

TABLE OF CONTENTS

1	Introduction	3
1.1	Preamble.....	3
1.2	Need for the Proposal.....	5
1.2.1	Data Collection & Site Visits.....	6
1.2.2	Site Visits.....	6
1.2.3	Meetings with Officials.....	6
1.2.4	Data Analysis.....	6
1.3	List of Proposed Forest Lands for Diversion	7
1.4	Location Map of Proposed Forest Lands for Diversion.....	8
2	Kondaveedu Fort	9
3	Kondaveedu Bit 2 Reserve Forest	9
3.1	Site Introduction.....	9
3.1.1	Introduction.....	9
3.1.2	Nearby Attractions	11
3.1.3	Existing Facilities.....	11
3.1.4	Proposed Facilities	11
3.2	Site Suitability Assessment	16
3.3	Concept Plan	19
3.4	Area Statement	22
3.5	Open Spaces & Green Area Calculation	23
3.6	Block Cost & Cost Benefit Analysis (CBA).....	24
3.7	Parameters for Evaluation of Benefit, not Withstanding Loss of Forest	24
3.8	Site Suitability Assessment for Alternative Site	25

List of Tables

Table 1 List of Proposed Lands for Diversion	7
Table 2: Site Assessment for Kondaveedu RF	9
Table 3: Site Suitability Assessment of Kondaveedu RF Site	16
Table 4: Area Statement for Kondaveedu RF Bit 2	22
Table 5: Open Spaces & Green Area Calculation	23
Table 6: Construction Cost -Pдамadduru RF site.....	24
Table 6: Site Suitability Assessment for Alternative Site of Kondaveedu RF Bit 2	27

List of Figures

Figure 1: APCRDA location	3
Figure 2: APCRDA Capital Area	4
Figure 3: Potential sectors from development Plan in APCRDA Capital Area	5
Figure 4: Regional Location Map of Kondaveedu RF Sites	12
Figure 5: Site Accessibility – Kondaveedu RF Site – Bit 2.....	13
Figure 6: Reconnaissance Survey- Kondaveedu RF Site – Bit 2	14
Figure 7: Base Map – Kondaveedu RF Site – Bit 2.....	15
Figure 8: Topographic Map – Kondaveedu RF site.....	17
Figure 9: Proposed Development in & around the RF as per Master Plan.....	18
Figure 10: Concept Layout Plan – Kondaveedu RF Bit- 2	19
Figure 11: Key Project Components – Kondaveedu RF Bit- 2	20
Figure 12: Illustrative views & images of Adventure Eco Theme Park	21
Figure 13: Alternate sites for Kondaveedu RF site.....	26

1 Introduction

1.1 Preamble

The Andhra Pradesh Capital Region Development Authority (APCRDA) comprises parts of Krishna and Guntur districts of Andhra Pradesh state. The APCRDA is constituted through Andhra Pradesh Capital Region Development Act, 2014 replacing Vijayawada Guntur Tenali Mangalagiri Urban Development Authority (VGTM UDA). The Capital Area covers broadly an area of about 8914.52 sq. kms and largest urban development region in the country.

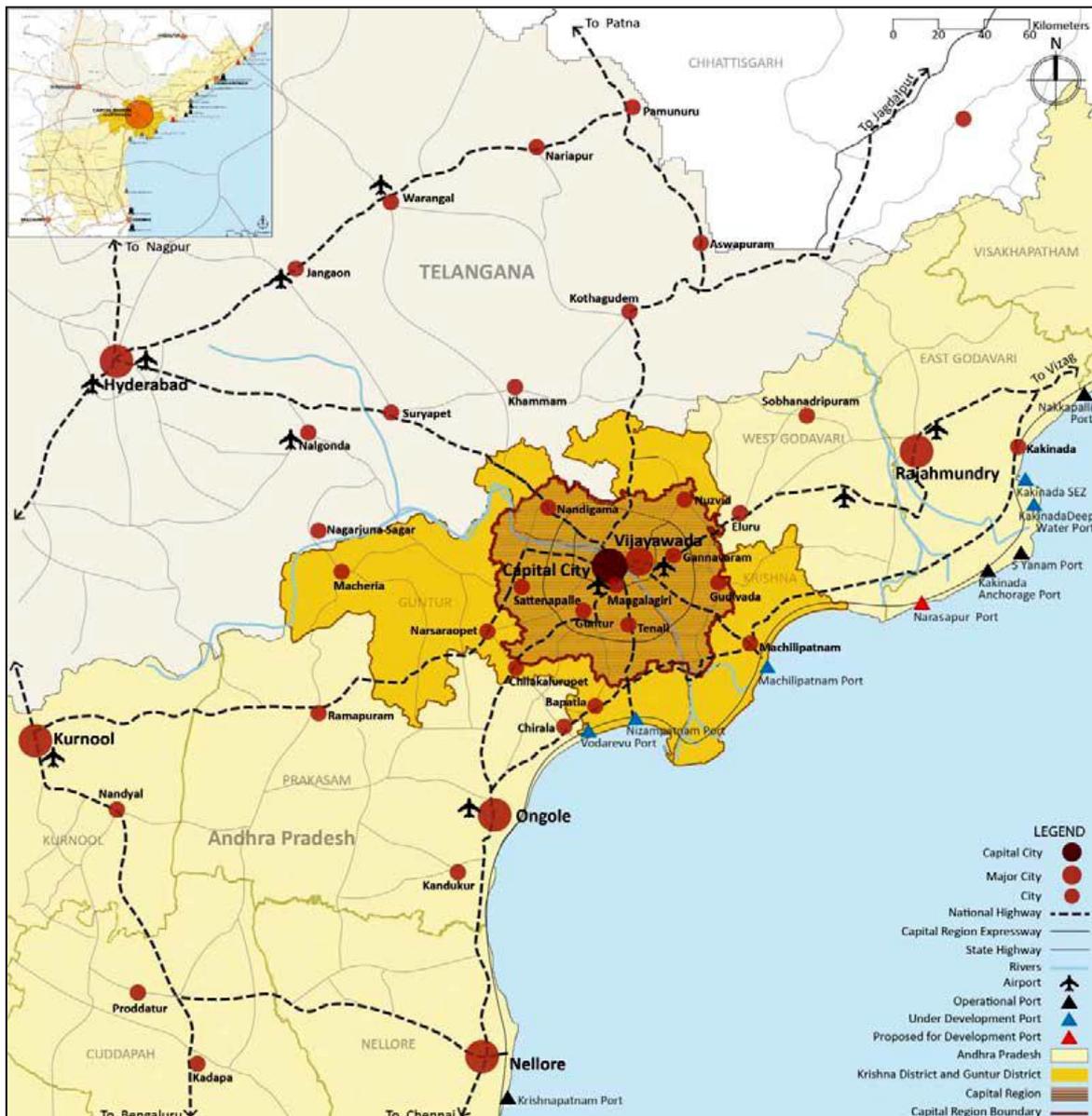


Figure 1: APCRDA location

It includes 30 Mandals from Krishna and 26 Mandals from Guntur District. The region also includes the Phase-I (New Amaravati) of Andhra Pradesh state scheduled to develop in an extent of 217.23 Sq.km. Further, Govt. of Andhra Pradesh has amended the APCRDA jurisdiction with inclusion and as well as

exclusion of few Mandals and villages vide G.O. Ms. No. 207, dt. 22-9-2015. An area of 1413.72 Sq.km was added and simultaneously an area of 116.01 Sq.km was excluded from the region, making the total area of AP CRDA as 8914.52Sq.Kms including the reserve forests.

