

# OPHTHALMIC FACILITIES

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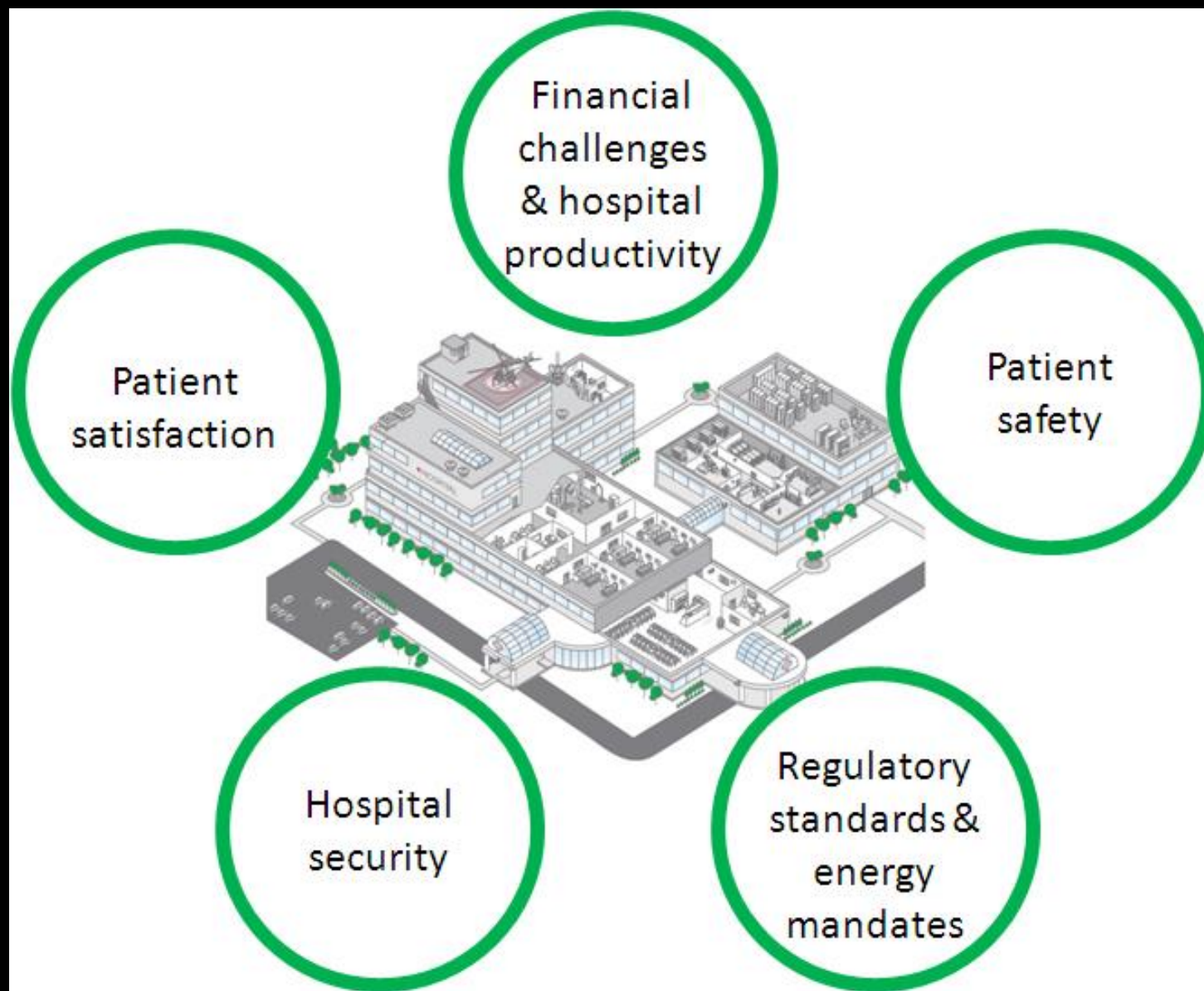
architects & planners  
sankar & associates  
coimbatore



### Planning Challenges in Health Care facilities :

- Small Urban sites versus extra large setback requirements.
- Continuously changing program requirements especially in small doctor run facilities resulting in Ad-Hoc “ as we go along “ planning. Problems due to the parallel process of design and planning
- Continuous upgrade in equipment and technology.
- Lack of organised equipment planning consultants.
- Equipment cost versus facility costs.
- Huge parking needs
- Conflicting standards/guidelines, for example difference of requirement between MCI, NABH ,NBC and CMDA/ DTCP guidelines.
- Multiple entry/exit points.
- Spiraling land costs making vertical planning imperative.

