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PLANNING OF SPECIAL EDUCATIONAL HUB

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Abstract

Education is the most important parameter in everybody's life nowadays. People from all the parts of India are here to learn and educate themselves as much as possible in their lives. Due to lack of sources and no proper guidance for learning many children are not able to study and learn. The problem of not getting better and higher education in the native place is also the cause of no opportunities to learn. Furthermore, the children from remote areas from the state of Maharashtra, India are still struggling for better and higher education which causes the problem of migration to different states which is very hectic and non feasible. To cope with this problem, in this paper planning of a special education zone (education hub) is done i.e. all types of education institutes are brought in the same place i.e. under one umbrella.

The planning of the education hub in the Institutional zone was obtained by plotting of various colleges such as Ayurvedic Institute, Engineering Institute, Medical Institute, Law Institute, etc. with the help of AutoCAD software.

Keywords: Better and higher education, Maharashtra state children, Migration, Planning, Special education hub, AutoCAD.

Introduction

Education is a systematic process through which a child or an adult acquires knowledge, experience, skill and sound attitude. It makes an individual civilized, refined, cultured and educated. For a civilized and socialized society, education is the only means. It's goal is to make an individual perfect.

To gain a good quality of education many students have to migrate to different places. Considering the unpredictability of the increase in the migration of the students and their unanticipated needs, we should come up with flexible strategies for change.

Education Hub:

Education hub means planning of all types of educational institute such as Ayurvedic Institute, Engineering Institute, Medical Institute, Law Institute, etc. in one place i.e. under one umbrella.

Education is the most important parameter in everybody's life nowadays. People from all the parts of India are here to learn and educate themselves as much as possible in their lives. Due to lack of sources and no proper guidance for learning many children are not able to study and learn. The problem of not getting better and higher education in the native place is also the cause of no opportunities to learn. Furthermore, the children from remote areas from the state of Maharashtra, India are still struggling for better and higher education which causes the problem of migration to different states which is very hectic and non-feasible. To cope with this problem, in this paper planning of an education hub is done.

The planning of the education hub is plotting of colleges as per educational norms and placing of colleges at particular areas of the village by calculating the area of villages. The road layout planning serves connectivity between the villages and the colleges to the students and the public. The establishment of education hubs or zones is relatively new territory for the higher education sector. Education hubs mark a shift to broadening crossborder education.

Methodology:

1. Drafting of MMRDA map of Ambernath Taluka in AutoCAD:

AutoCAD software an Automatic Computer Aided Design software which helps to draft precise and detailed 2D and 3D designs which are primarily used in architecture, engineering and construction fields. AutoCAD is developed and marketed by Autodesk.

AutoCAD serves purposes such as:

- Architectural and engineering drawings execution
- Interior design and space planning
- Production of topographical and sea maps