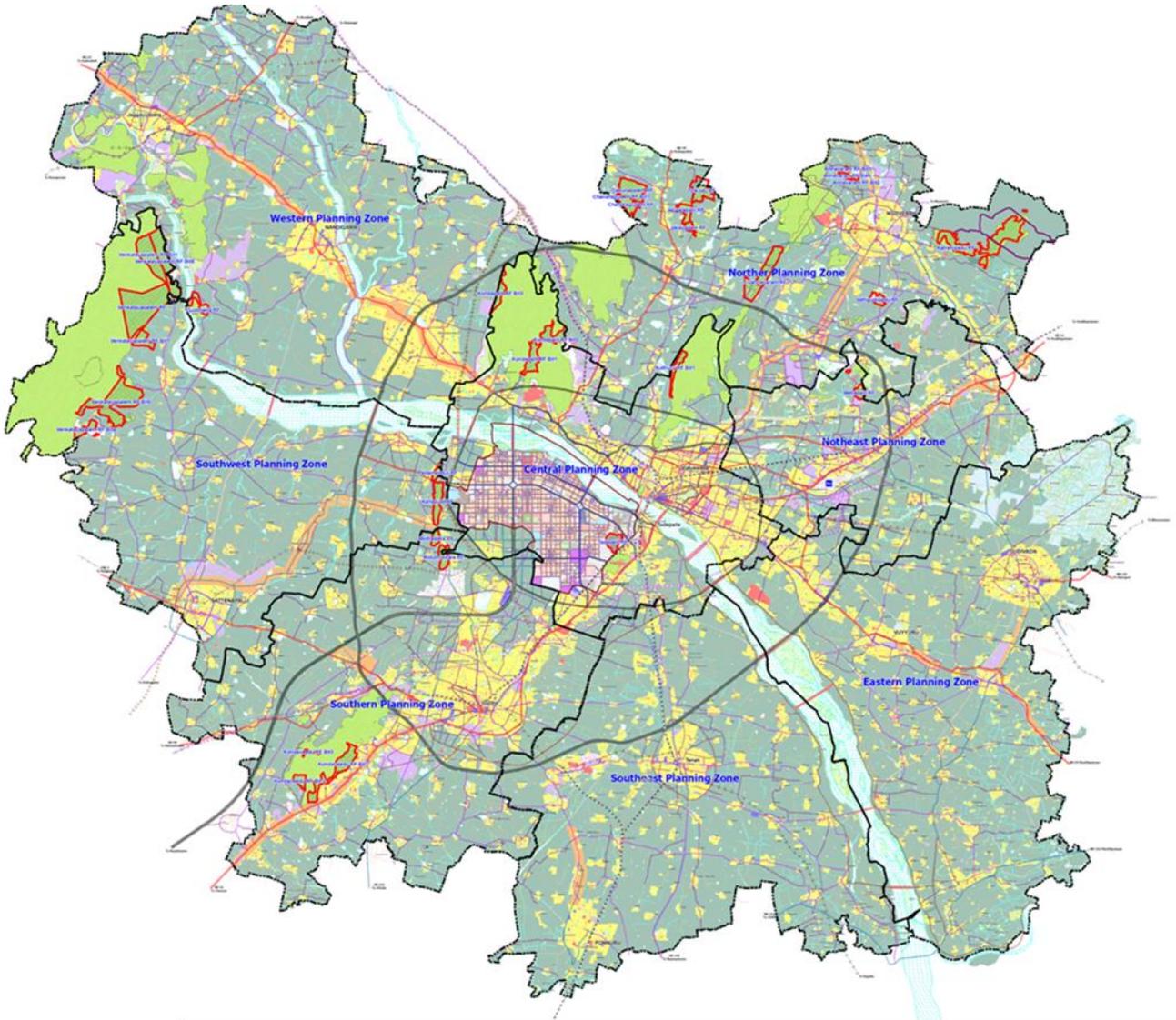


Figure 2: APCRDA Capital Area

As a part of Concept Development Plan and Master planning exercise for the region, APCRDA intend to identify sizable and suitable lands for specific economic and social activities. Below are few activities envisaged for the development of the region, the following image shows the key sectors and their potential for development.

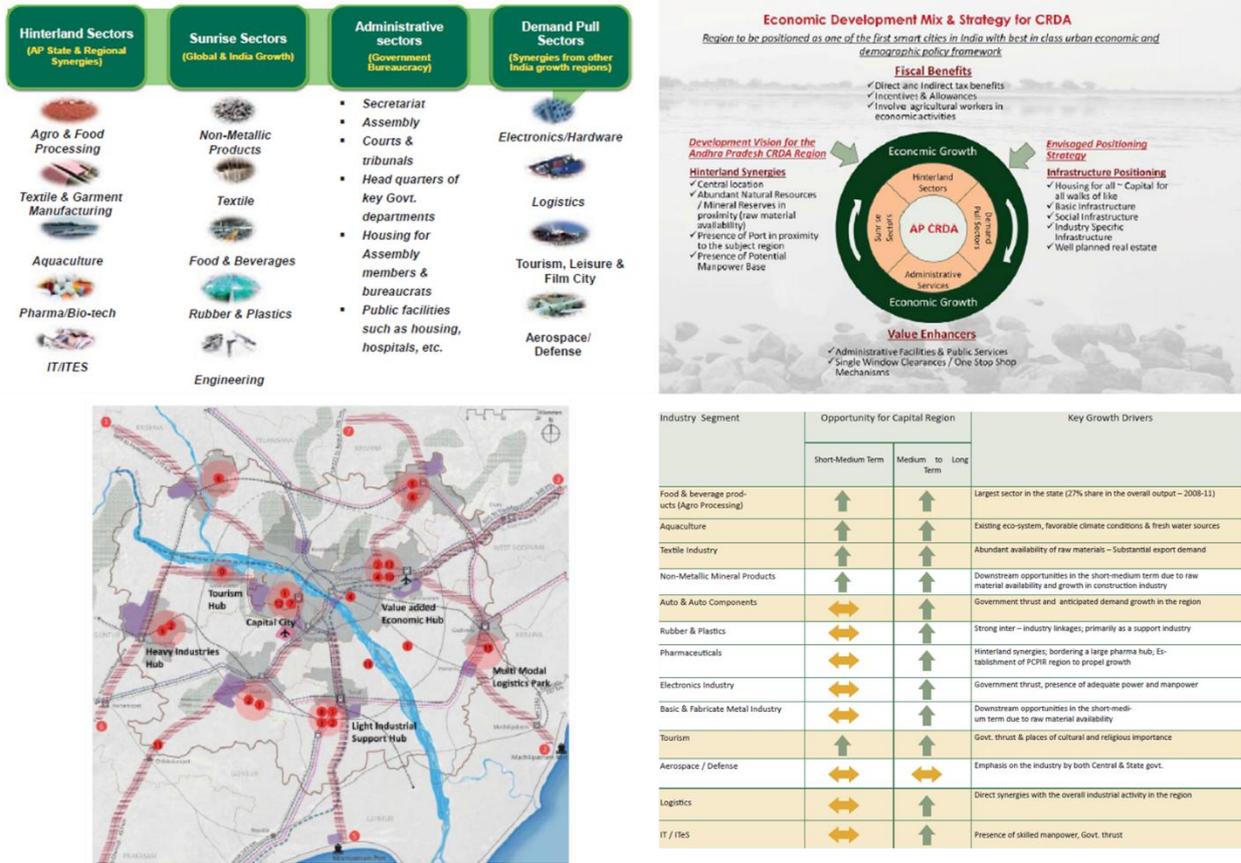


Figure 3: Potential sectors from development Plan in APCRDA Capital Area

1.2 Need for the Proposal

APCRDA proposes to develop specific social and economic activities under the purview of the Development Plan Proposals. During the process of identification of suitable lands, revenue, and reserve forest lands that are nearer to urban areas and that are suitable for the above activities were identified. Most of the alternatives explored are either Revenue lands, basic suitability analysis was carried out and most of them are either inaccessible, smaller than required, nominated for other uses and sparsely located. Meanwhile 26 reserved forests sites have been identified both in Krishna and Guntur Division to evaluate the suitability. For promoting and securing the planned development of the Capital Area by creating and establishing future economic drivers; it was found apt to locate these activities in the identified forest lands available within the Capital Area, since most of them are strategically located along growth corridors of the Capital Area. APCRDA entrusted preparation of Comprehensive Project report (Aarvee associates to support) with proposed land use plan to obtain approval from Ministry of Environment and Forest & Climate Change, Govt. of India, New Delhi.

 aarvee associates architects engineers & consultants pvt. ltd.	<i>Comprehensive Project Report for Proposed Diversion of Kondaveedu RF BIT 2 (150.84 Ha) In APCRDA Region</i>	Date:02-11-2017
		Page:6 of 31

1.2.1 Data Collection & Site Visits

The following data shall be collected from the concerned divisions:

- i. Topo drawings or Topo Sheets from GSI of the RF Lands
- ii. DGPS survey boundary drawings/ data sheets- Each Block boundary and the boundary for proposed diversion extent.
- iii. Finalize the activities to be proposed in the identified RF lands
- iv. Three Alternative sites with location details.
- v. Any other data for the Project needs, as requested by consultants during contract duration

1.2.2 Site Visits

Aarvee Team carried out a detailed visit of the 26 Reserved Forest Blocks between 26th Sep to 1st October 2016. Respective forest block FROs and FBOs accompanied the team for the reconnaissance visit. This includes the profile of each Project site covering connectivity aspects, existing land use, surrounding developments, review of development controls (Bye-laws) and zoning regulations, environmental aspects and SWOT analysis. The existing infrastructure facilities including water supply, power supply and waste management shall also be studied.

