents including EIA and public hearing should be compatible with one another in terms of the production levels, waste generation and its management and technology and should be in the name of the lessee.
13. All corner coordinates of the Unit, superimposed on a High Resolution Imagery/Toposheet should be provided. Such an Imagery of the proposed Unit should clearly show the land use and other ecological features of the study area (core and buffer zone).
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31. 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.

32. 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.

33. Details of any stream, seasonal or otherwise, passing through the project area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

34. 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. 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 the pollution.

35. 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.

36. Details of the onsite shelter and facilities to be provided to the workers should be included in the EIA report.

37. 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 should be detailed.

38. 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.

39. 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.

40. Public hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

41. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the project should be given.

42. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

43. A brief background of the Project, its financial position, Group Companies and legal issues etc. should be provided with past and current important litigations if any.

44. Benefits of the Project, if the project is implemented should be outlined. The benefits of the projects shall clearly indicate environmental, social, economic, employment potential, etc.

45. Besides the above, the below mentioned general points are also to be followed:-

    (a) Executive Summary of the EIA/EMP Report

(b) All documents to be properly referenced with index and continuous page numbering.

(c) Where data are presented in the report especially in Tables, the period in which the data were collected and the sources should be indicated.

(d) 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.

(e) Where the documents provided are in a language other than English, an English translation should be provided.

(f) The Questionnaire for environmental appraisal of project as devised earlier by the Ministry shall also be filled and submitted.

(g) While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF&CC 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 also be followed.

(h) 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.

(i) 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. 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 by the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

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

ANNEXURE- H

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR SHIVA CEMENT LTD., FOR KHATKURBAHAL LIMESTONE & DOLOMITE MINE (ML AREA-72.439 HA) WITH EXPANSION IN PRODUCTION CAPACITY FROM 0.3475 MILLION TPA TO 1.50 MILLION TPA LIMESTONE (INCLUDING SUB-GRADE), 0.20 MILLION M3 PER ANNUM OB/WASTE/SB/IB/LOW GRADE DOLOMITE AND 0.108 MILLION M3 PER ANNUM TOP SOIL WITH MOBILE CRUSHER WITH SCREEN OF 500 TPH CAPACITY LOCATED NEAR VILLAGES- KHATKURBAHAL & KULENBAHAL, TAHASIL – KURTA, DISTRICT- SUNDERGARH OF SRI. MANOJ KUMAR RUSTAGI (DIRECTOR) – EC.

A. SPECIFIC CONDITIONS:

1) Approval/permission of CGWA/SGWA shall be obtained before drawing ground water for the project activities. State Pollution Control Board (SPCB) concerned shall not issue Consent to Operate (CTO) till the project proponent obtains such permission.

2) The amount proposed under **Corporate Environment Responsibility (CER)** head should be kept in a separate bank account and should be audited annually. The PP should annually submit the audited statement and details of implementation of CER activities along with proof of activities viz. photographs (before & after with geo-location date & time), purchase documents, photographs & Geo-location of the infrastructures/facilities developed, etc. to the Regional Office of MoEF&CC, Bhubaneswar and SEIAA, Odisha before 1st July of every year for the activities carried out during previous year.

3) The amount (except occupational health) proposed under Environmental Management Plan (EMP) head should be kept in a separate bank account and should be audited annually. The PP should annually submit the audited statement and detailed environment monitoring report along with proof of activities viz. photographs (before & after with geo-location date & time), purchase documents, sampling reports, photographs& Geo-location of the infrastructures/facilities developed, details of persons engaged in Environment Management Cell etc. to the Regional Office of MoEF&CC, Bhubaneswar and SEIAA, Odisha before 1st July of every year for the activities carried out during previous year.

