

Industrial Area Mudigere Kaval Village, Sira Taluk, Tumkur District, Karnataka

*Pre – Feasibility Report
of*

*Industrial Area Mudigere kaval
Village, Sira Taluk, Tumkur District,
Karnataka*



By

*Karnataka Industrial Areas Development
Board (KIADB)*

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Section 1

Executive Summary

M/s. Karnataka Industrial Areas Development Board (KIADB), an undertaking of Govt. of Karnataka entrusted with the objective of providing industrial infrastructure through development of industrial areas proposes to establish Sira Industrial Area at Mudigere Kaval village, Sira Taluk, Tumkur District, Karnataka.

KIADB is in possession of land to an extent of 815.27 Acres (329.93 Ha) at Mudigere Kaval (V), Sira (T), Tumkur (D), Karnataka. The proposed industrial area will be developed in an integrated manner with all required infrastructure facilities like roads, electricity, water, developed plot area for setting small and medium scale industries, residential quarters for workers, offices and commercial establishments. The proposed project will enhance opportunities by transforming the region into a potential growth hub.

As per the notification issued by the Ministry of Environment and Forests, Climate Change (MoEF&CC) S.O.1533, dated 14.09.2006 and its subsequent amendments, the proposed project falls under Project Activity 7(c) – Industrial estates/ Parks/ Complexes/ Areas, Export Processing Zones (EPZs), Special Economic Zones (SEZs), Biotech parks, Leather complexes, Category 'A' (List of Category A industries like Manufacturing of Chemical Fertilizers, Pulp & Paper etc.) and requires Environmental Clearance (EC) from MoEF&CC, Govt. of India.

Total water requirement of project is around 2.26 MLD of which 1.22 MLD is fresh water requirement. Water for proposed project will be sourced from Kallembella tank for domestic use and Tertiary treated water from Vasanthanarasapura I.A for industrial use. The power required is about 12.7 MWh, which will be supplied by KIADB through Karnataka Power Transmission Corporation Limited (KTPCL).

An area of 33% of total project area will be allotted for greenbelt development to meet MoEF&CC guidelines. A minimum area of 15 m wide will be left for greenbelt development all along boundary and one row of plants (on both sides) will be planted along internal roads within project site to minimize the environmental impacts of the site on its surroundings.

Capital cost of proposed project is estimated at around Rs 340.20 crores. Budget allocated for EMP is around 10% of project cost with a recurring cost of 1% per annum. Corporate Environment Responsibility (CER) budget allocated is about 1.5% of project cost.

Section 2

Introduction of Project Description

2.1 Identification of project

KIADB based on site suitability, market potential, success of other industrial area development and its role in economic development of surrounding areas, proposes to set up Sira industrial area housing multi-sector industries along with provision for residential, office and commercial facilities.

EIA notification, 2006 stipulates that applications seeking prior Environmental Clearance (EC) must provide a copy of the Pre-Feasibility Report (PFR) (Office Memorandum dated 30th December 2010, the Ministry of Environment and Forests, Government of India) along with the application in prescribed format (Form -1).

Application (IA/KA/NCP/64746/2017) for issue of Terms of Reference (ToR) for EIA/ EMP studies was submitted on 17/05/2017 to MOEF&CC. Following is chronological list of events after submission of the Form- I for ToR:

- The application was reviewed in 180th meeting of Expert Appraisal Committee for Industrial estates/ Parks/ Complexes/ Areas, Export Processing Zones (EPZs), Special Economic Zones (SEZs), Biotech parks, Leather complexes and National Highways held on 29th November 2017.
- In meeting, project proposal was not considered by EAC due to lack of clarity on scoping of the proposal. EAC advised the proponent to submit following information for further consideration of the project at MOEF& CC.
 - ✓ Category wise list (Category A or Category B) of Industries to be housed in the proposed Industrial area. (information provided in Section 6)
 - ✓ Certificate from Chief Wildlife Warden (CWLW) regarding notification of Kagaladu Bird Sanctuary. If notified, then distance of proposed industrial area from the Kagaladu Bird Sanctuary may be obtained from CWLW. Annexure -3.1
 - ✓ Certificate from Survey of India regarding shortest distance of proposed site boundary from the inter-state boundary. Annexure -3.2
- In view of lapse of considerable time in submitting requested details, MOEF&CC delisted the project proposal.

After obtaining the above information KIADB wants to submit a fresh application for issue of Terms of Reference (ToR) for EIA/ EMP studies. Proposed project consists of category A projects (listed in section 6). Based on proposed industries to be housed proposed project falls under Project Activity 7(c) – Industrial estates/ Parks/ Complexes/ Areas, Export Processing Zones (EPZs), Special Economic Zones (SEZs), Biotech parks, Leather complexes, Category 'A' and requires Environmental Clearance (EC) from MoEF&CC, Govt. of India.

2.2 Thrust on industrial development

Karnataka State is considered as a pioneer in the field of industrialization in India. In the era of economic liberalization since 1991, the State has been spearheading growth of Indian

industry. In order to further consolidate its leadership position in terms of attracting investments, it is imperative that serviced land is made available to potential investors, facilitating an early start of operations for them in Karnataka.

2.2.1 Project proponent

KIADB is a wholly owned infrastructure agency of Government of Karnataka, set up under Karnataka Industrial Areas Development (KIAD) Act, 1966. KIADB functions as per statutory provisions, rules and regulations enacted there under. The Board comprises of senior government officers in their ex-officio capacities. Board of members meets regularly to take decisions and monitor functions. KIADB holds pride in being first government organization in Karnataka to obtain ISO 9001 Certification in the year 1997.

Till date, KIADB has formed 132 industrial areas spread over 40,000 acres across the state and acquired land for nearly 400 single unit complexes. It has ensured balanced industrial development in all regions with well thought out infrastructure and unique features. Additionally, KIADB, Commerce and Industries Department and Government of Karnataka has envisaged several innovative projects like Agro-tech, Apparel, Food, Auto, Hardware and Biotech parks, EPIP's, Sector specific SEZ and Growth centers. KIADB is also implementing agency for ambitious Suvarna Karnataka Development Corridor (SKDC) project.

2.3 Brief description about nature of project

Proposed project will develop all amenities required for environmental friendly operation of units which can be occupied by industrialists without any administrative hassles associated with setting up an industry. It is proposed to provide space to set up small and medium scale industries, residential quarters for workers, office and commercial establishments. KIADB would also develop common infrastructure & social facilities.

Following are the highlights of the proposed industrial area:

- An approved layout taking into consideration all the statutory requirements
- Sufficient area to accommodate good number of industries
- Industrial sheds, Industrial plots, Grade A/B buildings, Built to suit facilities
- Residential facilities for industrial workers
- Commercial facilities
- Office space, education and training facilities
- Well-planned infrastructure facilities like roads, storm water drains, rain water harvesting pits and greenbelt development plan etc.
- Power supply lines for adequate street lights
- Well-planned water supply and sewerage system
- Solid waste and liquid effluent management facilities like CETP / STP
- Solar power utilization for emergency lighting, street lights and nearby common facility / utility centers
- Data and telecom facilities
- Banks, ATMs, post office, canteens, primary health and communication center etc.

2.4 Need for the project and its importance to the country and region

India is projected to attain significant demographic growth coupled with disproportionate rise in working age population. To support the work force population, manufacturing sector requires generating employment to its full potential. Also, the strategy of multinational companies to diversify their products and setup their manufacturing plants at various places provides ample opportunities to Indian economy to attract international investments in manufacturing or service sectors.

In order to develop the industrial areas, it is necessary to explore the route of private sector participation in the development of industrial areas/ estates. Private sector participation will help in development of world class facilities at the proposed project.

2.5 Demand- supply gap

Advanced technologies coupled with increased income levels of household has increased consumption pattern of society. In addition to meeting basic needs, requirement for better life style is driving demand for variety of goods and services. Production of such goods is a prime factor driving an economic development. However, acute capital deficiency is the central problem of Indian economy. By utilizing internal and external economies, industry can get higher profit and these profits can be reinvested for further expansion and development. So, industrialization helps in capital formation and subsequently, economic development of the region.

2.6 Domestic / export markets

The products manufactured at proposed industrial area are expected to meet the demand-supply gap in both domestic and export markets.

2.7 Employment generation due to the project

Proposed project would provide employment opportunity for youth from nearby habitations. Adequate workforce is available around the area to work for the proposed project. The employment potential break up during construction and operation phase of the project is given in **Table 2.1**.