1.2.3 Meetings with Officials

Several meetings were held with CRDA officials and other concern officers from revenue and forest departments.

1.2.4 Data Analysis

Parallel to this, planners were analysing the relevant data received from various sources. The analysis included understanding of physical site features such as hills, rivers, canals, forests, drains, etc., along with an understanding of the sociodemographic and economic pattern of the surrounding areas.

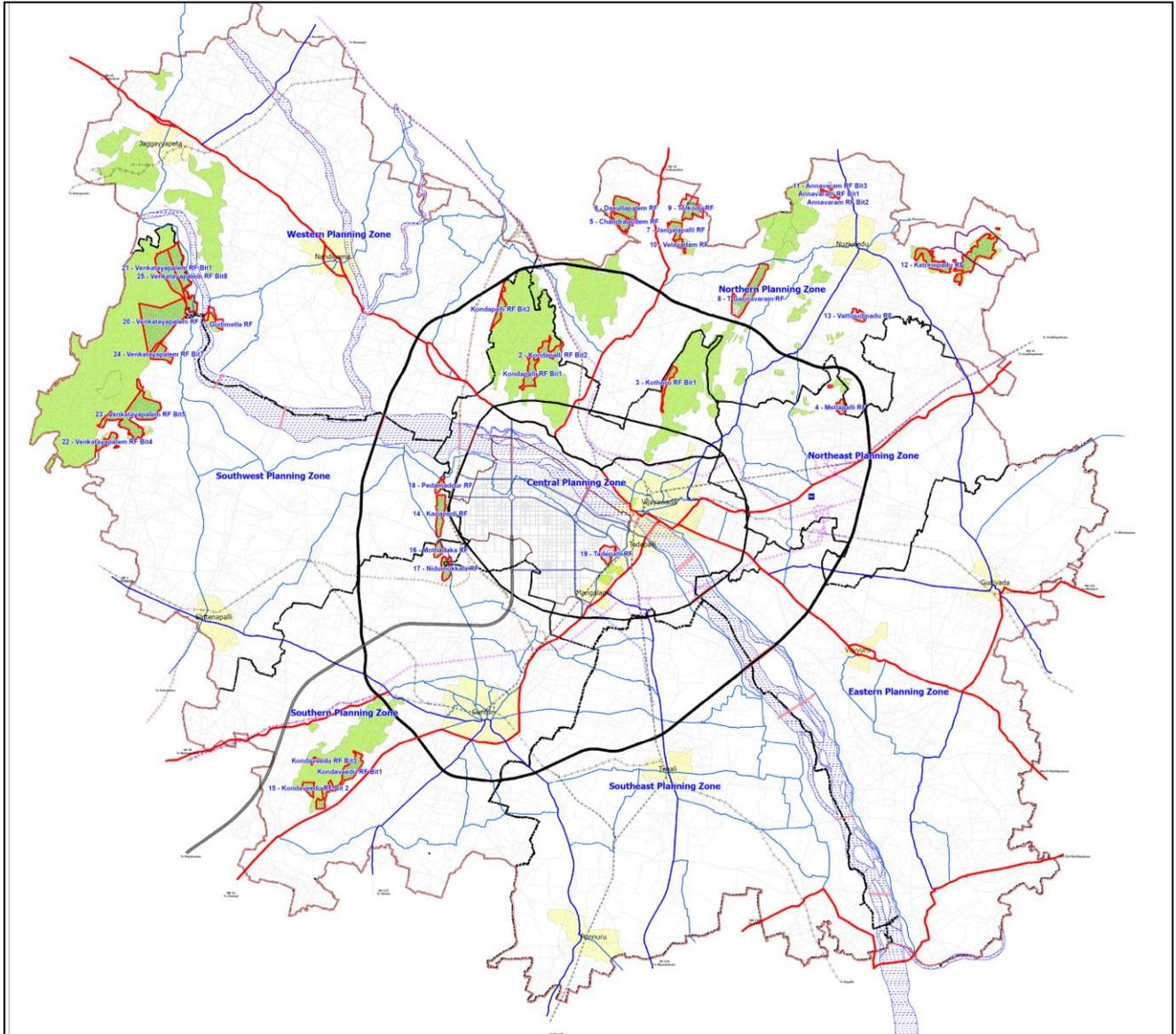
DGPS survey drawings and Forest boundaries were analysed with satellite imagery available to arrive at the exact boundaries proposed for diversion under this proposal.

1.3 List of Proposed Forest Lands for Diversion

Table 1 List of Proposed Lands for Diversion

S.NO	FOREST BLOCK	PROPOSED ACTIVITIES
KRISHNA DISTRICT		
1	Gudimetla	Centre of Excellence for Ayurveda Research and Wellness
2	Kothuru	Integrated Health and Wellness center
3	Metlapalli	International Convention & Exhibition Centre.
4	Chandragudem	IT,ITES Park & Allied activities
5	Dasullapalem	IT,ITES Park & Allied activities
6	Jangalapalli	Handloom & Handicraft Village
7	T Gannavaram	Centre for Education & Higher learning
8	Tholukodu	Biomedical & Biotechnology Research Centre
9	Velvadam	Biodiversity Education and Infotainment Centre
10	Annavaram	Agri Processing and Support Infrastructure
11	Katrenipadu	Centre of Excellence for Culture, Heritage and Media
12	Vattigudipadu	Institute of Fundamental Research & Aqua Research Complex
13	Kondapalli	Sports & Physical Training Centre (Bit 1&2), Agri-Tourism Projects (Bit 3)
GUNTUR DISTRICT		
14	Karlapudi	E-5 Park
15	Kondaveedu	Forest Academy, Heritage Park Adventure Eco Theme Park& Institutional Area
16	Mothadaka	Science City
17	Nidumukkala	Bio-Diversity Park
18	Pedamadduru	Eco Tourist Village
19	Tadepalli-Undavalli	Business District
20	Venkatayapalem	Police & Armed Forces complex
21	Venkatayapalem Extn 1	Aerospace, Precision Engineering Innovation & Research and Green Mobility Park
22	Venkatayapalem Extn 4	Integrated Cut Flower & Spice Park
23	Venkatayapalem Extn 5	Innovation Industrial Park
24	Venkatayapalem Extn 7	Integrated Bio Pharma Infrastructure Park
25	Venkatayapalem Extn 8	Aerospace, Precision Engineering Innovation & Research and Green Mobility Park

1.4 Location Map of Proposed Forest Lands for Diversion



2 Kondaveedu Fort

Kondaveedu fort is situated about 25 km from Guntur. It is a hill fortress located 1,700 feet (520 m) above MSL. The construction of this historical fort was commissioned by the Reddy Kings during the start of the 14th century. The fort itself contains 21 structures. The structures are in ruin for the most part, but they still offer a deep insight into the mysteries associated with the fort.