4) The amount proposed under Occupational Health plan head should be kept in a separate bank account and should be audited annually. The PP should annually submit the audited statement and detailed environment monitoring report along with proof of activities viz. photographs (before & after with geo-location date & time), purchase documents, sampling reports, photographs& Geo-location of the infrastructures/facilities developed, details of persons engaged in Environment Management Cell etc. to the Regional Office of MoEF&CC, Bhubaneswar and SEIAA, Odisha before 1st July of every year for the activities carried out during previous year.

5) The Project Proponent shall set up an Environmental Management Cell comprises of persons having qualification and experience in the field of environment along with supporting staff. The details of the same needs to be submitted to the SEIAA, Odisha within 3 months of the grant of EC.

6) The project proponent shall give an undertaking by way of affidavit to comply with all the statutory requirements and judgment of Hon'ble Supreme Court dated the

2ndAugust 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors. before grant of ToR/ EC. The undertaking inter-alia include commitment of the PP not to repeat any such violation in future.

7) In case of violation of above undertaking, the ToR/Environmental Clearance shall be liable to be terminated forthwith.

8) The Environmental Clearance will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.

9) State Government concerned shall ensure that mining operation shall not commence till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.

10) The Project Proponent shall keep a record of each blasting viz. location, number of holes, delay assigned of each hole, explosive quantity of each hole, blasting pattern etc.

B. STANDARD CONDITIONS: (AS MINISTRY'S O.M NO 22-34/2018-IA.III DATED 8.01.2019 &16.01.2020)

Statutory compliance

11) This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.

12) The Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &Ors before commencing the mining operations.

13) The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.

14) This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.

15) This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.

16) Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the

concerned State Pollution Control Board/Committee.

17) The Project Proponent shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.

18) The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.

19) The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-11013/57/2014-1A. II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".

20) The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.

21) A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.

22) State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.

23) The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the

24) State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF&CC Regional Office for compliance and record.

25) The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

Air quality monitoring and preservation

26) The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM 10, PM2.5, N02, CO and S02 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/l, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure

characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.

27) Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEF&CC/ Central Pollution Control Board.

Water quality monitoring and preservation

28) In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEF&CC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.

29) Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six- monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

30) The Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

31) The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-a-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no

obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEF&CC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.

32) Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J- 20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.

33) Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEF&CC annually.

34) Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

35) The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.

Noise and vibration monitoring and prevention

36) The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.

37) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.

38) The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held

responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.

Mining plan

39) The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management , O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt., in the form to Short Term Permit (STP), Query license or any other name.

40) The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.

41) The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-a-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEF&CC and its concerned Regional Office.

Land reclamation

42) The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.

43) The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

44) The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.

45) The slope of dumps shall be vegetated in scientific manner with suitable native species

to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.

46) The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.

47) Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OBA/Vaste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.

48) Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.

49) The top soil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose.

50) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

51) Slope study by an expert of repute of water dumps to be done and submitted within six months from the date of issue of EC to SEAC / SEIAA

Transportation

52) No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a ‘bypass’ road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after

required strengthening such that the carrying capacity of roads is increased to handle the traffic load.

53) The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

54) The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt- conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

55) Haulage road shall be developed and maintained perennially and perpetually by the proponent in construction with the concerned authority of the Govt. and to this effect, the proponent shall submit an undertaking in form of a legal affidavit

56) Traffic density study if not done by domain expert, then the expert to be ratified / authenticated by domain expert and submitted within a month time.

Green Belt

57) The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

58) The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.

59) The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.

60) The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-1 species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.

61) And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

Public hearing and human health issues

62) The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEF&CC Regional Office and DGMS on half-yearly basis.

63) The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.

64) The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).

65) The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1),Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEF&CC annually along with details of the relief and compensation paid to workers having above indications.

66) The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

67) Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.

68) The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.

69) The proponent shall implement the mitigative measures as suggested in the Study Report on effect of chromite mines to nearest human habitation.

70) Occupational health check-up shall be done by occupational health expert periodically for employees as well as nearby villagers.

71) Issues raised and recorded in proceedings of public hearing w.r.t. environment / pollution / CER shall be complied by the Mining Authority as per OM F. No. 22-65/2017-IA.III, dated 30.09.2020 of MoEF&CC, Govt. of India.