Table 2.1 Details of manpower requirement

Sno	Details	# Manpower	Remarks
1	Construction phase	700	Preference will be given to employ from nearby villages
2	Operation phase		
	Industrial units	5000	Industrial area & KSSIDC
	Residential colony	250	1 helper @ 4 houses (1000 houses)
	Commercial establishments	2200	2 employees per outlet @ 1100 outlets
	Mini Vidhana Soudha	300	Employees of Mini Vidhana Soudha
	Operation Total	7750	
	Source: KIADB		

Section 3

Project Description

3.1 Type of project including interlinked and independent projects, if any

Proposed project is aimed at development of industrial area with common infrastructure facilities. There are no interlinked and independent projects for the proposed project.

3.2 Project site location

Site for proposed project is located at Mudigere Kaval (V), Sira (T), Tumkur (D), Karnataka. Co-ordinates of site are given in **Table 3.1**. Location map of project site is given in **Figure 3.1** and project site boundary map along with major coordinates is given in **Figure 3.2**.

Table 3.1 Project site co-ordinates

ID	Latitude	Longitude	ID	Latitude	Longitude
Part -1					
A1	13° 43' 15.5" N	76° 53' 29.3" E	A12	13° 43' 38.5" N	76° 53' 51.2" E
A2	13° 43' 07.0" N	76° 53' 10.9" E	A13	13° 43' 44.3" N	76° 53' 50.3" E
A3	13° 42' 00.8" N	76° 53' 44.1" E	A14	13° 43' 37.9" N	76° 53' 35.5" E
A4	13° 41' 48.8" N	76° 53' 51.8" E	A15	13° 43' 42.6" N	76° 53' 33.1" E
A5	13° 41' 45.3" N	76° 53' 55.9" E	A16	13° 43' 46.8" N	76° 53' 42.2" E
A6	13° 41' 58.0" N	76° 53' 57.6" E	A17	13° 43' 46.6" N	76° 53' 45.8" E
A7	13° 42' 15.2" N	76° 54' 06.4" E	A18	13° 43' 52.5" N	76° 53' 41.0" E
A8	13° 42' 37.1" N	76° 53' 59.7" E	A19	13° 43' 58.4" N	76° 53' 29.3" E
A9	13° 43' 01.4" N	76° 54' 01.5" E	A20	13° 43' 45.8" N	76° 53' 24.3" E
A10	13° 43' 05.3" N	76° 53' 49.1" E	A21	13° 43' 36.2" N	76° 53' 18.9" E
A11	13° 43' 32.0" N	76° 53' 55.1" E			
Part -2					
B1	13° 44' 01.1" N	76° 53' 43.9" E	B4	13° 43' 53.8" N	76° 53' 43.8" E
B2	13° 44' 00.0" N	76° 53' 41.6" E	B5	13° 43' 54.7" N	76° 53' 47.3" E
B3	13° 43' 54.1" N	76° 53' 42.9" E			

Figure 3.1 Location map of proposed project site

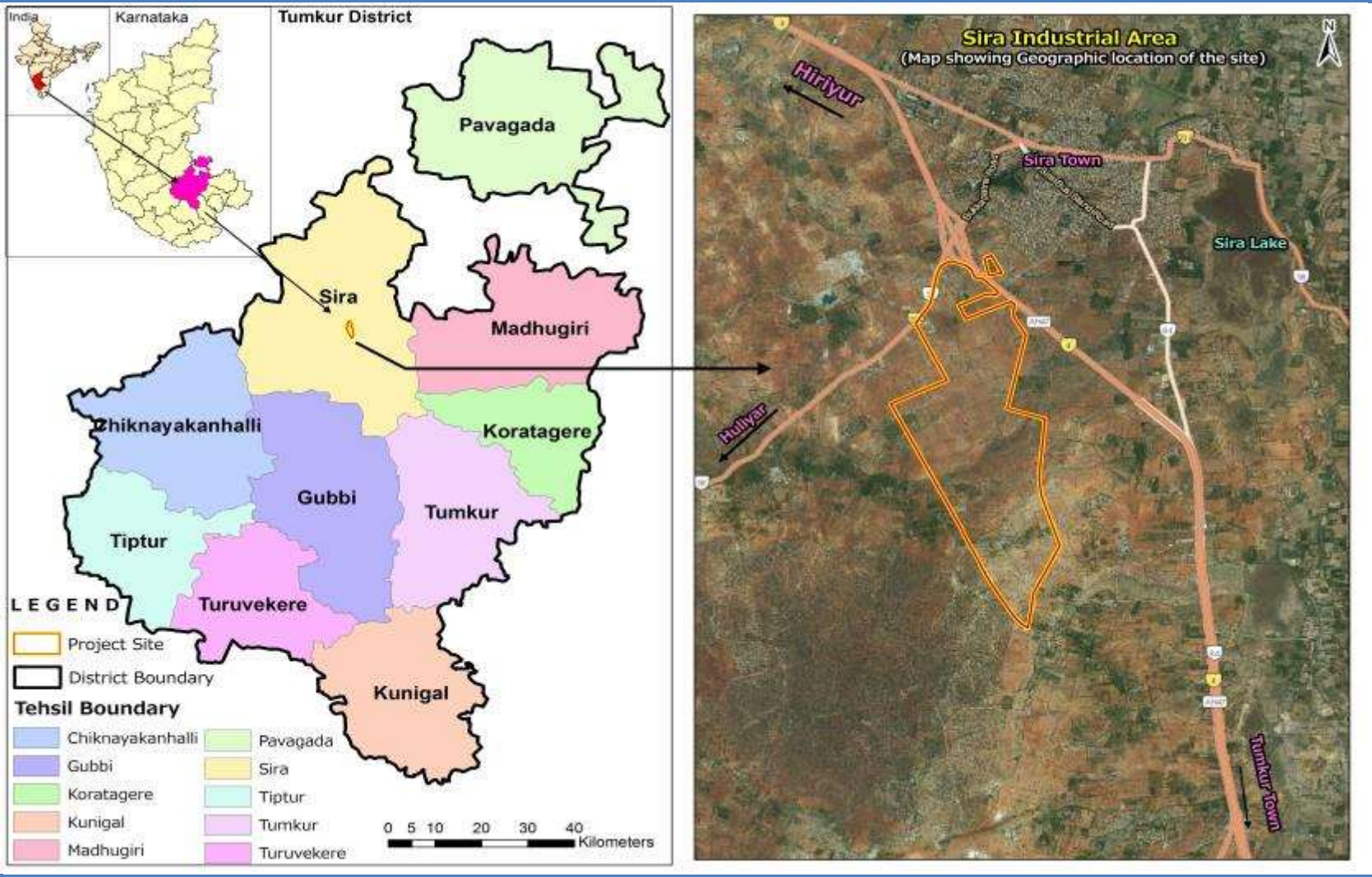
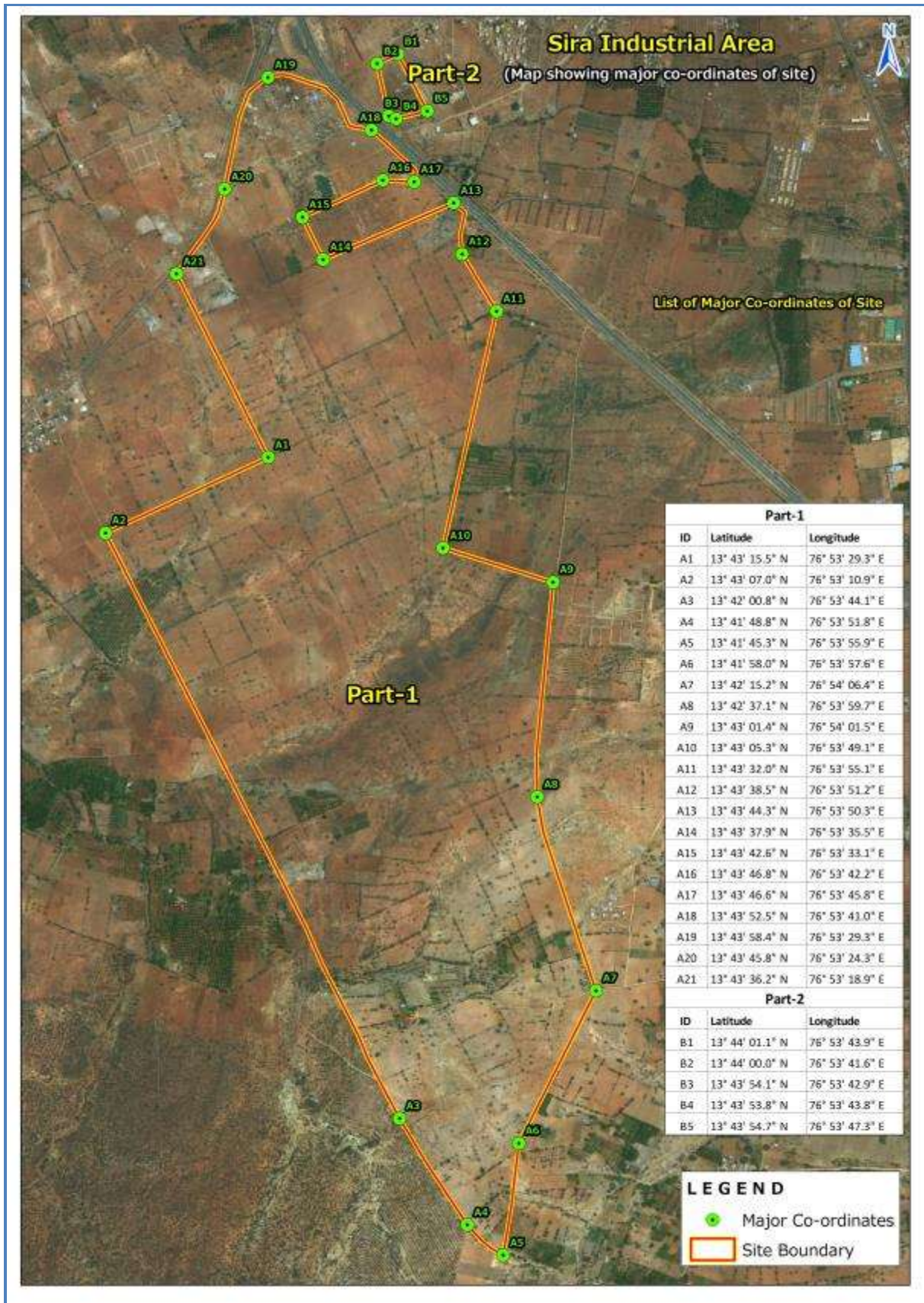