3 Kondaveedu Bit 2 Reserve Forest

3.1 Site Introduction

Table 2: Site Assessment for Kondaveedu RF

3.1.1 Introduction	a. Location & Site Details	Kondaveedu RF is situated at Edlapadu Mandal, Guntur District, and AP. The RF is a Hilly Terrain; split into 3 parts which are accessible from NH-16 and other major roads to urban centres viz., Guntur (25 kms), Vijayawada (58 kms) and Narsaraopeta (35 kms).
	<u>Surrounding Location</u>	The area surrounding the subject land parcel are villages and rich agricultural fields <ul style="list-style-type: none"> • North - Ganeshwarapadu village • South & South East - Boyyapalaem & Thummalapalem village • East - Edulapalem & Yanamadala villages • West - Kondaveedu & Changizkhan Peta villages
	b. Accessibility	Kondaveedu RF situated near Kondaveedu village (0.5 kms), is accessible from Guntur and Vijayawada via NH - 16 which passes along the west to the RF site and from Narsaraopet via SH 45. Guntur is easily accessible by road and rail from all parts of India. The nearest airport is at Vijayawada, which is 30 kms (19 mi) away. <ul style="list-style-type: none"> • ORR distance (at Intersection point): 6 kms • Distance from Capital City (Phase I)(Thullur): 56 Kms

c. Key Features of Site Spread across an area of **150.84 Ha**; the RF Site is a hillock with varying steep terrain. A maximum contour level difference of 320 m is recorded.

- Kondaveedu RF Bit 2 – 150.84 Ha

Located at a distance of ~ 13 kms from Kondaveedu Village (to Main RF); it can be approached to

By Road Boyapalem - Phirangipuram
 Phirangipuram - Solasa

By Rail : Phirangipuram

The coordinates of the project sites are

- Kondaveedu RF Bit 2 – 16°13'18.72"N
 80°15'27.26"E

Due consideration is taken to provide access to the existing settlements; if any within the site area.

d. Forest Cover

Located in Guntur Range, Narsaraopet Section; the RF Site is spread across an area of 5306.71 Ha. It is a Dry Thorny Scrub Forest. In the valley, some growth of Bamboo is seen and in flat area only some soil of sandy loam quality can be seen. Big boulders and bouldry soil is mainly the main component of the Hillock.

Topography: Hillock

Density of Forest Area : 0.2 to 0.3

Floristic Composition:

A large number of custard apple trees (*Morinda citrifolia*) are grown in and around Kondaveedu.

Acacia leucifloea, *Prosopis juliflora*, *Zizyphus xylopyrus*, *Gyrocarpus jacquini*, *Manilkara nexandra*, *Azadiracta indica*, *Ibizzia amara*, *Carissa spinarum*, *Euphorbia triquetrum* and *Grewia rotundifolis*.

e. Alternative Sites

The chosen Alternate Sites are not suitable and are surrounded by encroachment. The chosen sites are listed below.

1. Peddakakani:

The identified site is spread across 0.29 Ha (Survey No:554) ; in **Peddakakani** Mandal. Located to the North of Guntur City along the Guntur – Vijayawada expressway ; the chosen site is about 2 kms from Auto Nagar which is not suitable for a Tourism Project and as per adangal information the area falls under Patta, Poramboku (Govt. land).

2. Perecherla hillocks:

The identified site is spread across 92.83 Ha (Survey No: 554); in Chinapalakaluru Village, Guntur Mandal. This Hillock is located to the west of Guntur City along the Nagarjun Sagar Road with Perecherla village located 1 km away. As per adangal data, the site is categorized as Poramboku (Govt. land) and Patta land.

This proposed site is encroached by many settlements as it

houses the sprawled development of Guntur.

(Refer alternative site assessment details in subsequent section)

3.1.2 Nearby Attractions

The **Kondaveedu Fort** situated in the Main RF is a major tourist attraction. Constructed in the 14th century by Prolaya Vema Reddy; this hillock fortress which was earlier the capital of Kondaveedu province is now in ruins. Both Hindu and Muslim architectural styles are seen in the forts. Department of Archaeology and Museums (Andhra Pradesh) are carrying out the restoration work.

A temple known as the Gopinathaswami temple (dedicated to Lord Krishna) lies at the foot of the hill; its bunched stone pillars are carved out of a single rock.

ISKCON South India is embarking on giving a major face-lift to this historical fort through their Spiritual Heritage Revival Project i.e., 65 acre plot at the foothill and 150 acre at the top of the Hill.

Amravati Capital City (Phase I)

The New Capital of Andhra Pradesh is envisioned to be the pioneer Smart City of India. It will be an economic powerhouse that will create a range of jobs for existing resident villagers by upgrading their skills, as well as provide high-tech and knowledge based industry jobs to be globally competitive.

The New Amaravati Capital City (Phase I) and Vijayawada will grow as twin cities in the future due to their close proximity. The diverse economy of the two cities will compliment each other and ultimately emerge as a Mega City.

3.1.3 Existing Facilities

- ✓ Kondaveedu Fort
- ✓ 2 ponds (adjacent to the fort)
- ✓ Approach road of 5.1 km under construction for Kondaveedu RF (Kondaveedu Fort)
- ✓ Water Source: NSP Canal

