EXECUTIVE SUMMARY

For

Proposed Installation of 3 x 600 TPD DRI Kiln (6,12,000 TPA) Sponge Iron Plant, 8x25 T (6,66,000 TPA) Induction Furnace, 80 T (6,66,000 TPA) EAF, 6,00,000 TPA Rolling Mill (HBR), 3,00,000 TPA Rolling Mill (RHF), 3,60,000 TPA Flat Product Rolling Mill, 3,00,000 TPA Section Rolling Mill, 1,00,000 TPA Forging, Pickling, Bright Bar, 1,00,000 TPA Ingot Casting & 40 MW WHRB, 40 MW (AFBC) Thermal Power Plant and 4x9MVA Submerged Arc Furnace

Location: Khasara No. 1 – 8, 66 – 76, 143 – 148, Village Mudholi Chak – 2, Taluka – Chamorshi, District – Gadchiroli, Maharashtra

Project Proponent

Varad Ferro Alloys Private Limited

Survey No. 137, Part Opp. Dhawleshwar Temple, Jalna- Bhokardan Road, Jalna – 431203, Maharashtra.

Environmental Consultant:

Pollution and Ecology Control Services

Near Dhantoli Police Station, Dhantoli, Nagpur

Accreditation no.: NABET/EIA/2225/RA 0291

EXECUTUVE SUMMARY

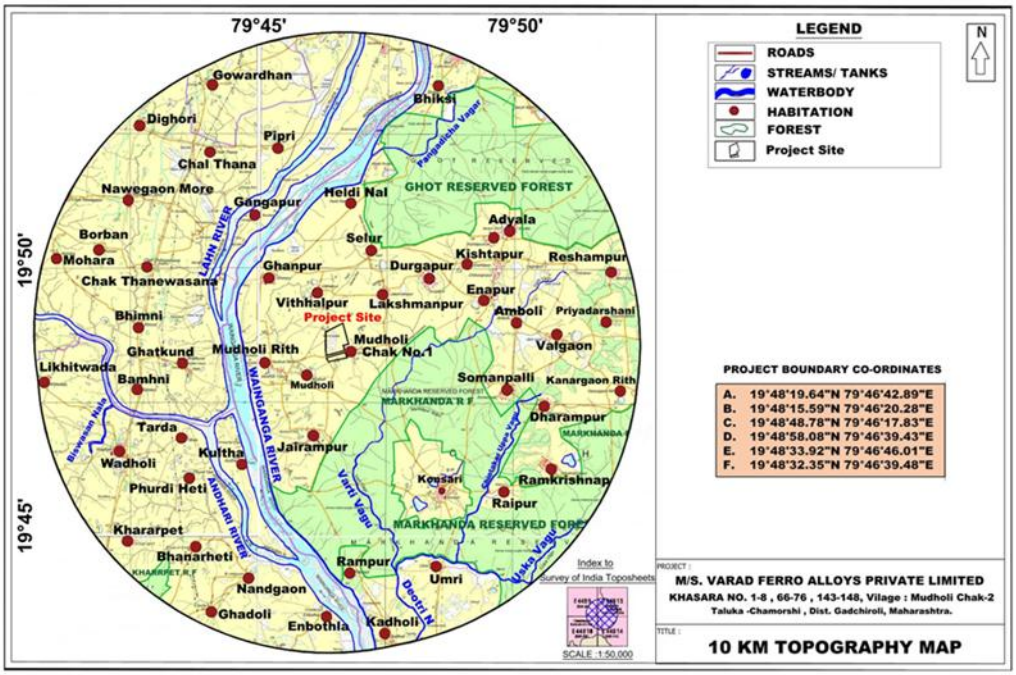
1.0 INTRODUCTION & PROJECT DETAILS

Varad Ferro Alloys Private Limited has Proposed an Installation of 3 x 600 TPD (6,12,000 TPA) Sponge Iron Plant, 8x25 T (6,66,000 TPA) Induction Furnace, 80 T (6,66,000 TPA) EAF, 6,00,000 TPA Rolling Mill (HBR), 3,00,000 TPA Rolling Mill (RHF), 3,60,000 TPA Flat Product Rolling Mill, 3,00,000 TPA Section Rolling Mill, 1,00,000 TPA Forging, Pickling, Bright Bar, 1,00,000 TPA Ingot Casting & 40 MW WHRB, 40 MW (AFBC) Thermal Power Plant and 4x9MVA Submerged Arc Furnace at Khasra No. 1 – 8, 66 – 76, 143 – 148, Village Mudholi Chak – 2, Taluka – Chamorshi, District – Gadchiroli, Maharashtra.

The total land area for the proposed project is 78.91 ha. The proposed land is notified as Industrial land by Industries, Energy, Labour and Mining Department vide No. IDC 2023/(C.R.932)/Ind-14 dated 27th October 2023.

The proposed project attracts the provisions of EIA Notification, 2006 and falling under Category “A” of Schedule, 3 (a) Metallurgical Industries (Ferrous and Non-ferrous), 1(d) Power Plants.

