2022

Pre feasibility Report of Inspira Industrial City, Shendra Aurangabad, Maharashtra

ACS
AN ISO 9001 COMPANY

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EXECUTIVE SUMMARY

INSPIRA INFRA AURANGABAD LIMITED a Project development Company intends to develop and set up a world class INDUSTRIAL CITY on the possessed property of plot/land admeasuring about 93.85 Ha (231.9084 Acres) in five-star Industrial area, Shendra MIDC, Aurangabad, Maharashtra State. The total area of the INDUSTRIAL CITY is on plots no C-21, C23, C23/1 and C-23/2, within the Five Star Industrial Area of MIDC. The estimated Project Cost is 420.28 Cr.

The share holders of M/s AJANTA PROJECTS (INDIA) LIMITED having passed Special Resolution in the Annual/Extra Ordinary General Meeting held on 03/08/2011 altered the provisions of its Memorandum of Association with respect to its objects and complied with the Section (18)(1) of the Companies Act, 1956 (No. 1 of 1956). The name of the company is changed to INSPIRA INFRA (AURANGABAD) LIMITED having its office in Maharashtra

The location of INDUSTRIAL CITY is situated at 19.54^{o} North latitude & 75.29^{o} longitude to the east. It is situated near Nagpur-Aurangabad-Mumbai National Highway at a distance of 15-17 Km away from Aurangabad City. It lies on an altitude of 613 m. Above M.S.L. The location of the Project is in the close proximity to the city of Aurangabad (10 KM) which is well connected to major towns and cities within the country through all major transport routes. Chikalthana Airport is located in the eastern part of the city connects to Aurangabad-Mumbai, Delhi, Hyderabad by air.

The main objectives of the project are:

1. Provide infrastructure and accommodation facilities to the entrepreneurs;
2. Encourage the development of small-scale industries;
3. De centralization of industries to the rural and backward areas;
4. Encouraging ancillarisation in surroundings of major industrial units; and
5. Develop entrepreneurship by creating a congenial climate to run the industries in these estates/area /township, etc.
6. Attract investments and create employment opportunity to the region.

Green and clean industries are also considered which has low or nil environmental impact. The entire project will be comprehensive in terms of land uses as it includes ample residential

areas and public amenities. Worker dormitories will be carefully located with pleasing environments for Work, Live and Play.

With the intent to make Maharashtra, USD1 trillion economy in the country, the Government of Maharashtra has target to attain manufacturing sector growth rate of 12 per cent to 13 per cent, to reach gross state domestic product (GSDP) share of 25 percent, attract investments worth INR10 lakh crore, Create employment opportunities for 40 lakh people by 2023-24. Following sectors viz Electric vehicles (manufacturing, infrastructure and servicing), Aerospace and defense manufacturing, Industry 4.0 (artificial intelligence, 3D printing, internet of things and robotics, nanotechnology), Integrated data centre parks (IDCP), Textile machinery manufacturing, Manufacturing of biotechnology and medical and diagnostic devices, Agro & food processing units (secondary and tertiary units), Information Technology (IT) and IT enable services (ITES), Electronic systems design & manufacturing and semi-conductor fabrication, Green Energy / Bio Fuel Production, Mineral / Forest based industries, Logistics and Warehousing, Sports and Gym Equipment manufacturing, Nuclear Power plant equipment manufacturing etc have been identified by the state government as thrust sector and these sectors shall be accorded priority in land allotment and incentives.

The rainfall ranges from 400 to 600 mm. The climatic conditions are dry and hot semi arid type. After February temperatures rises rapidly till April or May which are usually the hottest months with a mean daily maximum of about 38 or 39^{O}C. Nights are usually warmer during May or June than April, with a mean daily minimum of about 23 or 24^{O}C. December is generally the coldest month with the mean daily maximum at about 30^{O}C and the mean daily minimum at about 12 to 13^{O}C. During the monsoon season the humidity is between 70 and 80 per cent. The humidity is comparatively less in the rest of the year. Summer afternoons are the driest with less than 30 % humidity. During the monsoon season, the skies are heavily clouded or overcast. During the rest of the year the skies are mostly clear. However, in cold season, passing western disturbances cause cloudy weather occasionally for a day or two. In the latter part of the summer season, especially the afternoons, clouding increases.

The existing land will be developed for industrial hub for green & Orange category industries with ancillary infrastructure as per the distribution below:

Total Industrial Area: 56.31 Ha
Total Residential Area: 8.83 Ha

Total Commercial Area: 2.68 Ha

Total Green Space: 10.48 Ha

Total Roads / Utility Area: 15.54 Ha

The existing road infrastructure will be used for the project area. Also Samrudhy Express way is been developed on the northern boundary of the project area, which makes the transportation logistics easier and more convenient. There will be an anticipated total of 28, 825 number of people per day accessing the area for residential (14,666 Nos.), Industrial (11,375 Nos.), business along with infrastructural support systems (2784 nos).

The demand of water is for 15 MLD, which will be supplied from MIDC Reservoir to individual plot owners via Inspira Industrial City distribution network.

The Net Load at MRSS is **30 MVA** and it can be fed from two or three incoming feeders of 33KV System Voltage. So, main receiving sub-station [MRSS] shall have 132/33 KV built up. New transmissions for 33KV substation within the industrial park shall be developed. The existing 132 KV transmission line passes outside the boundary of Inspira Industrial City.

For construction activities, approximately Sand- 18,150 MT; Metal- 37,875 MT Cement- 1,560 MT Rubble 45,000 MT steel- 245 MT Murom- 1,19,500 CuM which will be sourced from Local Market / Project Areas.

The sewerage pipeline for a total length of 6341.50 will be on both sides of the road in which the domestic waste will be taken in from the individual plots and treated at the Amenity space allotted for STP. The STP is based on the Soil Bio Technology system. The capacity of the STP is proposed to be 2 MLD (2nos). The treated water will be used for Gardening of plants and landscaping within the industrial park. The SBT technology is proposed to be used due to low operation and maintenance cost. The treated effluent shall be used for greenbelt development and toilet flushing. **Hence the facility shall have zero discharge of any effluent.**

Only Municipality Solid Waste shall be generated from the development area to a tune of 14.98 TPD, out of which 6.69 TPD is biodegradable waste, 7.09 TPD is recyclable waste and 1.2 TPD is other waste. The industrial solid waste generated from individual units will be handled by the respective plot owners as per the guidelines of CPCB and MPCB. will be generated from the total city area, out of which 50% id Biodegradable and 50% is non-

biodegradable including recyclables. 0.9 TPD activated bio-sludge will be generated, which shall be utilized for manure in greenbelt and landscape development. The recyclables shall be sold to the recycling vendors. The domestic and industrial disposable solid wastes shall be collected by two separate bins, one for bio-degradable and one for non-bio-degradable as supplied by the project authority to each and every unit within the Industrial city. 3-4% of the construction material used, shall be construction wastes, which shall be stored in 2cum open containers, and transported to landfill sites on getting full.

There are no eco sensitive areas within 15 km radius of the project area. The nearest WLS is Tungabhadra Otter R at 38 km away from the Project boundary. The nearest densely populated city is Aurangabad with its city boundary at 14.5 Km from the project site. There are some habitations nearby, such as: Gangapur Jahagir at 500 m SW & Shendraban at 250 m E. The area comes under Seismic Zone II, which is less affected by the Earthquake. This area does not come under any flood zone or hill slope for landslides.

The developmental activities will follow with the increase in income of people in the surroundings. Demand for new markets, educational institutions, and higher demand on transport sectors are likely to emerge. With the socio-economic development of the local people and increased livelihood support, it will set an example for other such facilities to come up in Maharashtra.

This indusial city shall be one of the most liveable industrial clusters in the district of Aurangabad. Millions of people owing to its youthful vibrance, legendary cultural heritage, conducive climate and a plethora of career opportunities will add to the diversity of the region. The last decade have witnessed a huge surge in the industry and entrepreneurial set up in the city, being turned as an engineering hub. Not only, engineering firms ensures the economic and skilling additions to the region through the food processing and agro based industries, which acts as a helping hand to enhance the life of agriculture ratio, pattern, revenue and socio-economics of the farmers and the neighborhood areas.

CHAPTER-2

PROJECT DETAILS

INSPIRA INFRA AURANGABAD LIMITED a Project development Company intends to develop and set up a world class INDUSTRIAL CITY on the possessed property of plot/land admeasuring about 93.85 Ha (231.9084 Acres) in five-star Industrial area, Shendra MIDC, Aurangabad, Maharashtra State.

Inspira Industrial City is located at MIDC Shendra at Aurangabad. This city is planned for multi-functional industrial units available to small industries as well as medium industries. The total area of the INDUSTRIAL CITY is about 93.85 Ha on plots no C-21, C23, C23/1 and C-23/2, within Five Star Industrial Area of MIDC, Shendra, Aurangabad, Maharashtra.

Inspira Infra Aurangabad Ltd (IIAL) intends to provide the customer all the basic infrastructure facilities such as road, electric power, water, sewerage, storm water and well demarcated plots to the prospective industrial customers along with the supportive social infrastructures including Residential, Commercial, Educational and Healthcare facilities for the Industrial Workers and their families.

2.1 LOCATION & ACCESSIBILITY

The location of the Project is in the close proximity to the city of Aurangabad (10 KM) which is well connected to major towns and cities within the country through all major transport routes.

Road - The location of INDUSTRIAL CITY is situated at 19.54^{o} North latitude & 75.29^{o} longitude to the east. It is situated near Nagpur-Aurangabad-Mumbai National Highway at a distance of 15-17 Km away from Aurangabad City. It lies on an altitude of 613 m. Above M.S.L.

Rail - The nearest railway station is in Karmand Railway Station, the city is connected by rail on the south-central railway route (from Manmad to Secunderabad) which makes it an important station on the Mumbai Hyderabad corridor and linking to Mumbai, Hyderabad and New Delhi.

Air – Chikalthana Airport is located in the eastern part of the city connects to Aurangabad- Mumbai, Delhi, Hyderabad by air. The nearest international airports are Mumbai, Pune & Hyderabad. Air India, Indigo and have daily flights from

Aurangabad to all these destinations. The airport is located at about 12 km from Shendra Industrial area.

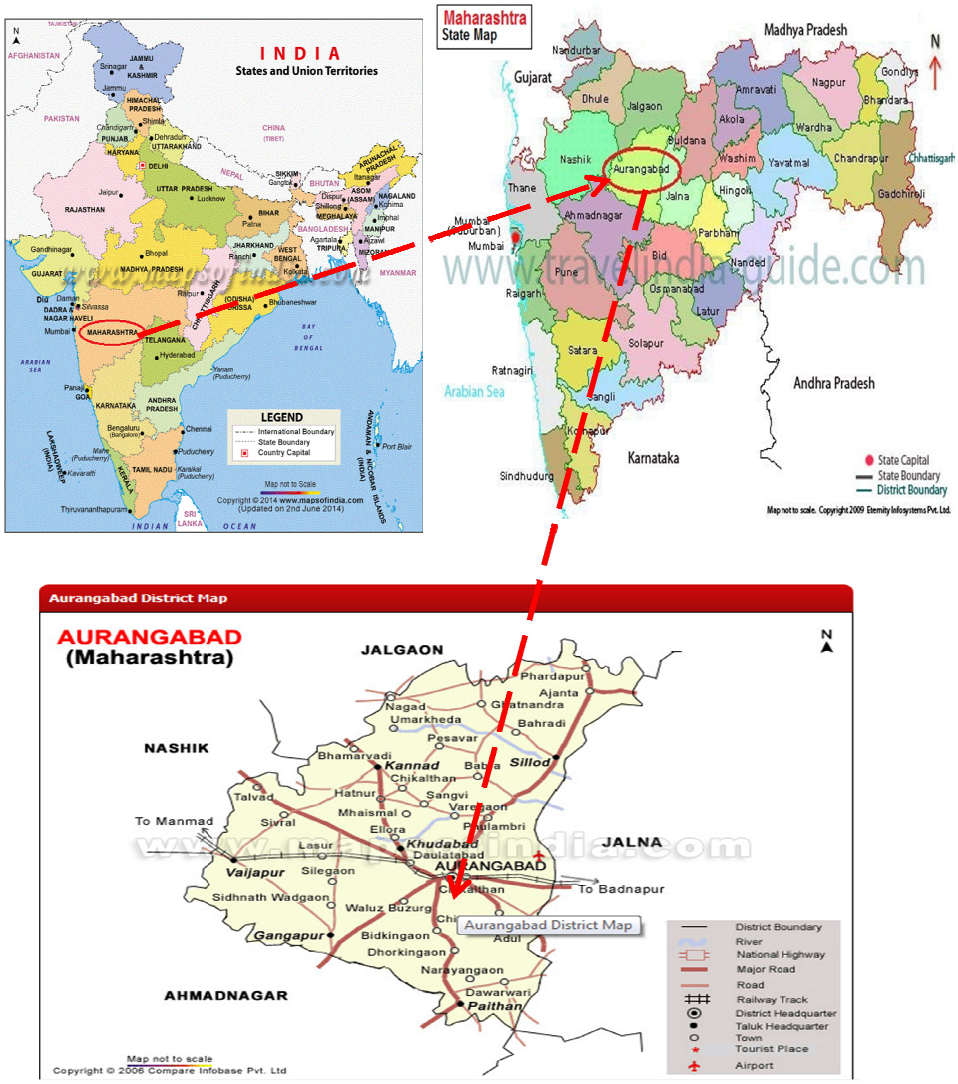
Sea – Two major ports in the region form a significant feature of transportation infrastructure in Maharashtra include,

- Mumbai port Trust (MPT) at Colaba Mumbai and
- Jawaharlal Nehru Port Trust (JNPT) located at Uran, Navi Mumbai handles @ 58% of the national container traffic and is directly connected to the Inland Container Port (ICP) in Aurangabad.

The google Image of the location is given as below:

Figure 2.1: Google Image of the area

Figure 2.2: Location Map



2.2 PROJECT PROPONENTS

The share holders of M/s AJANTA PROJECTS (INDIA) LIMITED having passed Special Resolution in the Annual/Extra Ordinary General Meeting held on 03/08/2011 altered the provisions of its Memorandum of Association with respect to its objects and complied with the Section (18)(1) of the Companies Act, 1956 (No. 1 of 1956). The name of the company is changed to INSPIRA INFRA (AURANGABAD) LIMITED having its office in Maharashtra and the objective of the company is:

"To undertake and/or set up infrastructure projects on turnkey basis and to act as developers, Builders, Managers, Operators, hirers and dealers of all kinds of

immovable properties, including but not limited to that of lands, buildings, far ms, cinemas, hotels, SEZ and to carry on all incidental or allied activities and business as are usually carried on by Proprietors, Builders, Managers, Operators, Hirers and Dealers of such properties and to acquire by purchase, lease, concession, grant license or otherwise, such lands, buildings, minerals, waterworks plants, machinery, stock in trade, stores and spare parts, rights, privileges, easements and other property, including manufacturing, producing, processing, generating, accumulating, distributing, transferring, preserving and to sell, supply electricity power or any other energy from conventional / non conventional energy sources on a commercial basis as may from time to time be deemed necessary for carrying on the business of the Company."

The List of Directors are:

1. Mrs Vimal M. Agrawal, W/o Mannalal B. Agrawal, "Gangotri" Irish park, Juhu, Bombay.
2. Mrs. Samata P. Agrawal, W/o Puroshottam B. Agrawal, "Gangotri" Irish park, Juhu, Bombay.
3. Mrs. Mamta M. Agrawal, W/o Madhusudan B. Agrawal, "Gangotri" Irish park, Juhu, Bombay.
4. Mr. Mannalal B. Agrawal, S/o Bhagwandas Agrawal, "Gangotri" Irish park, Juhu, Bombay.
5. Mr. Purushottam B. Agrawal S/o Bhagwandas Agrawal, "Gangotri" Irish park, Juhu, Bombay.
6. Mr. Madhusudan B. Agrawal S/o Bhagwandas Agrawal, "Gangotri" Irish park, Juhu, Bombay.
7. Mr. Yogesh Agrawal S/o Mannalal B. Agrawal, "Gangotri" Irish park, Juhu, Bombay.

Maharashtra Industrial Development Corporation (MIDC)

It was established in 1962, under Maharashtra Industries Development Act, 1961 as the premier industrial infrastructure development agency of Government of Maharashtra.

2.3 BRIEF DESCRIPTION & NATURE OF THE PROJECT

The vision behind the project was to develop and create a Smart Industrial Area with industry as its lifeline, supported by Social, educational and recreational infrastructure that thoughtfully synthesize human needs, environmental sustenance, and economic viability; a global model of urbanization where citizens will live, grow and prosper in harmony with nature. The Inspira Infra (Aurangabad) Ltd. has meticulously design the proposed area by leveraging extensive learning and research from across the world. Shendra Industrial City is being built on the principles of an ecosystem and provides the perfect environment to grow and nurture world-class manufacturing units through its infrastructure, talent pool and quality of life.