Corporate Environment Responsibility (CER)

72) The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude & longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement.

73) Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEF&CC and its concerned Regional Office.

Miscellaneous

74) The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC, Bhubaneswar and SEIAA, Odisha.

75) The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

76) The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEF&CC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.

77) A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC, Bhubaneswar and SEIAA, Odisha.

78) The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information / monitoring reports.

79) In pursuant to Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Hon'ble Supreme Court on 8.01.2020 in W.P. (Civil) No 114/2014 in the matter Common Cause vs Union of India, the mining lease holder shall after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to other mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

80) The SEIAA, Odisha or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

81) Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

82) The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974. the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court and any other Court of Law relating to the subject matter.

83) Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

ANNEXURE – I

TERMS OF REFERENCE (ToR) FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT FOR GURUDA BLOCK MANGANESE MINES OF M/S SERAJUDDIN & CO. LTD. FOR PRODUCTION OF MANGANESE ORE @ 1.5 LAKH TON PER ANNUM OVER MINING LEASE AREA 40.064 HA. OF SITUATED AT VILLAGE - GURUDA, TAHASIL-BARBIL, DIST-KEONJHAR (VIOLATION TOR)

A. STANDARD TOR FOR MINING PROJECT

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

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

10. The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

11. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.

12. Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.

13. A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.

14. Status of forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.

15. Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.

16. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.

17. A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

18. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

19. A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished.

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

20. Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.

21. Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects failing under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

22. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs/STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine (ease 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 PM_{10}, particularly for free silica, should be given.

24. Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

25. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

26. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided,

28. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

29. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater, Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter- alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

30. Details of any stream, seasonal or otherwise, passing through the tease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be.

31. Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.

32. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

33. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

34. Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

35. Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures

should be detailed along with budgetary allocations.

38. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

39. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

40. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

41. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

42. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

43. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.

44. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

45. The activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be as per MoEF&CC, Govt. of India O.M No 22-65/2017-IA. II (M) dated 01.05.2018 and the action plan on the activities proposed under CER shall be submitted at the time of appraisal of the project included in the EIA/EMP Report.

46. The Action Plan on the compliance of the recommendations of the CAG as per MoEF&CC, Govt. of India Circular No. J-11013/71/2016-IA.I (M), dated 25,10.2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.

47. Compliance of the MoEF&CC, Govt. of India Office Memorandum No. F: 3-50/2017-IA.III (Pt.), dated 30.05.2018 on the judgement of Hon'ble Supreme Court, dated the 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India needs to be submitted and included in the EIA/EMP Report.

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

1. Department of Steel & Mines, Govt, of Odisha <u>should prepare 5 years regional</u> <u>plan for annual iron ore requirement from the state, which in turn shall be</u> <u>met from different mines/zones (e.g. Joda, Koira.') in the state.</u> Accordingly, sustainable annual production (SAP) for each zone/mine may be followed adopting necessary environmental protection measures.

2. The expansion <u>or opening of new manganese ore mines may be considered</u> <u>only when the actual production of about 80% is achieved.</u> Further, <u>the mines</u> <u>that have not produced Mn ore for last two years and have no commitment in the</u> <u>current year as well: EC capacity in such cases may be reviewed. The</u> <u>Department of Steel & Mines. Govt, of Odisha shall submit the Annual Report on</u> <u>this issue to the MoEF&CC for further necessary action.</u>

3. Analysis of baseline environmental quality data for the year 2014 and 2016 indicates that existing mining activities appear to have little / no potential impact on environmental quality, except on air environment, which was mainly due to re-suspension of road dust. Therefore, all the working mines can continue to operate with strict compliance to monitoring of environmental quality parameters as per EC and CTE/CTO conditions of the respective mine, and implementation of suggested measures for control of road dust and air pollution. Odisha State Pollution Control Board has to ensure the compliance of CTE/CTO. Regional office of the MoEF&CC, Bhubaneswar shall monitor the compliance of the EC conditions. Regional office of the Indian Bureau of Mines (IBM) shall monitor the compliance of mining plan and progressive mine closure plan. Any violation by mine lease holder may invite actions per the provisions of applicable acts.

