Infrastructure Corporation of Andhra Pradesh Limited (INCAP)

REQUEST FOR PROPOSAL (RFP)
(International Competitive Bidding)

Volume 3: Project Information Memorandum

SELECTION OF THE DEVELOPER FOR A CONVENTION CENTRE AT VISAKHAPATNAM IN ANDHRA PRADESH ON PPP BASIS

(September 2015)

(BID DUE DATE: 16-10-2015)

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Contents

1 OVERVIEW OF PROJECT REGION

Visakhapatnam is the commercial and business hub of the state of Andhra Pradesh. It contributes to 14% of the state GDP, which is the highest amongst all the districts. Visakhapatnam along with the three neighboring districts of Srikakulam, Vizianagaram and East Godavari contribute to over 30% of state's GDP.

At present, Visakhapatnam has the only custom airport in the state and also has an international deep draft port. Visakhapatnam is amongst the 3 districts selected for development of an international airport. The State Government has initiated steps to develop Visakhapatnam as a mega city with world class civic infrastructure facilities. The United States of America is keen to develop Visakhapatnam as a smart city and has agreed to be the lead partner in this initiative.

The metro-rail project for Visakhapatnam is already at an advanced stage of scrutiny by the Government of India. The Government has also decided to entrust the preparation of Feasibility Studies and Detailed Project Reports (DPRs) for Metro rail projects to the Delhi Metro Rail Corporation (DMRC).

Visakhapatnam has been chosen as the site for a new Indian Institute of Management and many more prestigious institutions at the national and the international level are expected to follow suite. Visakhapatnam as an Industrial hub is home to thriving petrochemical complex and is base for a steel plant which gives fillip to metals and mining sector of the state. Further, the district is the starting point of the Vizag Chennai Industrial Corridor and has been short-listed as a node. This coupled with ITIR will attract investors to the district leading to transformational development in the region.

Many IT majors such as WIPRO and Tech Mahindra have evinced their interest in setting up Special Economic Zones and it is also home to manufacturing and R&D facilities of pharmaceutical majors.

The district is also endowed with scenic beaches and lies close to Araku Valley Hills and the Buddhist circuit which offer significant tourism potential making it an attractive locale of basing the Convention centre. As per the Tourism Mission, Visakhapatnam district has 39 tourist spots which are the highest amongst all districts.

1.1 Demography

The total population of Visakhapatnam is 42, 90,589 with urban population of 20, 35,922 which is projected to grow by 50 % by 2031. Visakhapatnam's total urban population accounts for 47 % of the State's total urban population and contributes 52.5 % towards total rural population of Andhra Pradesh. The region has a literacy rate of 66.9 % (Andhra Pradesh - 67.4 %) with male accounting for 74.8 % and female with 60.0 %.

The city of Visakhapatnam has an area of 534 sq. km, with the economy based on Ports, Industries & Minerals. The city is also an education hub for three (3) districts. The city has a

huge young population with 68 % of the total being less than 40 years of age. The total city population is concentrated in 25 % of the area i.e 146 sq. km, with population density of 13,000 persons per sq.km in buildup area.

1.2 Climate and Rainfall

Climate data for Visakhapatnam													
Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Year**
Record high °C (°F)	34.8 (94.6)	38.2 (100.8)	40.0 (104)	40.5 (104.9)	45.0 (113)	45.4 (113.7)	41.4 (106.5)	38.8 (101.8)	38.2 (100.8)	37.2 (99)	35.0 (95)	34.0 (93.2)	45.4 (113.7)
Average high °C (°F)	28.9 (84)	31.3 (88.3)	33.8 (92.8)	35.3 (95.5)	36.2 (97.2)	35.3 (95.5)	32.9 (91.2)	32.7 (90.9)	32.5 (90.5)	31.7 (89.1)	30.4 (86.7)	28.9 (84)	32.5 (90.5)
Average low °C (°F)	18.0 (64.4)	19.9 (67.8)	23.0 (73.4)	26.1 (79)	27.7 (81.9)	27.3 (81.1)	26.1 (79)	26.0 (78.8)	25.6 (78.1)	24.3 (75.7)	21.6 (70.9)	18.6 (65.5)	23.7 (74.7)
Record low °C (°F)	10.5 (50.9)	12.8 (55)	14.4 (57.9)	18.3 (64.9)	20.0 (68)	21.1 (70)	21.3 (70.3)	21.1 (70)	17.5 (63.5)	17.6 (63.7)	12.9 (55.2)	11.3 (52.3)	10.5 (50.9)
Avg. precipitation mm (inches)	11.4 (0.449)	7.7 (0.303)	7.5 (0.295)	27.6 (1.087)	57.8 (2.276)	105.6 (4.157)	134.6 (5.299)	141.2 (5.559)	174.8 (6.882)	204.3 (8.043)	65.3 (2.571)	7.9 (0.311)	968.8 (38.142)
Avg. rainy days	0.5	0.5	0.5	1.2	3.0	6.4	8.7	9.3	9.9	8.7	2.7	0.6	52.0
Avg. relative humidity (%)	71	70	69	71	69	71	76	77	78	74	68	67	71.8
Source #1: India Meteorological Department (record high and low up to 2010)													
Source #2: NOAA (humidity 1971-1990)													

1.3 Major Infrastructure Establishment

1.3.1 Water

The following are the details of water supply arrangements available at Visakhapatnam from various sources for industries.

Sr. No.	Source	Type of Drawal	Total Capacity (M.Cft.)
1	Meghadigedda Reservoir Scheme	Raw water from Reservoir after treatment	1000
2	Tatipudi Reservoir Scheme	Raw water from Reservoir after treatment	3157
3	Raiwada Reservoir Project	Raw water from canal supply after treatment	3250
4	Yeleru Left Main Canal	Raw water from canal supply after treatment	17880

1.3.2 Power

The power requirements of the district is being met from Hydro power stations apart from Thermal and Renewable energy.

Sr. No.	Sub-Station	Location	Capacity
1	Hydro Power	• Upper Sileru • Lower Sileru • Machkund	• 120 MW • 460 MW • 80.3 MW
2	NTPC	-	500 MW
3	LVS Power Project	-	37.8 MW
4	RCL Power Project	-	49 MW

1.3.3 Communication & Connectivity

Road: Visakhapatnam is well connected with Roads which has a length of 6597.98 KMs of which 112.24 KMs of National Highway runs through the district connecting important places of the district.

Rail: Visakhapatnam District is well connected with all the Metros and it is Divisional Headquarters of S.E. Railway and runs on Broad Guage. There are 21 Railway Stations with a length of 179 KMs of Railway.

Air: Visakhapatnam is well connected with other parts of the country like Delhi, Calcutta, Bombay, Bhuvaneshwar, Chennai etc. International connectivity is limited but is increasing rapidly with more carriers starting international flights from the airport.

Visakhapatnam Port Trust: Visakhapatnam has a Natural Harbour and it is one of the Major Ports in India. The Port handles Imports & Exports of heavy Cargo. It has no.of berths which include Fertlizer, Ore, Jetti etc. and Cargo berths which handle mill tons of Cargo.

Telecommunications: The District is well connected by Telecommunications. It has 81 Telephone Exchanges with 151376 lines capacity along with all modern infrastructure systems like Cellular, Pager services etc

1.3.4 Social Infrastructure

Visakhapatnam is a place of tourist importance and the important places includes Simhachalam, Kailashgiri, Vuda Park, Lumbini Park, Ramakrishna Mission, Ramakrishna Beach, Mudasarlova, Dolphinsnose, Ross hill, Victory at Sea, Kali temple, Kurupam tomb, Submarian Museum, Visakha Museum, Yarada Beach, Mutyalammapalem Beach, Rushikonda Beach,Thotla konda, Bovi konda, Araku Valley, Borra caves etc

1.3.5 Education Facilities

There are 3550 Primary Schools with 2.80 lakhs children on enrolment, 489 Upper Primary Schools with an enrolment of 1.28 lakhs 447 High Schools with 2.04 lakhs pupils on roll, 196 Junior, Degree and Professional Institutions with 0.83 lakhs students

during 2002-2003. Regarding Medical facilities, there are 159 Government Hospitals and dispensaries both Allopathic and Indian Medicine with 2819 bed- strength and 596 Doctors.

1.4 Industrial Infrastructure

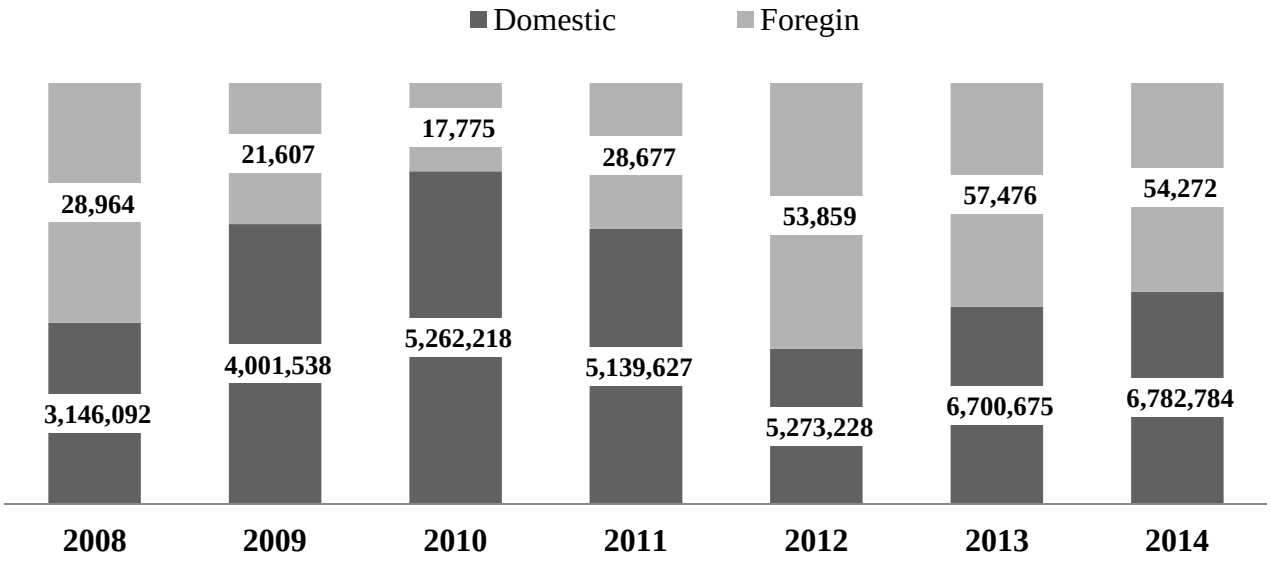
A. **V.E.P.Z**: Visakhapatnam Export Processing Zone located at Duvvada Village is an ideal destination for setting up an Export Oriented Industry. It was set up in an area of 360 Acres of land with ready built plots & sheds.

B. **Jawaharlal Nehru Pharma City**: is a Ramky Group development with APIIC being equity partners in 2120 acres with a project at Parwada, 33 Kms from Visakhapatnam town to promote Bulk Drug, Pharma and chemical industries.

C. **AP SEZ**: APSEZ is multi-product SEZ developed over an area of 5595 acres of land at Atcutapuram and Rambilli mandals of Visakhapatnam District. The Government of India notified the SEZ on 12/04/2007 in the Gazette. It one of the most prominent SEZ in the state of Andhra Pradesh.

1.5 Tourism

The department of tourism maintains the data for domestic and foreign arrivals in the city which is presented in the figure below, the total tourist arrivals in the city have a strong compounded growth rate of 11.58 %. There has been a continuous increase in domestic tourist visits which complements the city positioning as a major tourist and urban hub for surrounding districts of not only Andhra Pradesh but also regions of West Bengal, Bihar & Odhisa. Due to the strong presence of Indian navy 's engineering / development establishments, the city also witnesses a minimum constant foreign arrivals, this category also is responsible for 5 %– 10 % of the total room bookings in the city.



1.6 MICE Local Scenario

Currently, major convention / exhibition facilities in the city are in the range of 200 – 1500 pax, and lack the capacity to hold major conventions table below lists the available facilities with capacity and occupancy

Facility	Occupancy	No. of Event per year	Max. Capacity
Novotel	70 %	256	1200 pax
The Park	57 %	208	< 1000 pax
Daspalla and Daspalla Executive	80 %	292	< 1000 pax
Dolphin	57 %	208	< 1000 pax
Taj Gateway	55 %	201	< 1000 pax
Andhra University	Not Shared	15	2000 pax
Sitamdara hall	Not Shared	85	1500 pax
Waltair	Not Shared	75	1500 pax
Vishwapriya	Not Shared	35	< 1000 pax
Others	-	589	

The only major convention facility of international standard is at Hotel Novotel with a max capacity of 1,200 pax and performance above average at 70 % occupancy.

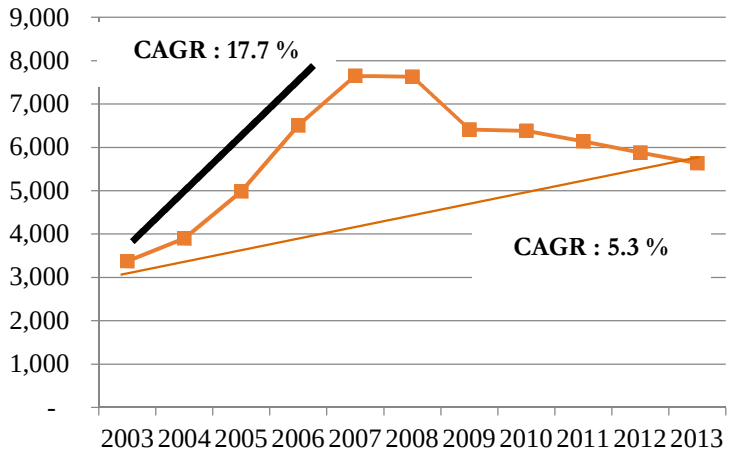
The local market relies heavily on social events category accounting for 60 % of total occupancy across available facilities, corporate events coming in second at 25 % followed by association sponsored / conducted events constituting 15 % of total occupancy.

The table below highlights size and percentage breakup of the total tracked events in the city.

Size	< 500 pax	500-1000 pax	> 1000 pax
% Breakup	55 %	35 %	10 %
Avg. Size in the bracket	500 pax	750 pax	1000 pax
Avg. number of people per convention			638 pax

1.7 Hotel Industry Local Scenario

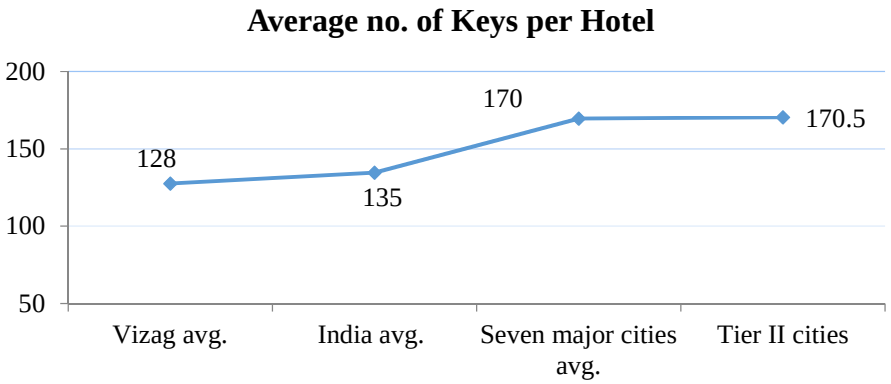
The Indian Hotel Industry has maintained a stable ARR CAGR of 5.3 % for the past 10 years. The Industry bloomed in the first half of the past decade with an impressive ARR growth rate of 17.7 %, with changing economic tides and renewed positive sentiments the industry expects to regain momentum which is indicated by the Y.o.Y growth rate of 8% in ARR in 2014-15.