Inspira Industrial City (IIC) is an integrated city spread over 231.89 Ac of land with Integrated Multi-Functional Industrial Areas / Domestic Tariff Areas. It is a synthesis of every aspect of a convenient city life. It upholds a walk-to-work culture and therefore provides social, educational, entertainment, healthcare, utility services and other facilities for its citizens. The Non Industrial area has dedicated areas for support services. The project is among the best-in- class infrastructure, Shendra Industrial City is India's emerging smart industrial city. This vast expanse of opportunities is brought together by the concepts of industry integration, smart cities and sustainable development. Inspira Industrial City provides a high quality of life to all the people who work and live there. The planned city infrastructure forms a smart support system for industrial units and also makes provision for integrated development. brought alive by 24hr operating industrial units from various industrial sectors.

Currently, any company willing to set up its facility at IIC needs to obtain a Letter of Approval from the Development Commissioner through its Unit Approval Committee.

2.4 CHRONOLOGY OF THE PROJECT IMPLEMENTATION

Inspira Infra Aurangabad Limited decided to prepare a Master Planning including facilitating for Approval of Master Plan for the said project by MIDC. **Landmark Concepts Pvt Ltd**, a Company having its office at Ekata Society, Nr Himayat Baugh, Aurangabad, Maharashtra State, India has been appointed a consultant for the approval of master plan.

2.5 NEED/JUSTIFICATION OF THE PROJECT

Industrial Parks / City have tremendous socio-economic impact on Indian economy. SEZ/Industrial Park have contributed to the growth and development of the Indian Economy in terms of exports, employment and investments. It is the key growth driver of Nation's economy and has made the country globally competitive. The main objectives of the project are:

7. Provide infrastructure and accommodation facilities to the entrepreneurs;
8. Encourage the development of small-scale industries;
9. De centralization of industries to the rural and backward areas;
10. Encouraging ancillarisation in surroundings of major industrial units; and
11. Develop entrepreneurship by creating a congenial climate to run the industries in these estates/area /township, etc.
12. Attract investments and create employment opportunity to the region.
13. Green and clean industries are also considered which has low or nil environmental impact. The entire project will be comprehensive in terms of land uses as it includes ample residential areas and public amenities. Worker dormitories will be carefully located with pleasing environments for Work, Live and Play

2.5.1 Current demand scenario of the products from Industrial Estates

Estimating demand for industrial park is a tricky issue, since the presence of an industrial park (IP) itself is a cause for generation of industrial investment in the nearby area. Another issue is to segregate the total envisaged industrial investment into what is likely to be located inside IPs, and units that are likely to come up outside IPs. Traditionally, small to medium units are more likely to be located in IPs. Further, Government policies also influence demand for industrial parks. An IP friendly policy should drive more and more investments to be set up within industrial parks, rather than coming up as standalone units.

The demand for industrial parks can be viewed as derived demand, with envisaged industrial investment acting as the driver. The planned and systematic industrial development in the State of Maharashtra has continuously placed Maharashtra in the top position in India for the highest productivity, economics performance, business efficiency, government efficiency, infrastructures and overall competitiveness. As per

the World Competitiveness Report 2019, India ranked 68, ahead of South Korea, South Africa, Philippines, Greece, Brazil, Italy, Russia and Indonesia. Maharashtra has emerged as one of the largest contributors to India's exports and is also one of the leading states in attracting Foreign Direct Investments (FDI) due to its several policies for right kind of business climate.

With intent to make Maharashtra, USD1 trillion economy in the country, the Government of Maharashtra has target to attain manufacturing sector growth rate of 12 per cent to 13 per cent, to reach gross state domestic product (GSDP) share of 25 percent, attract investments worth INR10 lakh crore, Create employment opportunities for 40 lakh people by 2023-24. Following sectors viz Electric vehicles (manufacturing, infrastructure and servicing), Aerospace and defense manufacturing, Industry 4.0 (artificial intelligence, 3D printing, internet of things and robotics, nanotechnology), Integrated data centre parks (IDCP), Textile machinery manufacturing, Manufacturing of biotechnology and medical and diagnostic devices, Agro & food processing units (secondary and tertiary units), Information Technology (IT) and IT enable services (ITES), Electronic systems design & manufacturing and semi-conductor fabrication, Green Energy / Bio Fuel Production, Mineral / Forest based industries, Logistics and Warehousing, Sports and Gym Equipment manufacturing, Nuclear Power plant equipment manufacturing etc have been identified by the state government as thrust sector and these sectors shall be accorded priority in land allotment and incentives.

Climate change mitigation and governance is the major plank on which the international industrial location is being developed. A relocation program internationally and nationally has to happen for industries in highly polluted areas which have been disturbing the ecological balance. The demand is based on need and the need is bound to emerge as urgent demand pattern as the project moves ahead. The high potential development format in consonance for assessment the potential is to attract different units to identify industry groups across the Industrial City.

2.5.2 Importance of the proposed IE for Quality of Life

An industrial estate / park is a place where the required facilities and factory accommodation are provided by the government to the entrepreneurs to establish their industries there. In India, industrial estates have been utilized as an effective tool for

the promotion and growth of small-scale industries and Industrial development is essential to communities because it impacts their local economy. This type of development creates employment opportunities and also encourages creativity and innovation. These factors and more contribute to the growth of industries within an economy. India is projected to attain significant demographic growth coupled with disproportionate rise in working age population. To support work force population, manufacturing sector requires generating employment to its full potential. 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. To develop industrial areas, it is necessary to explore route of private sector participation in development of industrial areas/ estates. Private sector participation will also help in development of world class facilities at proposed IA.

2.5.3 Alternatives to meet the demand

This is an existing SEZ cum industrial area which was in the name of M/s Ajanta Projects (India) Ltd. and changed to M/s Inspira Infra (Aurangabad) Ltd. The project site selection was a strategic decision that involves several criteria with consideration for technical, economic, social, environmental, and political issues. The site was selected considering different indicators, expressed in quantitative and qualitative ways with some possible uncertainty. Hence no alternative site is suggested.

Various steps involved in site suitability w.r.t areas to be avoided, type of industries compatible with existing land use, environmental attributes and applicable guidelines & standards were analyzed. Based on analysis, identification of type of industrial sectors, land uses to be set up, their zoning and buffers & greenbelt area requirement as per applicable guidelines within Industrial area (IA) was proposed by considering their pollution potential , environmental attributes of project site & study area.

2.5.4 Post project scenario on residual demand

The proposed, Industrial Estate/Park, due to advantage of its location, easy accessibility, available of water and labor force will be one of the viable and attractive estates. As the site is located in a backward and rural area, the proposed Industrial Estate will provide employment to rural people. The construction and functional phase of the project comprise various activities, each of which may have some

adverse impact on environmental parameter. Various impacts during the construction and operation phase on the environmental parameters shall be studied to estimate the impact on environment and post project scenario. Restoration of the affected site or environment to its previous state or better, as typically replacement of the same resource values at another location to provide an equivalent area to that lost to drainage or infill will increase the residual demand of the Industrial estate.

2.6 CAPACITY OF INDUSTRIAL ESTATE

2.6.1 Production capacity of the industry

Proposed project is for development of industrial park over an area of 231.89 Ac. The following are prospective industrial sectors identified:

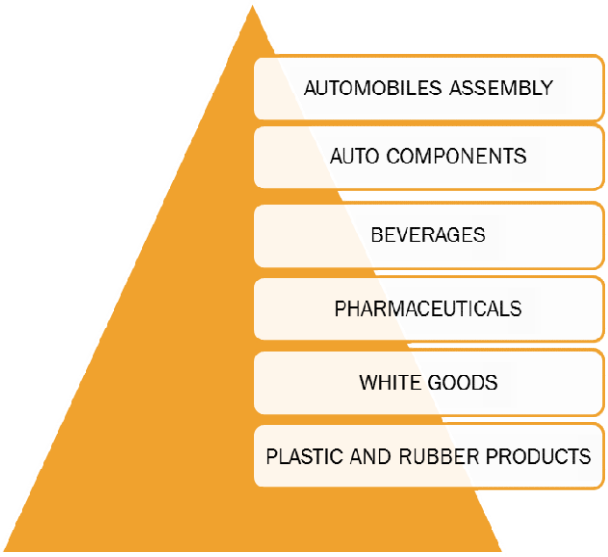


Table 2.1: Details of Proposed Industries

AREA UNDER INDUSTRIAL PLOTS > 10000 SqM				
SR. NO.	PLOT NO	AREA IN SQ.MT	PROPOSED LAND USE	INDUSTRY TYPES
1	I-1	23568.68	INDUSTRIAL	Engineering -metal products
2	I-6	45527.33	INDUSTRIAL	Metal forging
3	I-7	60117.87	INDUSTRIAL	Metal forging
4	I-8	14088.53	INDUSTRIAL	Wood processing
5	I-9	14111.82	INDUSTRIAL	Food processing including boiling
6	I-10	31982.11	INDUSTRIAL	Thermocol
7	I-11	15861.13	INDUSTRIAL	Packaging materials

8	I-12	13065.16	INDUSTRIAL	Engineering -metal products
9	I-14	17828.59	INDUSTRIAL	Assembly of electrical and electronics
10	I-15	11409.68	INDUSTRIAL	Paint industry
11	I-16	17215.57	INDUSTRIAL	Light Engineering
12	I-17	16282.81	INDUSTRIAL	Food processing
13	I-19	13762.43	INDUSTRIAL	Plastic processing and assembly
14	I-51	10318.1	INDUSTRIAL	Engineering assembly
15	I-154	17817.42	INDUSTRIAL	Metal forging
TOTAL		**322957.23**		

AREA UNDER INDUSTRIAL PLOTS <10000 SqM

SR. NO.	PLOT NO	AREA IN SQ.MT	PROPOSED LAND USE	INDUSTRY TYPES
1	I-2	8785.79	INDUSTRIAL	Cosmetic formulation
2	I-3	5455.54	INDUSTRIAL	Pharmaceutical formulation
3	I-4	5459.81	INDUSTRIAL	Thermocol packaging
4	I-5	5572.62	INDUSTRIAL	Corrugated boxing
5	I-13	3806.40	INDUSTRIAL	Food packaging
6	I-18	4234.30	INDUSTRIAL	Control panel manufacturing
7	I-20	4800.00	INDUSTRIAL	Rubber
8	I-21	2400.00	INDUSTRIAL	Plastic
9	I-22	5748.55	INDUSTRIAL	Assembly of electrical and electronics
10	I-23	3463.68	INDUSTRIAL	Manufacturing of detergents
11	I-24	4006.78	INDUSTRIAL	Screws and gauges
12	I-25	4023.25	INDUSTRIAL	Engineering -metal products
13	I-26	4038.50	INDUSTRIAL	Engineering -metal products
14	I-27	3925.25	INDUSTRIAL	Engineering -metal products
15	I-28	4477.83	INDUSTRIAL	Chemical formulation
16	I-29	4031.93	INDUSTRIAL	Plastic industry
17	I-30	4088.88	INDUSTRIAL	Rubber industry
18	I-31	4703.00	INDUSTRIAL	Processing and engineering

19	I-32	5886.66	INDUSTRIAL	Pharmaceutical formulation
20	I-33	2667.57	INDUSTRIAL	Precision engineering
21	I-34	2664.30	INDUSTRIAL	CNC engineering
22	I-35	4141.06	INDUSTRIAL	Plastic industry
23	I-36	4117.75	INDUSTRIAL	Plastic industry
24	I-37	4081.10	INDUSTRIAL	Plastic industry
25	I-38	4081.25	INDUSTRIAL	Plastic industry
26	I-39	4058.92	INDUSTRIAL	Engineering -metal products
27	I-40	4070.08	INDUSTRIAL	Engineering -metal products
28	I-41	3489.26	INDUSTRIAL	Corrugated boxing
29	I-42	6690.73	INDUSTRIAL	Engineering assembly
30	I-43	6722.29	INDUSTRIAL	Engineering assembly
31	I-44	6662.59	INDUSTRIAL	Engineering assembly
32	I-45	6594.23	INDUSTRIAL	Engineering assembly
33	I-46	6526.56	INDUSTRIAL	Metal forging
34	I-47	6473.84	INDUSTRIAL	Metal forging
35	I-48	6423.30	INDUSTRIAL	Chemical formulation
36	I-49	7257.86	INDUSTRIAL	Chemical formulation
37	I-50	8515.43	INDUSTRIAL	Heating refining and processing
38	I-52	600.00	INDUSTRIAL	Carpentry
39	I-53	600.00	INDUSTRIAL	Paint industry
40	I-54	600.00	INDUSTRIAL	Plywood
41	I-55	600.00	INDUSTRIAL	Manufacturing of silica gel
42	I-56	600.00	INDUSTRIAL	Coated electrode manufacturing
43	I-57	600.00	INDUSTRIAL	Jute processing without dyeing
44	I-58	600.00	INDUSTRIAL	Bakery and confectionery units
45	I-59	600.00	INDUSTRIAL	Thermometer manufacturing
46	I-60	600.00	INDUSTRIAL	Detergents and Soaps
47	I-61	485.11	INDUSTRIAL	Glass printing
48	I-62	600.00	INDUSTRIAL	Ayurvedic and homeopathic medicine
49	I-63	600.00	INDUSTRIAL	Fermentation industry

50	I-64	600.00	INDUSTRIAL	Fertilizer blending only
51	I-65	501.10	INDUSTRIAL	Plastic industry
52	I-66	387.95	INDUSTRIAL	Plastic industry
53	I-67	432.06	INDUSTRIAL	Engineering -metal products
54	I-68	400.00	INDUSTRIAL	Heating refining and processing
55	I-69	400.00	INDUSTRIAL	Carpentry
56	I-70	400.00	INDUSTRIAL	Paint industry
57	I-71	400.00	INDUSTRIAL	Plywood
58	I-72	498.46	INDUSTRIAL	Manufacturing of silica gel
59	I-73	400.00	INDUSTRIAL	Coated electrode manufacturing
60	I-74	400.00	INDUSTRIAL	Jute processing without dyeing
61	I-75	498.27	INDUSTRIAL	Bakery and confectionery units
62	I-76	400.00	INDUSTRIAL	Metal forging
63	I-77	400.00	INDUSTRIAL	Metal forging
64	I-78	400.00	INDUSTRIAL	Metal forging
65	I-79	400.00	INDUSTRIAL	Ayurvedic and homeopathic medicine
66	I-80	400.00	INDUSTRIAL	Fermantation industry
67	I-81	400.00	INDUSTRIAL	Fertilizer blending only
68	I-82	400.00	INDUSTRIAL	Plastic industry
69	I-83	400.00	INDUSTRIAL	Plastic industry
70	I-84	400.00	INDUSTRIAL	Engineering -metal products
71	I-85	400.00	INDUSTRIAL	Metal forging
72	I-86	400.00	INDUSTRIAL	Metal forging
73	I-87	400.00	INDUSTRIAL	Metal forging
74	I-88	497.71	INDUSTRIAL	Thermometer manufacturing
75	I-89	400.00	INDUSTRIAL	Detergents and Soaps
76	I-90	400.00	INDUSTRIAL	Glass printing
77	I-91	498.22	INDUSTRIAL	Manufacturing of detergents
78	I-92	400.00	INDUSTRIAL	Screws and gauges
79	I-93	400.00	INDUSTRIAL	Screws and gauges
80	I-94	400.00	INDUSTRIAL	Food processing including boiling

81	I-95	400.00	INDUSTRIAL	Food processing including boiling
82	I-96	430.68	INDUSTRIAL	Engineering -metal products
83	I-97	693.71	INDUSTRIAL	Engineering assembly
84	I-98	445.61	INDUSTRIAL	Engineering assembly
85	I-99	445.61	INDUSTRIAL	Engineering assembly
86	I-100	445.61	INDUSTRIAL	Engineering assembly
87	I-101	445.61	INDUSTRIAL	Engineering assembly
88	I-102	500.11	INDUSTRIAL	Engineering assembly
89	I-103	500.11	INDUSTRIAL	Carpentry
90	I-104	500.11	INDUSTRIAL	Carpentry
91	I-105	500.11	INDUSTRIAL	Glass printing
92	I-106	500.11	INDUSTRIAL	Engineering -metal products
93	I-107	500.11	INDUSTRIAL	Engineering -metal products
94	I-108	500.11	INDUSTRIAL	Engineering assembly
95	I-109	500.11	INDUSTRIAL	Engineering assembly
96	I-110	672.90	INDUSTRIAL	Dairy and dairy products
97	I-111	672.90	INDUSTRIAL	Dairy and dairy products
98	I-112	500.11	INDUSTRIAL	Heating refining and processing
99	I-113	500.11	INDUSTRIAL	Carpentary
100	I-114	500.11	INDUSTRIAL	Paint industry
101	I-115	500.11	INDUSTRIAL	Plywood
102	I-116	500.11	INDUSTRIAL	Manufacturing of silica gel
103	I-117	500.11	INDUSTRIAL	Coated electrode manufacturing
104	I-118	500.11	INDUSTRIAL	Jute processing without dyeing
105	I-119	500.11	INDUSTRIAL	Bakery and confectionery units
106	I-120	445.61	INDUSTRIAL	Thermometer manufacturing
107	I-121	445.61	INDUSTRIAL	Detergents and Soaps
108	I-122	445.61	INDUSTRIAL	Glass printing
109	I-123	445.61	INDUSTRIAL	Ayurvedic and homeopathic medicine
110	I-124	445.61	INDUSTRIAL	Fermentation industry
111	I-125	460.86	INDUSTRIAL	Fertilizer blending only

112	I-126	471.07	INDUSTRIAL	Plastic industry
113	I-127	445.72	INDUSTRIAL	Plastic industry
114	I-128	445.72	INDUSTRIAL	Engineering -metal products
115	I-129	445.72	INDUSTRIAL	Fermentation industry
116	I-130	445.72	INDUSTRIAL	Fertilizer blending only
117	I-131	487.34	INDUSTRIAL	Plastic industry
118	I-132	541.37	INDUSTRIAL	Engineering -metal products
119	I-133	500.11	INDUSTRIAL	Carpentry
120	I-134	500.11	INDUSTRIAL	Paint industry
121	I-135	500.11	INDUSTRIAL	Plywood
122	I-136	417.71	INDUSTRIAL	Paint industry
123	I-137	500.11	INDUSTRIAL	Engineering -metal products
124	I-138	500.11	INDUSTRIAL	Engineering -metal products
125	I-139	500.11	INDUSTRIAL	Cattle feed processing
126	I-140	500.11	INDUSTRIAL	Cattle feed processing
127	I-141	672.90	INDUSTRIAL	Cattle feed processing
128	I-142	1060.24	INDUSTRIAL	Plywood
129	I-143	1086.95	INDUSTRIAL	Plywood
130	I-144	1089.68	INDUSTRIAL	Plywood
131	I-145	1091.69	INDUSTRIAL	Plywood
132	I-146	1094.54	INDUSTRIAL	Metal processing
133	I-147	1098.00	INDUSTRIAL	Metal processing
134	I-148	1100.00	INDUSTRIAL	Metal processing
135	I-149	1100.00	INDUSTRIAL	Metal processing
136	I-150	1249.00	INDUSTRIAL	Metal cladding
137	I-151	1257.63	INDUSTRIAL	Metal cladding
138	I-152	1259.00	INDUSTRIAL	house hold chemicals
139	I-153	1262.50	INDUSTRIAL	house hold chemicals
TOTAL		241312.34		
GRAND TOTAL INDUSTRIAL PLOT		564269.57		

The green highlighted industries are of category "Green" and the orange highlighted industries are of category "Orange".