4. Considering the existing environmental quality, EC capacity, production rate, iron ore resources availability and transport infrastructure availability, the share of Joda and Koira sector works out to be 70% and 30% respectively for the existing scenario for the year 2015-16. However, for additional EC capacity, it can be 50:50 subject to commensurate infrastructure improvement (viz. SOTM. pollution free road transport, enhancement of rail network etc.) in the respective regions.

5. Continuous monitoring of different environmental quality parameters as per EC and CTE/CTO conditions with respect to air, noise, water (surface and ground water) and soil quality in each region shall be done. The environmental quality parameters should not indicate any adverse impact on the environment. Monitoring within the mines should be done by individual mine lease holders, whereas outside the mine lease area, monitoring should be done by the Govt, of Odisha through various concerned departments/ authorized agencies. Various monitoring/ studies should be conducted through national reputed institutes, NABET/ MoEF&CC accredited laboratories/organizations. The reports submitted by individual mine lease holders and study reports prepared by other concerned departments/agency for each of the regions should be evaluated and examined by SPCB/ MoEF&CC.

6. Construction of cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development along the roads and also construction of road minimum 300 m inside the mine should be done. This should be done within one year for existing mines and new mine should have since beginning. The concerned departments should extend full support; wherever the land does not belong to the respective mine lease holders. The Department of Steel & Mines, Govt, of Odisha should ensure the compliance and should not issue the Mining Permits, if mine lease holder has not constructed proper cement concrete road as suggested above.

7. In view of high dust pollution and noise generation due to road transport, it is proposed to regulate/guide the movement of iron and manganese ore material based on the EC capacity of the mines. Accordingly, ore transport mode has been suggested, as given below in Table.

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

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

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

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

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

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

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

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

11. Expansion of existing mines and new mines should be considered after conducting recent EIA Study fas per the provisions of EIA Notification 2QQ6, as amended time to time1) with proper justification on demand scenario for iron ore requirement and availability of pollution free transport network in the region. Responsibility: IBM, Department of Steel & Mines and MoEF&CC, New Delhi.

12. **Mine-wise Allocation of Annual Production:** In case the total requirement of iron ore exceeds the suggested limit for that year, permission for annual production by an individual mine may be decided depending on approved EC capacity (for total actual dispatch) and actual production rate of individual mine during last year or any other criteria set by the State Govt., i.e. Dept, of Steel & Mines. Department of Steel and Mines in consultation with Indian Bureau of Mines-RO should prepare in advance mine-wise annual production scenario as suggested in Table, so that demand for iron ore can be anticipated, and actual production/dispatch does not exceed the suggested annual production.

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

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

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

14. **Sustained Iron Ore Production beyond 2020:** Considering the implementation of MMDR Act 2015, total production of iron ore in Odisha State is anticipated to be about 111 MT during 2016-17 (actual production was - 102.663 MT), 136 MT during 2017-18, 146 MT during 2018-19 and 146 MT during 2019-20. Then there will be substantial drop in total production (to the tune of 73 MT during 2020-21 onwards) due to closure of mines, which are valid up to 2020. Therefore, in order to maintain operation/sustained growth of downstream industries, iron ore mining in the region needs to be continued at a sustainable rate. The State Govt. through Department of Steel and Mines should initiate appropriate action to ensure continued availability of iron ore from the region, as per suggested sustainable annual production

