

Executive Summary

for

***Proposed Iron Ore Beneficiation Plant of 6,00,000 TPA
(0.6 MTPA)
& Iron Ore Pellet Plant of 4,00,000 TPA (0.40 MTPA)***

Proponent

M/s. Dinanath Allied Steel Manufacturing Pvt. Ltd.

**Kh. No. 311, 312,313,315,351,357,358 & 359, Village: Mohadi (M),
Tahsil: Nagbhir, District : Chandrapur, Maharashtra**

By

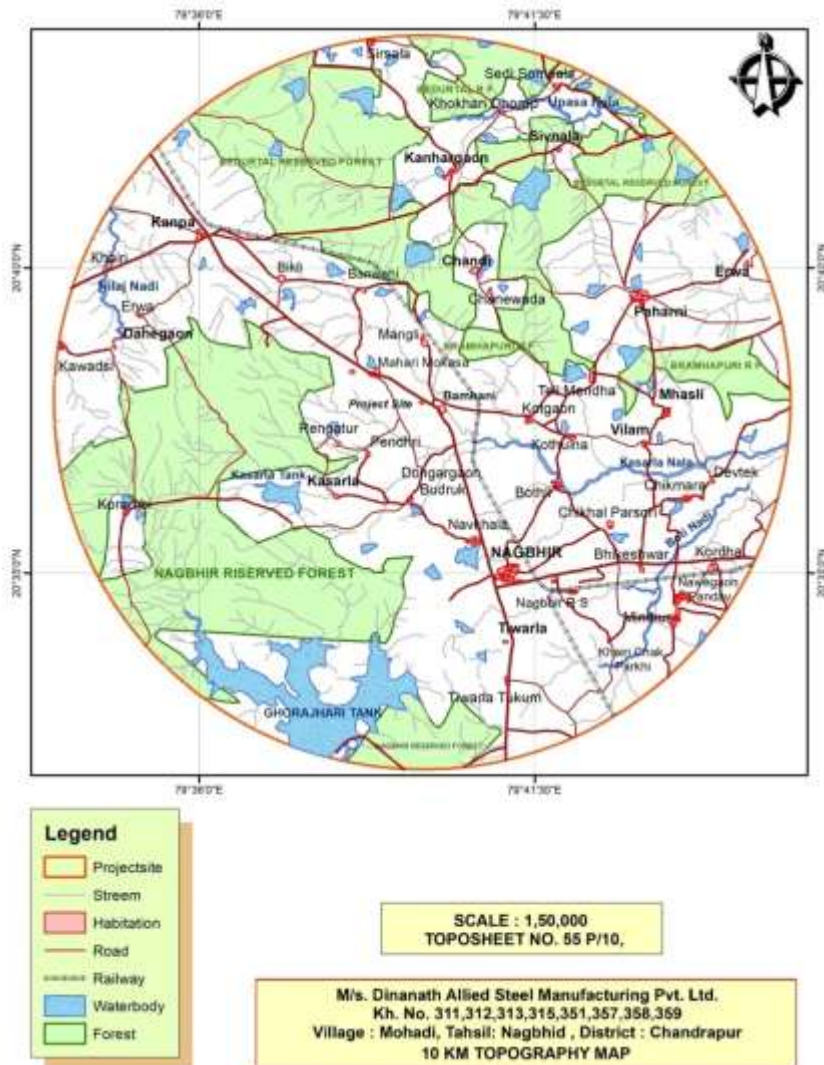
***Pollution & Ecology Control Services
NAGPUR***

EXECUTIVE SUMMARY

1. Project Name and Location

M/s. Dinanath Allied Steel Manufacturing Pvt. Ltd. has Proposed Iron Ore Beneficiation Plant of 6,00,000 TPA (0.6 MTPA) & Iron Ore Pellet Plant of 4,00,000 TPA (0.40 MTPA) in an area of 13.65 Ha at Kh. No. 311, 312,313,315,351,357,358 & 359, Village: Mohadi (M), Tahsil: Nagbhir, District : Chandrapur.