3.1.4 Proposed Facilities

- ✓ Proposed Landuse : Recreation
- ✓ Activities : Adventure Eco Theme Park

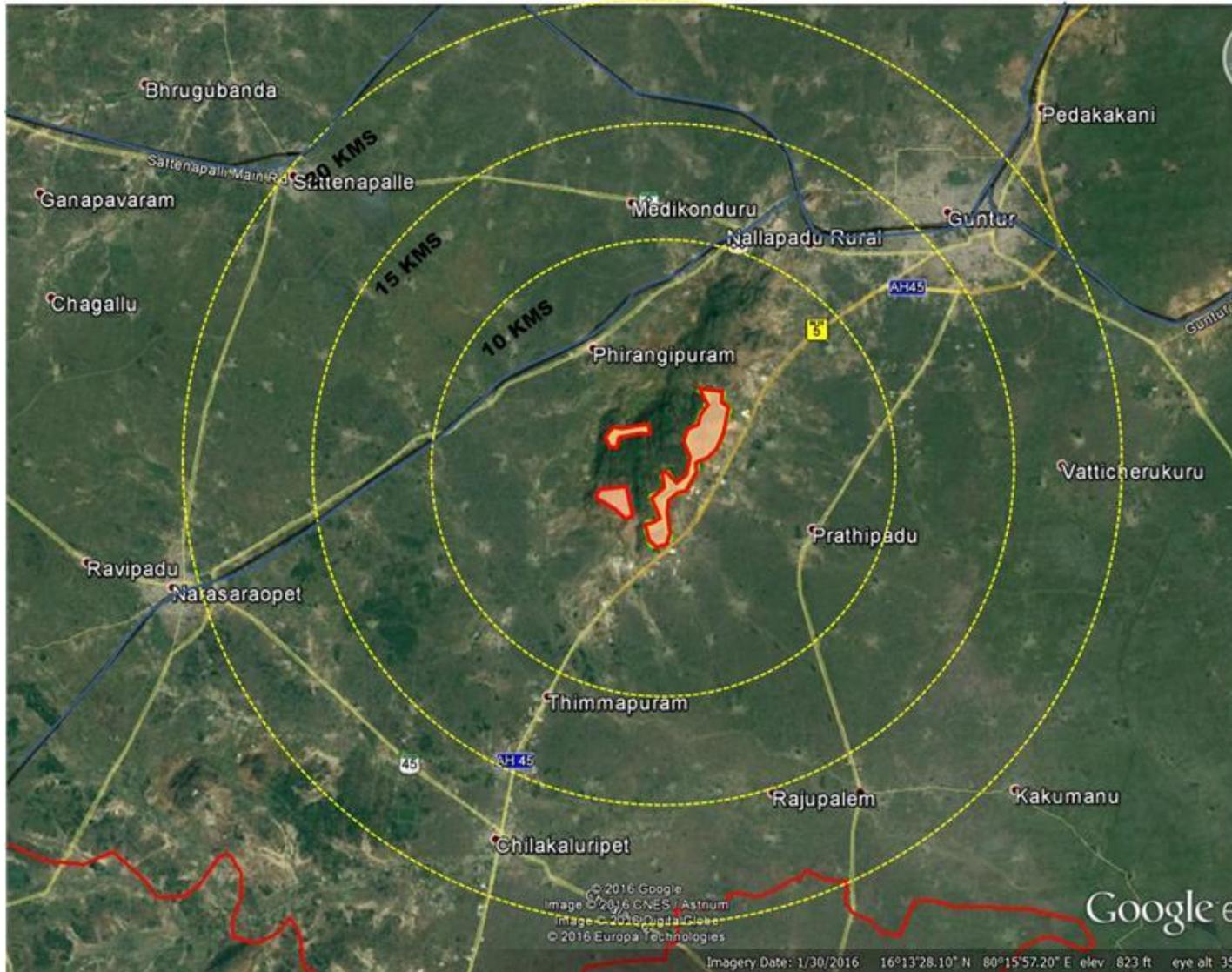


Figure 4: Regional Location Map of Kondaveedu RF Sites

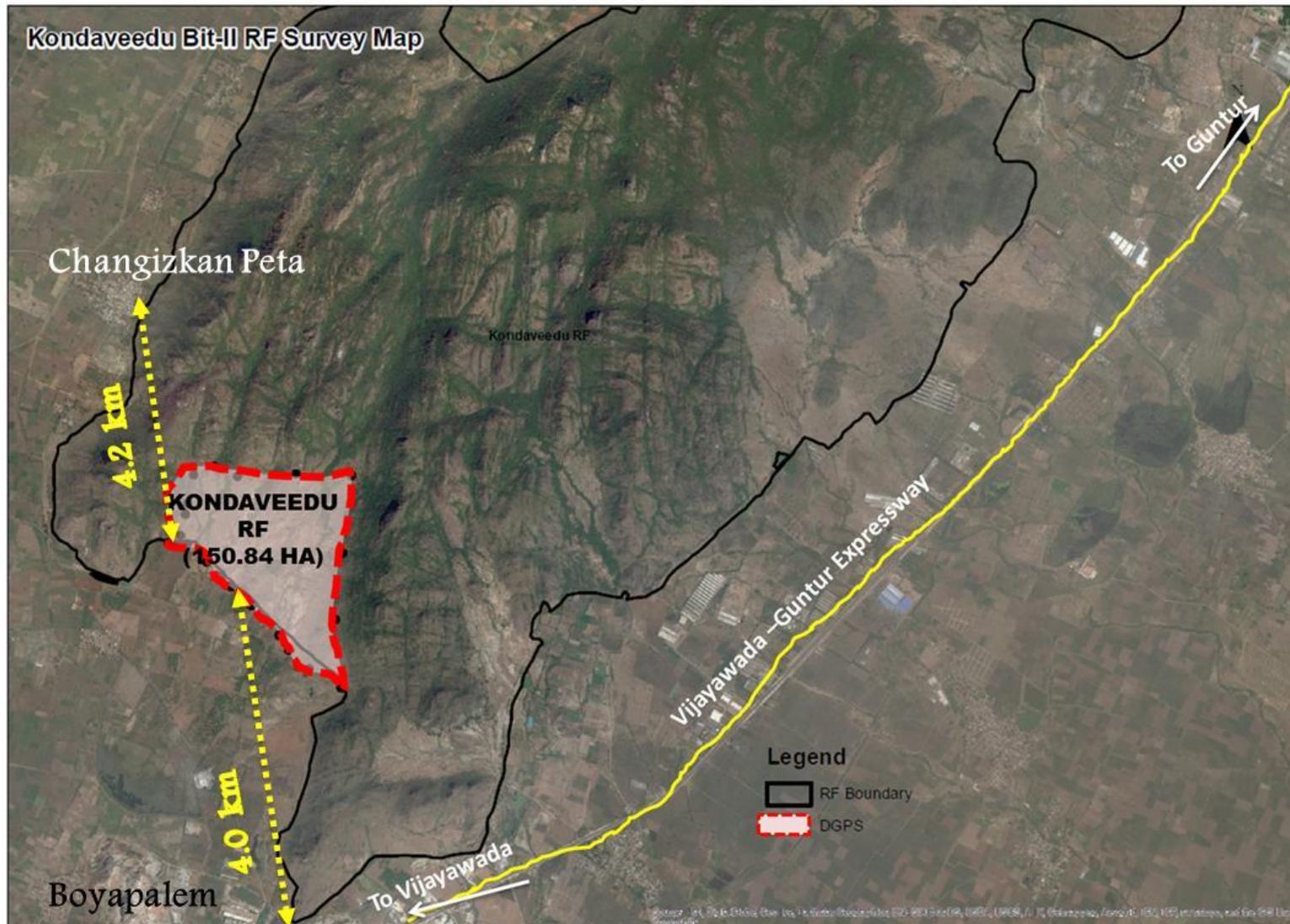


Figure 5: Site Accessibility – Kondaveedu RF Site – Bit 2

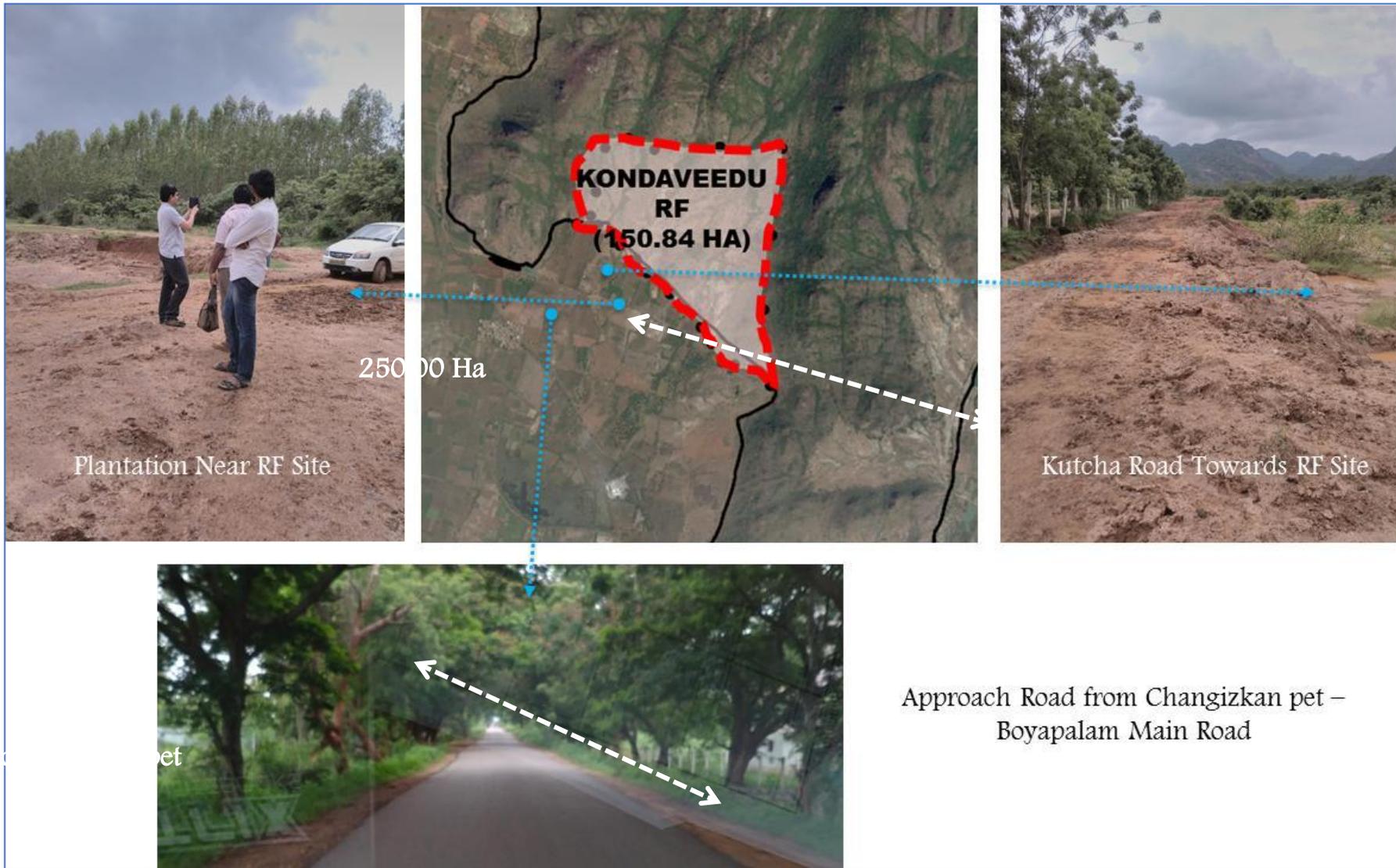


Figure 6: Reconnaissance Survey- Kondaveedu RF Site – Bit 2

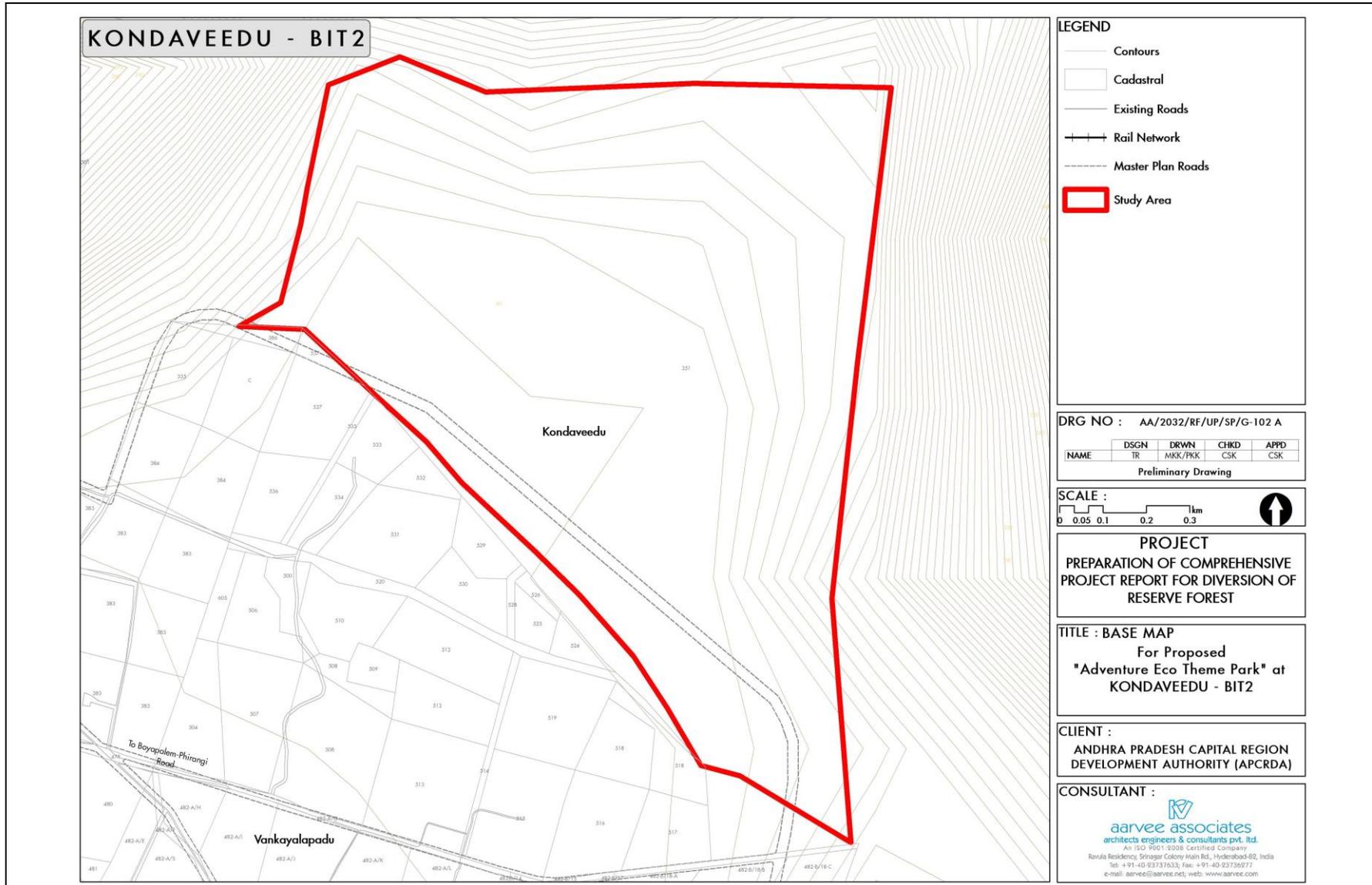


Figure 7: Base Map – Kondaveedu RF Site – Bit 2

3.2 Site Suitability Assessment

Table 3: Site Suitability Assessment of Kondaveedu RF Site

#	Particulars	Good	Average	Poor
1	Proximity to Urban Areas	Located within the CRDA Region and is easily accessible from major urban centers such as Guntur, Vijayawada & Capital City (Phase I)“Amravati”	----	----
2	Site Accessibility	<ul style="list-style-type: none"> • Good Connectivity: NH 16 • Availability of public transport facility (Buses & shared autos) • Rail Access • Proposed ORR 	----	----
3	Existing Features /Resources in proximity	<ul style="list-style-type: none"> • Good Approach Roads • Kondaveedu Fort & 2 ponds (adjacent to the fort) • Upcoming Residential Layouts (sprawl of Guntur city) 	----	----
4	Infrastructure (Water Supply, Power, drainage)	<ul style="list-style-type: none"> • Water source for future availed • Access Road to the site • Remaining facilities – dependency on Guntur town 	----	----
5	Potential for Development	<p>The site is ideal to be developed as an Adventure Eco Theme Park. Reasons</p> <ol style="list-style-type: none"> 1. Master Plan Proposal - <ul style="list-style-type: none"> • Strengthening of roads in and around the RF which connects the surrounding urban centres • With many upcoming projects to develop the fort and its surrounding area by Archeology Department; it is best suited that the entire to be developed as a public & semi-public zone 2. With Guntur developed as an administrative headquarters; and the entire stretch of NH-16 proposed as TOD corridor with different pockets identified as PSP and Industrial use); development of another Institutional Zone is benefitted for creation of Job and better administration. 3. Land Availability 	----	----
7	Other similar Development in Proximity	None	----	----
8	Visitors Security w.r.t Site	No Threat Perception since the proposed site is well within the CRDA Region	----	----

**Location Map showing the forest land proposed for diversion in KONDAVEEDU RF, GUNTUR DIVISION
for Capital City Infrastructure Project in APCRDA**