2.6.2 Raw Material Supply, Quality & Management

The proposed project being area development project raw material is required only during Construction Phase. Construction material will be transported from local vendors to reduce transportation costs, Local excavated material may be used for earthwork of road and land development, wherever possible. Sand- 18,150 MT; Metal- 37,875 MT Cement- 1,560 MT Rubble 45,000 MT steel- 245 MT Murom- 1,19,500 CuM which will be sourced from Local Market / Project Areas.

The transportation of raw materials will be the responsibility of Civil Contract awardees through Commercial vehicles. Construction material will be stored in Covered area. Water will be sprinkled regularly on the haul road to minimize the fugitive emissions. During Operation Phase Individual plot owner/ tenant will transport personnel and materials as per their requirement. The man & material transportation for individual units within the Industrial Complex will use the State Highway and enter the complex through main gate and use the internal developed road to the respective locations.

2.6.3 Optimization of capacity

Effective management of resources is an essential task for Industrial estates/SEZ that are managing different projects. It will be efficiently organize and suitable persons and equipments will be allocated for different projects. Proper information shall be collected about the availability of the resource and have them available at the right time to manage the costs and smoothly executing the project activities. Following steps shall be taken for resource optimization

1. Getting bird's-eye view of all the available resources
2. Managing the roles and skill set of respective resources
3. Having control over the equipment usage and availability
4. Resource management reports for the optimal resource utilization
5. Defining Containment Zones during Construction Phase
6. Local temporary protective boundary setup for individual construction areas

Each project will be explored for recycling and reuse of wastes/bi-products to be generated to minimize the waste generation. Excavated earth will be utilized for

leveling purpose & other pavement works. The top soil will be stacked separately for using in the greenbelt development zones. Fly ash will be utilized as building material. Treated wastewater will be reused for gardening purpose. No discharge of effluent shall be done from individual industrial premises as per the respective agreement norms. The individual units will take separate permission for emission and discharge as applicable from MPCB.

2.7 PROCESS TECHNOLOGY

2.7.1 Broad specifications for the proposed industry

INDUSTRIES LIKELY TO COME UP DURING EXPANSION GIVEN BELOW

Anticipated Sectors- Health care, FMCG, Renewable and non-renewable energy, Auto and engineering. Food Processing, Detergent Industries, Ply Wood, Bakeries, Light Industries, Electronics and Electrical Products, Paints and Pigments, Automobiles' Accessories, Biotechnology, Pharmaceutical / Fermentation Units, Plastic Units for Molding and Manufacturing, IT/ITES/Food Processing, Printing, Metal Fabrication, Textile and Apparel. No chemical industries are proposed under Pharmaceutical category, only formulation is proposed.

2.8 RESOURCES / RAW MATERIALS

2.8.1 Details on raw material, by products/co-products

The individual industries in post development phase shall bring their raw material and store them appropriately within their premises. Similarly, any Industrial solid waste shall be handled and disposed off according to law as appropriate. The municipality solid waste shall be in-si-tu used for composting and utilized for landscaping and greenbelt development.

The quantification of the raw materials can only be done in the post phase of implementation.

2.8.2 Water

The project site is located on Industrial Plot of MIDC, which was acquired from the farmers in the year 1998 for establishing Industrial Estate. The water management system consists of water supply, waste water, storm water for the industrial park. The

source of water is MIDC metered water which will be received at the entrance gate of the industrial park. The further planning of the internal services is to done by the developer. Uninterrupted water will be supplied through HDPE pipeline from MIDC elevated service reservoir at the doorstep of the industrial plots. The quality of the water will meet the BIS standards for potable use. The distribution pipeline will be of HDPE pipes with MDPE connection to each individual plot owners. All the water will be supplied through meter.

The total water supply to Shendra Five Star INDUSTRIAL CITY is **15 MLD** through the MIDC MBR (Master boosting reservoir) and ESR, located at the south-east corner adjacent to the site.

2.8.3 Power & Sourcing

Power is distributed to INSPIRA INDUSTRIAL CITY by Mahavitaran, the Maharashtra State Electricity Distribution Company limited (MSEDCL) through the 220 KV substation within the industrial park. The existing 132 KV transmission line passes outside the boundary of Inspira Industrial Park.

The target segment proposed will be processing industries, there is also provision for residential, commercial institutions and utility areas as per the by-laws and development guidelines. Based on the target sectors and the load norms for Power demand for processing and non–processing area, power is calculated. The Net Load at MRSS is 30 MVA and it can be fed from two or three incoming feeders of 33KV

System Voltage. So, main receiving sub-station [MRSS] shall have 132/33KV built up. Backup Source - DG sets are proposed in case of power failure for common utilities like street lights, water pumps, sump pumps, etc. There will be provision for 2 no of 125 KV DG set for utilities for stand by purpose. Effective measures have been incorporated, in order to minimize the energy consumption, in the following manner:

1. All buildings will be adequately spaced, so that sunlight, natural ventilation will not be disturbed or hindered in any of the building, due to adjacent buildings.
2. The buildings will be designed in such a way that the public areas can be cooled by natural ventilation.

3. Adjusting the settings and illumination levels to ensure minimum energy used for desired comfort levels.
4. Constant monitoring of energy consumption and defining targets for energy conservation.
5. Alternate switching arrangement for Common Area.
6. Use of timer for common and external lights.

2.8.4 Manpower & Sourcing

Aurangabad has evolved as a center for education catering to the entire Marathwada region. There is numerous diploma engineering, engineering, medical and pharmaceutical colleges at Aurangabad. Many of these colleges have a strong industry-education partnership, thus creating a ready availability of educated and trained workforce in this region.

The proposed project will provide employment to people during its construction and operation phase. Employment or provision of suitable business opportunity is envisaged to match the skill and potential of the member and available options.

It is expected that, during construction phase the requirement of labor will be 200-300 persons per day. Local labors will be employed from the surrounding villages. A temporary labor camp also may be provided as per the situation. However, the responsibility of constructing a labor camp, if the needed it will lie with the Civil contract awardees of respective vendors.

During Operational phase, there will be both Direct and Indirect employment generation. About 15-20 persons will be directly employed by the project itself for maintenance of the industrial area, out of which 5-10 persons will be skilled labor. The overall employment generation in the project area by the proposed industries is estimated to be in the region of about 20,000.

2.8.5 Infrastructure

The project area will be divided into processing and non processing areas. The processing area will comprise industrial units such as heavy and light engineering, electronics and electrical products, automotive industry, biotechnology, food processing and floriculture/high-tech agriculture, logistics industry and IT as well as

core infrastructure. The industrial composition of the processing area may undergo changes over time depending on market trends and dynamics of the economy. The non processing area will house social and other infrastructure such as residence, recreation, health and education, retail and commercial facilities as well as other public utilities, seeking to provide a high quality of environment and life to allow healthy and efficient economic activity. The available infrastructures are as follows.

Table 2.2: Detail Surrounding Infrastructure Available

No.	Amenities	Available (Yes/No)	Number/Distance from the Village
1	Non-metal Road	Yes	All habitations of the villages are connected with Non Metal Road
2	Tar Road (Metallic Road)	Yes	All the villages are connected with Tar road
3	Railway Station	No	Nearest Railway is at Aurangabad at 7 km away by aerial distance
4	Electricity	Yes	Most of the houses are electrified, but the power supply is very erratic.
5	Aanganwadi	Yes	In every village there are more than one Aanaganwadi
6	Primary School	Yes	Zilla Panchayat runs Basti level Primary schools at in all villages.
7	Middle/Higher SecondarySchool	Yes	Middle/Higher secondary schools are run by various educational trusts.
8	GramPanchayat	Yes	Every village has a Gram Panchayat building, the physical status varies from one village to other.
9	Cremation Area/ Burial Grounds/	Yes	Crematorium and burial grounds are present in all villages.
10	Police Station	Yes	Police Chauki under jurisdiction of Khed Police station
11	STD/PCO	Yes	Numerous coin box based PCOs operate in all villages.
12	Post Office	Yes	Most of the villages have a post office.
13	Places of worship	Yes	Temples, Mosques
14	Shops	Yes	Various shops selling grocery and other items for domestic consumption are located in Gao than and at times in bastis..
15	Nationalized Bank	Yes	Bank of India, Syndicate bank, Union Bank of India

2.8.5 Electrical power

Power is distributed to Shendra INDUSTRIAL CITY by Mahavitaran, the Maharashtra State Electricity Distribution Company limited (MSEDCL) through the 33KV substation within the industrial park. The existing 132 kv transmission line passes outside the boundary of Inspira Industrial Park

The target segment proposed will be processing industries, there is also provision for residential, commercial, Institutions and utility areas as per the bye laws and development guidelines. Based on the target sectors and the load norms for Power Demand for processing and non–processing area, power is calculated. The Net Load at MRSS is **30 MVA** and it can be fed from two or three incoming feeders of 33KV System Voltage. So, main receiving sub-station [MRSS] shall have 132/33KV built up.

2.8.6 Construction material like sand, brick, stone chips, borrow earth etc.

The proposed project being area development project raw material is required only during Construction Phase. Construction material will be transported from local vendors to reduce transportation costs, Local excavated material may be used for earthwork of road and land development, wherever possible. Sand- 18,150 MT; Metal- 37,875 MT Cement- 1,560 MT Rubble 45,000 MT steel- 245 MT Murom- 1,19,500 CuM which will be sourced from Local Market / Project Areas.

The transportation of raw materials will be the responsibility of Civil contract awardees through Commercial vehicles. Construction material will be stored in Covered area. Water will be sprinkled regularly on the haul road to minimize the fugitive emissions.

2.9 REJECTS (PROBABLE POLLUTION POTENTIAL)

2.9.1 Air emissions

Construction Phase: Site clearance and site preparation, infrastructure development, building construction and other related activities, traffic and movement of construction vehicles and equipments.

Anticipated pollutants:

Suspended particulate matter (SPM), carbon monoxide (CO), and Sulphur dioxide ($S0_2$)

Operation phase: Emissions from traffic and transportation, industrial emissions, negligible emissions from sewage and solid waste handling and disposal.

Anticipated pollutants:

Nitrogen oxides (NOx), SPM, Sulphur dioxide ($S0_2$ and CO), industrial emissions.

2.9.2 Liquid Waste / Waste Water

Liquid waste like to be generated are Used Oil, Waste Oil & Spent Oil and Effluent water. Used Oil, Waste Oil & Spent Oil shall be managed as per provision under Hazardous Waste (Management, Handling and Tran boundary Movement) Rules, 2016 by the individual Industry. Detail inventorization shall be made in EIA report

Waste water Generation and its Management.

The only waste water from the industrial city is to be treated in adequate STP. The STP is based on the Soil Bio Technology system The collection system has been designed and optimized using modeling software. The minimum diameter is taken as 150mm and the pipe material is used as HDPE. The diameter wise abstract is given below as per Concept Design, which will may change after detailed Engineering Design.

1. Units shall ensure that their units is based on "Zero Waste Discharge Philosophy" by setting up Septic Tank and set up Sewage Treatment System within their land to meet the environment norms at its cost.
2. During operation phase the Wastewater collection & conveyance system, treatment & disposal arrangement will be provided. Treated wastewater will be used for landscaping and flushing purposes.
3. The sludge generated would be sent for composting after drying. The ETP of the required capacity will be installed to treat the industrial waste from the processing area. The effluent from the industry will be passed through bar screen and grid chamber to remove solid and unwanted material. Then it is passed through oil and grease trap to remove oil and grease. Then it is transferred to neutralization or equalization tank to maintain the flow and adjusting pH.

4. After preliminary treatment effluent from each industrial unit will be sent to Common Effluent Treatment Plant (CETP) for secondary and tertiary treatment

Figure 2.3:Flow Diagram of Individual ETP

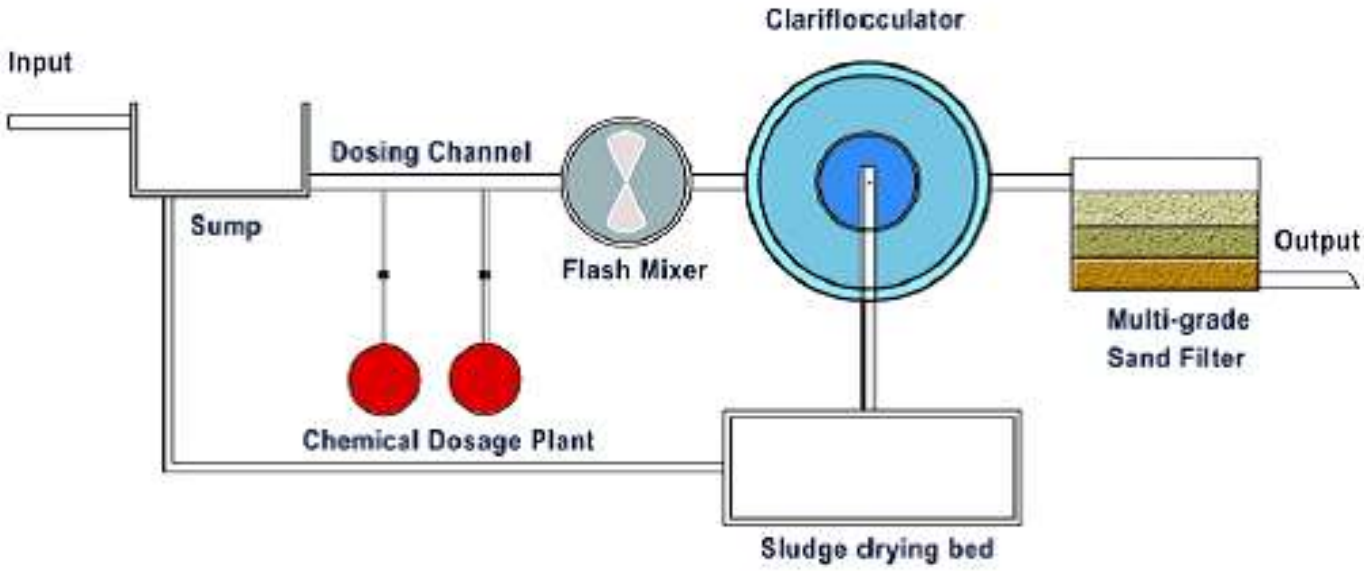
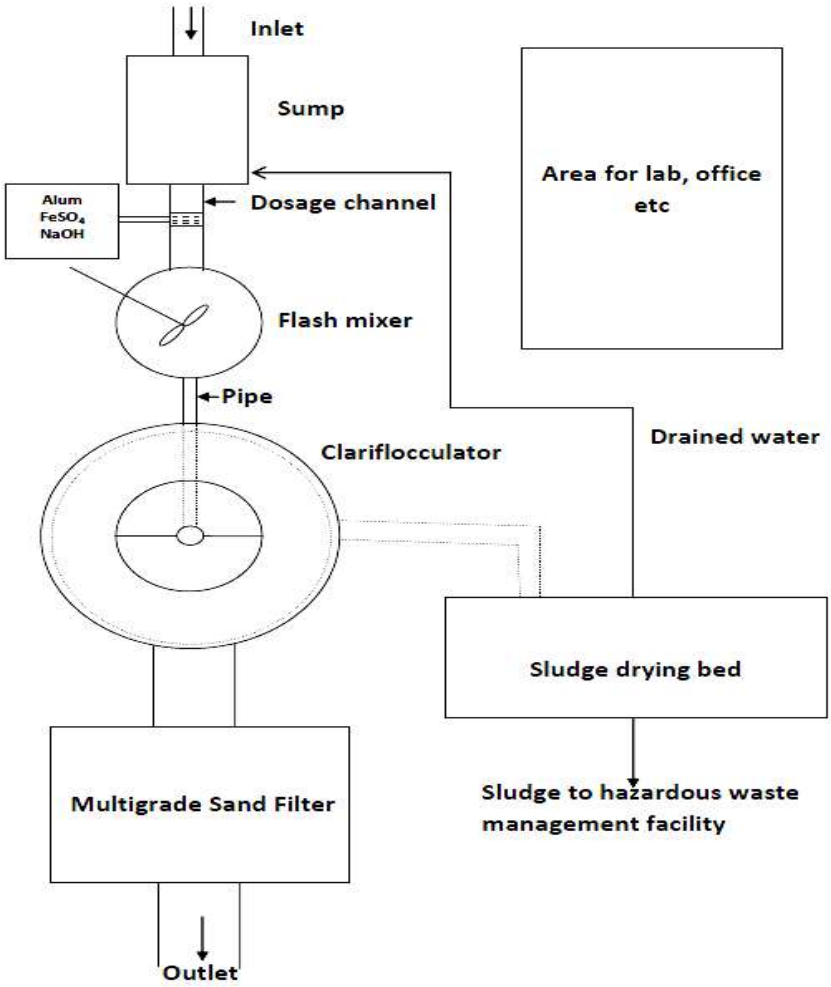