Map showing the location of the project site is given in the Figure below,



2. Products and Capacities

M/s. Dinanath Allied Steel Manufacturing Pvt. Ltd has proposed Iron Ore Beneficiation Plant of 6,00,000 TPA (0.6 MTPA) & Iron Ore Pellet Plant of 4,00,000 TPA (0.40 MTPA) at Khasra No. 311,312,313,315,351,357,358 & 359, Village: Mohadi (M), Tahsil: Nagbhir, District : Chandrapur.

3. Requirement of Land, raw material, water, power, with source of supply

Requirement of Land

The total project area is 13.65 Ha. All the land is in possession of the proponent for Industrial set up as well as Green belt development.

Raw Material

The raw material requirement for the proposed unit is given in Table below:

Details of Raw Materials Required

Sl. No.	Raw material	Annual Requirement	Probable Source
BENEFICIATION PLANT			
1	Iron ore fines	6,00,000TPA	Mines & Local Market
PELLET PLANT			
1.	Iron Ore Fines	460000 TPA	Captive Beneficiation Plant
2.	Pulverised Coal	6000 TPA	Imported Coal, WCL
3.	Bentonite	4500 TPA	Gujarat
4.	Limestone/Dolomite	4800 TPA	Local Market
5.	Coal for Gasifier	15000 TPA	Indian Coal, WCL

Water Requirement

The total water required will be 515 KLD and will be met from groundwater. The area falls in safe category as per CGWA. Permission from CGWA will be obtained before commissioning of unit as per OM No. F.No.21-103/2015-IA.III dated 2nd November 2018 issued by Ministry of Environment, Forest & Climate Change.

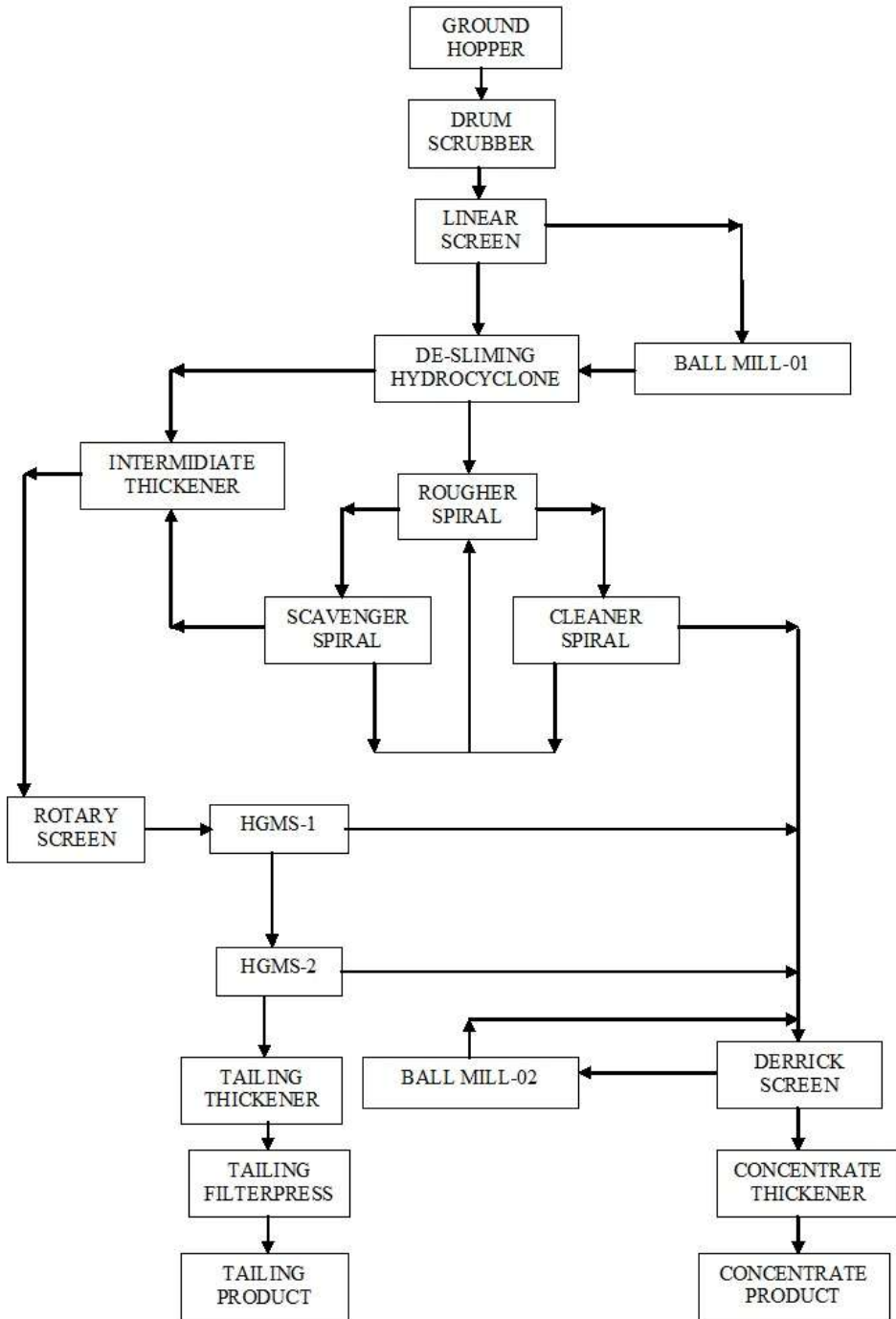
Water Requirements during Operation Phase (m³/day)