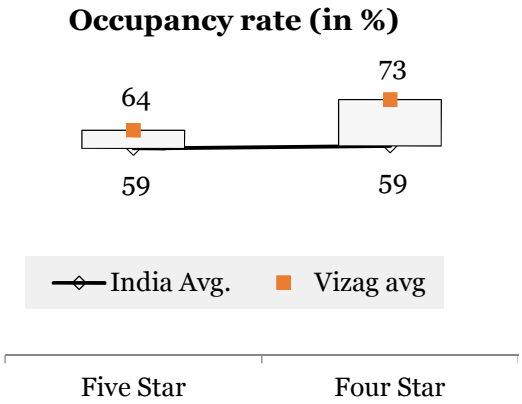
Hotel Industry performance terms of ARR (Avg. room rates) in the city is lower than other top cities of India, but are comparable to high growth Tier –II cities like Agra, Hyderabad, Jaipur and Gurgaon.

Taking reference to the HVS publication on Indian hotel industry (2012-13 & 2014) and comparing with city level scenario, the total number of keys available in the city is about 25 % less when compared with other major Tier-II cities. Table indicates total room availability of rooms in major hotels of the city

5 Star	Keys	4 Star (best 4)	Keys (total keys ~ 890)
Novotel	225	Dolphine	145
The Park	66	Fortune Inn	68
Four Points – Sheraton	124	Welcome Grand Bay	104
Taj Gateway	95	Daspalla	172
Average : Occupancy @ 64 %, 128 No. of Keys		***Average : Occupancy @ 73 %, 122 No. of Keys***	



On occupancy levels the city shows a positive trend outperforming vis-à-vis pan India scenario in 5 star and 4 star categories, the graph below highlights the performance of both the categories in comparison with national occupancy levels. The data source for city level figures was ascertained during stakeholder interactions during the feasibility analysis and India level figures are in reference to the HVS publication of 2012-13 & 2014



1.8 Commercial & Retail

- The city of Visakhapatnam is gaining significance on the real estate front and has emerged as one of the key Tier II cities in India. The city is being recognized as an attractive destination for IT/ITES development. There have been noticeable developments observed in the last 2-3 years with respect to the real estate developments in the city. The property prices have gone up by more than 20 % since the bifurcation of the state and are now showing a stable increase. Good quality of life, low cost of living and several planned infrastructure development projects are among important reasons attracting national and international corporate entities for focusing their investments in the city. The industrial growth, promotion of the service sector by the government, investor interest seen in the past years still continue and trigger a strong demand for real estate across all sectors. Some of the major projects which have seen light in the past 3 years in retail segment are Pantaloons Show room in Daba gardens, Vizag Central at Super Bazar road, Vaibhav Vsquare Mall at Dwaraka nagar and CMR central Mall with Multiplex at Maddelapalem. With the hike in land values in the central and sub urban areas of Visakhapatnam, many of the residential projects have come up in the peripheral areas specially in Rishikonda and Madhurawada areas where the land values are growing at promising rates.

- With the promotion of IT companies by APIIC at IT&ITeS SEZ in Rushikonda & Madhurawada areas, prominent companies have taken up built to suit spaces. Some of the major companies which have started operations in this area are: Kenexa Technologies,

IICT, Infotech enterprises, Symbiosis Technologies, 2K Technologies,Miracle Soft ware etc. The other major commercial areas for office space in the City are Satyam Junction, Seethammadhara, Dwaraka Nagar, Daba Gardens, Siripuram, Dutt Islands, VIP road. Typically the ground and first floor are used for retail stores while the upper floors are used for office spaces in the central and sub urban areas. Some of the major IT & BPO's in these areas are: Satyam and ISB at Satyam Junction, HSBC at Siripuram etc

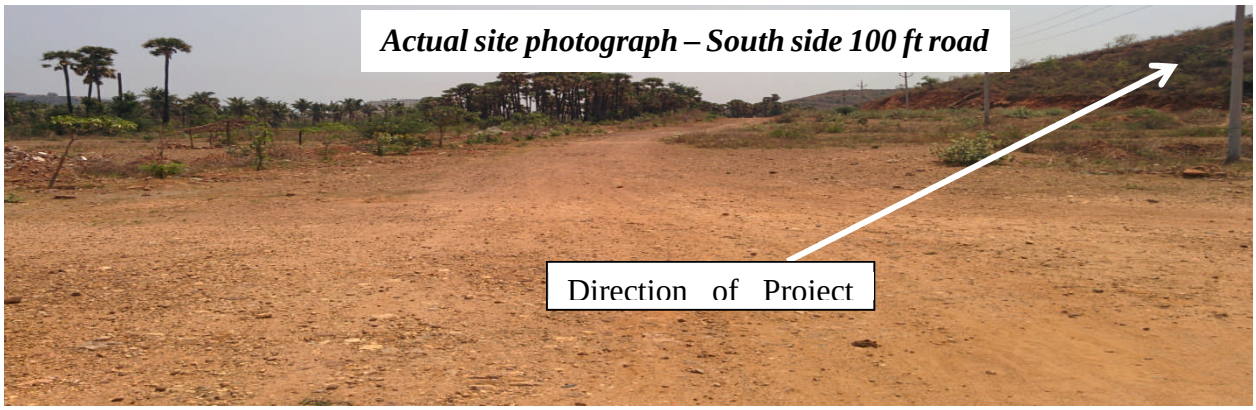
- The retail market of Visakhapatnam is witnessing a surge in the retail activity. This can be attributed to the industrial growth and IT/ITeS development, which has resulted in potential catchment for retail. The retail demand in Visakhapatnam is not only meeting the requirement of the residents but also the high net worth individuals in the surroundings districts. The current retail market is characterized by unorganized retailing located in the CBD and off CBD locations of the city. The main areas where retail activity is concentrated are Jagadamba Circle, Siripuram Junction, Dwaraka Nagar and Dabagardens. The retail market that started in the form of traditional high street retail in the old city has grown into an organized form over a period of time, reflecting the changing needs and preferences of the people in the city. Some of the major shopping malls which are operational in the past 3 years are Pantaloons Show room in Daba gardens, Vizag Central at Super Bazar road, Vaibhav V-square Mall at Dwaraka nagar and CMR central Mall with Multiplex at Maddelapalem. Due to significant gap between supply and demand and also with space crunch in the CBD areas the lease rentals have seen a north ward movement..

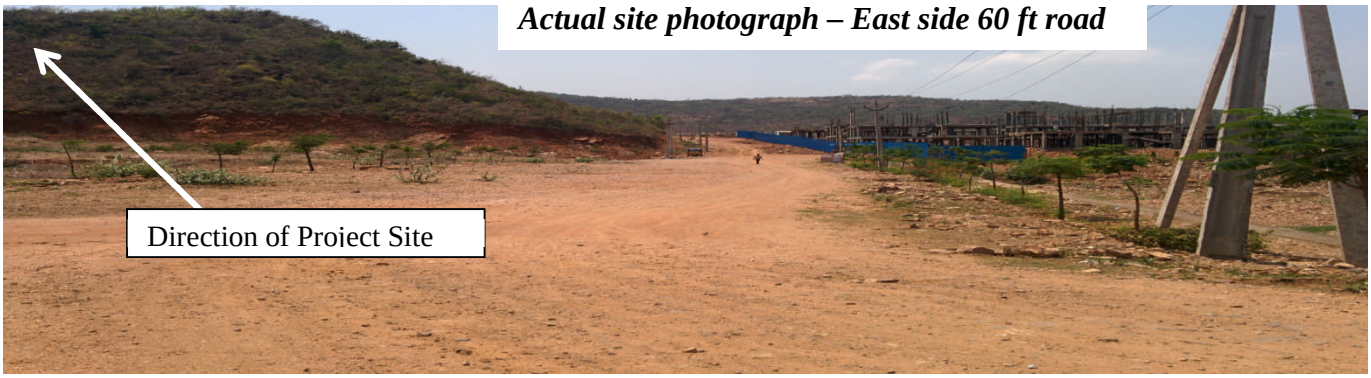
2 PROPOSED PROJECT SITE

The site is at the Madhurwada region of Visakhapatnam, with a total area of 53 Acres with survey no 409, maximum elevation of 180 meters above MSL and is presently vacant. The site for the proposed project is located 15 kms from the Jagdamba Central Business district. It is prime hill terrain land with 100 ft VUDA master plan road running on the south side of the foot of the hill and existing 60 ft wide road on easts side (proposed to be converted into 100 ft road). Government, through department of tourism shall provide enabling infrastructure like approach road (100 ft proposed), power and water lines up till the project boundaries.

2.1 Approach

The approach to the site is proposed be from south & East sides to the project boundaries connecting with existing and proposed 100 ft. roads running at foot of hill at south & east side of the proposed hill.





2.2 Onsite / offsite features

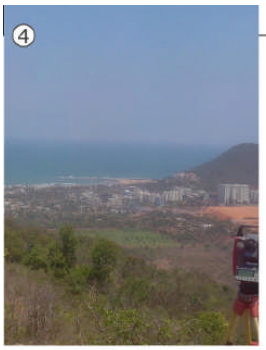
The site is a virgin hill terrain with existing vegetation and shrubs, the elevation of project site varies from 120 M MSL to 180 M MSL, the site from all levels has a sea view. Actual photographs taken from 160 M MSL from the project site are as under

Villas seen from Hill

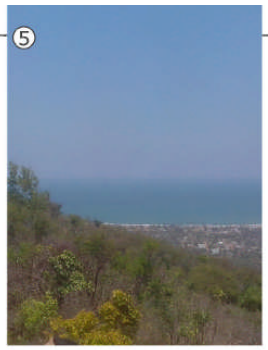
Shriram properties seen from Hill

Gitam campus seen from Hill Top

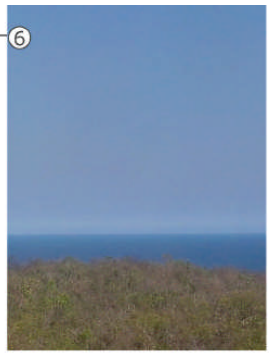
Miracle softwares & Ramanaidu studios seen from NE side of the site



Bay Park & Gitam seen from site



Beach view from the site



East side from Hill Top

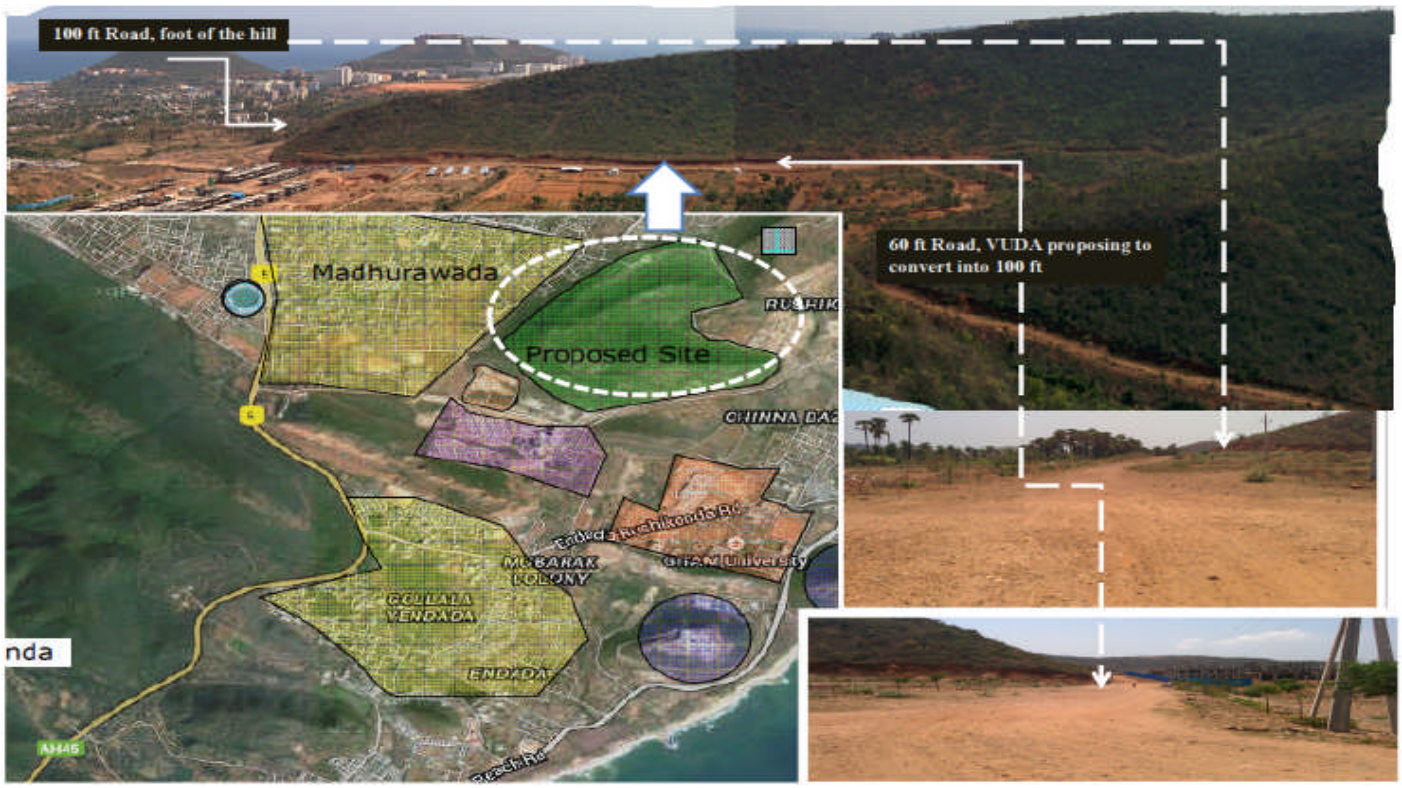
2.3 Connectivity

Overall, the site enjoys excellent connectivity with the rest of the region, with low travel times and distances from major city – level landmarks. The site also has an excellent visibility & accessibility. This is likely to be a major contributor to the success of proposed development at the Project Site.

Key Distances

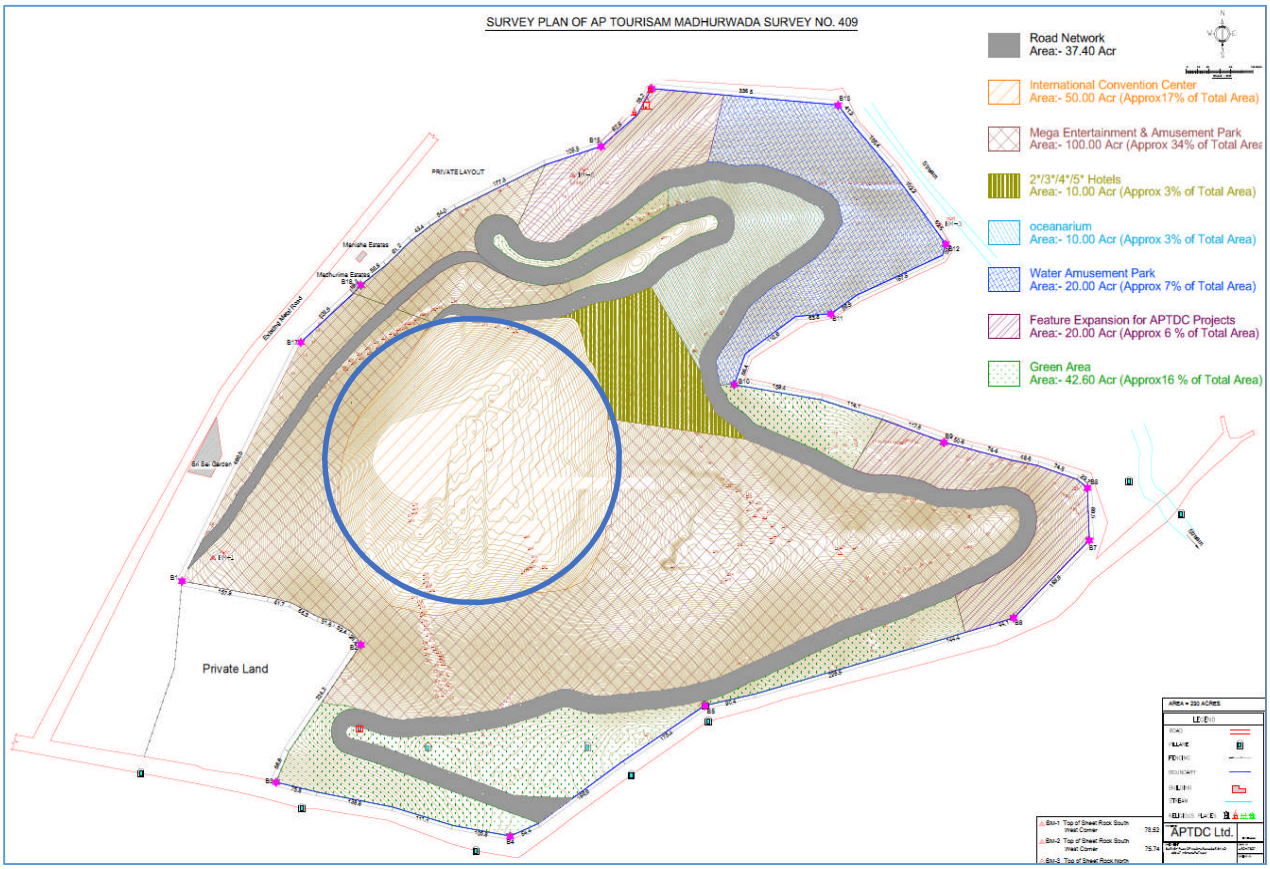
Landmark	Approximate distance from the Project Site
Railway station	17 Km
Jagdamba CBD	15 Km
Beach Road	2.5 Km
Airport	25 Km
Proposed Aerotropolis at Bhogapuram	34Km

2.4 Site Plan



2.5 Integrated Plan for the region

An integrated concept plan has been prepared for the hill of 290 acres on which the proposed convention Centre project is to be built. As mentioned in the earlier section, 53 acres has been allocated out of the total land extent of 290 acres. The concept plan of the hill is as shown below.