M/s Varad Ferro Alloys Private Limited has conducted an Environmental Impact Assessment (EIA) for the proposed Greenfield project and formulated an appropriate Environmental Management Plan.



Source: *Survey of India (SOI) Toposheet*

Topographical map (10 km radius)

PROJECT DETAILS

Sr. No.	Description	Product Details
1.	Project Production Capacity	Sponge Iron (3x600 TPD DRI Kilns): 6,12,000 TPA, M.S. Billets (Induction Furnace): 6,66,000 TPA, Rolling Mill (HBR): 6,00,000 TPA Rolling Mill (RHF): 3,00,000 TPA Billets (EAF): 6,66,000 TPA, Flat Product Rolling Mill: 3,60,000 TPA, Section Rolling Mill: 3,00,000 TPA, Forging, Pickling, Bright Bar: 1,00,000 TPA, Ingot Casting: 1,00,000 TPA 40 MW WHRB, 40 MW (AFBC) Captive Power Plant Ferro Alloy – 70,000 TPA (4x9 MVA Submerged Arc Furnace)
2.	Plant Location	Khasra No. 1 – 8, 66 – 76, 143 – 148, Village Mudholi Chak – 2, Taluka – Chamorshi, District – Gadchiroli, Maharashtra
3.	Raw Material Details	The major raw materials which will be handled are Pellet, coal (imported and Indian), sponge iron, scrap, dolomite etc. All raw materials will be received at plant site by rail/road.
4.	Water requirement for the proposed project & Source	11,080 KLD Source: Wainganga river

5.	Power requirement & Source	Total Power requirement for the proposed project will be 80 MW, supplied from CPP & if required will be procured from MSEDCL.
6.	Land	The total land area for the project is 78.91 ha. The proposed land is notified as Industrial land by Industries, Energy, Labour and Mining Department vide No. IDC 2023/(C.R.932)/Ind-14 dated 27th October 2023.
7.	Manpower	1200 – 1500 nos.
8.	Total Cost of the project	Rs. 2500 Crores

2.0 PROCESS DESCRIPTION

Varad Ferro Alloys Private Limited has proposed to set up Steel plant with sponge iron Plant, Steel making by two routes of Induction Furnace and Electric Arc Furnace, refining by special alloy steel by LRF, AOD & VOD, Casting, Billet Caster, rolling with direct Billet, reheating Furnace for long product rolling mill, Flat product rolling mill, Section Rolling Mill, and finishing process of Annealing, Forging, Pickling and Bright bar as per requirement of the customer.

3.0 DESCRIPTION OF BASELINE ENVIRONMENT

Air Environment

Baseline environmental monitoring was conducted over a three-month period, from 3rd February 2025 to 29th April 2025 (summer season), covering a 10 km radius surrounding the proposed project site.The predominant wind direction is SSW. The ambient air quality monitored at 10 locations selected based on predominant wind direction, indicated the following ranges;

PM_{10} - 43.7 – 58.1 µg/m^3

$PM_{2.5}$ - 20.2 – 33.3 µg/m^3

SO_2 - 10.8 – 25.4 µg/m^3

NOx - 14.3 – 30.3 µg/m3

CO - BDL

The concentrations of PM_{10}, $PM_{2.5}$, SO_2 , NO_x and CO were found within the National Ambient Air Quality Standards (NAAQS).

Water Environment

A total of 16 samples including eight surface & eight ground water samples were collected and analyzed. The water samples were analyzed as per Standard Methods for Analysis of Water and Wastewater, American Public Health Association (APHA) Publication. The data indicates that the ground water as well as the surface water quality are below the stipulated standard for drinking water (BIS 10500 – 2012).

Noise Environment

Noise levels measured at ten locations are within limit of 55.0 dB (A) for Residential Area or 75.0 dB (A) for Industrial Area as given in MoEF Gazette notification for National Ambient Noise Level Standard.

Land Environment

Eight Soil samples were collected analyzed for physico-chemical characteristics at selected locations in the study area to assess the existing soil conditions around the proposed project site. Samples collected from different land use classifications indicating the soil Sample were Blackish and Brown in colour. All the major nutrients were present, namely, nitrogen's presence is low to moderate, phosphorus is low to moderate in quantity and potassium is good in quantity.

Biological Environment

The biodiversity study within 10 km of the project site recorded 243 terrestrial plant species and 43 aquatic species, with no endangered or protected flora. Faunal diversity includes 234 species (41 species in core zone and 193 species in buffer zone), of which 29 fall under Schedule I of the Wildlife Protection Act. No national parks or wildlife corridors exist nearby, but the Eco-sensitive Zone of Chaparala Wildlife Sanctuary lies within 10 km. The project proponent will contribute ₹2 crore over 10 years for wildlife conservation activities in the buffer zone.

Socio Economic Environment

The project area has a diverse rural population with moderate socio-economic conditions, and based on community feedback, CSR initiatives worth ₹10 crores have

been planned to improve water supply, agriculture, health facility, sanitation facility, road repairing/construction, and livelihood opportunities in nearby villages.

