Executive Summary

For

Establishment of proposed DRI based Integrated Steel Plant to manufacture 0.5 MTPA of TMT Rebars comprising 0.825 MTPA DRI production (4 x 625 TPD DRI Kilns), Steelmaking Facility (7 × 25T Induction Furnaces, 2 × 25T LRFs, 2 x 2 strand (6/11 m radius) CCMs, 30 TPH RHF) producing 0.521 MTPA Billets, 0.5 MTPA TMT Rebar by TMT Rebar Mill, Slag Crusher (for Sand Making (1,00,000 TPA) and 125 MW Captive Power Generation (75 MW WHRB + 50 MW AFBC)

At

Survey Nos. 72–143, 274, 280–281, 283 at MIDC village Mudholi Chak No.1, Tehsil Chamorshi, District Gadchiroli

By Project Proponent

M/s. Saffron Hill Metals Private Limited

Environmental Consultant:

Pollution and Ecology Control Services

Near Dhantoli Police Station, Dhantoli, Nagpur, Maharashtra
Email: pecsnagpur@gmail.com
Accreditation no.: NABET/EIA/25-28/RA 0474 Valid upto: 16th October 2028

Executive Summary

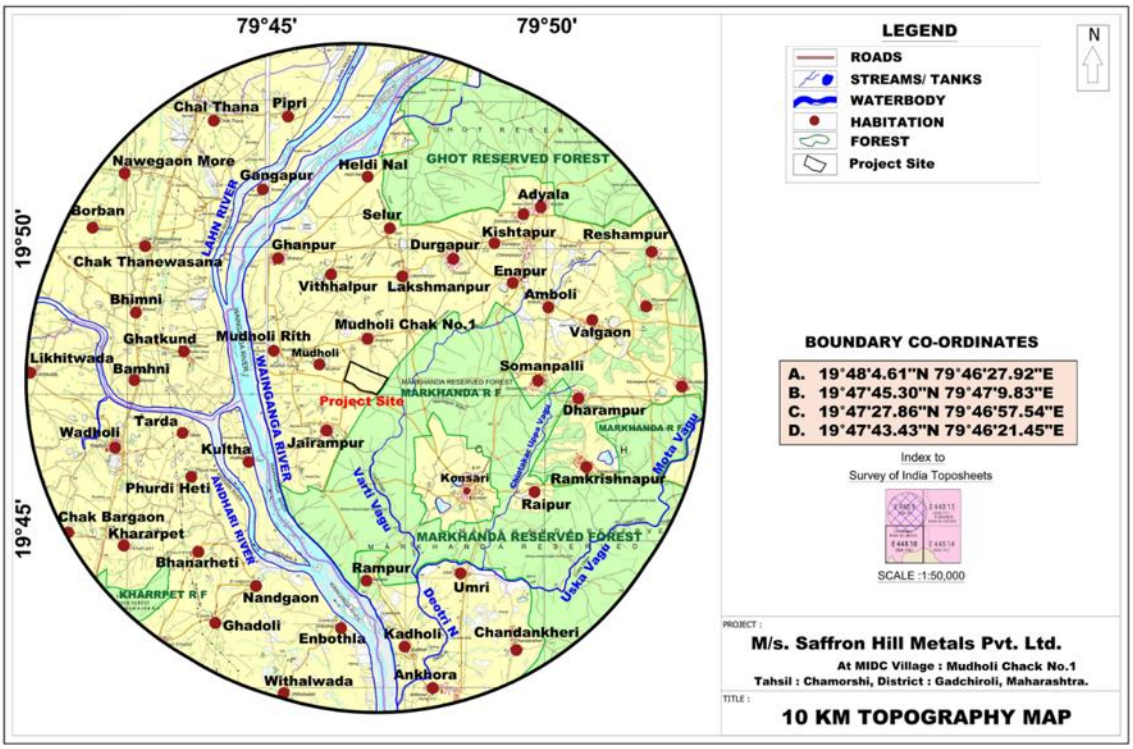
1.0 INTRODUCTION & PROJECT DETAILS