Figure 3.2: Project site boundary along with major coordinates



3.3 Details of alternate sites considered and the basis of selecting the proposed site

The proposed project site conformity with the sitting guidelines is given in **Table 3.2**.

Table 3.2 Project site selection criteria

Particulars	Siting guidelines	Site conformity
Location area	Sufficient land to meet the demand of greenbelt development, reuse of treated water, storing of solid waste before final disposal	Proposed site has sufficient land to meet the demand of greenbelt development, reuse of treated water, storing solid waste, etc. Land is in possession of KIADB
Type of land	Avoid prime agricultural land	Proposed land is non fertile sand dunes, scattered grass & barren land
Coastal areas	At least 500 m from high tide line	No coastal areas within 500 m of project site.
Estuaries	At least 200 m away from the estuary boundaries	No estuaries within 200 m of site
Flood plains of the riverine system	At least 500 m from flood plain or modified flood plain, or by flood control systems	No flood plain within 500 m of site
Transport/communications system	At least 500 m from highway and railway line	NH-4 is adjacent to site on NE side & NH-24 is on western side. It is proposed to develop green belt of 15 m along boundary of project site to further minimise impacts
Major settlements	At least 10 km from the project growth boundary of the settlement (3 lakh population)	No major settlement (3 lakh population) within 10 km
Ecologically and or otherwise sensitive area	At least 10 km (Archaeological monuments, National parks & Sanctuaries, Biosphere reserves, hill resorts, scenic areas, etc.	No Archaeological monuments, National parks & declared Sanctuaries, Biosphere reserves, Hill resorts, scenic areas are within 10 km.
<ul style="list-style-type: none"> ➤ Letter from Principal Conservator of Forest, Bangalore stating Tumkur Kagaladu Bird Sanctuary is not notified "Bird Sanctuary" as per official records and its distance is 9.6 km from proposed project site. Letter from Principal Conservator of Forest, Bangalore given as Annexure-3.1 ➤ Distance Certificate from Survey of India (SOI) stating shortest distance of proposed site boundary from interstate boundary is 12.3 km. SOI Distance Certificate given as Annexure-3.2 		

3.4 Size or magnitude of operation

In the industrial area, it is proposed to provide space for setting up small and medium scale industries, residential quarters for workers, office and commercial establishments. KIADB will also develop common infrastructure & social facilities.

3.5 Project description with process details

The proposed project develops common infrastructure & social facilities like plotting, laying roads, water supply system, storm and sewage drainage system, power and distribution infrastructure, solar street lighting & rainwater harvesting system, integrated waste water treatment and solid waste management system. The process details and description will be provided by individual industries at the time of obtaining necessary statutory clearances as per the requirement from the concerned regulatory authorities.

3.6 Raw material

Raw materials required for development of common infrastructure for proposed project will be obtained from nearby local market.

3.7 Resource optimization/ recycling and reuse envisaged in the project, if any, should be briefly outlined.

The new and creative approach to enable less waste intensive production based on different techniques will be adopted for regular up gradation of process technology. These techniques are detailed below.

Reduction at source: Under this category, below techniques will be followed:

- **Good housekeeping:** Systems to prevent leakages and spillages through preventive maintenance schedules and routine equipment inspections. Proper work instructions, supervision and regular training of workforce to facilitate proper housekeeping.
- **Input material change** – Substitution of input materials by eco-friendly (non-toxic or less toxic than existing and renewable) material preferably having longer service time.
- **Equipment modification** – Modification of producing equipment and utilities, addition of measuring and controlling devices, in order to run the processes at higher efficiency and lower waste and emission generation rates.
- **Technology change** – Replacement of technology, processing sequence and / or synthesis pathway in order to minimize waste & emission generation during production.
- **Recycling**
 - ✓ **On-site recovery and reuse** – Reuse of waste materials in same process or for another useful application within industry.
 - ✓ **Production of useful By-product** – Modification of waste generation process in order to transform waste material into a material that can be reused or recycled for another application within or outside the company.
- **Product modification-** Characteristics of the product can be modified to minimize the environmental impacts of its production or those of the product itself during or after its use (disposal).

Adopting Cleaner Production – Energy Efficient (CP-EE) measures

Global business mandates conventions and protocols expressing international concern for resource conservation, energy and environment. Stand-alone CP or EE measures are not always attractive if resources are low priced or subsidized. By combining it with energy efficiency, more attractive solutions can be proposed. Alternately, CP-EE may enhance the attractiveness of reducing energy consumption in case of low energy costs.

Benefits of CP-EE

- Conservation of raw material and energy
- Lower costs
- Better compliance with environmental regulations
- Better working environment
- Quality improvement
- Improved efficiency / productivity
- Better access to finances