2.6 Land title of the Site

The proposed Site is the advanced possession of the Department of Tourism, Government of Andhra Pradesh. Hence, the Govt. of Andhra Pradesh shall govern the 'Project Development Guidelines' and since the proposed project is a 'MICE Tourism Destination', the prevailing Tourism Policy & PPP Guidelines of Govt. of Andhra Pradesh shall be applicable.

2.7 Development Regulatory Framework, Policy & Zoning

The project site falls under the jurisdiction of Vishakhapatnam Urban Development Authority & Greater Visakhapatnam Municipal Corporation, wherein the developer has to meet all guidelines, obtain requisite approvals and permissions as laid out the regulatory bodies. The development shall be as per laws and guidelines prescribes in G.O MS. No. 168 and National Building Code – 2005.

3 PROJECT DEVELOPMENT

3.1 Scope

This project is conceived as a combined development with 3 main elements –

1. International Convention Centre & Exhibition facility
2. Five Star Hotel
3. Commercial complex with multiplex

A site of 53 acres has been considered for the development of the Project Facilities. The Scope of the Project shall include Development, Design, Financing, Construction, Marketing, Operation & Maintenance and Management of these Project facilities at the Project Site for the Concession Period of 33 years as per the terms and conditions stipulated in the Concession Agreement.

3.2 Project components

The project shall include development of International Convention cum Exhibition Centre and Five Star Hotel as per Norms and Guidelines provided by Ministry of Tourism, Government of India (GoI) & FHRAI and applicable Local By-laws. The developer would be given the option to plan and design the Project Facilities conforming to the applicable relevant building bye-laws, regulations/ norms / standards for respective project components including arranging approval from the competent authority. The nature of the Project Facilities (Minimum and Optional) that shall be allowed are as per the RFP document under the minimum development obligation.

COMPONENT	KEY FEATURES
Convention Centre	5,000 capacity, 300-400 capacity small meeting rooms, wi-fi connected spaces, Lounge spaces, Kiosks, 12 m high plenary hall, Kitchen, Utility, Docks, Stores, etc.
Exhibition Halls	12 mt. clear height Exhibition Hall, Air-conditioned space, public utility zone, Stalls, tap point for electricity, cables etc., for each stall.
5 Star Hotel	150 Rooms, Banquet areas, Lobby spaces, Restaurants, Gym, Health Center, Pool etc.
Commercial Complex	Retail Shopping & Cinemas (Mall & Multiplex), Food Court, Video Gaming Zone & Club Lounge with Bowling Alley, Billiards/Snooker, Table Tennis etc., and Concessions, Services etc.
Parking	Cars, buses, two wheelers etc.
Services	Transformer yard, STP, Electrical switch yard, DG sets etc.
Landscape	Gardens & Lawns, Pathways & Social Spaces
Gate Entrance Complex	Administration, Tickets Counters, Security etc.

Administration Block with Offices	Office Spaces for Stake Holders

3.3 Project clearances & sanctions

The developer shall be required to obtain all relevant and requisite permission for successful development, operation & maintenance for the project. A tentative list of approvals required for the project are:

3.3.1 Pre-Construction:

a) Municipal Approval (VUDA/GVMC) for commencement of construction.

b) Fire Approval from Fire Regulation Authority. (Directorate of Fire Services, AP).

c) NOC from Air Port Authority.

d) Consent from GVMC for Water Supply and Sewerage lines for water supply for pre and post construction.

e) Consent of Bore well from Central Ground Water Board (CGWB).

f) Consent for collection of solid waste generated.

g) Consent for Sewerage and Storm Water connection

h) Environmental clearance from A.P Pollution Control Committee

i) Environmental clearance from Ministry of Environment and Forest (MoEF).

j) Power for Construction activity from the Electricity Board.

k) Approval from Ministry of Mines for excavation.

3.3.2 During Construction

a) Installation of Transformers-to be cleared by Chief Electrical Inspector (Electricity Board).

b) Installation of DG Set to be cleared by electrical inspector (Electricity Board).

c) Approval of Water Supply connection from GVMC

d) Installation of bulk petroleum “B” class (HSD) from Chief Controller of Explosives. (CCE)

e) Pollution Control Board approval for installation of STP, DG, chimney.

f) Lift Inspection.

g) Approval for erection of bore well – from Central Ground Water Board (CGWB).

3.3.3 Post Construction

a) Completion Certificate or occupancy certificate from Municipal Authorities (GVMC).

b) Completion Certificate from Fire Regulation Authority. (Directorate of Fire Services, AP).
c) NOC from A.P Pollution Control Committee.
d) Lift Inspection for operation of lifts from Chief Electrical Inspector (Electricity Board).
e) DG sets for generation of electricity from Chief Electrical Inspector (Electricity Board).
f) Sanction of Electrical Connection for total requirement from Electricity Board
g) Sanction of water connection from GVMC
h) Sanction of Sewage and Strom water from GVMC.
i) Any other relevant for successful operations and maintained of project facilities
j) Any other as required to obtain and maintain 5 star rating for Hotel.

3.4 Total Estimated Project Cost

Total Project cost is estimated based on the projects brief and it's built up areas of the respective components. The Total Estimated Project Cost is Rs.380 crores. The details of the same has been indicated in the following table.

Components	**Total cost (in Rs. Lakhs)**
Convention Centre	3,750
Exhibition Hall	900
5-Star Hotel	5,675
Commercial complex	9,100
Roads	180
Landscape and parking	273
Estimated cost	**19,878**
Plumbing and Heating (10% of estimated cost)	1,988
AC, electrical, escalation etc	6,108
Power back up	1,205
Total construction cost	**29,178**
Preliminary expenses and contingencies	2,918
Base cost	**32,096**
Interest during construction	5,869
Total project cost	**37,966**

4 MINIMUM TECHNICAL SPECIFICATIONS AND STANDARDS FOR THE CONVENTION & EXHIBITION CENTRE

4.1 Convention Centre

4.1.1 Retractable Seating

Retractable seating if required shall be provided in the Multi-Purpose Conference Hall. The minimum specifications for retractable seating are as follows:

- Power Assist for System Operations
- Semi-Automatic for Chair operation

The provision shall be made in accordance with relevant standards for building, materials and fire safety.

4.1.2 Equipment and Audio Visual System

Provision for Simultaneous Interpretation Systems (SIS) shall be made in the Multi-Purpose Conference Hall. Minimum requirements for SIS are an interpreter's control unit, and 1 tabletop transmitter per target language, 1 receiver and headphone, or headset per participant. The booths can either be fixed or mobile. Provision shall be made for upto 6 language interpretation booths with 2,000 Nos. (minimum) of Wireless IR Receivers with headphones for reception of simultaneous language interpretation. The equipment's can be radio or infrared frequency equipment. The developer shall comply with the relevant international standards for all the equipment's.

Table 1: List of Interpretation Equipments for Convention Centre.

Interpreter's Control Unit	
	Interpreters Headphones
	Microphones
	Amplifiers
	Control consoles
	Fixed/ Mobile Booth
	Risers, Video Monitors, and other equipment
Equipment for the Participants	
	1 top transmitter per target language
	1 Receiver and headphone or Headset per participant

- Sound Reinforcement system for the entire hall suitable for Speech / Light music, seminars, lectures, presentations etc.
- Rear projection Screens & LCD Projector for detailed presentations of all formats of video from presentations to motion picture.
- Auto dome CCD Cameras for capturing live video of the stage proceedings and project on the main screen display.
- Video Distribution of the proceedings of the Hall to the entire Convention Centre through various Plasmas & TV placed at selected locations / rooms.
- State-of-art Digital Congress Network, equipped with Chairman and Delegate microphone units enables conferences and discussion seminars.
- DVD Recorders enable recording & Storage of all the interpreted languages or floor language along with video directly on the DVDRs.
- Wired microphones for Podium or stage applications.
- Upto 10 Wireless microphones, either handheld tie-clip for wire-free application of microphone source.
- 16 Channel Microphone mixing console to manage various I/P sources from the control room.
- DVD Players, VCRs, Music Sources.
- Provisions for Inputs from various I/O devices like laptops, documents cameras, slide projectors, etc. through the interface plates in the floor boxes.
- Provisions for various inputs / Outputs from above the truss for more LCD Projectors, motorized screens etc. through interface modules placed above the bars.
- Touch Screen control / monitoring of the AV equipment in the entire convention hall enable the use of multiple equipment at the touch of a single button
- Ceiling Speaker (Rated power-100W, 650x400x322mm, wt: 24KG)

4.2 Exhibition Hall Specifications

4.2.1 Floor Loading

The Floor Loading should be 20,000 kg per square meter.

4.2.2 Operable Walls

The larger halls should be able to be partitioned into smaller single independent halls by operable walls.

4.2.3 Telephone/ Data-lines

- One to four extensions per service pit, with over 100 available in total per hall, accessed by service pits on a 6 meter x 6 meter (20 feet x 20 feet grid).
- Four outlets per pit on a 6 meter x 6 meter (20 feet x 20 feet) grid.
- Single-mode and multi-mode fiber backbone to BD/FD.

4.2.4 Power

Maximum load should be 1,000 amps 3 phase. There should be electrical service pits per hall on a 6 meter x 6 meter grid. Each electrical service pit should have one (1) 32

amp 3 phase neutral and earth switch plug socket. Each hall should have access to one 91) 300 amp and five (5) 125 amp 3 phase neutral and earth linked boxes for electrical load exceeding the service pit outlets capacity. All pits should be linked by a 50 mm conduit in the slab. Service Pit Covers in Halls and the corridors shall be made of metal plate in accordance with safety standards.

4.3 Acoustics

- The partition between two meeting halls should have a Sound Transmission Coefficient (STC) of 70 dB measured with dual-channel spectrum analyzers as per ISO 140.
- The ideal reverberation time should be around 1.25 seconds in unoccupied state, measured as per ISO 3382.

4.4 Hotel

The Hotel shall be provided with all the facilities and amenities in the Five Star category.

4.5 Exit Facilities in Hotel & Convention Centre

- Door widths shall not be less than 2 mts wide, or
- Sufficient number and locations of exits shall be provided for the total capacity as per the NBC.

4.6 Air Conditioning

The Convention cum Exhibition Centre and Five Star Hotel and other components shall be provided with Air-Conditioning as per the relevant standards and specifications of NBC, BIS and other recognised international standards.

4.7 Support Facilities for Hotel & Convention Centre

Appropriate provisions in line with the national standards like NBC, BIS, recognized International Standards and the best Industry Practices will have to be made by the Developer based on detailed architectural & structural designs.

4.8 Signages in Hotel & Convention Centre

The Developer shall provide signages so as to facilitate necessary information to the visitors regarding amenities and their location. The signage would be provided separately;

- Information Signs,
- Facility Signs, and
- Other Signs

4.9 Commercial Spaces/Area

Concessionaire may also develop commercial space as approved under the project.

4.10 Supporting Facilities and Amenities

The developer shall provide all the necessary supporting facilities and amenities confirming to the development controls and meeting the relevant Indian and international standards.

4.11 Fire Fighting Facilities

The Developer shall provide the required fire fighting equipment and facilities including fire exits, fireproof doors, etc., conforming to the relevant standards and the applicable rules and regulations.

4.12 Facilities for Physically Challenged Persons

The Developer shall provide all the necessary facilities to the entry/ exit, seating and movement of physically challenged persons including wheel chairs, ramps, specially designed seats, toilets, etc., in the Centre.

4.13 Design Philosophy for Structures

The structure will be modeled as a space frame using structural packages such as STAAD-PRO (Version 2008) will be used for the design and analysis of the structure.

All reinforced concrete structures will be designed in accordance with IS:456-2000: Codes of Practice for Plain and Reinforced Structures adopting limit state method All water retaining structures will be designed in accordance with IS:3370.

4.13.1 Method of Design

1	RCC Footings	Limit State
2	RCC Columns	Limit State
3	RCC Floor Beams, Tie Beams & Slabs	Limit State

4.13.2 IS Codes

The following IS Codes will be used in the design.

S. No.	IS CODES No.	DESCRIPTION
01	IS 875 (Part I)	Code of practice for design loads (Dead Loads) for buildings and structures
02	IS 875 (Part II)	Code of practice for design loads (Live Loads) for buildings and structures
03	IS 875 (Part III)	Code of practice for design loads for buildings and structures (Wind Loads)

04	IS 1893 (Part 1)	Criteria for earthquake resistant design of structures: 2002.
05	IS 456	Plain & Reinforced Concrete – Code of practice
06	IS 800	Code of practice for general construction in steel
07	IS 4326	Code of practice for earthquake resistant design and construction of buildings
08	IS-2911 (Part-1, Sec.1, 2 & Part-4) 1985	Code of practice for design and construction of Pile foundations in soils.
09	IS 1904	Code of practice for design and construction of foundations in soils: general requirements
10	IS 9716-1985	Code of Practice for Dynamic Load Test in Piles.
11	IS 5525	Recommendations for Detailing of Reinforcement in Reinforced Concrete Works
12	IS 13920	Ductile detailing of reinforced concrete structures subjected to seismic forces - Code of practice
13	IS 3370 Part I to IV	Code of practice for concrete structure for storage of liquids.
14	IS 1905	Code of Practice for Structural use of Unreinforced Masonry
15	IS-226	Structural Steel (standard quality) (fifth revision)
16	IS-814	Covered electrodes for metal arc welding of structural steels 814 (Part 1)-1974 Part 1 for welding products other than sheets (fourth revision)
17	IS-816	Code of practice for use of metal arc welding for general construction in mild steel (first revision)
18	IS-817	Code of practice for training and testing of metal arc welders (revised)
19	IS-819	Code of practice for resistance spot welding for light assemblies In mild steel

4.13.3 Design Aids

SP – 7	**National Building Code of India.**
SP – 6	Structural steel hand book for IS: 2062
SP – 16	Design aids for reinforcement Concrete to IS: 456
SP – 34	Hand book on concrete reinforcement and detailing
SP – 38	Hand book of typical design for structural steel roof truss

4.13.4 Material & Material Stresses

As per clause 8.2.4.1 and 8.2.4.2 of IS456:2000 environmental exposure conditions for concrete considered as mild. Minimum grade of concrete is M20 for mild condition.

From durability point of view and as per clause 26.4.2 of IS 456:2000 (Table-16 and Table 16A) for two hours of fire resistance, all reinforcement shall have concrete cover and minimum thickness of such cover (exclusive of plaster or other decorative finishers) shall be as follows.

S.No.	Structural Element	Concrete Grade	Clear Cover to Top, Bottom and Sides in mm
1	Footings	M40	50
2	Columns	M50	40
3	RCC slabs, staircase slab	M40	20
4	Beams	M40	30
5	RCC Retaining walls	M25	Earth face-40 mm & other face-25 mm
6	Water tank walls	M25	50
7	Lift walls	M25	25

The reinforcement used will be high yield strength deformed bars conforming to IS: 1786 of grade, Fe 500 the permissible stresses and design concept will be as per IS: 456-2000

4.13.5 Soil Parameters

The net safe bearing capacity of soil will be taken as per soil report.