M/s Saffron Hill Metals Private Limited (SHMPL) has proposes to set up a DRI based Integrated Steel Plant to manufacture 0.5 MTPA of TMT Rebars comprising 0.825 MTPA DRI production (4 x 625 TPD DRI Kilns), Steelmaking Facility (7 × 25T Induction Furnaces, 2 × 25T LRFs, 2 x 2 strand (6/11 m radius) CCMs, 30 TPH RHF) producing 0.521 MTPA Billets, 0.5 MTPA TMT Rebar by TMT Rebar Mill, Slag Crusher (for Sand Making (1,00,000 TPA) and 125 MW Captive Power Generation (75 MW WHRB + 50 MW AFBC) at Survey Nos. 72–143, 274, 280–281, 283 at MIDC village Mudholi Chak No.1, Tehsil Chamorshi, District Gadchiroli Maharashtra.

The total land for the proposed project is 78.24 ha and will be acquired by "Pass Through" method by MIDC and will be handed over to M/s Saffron Hill Metals Private Limited (SHMPL) after receipt of payment. No Forest land is involved in project area.

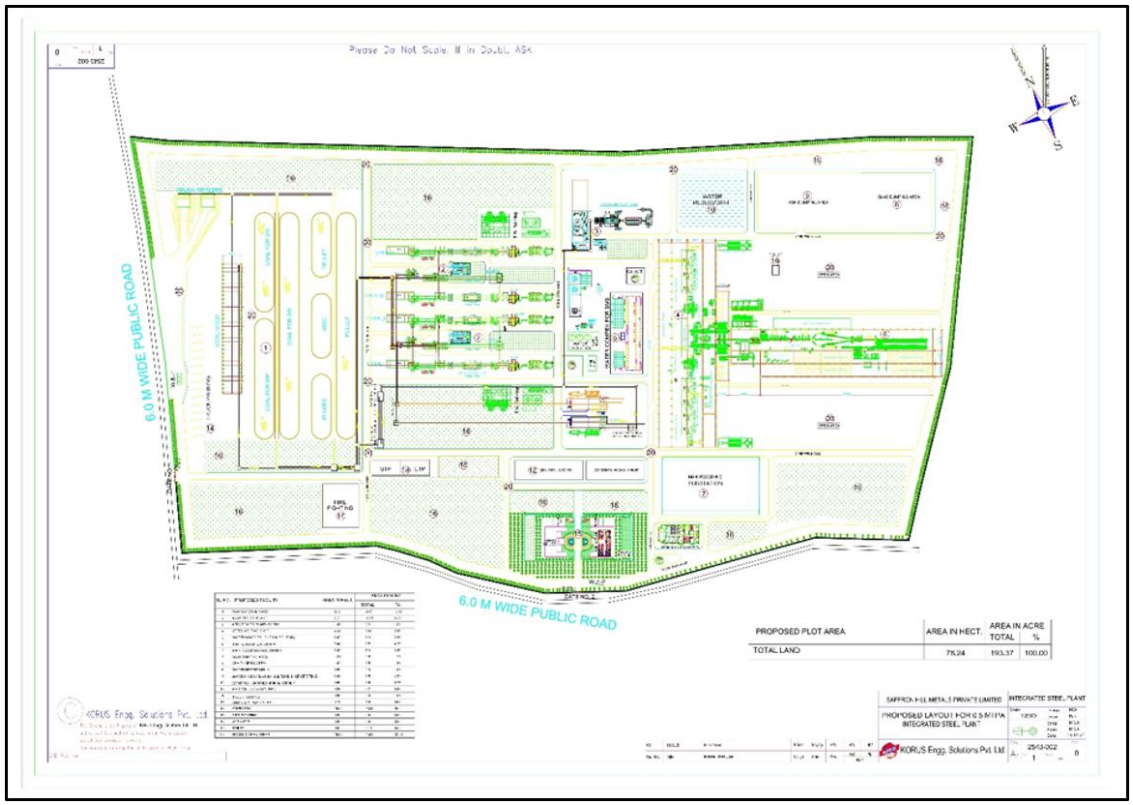
The proposed project comes under Category "A" of Schedule, 3 (a) Metallurgical Industries (Ferrous and Non-ferrous), and 1(d) Thermal Power Plants as per EIA Notification dated 14th September 2006 & its amendments.