4.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES.

Impact on Air Quality

- Stack emissions will release particulate matter, NOx, SOx, and other pollutants into the atmosphere, affecting air quality and contributing to respiratory issues.
- Fugitive emissions from raw material handling, crushing, screening, and storage will lead to dust pollution, reduced visibility, and health hazards for workers and nearby communities.

Mitigation measures

- ESPs will be installed in DRI and CPP units to control particulate emissions.
- Bag Filters will be installed in IF, EAF and SAF units to control particulate emissions.
- Stack heights will be provided as per CPCB guidelines.
- Fugitive emissions will be controlled through water sprinklers, dust suppression systems, and covered conveyors.
- Continuous Emission Monitoring Systems (CEMS) will be installed on major stacks.

Impact on Noise Levels and Mitigation Measures

During operation, the major noise generating sources are operation of scrap metal handling, rolling mill, cooling fans, motors, pumps etc. which leads to increase in ambient noise affecting workers working in the plant.

Noise levels generated in the project site will be confined to the noise generating plant units hence the impact of noise levels on surroundings will be insignificant. Equipment will have built-in noise control, noisy equipment will be covered. Ear plugs will be provided, rotating parts will be lubricated, and vibration isolators will be installed. Ensure compliance with CPCB standards.

Impact on Water and Mitigation Measures

The project will implement zero liquid discharge. Hence there will not be any impact on water. No ground water will be abstracted in the proposed project.

Solid Waste Generation and Disposal

Solid wastes / by products that will be generated from plant and their disposal method is given in following table:

S.N.	Waste	Quantity (TPA)	Proposed method of disposal
Sponge Iron Plant			
1.	Char & Dolochar	73,440	Used in captive power plant & sold to secondary users viz. nearby power plant
2.	ESP Dust	73,440	Sold to brick manufacturers and land filling.
SMS (Induction Furnace)			
1.	Slag	26,400	Slag will be crushed through Slag Crushing Units and crushed slag will be used/sold for use in brick manufacturing unit.
Electric Arc Furnace			
1.	Slag	79,200	Slag will be crushed through Slag Crushing Units and crushed slag will be used/sold for use in brick manufacturing unit.
Rolling Mill (HBC)			
1.	Tail Cuttings	9,000	Will be reused in Induction Furnace.
Rolling Mill (RHF)			
1.	Tail Cuttings	10,800	Will be reused in Induction Furnace.
2.	Fly Ash	11,250	It will be used for brick manufacturing and land filling
Power Plant			
1.	Fly Ash	83,160	It will be used for brick manufacturing and land filling
2.	Bottom Ash	35,640	It will be used for brick manufacturing and land filling
SAF (Ferro Alloys)			
1.	Slag from FeMn	70,000	39,200 TPA of FeMn slag will be utilize in manufacturing of SiMn and remaining FeMn slag and other Slag will be sold to brick manufacturing unit.
2	Slag from SiMn	56,000	Will be sold to brick manufacturing unit/ Road construction/Cement manufacturing unit.

Impact on Socio-Economic Environment

Varad Ferro Alloys Pvt. Ltd. will generate 1200–1500 direct and indirect jobs, giving preference in employment as per the qualification and technical competencies. To address social impacts, the company will maintain regular communication with locals, conduct environmental awareness programs, and collaborate with local authorities for effective implementation of social welfare activities.

4.0 ENVIRONMENTAL MONITORING PROGRAMME

Environmental monitoring refers to systematic sampling of Air, Water, Soil, and biological environment in order to observe and study the environmental components. The methodologies adopted for environmental monitoring are in accordance with the CPCB guidelines. The purpose of post project environmental monitoring program is to evaluate the performance of mitigation measures implemented and to check how well the installed pollution control systems are working.

5.0 ADDITIONAL STUDIES

The additional studies as per the ToR issued by MoEF&CC are Social Impact Assessment, Risk Assessment, & Disaster Management Plan are included in the draft EIA report. Public Hearing and its compliance along with budgetary allocation will be included in the final EIA report.

6.0 PROJECT BENEFITS

The proposed project will create more job opportunities and improve the local economy. Local people will be given priority for employment. A separate budget will be set aside for various socio-economic development activities, which will be carried out in nearby villages.

7.0 ENVIRONMENTAL MANAGEMENT PLAN

The cost of the proposed project is Rs. 2500 Crore. The project will allocate Rs. 165 Crores for capital works pertaining to environment protection. In addition to capital budget, a recurring amount of Rs.17 Crores/Annum will be allocated for operation and maintenance.

8.0 GREEN BELT DEVELOPMENT

Avenue plantation within the plant and green belt development will be done. Green Belt shall be developed in 27.62 ha of land. Total area of green belt of the project shall constitute 35% of the total plant area. Total 69,050 no. of trees will be planted in the proposed plant @ 2500 per ha.

Conclusion

It is clear from the above discussion that the proposed project will not be likely to cause any significant impact on the surrounding area, as adequate mitigative measures will be adopted so that all the parameters will be within the prescribed standards.