Analysis of Structure:

1. **Loads:**

   Dead Load (DL)

   For dead load calculations the unit weight of different materials considered as below:

   - 1. Reinforced cement concrete = 25 KN/m3
   - 2. Brick work = 18 KN/m3
   - 3. PCC = 24 KN/m3
   - 4. Structural steel = 78.5 KN/m3

Description	**Load KN/m2**
Floor finishes	1.5

2. **Wind Loads**

   The wind pressure shall be calculated based on the data furnished below and other provisions laid in IS: 875(Part 3) – 1987.
   Basic Wind Speed = 69m/sec
   Risk coefficient (k1) = 1.0
   Terrain category (k2) = 1
   Structure class = Class A for structures and/or their components such as Cladding, glazing, roofing etc., having maximum dimension (greatest horizontal or vertical dimension) less than 20 m.
   Class C for structures and/or their components such as cladding, glazing, roofing, etc., having maximum dimension (greatest horizontal or vertical dimension) less than 50 m.
   Topography factor (k3) = Is Considered as in b/w 1.0 to 1.36 depending on the slope of the hill

3. **Wind loads on cladding / glazing:**

   For designing the cladding / glazing supports, the wind load will govern the design, for which the above design wind pressure will be considered with appropriate local pressure coefficient
   Wind loads are considered in accordance to IS: 875-Part-3, 1987
   Basic Wind speed for the site (Vb) = 33 m/sec
   Design wind speed (Vs) = Vb k1 k2 k3

4. **Seismic Load (SL):**

   Seismic loads are considered in accordance with IS: 1893-2002.
   The structure will be designed by the dynamic analysis by the response spectrum method.
   The design seismic base pressure (Vb) = Ah W (IS: 1893 (Part-1) 2002 Clause-7.5.3)
   The design horizontal seismic coefficient (Ah) = ZI Sa & 2 Rg
   The various factors will be considered as below:

Factor	Description	Clause	Value
Z- 2	Zone Factor	1893-2002 (PART-1) Table -2	0.1
I	Importance Factor	1893-2002 (PART-1) Table -6	1.5
R	Response Reduction Factor	1893-2002 (PART-1) Table -7	3.0

Approximate fundamental time period (Ta) = 0.075 H (IS: 1893 (Part-1)2002 Clause 7.6)
H = height of the building in mts. (excluding basements)
Sa/g Average response acceleration coefficient = IS: 1893 (Part-1)2002 Clause 6.42
Damping Percentage = 5%
W (seismic weight) = Full dead load of structure + 50% of imposed Loads exceeding 3kn\m2
Full dead load of structure + 25% of imposed
The building is analyzed by the seismic coefficient method.
Other equipment load: As per system drawings if any.

4.13.6 Load Combinations Factor

The load combinations are as follows:

S.No.	Load Combination
1	1.5 DL+1.5 LL
2	1.5 DL+1.5 WL(X)
3	1.5 DL+1.5 WL(-X)
4	1.5 DL+1.5 WL(Z)
5	1.5 DL+1.5 WL(-Z)
6	1.5 DL+1.5 EL(X)
7	1.5 DL+1.5 EL(-X)
8	1.5 DL+1.5 EL(Z)
9	1.5 DL+1.5 EL(-Z)
10	1.2 DL+1.2 LL+ 1.2 WL(X)
11	1.2 DL+1.2 LL+ 1.2 WL(-X)

12	1.2 DL+1.2 LL+ 1.2 WL(Z)
13	1.2 DL+1.2 LL+ 1.2 WL(-Z)
14	1.2 DL+1.2 LL+ 1.2 EL(X)
15	1.2 DL+1.2 LL+ 1.2 EL(-X)
16	1.2 DL+1.2 LL+ 1.2 EL(Z)
17	1.2 DL+1.2 LL+ 1.2 EL(-Z)
18	0.9 DL+ 1.5 EL(X)
19	0.9 DL+ 1.5 EL(-X)
20	0.9 DL+ 1.5 EL(Z)
21	0.9 DL+ 1.5 EL(-Z)
22	0.9 DL+ 1.5 WL(X)
23	0.9 DL+ 1.5 WL(-X)
24	0.9 DL+ 1.5 WL(Z)
25	0.9 DL+ 1.5 WL(-Z)
26	1.0 DL+1.0 LL
27	1.0 DL+1.0 WL(X)
28	1.0 DL+1.0 WL(-X)
29	1.0 DL+1.0 WL(Z)
30	1.0 DL+1.0 WL(-Z)
31	1.0 DL+1.0 EL(X)
32	1.0 DL+1.0 EL(-X)
33	1.0 DL+1.0 EL(Z)
34	1.0 DL+1.0 EL(-Z)
35	1.0 DL+0.8 LL+0.8 WL(X)
36	1.0 DL+0.8 LL+0.8 WL(-X)

37	1.0 DL+0.8 LL+0.8 WL(Z)
38	1.0 DL+0.8 LL+0.8 WL(-Z)
39	1.0 DL+0.8 LL+0.8 EL(X)
40	1.0 DL+0.8 LL+0.8 EL(-X)
41	1.0 DL+0.8 LL+0.8 EL(Z)
42	DL+0.8 LL+0.8 EL(-Z)

4.13.7 Design of Structure

All reinforced concrete structures will be designed in accordance with IS: 456-2000 "Codes of Practice for plain and reinforced structures "adopting limit state method".

5 MINIMUM OPERATIONS AND MAINTENANCE STANDARDS

5.1 Preamble:

The following maintenance and performance standards cover only some of the minimum requirements for operation. The Developer shall operate, maintain and manage the proposed Convention Centre and allied facilities strictly conforming to the relevant Indian standards, the best industry practices and internationally acceptable norms. Whether the requirements are explicitly stated or not in the RFP documents, a truly international quality and standard facility in all respects is expected from the selected Developer, as the binding contractual obligation.

5.2 General:

During the period of operation, the Developer shall maintain all the facilities in accordance with performance standards and maintenance requirements, as mentioned below:

i. Perform maintenance on a routine and periodic basis.

ii. Provide functional facilities that (a) meet the Hotel & ICC requirements; (b) have an environmentally acceptable atmosphere for users of the facility; (c) ensure safety and security of VVIPs; (d) ensure the safety of the visitors; and, (e) maintain a good environment in the site conducive to all tourism and leisure facilities.

iii. Identify potential problems early within the context of the planned maintenance system so that corrective action may be planned and completed in a timely manner.

iv. Establish a maintenance list for planned operation and maintenance. Follow an orderly program so that maximum operational efficiency is attained.

5.3 Maintenance Works:

i. The Developer shall perform routine and periodic maintenance activities for the project infrastructure viz, civil, mechanical and electrical works and equipment, furniture for meeting the specified performance standards as per the table below.

Description	Required Level	Facility/ Equipment
Power Supply, Electrical Installations, Electrical Equipments	Standby power arrangements shall be made for necessary project facilities like Hotel Convention & Exhibition Center, etc. No loose, open, un-insulated wiring any of the areas. Switch Boards, Electric meters are	Standby power supply by DG sets shall be ready to be operated and should be available 24 hours

	enclosed in boxes and access to authorized persons only.	
Natural and Mechanical Ventilation and Illumination	Shall meet the required Illumination level as specified in the IS Code and NBC. Shall meet the required Ventilation level as specified in the IS Code and NBC.	Any disruption to mechanical ventilation, if provided, shall be rectified within 24 hours. Arrangements for natural ventilation like skylights ventilators, shafts etc. shall be cleaned after every 5 days.

ii. Maintenance of Circulation Areas of International Convention, Exhibition Center ,Hotel & Commercial area / Spaces, etc.: Circulation Area maintenance shall include the entire house keeping activities requiring routine and periodic maintenance. Annual maintenance shall be done for accessories like fans, lighting arrangements etc in these areas.

5.4 Performance Standards: Intent:

i. The performance levels define the level at which the proposed facilities are to be maintained and operated. Performance standards are defined for operation and maintenance of the facilities and the site environment.

ii. The obligations of the Operator in respect of Maintenance requirements shall include:

   a. maintaining site environment so as to cause minimum disturbance to the environment,

   b. ensure that the facilities are operational and rectification of the defects and deficiencies within the minimum time,

   c. ensure that the fixed parameters provided in this RFP are abided by at any time during the Concession period,

iii. Notwithstanding anything contrary to specified in this schedule, if the nature and extent of any defect justifies more time for its repair or rectification as compared to time specified herein, the Operator shall be entitled to additional time in conformity with good industry practice. However the Operator shall get prior approval from the Independent Engineer, for such additional requirements of time.

iv. Notwithstanding anything to the contrary contained in this schedule, if any defect, deficiency or deterioration in the project poses danger to the life and property of the users thereof, the Developer shall promptly take all reasonable measures for eliminating or minimizing such danger.

5.5 Routine Maintenance Performance Standards:

Performance Standards for Routine Maintenance

Sl. No	Serviceability Indicator	Required Maintenance Level	Permissible Time Limit for repairs/rectifications
A	International Convention & Exhibition Centre cum Five Star Hotel		
1.	Power Supply, Electrical Installations, Electrical Equipments shall be functional	Nil	Any disruption in power supply shall be rectified in six hours. Standby power supply by DG sets shall be ready to be operated and should be available 24 hours
2.	Natural and Mechanical Ventilation and Illumination for multi storey parking, if any, shall be functional	Nil	Any disruption to mechanical ventilation if provided shall be rectified within 24 hours. Sky-lits, ventilators, shafts etc shall be cleaned after every 5 days
3.	Boundary Wall shall be without any Damage / Breach	Nil	Any damage / breach to the boundary wall shall be rectified within three (3) days after their detection.
4.	There shall be no standing water on pavement surface, no water logging in the centre	Nil	Immediate measures to be taken and water logging should be cleared within four hours.
B	Commercial Space		
5.	All Toilets, Urinals, bathrooms shall be clean and functional	A minimum of 95% toilets and urinals shall be functional at any given point of time.	Toilets, Urinals, bathrooms shall be demarked with suitable sign boards. These should be kept clean and hygienic and cleaning shall be done at least twice daily.
6.	All drinking water chambers shall be clean and functional	A minimum of 95% drinking water chambers shall be functional at any given point of time	These shall be cleaned daily. Water supply shall be for 24 hours. Drinking water quality in all the seasons shall be as per WHO standards.

7.	Dustbins, spittoons etc. shall be clean and functional	A minimum of 95% Dustbins, spittoons shall be functional at any given point of time	The dustbin shall be emptied after every six hours or earlier if it is full or if creates foul smell in the neighborhood.
8.	All Information Signage and Display Boards shall be visible, legible and functional	Maximum 2% number of damaged signage and boards at any given point of time	These shall be cleaned once in a week. Damaged signage and boards shall be replaced, repaired within seven days of their detection
9.	Seating Arrangements shall not be damaged	Maximum 5% number of damaged seats at any given point of time	Any damaged seat shall be repaired, replaced within seven days of detection. These shall be cleaned daily and checked that they are firmly fixed/grouted to the platform with the base.
10	Power Supply, Electrical Installations, Electrical Equipments shall be functional	Nil	Timely intervention with Temporary measures within 8 hours, permanent restoration within 7 days, depending on nature and intensity of work required as decided by the Independent Engineer
11	Staircases shall be clean and functional	Nil	The staircases shall be cleaned at least twice a day. Damaged handrails, risers or treads shall be repaired within three days after detection.
12	Illumination (Lighting) shall be functional	To meet the required illumination level as per national standards	The ventilators, sky-lights, etc serving as source of natural ventilation and other luminaries for artificial lighting shall be cleaned once in seven days to maintain the illumination level.
C	Buildings such as Offices/ Administration, etc		
13	Defects in Electricity gadgetry like bulbs/ lamp shades/ wiring/ etc	Nil	Temporary measures within 4 hours, permanent restoration within 7 days

14	Defects in all other utilities like water supply/tap/tap connections/pipe/sewerage and drainage pipes/ tanks & overflow/ glasses/ window panes/ all other building furniture	Nil	Timely intervention with Temporary measures within 8 hours, permanent restoration within 7 days, depending on nature and intensity of work required.
E	Telecom system/networking		
15	Telecommunication and Networking Systems shall be functional	Nil	Temporary measures within 8 hours, and permanent restoration within 3 days
G	Fire Fighting Equipments		
16	Fire Fighting Equipments shall be functional	Nil	Any damage to fire fighting equipments installed in the facilities and in public spaces shall be rectified within 2 days of detection. Fire extinguishers shall be replaced before the end of its expiry date. The water tank meant for fire fighting purpose shall remain flooded with water to its capacity at all the times.
H	Water Tank		
17	Water Tank shall be clean and functional	Nil	Water tank shall be cleaned and disinfected every month (by usage of approved chemicals) to ensure that no inorganic sedimentation takes place.

5.6 Periodic Maintenance Performance Standards:

In order to maintain the quality and operational standards of high quality, the periodic maintenance/renewal activities are proposed for the Project in the table below.

Periodic Maintenance/ Renewal Activities

Sl.	Periodic Renewal Activities	Time Limit for renewal
1	Repainting of furniture, signages delineators, markings etc.	Minimum once in a year
2	Repainting of Buildings and all other structures.	Minimum once in three years
3	Repainting of carpentry work like joinery, doors, windows, ventilators, wooden furniture etc in the offices, cabins, booths etc.	Minimum once in three years
4	Resurfacing of Pavement	Routine repairs every year and premix carpet every fourth year. Incase the pavement is of Rigid type, no periodic renewal would be required except cleaning & filling of joints
5	Mechanical Equipment	Minimum once in a year as per manufacturer's installation, operation and maintenance instruction manual
6	Electrical Equipment	Minimum once in a year as per manufacturer's installation, operation and maintenance instruction manual

5.7 Performance Standards for Operation:

Performance Standards for Operation

Sl.	Parameters	Performance Indicators
1.	Convention & Exhibition Center	To remain operational 24 hours a day throughout the year.
2.	Hotel	To remain operational 24 hours a day throughout the year.
3.	Parking Area	To remain operational 24 hours a day throughout the year.
4.	Enquiry Offices	To remain operational 16 hours a day throughout the year.
5.	Information System, Displays	To remain operational 24 hours a day throughout the year.
6.	Toilets	To remain operational 24 hours a day throughout the year.
7.	Water Supply	To remain operational 24 hours a day throughout the year.

8.	Electricity Supply	To remain operational 24 hours a day throughout the year .
9.	Telecommunication and Networking Equipment	To remain operational 24 hours a day throughout the year.
10.	Standby Diesel Generator Sets	Standby diesel generator sets to supply power to the Project facilities must be available 24 hours a day, throughout the year in case of disruption or breakdown in power supply.
11.	Maintenance Office	This shall remain open for 16 hours a day and throughout the year.
12.	Security	To remain functional 24 hours a day throughout the year Appropriate fencing of the site with lighting and security shall be provided to ensure that there will be no encroachment on the site.

6 APPLICABLE BYELAWS & BUILDING GUIDELINES

6.1 G.O.MS.NO.168, MA & UD DEPT., GOAP.

The information provided in this section, is as per the existing byelaws, regulations (G.O. Ms. No. 678, issued by Municipal Administration and Urban Development, Government of Andhra Pradesh, Dated 07.09.2007) and it is subjected to change with change in the Regulations / Development Controls of CRDA and other Statuary or applicable laws from time to time, without any notice.

The building bulk coverage and height shall be governed by the minimum all-round setbacks to be left, the organized open spaces to be left and the height restrictions imposed by the Airport Authority (if applicable) / Defence Authorities (if applicable) and Fire Services Department and the City-level Impact fee on built up area required to be paid, as applicable.

High Rise buildings shall be permissible with abutting road width of minimum 12 mt and setbacks vary from the site area and proposed building heights. Other components of Tot-lot and utility areas also have been indicated

Table 2: The Permissible Setbacks as per above G.O.