Figure 2.4: Concept Plan for CETP Design



2.9.3 Solid / Hazardous Waste

Ispira Industrial City ensures that all its units shall deploy end-to-end effluent (Fluid) /solid waste treatment & disposal measures as per the requirement/s of MPCB or any other as imposed by any competent authority. Units further ensures that if any effluent (Fluid)/ Solid waste including hazardous waste is to be disposed by them, it will be at its own cost for treatment and disposal at a facility owned by unit holders or approved by MPCB or any other competent authority as the case may be and shall not discharge/dispose such solid waste including hazardous waste in Inspira Industrial City against the prescribed norms and standards. All regulations in regard to collection, storage, transport, treatment and disposal will be strictly adhered to by them.

Anticipated solid waste generation from the total project area of 93.85 Ha i.e 231.9084 Acres, when completely occupied will be as given in the table below:

Table 2.3: Inventorization of Probable Solid Waste

Sources	Biodegradable (tonnes/day)	Recyclable (tonnes/day)	Others (tonnes/day)	Total (Tonnes/day)
Processing Area	5.69	5.69	0	4.48
Non-Processing				6.90
Other Sources	1	1.4	1.2	3.6
Total (tonnes/day)	6.69	7.09	1.2	14.98
Total (tonnes/year)*	2274.6	2410.6	408	5093.2

* Considering 340 days of generation and collection

Individual Units shall always abide by the Standard Operating Procedure for Solid Waste Management as laid down by Inspira Industrial City.

Standard Operating Procedure for Solid Waste Management in Shendra Industrial City

Inspira Industrial City's Vision:

To create a sustainable city based on life's principals that will creatively synthesize human need, environmental stewardship, and economic viability; a global model of urbanism where man and nature will live, grow and prosper in harmony.

Objective

The objective of this SOP is to:

1. Abide by all relevant Central & State Government rules and regulations like Municipal Solid Waste (Management & Handling Rules 2000).
2. Establish scientific, efficient, and inclusive system for Solid Waste Management by adapting latest methods and technologies for waste management (Collection, treatment and disposal).
3. Establish futuristic system so that it meets the requirement of rapid urbanization; and is viable with expansion of city resulting in enhanced per capita waste generation.
4. Do away with requirement of disposing waste to landfills.
5. Give emphasis to methods of Reduction, Reusing, Recycling, Repairing, and Rotting.

& Ensure

1. Material recovery and Nutrient recycling;
2. Healthy Environment-Curtailing communicable diseases,

3. Maintaining Aesthetics, and
4. Preventing environmental degradation.
5. Standard Operating Procedure

Each Unit/Tenant of Inspira Industrial City shall:

Designate a responsible senior official for management & disposal of all kinds of waste generated by it. The designated officer shall establish an internal system to ensure scientific waste management and strict compliance of Municipal Solid Waste (Management & Handling Rules 2000) and conditions mentioned in the Consent to Establish/Operate. Make sufficient budgetary provisions for waste management to include inter-alia (a) wages of sanitation workers (b) expendables (c) PPE for sanitation workers, and (d) other operating costs. Organize programs/events to educate and motivate sanitation workers as well as entire staff to reduce the waste generation, proper segregated storage in different bins and other good practices. Coordinate, cooperate and support in mobilizing neighboring Units and community on aspects of waste generation and waste management. Provide sufficient storage facility for all kinds of waste generated by it. Arrange segregation of waste strictly at source and prevent littering on streets. Install Garbage disposal etiquette in their staff. Display boards in premises "Onus of keeping the Inspira Industrial City clean is entirely mine". Not dump waste in common areas, open spaces, drains and water bodies.

For Storage of Waste the units will:

Characterize and quantify waste and share the same with Inspira Industrial City waste management services. Create sufficient storage facility to store waste material in scientifically segregated manner. They will use different bins for storage of different material viz. Glass; Metal; Paper; Biodegradable (Wet Waste, Kitchen Waste); Plastics, PET; Rubber and Leather; Rags; Wooden Material; Coconut & Others. Ensure that the storage is covered so that it is not exposed to water and generates leachates. Provide measures to prevent domestic fly, mosquito and other nuisances. If required install fly traps and rat repellent. Take measures to control odour emanating from the storage facility, if any.

Cost Recovery: The units will recover cost by:

1. Selling stored waste to itinerant buyers /established recyclers or others as per their convenience and storage capacity.

2. Maintain records of waste sold and cost recovered.
3. Utilise the compost generated for their in-house consumption and sell unutilised compost to other users.
4. Disposal
5. Composting
6. The units will make suitable arrangements to produce compost from their biodegradable waste.
7. The units can use suitable media for composting.
8. The units will choose appropriate composting method depending on quantity of waste generated on daily basis.
9. The open heap composting is strictly prohibited. NADEP Pits and Garbage pits will be used for efficient composting of biodegradable waste.
10. The units will use the Compost for in-house horticultural works to recover vital nutrients and may sell surplus compost to outside users.

Incineration:

Incineration of waste in Inspira Industrial City is strictly prohibited. Units will not incinerate waste under any circumstances. Defaulter units will be served with a notice. The repetitive defaulters will be penalised @ Rs. 10000.00 per incident. Even after three consecutive penalties the practice of incineration is not shunned a formal complaint will be lodged with MPCB.

Special & Hazardous Waste Handling

The units shall obtain membership of the authorized service providers for handling and disposing E Waste, Biomedical Waste, Any Hazardous Waste & Battery waste through authorized vendors of MPCB..

Monitoring & Evaluation

Inspira Industrial City will monitor and evaluate of waste management system in a participatory manner. All Units/Tenants in Inspira Industrial City are expected to provide their full cooperation to agencies/persons deputed by Inspira Industrial City for the same.

Others

All special wastes require special attention and specific treatment and disposal methods are to be followed. Unit holders shall observe and conform to all rules, statutory regulations and bye-laws of the Special Planning Authority(SPA)/any other concerned authority relating to public health and sanitation in force for the time being

and to provide sufficient latrine facilities accommodation and other sanitary arrangements for the laborers, workmen and other staff employed in their area or any structure constructed thereon in order to keep their area and surroundings clean and in good condition.

(a) During Construction Phase

Waste during construction activity relates to excess cement mix or concrete left after work is over, rejection caused due to change in design or wrong workmanship etc. These are normally re-used as filling at the same site after completion of excavation work. The solid waste during the construction phase will comprise of excavated earth, building construction materials.

The construction wastes will be reused mostly for leveling the site and the segregated recyclable wastes like metals, glass and plastic wastes will be sold to the authorized vendors. In addition to that there will be some municipal solid waste generation during the construction stage which will be collected and disposed off at the designated municipal waste disposal site. Excavated earth during the civil works including road construction, fencing, drainage, site leveling etc., shall be utilized within the project site. Topsoil shall be conserved and will be utilized in the areas earmarked for greenbelt development.

All the solid waste generated will be managed as per provision under Solid Waste Management Rules, 2016.

Municipal Solid Waste Management

Domestic Waste collection system will be collected and dumped at specified location within the site. Twin bins system will be adopted for segregation of wastes at source. Recyclable wastes will be sold off to authorized vendors. Bio- degradables will be treated on-site through Organic Waste Converter and the compost will be used as manure. Approximately 20-25 kg/day of municipal solid waste will be generated from the construction camp and construction site. This will be collected and disposed off in a fenced pit at dugout the site for making compost.

Waste management cell would be the responsibility of individual industries. Individual industry will provide system for municipal solid waste collection, storage

and disposal. Each industry shall have to comply with the Construction and Demolition Waste Management Rules, 2016.and amendments thereafter.

(b) During Operation Stage:

Waste generation from the individual industries, each industry has to obtain separate authorization, however there are 4-5 Public Dumps to be kept and lifted and cleared once/twice a week for the basic waste generated. An Area of 1.83 ha (4.55 Ac) of land has been earmarked for developing amenities including area required for waste management.

(c) E-Waste Management

In general, computer equipment is a complicated assembly of more than 1,000 materials, many of which are toxic, such as chlorinated and brominated substances, toxic gases, toxic metals, biologically active materials, acids, plastics and plastic additives. The individual industry will handle the E-waste as per provision under E-Waste management and Handling Rule-2016.Detail inventorization shall be done in EIA report.

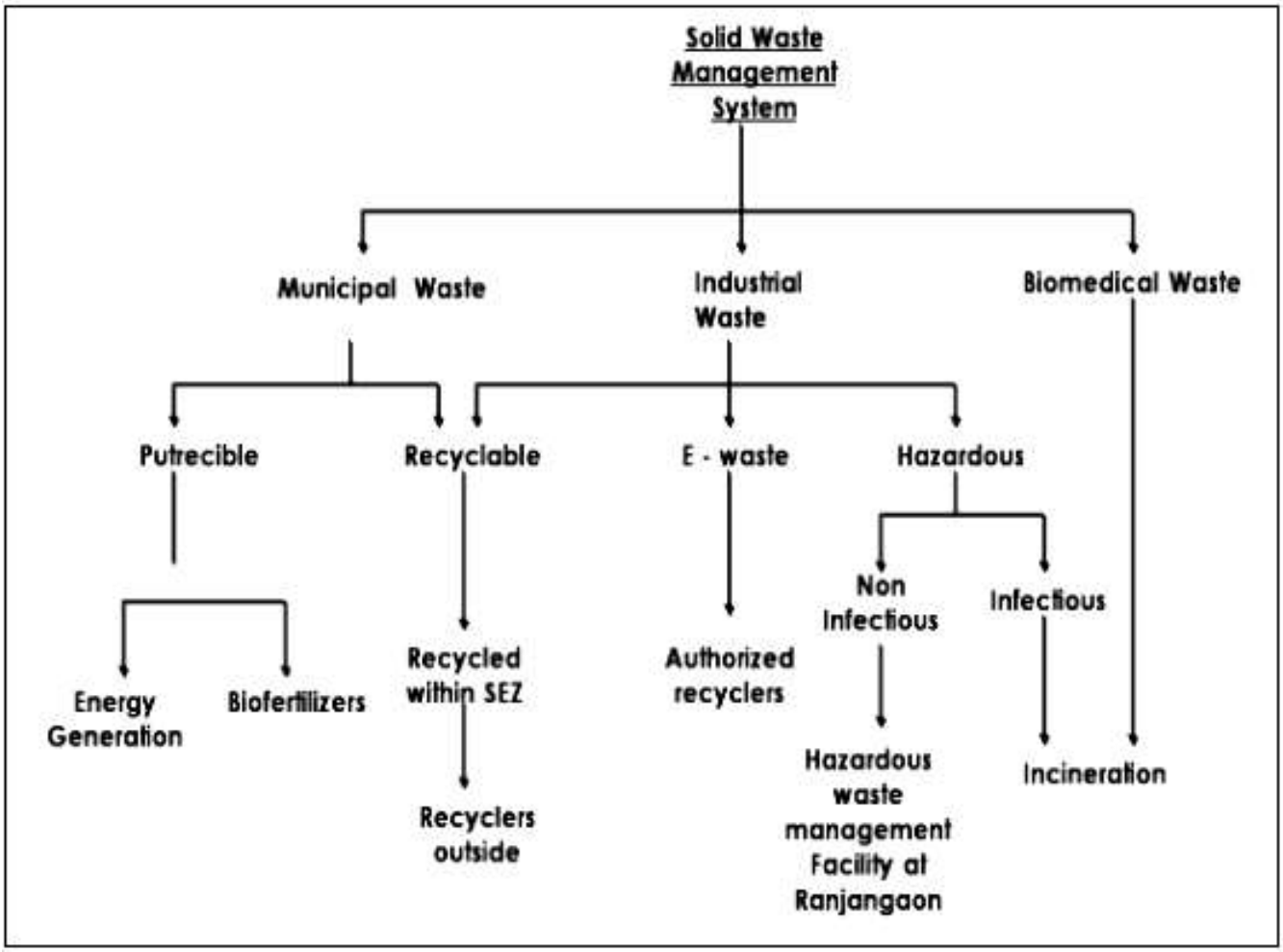
(d) Biomedical Waste Management

Hospital waste includes garbage, refuse, rubbish and Bio Medical Waste". All this waste needs proper management for disposal and treatment. Required facilities for management of biomedical waste shall be developed inside 1.83 ha earmarked for amenity development. The Bio-Medical Waste Management Rules, 2016 shall be followed for handling and management of said waste.

(e) Hazardous Waste Management

During construction phase no hazardous waste will be generated. During operation phase hazardous waste management would be the responsibility of individual industries. Prior to the commencement of production, each unit shall take authorization for storage, handling and transport of hazardous waste, as per the Hazardous Waste (Management, Handling and Tran boundary Movement) Rules, 2016 and amendments thereof.

Figure 2.4: Overall Solid Waste Management Plan



2.9.4 Noise Management

During construction, vehicles carrying construction material and operation of construction machinery and equipments are expected to generate noise. All the workers will be provided with ear plugs for avoiding noise exposure and most machineries to be hired shall have noise control equipments built into it as per the new stanrds. During operation phase; the industrial processes, traffic and transportation and machinery and equipments will be the anticipated sources of noise pollution. Appropriate control measures shall be taken by individual entities as per the CPCB guidelines.

2.9.5 Odor Management

The Individual industry will make arrangement for odour management as likely to be generated from their respective manufacturing unit.

2.10 TECHNICAL PROJECT PROFILE

2.10.1 Traffic that would arise during different phases of the project and transportation mechanism to handle such traffic

Existing road is capable enough to take the traffic load even after expansion, however new internal roads will be developed as per the requirement. The approach road to proposed site is Aurangabad-Jalna Highway. There is another new Highway namely Samrudhi Mahamarg Expressway on opposite side of the project area connecting Nagpur-Mumbai.

The use of private two and four wheeled vehicles will be considerably high as compared to public transport. Three and four wheeled commercial vehicles are used for local transport by the villagers. Study on traffic density shall be carried out during EIA study.

The probable increase in traffic due to industrialization is estimated at 300-350 per day.

Table 2.4: Traffic Load Estimates

Category	Number	VDF	Growth Rate	MSA
Buses	15	1.5	3	0.1
LCV	239	1.5	3	0.9
2 Axle Trucks	79	3	3	0.6
3-Axle Trucks	32	3.5	3	0.3
Multi Axle Trucks	24	4.5	3	0.3
Total				2.1
Design MSA				3.0

2.10.2 Size of IE

Total area of project is 93.85 Ha i.e 231.9084 Acres.. Out of which, Industry and amenities developed area is 139.14 Ac is reserved for developed and the rest of the area is for Utility, open space and common amenities. There will be water bodies for Rain water harvesting and storm water drainage systems will be connected to these

water bodies with contour control gravity flow. Some of the site pictures are given below:

Figure 2.5: Site Photographs

2.10.3 Industrial Capacities and Specific Pollutants of Concern

Total 147 orange category industries will be operating within the city along with 7 green industries based on the Pollution Index which is a function of the emissions (air pollutants), effluents (water pollutants),hazardous wastes generated and consumption of resources. For this purpose the references are taken from the the Water (Prevention and Control of Pollution) Cess (Amendment) Act, 2003, Standards so far prescribed for various pollutants under Environment (Protection) Act , 1986 and Doon Valley Notification, 1989 issued by MoECC.