M/s Saffron Hill Metals 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)



Proposed Layout Map

PROJECT DETAILS

<table>
<tr><th>Sr. No.</th><th>Description</th><th>Product Details</th></tr>
<tr><td>1.</td><td>Project Production Capacity</td><td>
<table>
<tr><th>Sr. No.</th><th>Name of Product</th><th>Plant Configuration</th><th>Production Capacity</th></tr>
<tr><td>1.</td><td>Sponge Iron</td><td>DRI Plant (4X625 TPD)</td><td>8,25,000 TPA (0.8 MTPA)</td></tr>
<tr><td>2.</td><td>M.S Billets</td><td>• Induction Furnace (7X25 T)
• 2 x 25 T Ladle Refining furnace
• 2X2 strands (6/11 M Radius) - Continuous Casting Machine (CCM)</td><td>5,20,833 TPA</td></tr>
<tr><td>3.</td><td>TMT Rebars</td><td>Rebar Rolling Mill
• 1x30 TPH Standby RHF</td><td>5,00,000 TPA</td></tr>
<tr><td rowspan="2">4.</td><td rowspan="2">Power Generation</td><td>AFBC Boiler</td><td>50 MW</td></tr>
<tr><td>WHRB</td><td>75 MW</td></tr>
<tr><td>5.</td><td>Slag Crusher (for Sand Making)</td><td>-</td><td>1,00,000 TPA</td></tr>
<tr><td colspan="4">It is proposed to install a slag crusher with a capacity of 1,00,000 TPA for sand manufacturing. The in-house slag generation from the induction furnace is 74,382 TPA, which will be utilized for sand making after recovery of iron particles. As several steel industries are proposed in Gadchiroli district, the balance slag requirement will be met from other Steel plant in the district. Until then, the sand production will remain below 1,00,000 TPA.</td></tr>
</table>
</td></tr>
<tr><td>2.</td><td>Plant Location</td><td>At Survey Nos. 72–143, 274, 280–281, 283 at MIDC village Mudholi Chak No.1, Tehsil Chamorshi, District Gadchiroli Maharashtra.</td></tr>
<tr><td>3.</td><td>Raw Material Details</td><td>DRI Kilns - Pellets, Coal, Dolomite
Induction Furnace - DRI, Pig iron, revert scrap
Captive Power Plant - Char, steam coal and waste heat from DRI units</td></tr>
</table>

4.	Water requirement for the proposed project & Source	The water requirement for the proposed project is 6009 KLD. The source of water will be Wainganga River which is at a distance of 2.70 km (WSW) from site.
5.	Power requirement & Source	Total power required for the proposed project is 95 MW and will source from own captive power plant.
6.	Land	78.24 Ha/ 193.37 Acres
7.	Greenbelt Development	19.56 ha (25% of the total land area) As per revised OM dated 29th October 2025.
8.	Manpower	918-950
9.	Environmental Aspects	i) Air Pollution Control ii) Water Pollution Control iii) Noise Pollution Control iv) Solid Waste Management
10.	Estimated Cost of the project	Rs. 1615 crores
11.	Cost for Environment Management Plan	Capital Cost: Rs.163 Crore Recurring Cost: Rs. 19.7 Crore

2.0 PROCESS DESCRIPTION

The manufacturing process of TMT Rebars is displayed in the flowchart given below. First, raw materials including pellets, coal, and dolomite are processed in DRI Kilns to create DRI. This DRI along with pig iron, and revert scrap is used in Induction Furnaces to produce hot liquid steel, which along with ferro-alloys, and fluxes such as lime are then sent Ladle Refining Furnaces. Here the liquid steel is purified through desulphurization, and dephosphorization. This purified liquid steel is now transferred to Induction Heater and Re-Heating Furnace to create billets that are later sent to TMT Rebar Mill where these billets are moulded to manufacture the final product i.e. TMT Rebars. In the entire process, by-products including waste heat and char are produced that are sent to WHRB and AFBC respectively, and later to TG to generate captive power using this waste heat.