Height of building (in meters)		Minimum abutting road width required (in meters)	Minimum all-round open space on remaining sides (in meters) *
ABOVE	UPTO		
1	21	12	7
21	24	12	8
24	27	18	9
27	30	18	10
30	35	24	11
35	40	24	12
40	45	24	13
45	50	30	14
50	55	30	16
After 55 mt., 0.5 mt., additional setback for every 5 mt., of height shall be insisted			

6.2 Provision of Greenery

- In every high rise building Site, an organized open space which shall be utilized as greenery, tot lot or soft landscaping, etc. shall be provided over and above the mandatory open spaces to be left in and around the building. This space shall be at least 10% of total Site area and shall be a minimum width of 3mts. This may be in one or more pockets and shall be open to sky.
- In addition to the above, a minimum 2 mt., wide green planting strip in the periphery on all sides within the setbacks are required to be developed and maintained greenery and trees in all high rise building Sites.
- Rainwater structures shall be provided in the prescribed manner within the setbacks.

6.3 National Building Code Provisions for Amenities and Facilities

- The building requirements and standards other than heights and setbacks specified in the National Building Code, 2005 shall be complied with.
- Such buildings shall be undertaken by owners by engaging registered architect, licensed builders/developers and licensed structural engineers. The designs and building plans shall be countersigned by the owner, licensed developer, registered architect, licensed engineer and a qualified & licensed structural engineer who shall be responsible for the supervision, and structural safety of the high-rise building and ensuring that such buildings are designed for compliance with earth quake resistance and resisting other natural hazards, and a fire engineer / fire consultant who shall be responsible for fire and life safety and specifications compliance in such buildings. The Completion Certificate shall clearly mention that the norms for the above structural safety and fire and life safety requirements have been followed in the design and construction of buildings for making the buildings resistant to earthquake, compliance with structural safety and fire safety requirements.
- The work of the building services like sanitation, plumbing, fire and life safety requirements, lifts, electrical installations, and other utility services shall be executed under the planning, design and supervision of qualified and competent technical personnel.
- In addition to the required staircases and lifts, there shall be at least one fire escape staircase and lift. These lifts shall be certified from the manufacturer's authorized Service technical personnel from time to time.
- Provision for power generator shall be made in such buildings.
- Such buildings shall be planned, designed and constructed to ensure fire and safety requirements are met and maintained and shall comply in accordance with the Fire Protection Requirements of National Building Code of India.
- The facilities for providing fire protection and fire fighting in such buildings shall be in compliance with the stipulations laid down and clearance issued by the Fire Department from time to time. NOC from the Fire Department shall be obtained from time to time regarding the fire safety requirements and facilities installed. The designs and installations regarding fire protection and safety measures including exit requirements and smoke containment and smoke management measures shall be undertaken through a fire engineer / fire consultant.
- Compliance of the parking requirements shall be as given in these rules. The parking facilities and vehicles driveways etc. shall be maintained to the satisfaction of the sanctioning Authority.
- Such buildings shall be provided with solar water heating system in the building and solar lighting in the Site for outdoor lighting, etc. and give a bank guarantee to this effect to the sanctioning authority for compliance of the same.
- All High-Rise buildings with covered area above 300 sq.mt. shall be designed and constructed to provide facilities to the physically handicapped persons as prescribed in the National Building Code of India, 2005.

- All environmental aspects like provision of Rain water harvesting structures, greenery, solar heating and lighting systems and provisions of the Andhra Pradesh Water, Land and Trees Act 2002 shall be complied in such of the Sites and Schemes where these are applicable.

6.4 Parking Requirements

For activities of institutions, the parking area to be provided, as percentage of total built up area varies from 66%-33% of it in the municipal corporation areas the parking spaces may be provided in.

- Basements or cellars allowed upto 3.25 mt. height, in one or more levels/multi-level and such cellars shall be allowed in plots 750 sq.mt., and above; or
- On stilt floor or in upper parking floors (at any level) - the height of such parking floor shall be allowed up to 2.75 mt. height;
- In the open space over / setbacks (except the front setback) to be left around the building with adequate vehicular access, aisle, drives, ramps required for maneuvering of vehicles, or
- In case of non-residential occupancies on Sites below 750 sq.mt. for parking a semi-basement of 3 mt. height and with such height not exceeding 1.5 mt. above ground level may be considered.

6.5 Other Aspects of Providing Parking Spaces

- The parking spaces should be efficiently designed and clearly marked and provided with adequate access, aisle, drives and ramps required for maneuvering of vehicles.
- Stilt floor/ sub-basement /Cellar parking floor shall be used only for parking and not for any habitation purpose. Misuse of the area specified for parking of vehicles for any other use shall be summarily demolished / removed by the Enforcement Authority.
- For parking spaces in basements and upper storeys of parking floors, at least two ramps of minimum 3.6 mt., width or one ramp of minimum 5.4 m width and adequate slope shall be provided. Such ramps may be permitted in the side and rear setbacks after leaving sufficient space for movement of fire-fighting vehicles. Access to these may also be accomplished through provisions of mechanical lifts wherein the height of the parking floor upto 4.25 mt. is allowed.
- Basement/cellar shall be set back at least 1.5 mt. from the property line and in case of more than one cellar 1 m additional setback for every additional cellar floor shall be insisted
- Visitors' parking to be provided shall be 10 % of the area mentioned (In Table VI, Section 11 of G.O Ms. No 168) which is over and above the required parking area, and may be accommodated in the mandatory setbacks other than the front setback, wherever such setbacks are more than 6m.The Visitors' Parking facility shall be open to all visitors.

6.6 Inferences

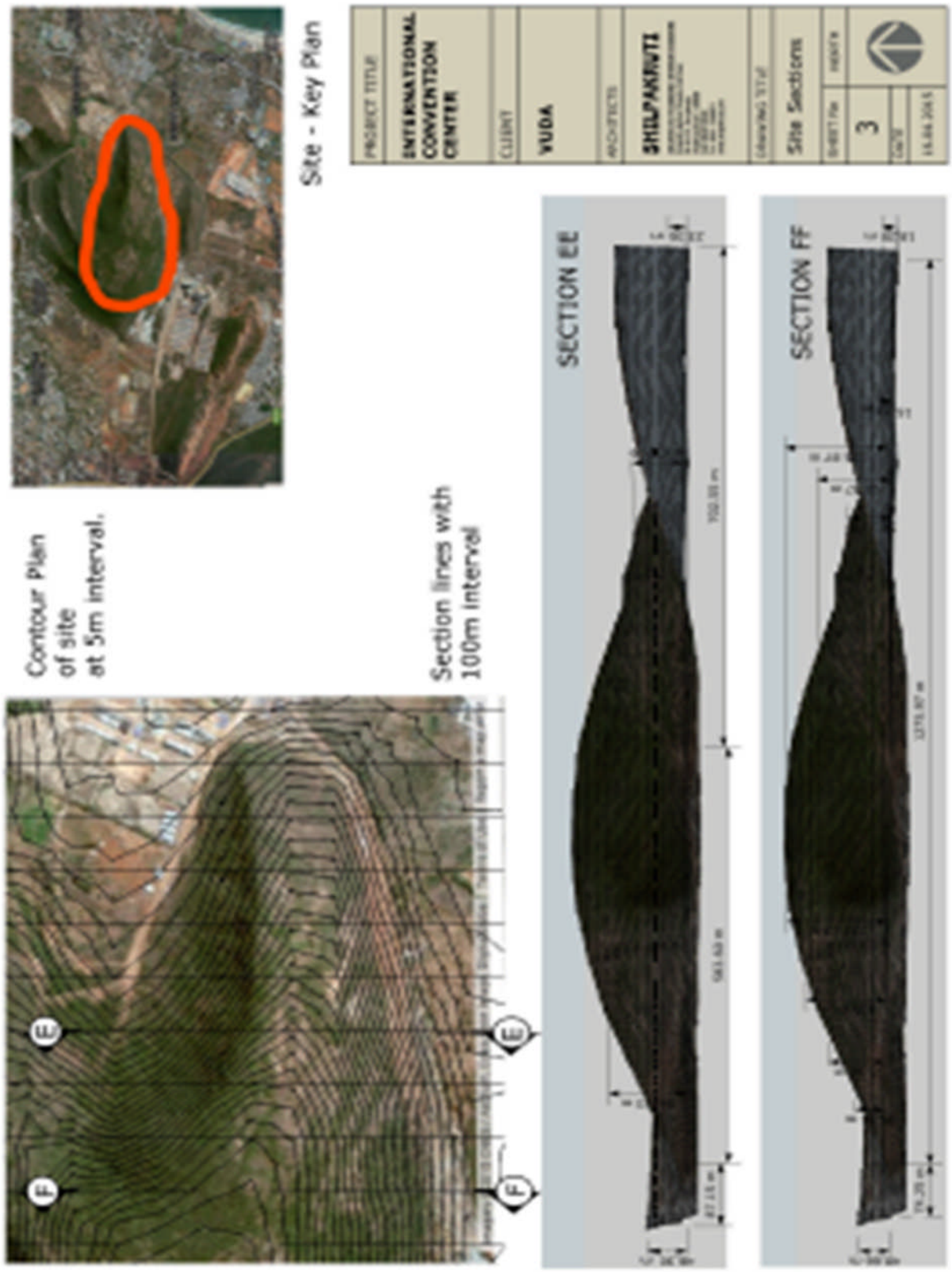
- The Plot size is more than 6 Hectares as per the G.O., requirement and the maximum coverage shall be bound by the Project brief as Mixed use development and High rise buildings are permissible due to the abutting road width of 18m.
- The type of construction shall be of institutional architectural style and the remaining area shall be landscaped area with appropriate vegetable cover.
- Al round setbacks building heights, parking etc are proposed for the development as per the G.O.168.

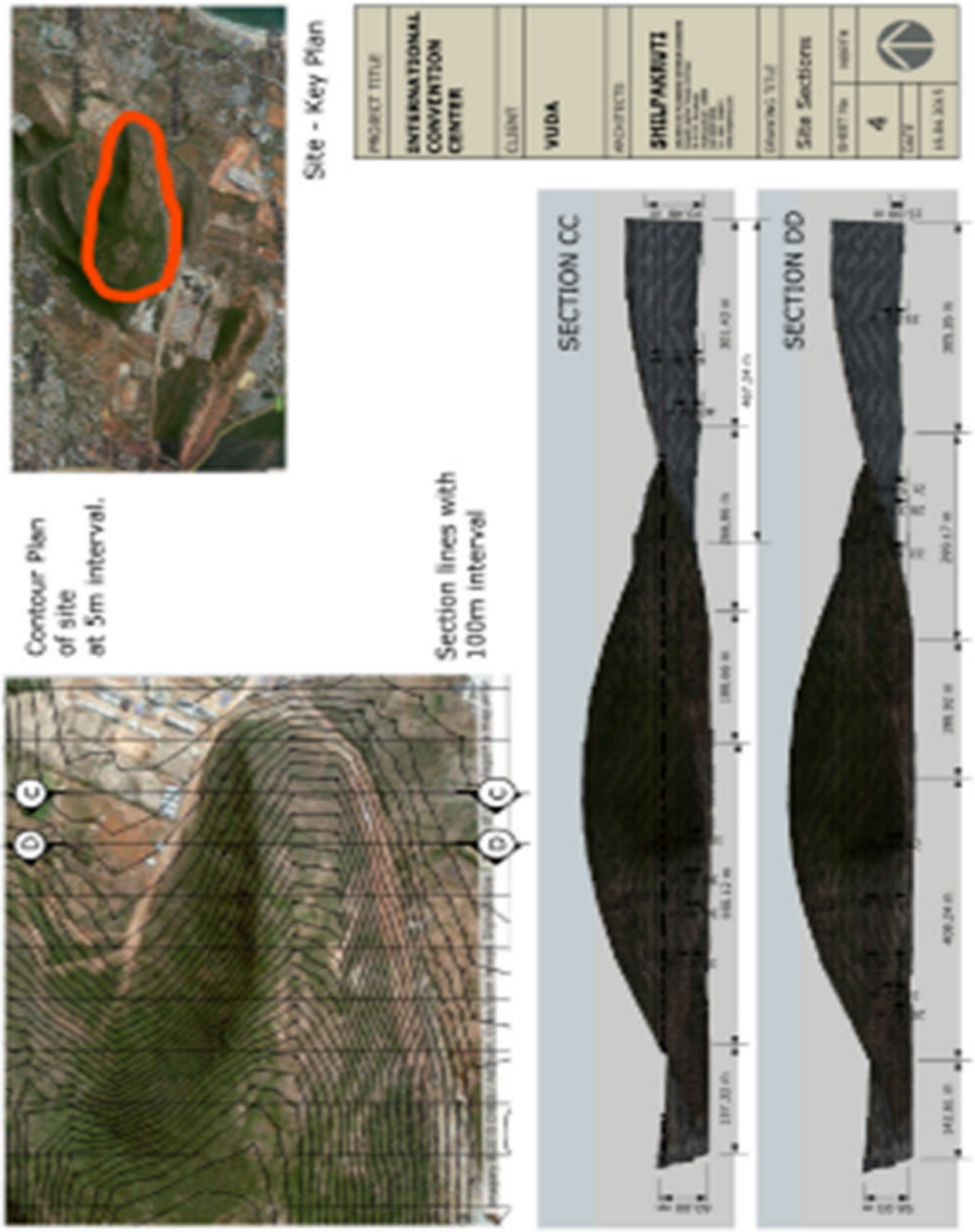
ANNEXURE-I

SITE TOPOGRAPHY REPORT AND SOIL INVESTIGATION DATA

Site - Key Plan
PROJECT TITLE
INTERNATIONAL CONVENTION CENTER
CLIENT
VUDA
ARCHITECTS
SHILPAKRUTI
Site Access
1
ACCESS TO THE SITE :
SITE SRIKAKULAM 118 KM
SITE VIZIANAGARAM 65 KM
SITE RAJAHMUNDRY 210 KM
Jeypore
Sunabeda
Pottangi
Malkangiri
Marripadu
Bobbili
Salur
Palakonda
SRIKAKULAM
VIZIANAGARAM
SITE
Ramabhadrapuram
VISAKHAPATNAM
Kakinada
Tadepallegudem
Sobhanadripuram
RAJAHMUNDRY
Eluru

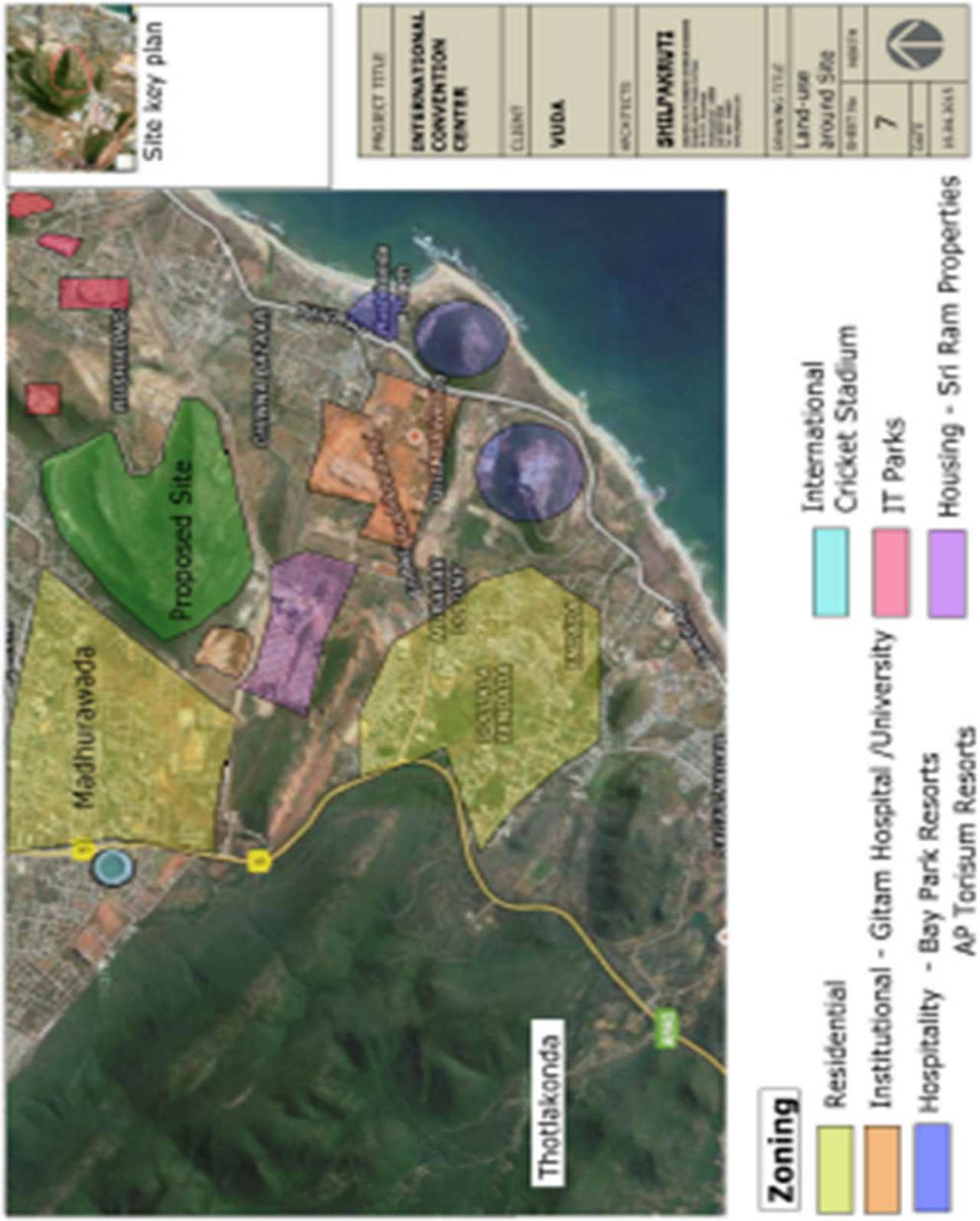
Site - Key Plan
PROJECT TITLE
INTERNATIONAL CONVENTION CENTER
CLIENT
VUDA
ARCHITECTS
SHILPAKRUTI
Site Access
2
SITE
1 h 14 min
ACCESS TO THE SITE :
SITE → AIRPORT 25.9 KM
SITE → BUS COMPLEX 16.2 KM
SITE → RAILWAY STATION 17.5 KM