15. **Reserves Estimation**-Mining Plan and Exploration; Appropriate actions (geo- technical investigation for qualitative and quantitative resource estimation & other preparations for auction of mines), may be initiated taken into account the existing working mines, and the mines which were operational at some point of time (but closed presently due to various reasons). The total iron ore reserves/ resources available within the total lease area of each mine should be estimated by State Govt./NMET/ GSI (or any other approved agency) with respect to: (i) Total lease area of mine (surface), (ii) Maximum depth to which resources could be available, (iii) Resources below the ground water table (if intersected), (iv) Reserves are to be estimated as per UNFC code with respect to quantity and quality (% Fe content), (v) Maximum mining rate and area for auction (after 2020) will be calculated based on total resources available and proposed life of mine leading to closure of mine in a stipulated time period. Responsibility: Department of Steel & Mines, IBM and GSI; Time frame: 1 year for the mines to be auctioned for next 2 years. The above mentioned organizations shall ensure the compliance with respect to timelines for implementations.

16. Depending upon availability of extractable iron ore resources within a mine, mining below the ground water table may be permitted after conducting necessary geological and hydro-geological study by GSI and requisite approval from the CGWB/CGWA (Central Ground Water Board/Authority). This can be explored at least in few mines on trial/pilot basis. Further, within a mine, it will be desirable to operate one pit at a time, and next pit should be opened after extracting maximum possible resources from the first pit, so that the exhausted pit can be used for back filling/ storing of low grade iron ore. However, depending upon the quantity and/or quality of iron/ manganese ore, other mine pits in the same mine lease may also be opened for sustainable scientific mining, as per approved mining plan/scheme of mining by IBM. The Department of Steel & Mines, Govt. of Odisha should initiate the pilot project so that minerals are fully utilized.

17. **Commercial Utilization of Low Grade Ore:** R&D studies towards utilization of low-grade iron ore should be conducted through research/academic institutes like IMMT, Bhubaneswar, NML, Jamshedpur, and concerned metallurgical departments in IITs, NITs etc., targeting full utilization of low-grade iron ore (Fe content upto 45% by 2020 and upto 40% by 2025). In fact, life cycle assessment of whole process including environmental considerations should be done for techno-economic and environmental viability. R&D studies on utilization of mine wastewater having high concentration of Fe content for different commercial applications in industries such as cosmetics, pharmaceutical, paint industry should also be explored. Responsibility: IBM, Dept, of Steel & Mines, Individual Mine Lease Holders.

18. The mining activity in Joda-Koira sector is expected to continue for another 100 years, therefore, it will be desirable to develop proper rail network in the region. Rail transport shall not only be pollution free mode but also will be much economical option for iron ore transport. The rail network and/or conveyor belt system upto public railway siding needs to be created. The total length of the conveyor belt system/ rail network to be developed from mines to nearest railway sidings by 11 mines in Joda region is estimated to be about 64 km. Similarly, in Koira region, total length of rail network/ conveyor system for 8 mines (under SOTM 1 & 2) is estimated to be around 95 km. Further, it is suggested to develop a rail network connecting Banspani (Joda region) and Roxy railway sidings in Koira region. Responsibility: Dept, of Steel & Mines, Govt, of Odisha and Concerned Mines along with Indian Railways. Time Period: Maximum 7 years (by 2025). The Department of Steel & Mines. Govt, of Odisha should follow-up with the concerned Departments and railways so that proposed proper rail network is in place by 2025.

19. State Govt, of Odisha shall make all efforts to ensure exhausting all the iron & manganese ore resources in the existing working mines and from disturbed mining leases/zones in Joda and Koira region. The criteria suggested shall be applicable while suggesting appropriate lease area and sustainable mining rate. Responsibility: Dept, of Steel & Mines, Govt, of Odisha.

20. Large and medium mine leases contribute to better implementation of reclamation and rehabilitation plans to sustain the ecology for scientific and sustainable mining. The small leases do not possess scientific capability of environmentally sustainable mining. Therefore, new mine leases having more than 50 ha area should be encouraged, as far as possible. This will ensure inter-generational resource availability to some extent. Responsibility: Dept, of Steel & Mines, Govt, of Odisha.

