

BASELINE SITUATION ALONG THE PROPOSED PROJECT

- (a) **Secondary Data Collection:** Secondary data shall be collected from secondary sources like publishes literatures from various government and private agencies, NGOs, or institutions on physical, biological and social components of environment. The data will be reviewed for establishing existing environmental and ecological status within the project area.
- (b) **Field Survey:** The desk work will be followed by field survey of the project site for identification of the environmental sensitive zones within the study area and physical verification of all the identified sensitive zones with respect to the location of the project alignment and activities proposed. The field survey shall also include the measurement of environmental quality in terms of ambient air quality, water quality, soil quality, background noise level and ecology (Flora, fauna and etc.) along the proposed alignment. The procedure for measurement of environmental quality would be done as per guidelines of the Ministry of Environment and Forests, Government of India. Following details on different environmental features would be collected either from the secondary sources or from field surveys:

(A) PHYSICAL ENVIRONMENT:

i. **Topography:** Topography, ground conditions, altitude, slope, etc.

ii. **Soil and Geology:** Soil type and its characteristics, soil erosion and geology of the area.

iii. **Water Environment:** An inventory survey of all water bodies located within 500 m on either side of the project road sections will be carries out. Details of rivers, streams, springs, lakes, reservoirs within 500 meters of the proposed road right of way will be collected from the site along with their usage and importance for the local population. Study of hydrology of the project road. The natural drainage of the project region, the existing drainage pattern of the project road, runoff flow direction, possible flooding, erosion will be collected. The information on ground water table, the ground water availability in the project area, the exploitation of ground water studied will be collected from secondary sources.

iv. **Meteorological Data:** Meteorological data covering maximum and minimum wind speed, wind direction, rain fall, relative humidity and temperature for last 10 years period will be collected from the nearest IMD Meteorological station. History of special weather phenomenon like cyclones, cloud bursts, etc. will be collected from the nearest meteorological station for a period of 50 years. The wind velocity, wind direction and wind rose, rainfall, temperature and relative humidity along the proposed alignment will be recorded during study period.

V. **Environmental Quality:** Baseline environmental quality data in terms of water, ambient air and Noise levels and soil quality would be generated as follows:

Ground & Surface Water Resources and Quality: The water samples from Ground water and surface water resources along the project road alignment will be collected to assess the physico-chemical parameters. 06 samples of Ground water and 10 samples of Surface water will be collected and analyzed. Surface water samples from different water bodies/rivers/streams along the project stretch will be collected and analyzed for physicochemical parameters. Ground water samples will be also be collected from most commonly used ground water sources along the proposed project road. The Ground water samples will be analyses for Temperature, pH, Turbidity, EC, Colour, TSS, TDS, Odour, DO, BOD, COD, TKN, Total Hardness, Sodium, Potassium, Calcium, Magnesium, Ammonia, Chloride, Sulphate, Phosphate, Nitrate, Fluoride, Surfactants, Dissolved Iron, Copper, Zinc, Manganese, Arsenic, lead, Mercury, Boron, Chromium, Phenols, Cadmium, Total Coliform, Fecal Coliform.

Surface water samples will be analysed for Temperature, pH, Turbidity, EC, Colour, TSS, TDS, Odour, DO, BOD, COD, TKN, Total Hardness, Sodium, Potassium, Calcium, Magnesium, Ammonia, Chloride, Sulphate, Phosphate, Nitrate, Fluoride, Surfactants, Dissolved Iron, Copper, Zinc, Manganese, Arsenic, lead, Mercury, Boron, Chromium, Phenols, Cadmium, Total Coliform, Fecal Coliform.

Ambient Air Quality: Ambient air quality monitoring will be carried out along the project stretch covering different category of land use, viz. residential, commercial/industrial and sensitive zone like schools, college, hospital along the road with a frequency of twice a week for one month at **06 locations** covering the sensitive locations. The ambient air quality monitoring will be carried out with respect to Particulate Matter (size less than 10µm) or PM₁₀, Particulate Matter (size less than 2.5µm) or PM_{2.5}, Sulphur dioxide (SO₂), Oxides of Nitrogen (NO_x) and Carbon Monoxide by following the MoEF&CC guidelines.

Noise Environment: The noise monitoring will be carried out at **06 locations** along the alignment of the project covering sensitive locations such as residential, hospitals, schools, sanctuaries etc. The noise monitoring will be done for 24 hrs at each location. The night time and day time equivalent noise levels will be generated for each monitoring locations to have an idea of noise pollution levels in the study area.

Soil Quality: The soil samples at **06 locations** along the project stretch would be collected for assessing the physico-chemical characteristics of the soil in the project area. The quality parameters will include pH, Electrical conductivity, sand, silt, clay, texture, moisture retention capacity, infiltration rate, bulk density, porosity, organic matter, Nitrogen, potassium, phosphorous, Pb, iron and organic carbon.

Ecological Environment: The forest crop is dominated by the species Popular, Eucalyptus, Shisham (Dalbergia sissoo), Kikar (Acacia nilotica), Mulberry (Morus alba) etc. The detail list of flora and fauna in the project area has been provided in EIA/EMP report. The proposed alignment does not pass through any Wildlife Sanctuary/National Park and its eco sensitive zone.