1. Description of baseline data collection

As a precursor for the prediction of various types of environmental impacts likely to arise due to implementation of the project, it is essential to establish the baseline environmental setting of the physical, natural and socio-cultural environmental parameters along the project and within the project influence area. Details of the baseline environmental parameters are required for assessing background environmental quality, and also for decision making for the project design, implementation and operation from the environmental point of views. The data is generated through primary data collection (direct monitoring) and secondary sources (published data).

This chapter contains information on existing environmental scenario for the following parameters.

1. Land Environment
2. Meteorology
3. Air Environment
4. Noise Environment
5. Water Environment
6. Soil Environment
7. Biological Environment
8. Socio-economic Environment

1 Environmental Baseline Data Collection

Baseline data for the proposed project was collected during Pre-Monsoon Season (15th March 2022 to 15th June 2022) to assess the present scenario of the area.

1.1.1 Primary Data

An area, covering a 10 km radial distance from the project site is considered as study area for the purpose of baseline studies. The environmental monitoring for the study, for the proposed project, was undertaken for the winter season. Initially, a reconnaissance survey of the study area was carried out and then field monitoring for measuring ambient air quality, water quality, and soil quality and noise levels was carried out from 15th March 2022 to 15th June 2022. In addition, certain aspects like land area, socio-economic status, climatological conditions, etc., have been analyzed based on secondary information available from sources like district census reports, district gazetteers, Indian Meteorological Department, etc. The baseline status of various environmental components is described in the succeeding sections.

For baseline environmental monitoring services of an NABL & MOEF&CC accredited approved laboratory – was engaged for sampling and analyses.

TABLE 1: PRIMARY DATA COLLECTION

Sl. No.	Description

1.	**Meteorology** Meteorological parameters on hourly basis at project site. Parameters: Temperature, Relative humidity, Wind Speed & Wind Direction**.**
2.	**Air** Ambient air quality monitoring (24 hourly), twice a week. Parameters: PM10, PM2.5, SO2, NO2 & CO. No. of Locations: **08** locations in core and buffer zone.
3.	**Noise** Noise level monitoring (day & night time), once in a season. No. of locations: **08** locations in core and buffer zone.
4.	**Water** Ground water sampling, once in a season. No. of Locations: **08** locations in core and buffer zone. Tested for physical and chemical parameters. Surface water sampling, once in a season. No. of Locations: **08** locations in core and buffer zone. Tested for physical and chemical parameters.
5.	**Soil** Soil sampling, once in a season. No. of Locations: **08** locations in core and buffer zone.
6.	**Biological Environment.** Biodiversity survey, once in a season. Location: Core and buffer zone.
7.	**Socio-economic Environment** Socio-economic survey, once in a season. Location: Core and buffer zone.

1.1.2 Source of Primary Data

The Primary data has been collected by ENVIRO-TECH SERVICES. NABL &MOEF accredited Lab. Correspondence & Lab: -Plot No. 1/32, South Side G.T. Road Industrial Area Ghaziabad (UP)-201001. Head Office: - G-232, M.G. Road Industrial Area, Harpur -Ghaziabad (UP)-201015.

1.1.3 Instrument used for Environmental Baseline Data Collection

The following instruments were used at the site for environmental baseline data collection work.

1. Repairable Dust Sampler with attachment for gaseous Pollutants.
2. Fine Particulate Matter (FPM) Sampler,
3. Weather Monitoring Station.
4. Global Positioning System (GPS).
5. Digital D.O. Meter.
6. Sound Level Meter Model

Apart from collecting samples of air, water, noise and soil from representative sampling points given in proceeding sections, the data on land use, vegetation and agricultural crops were also collected by

the field team through interaction with a large number of local inhabitants of the study area and different Government departments / agencies. This has provided an excellent opportunity to the members of the field team for obtaining clear scenario of the existing environment of the study area.

2 Secondary Data

The secondary data collected from different Department has been mentioned in Table 3.2

TABLE 2: SOURCE OF SECONDARY DATA

Sl. No	Description	Source
1	Land Use & Topography	Survey of India (SOI) Maps Google Maps GIS Revenue Record
2	Hydrology	District Hand book
3	Geology	District Hand book
4	Meteorology	Indian Metrological Department (IMD)
5	Ecology	IUCN, Forest department ZSI and BSI
6	Socio Economic	Census 2011 Administrative Atlas

3 Location & surrounding features

The terrain is almost flat, no hills in the surroundings. The site is located at Village- Barwadih, Tehsil-Koderma, Dist- Koderma, State-Jharkhand. The Company owns a total land of 3.0 Ha. Or 7.40 Acres. The nearest roads are NH-20 (Approx. 1.5 Km towards SE) and Gajhandi Rd Adjacent to project site. The nearest railway station is Koderma Railway Station (approx. 3.58 Km towards ENE), Pipradih Railway Station (approx. 3.93 km in South) and Gujhandi Railway Station (Approx. 8.32 Km towards NNW) from the project site. The nearest airport Gaya Airport is at distance of approximately. 66.51 km towards North West direction and Ranchi Airport is at distance of approx. 124 km in SSW direction from the project site (Distance in Aerial).