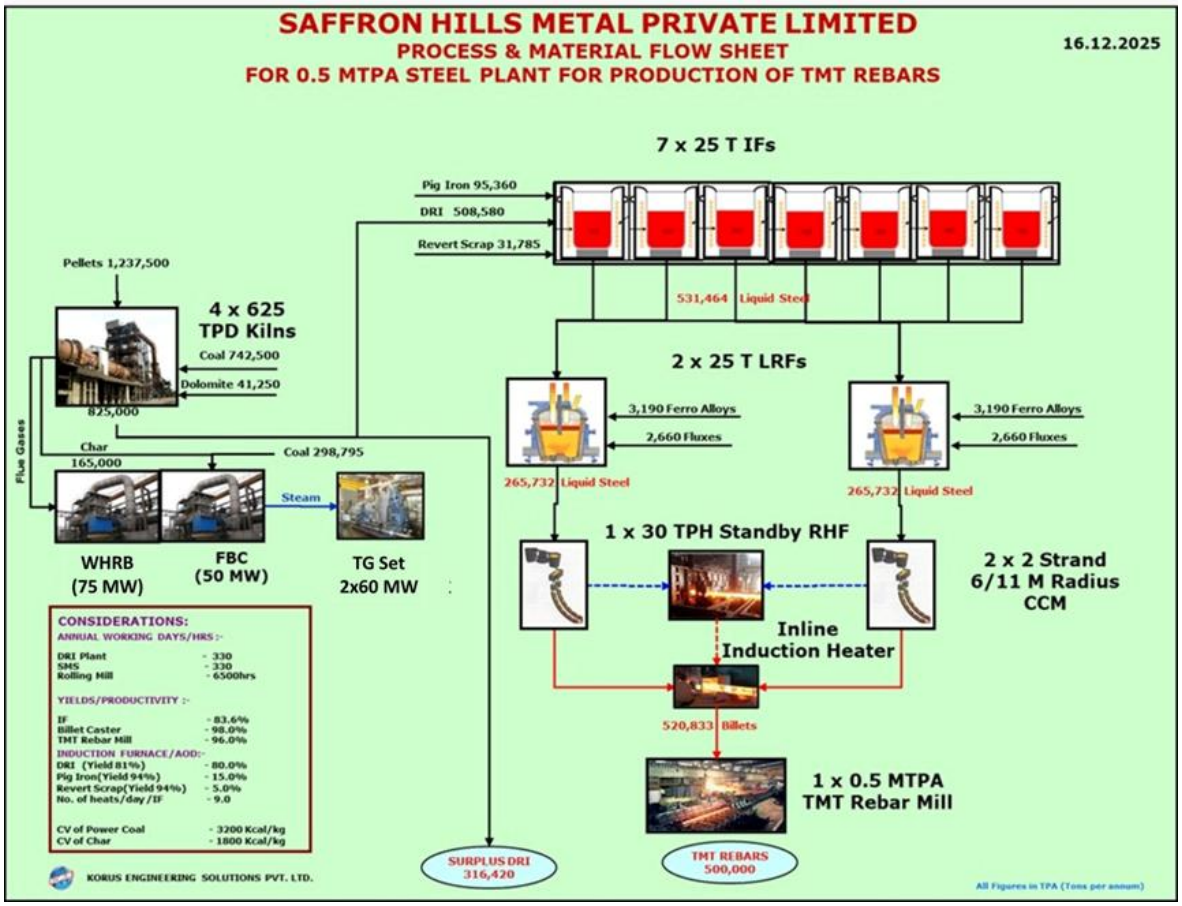


Figure : Manufacturing Process Flowchart

3.0 DESCRIPTION OF BASELINE ENVIRONMENT

Air Environment

Baseline environmental monitoring was conducted over a three-month period, from 1st October 2025 to 31st December 2025 (post monsoon season), covering a 10 km radius surrounding the proposed project site. The predominant wind direction is NE. The ambient air quality monitored at 10 locations selected based on predominant wind direction, indicated the following ranges;

PM_{10}	-	40.2 to 68.9 µg/m³
$PM_{2.5}$	-	16.4 to 31.3 µg/m³
SO_2	-	8.6 to 21.2 µg/m³
NOx	-	12.4 to 32.0 µg/m³

The concentrations of PM_{10}, $PM_{2.5}$, SO_2 and NO_x 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

It has been found that in the proposed expansion plant, noise levels during day time are in the range of 45.98 dB(A) to 49.85 dB (A) and 40.01 dB(A) to 44.0 dB(A) at all eight stations. Maximum levels of noise have been recorded in day hours which are natural as our most of activities have done in day hours.