S. N.	Purpose	Required Quantity (m ³ /day)	Wastewater Generation	Loss	Remarks
1	Pelletization process (Kiln, TG, Balling Disc, Cooling etc.)	150	120	30	Recycle and reused in process.
2	Beneficiation Plant	350	280	70	Recycle and reused in process.
2	Domestic use and Drinking	7	5	2	5 m ³ /day will be treated and reused.
3	Plantation	5	-	5	-
	Total	515	408	107	

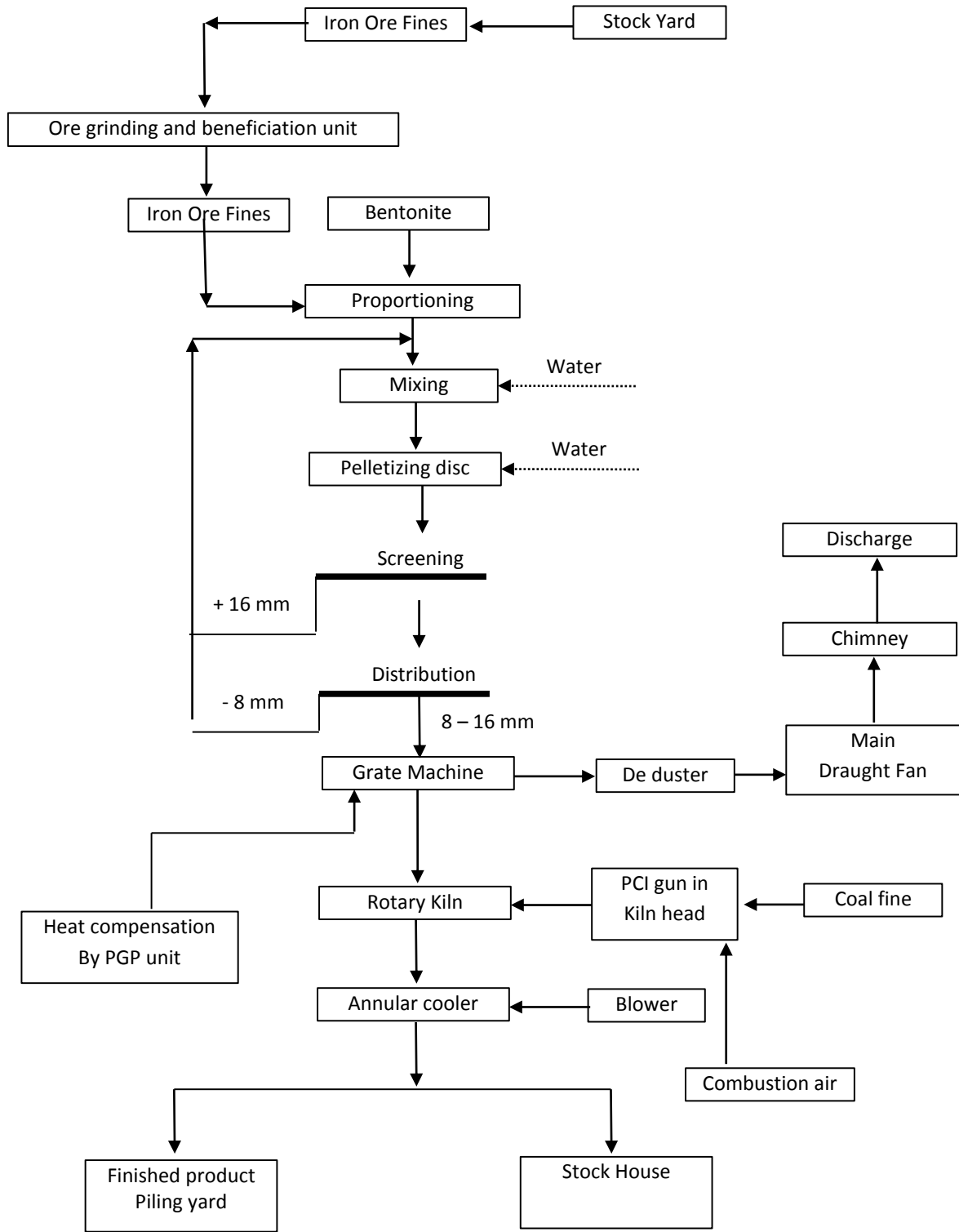
Power Requirement

The power required will be supplied by Maharashtra State Electricity Board. The total power requirement for proposed project will be 5.0 MVA.

4. Process Description



Flow chart of process of Iron Ore Beneficiation



Flow chart of process of Pellet Plant

5. Mitigation Measures

Air Pollution Control

- There will be two major source of air pollution in the plant, fugitive emissions from various material handling and transfer points and flue gases generated from various combustion units. ESP, Bag Filters and Multicyclones will be provided as air pollution control system of specified size followed by 30 m. stack and cleaned air will be discharged through stack, so that the dust concentration will be well within the prescribed standard.
- Proper Dust Suppression is proposed in stock yard of Iron Ore Fines, sprinkling on internal roads, regular check up & maintenance of vehicles, it will be ensured that all trucks/dumper caring Iron Ore Fines Ore covered by Tarpaulin.

Noise Pollution Control

- During the operation of the plant, noise level will be increased and is maintained at less than 75dB at the plant boundary.
- Necessary protective measures will be taken to minimize the noise level as per the requirement of OSHA (Occupational Safety and Health Administration) Standards.