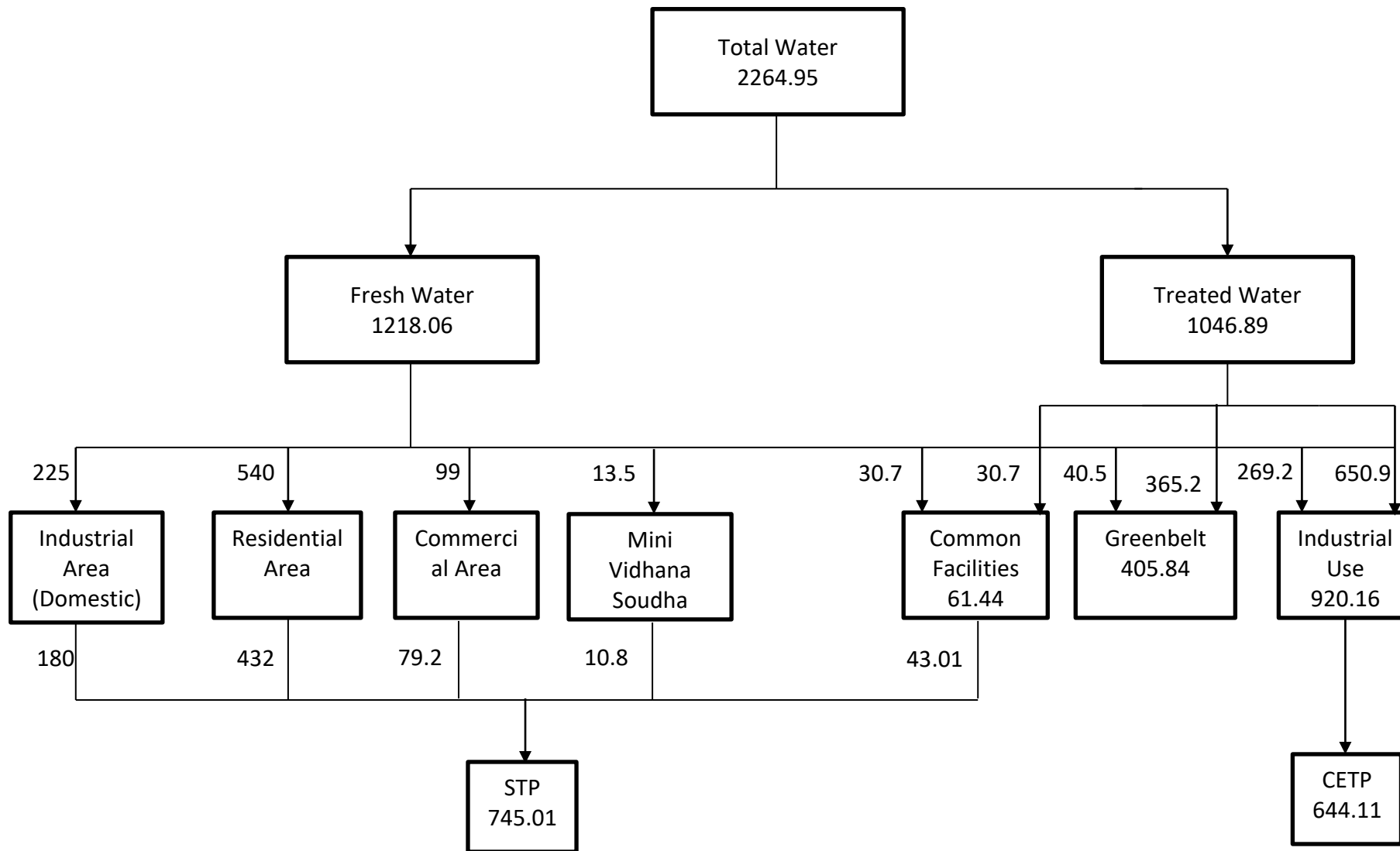
3.8 Water and power requirement**Water requirement**

Source of water during construction and operation phases of the project will be from Kallembella tank for domestic use and Tertiary treated water from Vasanthanarasapura I.A for industrial use. Estimated water requirement with breakup of water requirement and waste water generated is given in **Table 3.3** and water balance is shown in **Figure 3.3**.

Table 3.3 Water requirement and waste water generation (KLD)

Water usage		Water requirement			Waste water	
		Fresh	Treated	Total	Generated	Treated at
Industrial area						
a	Industrial use	269.25	650.91	920.16	644.11	CETP
b	Domestic use	225.00		225.00	180	STP
Residential area		540.00		540.00	432	STP
Commercial area		99.00		99.00	79.20	STP
Mini Vidhana Soudha		13.50		13.50	10.80	
Common facilities		30.72	30.72	61.44	43.01	STP
Green Belt Development		40.58	365.26	405.84		
Total		1218.06	1046.89	2264.95	1389.12	
Industrial Use @ 4 KLD/ Ac excluding green belt area. WW @ 70% & Domestic purpose @ (i.g @ 45 lpcd for 5000 workers)) Waste water (WW) @ 70%						
Domestic use: Residential 1000 house @ 4 people @135 lpcd , Commercial 1100 outlets @ 2 people @45lpcd) and Mini Vidhana Soudha (@45 lpcd for 300 people excluding green belt area. WW @80%						
Common facilities including parking & others @0.4 KLD/Ac excluding green belt area WW @70% 5.7 KLD/ Ac for Green belt area						

Figure 3.3: Water balance



Water supply system

Provision is made for water pipelines, a water station and overhead tank. The overhead reservoir would be ideally located in close proximity to the boundary of the proposed project.

Waste water conveyance system

At initial stages (partial occupational stage of industries), waste water conveyance will be met through tankers. During full occupation of plots/ operational stage of industries, the waste water conveyance will be met through pipe network.

Waste water conveyance lines (industrial effluent and sewage water) within proposed project site shall be designed in accordance with the CPWD specifications. All necessary devices, in addition to pipes and conduits for proper functioning of the system e.g. manholes, intercepting chambers, flushing tanks, ventilating shafts etc. shall be provided.

3.9 Power and distribution infrastructure

Electricity will be supplied to KIADB during construction and operation phase through KTPCL. Power lines will be laid by KIADB. Land within project site is provided for setting up sub-station to meet project needs. Power back-up facility is not provided by KIADB; hence individual industries need to arrange for their backup requirement. During construction phase, power requirement will be minimal. A power requirement detail is given in **Table 3.4**.

Table 3.4 Power requirement details

S No	Material	Requirement (Proposed)	Source
1	Power Demand (MWh)	12.7	Electricity supplied by KIADB through KTPCL for construction & operation phase.
Source: KIADB			

Solar street lighting

Latest solar street lighting will be provided within project site. LED or florescent lamps will be used during the process

3.10 Quantity of wastes generated (liquid/solid) and scheme for their management/disposal**Liquid waste management system**

Wastewater generated from industrial units will be treated by individual industries to Common Effluent Treatment Plant (CETP) inlet wastewater standard/specifications before sending to CETP. Received effluents will be treated by CETP. Domestic wastewater generated from residential, office, commercial and common facilities will be treated in Sewage Treatment Plant (STP). Treated water will be reused within project site by adopting "Zero Liquid Discharge" (ZLD) concept.

Solid waste management system

Waste generated due to construction activity is mostly excavated earth and construction material left over which are inert. Construction waste will be utilized within site for leveling & filling purpose and top soil shall be utilized in green belt area. Municipal solid waste generated will be collected and disposed at the designated waste disposal site.

During operation phase, industrial & municipal solid waste will be generated at project site.

Industrial process waste

During operations, solid waste including process waste, boiler ash, used oil, used batteries, E-waste and hazardous waste is generated. Collection, treatment and disposal of above waste are the responsibility of individual industry as per the applicable regulations. The industries will be advised to segregate the waste so that process and hazardous waste generated is sent to TSDF. Used oil, used batteries and other recyclable waste to be sold to authorized dealers/ recyclers and ash from boilers will be sent to cement manufacturing industries. Individual industries would obtain separate authorization from KSPCB for disposal of E-waste, if generated. The sludge from CWTP will be sent to TSDF and sludge from STP will be dried and used for green belt development.

Municipal waste generated from industrial, residential, office and commercial areas will be collected, segregated, stored and treated or sold to authorize dealers. Separate area is earmarked for storage and processing of biodegradable waste.

3.11 Schematic representation of the feasibility drawing which give information of EIA purpose

For development of proposed project, Pre-Feasibility Report (PFR), Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) studies will be carried out. Following are the requisites for obtaining EC:

- Submission of Form-1, PFR, draft ToR for appraisal to concerned authority (MoEF&CC)
- Obtaining official Terms of Reference (ToR) from MoEF&CC
- Baseline data collection for one season & EIA report preparation in compliance with ToR
- Submission of final EIA report including public hearing minutes and action plan to MoEF&CC
- Obtaining EC from MoEF&CC
- Submission of CFE application to SPCB
- Obtaining CFE from SPCB

Section 4

Site Analysis

4.1 Connectivity

The project site is well connected with all the transportation facilities from nearby places. National Highway NH-4 highway is adjacent to the site on NE side and NH-24 is on western side. The nearest village is Sira which is about 280 m (NE) and nearest town with about 3 lakhs population (as per Censes 2011) is Tumkur about 44 km (SE). Proposed Sira railway station is about 5 km (NE) and Gubbi station is about 42 km (S). The nearest airport is Bangalore airport about 100 km (SE)

4.2 Land form, land use and land ownership

The project site consists of infertile sand dunes, scattered grass and barren land acquired by KIADB. The survey numbers of project site are given as **Annexure 4.1** in the form of notification by KIADB.

4.3 Topography (along with map)

The proposed site is situated in plain terrain with altitude ranging from 664m to 683 m above mean sea level (MSL). The topographical map of the study area (10 km radius around the site) is prepared using Toposheet No D43Q14, D43R2, D43Q13 and D43R1 (1:50000 scale) from Survey of India shown in **Figure 4.1**. The Contour map of the proposed project site is shown in **Figure 4.2**.