21. **Mining Operations/Process Related:** (i) Appropriate mining process and machinery (viz. right capacity, fuel efficient) should be selected to carry out various mining operations that generate minimal dust/air pollution, noise, wastewater and solid waste, e.g. drills should either be operated with dust extractors or equipped with water injection system, (ii) After commencement of mining operation, a study should be conducted to assess and Quantify emission load generation (in terms of air pollution, noise, waste water and solid wasted from each of the mining activity (Including transportation) on annual basis. Efforts should be made to further eliminate/ minimize generation of air pollution/dust, noise, wastewater, solid waste generation in successive years through use of better technology. This shall be ensured by the respective mine lease holders, (iii) Various machineries/equipment selected (viz. dumpers, excavators, crushers, screen plants etc.) and transport means should have optimum fuel/power consumption, and their fuel/power consumption should be recorded on monthly basis. Further, inspection and maintenance of all the machineries/ equipment/ transport vehicles should be followed as per manufacturer's instructions/ recommended time schedule and record should be maintained by the respective mine lease holders, (iv) Digital processing of the entire lease area using remote sensing technique should be carried out regularly once in 3 years for monitoring land use pattern and mining activity taken place. Further, the extent of pit area excavated should also be demarcated based on remote sensing analysis. This should be done by ORSAC (Odisha Space Applications Centre, Bhubaneswar) or an agency of national repute or if done by a private agency, the report shall be vetted/ authenticated by ORSAC, Bhubaneswar. Expenses towards the same shall be borne by

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

22. **Air Environment Related:** (i) Fugitive dust emissions from all the sources should be controlled regularly on daily basis. Water spraying arrangement on haul roads, loading and unloading and at other transfer points should be provided and properly maintained. Further, it will be desirable to use water fogging system to minimize water consumption. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the GPCB in this regard, (ii) The core zone of mining activity should be monitored on daily basis. Minimum four ambient air quality monitoring stations should be established in the core zone for SPM, PM10. PM2.5, SQ2, NCb^ and CO monitoring. Location of air quality monitoring stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board (based on Emission Load Assessment Study). The number of monitoring locations may be more for larger capacity mines and working in larger area. Out of four stations, one should be online monitoring station in the mines having more than 3 MTPA EC Capacity, (iii) Monitoring in buffer zone should be carried out by SPCB or through NABET accredited agency. In addition, air quality parameters (SPM, PMiO, PM2.5, S02, NOx and CO) shall be regularly monitored at locations of nearest human habitation including schools and other public amenities located nearest to source of the dust generation as applicable. Further, 11 continuous air quality monitoring systems may be installed in Joida and Koira regions and one in Baripada/ Rairangpur region, (iv) Emissions from vehicles as well as heavy machinery should be kept under control and regularly monitored. Measures should be taken for regular maintenance of vehicles used in mining operations and in transportation of mineral, (v) The vehicles shall be covered with a tarpaulin and should not be overloaded. Further, possibility of 3 using closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport route within the mine (periodically, near truck entry and exit gate).Responsibility: Individual Mine Lease Holders and SPCB.

23. **Noise and Vibration Related:** (i) Blasting operation should be carried out only during daytime. Controlled blasting such as Nonel, should be practiced. The mitigation measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented, (ii) Appropriate measures (detailed in Section 5.4) should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone. Further, date, time and distance of measurement should also be indicated with the noise levels in the report. The data should be used to map the noise generation from different activities and efforts should be made to maintain the noise levels with the acceptable limits of CPCB (CPCB, 2000) (iv) Similarly, vibration at various sensitive locations should be monitored atleast once in month, and mapped for any significant changes due to successive mining operations. Responsibility: Individual Mine Lease Holders.

24. **Water/Wastewater Related :** (i) In general, the mining operations should be restricted to above ground water table and it should not intersect groundwater table.