Water Pollution Control

- Dinanath Allied Steel Manufacturing Pvt. Ltd have proposed to install Thickeners and filter press to recover the water.
- The optimum use of fresh make up water shall be practiced and maximum recycling for washing shall be done.
- The domestic wastewater generated will be treated in Packaged Type STP.

PELLET PLANT WITH GASIFIER

The dust from de-dusting equipment is reused in the process. The solid wastes to be generated and their Management/disposal are given below :-

Ash	2490 TPA	Utilized for fly ash brick making and reclamation of low laying areas.
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Tar	450 KL/A	Tar Generated from Coal Gasification plant will be reused in Pellet Kiln Burner
Tailings	90,000 TPA	Tail slurry would be transported to a designated site inside the plant boundary for a few days till it will be used in embankments, road formation, filling of low-lying areas and as additives in cement manufacturing.

Green Belt Development

The plantation helps to capture the fugitive emissions and attenuate the noise apart from improving the aesthetics quality of the region Avenue plantation within the plant and green belt development will be done. An area about 4.50 Ha along the boundary wall and some open space will be developed as green belt in the Plant premises. Locally available type of trees will be planted for the development of green belt.

6. Capital Cost

Total Project cost for proposed will be Rs. 90 Crores.

7. Site Selected for the Project

The proposed project is located at Kh. No. 311, 312,313,315,351,357,358 & 359, Village: Mohadi (M), Tahsil: Nagbhir, District : Chandrapur.