Figure 4.1: Topo map of study area

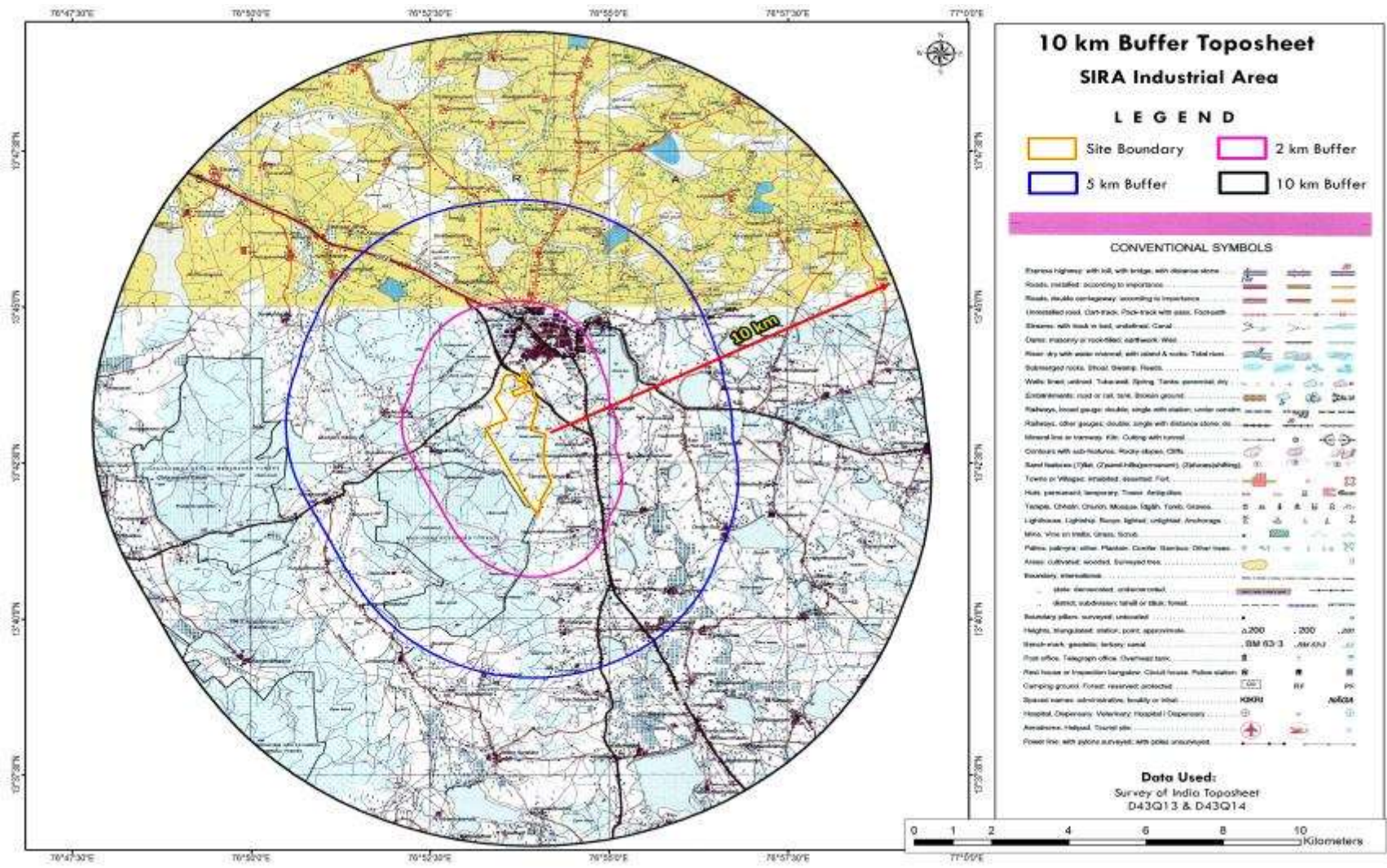
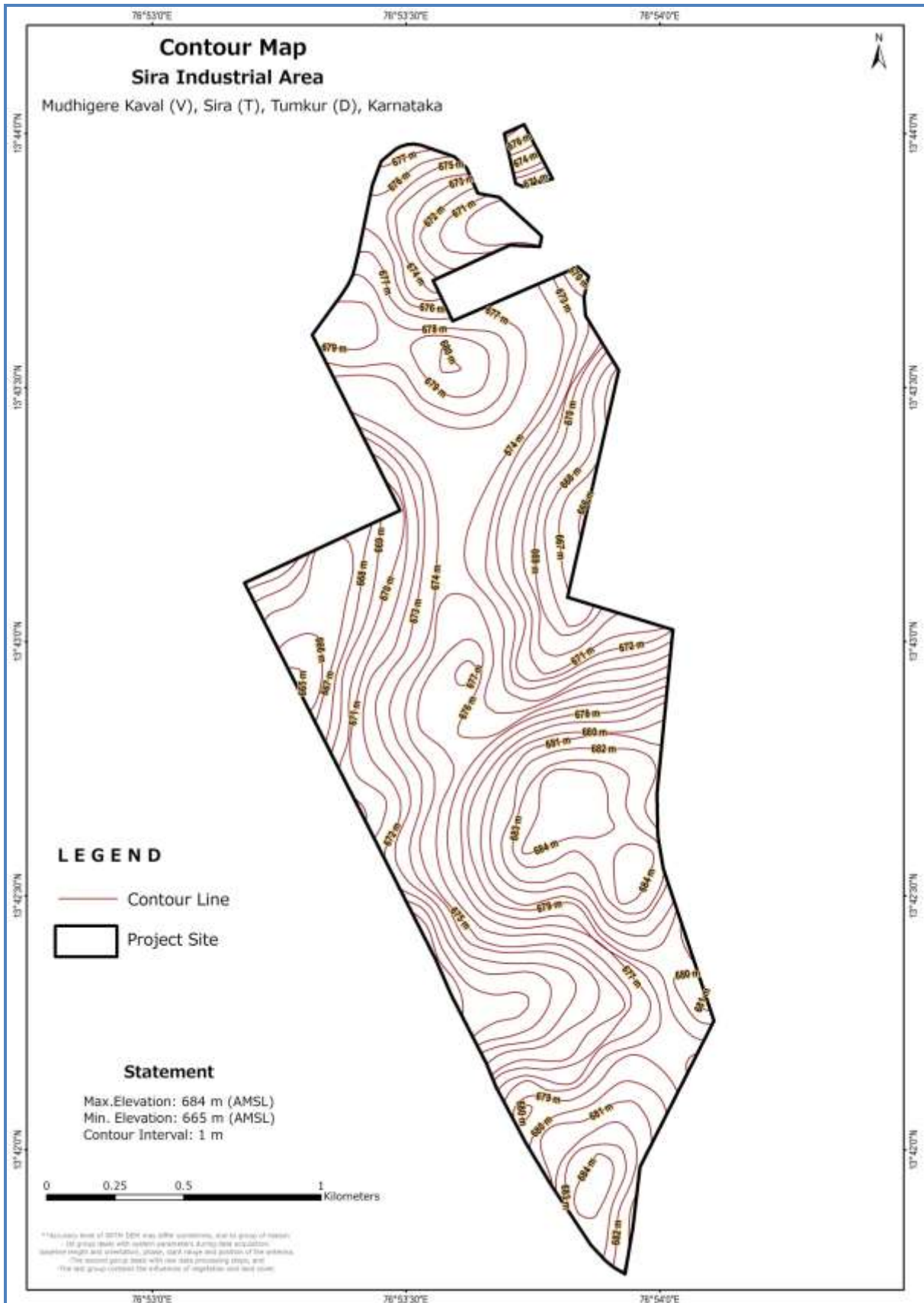