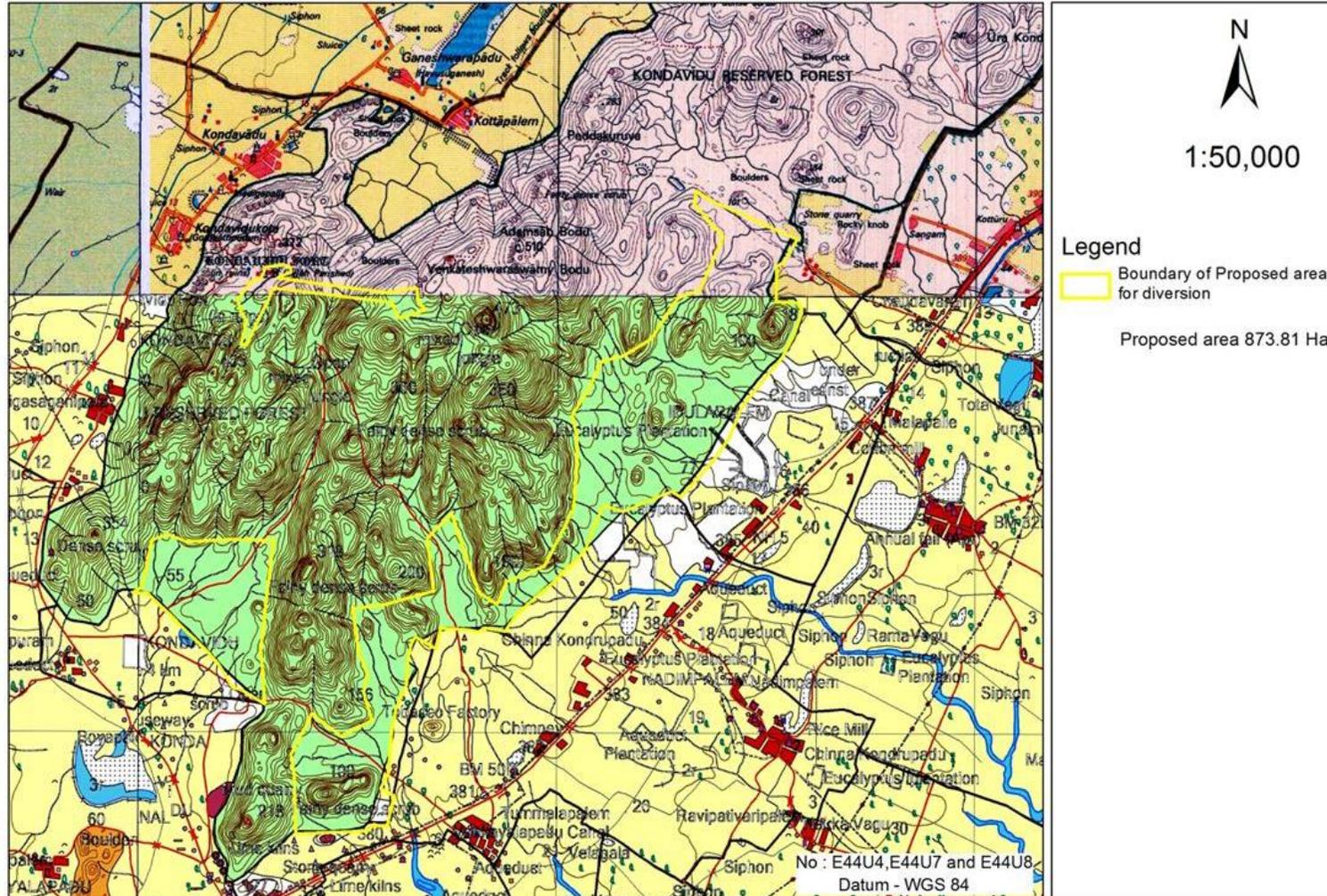


Figure 8: Topographic Map – Kondaveedu RF site

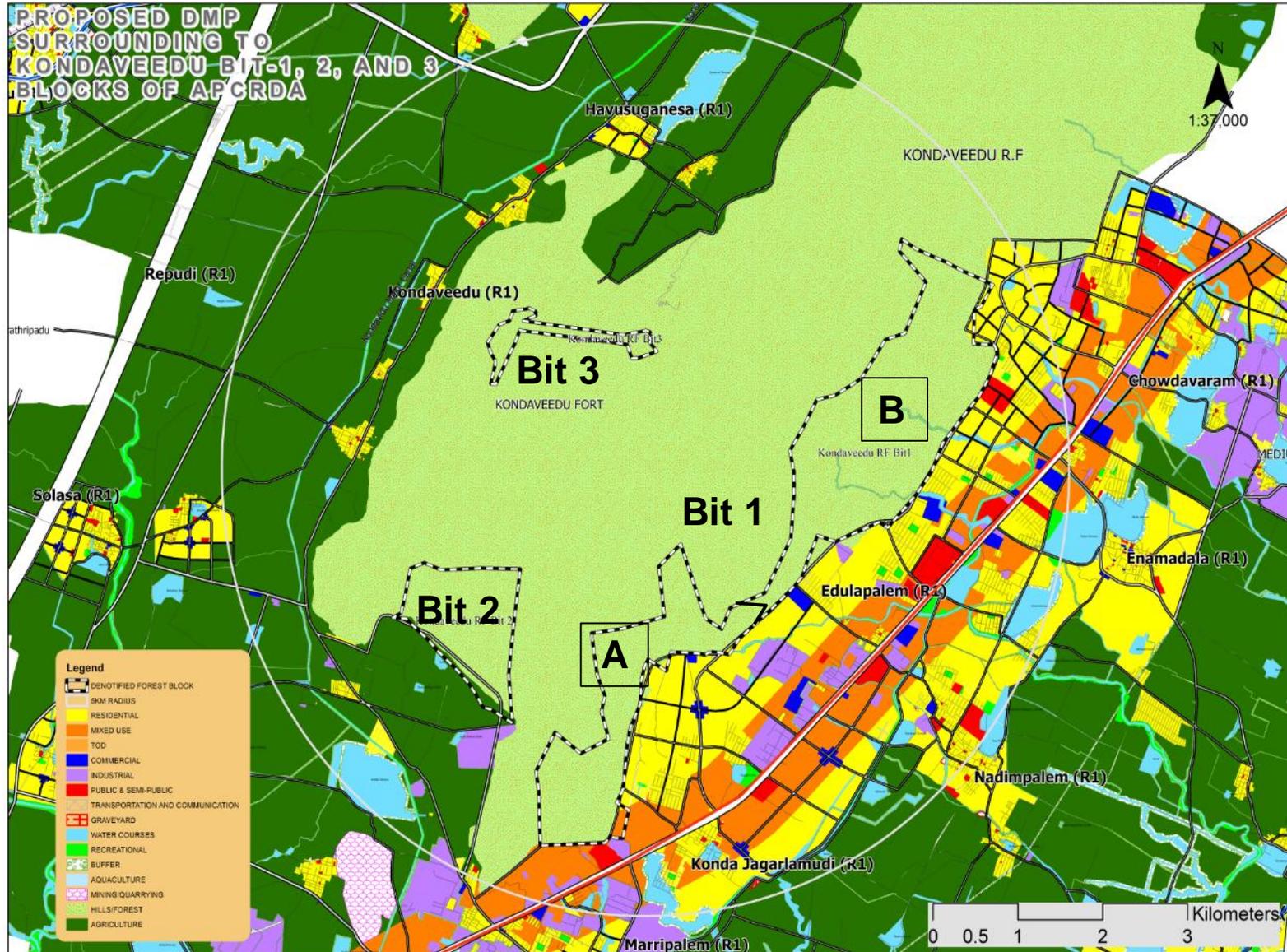


Figure 9: Proposed Development in & around the RF as per Master Plan

3.3 Concept Plan

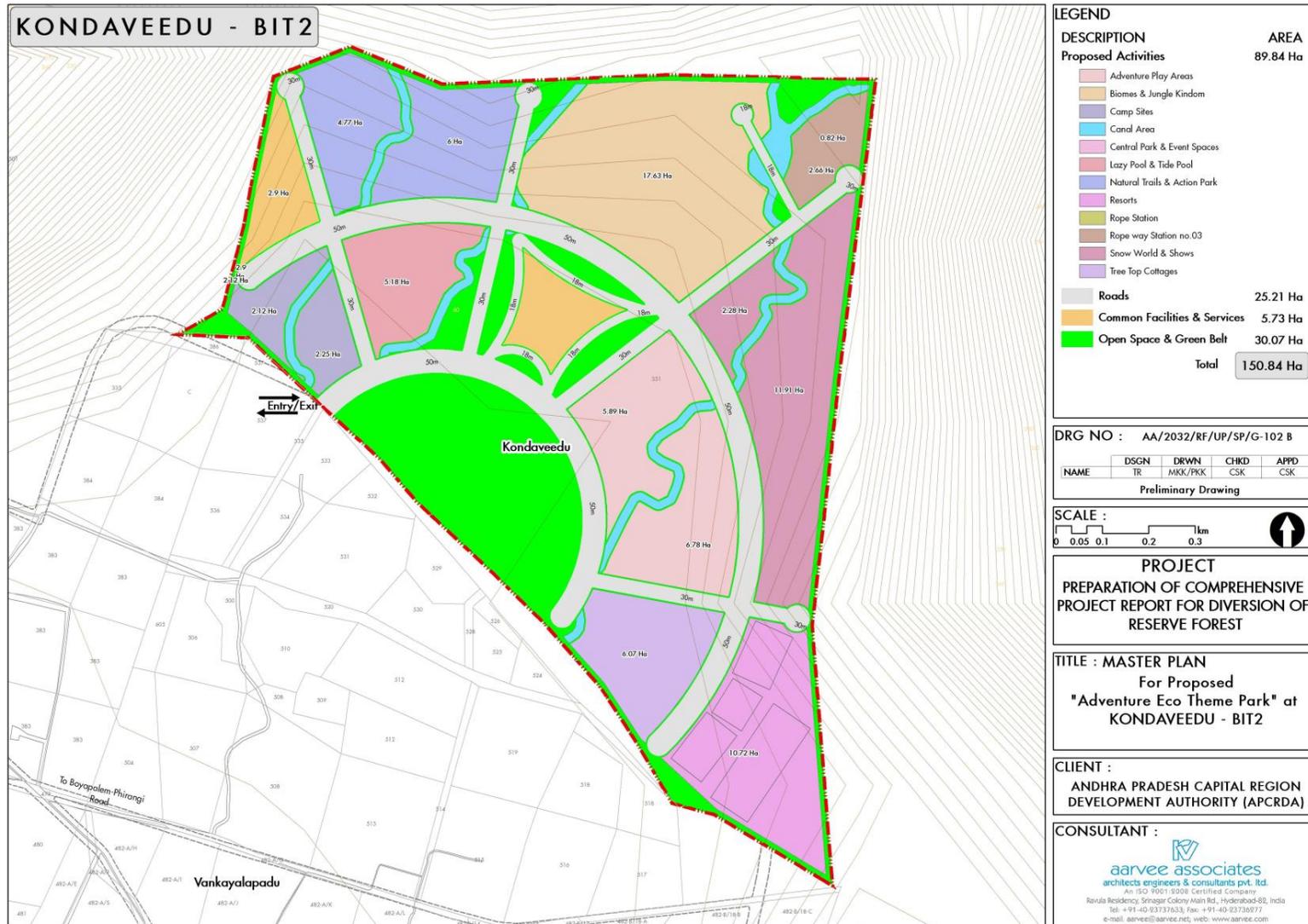


Figure 10: Concept Layout Plan – Kondaveedu RF Bit-2



Figure 11: Key Project Components – Kondaveedu RF Bit- 2



Figure 12: Illustrative views & images of Adventure Eco Theme Park

3.4 Area Statement

Table 4: Area Statement for Kondaveedu RF Bit 2

S.No	Landuse	Area in Ha	Area in Ac	% to total area
1	Area for Proposed activities	89.84	221.99	59.56%
a	Adventure Play Areas	11.87	29.32	13.21%
b	Biomes & Jungle Kindom	17.63	43.57	19.63%
c	Camp Sites & Hostels	4.37	10.80	4.87%
d	Lazy pool & Tide pool	5.18	12.79	5.76%
e	Natural Trails & Action Park	10.77	26.61	11.99%
f	Guest Rooms & Dormitories	10.72	26.50	11.94%
g	Rope Station	0.82	2.02	0.91%
h	Rope way Station no.03	2.66	6.57	2.96%
i	Snow World & Shows	14.18	35.05	15.79%
j	Guest Rooms & Dormitories	6.07	15.00	6.76%
k	Canal Area	5.57	13.76	6.20%
2	Roads	25.21	62.30	16.71%
3	Open Spaces & Green Areas	30.07	74.29	19.93%
4	Utilities	5.73	14.15	3.80%
	Total	150.84	372.73	100%

3.5 Open Spaces & Green Area Calculation

Table 5: Open Spaces & Green Area Calculation

S.No	Components	Area in Ha	Area in Ac	% to Total Area
1	Activities			
a	Adventure Play Areas	11.87	29.32	14.08%
b	Biomes & Jungle Kindom	17.63	43.57	20.92%
c	Camp Sites & Hostels	4.37	10.80	5.19%
d	Lazy pool & Tide pool	5.18	12.79	6.14%
e	Natural Trails & Action Park	10.77	26.61	12.78%
f	Guest Rooms & Dormitories	10.72	26.50	12.72%
g	Rope Station	0.82	2.02	0.97%
h	Rope way Station no.03	2.66	6.57	3.15%
i	Snow World & Shows	14.18	35.05	16.83%
j	Guest rooms and Dormitories	6.07	15.00	7.20%
	Sub-total of Plot area under each activity	84.27	208.23	55.86%
2	Utilities	5.73	14.15	18.51%
3	Roads	25.21	62.30	81.49%
	Sub-total of Roads and Utilities	30.94	76.45	20.51%
4	Green & Open Spaces		0.00	
a	Common Green & Open Spaces	30.07	74.29	36.67%
b	Canal Area	5.57	13.76	6.79%
c	Open Spaces within the Plots (55% of A)	46.35	114.52	56.53%
	Sub-total Green and open spaces	81.98	202.58	54.35%

3.6 Block Cost & Cost Benefit Analysis (CBA)

Financial assessment of Cost Benefit Analysis (CBA) is done by calculating the total project cost as per the best industry practices for development of the project, assuming basic features and specifications. These features and specifications may vary when detailed assessment and engineering activities are carried out for the development.

Table 6: Construction Cost -Kondaveedu RF Bit 2 site

S.No	DESCRIPTION	Amount (Rs in lakh)
1	Adventure Eco Theme Park	68255.00
2	Roads and Approaches	6187.75
3	Green Avenues & Buffer areas	506.45