2.10.4 Identification of sites, master planning, development and management aspects

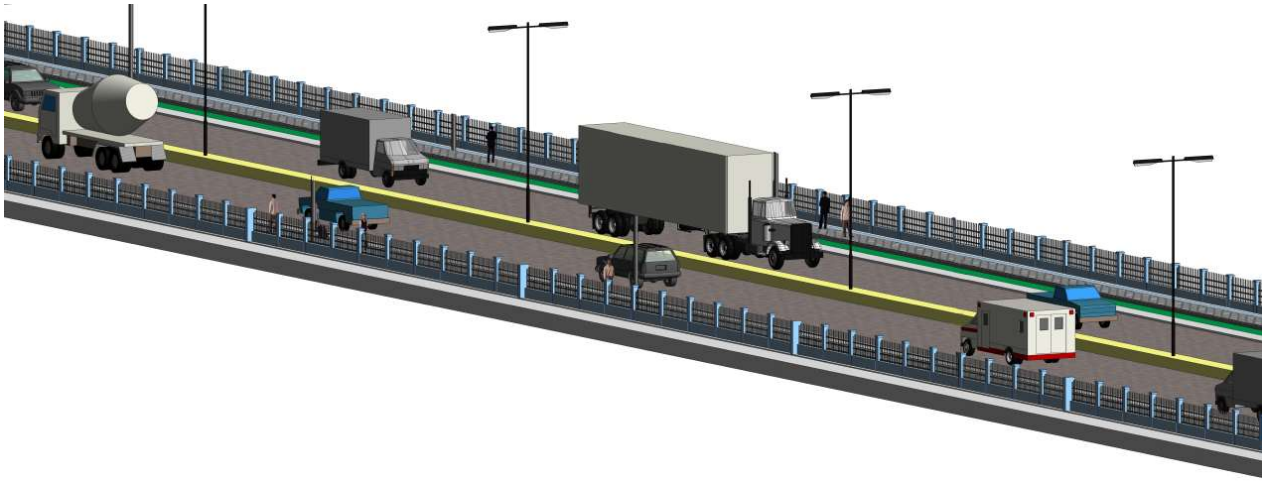
The site is characterized with a uniform terrain and good water table providing scope for ground water recharge and reuse. The well irrigated land provides scope for an environment friendly design for industries. There are a number of villages that surround the industrial area which attract the workforce to the Industrial Park. As per the master planning, the major attributes of structural parameters are as given below.

Table 2.5: Site Parameters

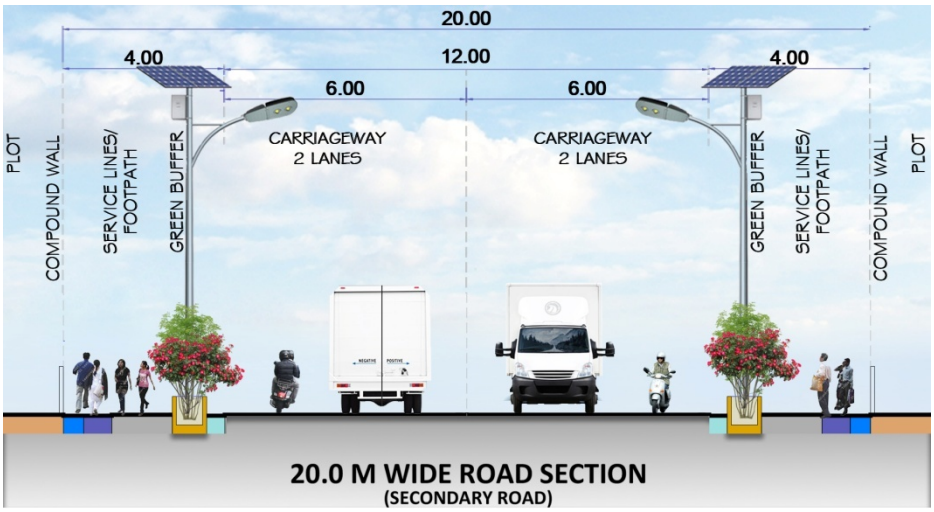
1	Plot area (C-21, C23, C23/1 and C-23/2)	93.85 Ha i.e 231.9084 Acres
2	Total Plot table area	93.85 Ha i.e 231.9084 Acres
3	FSI Available	Minimum is 1.0 and can extend upto 2.5
4	Maximum height of building	24 m, however it will be allowed as per the DCR of IIA and the Airports Authority of India.
5	Area Distribution for Industrial and Residential Area / Commercial Area.	Total Industrial Area: 56.31 Ha Total Residential Area: 8.83 Ha Total Commercial Area: 2.68 Ha Total Green Space: 10.48 Ha Total Roads/Utility Area: 15.54 Ha

2.10.5 Sectional Plans

25.0 M WIDE ROAD SECTION
(PRIMARY ROAD)



3D View of 25 m Wide Road



3D view of 20m Wide Roads

2.11 PROJECT SCHEDULE

2.11.1 Outline Project Implementation And Procurement Arrangement Including Contract Packaging

The project will start after issuance of environmental clearance. The factors which are responsible for timely implementation of the project are:

1. Arrangement of proper finance for the project
2. Finalization of layout of the proposed plant.
3. Design of utilities and services
4. Placement of orders for plant and machinery.
5. Arrangements for Govt. sanctions and supply of power.
6. Recruitment of personnel.

As per an initial estimate, around 8 to 10 Years will be needed for implementation of the project from the starting date i.e. from the date of receiving all the statutory clearances for starting the project.

2.11.2 Project Implementation Schedule Showing Various Activities

Due to the large area of the project site, the developmental activities will be accomplished in phases and accordingly the individual permissions will be obtained from local statutory Authorities. The development of the project depends on marketability and acceptance by proponents to setup industries in this zone. The broad plan of implementation is as follows:

- Infrastructural development of adjacent area is to be ready for occupancy between 0-7 years.
- Development of basic amenities will be within the area - 0-5 years.
- Area Aesthetic Development - 0-8 years which is a gradual process requiring recurring maintenance.

2.11.3 The Costs And Benefits Of The Proposed Project For Project Life

The cost estimates have been worked out based on thumb-rule estimates and our experience of developing cost and financial analysis for other similar parks. The overall cost estimates have been outlined below for illustration purpose only:

Sr	Particulars	Rs. In Cr	Rs. In Cr
1	Land Cost		11.54
2	Int & Pre-Op Cost		145.63
3	Development Cost		254.57
	- Road	69.42	
	- Water	55.95	
	- Power	24.09	
	- Other Infra Cost	105.12	
4	Contingencies		8.54
	Total		**420.28**

2.11.4 Technical and logistic constraints/ requirements of project sustainability

The project is well connected with Road and railway, so there will be no constraints in logistic management. However the developmental activities shall depend on some factors beyond the control of the project proponent, such as:

1. Markatability of the site.
2. Willingness of entrepreneurs to setup industry in this complex.
3. Global demand of products and its market potential.
4. Any statutory conditions in future banning or restricting any product category to be manufactures.
5. State & National policies in alignment to the concept of this Industrial Complex.

CHAPTER-3

SELECTION OF SITE

3.0 CHOICE OF SITE SELECTION (MAJOR TECHNO-ECONOMIC FEASIBILITY CONSIDERATIONS)

3.0.1 Land availability & its development

The land admeasuring 231.89 Ac was acquired by Industries Department State of Maharashtra Industries Department through MIDC under the MID Act for Industrial Use. After the acquisition the land was in possession of MIDC which is been Leased to Inspira Industrial City, Aurangabad for 95 years for the development of the project vide two lease deeds executed between MIDC and IIC. As per the land records State of Maharashtra is the owner of the land, MIDC on behalf of the State Government is the Lessor and IIC is the Lessee.

3.0.2 Product demand around the selected site

The goods and products manufactured from the industries of proposed project would fill the demand-supply gap and hence improve the domestic Markets. The industries will come up as per the requirement of market.

3.0.3 Access to site for transportation of equipments/construction Machinery, material, etc.

The Project site is well connected by Road and Railways. The accessible rail / road /Air ways / water ways are listed in the table below:

Table 3.1: Means of Transportation

Sr. No.	Location	Distance (km)
1.	Chikalthana Air Port	12 km
2.	Aurangabad Bus Stand	20 km
3.	Aurangabad Railway Station	25 km
4.	Mumbai / JNPT Port	400 km
5.	Jalna Dry Port	42 km

It is situated near Nagpur-Aurangabad-Mumbai National Highway at a distance of 15-17 Km away from Aurangabad City.

The connecting cities & townships are listed in the table below.

Table 3.2: Business Cities

Sr. No.	CITY	Distance (Km)
1.	Pune	237 Km
2.	Mumbai	403 Km
3.	Nagpur	504 Km
4.	Hyderabad	554 Km
5.	Bangalore	913 Km
6.	Ahmadabad	586 Km
7.	New Delhi	1209 Km

3.0.4 Raw material availability and its transportation

The proposed project being area development project raw material is required only during Construction Phase. Construction material will be transported from local vendors to reduce transportation costs, Local excavated material may be used for earthwork of road and land development, wherever possible. Sand- 18,150 MT; Metal- 37,875 MT Cement- 1,560 MT Rubble 45,000 MT steel- 245 MT Murom- 1,19,500 CuM which will be sourced from Local Market / Project Areas.

The transportation of raw materials will be the responsibility of Civil Contract awardees through Commercial vehicles. Construction material will be stored in Covered area. Water will be sprinkled regularly on the haul road to minimize the fugitive emissions. During Operation Phase Individual plot owner/ tenant will transport personnel and materials as per their requirement. The man & material transportation for individual units within the Industrial Complex will use the State Highway and enter the complex through main gate and use the internal developed road to the respective locations.

3.0.5 Water availability and consumptive use

The water requirement of the project is **14620 KLD (Approx. 15 MLD)** and water will be drawn from MIDC reservoir will be conveyed by distribution system to supply water to the individual plot owners. There will be metering system for each plot and float valve. This ground storage will act as buffer storage, in case of any disruption in

the supply of MIDC water. This will be helpful to the developer to ascertain uninterrupted water supply to the plot owners. The system will be managed with the help of sluice valves at various locations.

The main source is Jayakwadi Dam about 65 kms away from the area. MIDC supplies treated water to the industries as per the norms of MPCB. An elevated service reservoir is constructed by MIDC at about 400m which is the nearest supply point to our industrial park.

The details of the Existing Reservoir of MIDC is given below

- RL of Ground at ESR= 623 M
- RL of bottom of ESR= 623+ 16 m staging height= 639 M
- RL of Top of ESR(Tank) = 639+4.50 M = 643.50 M

Capacity = 500 Cubic Metre i.e 5,00,000 litres

The pipe network has been designed and optimized using latest modeling software. The design parameters considered for the design of distribution network are as given in following Table. The diameter wise output details of the distribution system are as below.

Table 3.3: Supply Water Pipeline Specification

Name of Sub work	Distribution System	
Proposed Material	HDPE / MDPE	
Peak Factor	3	
Diameter (mm)	Length(m)	Material
a) 25 mm	1056	MDPE PN 16
b) 50 mm	126	MDPE PN 16
c) 110 mm	4090	HDPE PE 100
d) 200 mm	41	HDPE PE 100
e) 250 mm	1244	HDPE PE 100
f) 315 mm	786	HDPE PE 100

3.0.6 Infrastructure availability at selected site

The industrial composition of the processing area may undergo changes over time depending on market trends and, hospitality, retail and commercial facilities as well as other public utilities, seeking to provide good quality of environment and life to allow healthy and efficient economic activity. Industrial infrastructure shall be developed by the individual industries as per their requirements

3.0.7 Inter-state issue, if any

There is no inter -state issue for the project.

3.1 ECOLOGICALLY SENSITIVE ATTRIBUTES WITH RESPECT TO SUITABILITY OF SITE

Sl No	Area to be Avoid as per IL& FS guideline	Status
1	Biological diversity/ Ecologically / or otherwise sensitive areas: Preferably at a distance of 5 km from site boundary	There is no Biological diversity/ Ecologically / or otherwise sensitive areas are within 5km from site boundary
2	Coastal areas: Preferably 500 m away from high tide line (HTL).	No coastal areas within 500 m from site boundary
3	Flood plain of riverine system: Preferably 500 m away from flood plain or modified flood plain affected by dam in upstream or flood control systems	No flood plain of riverine system within 500 m from site boundary. There is a water reservoir, namely Upper Dudhana Dam at a distance of 4.89 km E of the Prooject area.
4	Transport/Communication System: Preferably 500 m away from highway and railway line.	The site is located at a distance of 2.84 KM from 753A Highway that leads from Nagpur to Pune. This distance of 3.4 KM is traversed through MIDC Road to link to the highway. The nearest railway station is Karmand Railway Station which is around 5.2 km from the project site
5	Distance of project site boundary from major settlements (> 3,00,000	No major settlement (3 lakh population) within 5 km radius of site

	population) within study area.	boundary. The nearest major settlement is Aurangabad at a sdistance of 15 km in SW direction, accessible through Highway 753A.
6	Existence of critically polluted areas identified by MoEF & CC within study area.	There are no critically polluted areas identified by MoEF&CC within the study area.

By analyzing information of proposed IA layout, industrial activities & their pollution potential, environmental conditions of study area and applicable siting guidelines, attributes requiring attention were identified. Action plan with preventive & mitigative measures for each identified attribute requiring attention was proposed so that potential impact on surrounding environment shall be minimal and within standards. The ecological sensitivity is studied over 15 km radius buffer area as given below:

Table 3.1 Ecological Sensitivity

S.No.	Areas	Aerial distance (within 15 km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value.	There are no eco sensitive areas within 15 km radius of the project area. The nearest WLS is Tungabhadra Otter R at 38 km away from the Project boundary.
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests.	Sangvi Reservoir – 12.75 km in NW Ohar Reservoir – 15.03 km in NW Sukna Reservoir – 7.90 km in S Lahuki Reservoir – 5.0 km in E
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration.	There is no eco sensitive areas within 15 km radius of the proposed location.
4	Inland, coastal, marine or underground	Maharashtra Samrudhi Mahamarg is in

	waters	Adjacent North Boundary NH 211 – 8.2 km SSW Aurangabad-Nagpur Road – 2.7 km S Aurangabad Airport 10 km SW Karmand Railway Station- 5.2 km SE Aurangabad Railway Station – 25 km ESE
5	State, National boundaries	No State or National Boundary is within 10 km radius of the project area.
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	Maharashtra Samrudhi Mahamarg is in Adjacent North Boundary NH 211 – 8.2 km SSW Aurangabad-Nagpur Road – 2.7 km S Aurangabad Airport 10 km SW Karmand Railway Station- 5.2 km SE Aurangabad Railway Station – 25 km ESE
7	Defense installations	Not Any
8	Densely populated or built-up area	The nearest densely populated city is Aurangabad with its city boundary at 14.5 Km from the project site. There are some habitations nearby, such as: Gangapur Jahagir – 500 m SW Shendraban – 250 m E Nathnagar – 300 m N
9	Areas occupied by sensitive man-made land uses *(hospitals, schools, places of worship, community facilities)*	Wockhardt Global School – 1.5 km S Saani Resort – 10.5 km W The hospital and Worship places are far away from the project area.
10	Areas containing important, high quality or scarce resources *(ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)*	There are several RFs around. Such as : Chincholi Reserve Forest 13.2 km SW

11	Areas already subjected to pollution or environmental damage. *(those where existing legal environmental standards are exceeded)*	Not any within the study area surrounding 10 km radius of the project area.
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (*earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions*)	The area comes under Seismic Zone II, which is less affected by the Earthquake. This area does not come under any flood zone or hill slope for landslides.

Table 3.2: Proposed Mitigative Measures for attributes requiring attention

Attribute	Applicable guidelines	Proposed measures
The nearest Upper Dudhana Dam	Flood plain of riverine system: Preferably 500 m away from flood plain or modified flood plain affected by dam in upstream or flood control systems.	The project area is at a distance of 4.89 km away from the d/s off dam at lower contour. Therefore there will be no major impact due to the operation of the Industrial city on the Dam. Further only Green & Orange category industries with low air pollution potential, residential and commercial establishments shall be planned within the Industrial City.
17 categories of major polluting industries	Industries identified by MOEF&CC as heavily polluting and covered under Central Action Plan	Not proposing these 17 category industries identified as heavily polluting as part of the proposed project.

3.2 DETAILS OF SELECTED SITE (LAND DETAILS)

3.2.1 Land requirement and availability

The project is development of Industrial City , which allows 80% area to be utilized for Processing (Industrial area) and 20% for the support services including Residential, Commercial, Recreational , Utilities and Amenities., The project land distribution will be as mandated by the IIA (Integrated Industrial Area) Development

Control Regulations, approved by Government of Maharashtra and the distribution of industries and amenities will be as per the proposed infrastructure map, which shall be approved by MIDC before execution of vendor contracts.