Figure 4.2: Contour map of proposed project site



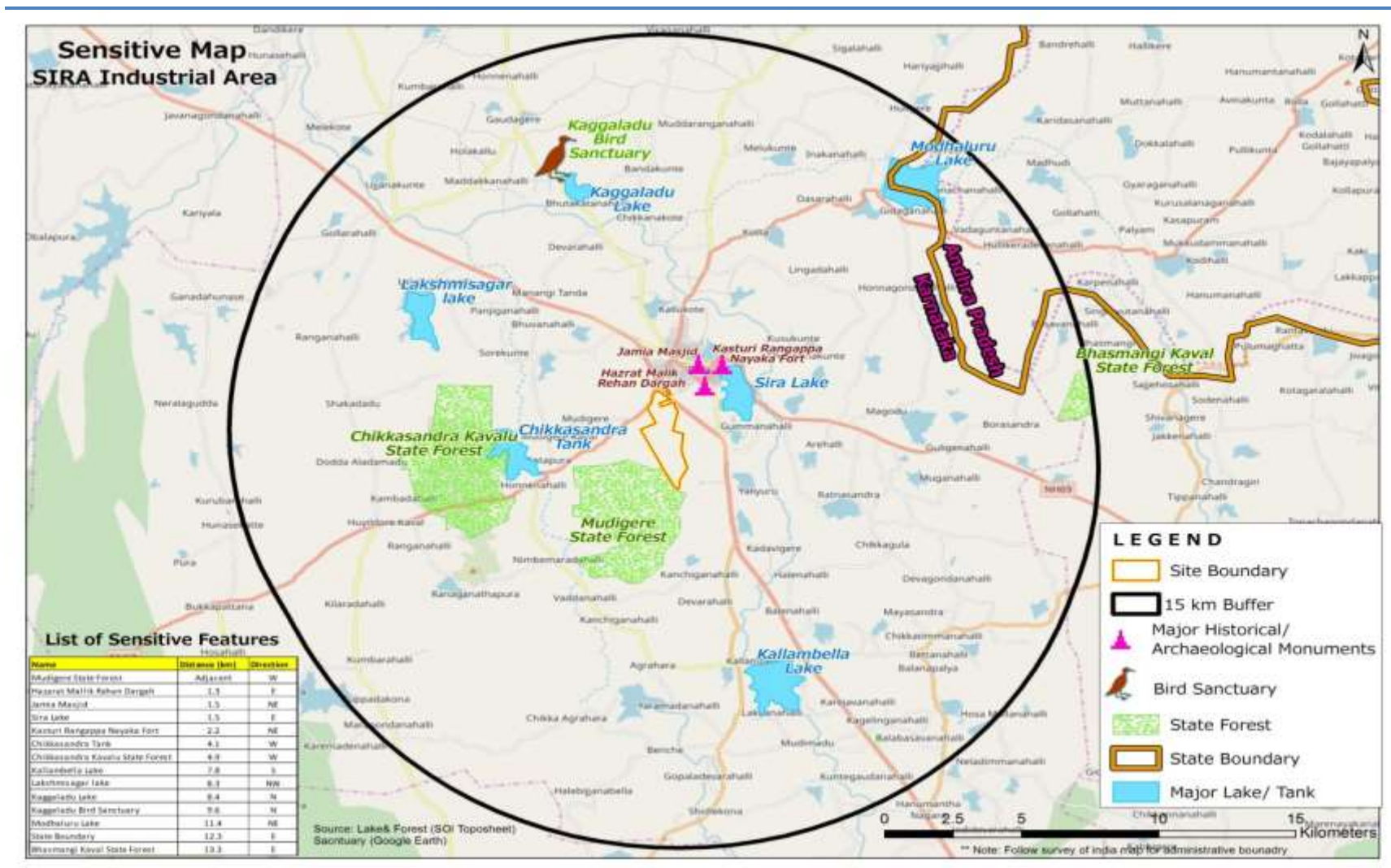
4.4 Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ)), shortest distances from the periphery of the project to periphery of the forests, national park, wildlife sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ. In case of notified industrial area, a copy of the gazette notification should be given.

There are no declared National parks or Wildlife sanctuaries within 15 Km radius from proposed project site. Distance between project site and eco-sensitive areas are given below in **Table 4.1**. The eco-sensitive map is shown in **Figure 4.3**.

Table 4.1 Distance of eco-sensitive areas

Name	Distance (km)	Direction
Mudigere State Forest	Adjacent	W
Hazarat Mallik Rehan Dargah	1.3	E
Jamia Masjid	1.5	NE
Sira Lake	1.5	E
Kasturi Rangappa Nayaka Fort	2.2	NE
Chikkasandra Tank	4.1	W
Chikkasandra Kavalu State Forest	4.9	W
Kallambella Lake	7.8	S
Lakshmisagar lake	8.3	NW
Kaggaladu Lake	8.4	N
Kaggaladu Bird Sanctuary	9.6	N
Modhaluru Lake	11.4	NE
State Boundary	12.3	E
Bhasmangi Kaval State Forest	13.3	E

Figure 4.3 Eco-sensitive map (15 km radius)



4.5 Existing infrastructure

There is no existing infrastructure in the land acquired for proposed project.

4.6 Soil classification

The area is spread and covered with black, red and alluvial soils. The soils of black, red, reddish-brown, yellowish-red color are found distributed all over the district. The black and red soils are occupied in uplands and plains, and the alluvial soils are mostly found in the valley portions of major streams and rivers.

4.7 Climatic data from secondary sources

The project site area has four seasons. The dry season is from January to February followed by hot weather from March to May contributing about 18% of annual rainfall. The monsoon season is from June to September yielding about 52% of annual rainfall. Post monsoon period is from October to December contributing around 30% of annual rainfall. On an average, annually over 650mm rainfall occurs in nearly 45 rainy days. Climatological data for the proposed project is acquired from secondary source which is presented in **Table 4.2**.

Table 4.2 Meteorological data

IMD Station—Chitradurga:Lat:14°14'0.0" & Lon:76°26'0.0", MSL 705 m, distance to site 74 km (NW)										
Month	Temperature (° C)				Humidity (%)		Rainfall		Wind speed (m/s)	predominant direction
	Mean Min	Mean Max	Lowest	Highest	Min	Max	Monthly (mm)	No of rainy days		
Jan	16.9	29.4	13.3	32.0	34	67	2.2	0.3	2.2	E
Feb	19.1	32.3	15.4	34.7	26	56	3.6	0.4	2.2	NE
Mar	21.7	35.0	17.9	37.1	25	55	6.1	0.7	2.4	NE
Apr	22.9	36.1	20.0	38.3	30	65	38.1	2.5	2.5	SW
May	22.6	34.9	19.9	38.1	41	75	65.3	4.1	3.6	SW
Jun	21.7	30.6	20.1	34.7	64	81	67.8	5.5	4.5	SW
Jul	21.1	28.5	19.9	31.9	71	85	69.4	7.8	4.5	SW
Aug	20.7	27.9	19.6	30.8	74	86	99.5	8.5	4.2	SW
Sep	20.6	29.3	19.2	32.1	64	84	113.9	6.7	3.4	SW
Oct	20.3	29.4	17.2	31.8	59	79	128.2	6.8	2.1	NE
Nov	18.3	28.5	14.1	30.8	53	75	54.3	2.8	2.0	NE
Dec	16.7	28.0	12.7	30.1	44	74	12.5	0.9	2.3	NE

Source: GOI, Ministry of Earth Sciences, IMD, Climatological Tables - 1981-2010

4.8 Social infrastructure available

Social infrastructure facilities like Hospitals, Schools, Colleges, Banks etc. are available in the nearby villages. Sira village is majorly developed and nearby habitation having all required social infrastructure.

Section 5

Planning Brief

Need for environmental administration of India to become active in the field of environmental planning was important and hence, Environment (Protection) Act, 1986 was enacted, which authorizes the Central and State Government to have the power to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution. Since the carrying capacity of the environment is not unlimited and some areas of ecosystems are more susceptible to adverse environmental impacts than others, the unplanned and haphazard location of industries might substantially increase the risk to the environment. Environmental planning is a proven tool for reducing the impacts from such risks. However, this tool has seldom been used in this country. Proper siting of newly planned industries and industrial estates is a strong pollution preventive instrument that ensures environmental soundness of the industrial development.

5.1 Population projection

Project would generate employment during operation of the project. Majority of manpower will be hired from the nearby villages thus influx of new population will be minimal.

5.2 Assessment of infrastructure demand (physical & social)

Most of the required man power will be employed from nearby villages hence the infrastructure available in the area is sufficient to accommodate the demand.

5.3 Land use planning (breakup along with greenbelt etc.).

At project site, industrial, residential, office & commercial establishes are planned. Proposed project site break up is given in **Table 5.1** & proposed project site layout map in **Figure 5.1**.