5	Miscellaneous Cost (2.5% of PC)	1873.73
	Total Construction Cost	76823.02

3.7 Parameters for Evaluation of Benefit, not Withstanding Loss of Forest

Sl. No.	Parameters	Nature of Proposal
1.	Increase productivity attributable to the specific project	Setting up of Heritage, Adventure Eco Theme Park & Institutional facilities will generate employment opportunities in the Guntur region. More than 10,000 persons will get employment in various activities in the centre
2.	Benefits to economy	Economy/business will generate through Adventure Activities, Theme park activities. Project Cost: 768.23 Crore
3.	No. of population benefited	About 1.0 lakh population benefited annually (Direct & Indirect)
4.	Employment potential	Approximately 10,000 people in various capacities will be employed during construction of this project a large numbers technician and supporting staff will be retained after construction for maintenance and related work.
5.	Cost of acquisition of facility on non-forest land where feasible	No acquisition of private land is necessary.
6.	Loss of (a) agricultural & (b) non-forest land wherever feasible	Not Applicable
7.	Cost of rehabilitating the displaced persons as different from compensatory amounts given for displacement	Not Applicable
8.	Cost of supply of free fuel wood to workers residing in or near forest area during the period of construction	Free electricity will be provided for lighting. The employees will be facilitated to get the LPG gas connections at nearby location. Management has discouraged the use of fire wood by the workers of this ongoing project for the cooking purpose.

3.8 Site Suitability Assessment for Alternative Site



Figure 13: Alternate sites for Kondaveedu RF site

Table 7: Site Suitability Assessment for Alternative Site of Kondaveedu RF Bit 2

#	Particulars	Good	Average	Poor
1	Proximity to Urban Areas	Guntur & Amravati City		
2	Site Accessibility	Guntur – Vijayawada expressway Nagarjun Sagar Raod		
3	Existing Features /Resources in proximity		Pedakakani : Auto Nagar	Perecherla Hill : None (Just surrounding villages; encroachments)
4	Existing Infrastructure		To avail Facilities provided at Guntur & proposed facilities for Amravati Capital City	
5	Potential for Development			<ul style="list-style-type: none"> • Encroached Lands • Limited Land availability • Proposed site not suitable for Tourism Development

Conclusion:

The APCRDA has examined Peddakakani & Perecherla hillocks for establishment of Institutional facilities, Heritage & Adventure Eco Theme Park. But these areas are not suitable and consist of lot of encroachments. Hence these hillocks were rejected. Hence there is no alternative except to procure the Kondaveedu forest land, which is nearer to Guntur City and adjoining to national highway.

ANNEXURES