Site - Key Plan
PROJECT TITLE
INTERNATIONAL CONVENTION CENTER
CLIENT
VUDA
ARCHITECTS
SHILPAKRUTI
Site Sections
SHEET No
3
DATE
14.04.2015
Contour Plan of site at 5m interval.
Section lines with 100m interval
E
E
F
F
SECTION EE
SECTION FF


Site - Key Plan
PROJECT TITLE
INTERNATIONAL CONVENTION CENTER
CLIENT
VUDA
ARCHITECTS
SHILPAKRUTI
Site Sections
4
Contour Plan of site at 5m interval.
Section lines with 100m interval
SECTION CC
SECTION DD

Site - Key Plan
Contour Plan of site at 5m interval.
Section lines with 100m interval
A
B
A
B
PROJECT TITLE
INTERNATIONAL CONVENTION CENTER
CLIENT
VUDA
ARCHITECTS
SHILPAKRUTI
Site Sections
5
SECTION AA
SECTION BB

Site - Key Plan
180 acres Site at Madhurwada
PROJECT TITLE
INTERNATIONAL CONVENTION CENTER
CLIENT
VUDA
ARCHITECTS
SHILPAKRUTI
Site View
6
Contour Plan of site at 5m interval.
View of the Site


Site key plan
PROJECT TITLE
INTERNATIONAL CONVENTION CENTER
CLIENT
VUDA
ARCHITECTS
SHILPAKRUTI
Land-use around Site
7
Proposed Site
Madhurawada
Thotlakonda
Zoning
Residential
Institutional - Gitam Hospital /University
Hospitality - Bay Park Resorts
AP Torisum Resorts
International Cricket Stadium
IT Parks
Housing - Sri Ram Properties

Site - Key Plan
INTERNATIONAL CONVENTION CENTER
VUDA
SHILPAKRUTI
Landmarks
8
Miracle softwares & Ramanaidu studios seen from NE side of the site
East side from Hill Top
Beach view from the site
Bay Park & Gitam seen from site
Gitam campus seen from Hill Top
Shriram properties seen from Hill
Villas seen from Hill

COSECS

COASTAL SOIL ENGINEERING CONSULTANCY SERVICES

Specialists in Sub-Soil Investigation

Preliminary Soil Tests on Hill Top site, Madurwada

This is to certify that the preliminary soil report for the proposed **Convention Center on Hill Top in S No 409, Madurwada, Visakhapatnam** for **Visakhapatnam Urban Development Authority, VUDA** was done by us. **M/s Shilpakruti, Architects & Engineers, Third Floor, Emandi Lakshmi Towers, Suryabagh, Visakhapatnam** are the architects for preliminary layout plans. Five soil samples were collected from site at Hill top with SPT tests done at a depth of 1.20 /1.50m below GL at the site and transported to our office. The SPT test locations were located at the proposed site for construction of Convention center as per layout at site. The soils encountered were hard gravel / Soft Rock at a depth of 1.20/1.50m below Existing Ground Level.

From the Standard Penetration Tests SPT 'N' Values, it has been analyzed for physical and strength parameters. Water table was not encountered at the time of excavation and sampling.

The design parameters of the soil were analyzed in the laboratory. The soils collected from the SPT samples at the location and are used for assessing the allowable bearing capacity.

C.S. SRINIVAS
M.E. (Structures)
Consulting Engineer

Soil Engineering Consultancy Services
Ph: 2738867

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Specialists in Sub-Soil Investigation

The soil has to be ascertained while excavating for footings at the time of foundation. The soil characteristics shall be ascertained by the investigation after excavation of foundation trenches for confirmation of soil parameters. The SPT test and laboratory test results were enclosed in the table.

Since the tests were conducted at the surface of the hill it requires a detailed investigation for the foundation designs. After leveling the hill to the formation level and finished ground level, the detailed investigation has to be carried out before designing the foundations as per the loading configuration of the structure

The samples were analyzed for the Grain size analysis, Atterberg limits, Densities and strength parameters from SPT samples. The recommended Allowable Bearing Capacity of the soil for the proposed structure at a depth of 2.0m below EGL and for width of 2.0M is **35.0T/Sqm**. This report was done and submitted on **18.04.2015**

For **COSECS**

Coastal Soil Engineering Consultancy Services Ph: 2738867

C.S.Srinivas

C.S. SRINIVAS
M.E. (Structures)
Consulting Engineer

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AGENCY : COSECS, 49-38-14/6, GREEN PARK, AKKAYYAPALEM, VISAKHAPATNAM 530016, AP
PROJECT : PROPOSED CONVENTION CENTER AT MADURAWADA, VISAKHAPATNAM
CONSULTANT : SHILPAKRUTI, 3RD FLOOR, EMANDI LAKSHMI TOWERS, SURYABAGH, VISAKHAPATNAM
CLIENT : VISAKHAPATNAM URBAN DEVELOPMENT AUTHORITY, UDYOG BHAVAN, VISAKHAPATNAM

TEST NO : T-1
SITE : HILL TOP
GROUND RL : + 170.847

DATE OF EXECUTION : 16.04.2015
WATER TABLE :NOT ENCOUNTERED
LOCATION : N 5434.010 / E 4726.147

Depth (GL)		Visual Description	Graphic Log	Grain size(%)			Atterberg Limits			IS Classification	NMC %	γ (t/m³)	SPT TEST 'N' Value	Cohesion (t/m²)	ϕ (deg)	Safe Bearing Capacity (t/m²)
				Gravel	Sand	Fines	W_l	Wp	Ip							
0.000	0.000	RED CLAYEY GRAVEL														
0.500	1.000															
1.000	1.500	SOFT DISINTEGRATED ROCK / SOFT ROCK		36	41	23	NP	NP	NP	GC	8.78	2.04	>100	-	-	35
1.500	2.000															

AGENCY : COSECS, 49-38-14/6, GREEN PARK, AKKAYYAPALEM, VISAKHAPATNAM 530016, AP
PROJECT : PROPOSED CONVENTION CENTER AT MADURAWADA, VISAKHAPATNAM
CONSULTANT : SHILPAKRUTI, 3RD FLOOR, EMANDI LAKSHMI TOWERS, SURYABAGH, VISAKHAPATNAM
CLIENT : VISAKHAPATNAM URBAN DEVELOPMENT AUTHORITY, UDYOG BHAVAN, VISAKHAPATNAM

TEST NO : T-2
SITE : HILL TOP
GROUND RL : + 177.847

DATE OF EXECUTION : 16.04.2015
WATER TABLE :NOT ENCOUNTERED
LOCATION : N 5470.394 / E 4669.158

Depth (GL)		Visual Description	Graphic Log	Grain size(%)			Atterberg Limits			IS Classification	NMC %	γ (t/m³)	SPT TEST 'N' Value	Cohesion (t/m²)	ϕ (deg)	Safe Bearing Capacity (t/m²)
				Gravel	Sand	Fines	W_l	Wp	Ip							
0.000	0.000	RED CLAYEY GRAVEL														
0.500	1.000															
1.000	1.500	SOFT DISINTEGRATED ROCK / SOFT ROCK		28	46	24	NP	NP	NP	GC	7.59	2.06	>100	-	-	35
1.500	2.000															

AGENCY : COSECS, 49-38-14/6, GREEN PARK, AKKAYYAPALEM, VISAKHAPATNAM 530016, AP
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CLIENT : VISAKHAPATNAM URBAN DEVELOPMENT AUTHORITY, UDYOG BHAVAN, VISAKHAPATNAM

TEST NO : T-3
SITE : HILL TOP
GROUND RL : + 174.691

DATE OF EXECUTION : 16.04.2015
WATER TABLE :NOT ENCOUNTERED
LOCATION : N 5559.140 / E 4685.061

Depth (GL)		Visual Description	Graphic Log	Grain size(%)			Atterberg Limits			IS Classification	NMC %	γ (t/m³)	SPT TEST 'N' Value	Cohesion (t/m²)	ϕ (deg)	Safe Bearing Capacity (t/m²)
				Gravel	Sand	Fines	W_l	Wp	Ip							
0.000	0.000	RED CLAYEY GRAVEL														
0.500	1.000															
1.000	1.500	SOFT DISINTEGRATED ROCK / SOFT ROCK		31	44	25	NP	NP	NP	GC	4.30	2.09	>100	-	-	35
1.500	2.000															

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PROJECT : PROPOSED CONVENTION CENTER AT MADURAWADA, VISAKHAPATNAM
CONSULTANT : SHILPAKRUTI, 3RD FLOOR, EMANDI LAKSHMI TOWERS, SURYABAGH, VISAKHAPATNAM
CLIENT : VISAKHAPATNAM URBAN DEVELOPMENT AUTHORITY, UDYOG BHAVAN, VISAKHAPATNAM

TEST NO : T-4
SITE : HILL TOP
GROUND RL : + 174.787
DATE OF EXECUTION : 16.04.2015
WATER TABLE :NOT ENCOUNTERED
LOCATION : N 5564.668 / E 4590.685

Depth (GL)		Visual Description	Graphic Log	Grain size(%)			Atterberg Limits			IS Classification	NMC %	γ (t/m³)	SPT TEST 'N' Value	Cohesion (t/m²)	ϕ (deg)	Safe Bearing Capacity (t/m²)
				Gravel	Sand	Fines	W_l	Wp	Ip							
0.000	0.000	RED CLAYEY GRAVEL														
0.500	1.000	HARD DISINTEGRATED ROCK / SOFT ROCK		39	42	19	NP	NP	NP	GC	8.11	2.06	>100	-	-	35
1.000	1.500															
1.500	2.000															

AGENCY : COSECS, 49-38-14/6, GREEN PARK, AKKAYYAPALEM, VISAKHAPATNAM 530016, AP
PROJECT : PROPOSED CONVENTION CENTER AT MADURAWADA, VISAKHAPATNAM
CONSULTANT : SHILPAKRUTI, 3RD FLOOR, EMANDI LAKSHMI TOWERS, SURYABAGH, VISAKHAPATNAM
CLIENT : VISAKHAPATNAM URBAN DEVELOPMENT AUTHORITY, UDYOG BHAVAN, VISAKHAPATNAM

TEST NO : T-5
SITE : HILL TOP
GROUND RL : + 177.188
DATE OF EXECUTION : 16.04.2015
WATER TABLE :NOT ENCOUNTERED
LOCATION : N 5509.889 / E 4495.509

Depth (GL)		Visual Description	Graphic Log	Grain size(%)			Atterberg Limits			IS Classification	NMC %	γ (t/m³)	SPT TEST 'N' Value	Cohesion (t/m²)	ϕ (deg)	Safe Bearing Capacity (t/m²)
				Gravel	Sand	Fines	W_l	Wp	Ip							
0.000	0.500	RED CLAYEY GRAVEL														
0.500	1.000	HARD DISINTEGRATED ROCK / SOFT ROCK		39	44	17	NP	NP	NP	GC	6.15	2.06	>100	-	-	35
1.000	1.500															
1.500	2.000															