## CHALLENGES



## CHALLENGES

### **1) Financial challenges and hospital productivity:**

*Hospitals are the second most energy-intensive buildings after restaurants, and globally, healthcare costs are on the rise. These financial challenges—in addition to an aging world population and increasing energy costs—are putting pressure on healthcare organizations to do more with less without compromising quality of care.*

### **2) Maintaining patient safety:** *Every year an estimated 20,000 people in the U.S. and 5,000 in the U.K. die from an infection they received while in the hospital. Reducing the risk of infection, as well as other potential risks, such as power failures, is crucial in ensuring a high quality of care and maintaining the organization's reputation.*

### **3) Regulatory standards and emerging energy mandates:** *Noncompliance with regulatory standards can lead to a disruption in operations, poor quality of care, safety issues, and substantial fines. At the same time, as energy demand rises, many countries are requiring healthcare facilities to reduce carbon output and meet mandates for energy reductions.*

### **4) Hospital security:** *Healthcare facilities are often open 24/7, and those visiting are often under a great deal of stress when life and health are at stake. Violence, infant abductions, patient wanderings, and theft of drugs and hospital assets are major concerns.*

### **5) Patient satisfaction:** *The well-being of patients is a key to reducing length of stay and preventing readmissions. According to the American Society for Healthcare Engineering (ASHE), in green hospitals, patients are discharged an average of 2.5 days earlier compared to traditional hospitals. Additionally, patient satisfaction can also affect a hospital's revenue.*



# KEY STEPS AND DESIGN CONCEPTS : corner stones of design

## CONTEXT

Understanding the macro context with reference to :

### I. Geographical location

- Understanding the site from a micro context

#### I. Contours

#### II. Vegetation

#### III. Water source

#### IV. Water features/ drainage channels

#### V. Entry / exits to the site

#### VI. Power/ electrical inlets.

#### VII. Vehicular movements/ traffic analysis

#### VIII. local bye laws

- Site Zoning / circulation

#### I. Easy movement of men and materials – both during actual construction process and final designed project

#### II. Positioning of STP, WTP according to contours

#### III. Positioning of special/ polluting structures

## CLIMATE

Understanding the CLIMATIC zone has a direct bearing on planning and the type of structure that one needs to design.:

### I. prevailing climatic conditions

### II. seismic zones

### III. Prevailing winds

### IV. Micro climate.

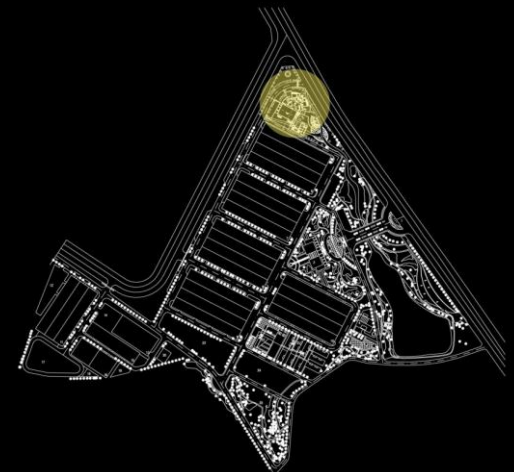
The major climatic zones in an indian context are:

Hot and Dry (arid)

Hot and Humid

Tropical semi arid.