3.2.2 Land ownership details such as Government, private, tribal, non-tribal, etc.

Total land belong to Maharashtra Industrial Developmental Corporation (MIDC)

3.2.3 Total area of the project/site

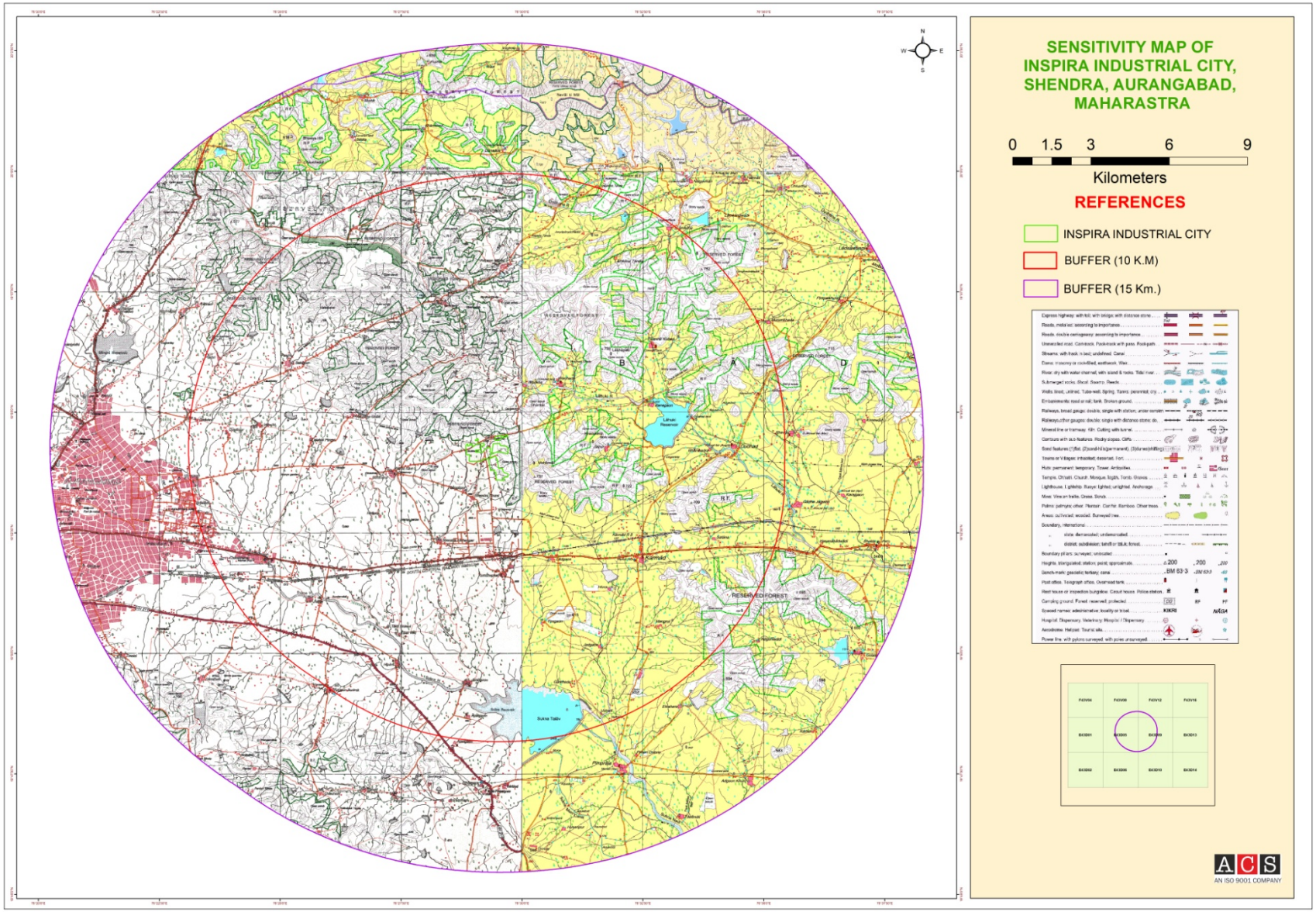
Total project area is 93.85 Ha i.e 231.9084 Acres.

3.3 LOCATIONAL ADVANTAGE

3.3.1 Geographical details - Longitude & latitude, village, taluka, district, state

The project is located in Aurangabad Industrial Area, Aurangabad District, Maharashtra, The project is bounded by Latitude between 19° 54' 20.95" N & 19°53'39.64"N and Longitude between 75° 28' 51.74" E & 75°29'42.34"E. The Aurangabad Industrial Area is adjacent to the South boundary of the project area. The surrounding area is industrial in nature. The nearest city is at Aurangabad.

Figure 3.3: Buffer Area Topo Map



3.3.2 Approach to site – roads, railways and airports

The site is located at a distance of 2.84 KM from 753A Highway that leads from Nagpur to Pune. This distance of 3.4 KM is traversed through MIDC Road to link to the highway. The nearest railway station is Karmand Railway Station at 5.2 km in SW direction. The Aurangabad railway station is around 25 km from the project site. The nearest air port is also situated in Aurangabad which is 10 km from the project site. The nearest port is JNPT which is at a distance of 160 KM.

3.3.3 Distance from nearest residential and industrial areas

The nearest densely residential area is Aurangabad at a distance of 8.4 km and The Aurangabad Industrial Area is adjacent to the project site.

3.3.4 Distance from nearest water bodies such as river, canal, dam,etc

There is no major river within 10 km radius of the project area. However, there is a water reservoir, namely Upper Dudhana Dam at a distance of 4.89 km E of the Project area.

3.3.5 In case of seismic areas, seismic zone, active faults, occurrence on earthquakes, etc.

The project area falls under seismic zone II as per the Seismic Zoning Map of India (IS1893, Part-1, 2002 and hence is less susceptible to earthquakes.

3.3.6 Wildlife Sensitivity with respect to the area

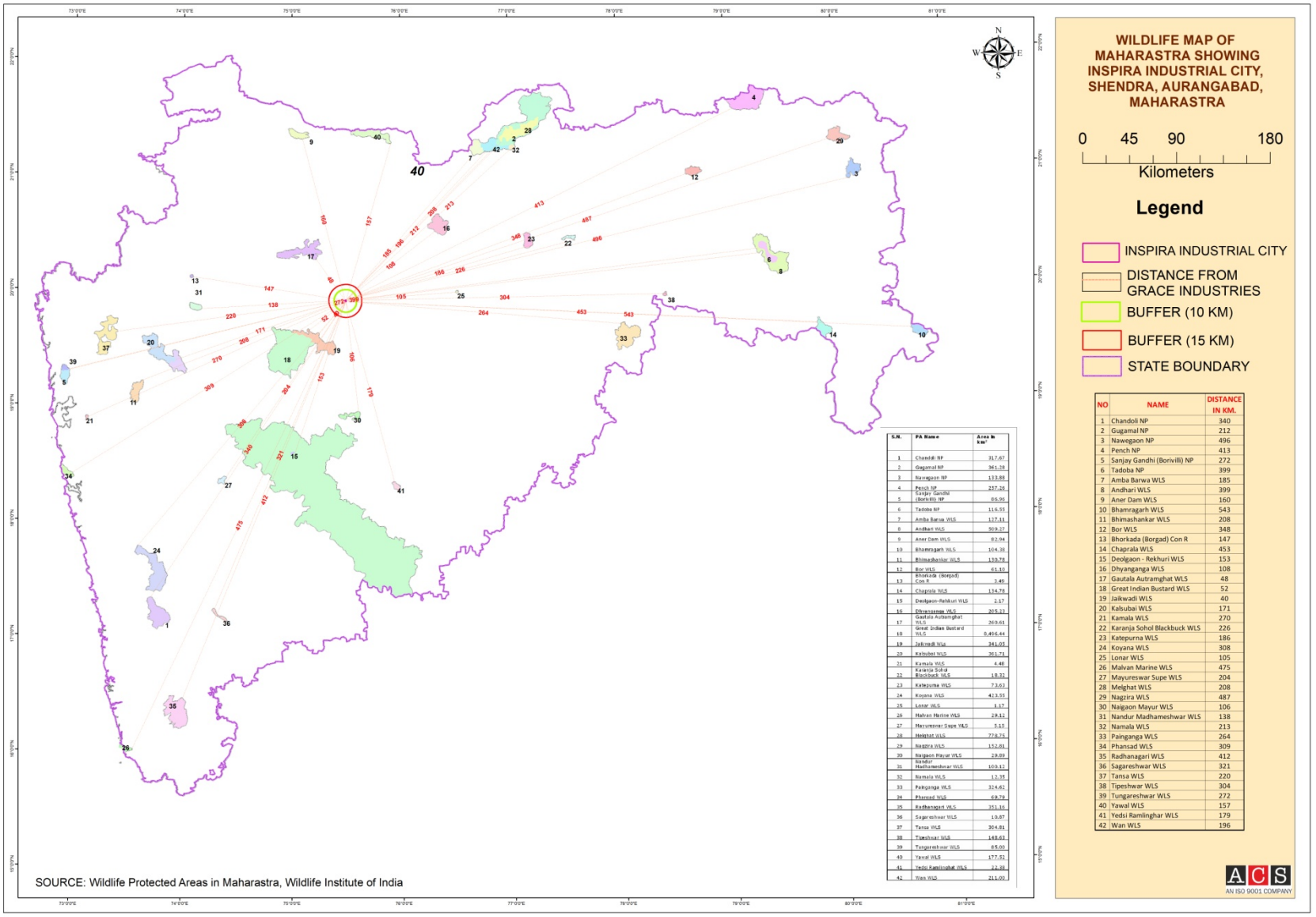
There are 41 Wildlife Sanctuary (WS) and National Parks (NP) in the State of Maharashtra and the nearest Wildlife Sanctuary is at a distance of 37.7 km away from the boundary of the project site. The list of WS and NPs are listed as below:

Table 3.5: Distance from Wildlife Sanctuary and National Park

SL.NO	NAME	DISTANCE in Km
1	Chandoli NP	340
2	Gugamal NP	212
3	Nawegaon NP	496
4	Pench NP	413
5	Sanjay Gandhi (Borivilli) NP	272
6	Tadoba NP	399

7	Amba Barwa WLS	185
8	Andhari WLS	399
9	Aner Dam WLS	160
10	Bhamragarh WLS	543
11	Bhimashankar WLS	208
12	Bor WLS	348
13	Bhorkada (Borgad) Con R	147
14	Chaprala WLS	453
15	Deolgaon - Rekhuri WLS	153
16	Dhyanganga WLS	108
17	Gautala Autramghat WLS	48
18	Great Indian Bustard WLS	52
19	Jaikwadi WLS	40
20	Kalsubai WLS	171
21	Kamala WLS	270
22	Karanja Sohol Blackbuck WLS	226
23	Katepurna WLS	186
24	Koyana WLS	308
25	Lonar WLS	105
26	Malvan Marine WLS	475
27	Mayureswar Supe WLS	204
28	Melghat WLS	208
29	Nagzira WLS	487
30	Naigaon Mayur WLS	106
31	Nandur Madhameshwar WLS	138
32	Namala WLS	213
33	Painganga WLS	264
34	Phansad WLS	309
35	Radhanagari WLS	412
36	Sagareshwar WLS	321
37	Tansa WLS	220
38	Tipeshwar WLS	304
39	Tungareshwar WLS	272
40	Yawal WLS	157
41	Yedsi Ramlinghar WLS	179
42	Wan WLS	196

Figure 3.4: Wildlife Map of the Project Site



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8	Andhari WLS	399
9	Aner Dam WLS	160
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38	Tipeshwar WLS	304
39	Tungareshwar WLS	272
40	Yawal WLS	157
41	Yedsi Ramlinghar WLS	179
42	Wan WLS	196

3.3.6 Demography

As per 2011 census, the area has population of 25,146 of which 12,899 were males while 12,247 were females. Average Sex Ratio of is 949 which is higher than Maharashtra state average of 929.Literacy rate of city was 91% compared to 82.95% of Maharashtra. Male literacy rate was 93% while female literacy rate was 88%.Scheduled Castes constitutes 6.2% of total population while Scheduled Tribes were 5%.

3.3.7 Meteorological data

Temperature:

The average maximum and minimum temperature for the hottest month of May is about 39 degrees Celsius and 25 degrees Celsius, although maximum temperature observed at peak time is as high as 45 degrees Celsius. Average temperatures for the coldest month of December are 29degree Celsius and 12 degree Celsius, however minimum temperature experienced during the recent season has been about 9 degrees Celsius.

Rainfall:

Aurangabad urban agglomeration is classified under the Assured Rainfall Zone of 700 – 900 mm (As per Maharashtra State Agro Climatic Zones, Dept of Agriculture, Govt. of Maharashtra).

The average annual rainfall in the area is 725.8 mm out of which the recorded maximum number of rainy days is during the months of June to September with rainfall of 600.5 mm. Highest rainfall in 24 hours ever received is 245.1 mm (September 2, 1891)

Humidity:

The air is generally dry over the district except during the southwest monsoon season when the relative humidity is high. The summer months are the driest when the relative humidity is generally between 20 and 25 per cent in the afternoons.

Wind:

Winds are generally light to moderate (10-15 Km/Hr.) with increase in speed during the latter half of hot season and in the monsoon season (16-18 km/hr.). Mean annual wind speed is 11km/hr. Highest wind velocity of 37 meter/ sec was recorded in the month of April 2009 at Chikalthana Airport at Aurangabad.

The wind blows predominantly between west and north during the hot season. They are mostly from directions between southwest and northwest during the southwest monsoon season. They blow mostly from direction between northeast and southeast during the rest of the year.1 As per IS-875 (Part-3), Wind Velocity is 39 M/Second for this region.

3.3.8 Land use pattern such as agricultural, barren, forest, etc. and details thereof

Land cover refers to natural vegetations, water bodies , rock and soil etc. Although land use is generally subjective based on the cover, yet both the terms are related and interchangeable. The land use / land cover pattern of a region is dynamic and it is the result of utilization of natural and socio-economic factors.. The area is classified into forest, built-up land, water body, barren land, pasture land, fallow land and agricultural land use categories.

3.3.9 Topography of the area

The lands proposed are barren, uncultivable and non-irrigated. The topography is undulating with low soil depth characterized by intermountain valley. The soil shows low humus content and soil moisture. The site is in the rain shadow belt with undulating topography. From the contour and imagery, it is evident that the area is highly undulating and occupied by mounds with gentle to moderate slopes. The general elevation of the area varies from 620 m AMSL to 652 m AMSL Therefore the plateau area and mound tops are to be developed for industrialization and the slopes and escarpments will be used for plantation and aesthetic greenbelt development. Due to the typical topography, the surface area is more than the lateral spread of the area.

3.3.10 Drainage patterns

Although there is no major river in the study area surrounding 10 km radius, the local drainage pattern is controlled by the topography of the area. Therefore the drainage is dendritic in nature due to undulating topography and hilly terrain surrounding the project area. For local water usage, several small and medium scale dams are located to tap the rainwater and conserve it for usage.

3.3.11 Soil condition and soil investigation results

The soil type of the region is murum and sandy silt with clay loam at certain locations. Anticipated impacts on land environment from Industrial activities can

mainly be attributed to disposal of solid/hazardous waste and discharge of wastewater either onto land (direct impacts) or into water bodies, used for irrigation water resources (indirect impacts). Moreover impacts on land/vegetation are also expected due to air pollution.

In the project area , on the plateau weathering of alumino silicate minerals from the basalt have formed thin iron oxide rich soil, which grades into soft rock product regolith (Murum).The soil consists of relatively higher proportion of iron oxides, weathered silicate minerals and the clays derived from weathering of original minerals like Plagioclase Feldspar, Augite and or Olivine in the Basalt. In general this can be considered as an initial stage of formation of soil profile.

3.3.12 Detail of alternative Site

This is an existing industrial area and project site selection was a strategic decision that involves several criteria with consideration for technical, economic, social, environmental, and political issues. The site was selected considering different indicators, expressed in quantitative and qualitative ways with some possible uncertainty. Hence no alternative site is suggested.

3.3.13 Resource Optimization and Reuse Envisaged.

Effective management of resources is an essential task for Industrial estates/SEZ that are managing different projects. It will be efficiently organize and suitable persons and equipments will be allocated for different projects. Proper information shall becollected about the availability of the resource and have them available at the right time to manage the costs and smoothly executing the project activities. Following steps shall be taken for resource optimization.

- Getting bird's-eye view of all the available resources
- Managing the roles and skill set of your resources
- Having control over the equipment usage and availability
- Resource management reports for the optimal resource utilization
- Each project will be explored for recycling and reuse of wastes/bi-products to be generated to minimize the waste generation.