Table 5.1: Land use break up of proposed project site

Land use type	Area (Ac)	Area %	Remarks
Industrial Area	352.16	43.2	33% of total project Area will be developed as green belt area.
KSSIDC	75.14	9.22	
Residential	77.55	9.51	
Commertial	27.08	3.32	
Amenity	15.88	1.95	
Utility	24.7	3.03	
Park/ Nala & Nala Buffer / Buffer	82.73	10.1	
Parking	40.79	5	
Roads	91.12	11.2	
Proposed Railways	16.98	2.08	
Mini Vidhana Soudha	11.14	1.37	
Total	815.27	100.0	

Figure 5.1: Proposed project site layout map



5.4 Amenities / facilities

All the amenities/ facilities such as internal roads, street lights, storm water drains, CETP & STP, electricity substation, temporary storages for solid waste, canteen, dispensary /first aid, manufacturing support services etc. are proposed by project proponent. 33% of total area will be developed as green belt within the project site. Below are the salient features of amenities to be provided at the proposed project site:

- Internal roads with a width of 35, 30, 24 and 18 m are provided at the proposed site.
- Separate land is unmarked for setting up electricity substation by Karnataka Power Transmission Corporation Limited (KPTCL)
- A 15 m buffer for greenbelt has been provided all along the boundary.
- 7 m median is proposed on 35 m wide road along with proposed HT line
- 30 m wide green buffer and 24 m wide road on southern side and 30 m wide green buffer and 18 m wide road on northern side along railway track is provided.
- 6 m buffer has been provided on both sides for greenbelt along the stretches of Nala within the project site.
- An over bridge / underpass is provided below the railway track for connectivity on 30 m road.

Site photographs are given as **Annexure 5.1**

Section 6

Proposed Infrastructure

6.1 Industrial area (processing area)

The proposed project is designed keeping in view emerging domestic demand in country, based on market assessment. The project is targeted towards development as multi product facility, which is envisaged as a gateway to opportunities in manufacturing & trading, connectivity & availability of raw materials, skilled and unskilled workers. It is proposed to set up small and medium scale industries like Granite & Chemical, Agro industries, Food & Ware Housing and General Engineering and IT & BT. Details of proposed industry and there category as per EIA- Notification, 2006 are given in **Table 6.1**.

Table 6.1: Proposed Industries to be housed in industrial area

Industry	Category
Granite and Chemicals	
Manufacturing of Chemical Fertilizers including production unit of H ₂ SO ₄	5(a): Cat-A
Synthetic fibres including rayon, tyre cord and polyester filament yarn.	5(d): Cat-A
Asbestos and Asbestos based industries	4(c): Cat-A
Chlor-Alkali based industries	4(d) Cat-B
Organic Chemical Manufacturing	
Basic Chemicals and electro chemicals and It's derivatives including manufacturing of acid.	
Chlorine, fluorine, bromine, iodine and their compounds	
Manufacturing of glue and gelatine	
Agro Based Industries	
Pulp & Paper (Agro based – Wheat Straw & Rice Husk) (5i Cat-A)	5(i): Cat-A
Vegetable oil Manufacturing including solvent extraction & refinery	5(i): Cat-A/B
Food and Ware housing	
Food and Food processing including fruits and vegetable processing	
General Engineering	
Leather foot wear and leather products (Excluding paper or pipe manufacturing)	
Lubricating Oil, greases (only blending at normal temperature)	
Automobile manufacturing (Integrated facility)	
Fiber glass production	

6.2 Residential area (non-processing area)

Proposed project has mixed land use with non-processing areas like residential, commercial and office space planned. Details of proposed development plan are provided below.

6.2.1 Residential area

An area of 77.55 acres is earmarked to be developed as residential colony for employees of industries to promote walk to work policy. Individual houses and apartments developed will have all features as per Smart City Area development guidelines.

6.2.2 Commercial area

An area of 27.08 acres is earmarked for development of commercial establishments like shops, malls, restaurants and entertainment centers.

6.2.3 Office space

An area of 11.14 acres is earmarked for mini Vidhana Soudha where offices will be set up.

6.3 Greenbelt

A 15 m wide greenbelt will be developed all around periphery of project site. Green belt of 30 m wide will be developed on both sides along proposed railway line and 6 m wide on both sides along the nala. Individual industries will also develop green belt of 33% of total area. As per MoEF&CC guidelines, green belt will be developed in 33% of total project area.

Around 1600 plants /Ha will be planted using local species. The distance between two plants will be kept minimum for thick green belt; regular maintenance of green belt will be done and dead plants will be replaced with new ones during rainy season.

6.4 Social infrastructure

All infrastructure facilities required to cater the needs of proposed development activities shall be made available. Facilities for medical emergency of employees, landscapes, greenery, recreational facilities, crèche/nursery, shops, have been proposed in the project.

6.5 Connectivity (Traffic and transportation road/rail/metro/water ways etc.)

The proposed project is well connected to major cities like Bangalore and Mumbai by road (NH-4 & NH-24) and rail network. It is also well connected with shipping port and airport. These are an added advantage for business development and exploring new business opportunities for advancement of the district.

6.6 Drinking water management (source & supply of water)

The source of drinking water for the proposed project would be from Kallembella tank for domestic use. The water will be treated in treatment plants to meet the IS: 10500 drinking water standards.

6.7 Waste water management system

Sewerage system will be designed as per Manual on Sewerage and Sewage Treatment (2nd edition) according to elevation and contour profile. Separate area has been earmarked for setting up Common Effluent Treatment Plant (CETP) & Sewage Treatment Plant (STP).

Project proposes zero liquid discharge by providing CETP for treating industrial wastewater and STP to treat domestic waste water generated from project site. The treated water will be reused for green belt development, industrial use, fire-fighting, flushing etc.

6.8 Solid waste management

Both municipal and industrial waste would be generated from proposed project. Industrial waste management (including process waste, boiler ash and hazardous waste) will be the responsibility of individual industry. Sludge from CETP will be sent to TSDF and sludge from STP will be dried and used for green belt development.

Municipal waste generated will be collected, segregated, stored and treated. Recyclable waste with commercial value will be sold to authorize dealers and biodegradable waste will be treated in separate area earmarked for storage and setting up of bio digester for processing biodegradable municipal waste.

6.9 Power requirement & supply/ source.

The total power required for the proposed project will be supplied to KIADB through KTPCL. Land is provided within the project site for setting up substation to meet power requirements of the project.

Diesel sets will be used for emergency power backup during power failure. DG sets will be made available by respective units of upcoming industries in the proposed park. Potential for roof top solar panels will be evaluated to reduce use of DG sets.

Section 7

Rehabilitation and Resettlement (R&R) Plan

7.1 Policy to be adopted (Central/State) in respect of the project affected persons including home oustees, land oustees and landless laborers (a brief outline to be given)

The proposed project does not envisage any disturbance to local community or the village, since the land is acquired and fully owned by the KIADB. The proposed project will not affect the home oustees, land oustees and landless laborers. Hence, there is no requirement of R&R implementation in this project.

Section 8

Project Schedule & Cost Estimate

8.1 Likely date of start of construction and likely date of completion (Time schedule for the project should be given).

As per initial estimate, around 18 months is required for implementation of project from the starting date i.e. from the date of receiving all the statutory clearances from concerned departments of State and Central Government.

8.2 Estimated project cost along with analysis in terms of economic viability of the project

The capital cost for the proposed project is estimated to be around Rs 340.20 Crores. The budget allocated for EMP is around 10% of project cost which includes cost of CETP, STP and solid waste management system with a recurring cost of 1% of project cost per annum. Corporate Environment Responsibility (CER) budget allocated is 1.5% of project cost per annum. After examining environmental, commercial and financial feasibility of the proposed project, it may be inferred that the project may have positive viability. The detailed cost breakup of the proposed expansion is given in **Table 8.1**.

Table 8.1 Project cost estimates

Sno	Activity	Amount (Rs in Lakhs)
1	Land Cost (815.675 acres)	14424.68
	Roads and water Scheme	9800.00
	Electrical infrastructure street light works	1400.00
2	66 KV sub station	1500.00
	Others	209.33
	Development Cost	12909.33
3	Miscellaneous costs	6686.1
	Total cost (1+2+3)	34020.11
EMP cost (@10% of project cost): Rs 3402 lakhs		
CER cost (@1.5% of project cost): Rs 510 lakhs		

Section 9

Analysis of Proposal (Final Recommendations)

9.1 Financial and social benefits with special emphasis on the benefit to the local people including tribal population if any, in the area.