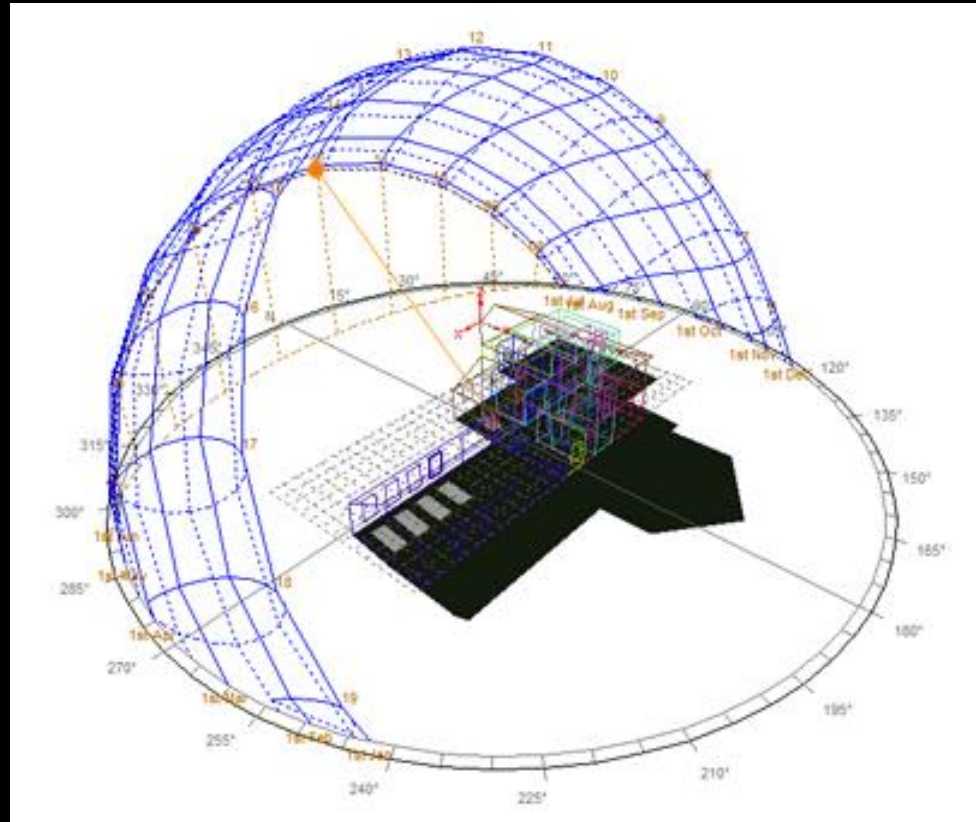
Mountain/cimate



## KEY STEPS AND DESIGN CONCEPTS : corner stones of design

### ORIENTATION :

- Probably the single most important factor in planning of green buildings
- Proper orientation almost reduces the need for artificial lighting and cooling by half
- Shadow studies and use of sunpath diagrams in the planning stage itself
- direction of wind and detailed understanding of the macro and micro climate



## COST AND PROGRAM

Probably the most important contributor, that plays a huge role in the planning are cost and the program . The design of the facility changes based on whether it is :

- I. Stand alone community eye care center
  - II. Community eye care plus a corporate center
  - III. Corporate hospital
  - IV. Department in a corporate facility
  - V. Department in a teaching hospital
- The cost/ budget allocated for each type automatically changes, thereby having a direct bearing on its :
  - Space planning