The location of proposed project is identified for following reason:

- Barren land with N.A. order for part of land.
- No forest land is involved in project.
- No Rehabilitation/Resettlement required.
- No archaeological monument and defense installation.
- No notified critically polluted area.
- No nallah/water body, public roads, forests within the project site.
- Access to availability of Raw Material.
- Availability of Water.
- Assured Power Supply.

- Market available for finished products.
- Availability of man power.
- Consent to Establish from MPCB for 108000 TPA Iron Ore Pellet Plant (For sister concern in the name of M/s. Narayani Pellets Private Limited).

8. Baseline Environmental Data

Baseline monitoring has been carried out during 1st December 2019 to 29th February 2020.

Air Environment

The baseline environmental quality for the December 2019, January and February 2020 was assessed in an area of 10 km radius around the proposed project site.

The ambient air quality monitored at 8 locations selected based on predominant wind direction.

The concentrations of PM₁₀, PM_{2.5}, SO₂ and NO_x were found within the National Ambient Air Quality Standards (NAAQ).

Water Environment

A total 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 (IS 10500 – 2012).

Noise Environment

Noise levels measured nine stations 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

The characteristics of the soil sample were compared with different depths for respective parameters in three stations. The soil analysis report indicates that the soil in the area are capable of supporting plant growth.

Identification of Process Hazards

S. No.	Operation/ Process Equipment/Area	Possible Hazards	Precautionary Measure to be Done	Measures to be taken If Hazards Occurs
01	Belt Conveyor Systems for iron ore, coal etc., Raw material Handling Plant	<ul style="list-style-type: none"> a) Jamming of conveyor Belts b) Breakage of Conveyor Belts c) Splash of Material from Conveyor System 	<ul style="list-style-type: none"> a) All conveyors belts must be provided with trip wire system must be removed b) Head & Tail end are provided by nip guard. c) Movement below the Conveyor belt during operation must be banned d) A 750mm wide walk way must be provided on both side for movement e) Drives are provided with coupling guards f) Stop switches with Lock must be provided for safety 	The process to be stopped immediately and the cause of jam. The broken conveyor belt to be replaced or repaired. Reason for splash to be rectified.
02	Primary Crusher Hopper	Limestone or Coal jamming/ bridging in hopper	<ul style="list-style-type: none"> a) Red light indication to stop Feeding of Limestone / Coal from the yard. b) Information given to yard supervisor Not to allow supply of lime – stone /coal from the yard. c) Chain barrier to Stock dumping of ore in hopper d) Slide gate lowering in case of jamming/ bridging in over jaw crusher. e) Slings/ Anchors/ Wedges are used as a tool for realizing jams. The operation must be supervised by a competent supervisor. f) Stop switches with 	Rock breaker for releasing jamming in hopper

S. No.	Operation/ Process Equipment/Area	Possible Hazards	Precautionary Measure to be Done	Measures to be taken If Hazards Occurs
			Lock must be provided for safety	
03.	Mechanical Vibro-feeders	Removal of set clay in vibro feeder and Tail and Drum	a) Vibro feeder must be interlocked with other belt b) Line clearance is taken after checking the Trip wire system c) Use of safety appliances d) Minimum two work man deputed to take care of the man & material as safety measures.	Safety shoes, safety helmets, hands gloves & safety goggles are provided.
04.	Raw Coal Hopper at Coal	Removal of jams, Gantry & Coal Crusher Jamming	a) Hopper jam is mostly cleared with the help of Goliath Crane up to Grill & below the Grill jam is removed manually by poking with Pipe. b) All precautions are taken before sending worker on Grill for removing the Jaws c) A workman on crane is posted for emergency help and one more attendant. d) Crane is not run till line clear is given	The crane movement is done only after obtaining the line clearance
05.	Coal storage Dump	Fire Hazard possible	a) No smoking zone declared b) Water hose provided near to the dump & stores c) Stored away from Electrical installation.	In case of fire water hoses are operated water. Un burnt heap is immediately removed. Fire alarm is activated.
06.	Coal belts, tunnels pits	a) Jamming with fine coals dust &	Regular cleaning is being ensured no welding job is	The jam is to be cleared