Noise levels measured at all eight stations are well within limit of either 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. The soils in the study area are fertile, non-saline, and environmentally clean, with good agricultural potential. The main limitations are moderate organic carbon and relatively low phosphorous levels, which can be improved through appropriate soil management practices. From an EIA perspective, the baseline soil quality is suitable, and any future project activities must ensure that this existing soil health is preserved by preventing contamination, erosion, and nutrient depletion.

Biological Environment

The baseline study was conducted for the evaluation of the floral and faunal biodiversity within the existing environment of the study area (10 Km radius from the lease project area), and it comprises of 151 floral species were recorded from the study area during survey out of which 76 are trees, 18 are shrubs, 43 are herbs, climbers and 12 species of Grasses & bamboos and 2 were agriculture crops. There are no endemic, endangered or protected floral species reported in the study area. As per the data collected in the

core zone and buffer zone during field survey and obtained from secondary sources, Total 268 faunal species have been recorded from field survey and secondary information documented in forest working plan and other relevant literatures. Out of these 33 were Mammals, Aves (Birds) (138), Herpatofauna (reptiles) (21), Pisces (Fishes) (24), Invertebrates (44) and amphibians (8). 31 species of animals recorded in the study area fall under Schedule I category of Indian Wildlife Protection Act 1972 (amendment 2023). The proposed budget of the Conservation Plan is Rs. 2,00,00,000/- which will be deposited with the state forest and wildlife department for implementation of different activities within the protected areas including the reserve forests of the buffer zone over a period of 5 years. Additional Rs. 70,00,000/- have been allocated for implementing Soil and Moisture Conservation Measures.

Socio Economic Environment

The project area has a diverse rural population with moderate socio-economic conditions. The CER budget for the Saffron Hill Metals Private Limited Project (Greenfield) will be formulated based on needs identified through the EIA, SIA, public consultations and baseline environmental assessment. Priority will be given to drinking water supply, water conservation, rainwater harvesting, farm ponds, sanitation, healthcare, environmental awareness, greenbelt development, renewable energy and improvement of environmental infrastructure for the community. Approximately Rs. 17 crores will be spent on the development of nearby villages, based on the socio-economic survey conducted under baseline monitoring.

4.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES.

Impact on Air Quality

- Stack emissions can 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 can 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 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

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

Table: Solid Waste Management

S.N.	Waste	Quantity (TPA)	Proposed method of disposal
Sponge Iron Plant (4x625 TPD)			
1.	Char	1,65,000	In house consumption for power generation.
2.	Ash	90,000	It will be sold to nearby cement plant and brick manufacturing unit.

3.	Dust from ESP (45 kg/t)	37,125	It will be used for brick manufacturing and land filling
Induction Furnace & Rolling Mill			
1.	Induction Furnace Slag	74,382	IF Slag will be crushed through Slag Crushing Unit, recovered iron particle will be used in Induction furnace. Balanced crushed slag will be processed for sand making.
2.	Return Scrap	31,785	End cuttings will be charged in Steel Melting Shop.
Power Plant			
1.	Ash	1,10,555	It will be sold to nearby cement plant/brick manufacturing unit.

Impact on Socio-Economic Environment

Saffron Hill Metals Private Limited will generate 918-950 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.

5.0 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.

6.0 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.

7.0 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.

8.0 ENVIRONMENTAL MANAGEMENT PLAN

The cost of the proposed project is Rs. 1615 Crore. The project will allocate Rs. 163 Crores for capital works pertaining to environment protection. In addition to capital budget, a recurring amount of Rs.19.7 Crores/Annum will be allocated for operation and maintenance.

9.0 GREEN BELT DEVELOPMENT

Avenue plantation within the plant and green belt development will be done. Out of the total land area of 78.24 hectares, 19.56 hectares (25%) shall be used for greenery. This is being done keeping in mind the mitigation initiatives required for pollution control. Total 48,900 no. of trees will be planted in the proposed plant @ 2500 per ha.

10.0 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.