    - Spread of the layout
    - Shared facilities
    - Size of rooms/spaces
  - Material specification



## KEY STEPS and DESIGN CONCEPTS :

### Site Selection

- Accessibility to transportation and communication lines.
- Adequate parking Facilities.
- Availability of public utilities like water, sewerage, electricity.
- Proper site elevation for good drainage and general sanitary measures.

### Correct Zone conversion

- Freedom from noise, smoke, vapours and other annoyances..
- Future expansion
- Total cost.

### Definition :

A **sustainable building**, or **green building** is an outcome of a design which focuses on increasing the efficiency of resource use — energy, water, **and** materials — while reducing building impacts on human health and the environment during the building's lifecycle, through better siting, design, construction, operation, maintenance, and removal.<sup>[1]</sup>

## KEY STEPS and DESIGN CONCEPTS :

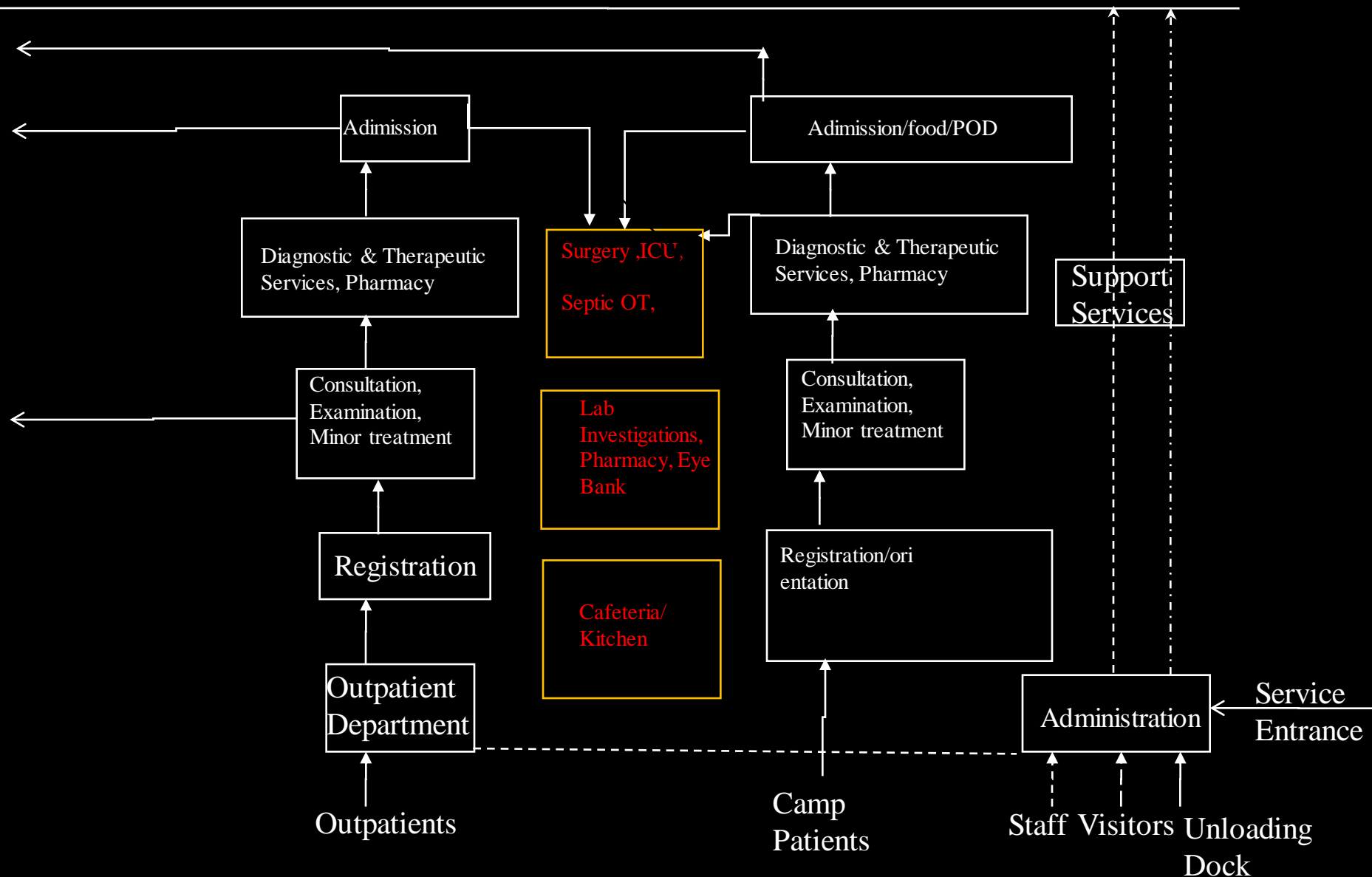
### PLANNING :