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

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

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

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

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

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

28. **Road Transport Related:** (i) All the mine lease holders should follow thesuggested ore transport mode (SOTM\ based on its EC capacity within next 5 years, (ii) The

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

29. **Occupational Health Related:** (i) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects periodically, (ii) Occupational health surveillance program for all the employees/workers (including casual workers) should be undertaken periodically (on annual basis) to observe any changes due to exposure to dust, and corrective measures should be taken immediately, if needed, (iii) Occupational health and safety measures related awareness programs including identification of work related health hazard, training on malaria eradication, HIV and health effects on exposure to mineral dust etc., should be carried out for all the workers on regular basis. A full time qualified doctor should be engaged for the purpose. Periodic monitoring (on 6 monthly basis) for exposure to respirable minerals dust on the workers should be conducted, and record should be maintained including health record of all the workers. Review of impact of various health measures undertaken (at an interval of 3 years or less) should be conducted followed by follow-up of actions, wherever required. Occupational health centre should be established near mine site itself. Responsibility: Individual Mine Lease Holders and District Administration (District Medical Officer),

30. **Reporting of Environmental Sustainability Achievement:** All the mines should prepare annual environmental sustainability report (ESR), highlighting the efforts made towards environmental protection with respect to different environmental components vis-a-vis production performance of the mine on monthly basis. The data collected as per EC and CTE/CTO conditions should be utilized to prepare the annual sustainability report. The mines performing high with effective environmental safeguards may be suitably recognized/rewarded. "Star Rating Format" formulated by the Ministry of Mines along with environmental sustainability report may be used,

31. **Environmental Monitoring Requirements at Regional Level:** Apart from strict compliance and monitoring by individual mine lease holder, there is a need for simultaneous monitoring in each of the regions by competent expert agencies under the guidance/ supervision of concerned regulatory agency. Details of the studies required to be done on regular basis (continuously for 5 years) through responsible agency (organization of national/state repute) and time frame are suggested in Table.

Table: Suggested Environmental Monitoring Requirements and Action Plans at

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

Sl. No.	Study component / Action Plan	Responsibility	Monitoring and Reporting Time Frame (Approx.)
	Quality in each region (Joda, Koira and Baripada/Rairangpur) as per specified frequency shall be done by a third party (preferably Govt.) and/or laboratory approved/ recognized by NABET/ CPCB/ SPCB/ MoEF&CC. All the water bodies (rivers, nalias, ponds etc.) shall be monitored. National/State level research/ academic institutes may be involved initially for couple of years to streamline the activity. The report shall be brought out annually by June each year. The study shall be conducted in consultation with MoEF&CC-RO.		
	Installation of online ambient air quality monitor for PM1 0. PMP.S, SOx and NOx within the mine havina more than 3 MTPA EC Caoacitv	Respective Mine Lease Holders	Continuous Annually
	Installation of online ambient air quality monitor for PM_{10}, $PM_{2.5}$, SOx and NOx in the Joda and Koira Region (total 11 locations.	SPCB	Continuous Annually
2.	Status of flora and fauna in each of the regions shall be assessed on annual basis. Changes, if any, taking place in the region shall be brought out clearly. The study shall be conducted in consultation with State Forest and Wildlife Department.	State Forest & Wildlife Dept.	Annually in mining zone and once in 3 years in the region
3.	Socio-economic study incorporating developments taking place in each of the region, CSR initiatives made by the mining companies shall be conducted on annual basis. Further, micro level developmental needs shall be clearly brought out in the report for each region. The study shall be conducted in consultation with district administration.	Respective District Administration	Annually
4.	A detailed hydro-geological study in each of the regions shall be	SPCB	Once in 2 years

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

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

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

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

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

C. Besides the above, the below mentioned genera! points are also to be followed:-

a) All documents to be properly referenced with index and continuous page numbering.

b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original

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

d) Where the documents provided are in a language other than English, an English translation should be provided.

e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.

f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006- IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

h) As per the circular no. J-11011/618/2010-IA.II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) Sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

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