CHAPTER-4

POSSIBLE IMPACTS' ASSESSMENT

4.0 ANTICIPATED IMPACTS BASED ON PROJECT OPERATIONS ON RECEIVING ENVIRONMENT

4.0.1 Population

Due to the proposed IIA (Integrated Industrial Area) project, there will be a large scale employment generation. During construction and operation phases, the local community will be benefited due to more jobs opportunities in the industries and commercial establishments. Jobs would be created for unskilled, semi skilled and skilled labor categories for which local people would be given preference. This will lead to economic development and social upliftment of the region.

The population requirement for the industrial workforce is based on the type of industries. The comparison of the various industrial projects in India based on the data shows that the workforce population is taken as 146 persons/Ha.

4.0.2 Flora and fauna

Potential causes of impacts on terrestrial ecology will include long-term air and noise pollution and disturbance generated by area lighting and traffic. Due to the absence of secondary or tertiary level fauna and rare and endangered species in the area, potential impacts to fauna from this source will be minimal. In addition, green belts proposed would be designed in order to gel with the existing and surrounding ecology. This will provide to enrich the habitats and create new niches for fauna of the area. in the light of sustainable development of the area it is proposed to plant around 15400 trees within the said area over the total development period.

4.0.3 Water

Water Demand

The industrial workforce water demand is taken 45 lpcd as per IS 1172, where factories with bathrooms are to be provided. Apart from the workforce demand, the processing water demand requirement for general industries is considered as 32cum/ha/day. Other than this the rest of water is for industrial distribution as per demand.

Water Source

The source of the water is Maharashtra Industrial Development Corporation. The main source is Jayakwadi Dam about 65 kms away from the area. MIDC supplies treated water to the industries as per the norms of MPCB. An elevated service reservoir is constructed by MIDC at about 400m which is the nearest supply point to our industrial park.

The details of the Existing Reservoir of MIDC is given below

RL of Ground at ESR= 623 M

RL of bottom of ESR= 623+ 16 m staging height= 639 M

RL of Top of ESR(Tank) = 639+4.50 M = 643.50 M

Capacity = 500 Cubic Metre i.e 5,00,000 litres

Pressure Head

During discussion with the client, it was decided to supply water at the ground water tank of the consumer through piped network. Therefore, the requirement of the pressure is being considered as 5m at the consumer end.

Pipe Material.

For external water pipeline after discussion with the client, it was decided to propose ductile iron pipes up to the boundary of the industrial plots. The connection to the consumers will be of Galvanized Iron pipe of diameter 15mm and above. For external waste water pipeline, it was decided to propose DWC HDPE pipes up to the boundary of the industrial plots. The connection to the consumers will also be of DWC HDPE pipes up to the inspection chamber of the individual plots. The diameters available are from 150mm to 300mm, above 300mm if required; the pipe material will be of RCC NP3 pipes.

Distribution System Design.

Sr. No.	Parameters	Design Variables
1.	Peak Factor	3 x Avg. Flow
2.	Hazen &William's Co-efficient	140 (for HDPE Pipes)
3.	Minimum size in distribution system	110mm Dia.

Source: As per CPHEEO Manual

4.0.4 Soil Management

1. During the operation phase, landscapes and green areas will be carefully designed and developed and maintained. No significant impact is expected on the soils on and around the site, due to the following measures:
2. All solid wastes and. biomedical wastes from the area will be properly collected, stored and disposed to avoid soil contamination.
3. Wastewater will be treated disinfected and reused for various purposes on site and will not be discharged outside the premises.
4. Soil and water conservation plan shall be implemented on slopes so as to enhance soil moisture and reduce soil erosion. Integrated rainwater harvesting plan will be implemented to enhance the recharge to aquifers.
5. The entire shop floor will be paved and precautions to avoid spills will be taken.
6. Hence, ***no impact*** on soil quality in the study area is expected due to the project activities.

4.0.5 Air

During Operational phase emissions from traffic and transportation, industrial emissions, negligible emissions from sewage and solid waste handling and disposal. Anticipated pollutants are Nitrogen oxides (NOx), SPM, Sulphur dioxide (SO_2 and CO) from industrial emissions and PM, SO_2 and NOx from traffic movement.

4.0.6 Climate

Rainfall:

The rainfall ranges from 400 to 600 mm. The climatic conditions are dry and hot semi arid type.

Temperature:

After February temperatures rises rapidly till April or May which are usually the hottest months with a mean daily maximum of about 38 or 39^{O}C. Nights are usually warmer during May or June than April, with a mean daily minimum of about 23 or 24^{O}C. December is generally the coldest month with the mean daily maximum at about 30^{O}C and the mean daily minimum at about 12 to 13^{O}C.

Humidity:

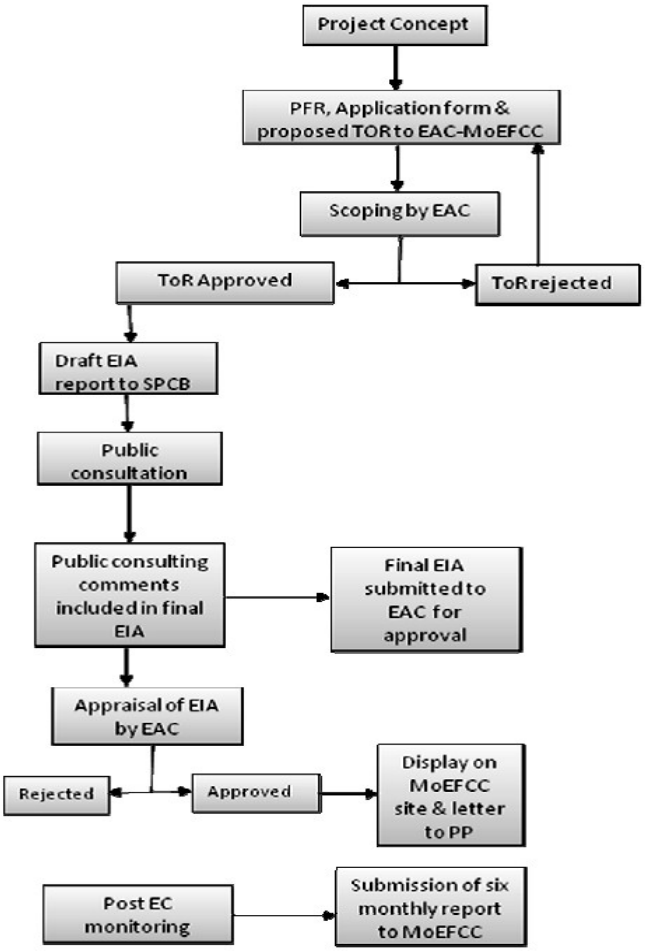
During the monsoon season the humidity is between 70 and 80 per cent. The humidity is comparatively less in the rest of the year. Summer afternoons are the driest with less than 30 % humidity.

Cloud Cover:

During the monsoon season, the skies are heavily clouded or overcast. During the rest of the year the skies are mostly clear. However, in cold season, passing western disturbances cause cloudy weather occasionally for a day or two. In the latter part of the summer season, especially the afternoons, clouding increases.

4.1 SCHEMATIC REPRESENTATIONS OF THE FEASIBILITY DRAWING WHICH GIVES INFORMATION OF EIA STATUS

As per the Environment Impact Assessment (EIA) notification dated 14th September 2006 and subsequent amendments, this project falls under category A. It would be required to prepare EIA/EMP report to obtain the Environmental Clearance (EC) for the project from the MoEF&CC.



CHAPTER -5

PLANNING BRIEF

5.1 PLANNING CONCEPT

The project design has been adopted by using Development Control Regulations approved by Government of Maharashtra under the provisions of Maharashtra Regional and Town Planning Act, 1966. Feasibility assessment and financial analysis requires that a detailed plan for the proposed area is to be prepared and component-wise costs are arrived at after technical studies, for all the projects, there are no other studies that have been carried out previously. The plans and designs ideally be left to the developer so that the developer can configure the design that is best suited for his business plans.

The need for the environmental administration of India to become active in the field of environmental planning is founded in the Environment (Protection) Act, 1986, 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 or 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.

Zoning of Industries

This makes decision-making process simpler, faster, realistic, transparent and reliable. Provides a basis for incorporating environmental aspects into physical (land use) planning process that is lacking in the country. Also it helps in planning cost-effective pollution control measures and programs. Industrial Zoning Helps an entrepreneur in readily finding out the location best suited to site an industry thereby saving time, efforts, investment and risk instead of heading for an unknown site,

conducting environmental impact assessment and awaiting clearance by the regulatory authorities. It helps develop infrastructure facilities, such as roads, water supply, electricity etc. and provide common waste treatment and disposal facilities. Zoning check additional pollution in the areas already over-stressed with pollution and ensures that pollution potential of an industry is made compatible with the local conditions of the site.

5.2 POPULATION PROJECTION

The estimated residential population of project is assumed at 29 thousands, and 4 thousands of direct and Indirect work force. The project area involves land from 2 villages,, namely Gangapur Jahangir & Shendraban. During project implementation there will be influx of population both industrial and domestic. The development will be planned which will improve the infrastructure facility, better health and educational facilities. Industrial development will promote the employment for skilled, semi skilled and unskilled work force.

5.3 LAND USE PLANNING

The project includes 231.89 Ac land, which allows 80% area to be utilized for Processing (Industrial area) and 20% for the support services including Residential, Commercial, Recreational , Utilities and Amenities,. The project land distribution will be as mandated by the IIA Development Control Regulations, approved by Government of Maharashtra. Thus the project is being designed on the concept of Walk to Work culture.

Table 5.1: Polupation Foresact, Landuse & Water Demand

	TOTAL PLOT AREA	93.8	Ha			
A	WATER DEMAND FOR HUMAN CONSUMPTION AND OTHER USES					
Sl	**Facility**	**Plot Area in Ha**	**Water Demand (LPCD)**	**Populatio n per Ha**	**Population**	**Water in KL/D**
1	Industrial	77.9	45	146	11,375	512
2	Residential/Do mestic Use	12.2	135	1200	14,666	1980
3	Commercial	3.71	45	750	2,784	125
	SUB TOTAL				**28,825**	**2,617**

B	WATER DEMAND FOR INDUSTRIAL AND IRRIGATION USE					
Sl	Facility	Plot Area in Ha	Water Demand in KL per Ha/Day			Water in KL/D
1	Industrial Area-					
a	Industrial Use	56.3	32			1,802
b	Utility-Common Infra	12.9	32			413
c	Open Green	8.7	32			278
	SUB TOTAL	77.9	32			2,493
2	Residential Area-					
a	Residential /Other Use	8.83	32			283
b	Utility-Common Infra	2.02	32			65
c	Open Green	1.36	32			44
	SUB TOTAL	12.2	32			391
3	Commercial Area-					
a	Commercial Use	2.68	32			86
b	Utility-Common Infra	0.61	32			20
c	Open Green	0.41	32			13
	SUB TOTAL	3.71	32			119
	TOTAL FOR -B					**3,003**
TOTAL						**5,620**
SUMMARY						
	INDUSTRIAL					3,005
	WASTAGE					150
	GRAND TOTAL					3,155
	RESIDENTIAL					2,371
	WASTAGE					119
	GRAND TOTAL					2,490
	COMMERCIAL					244
	WASTAGE					12
	GRAND TOTAL					256
GRAND TOTAL FOR IIA						5,901
WATER REQUIRED FOR CONSTRUCTION @1%						59

5.4 ASSESSMENT OF INFRASTRUCTURE DEMAND

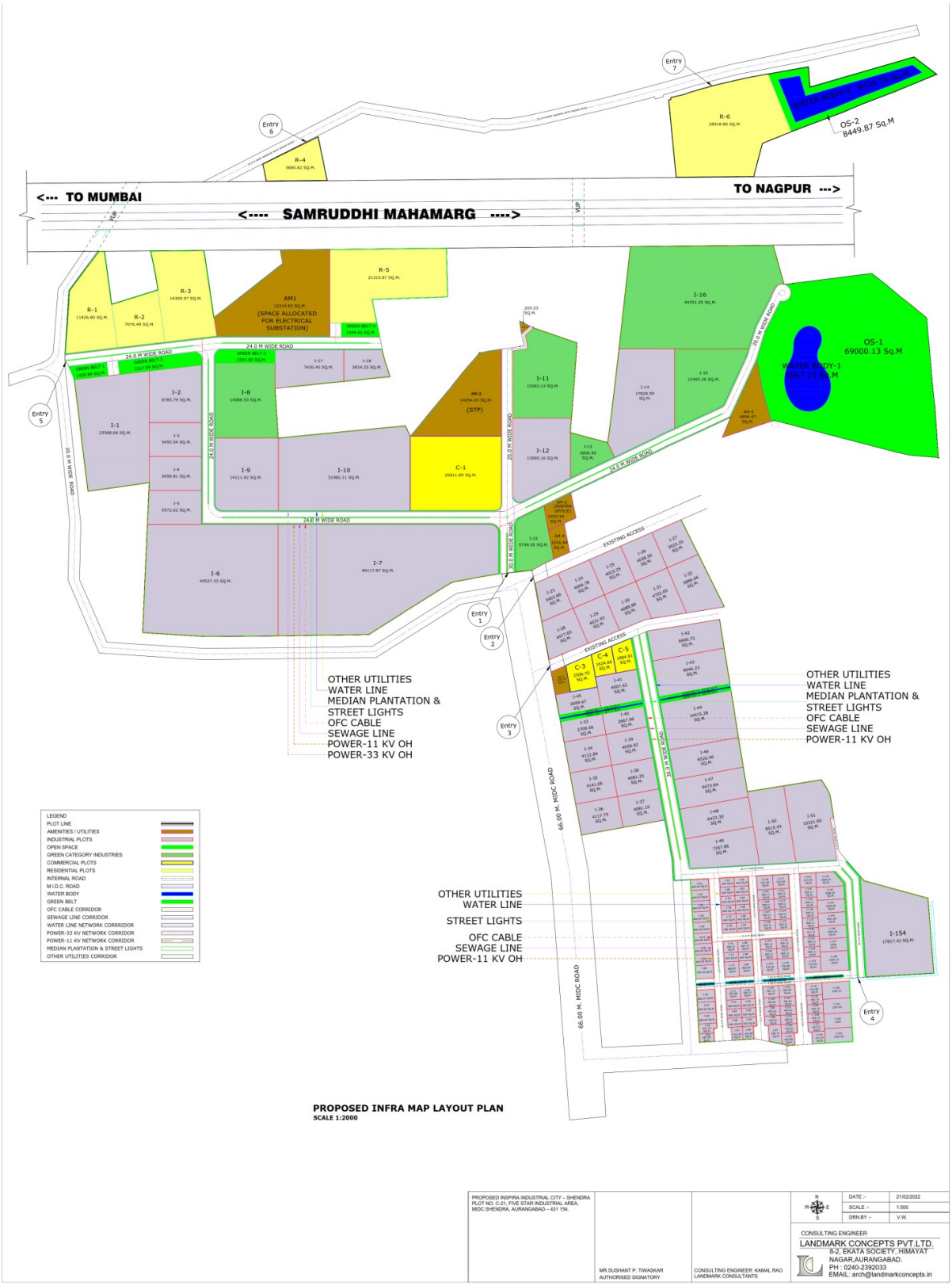
In order to facilitate the industries in the project area and in order to enhance their productivity, it is proposed to improve existing connectivity and add green-field connectivity projects in Inspira Industrial City. Thus it is also hoped and understood that the area will witness greater investments by Regional Development Authority, the State and the Central governments with a view to bring about a comprehensive up-gradation of transport needs of the area. New and better roads will thereby get developed & public transport facilities will improve. These are bound to have a salutary effect on infrastructure facilities in the study area.. On the other hand, since 20% of the total project area being developed for Residential, Commercial and such support services, the project is expected to accommodate the ancillary facilities for each industry.

The development of planned residential and industrial growth shall necessitate the erection of education and health infrastructure. The Project will undertake their creation with quality. Better education and health facilities, in general for the project and in particular for the local communities will be singularly beneficial for the local communities.

5.5 AMENITIES/ FACILITIES

The project will provide comprehensive amenities/facilities that would ensure sustainable development of the area with critical focus on environment. IIC shall incur substantial expenditure for providing & strengthening the facilities within the Industrial City. All operative costs in respect of the same shall be borne by IIC. No R&R is anticipated for this project.

5.6 CONCEPTUAL PLAN SHOWING PROPOSED DEVELOPMENT



CHAPTER -6

PROPOSED INFRASTRUCTURE

6.1 INDUSTRIAL AREA (PROCESSING AREA)

The responsibility of proponent will be site development, infrastructure development and allotment of plots for Industrial units. Infrastructure to be provided by Industrial Estate includes the following things:

- Major and Arterial roads
- Water Supply
- Power Infrastructure and Supply through State Electricity Authority (MSEDCL)
- Green Area
- Preliminary Infrastructure estimations shall be done for the following:
- Water Supply
- Road Network Fire Protection Services
- Storm Water Drainage
- Power Supply and Electrification through State Power Supply Agency (MSEDCL)
- Street Lighting

The Industrial effluent will be treated at DMIC- CETP in Shendra, transported through authorized dealers. There will be separate STPs for Industrial and Residential- Commercial Area.