S. No.	Operation/ Process Equipment/Area	Possible Hazards	Precautionary Measure to be Done	Measures to be taken If Hazards Occurs
		<p>spilled mate material</p> <p>b) Fire cause by welding spark electrical short circuit or throwing the lighted cigarette & excessive high temperature.</p>	<p>started out when the area is not clean. Smoking is strictly prohibited Fire hydrants points are provided to spray water in case of fire.</p>	<p>immediately before supplies are continued. In case of fire all the fire fighting steps to be taken immediately. Further movement of coal to be stopped immediately.</p>
07.	Rotary Kiln	<p>a) Jump out or fall out</p> <p>b) Rotary Kiln Jam or choked due to ring formation</p>	<p>a) Support rollers to be maintain properly</p> <p>b) Girth gear and Tyers are to be checked regularly and frequently.</p> <p>c) Structural barrier to be provided to avoid fallout.</p> <p>d) The temperature of the kiln to be maintained properly no overheating to be allowed.</p>	<p>The plant operation to be stopped immediately. The area to be sealed until cooled for reinstallation. In case of jam the kiln must be stopped & allowed to cool down before breaking the ring. The kiln must be started only after breaking the ring.</p>
08.	Control Rooms	<p>Electrical shock possible due to leakage</p>	<p>a) Earth leakage Circuit breaker is installed.</p> <p>b) Shock precaution & treatment chart are displayed.</p> <p>c) Operator should be provided with insulated shoes.</p> <p>d) All instruments are properly earthed</p> <p>e) Electrification layout & diagram is displayed</p>	<p>In the event of electric leakage main supply should be immediately shut off. Shock Treatment & medical Aid shall be immediately provided.</p>
09.	E.O.T Crane	<p>Hoist Rope Breakage possible</p>	<p>a) No movement of strange people in crane bay will be permitted.</p> <p>b) Frequent check of the</p>	<p>Weak rope shall be immediately replaced.</p>

S. No.	Operation/ Process Equipment/Area	Possible Hazards	Precautionary Measure to be Done	Measures to be taken If Hazards Occurs
			rope and other load bearing material shall be done c) Light indication movement of crane shall be provided. d) Prescribed load shall only be allowed e) Crane operator to give alarm before movement	
10.	Electrical transformer	Electrical power	Shock proof insulated PCC Platform.	Immediate Cut off the power supply, treat the injured for electrical shock
		Fire	Firefighting equipment (i) Sand buckets. (ii) Fire extinguisher.	Immediately fight fire with available resources, summon outside help if necessary.

9. Impact of the Project

The impacts of the projects are tabulated below:-

S.N.	Impact Topics	Impact On	Impact Due to	Adopted Measures
1.	Physical Resources	Air Environment	Release of air pollutants	Incorporation & installation of stack with ESP as air pollution control systems and ensuring their effective functioning.
		Water Environment	Drawl of water and release of polluted waste water	Maximum recirculation of water and Incorporation & installation of water pollution control systems and ensuring their effective functioning.
		Soil	Release of polluted waste water, Deposition of PM released & Dumping of	Incorporation & installation of water and air pollution control systems, Handling & disposal of solid waste including hazardous waste

			solid waste	in accordance with Statutory norms.
2	Biological Resources	Vegetation	Release of polluted wastewater, Deposition of pollutants released.	Incorporation & installation of water and air pollution control systems
3.	Land Acquisition	Land environment, Aesthetics	Existing land use pattern	The total land procured requirement for the project is 13.65 Ha.
4.	Noise	Habitats	Use of equipment having operating sound level more than the statutory level.	Noise control measures as required have been envisaged. All noise levels will be maintained within the permissible statutory limits.
5.	Solid Waste	Habitats and Surrounding Environment	Release of toxic chemicals	2490 TPA of ash generated will be Utilized for fly ash brick making and reclamation of low laying areas. 450 KL/A of Tar generated from Coal Gasification plant will be reused in Pellet Kiln Burner. 90,000 TPA of tailings generated will be disposed properly as mentioned above.
6.	Transportation	Habitats and Surrounding Environment	Release of pollutant, Improper traffic management.	Use of vehicles meeting the statutory norms related to emission, transport by railway, proper traffic management
7.	Social & Economic	Human, livelihood, Education etc	Influx of people, Settlement, Stress on existing infrastructure etc.	No negative impact envisaged. Moreover additional social improvement activities have also been planned by the project management in the region.
8.	Cultural resources	Human	Influx of people, Settlement	No negative impact envisaged

10. CER

As per the Notification dated 1.05.2018 issued by MOEF&CC, it is mandatory to prepare Corporate Environment Responsibility Plan (CER) to spend 2 % (project cost \leq 100 crores) of total capital cost of the project on social, economical and peripheral development activities. As per the above mentioned new office memorandum CER dated 1.05.2018 Rs.1.8 Crores has been allocated for CER.