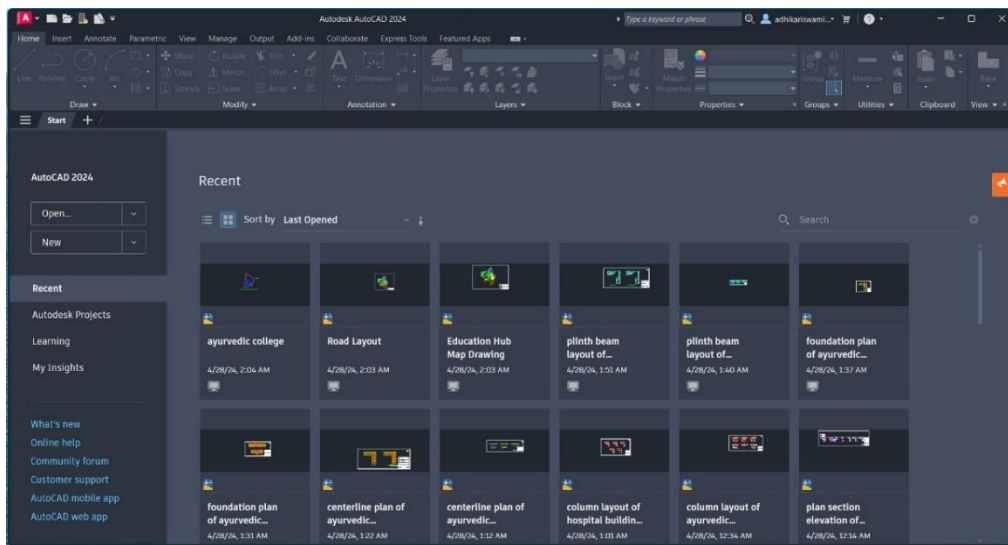


Fig 1.1. AutoCAD software display window

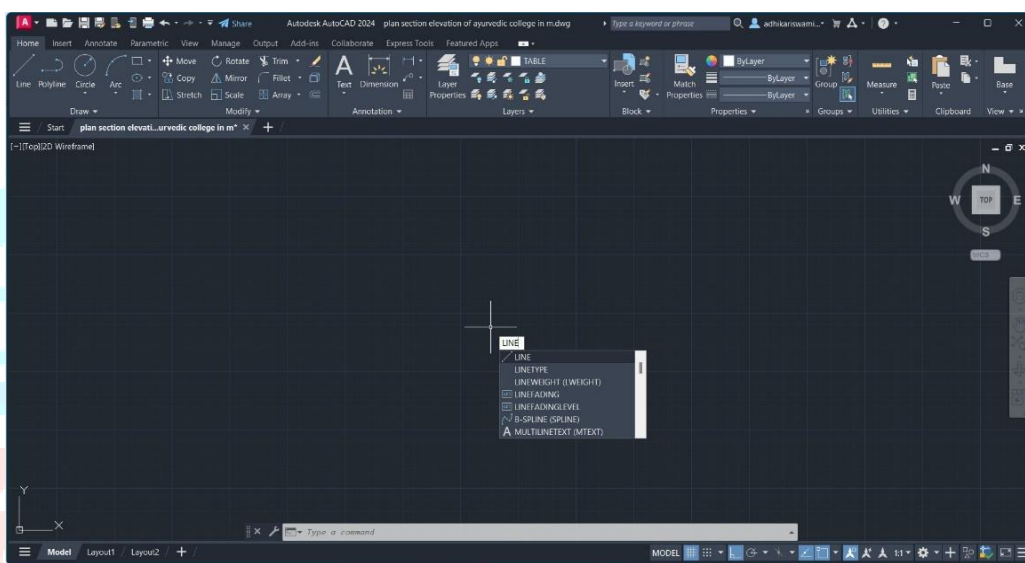


Fig 1.2. AutoCAD software drafting window

By using external reference command, the MMRDA map was inserted in AutoCAD, and then by using the spline command outline of the whole map including the villages was drafted by tracing on the original map.

After that, concerning to the original map, a line was drawn separately near the drafted plan of the map with the actual size of the line on the map. Then a point on the drafted plan was selected and by using the align command it was aligned to the actual size of the line on the map.

By using the hatch command, the legends were created in a drafted map.

The following are legends in the drafted plan:

1. The yellow line hatched area indicates the deleted area from institutional zone.
2. Dark green lines hatched area indicates the forest zone.
3. Blue hatching indicates the river body.
4. The red line indicates the institutional boundary area.
5. Light green lines indicated the village boundary area.
6. Blue-coloured centre-lines hatched area indicates the urbanization zone.

7. The bold dotted grey coloured line indicates the proposed road.

This road is drafted in the plan which passes from the villages,

- a. Bendshil
- b. Khuntavali
- c. Bhoj
- d. Dahivali

The road further passes from the area deleted from the Institutional zone to the urbanization zone.

8. The grey-coloured line in the blue-coloured hatched area indicates the existing railway track.
9. The red line with cuts indicates the buffer zone.

The naming of all the villages were given by using the Mtext command & they are coloured orange by using the layer command.

2. Plotting of road layout on map:

A route to connect with the colleges in different villages was plotted on the plan.

There are two types of roads connecting to the colleges, namely:

1. Main Road
2. Sub-main roads

The roads are plotted by using the spline command.

These roads are passing from the villages to reach at the colleges.

The following are legends in the drafted map:

1. The bold dotted grey coloured line indicates the main line of the road.
2. A grey-coloured double line indicates the sub-branches of the road.
3. A circle joining the roads indicates the junction.