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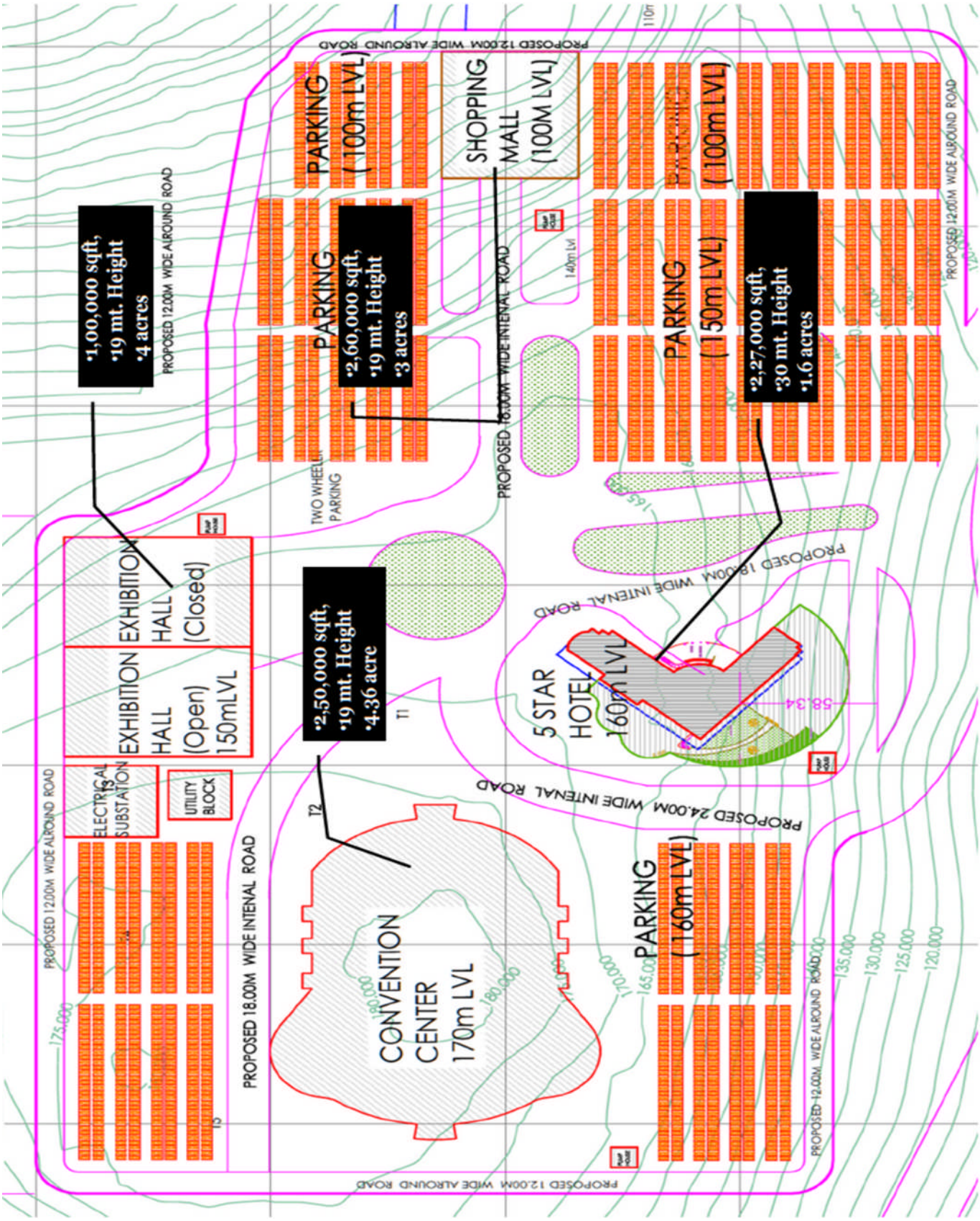
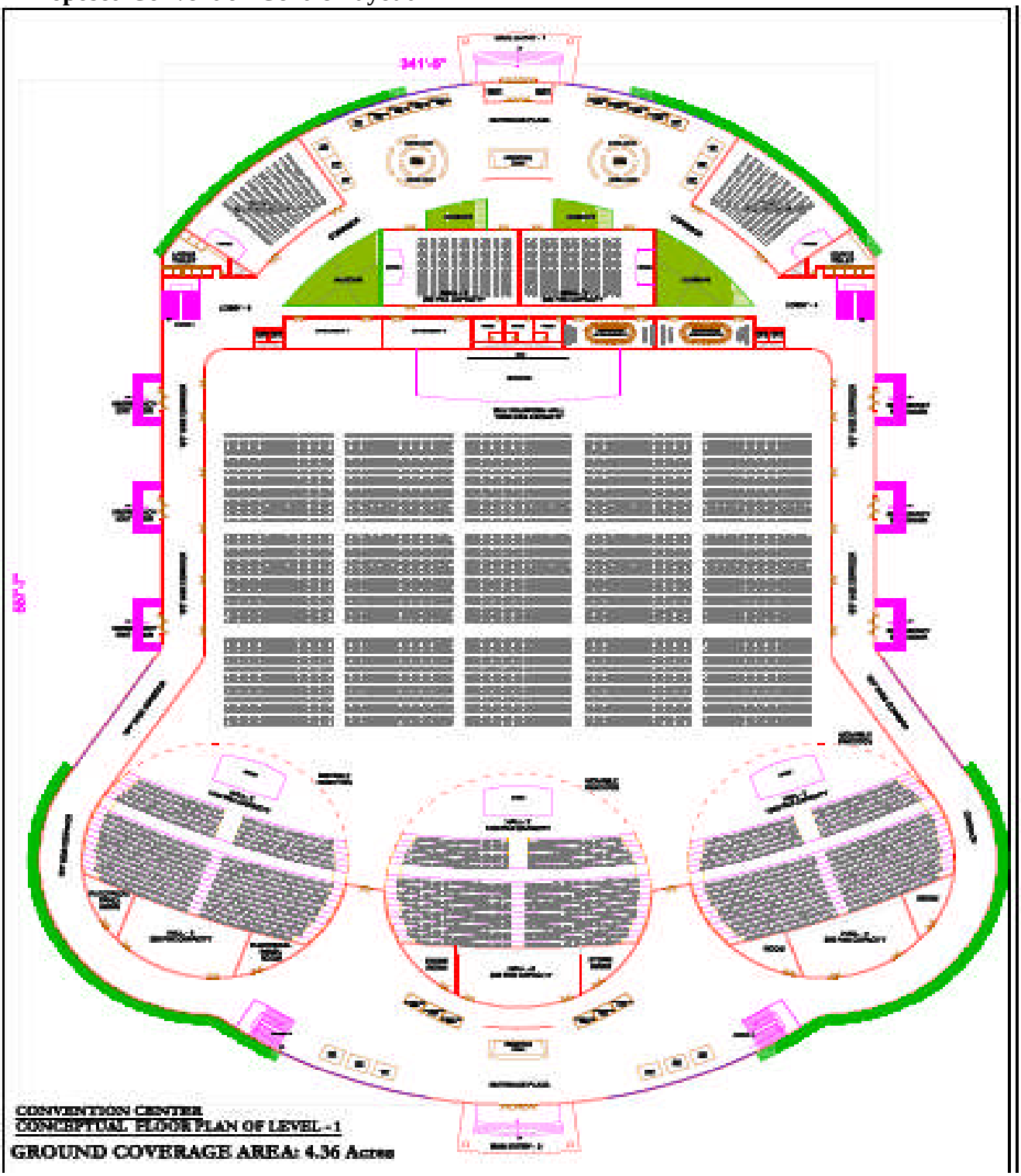
ANNEXURE-II

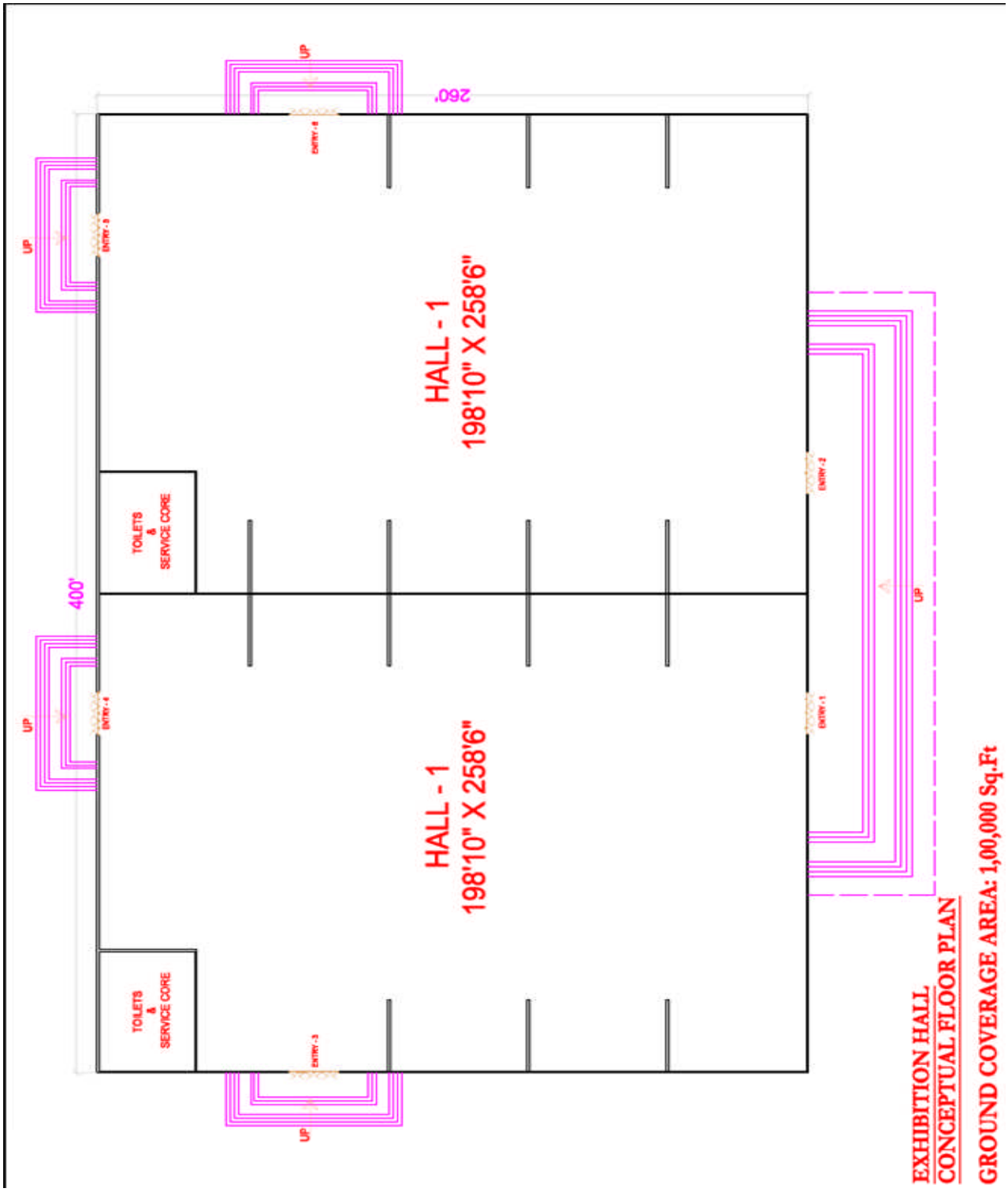
PROPOSED PROJECT LAYOUT


PROPOSED 12.00M WIDE ALROUND ROAD
PARKING (100m LVL)
SHOPPING MALL (100M LVL)
PARKING (150m LVL)
•1,00,000 sqft,
•19 mt. Height
•4 acres
PROPOSED 12.00M WIDE ALROUND ROAD
PARKING
•2,60,000 sqft,
•19 mt. Height
•3 acres
PROPOSED 18.00M WIDE INTENAL ROAD
•2,27,000 sqft,
•30 mt. Height
•1.6 acres
TWO WHEELER PARKING
EXHIBITION HALL (Closed)
EXHIBITION HALL (Open) 150mLVL
•2,50,000 sqft,
•19 mt. Height
•4.36 acre
T1
5 STAR HOTEL 160m LVL
PROPOSED 18.00M WIDE INTENAL ROAD
ELECTRICAL SUBSTATION
UTILITY BLOCK
T2
PROPOSED 24.00M WIDE INTENAL ROAD
PROPOSED 12.00M WIDE ALROUND ROAD
PROPOSED 18.00M WIDE INTENAL ROAD
CONVENTION CENTER 170m LVL
PARKING (160m LVL)
T3
PROPOSED 12.00M WIDE ALROUND ROAD
PROPOSED 12.00M WIDE ALROUND ROAD