11. Occupational Health Measures

M/s. Dinanath Allied Steel Manufacturing Pvt. Ltd. will provide all necessary provisions under Factory Act. All personal protect equipment like Safety shoes, helmet & uniform will be issued to each employee based on the nature of job involved.

The only health hazards expected are heat, noise & dust. Following mitigation measures will be provided:-

i. HEAT:

- Workers working near the furnace may be exposed to heat.
- All workers will be provided PPE like gloves, helmets, gum boots, goggles etc.
- Fresh water shall be available near the working area.
- Heat near furnace area will be monitored regularly.
- Proper ventilation system will be provided.

ii. NOISE:

- Noise from the working of machinery is not of significant levels. However, ear plugs will be provided to all workers in the working area.
- Acoustics shall be provided in the generator room.

iii. DUST:

- Face masks and side covered glasses will be provided to all workers.
- Dust suppression system will be installed at dust generation source.

- Frequent check-up of the workers will be done. Necessary treatment shall be provided wherever required.
- Availability of Hospitals and nearby Public Health Centre for regular health check up of all the workers.

Plan of evaluation of health of workers

- Chest x rays
 - Audiometry
 - Spirometry
 - Vision testing (Far & near vision, color vision and any other ocular defect)
 - ECG
 - Haemogram (examination of the blood)
 - Urine (Routine and Microscopic)
 - Complete physical examination
 - Musculo-skeletal disorders (MSD)
 - Backache
 - Pain in minor and major joints
 - Fatigue, etc.
- All workers shall be medically tested once in a year and at the end of his term of employment.
- Medical records of each employee will be maintained separately and will be updated as per finding during monitoring.
- Medical records of the employee at the end of his / her term will be updated.
- Periodic health checkups (spirometric tests) will be conducted periodically.

Frequency of Periodical Examination

Every employees will be examine once a year for common medical examination and full medical examination will be conduct as per below.

- For employees <30 Years, once in five years
- Between 31-50 Years, once in four years
- Between 41-50 Years, once in two years
- Above >50 years, once a year
- As per statutory requirement, all emission control systems will be installed and operated to comply with the norms. Secondary fugitive emissions will also be controlled as per EMP suggested. Hence there will not be any adverse impact due to dust on the human health.
- Audiometric tests will be carried out for employees working near the noise prone areas in the plant. The proposed extensive greenbelt development will help in attenuating the noise levels further.

12. Post Project Monitoring Plan

The environmental monitoring is important to assess performance of pollution control equipment installed in the proposed project of M/s. Dinanath Allied Steel Manufacturing Pvt. Ltd. The sampling and analysis of environmental attributes including monitoring locations will be as per the guidelines of the Central Pollution Control Board.

Environmental monitoring will be conducted on regular basis by M/s. Dinanath Allied Steel Manufacturing Pvt. Ltd through MoEF&CC Recognized Laboratory to assess the pollution level in the proposed plant. Therefore, regular monitoring program of the environmental parameters is essential to take into account the environmental pollutant of the study area.

The objective of monitoring is:

- To verify the result of the impact assessment study in particular with regards to new developments;
- To follow the trend of parameters which have been identified as pollutants;
- To check or assess the efficiency of the controlling measures;
- To ensure that new parameters, other than those identified in the impact assessment study, do not become critical due to the commissioning of proposed facilities;

- To check assumptions made with regard to the development and to detect deviations in order to initiate necessary measures;

The attributes, which needs regular monitoring, are specified below:

- Air quality
- Water and wastewater quality;
- Noise levels;
- Soil quality;