Planning goes along way in enabling a sustainable approach to the building :

- Creating breaks in the plan to include green features not only enhances day-lighting and ventilation but also creates visual breaks in the building thus enhancing interest both in form and function
- Proper **zoning** especially of service cores enhances efficiency in circulation as well as reduces pipe lengths making plumbing and air conditioning more efficient
- Locating workspaces near windows, providing natural ventilation for toilets are all important steps in achieving a green plan
- Ergonomically designed spaces with a combination of task and ambient lighting goes a long way in increasing efficiency



# KEY STEPS and DESIGN CONCEPTS : PLANNING



Key Traffic flow within an Ophthalmic Hospital

***LARGE SITES/HORIZONTALLY PLANNED FACILITIES (BLOCK PLANNING)***



**SANKAR & ASSOCIATES**

Architects & Planners

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***HOSPITAL FOR M/S SANKARA EYE CENTER AT  
BANGALORE***



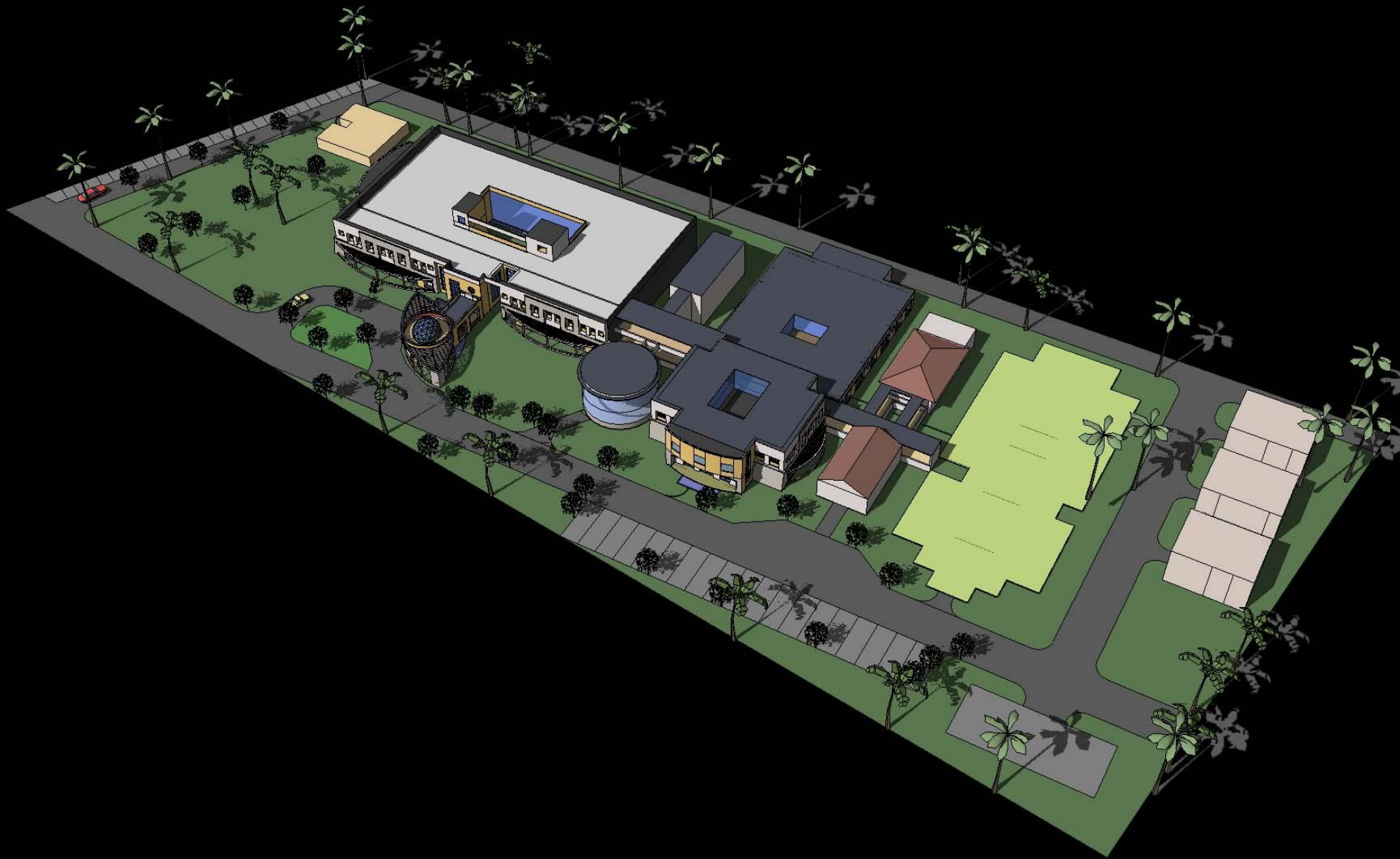
***SITE AREA: 4 Acres***

**TOTAL BUILT UP AREA: 11,214 SQ.M**

**PLOT COVERAGE: 22.33 %**

**F.S.I: 0.69**

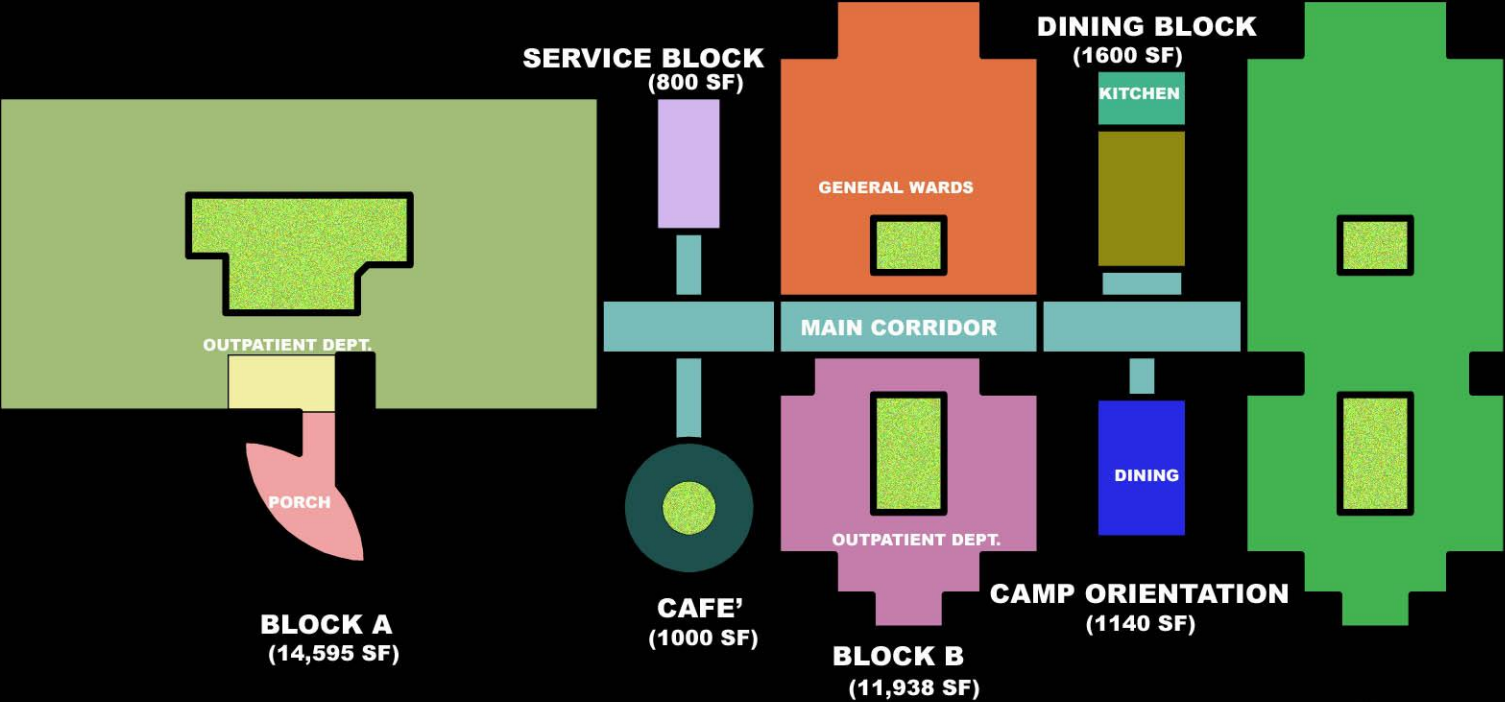






**GENERAL LAYOUT**

**FUTURE EXPANSION**



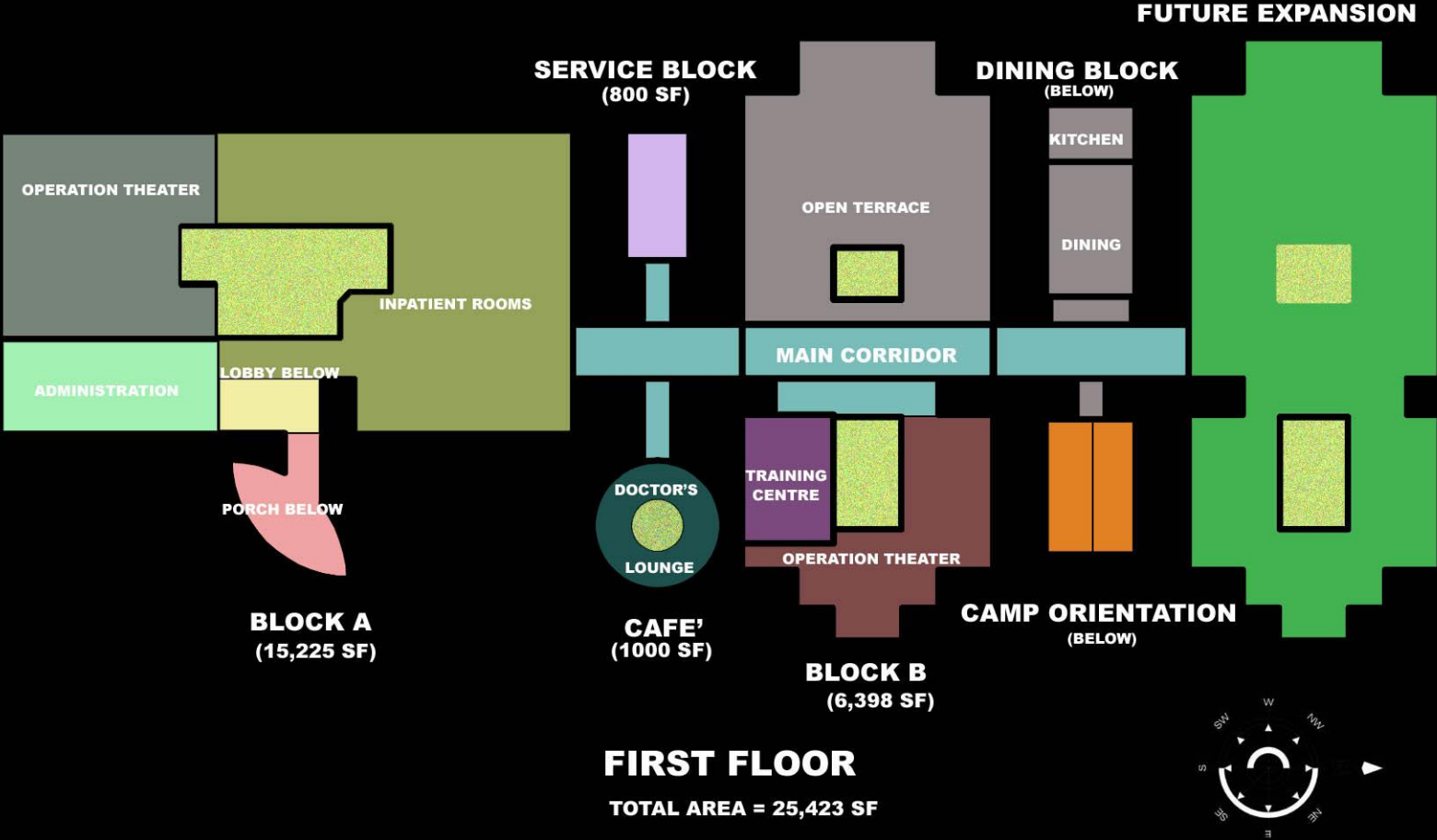
**GROUND FLOOR**

TOTAL AREA = 33,877 SF.