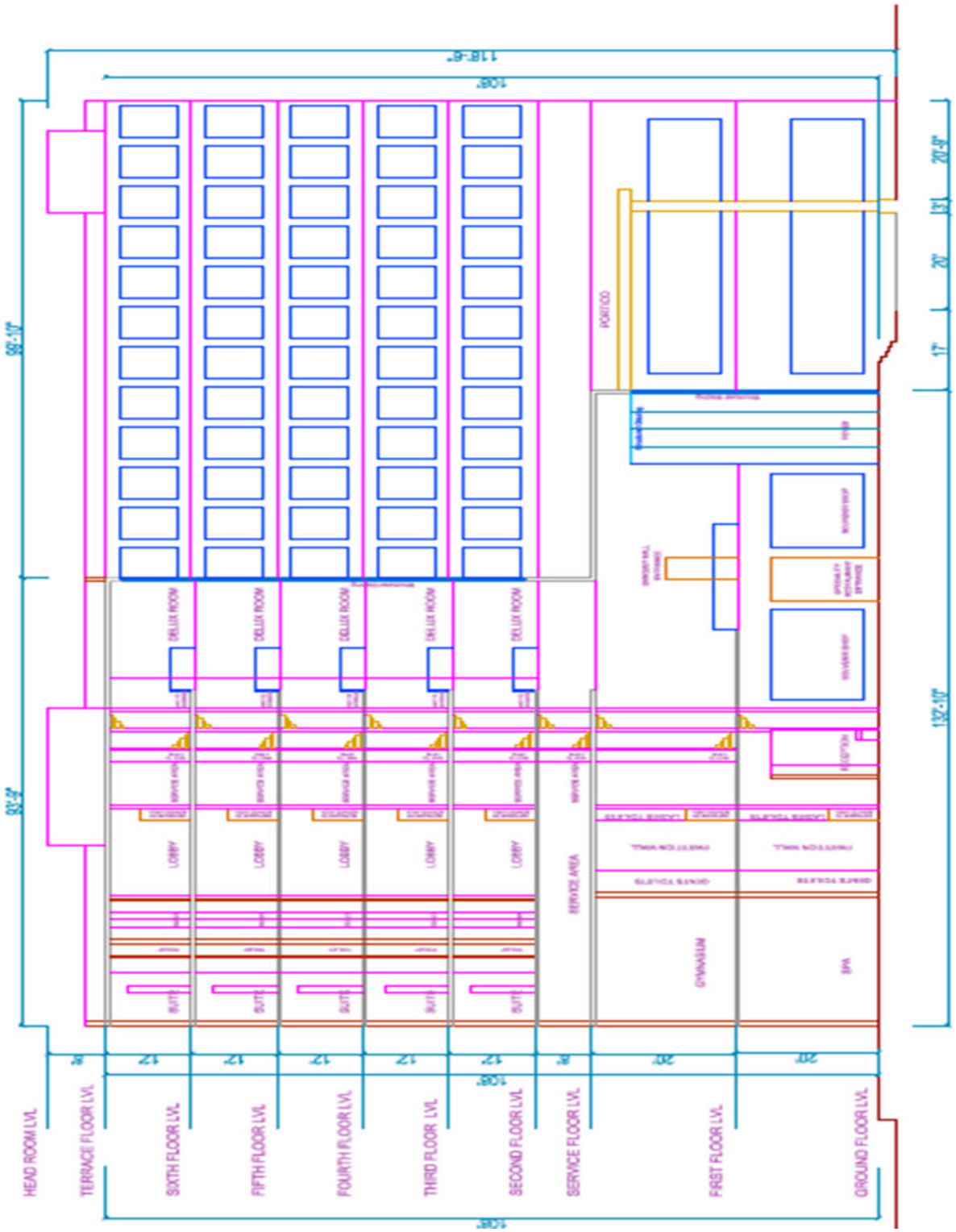
Proposed Convention Centre Layout

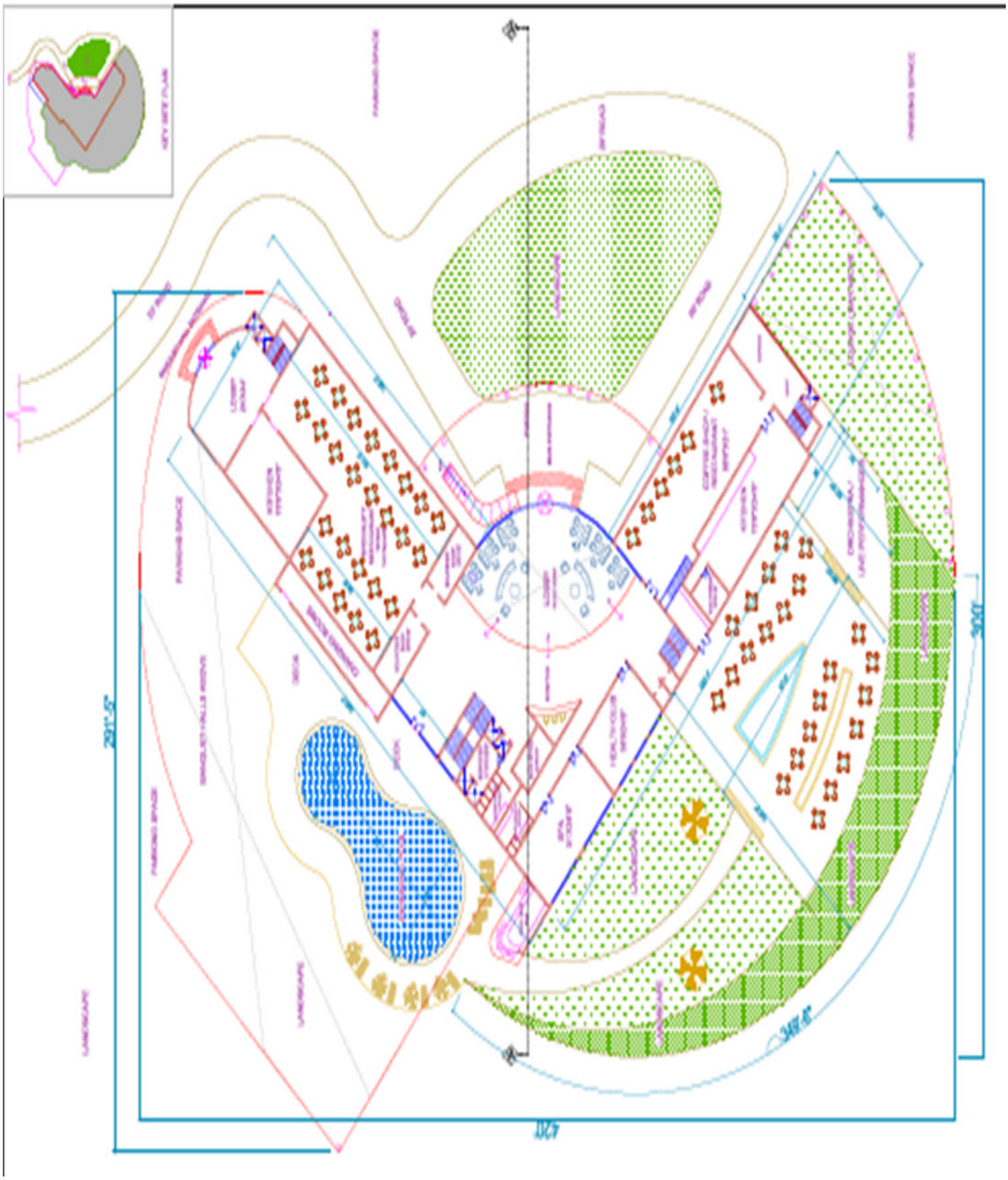


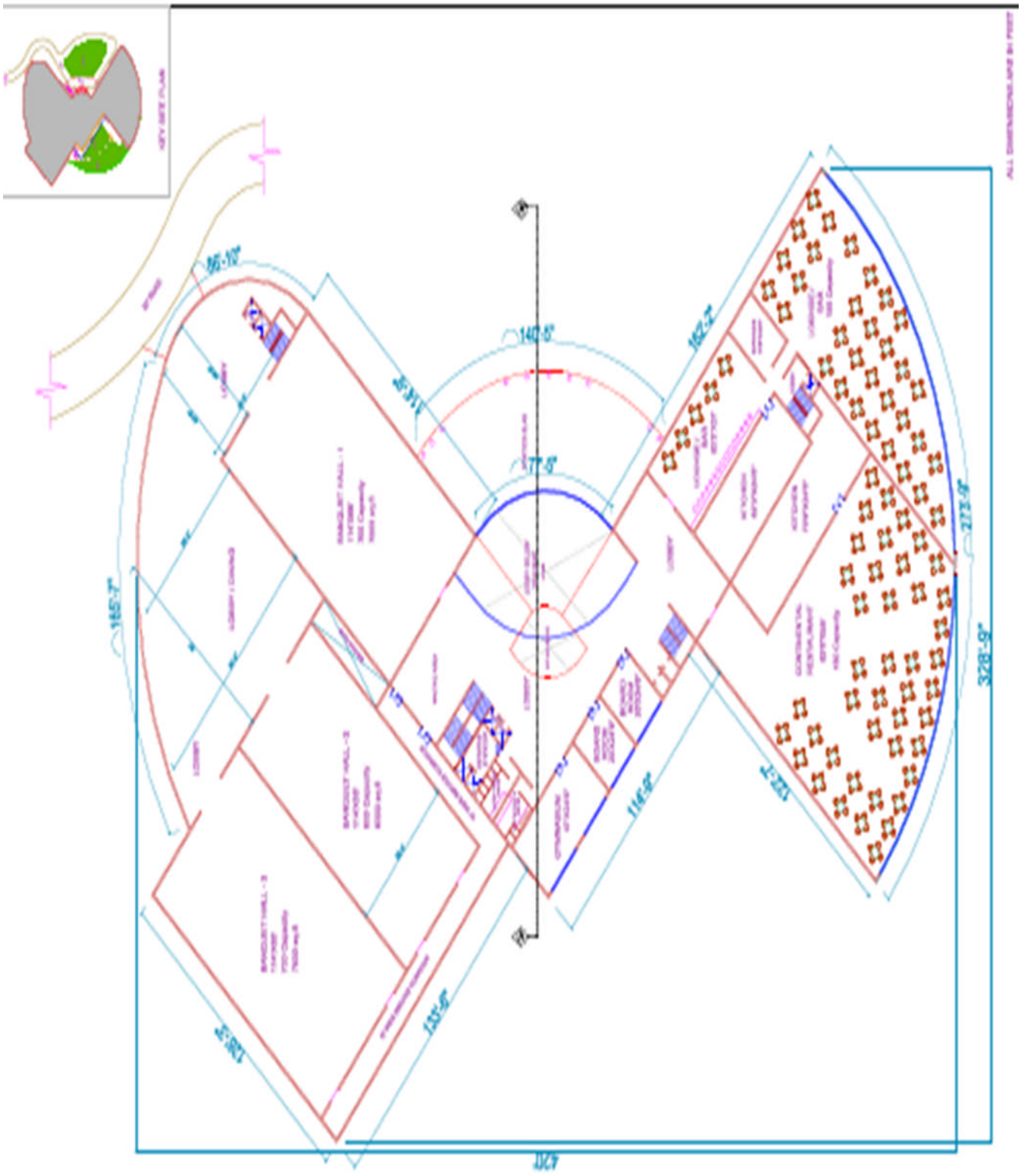
Proposed Exhibition Centre Layout

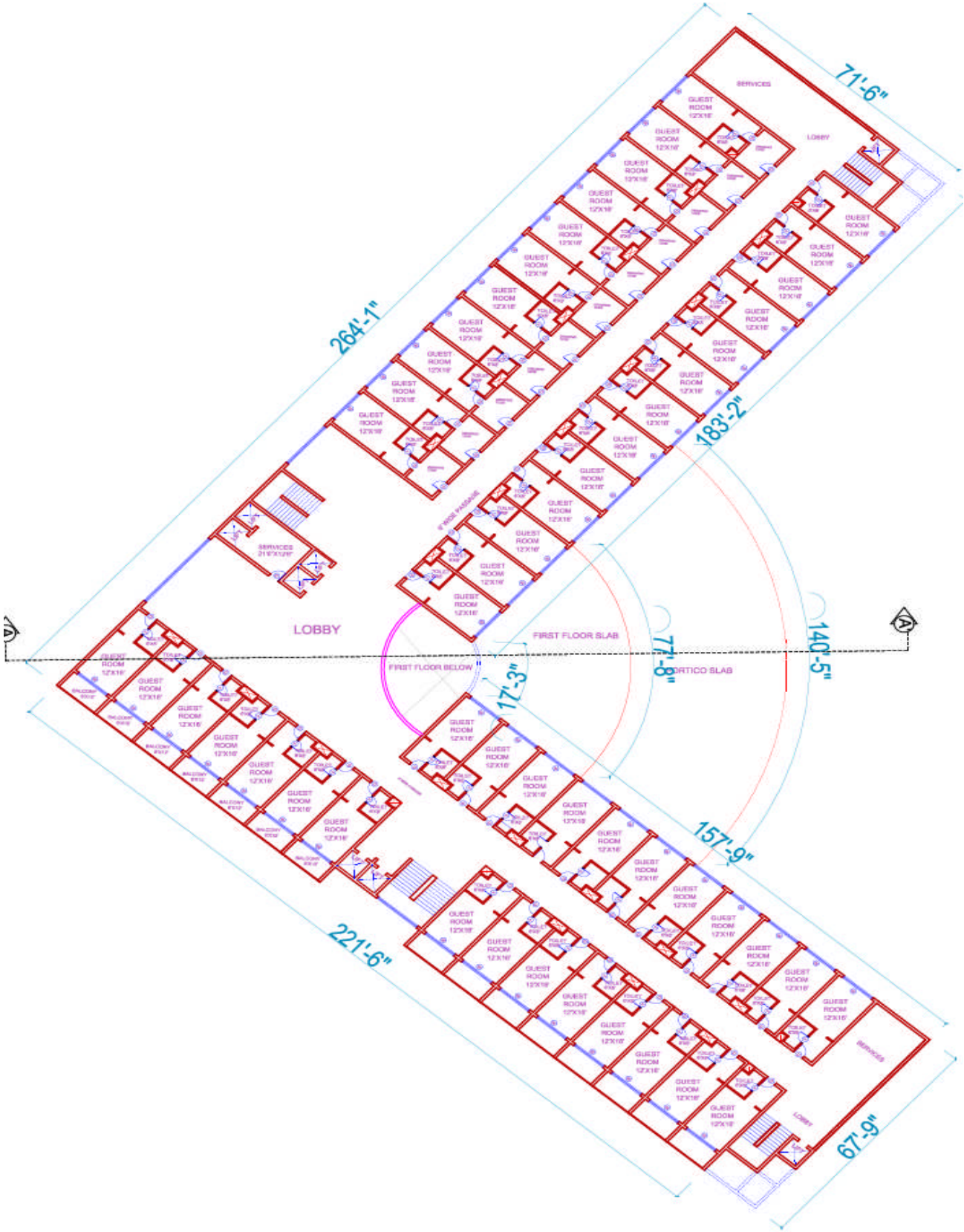


Proposed 5 Star Hotel Layout

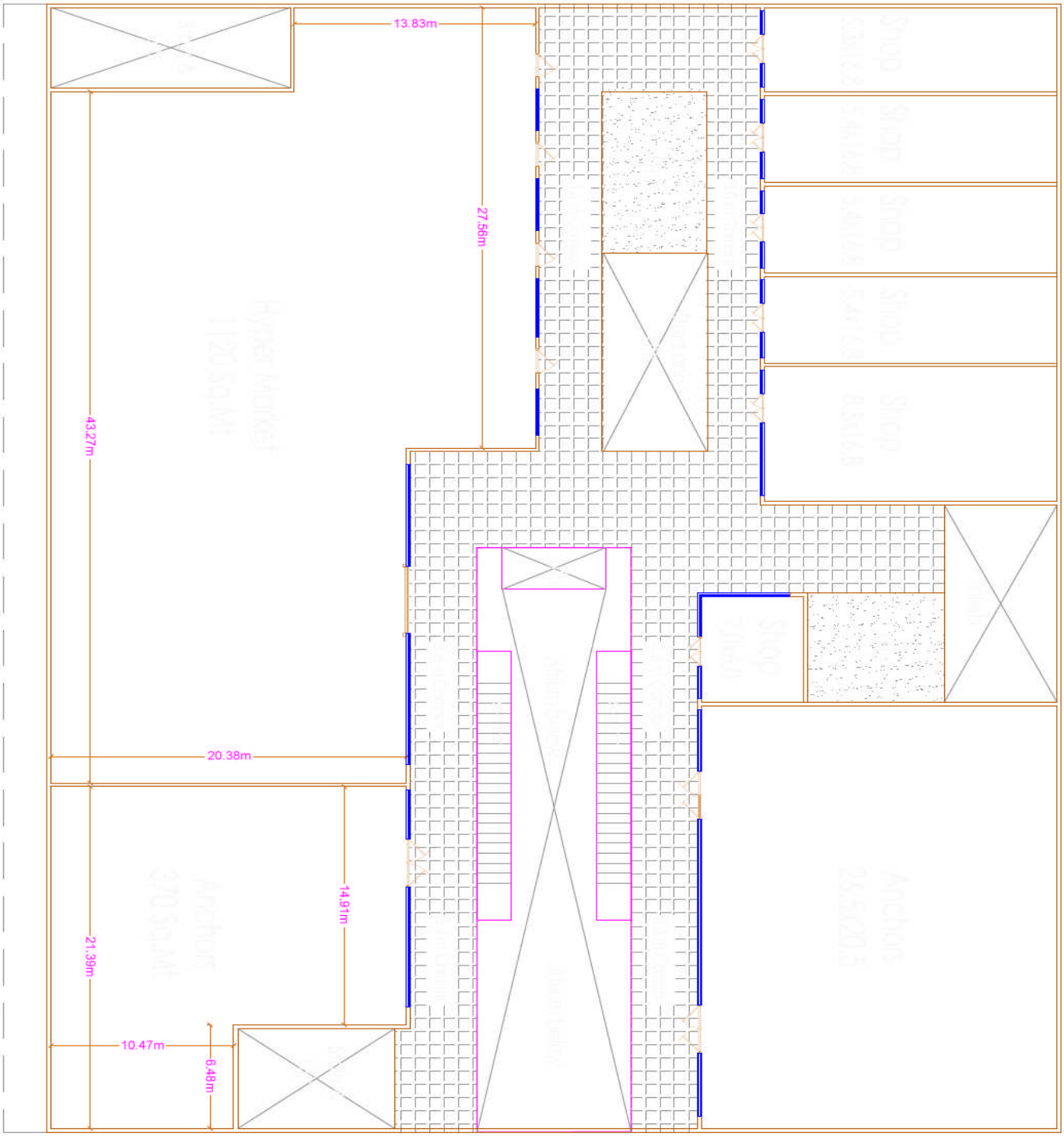


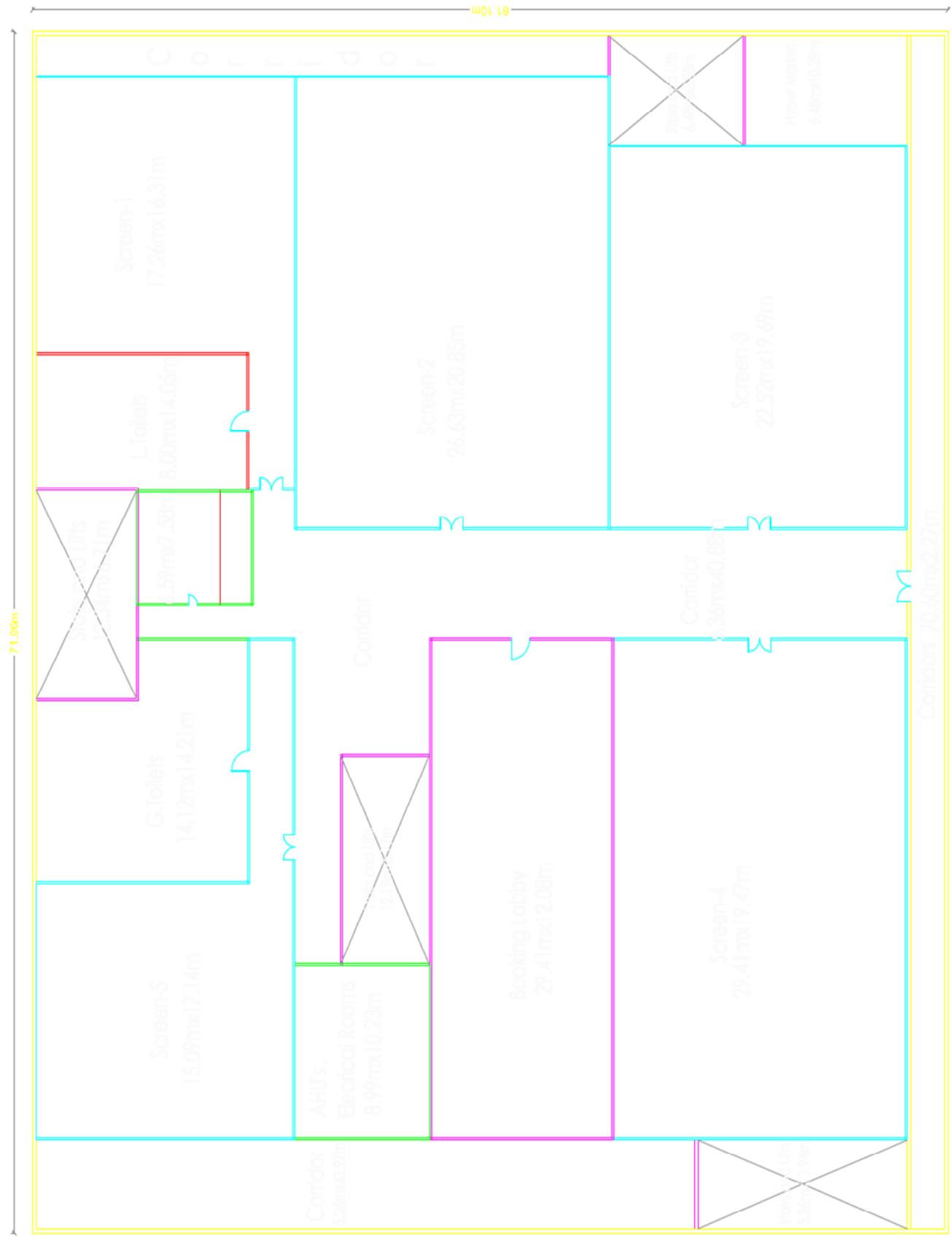





71'-6"
264'-1"
183'-2"
LOBBY
FIRST FLOOR SLAB
FIRST FLOOR BELOW
17'-3"
77'-8"
PORTICO SLAB
140'-5"
157'-9"
221'-6"
67'-9"

Proposed Project Layout




61.10m
71.06m