3. Calculation of Total Area:

The total area reserved for the Institutional zone is calculated by using the AutoCAD software.

Once the plan was aligned to the line, by using the boundary command, a separate line was joined together to make a region. Then by using area command, the area of the institutional zone.

Therefore, the total area of the Institutional zone was calculated as 3368.66 acres.

4. Calculation of villages area in Ambernath Taluka for particular colleges:

By using the boundary command, a separate line was joined together to make a region. Then by using the area command.

The area of all the colleges is taken from the rules, regulations and the educational norms given by the government.

Sr. No.	Village Name	Village Area (in acres)	College Name	College Area (in acres)
1.	Kasgaon	765 160 (included)	a. Medical College b. Pharmacy College	a. 20 b. 2.5
2.	Chinchavali	442	a. Ayurvedic College b. IIT, IIM, NIT	a. 20 b. 420
3.	Bendshil	750	a. NDA b. Design College c. Architecture College d. Law College e. EIDCO f. CETC g. Military School	a. 100 b. 20 c. 2 d. 4 e. 5 f. 5 g. 20
4.	Bhoj	600	School & Junior College	5
5.	Tan	330	Agricultural College	110

Table 1 Area of villages in Ambernath Taluka

5. Plotting of Colleges:

Plotting of Colleges done as per educational norms on MMRDA Map.

As the area of the individual college is calculated as shown in Table 1, they are plotted as per the area of the villages.

Showing in the plan:

1. The area of Kasgaon village is calculated as 765 acres and 160 acres (included), and the area required for medical and pharmacy college are 20 acres and 2.5 acres respectively, so these colleges are plotted in the Kasgaon village.
2. The area of Chinchavali village is calculated as 442 acres, and the area required for Ayurvedic college and IIT, IIM, and NIT are 20 acres and 420 acres respectively, so these colleges are plotted in the Chinchavali village.
3. The area of Bendshil village is calculated as 750 acres, and the area required for NDA, Design college, architecture college, law college, EIDCO, CETC and military school are 100 acres, 20 acres, 2 acres, 4 acres, 5 acres, 5 acres and 20 acres respectively, so these colleges are plotted in the Benshil village.

4. The area of Bhoj village is calculated as 600 acres, and the area required for school and junior college is 5 acres, so the school and the junior college are plotted in the Bhoj village.
5. The area of Tan village is calculated as 330 acres, and the area required for agricultural college is 110 acres, so this college is plotted in the Tan village.

By using the application Google maps, the latitudes (19.094), longitudes (73.254) and satellite images (2D and 3D) of the Chinchavali village are taken.

Results:

With the help of the total area calculation and village area calculations, the area for particular college was calculated as per educational norms and the road layout was plotted to connect with every college.