6.2 RESIDENTIAL AREA (NON PROCESSING AREA)

The Non-processing areas include residential areas, business complexes, hospitals, hotels, educational institutions, recreation, entertainment areas, etc..

6.3 GREEN BELT/ GREEN OPEN SPACES

As per the IIC Regulations, 10 % of the total Project area needs to be designated for Open Spaces in the project including within the plots .Suitable tree species will be planted in such green open spaces /belts. This will act as a noise barrier and would also reduce the air pollution. These plants should also provide an aesthetic backdrop

for persons using the site and for the surrounding community. As far as possible, the species will be indigenous and locally available Species would be planted.

Greenbelt development shall be done at places viz Buffer zone around Processing Area, and on the steeper slopes, around industries. Site premises and approach road, along the internal roads, in and around the residential and office area. Greenbelt shall be developed by the individual industries as required.

IIC shall ensure that at least one tree shall be planted per 200 square meters and one tree at the distance of 15 meters on the frontage of road or part thereof by the units holder in their area.

6.4 SOCIAL INFRASTRUCTURE

This project is thought of having international identity, state of the art architecture and infrastructure along with mix social structure. It is expected to take up excess load from PMC in terms of traffic, housing, higher population densities, resource supply, employment, etc making both the cities independent and more livable.

Table 6.4 Social Infrastructure

No.	Amenities	Available (Yes/No)	Number/Distance from the Village
1	Non-metal Road	Yes	All habitations of the villages are connected with Non Metal Road
2	Tar Road (Metallic Road)	Yes	All the villages are connected with Tar road
3	Railway Station	No	Nearest Railway Junction-Pune around 50Km
4	Electricity	Yes	Most of the houses are electrified, but the power supply is very erratic.
5	Aanganwadi	Yes	In every village there are more than one Aanaganwadi
6	Primary School	Yes	Zilla Panchayat runs Basti level Primary schools at all villages.
7	Middle/Higher Secondary School	Yes	Middle/Higher secondary schools are run by various educational trusts.
8	Gram Panchayat	Yes	Every village has a Gram Panchayat building, the physical status varies from one village to other.
9	Cremation Area/ Burial Grounds	Yes	Crematorium and burial grounds are present in all villages.

10	Police Station	Yes	Police Chauki under jurisdiction of Aurangabad Police station
11	STD/PCO	Yes	Numerous coin box based PCOs operate in all villages.
12	Post Office	Yes	Most of the villages have a post office.
13	Places of worship	Yes	Temples, Mosques
14	Shops	Yes	Various shops selling grocery and other items for domestic consumption are located in Gaothanand at times in bastis.
15	Nationalized Bank	Yes	Bank of India, Syndicate bank, Union Bank of India
16	Co-operative Bank	Yes	

6.5 STORM WATER DRAINAGE

The following factors shall be taken into consideration for planning of the storm water drainage system of the INSPIRA INDUSTRIAL CITY. The pattern of natural slope of the site, its extent and direction

1. The natural drainage system in the downstream area (outside the project area).
2. The road network system envisaged and finished level of the roads.
3. The run off from houses /units and other built-up areas will be lead into catch basin which shall be connected to branch drains along the access roads.
4. These drains will take storm water into nearest lateral drains and then into trunk drains on main roads, which ultimately will take the storm water to the natural stream.
5. The rain water from open spaces and from isolated places, will flow over the ground following the natural slope and get into the nearest drain through the vertical grating.
6. Depending upon the width of the road and its surrounding local conditions, the drain will be provided as per the road slopes.
7. Each individual plot holder will have its own rainwater harvesting system to recharge the ground water table through the rainfall collected from terrace area of the building.
8. The rain water from open spaces and from isolated places, flow over the ground following the natural slope and get into the nearest drain through a pipe and gully chamber suitably located along the ROW of road.

9. A suitable camber on the pavement will be provided. The runoff from the carriageway shall flow towards the drains.

6.6 INDUSTRIAL WASTE MANAGEMENT

Waste water during Construction:

During construction care would be taken to avoid soil erosion. community toilets with temporary septic tanks will be constructed on the site and any area with loose debris within the site will be protected with vegetation.

Individual industrial unit holder /sub-lessee will set up and operate ETP and STP in accordance with EP Act 1986, Water Act 1974, and Air Act 1981. Zero liquid discharge scheme will be adopted by individual industrial unit holder/ sub- lessee

Management of Construction waste:

Concrete and masonry constitute the majority of waste generated, recycling, of this waste by conversion to aggregate can offer benefits of reduced landfill space and reduced extraction of raw material for new construction activity. This is particularly applicable to the proposed site as the construction is to be completed in a phased manner. Metal scrap from structural steel, piping, concrete reinforcement and sheet metal work from the site shall be removed by construction contractors. A significant portion of wood scrap can be reused on site. Recyclable wastes such as plastics, glass fiber insulation, roofing etc shall be sold to recyclers. Construction sites are sources of many toxic substances, such as paints, solvents, wood preservatives, pesticides, adhesives and sealants. Hazardous waste generated during construction phase shall be stored in sealed containers, labeled, and disposed of as required by the Hazardous Wastes Management and Handling Rules.To minimize disruption of soil and for conservation of topsoil, the contractor shall take the topsoil out separately and stockpile it. After the construction activity is over, topsoil shall be utilized for landscaping activity.

6.9 SOLID WASTE MANAGEMENT

Every Industry, household, shops establishments, market etc., generate solid waste on day

to day basis. The waste should normally be stored at the source of waste generation till collected for disposal.

A systematic approach is proposed for efficient waste storage and its collection and at the

same time to comply with the Municipal Solid Waste Management Rules 2000. The proposed system has been arrived by studying the various generators of waste and they have been categorized as follows:

• Industrial Areas	• Garden Waste
• Residential Areas	• Bio- medical waste (Municipal)
• Commercial Waste	• Street sweeping waste
• Institutional Waste	

Waste Generation and Composition

Generation: Every establishment generates solid waste on day to day basis. A systematic

approach is proposed for efficient waste storage and its collection and at the same time complies with the Municipal Solid Waste Management Rules, 2000. Different types of waste considered along with their waste generation rates are as follows:

Estimated Quantity of Total Municipal Solid Waste in IIA

DOMESTIC SOLID WASTE				
	Population		**Solid Waste generation**	
			Gram/Day	**MT/Day**
PROCESSING AREA	11,375			
Industrial Area				
Domestic Use (Fixed)	9043	425gm/capita/day	38,43,305	
Floating	1763	225gm/capita/day	3,96,701	
Utility (Fixed)	**569**	425gm/capita/day	2,41,717	
Total for PA	11375		**44,81,723**	**4.48**
NON PROCESSING AREA	17,450			
Residential and Commercial				
Fixed	14868	425gm/capita/day	63,18,689	
Floating	2583	225gm/capita/day	5,81,089	

Total for NPA	17450		**68,99,778**	**6.90**
TOTAL (PA+NPA)				**11.38**

The total amount of domestic solid waste generated from the proposed IIA project is around 11.38 MT/day.

The domestic solid waste generated will be about 11.38 MT/day which constitute of 50 % of the Bio- Degradable waste (Organic in Nature), while 50 % of waste will be nonbiodegradable.

The different fractions of waste generated are as given below:

Quantification of Different Fraction of Solid Waste generated

DESCRIPTION	APPROX. % OF TOTAL WASTE	TOTAL MASS(MT/DAY)
Biodegradable fraction	50	5.69 MT/day
Non Biodegradable fraction	50	5.69 MT/day
Total Domestic Solid Waste generated		**11.38**

The Biodegradable waste will primarily consist of solid waste generating from industries,

floor sweepings, dry leaves; etc. The non-biodegradable waste will primarily consist of recyclable waste fraction (consisting of leather scrape, paper, cardboard, and packaging, plastic, polythene, tin, glass and metal waste) and a minor fraction of inert waste.

Storage of Waste at Source

Source segregation of non- biodegradable waste and biodegradable organic waste is an efficient way to promote resource recovery. Thus, the proposed system is based on segregation at source with two bin systems (each for recyclable, non- biodegradable waste and biodegradable organic waste) at the common collection/transfer point. Waste at

source is stored in two bins of green and white color, with green bin for food waste/biodegradable waste and the white bin for recyclable waste such a paper, plastic, metal, glass, rags etc. The bins would be provided with closed lids either removable lids or sliding type.

Initially collection of the solid waste generating from the industrial waste will be done by

the individual industry. Two bin systems are suggested based on the nature of waste generating from the industries. The capacity of bins for biodegradable and non biodegradable waste will be of 100 lts. At Transfer station waste will be further segregated, Recyclable waste will be sold to the authorized vendors; biodegradable waste will be sent to the compost plant while non- biodegradable waste will be directly sent to the landfill site facility.

Primary Collection Details

• There will be the provision of two numbers of bins for each Industrial plot
• All bins will be provided with 100 litre of capacity
• The waste from bins will be transferred to the transfer station by tricycle / Rickshaw.

6.10 POWER REQUIREMENT &SUPPLY / SOURCE

Power is available from near Shendra INDUSTRIAL CITY by Maharashtra State Electricity Distribution Co. Ltd (MSEDCL). Power is available from a nearby substation of 220/33kV and existing 132 KV transmission line passes through the Inspira site. Backup Source - DG sets are proposed in case of power failure for common utilities like street lights, water pumps, sump pumps, etc.

There will be provision for 2 no of 125 KV DG set for utilities for stand by purpose. Effective measures have been incorporated, in order to minimize the energy consumption, in the following manner:

- All buildings will be adequately spaced, so that sunlight, natural ventilation will not be disturbed or hindered in any of the building, due to adjacent buildings.
- The buildings will be designed in such a way that the public areas can be cooled by natural ventilation.
- Adjusting the settings and illumination levels to ensure minimum energy used for desired comfort levels.
- Constant monitoring of energy consumption and defining targets for energy conservation.
- Alternate switching arrangement for Common Area.

- Use of timer for common and external lights.

Based on the target sectors and the load norms for Power demand for processing and Non – Processing area, power is calculated. **The Net Load at MRSS is 30 MVA** and it can be fed from two or three incoming feeders of 33KV System Voltage. So, main receiving sub-station [MRSS] shall have 132/33KV built up.

Power requirement for the Project

POWER REQUIREMENT FOR OPERATION						
	PLOT AREA	**Acres**	**Sq mtr**			
	TOTAL PLOT AREA	**231.89**	**9,38,443**	**Remarks**		
Sl No	**Facility**	**Power Demand in watts/sq mtr**	**Area in sq mtr**	**Total Power in watts**	**Power in Mega Watt**	**Power in Mega Volt=MVA**
1	Industrial	30	5,63,075	1,68,92,246	16.8922	21.115307
2	Residential	104	88,329	91,86,190	9.18619	11.482738
3	Commercial	160	26,828	42,92,490	4.29249	5.365612
4	Open Green Space	0.24	1,04,788	25,149	0.02515	0.0314364
5	Roads and Utilities	1.06	1,55,423	1,64,749	0.16475	0.2059358
6	**TOTAL**		9,38,443	3,05,60,823	31	38.20
7	Power Available currently					10 MVA
8	Balance Power Required and Infrastructure to be created					30 MVA
9	**Total Power Required**					**40 MVA**

CHAPTER -7

REHABILITATION & RESETTLEMENT

7.1 REHABILITATION & RESETTLEMENT

Under the present scenario, no rehabilitation or resettlement is anticipated, as this is an industrial land provided by MIDC and has been in their possession for long. Further there are no human settlement within the perimeter of the project area, for which no R&R as per the 2016 R&R Act is envisaged.

CHAPTER -8

PROJECT SCHEDULE & COST ESTIMATE

8.1 IMPLEMENTATION SCHEDULE

The project will start after issuance of environmental clearance.The factors which are responsible for timely implementation of the project are:

- Arrangement of proper finance for the project
- Finalization of layout of the proposed plant.
- Design of utilities and services
- Placement of orders for plant and machinery.
- Arrangements for Govt. sanctions and supply of power.
- Recruitment of personnel.

As per an initial estimate around 8 to 10 Years will be needed for implementation of the project from the starting date i.e. from the date of receiving all the statutory clearances for starting the project

8.2 ESTIMATED PROJECT COST

The cost estimates have been worked out based on thumb-rule estimates and our experience of developing cost and financial analysis for other similar parks..
The overall cost estimates have been outlined below for illustration purpose only:

Table 8.1: Project Cost

Sr	Particulars	Rs. In Cr	Rs. In Cr
1	Land Cost		11.54
2	Int & Pre-Op Cost		145.63
3	Development Cost		254.57
	- Road	69.42	
	- Water	55.95	
	- Power	24.09	
	- Other Infra Cost	105.12	
4	Contingencies		8.54
	Total		**420.28**

CHAPTER-9

ANALYSIS OF PROPOSAL (FINAL RECOMMENDATION)

9.1 FINANCIAL & SOCIAL BENEFITS

Social Benefits:

Employment Generation: The project will provide employment to a large number of local people. Skilled, semi-skilled and unskilled man power will be utilized during construction and operation phase. This will positively impact the economic condition of the study area.

Microclimate improvement of the surrounding: Due to increase/enhancement of the forests and greenery, the project area will possess an enriched ecological profile with significant improvement in micro-climate.

Improvement in the health and educational profile of the area: The development of planned residential and industrial growth shall necessitate the erection of education and health infrastructure. The project will undertake their creation with quality.

Improvement in infrastructure facility: In order to facilitate the industries in the IIA and in order to enhance their productivity, it is proposed to improve existing connectivity and add green-field connectivity projects

Financial Benefits

Economy improvement:

After implementation of the Project, a host and variety of industries will be established in the area. This will give rise to employment to the local people. The industrial development will also promote allied businesses and facilities in the area. This will result in considerable improvement in the economic condition of the study area

9.2 SOCIAL INFRASTRUCTURE

There is no listed heritage/ archaeological site within the site and the buffer zone. Some historical and pilgrimage sites on the periphery will benefit with improved infrastructure. Hence, there will be *long term positive impact.* It is expected the proposed project will catalyze the infrastructure development of the surroundings as it will attract investment of a considerable portion of Capital of the District. Drinking

water requirement, Promotion of Educational institutions, Medical facilities to the villagers (especially Senior Citizens and infants or pregnant ladies). Community centers, recreation facilities etc will also be developed as part of social responsibility.

9.4 EMPLOYMENT POTENTIAL

The proposed project will provide employment to people during its construction and operation phase. The type of employment or business opportunity envisaged to match the skill and potential of the member and available options .

It is expected that, during construction phase the requirement of labor will be 200-300 persons per day. Local labors will be employed from the surrounding villages. A temporary labor camp also may be provided as per the situation. However, the responsibility of constructing a labor camp, if the need be, will lie with the Civil contract awardees.

During Operational phase, there will be both Direct and Indirect employment generation. About 25-30 persons will be directly employed by project itself for maintenance of the industrial area, out of which 5-10 persons will be skilled labor.

The overall direct & indirect employment generation in the project area by the proposed industries is estimated to be in the range of about 3 Lakhs.

9.5 CSR ACTIVITIES WITH BUDGET

IIC is not obligated to take up any CSR activities. However the individual industries / companies, who are qualified as per the provision of Companies Act for implementation, will carry out CSR activities.

9.5 BENEFITS TO THE REGION AND THE COUNTRY

The project will benefit to region and country inform of following parametrs

- Health Profile
- Educational profile
- Socio -Cultural aspects
- Livelihood of public
- Adaptation to Physical environment – occupational changes
- Change in agriculture ratio, pattern, revenue and socio-economics of the farmers

- Ecosystem preservation through tradition

The project will benefit to region and country inform of following parameters

1. In the last two decades or so, Aurangabad has seen a virtual transformation. Evolving from a charming laid-back town that offered stressed Mumbaikars a pleasant weekend getaway to a mini metro bustling with industrial activity. Aurangabad's industrial area has seen a major wave of change and IIC acts as a catalyst to such wave.
2. Aurangabad is otherwise known as the major tourist center. The city is likewise known for its different social activities, history and openings for work that pulls in understudies from all over India and abroad making the city an amalgamation of numerous societies and communities. It is one of those uncommon urban cities with a culture and that of a modern industrial city.
3. This indusial city shall be one of the most liveable industrial clusters in the district of Aurangabad. Millions of people owing to its youthful vibrance, legendary cultural heritage, conducive climate and a plethora of career opportunities will add to the diversity of the region. The last decade have witnessed a huge surge in the industry and entrepreneurial set up in the city, being turned as an engineering hub. Not only, engineering firms ensures the economic and skilling additions to the region through the food processing and agro based industries, which acts as a helping hand to enhance the life of agriculture ratio, pattern, revenue and socio-economics of the farmers and the neighborhood areas.
4. This development shall add immense value to the project and connect the last dot in building a fruitful and mutually beneficial industrial business ecosystem of Aurangabad.
5. With global industry behemoths choosing to set up manufacturing bases in and around Aurangabad, Inspira Industrial City is a prime location for all such leading manufacturers foreseeing a major contribution to the state of Maharashtra and thereby country's economy.