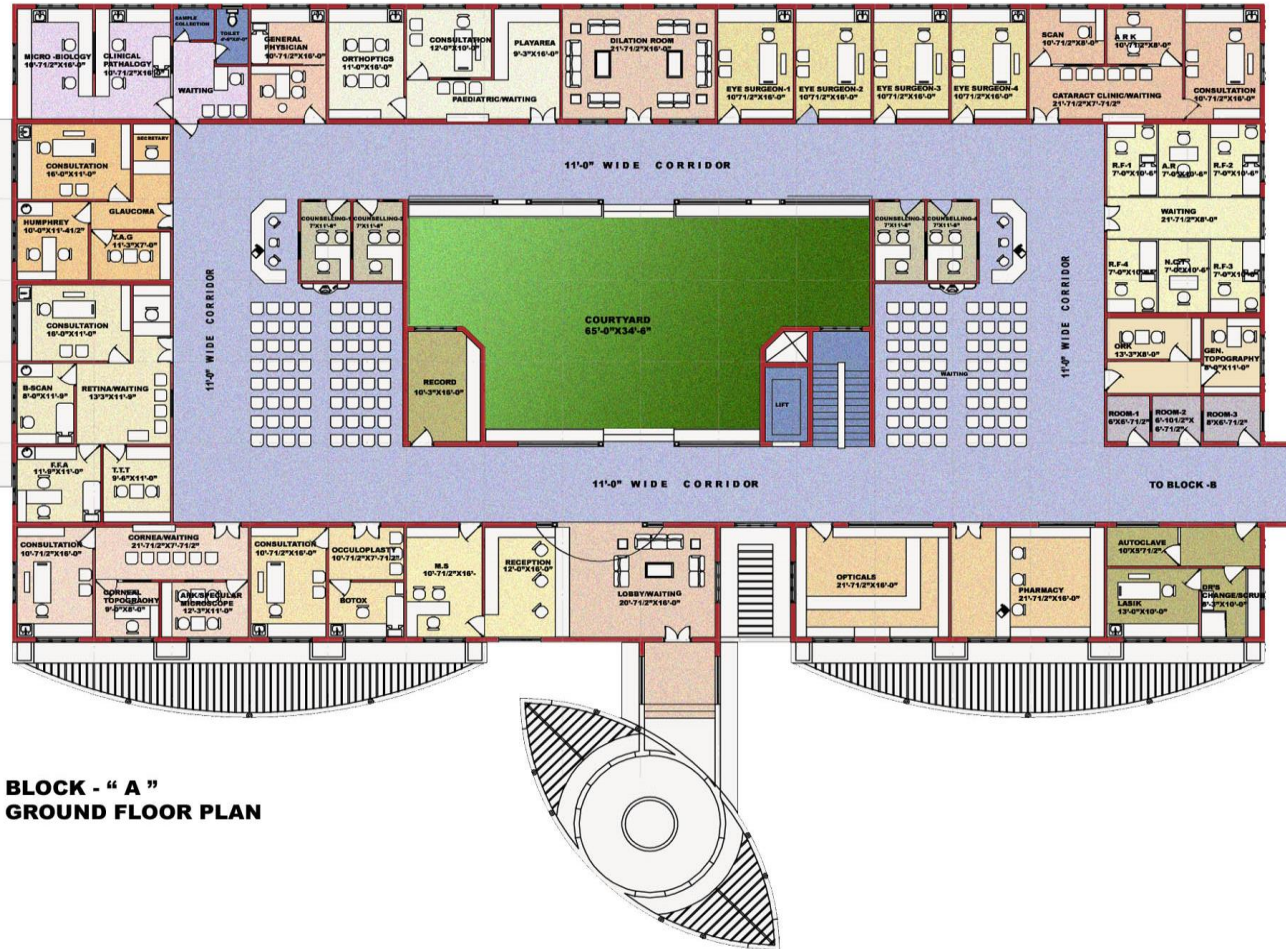


**GENERAL LAYOUT**

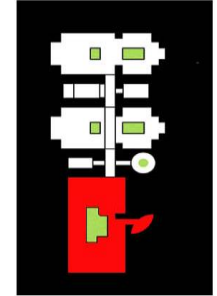


# AREA DETAILS :

AREA OF GROUND FLOOR : 14,595 sq.ft.