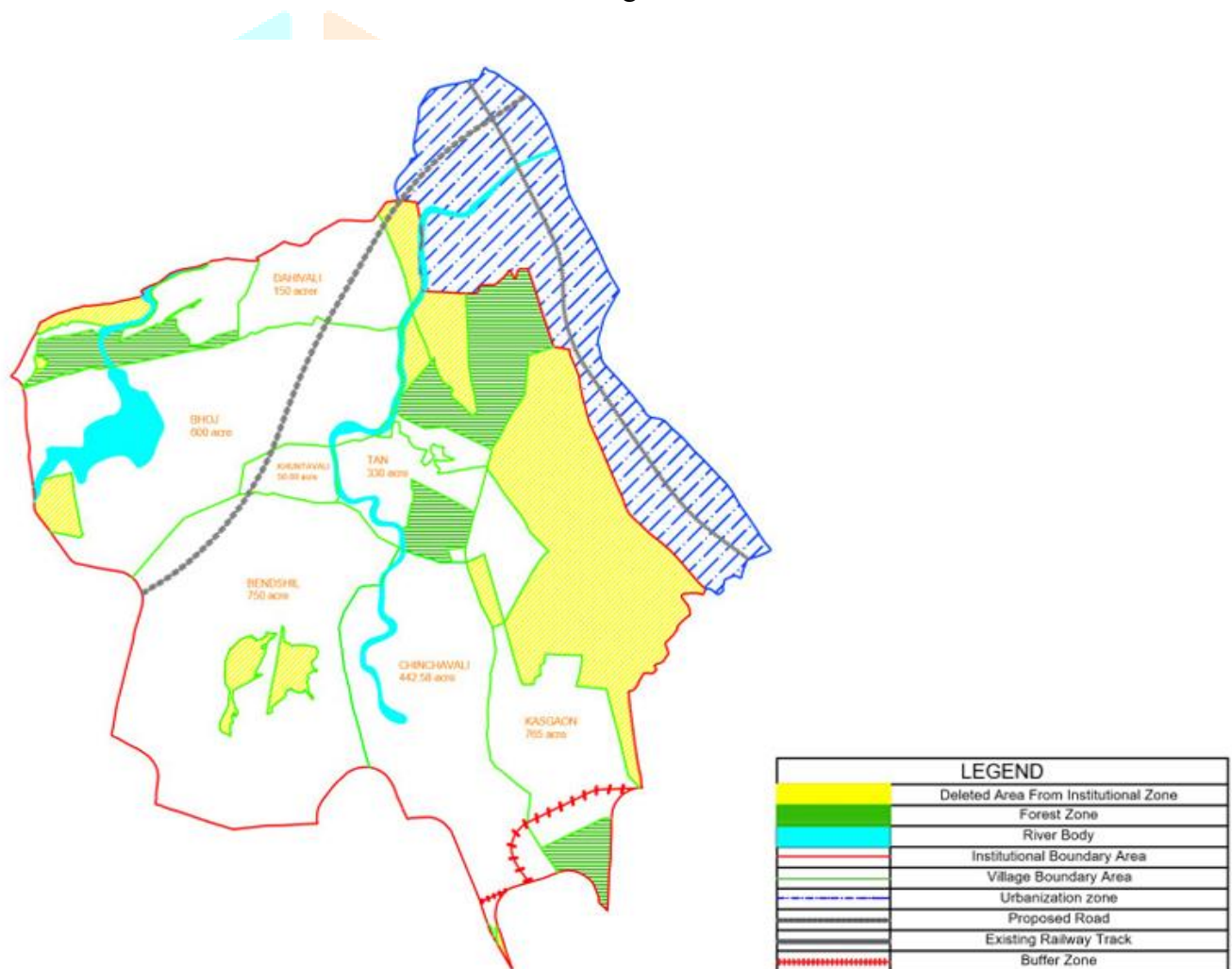


Fig 1. AutoCAD Map Drawing of MMRDA Plan of Ambarnath Taluka

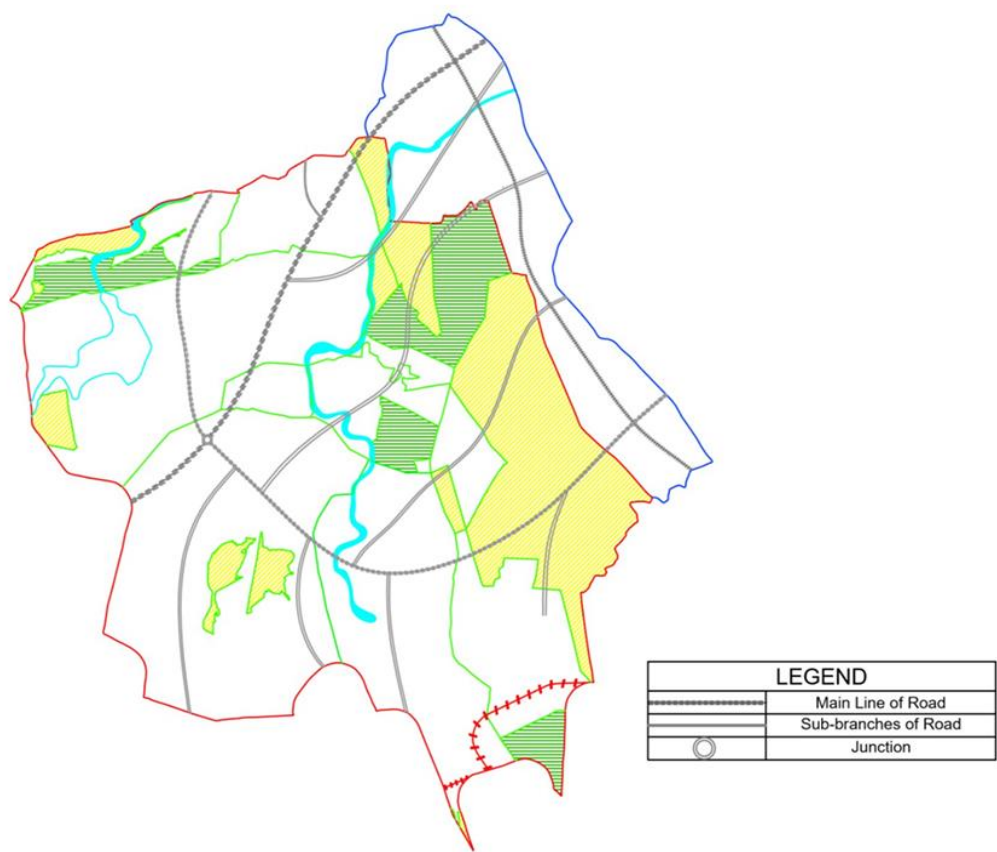


Fig 2. Road Layout for Planning of Education Hub

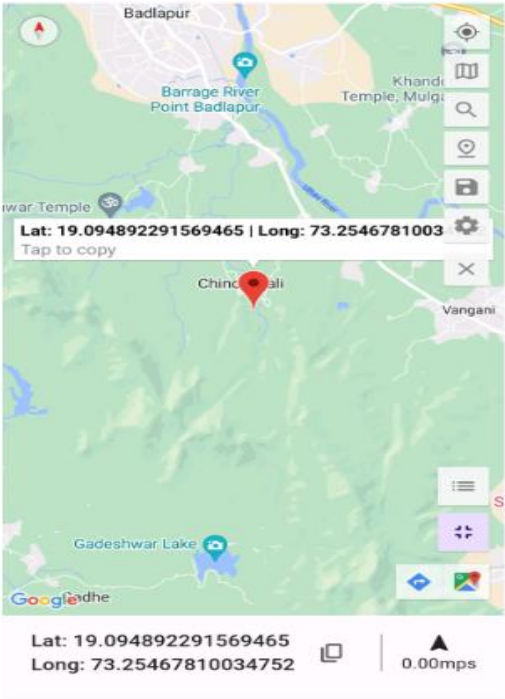


Fig 3. Co-ordinates of Chinchavali Village

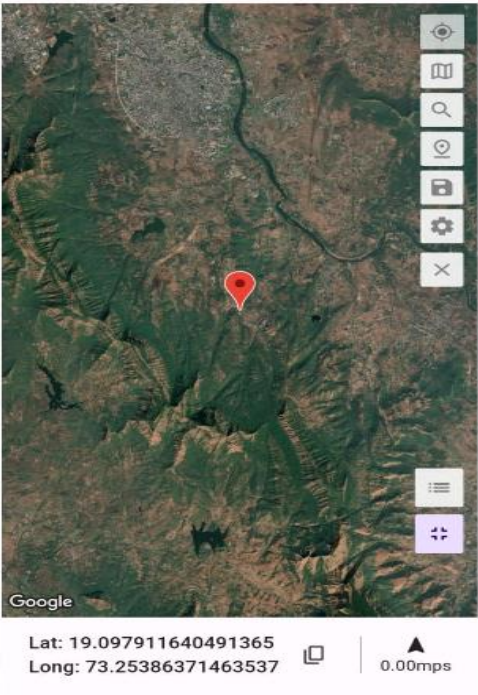


Fig 4. Satellite image of Chinchavali Village

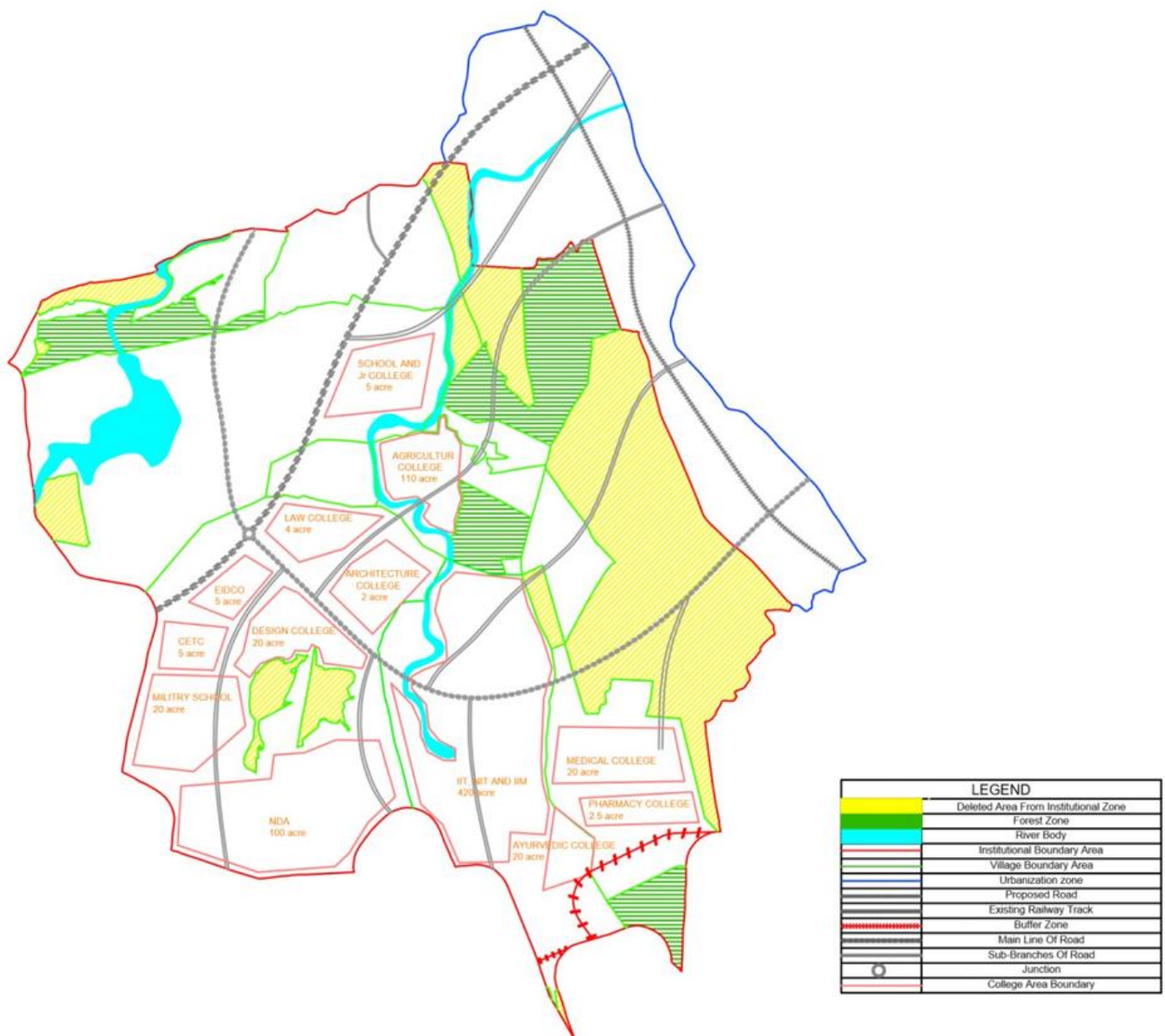


Fig 5. Plan showing the location of colleges

Conclusion:

The planning of the education hub in the Institutional zone was obtained by plotting of various colleges such as Ayurvedic Institute, Engineering Institute, Medical Institute, Law Institute, etc. and plotting the road layout in the Institutional zone in AutoCAD software by using drafting tools command such as line, dimension, layer, line type manager, hatch, trim, fillet, etc.

Future Scope:

The planning of the education hub in the area reserved for the Institutional zone by the government was carried out by plotting of all the institutes in one place with road layout plotting; this will help to construct and develop the area into education hub and to mitigate the migration of the students to other cities, states and country.

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