The proposed project will provide impetus for growth in the area by bringing significant socio-economic and environmental benefits as listed below:


- **Employment:** The proposed project is expected to create employment opportunities in the region. The proposed industries, trade pavilion, convention & exhibition facilities, shopping, dispensary, etc. would create robust market linkages resulting in regional economic development.
- **Connectivity:** The proposed external infrastructure linkages are expected to provide excellent connectivity of the region with the International airport, Urban centres and other economic growth centers. Overall, the proposed project is expected to enhance the economic development in the region.
- **Social development:** Integrated townships consisting of commercial, institutional with requisite physical and social infrastructure facilities are definite means of social development expected from the project. Technology development is also anticipated with world class R&D centres being proposed in the project.
- **Regional development:** The goods and products manufactured from the industries of proposed project would fill the demand-supply gap and hence improve the domestic markets.

Thus, the proposed project shall usher in the social and economic uplifting of the persons associated as employees and those living in the vicinity of the project.

Annexure -3.1

Certificate from Chief Wildlife Warden (CWLW) notification of Kagaladu Bird Sanctuary

Conservator of Forests Office
Kamakrishna Nagar,
Kuntgal Main Road,
Tumkur - 572105

Govt of Karnataka

Forest Department

Off: 0816-2201196
Res: 0816-2201197

Date: 15-11-2017

SI/SS/Land/KIADB/CR-119/2017-18

To,
The Development Officer,
KIADB, Zonal Office,
Tumakuru.

Sir,

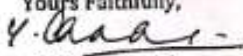
Sub: Issue of clearance/Approval from Wildlife Protection Act from National Board to Wildlife for Kagaladu Bird Sanctuary in Sira Taluq-reg.

Ref: 1. Your Office Letter dated: 26-07-2017.
2. Letter No. ACF/MSD/AQ/VIVA:105/2017-18, dated: 06-09-2017 from Assistant Conservator of Forests, Madhugiri Sub-Division, Madhugiri.

With reference to the above cited subject, the KIADB should form an industrial area to an extent of 815 acres 27 gunta of land at Mudigere Kaval of Sira Taluk, Tumakuru District. It is necessary to require the Environmental Clearance from Ministry of Environment, Forest and Climate Change, hence it is necessary to obtain NOC from the Forest Department to form an industrial layout in Sira Taluk, Tumakuru District.

Range Forest Officer, Sira Range and Assistant Conservator of Forests, Madhugiri Sub-division, Madhugiri were instructed to inspect the project area and submit a report. On receipt of Site inspection report it is reported that "Kagaladu Bird Sanctuary is situated at a distance of 9.60 km from the proposed Sira Industrial Area and it is not notified as Kagaladu Bird Sanctuary, Birds like painted storks and Grey Herons, migrate during nestling season. KIADB should form the Industrial Area without disturbing the Bird Sanctuary during nestling season". Also it has been stated, that the Bird Sanctuary is not notified forest, Deemed Forest and not included in the Land Bank.

Hence, as per the report of Range Forest Officer, Sira Range and Assistant Conservator of Forests, Madhugiri Sub-division, Madhugiri, this office issue opinion that KIADB should form the Industrial Area without disturbing the Bird Sanctuary during nestling season.

Yours Faithfully,

(Y. Chakrapani)
Deputy Conservator of Forests,
Tumakuru Division, Tumakuru.

200.2,
A/A/12

JE (OMN)
13/11/17

Principal Chief Conservator of Forests
(Wildlife) Bengaluru



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E-mail: pccfwt@gmail.com
Aranya Bhavan, 2nd Floor,
18th Cross, Malleswaram,
Bangalore-560 003

No. PCCF/WL/D/CR/2017-18

Date: 31-02-2017
27

To,
Executive Engineer & Development Officer,
Karnataka Industrial Areas
Development Board,
Tumkur.

Sir,

- Sub:** Issue of Clearance/Approval from Wildlife Protection Act from National Board to Wildlife for Kagaladu Bird Sanctuary in Sira Taluk-reg
- Ref:** Letter Dated 05.01.2018 of Executive Engineer & Development Officer, Karnataka Industrial Areas Development Board, Tumkur.

* * *

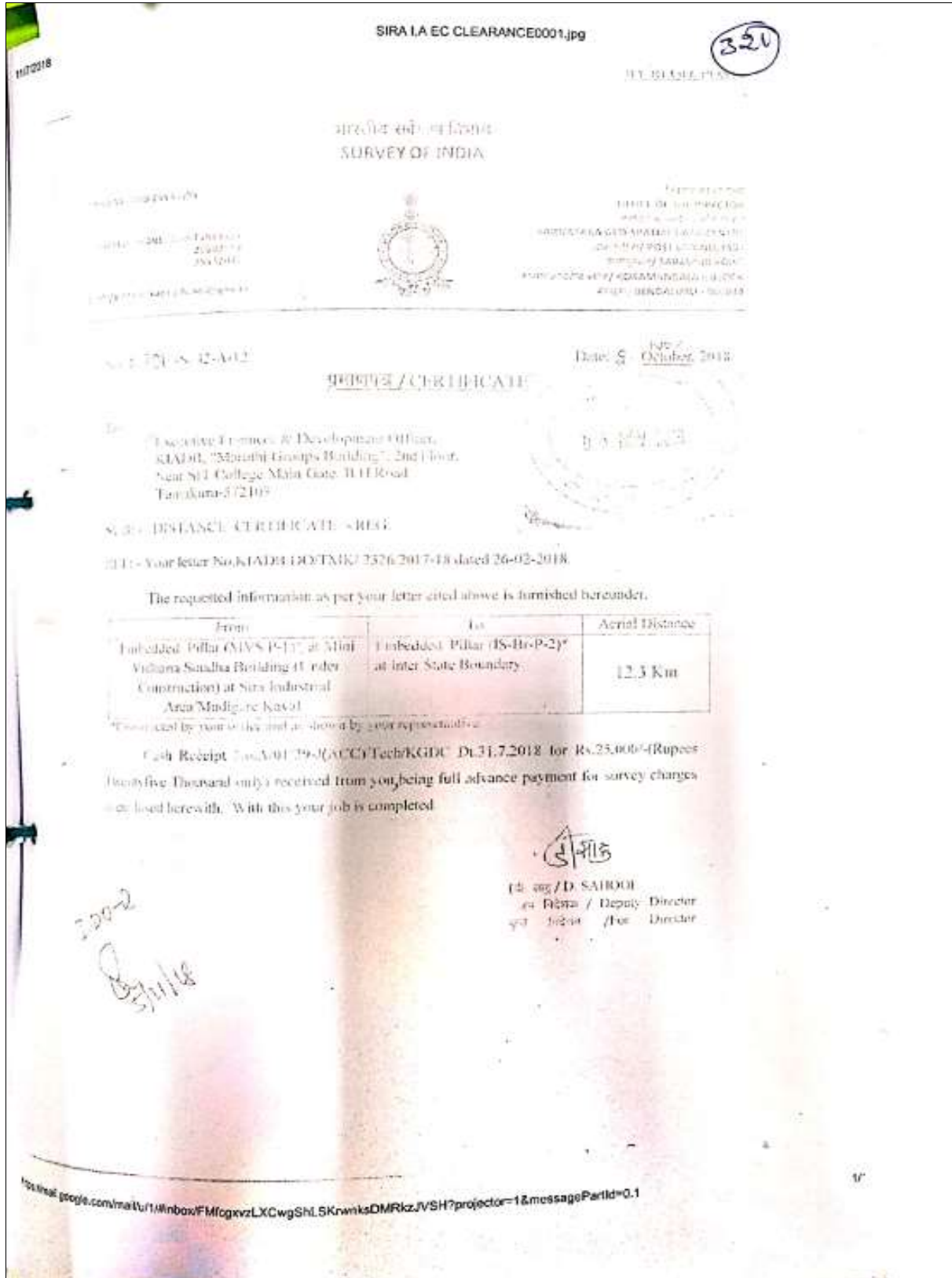
With respect to your letter cited under reference above, it is informed that as per the report of the Deputy Conservator of Forests, Tumkur Division, Tumkur; Kagaladu Bird Sanctuary is not a notified "Bird Sanctuary" as per the official records. However as reported by the Deputy Conservator of Forests, Tumkur Kagaladu Bird reserve is 9.6 km from the Sira industrial area. If the water body is in the downstream of the industrial area, please ensure that no pollutants are allowed to enter the water body.

Your's faithfully,


Addl. Principal Chief Conservator of Forests,
(Wildlife), & Chief Wildlife Warden.
Bangalore.

Annexure -3.2

Certificate from Survey of India



Annexure -5.1

Site Photographs