**BLOCK - " A "**  
**GROUND FLOOR PLAN**

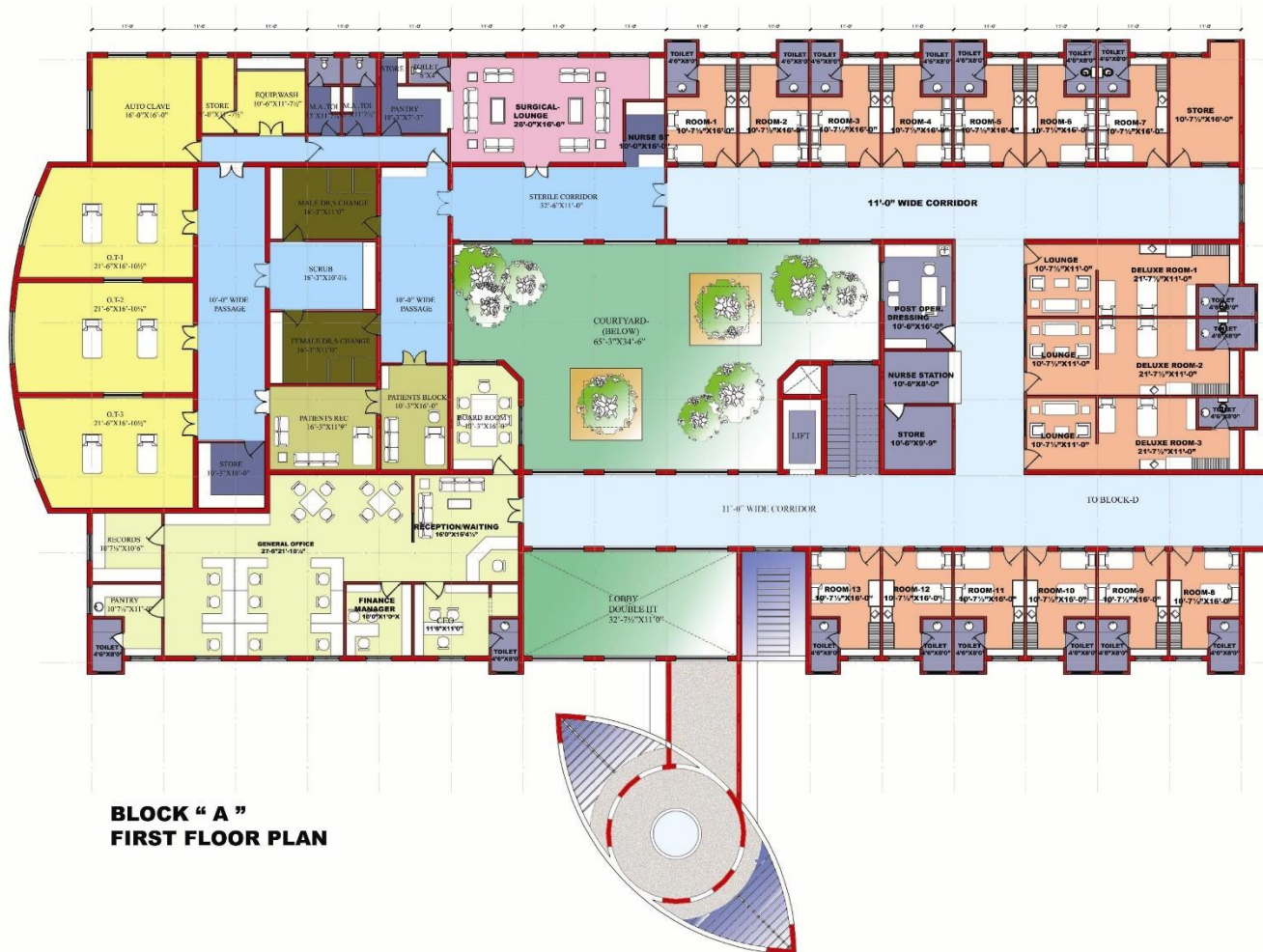


**KEY PLAN**

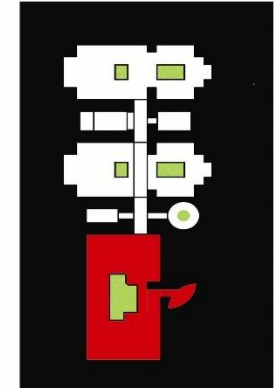
GLAUCOMA	= 473 SF
RETINA	= 543 SF
CORNEA	= 505 SF
OCULOPLASTY	= 336 SF
CATRACT CLINIC	= 505 SF
REFRACTION	= 595 SF
LABS	= 673 SF
PEADIATRIC	= 508 SF
LASIK	= 699 SF
EYE SURGEONS	= 680 SF
PHARMACY / OPTICALS	= 691 SF
OTHERS	= 6912 SF

## AREA DETAILS :

AREA OF FIRST FLOOR PLAN = 15,225 sq.ft.



**BLOCK "A"**  
**FIRST FLOOR PLAN**



**KEY PLAN**

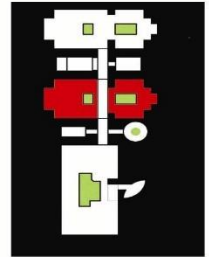
**ADMINISTRATION = 1785 SF**  
**THEATRE COMPLEX = 4209 SF**  
**DELUXE ROOM = 1108 SF**  
**ROOMS = 2298 SF**  
**OTHERS = 3310 SF**



**AREA DETAILS :**

**AREA OF GROUND FLOOR = 11,938 sq.ft.**

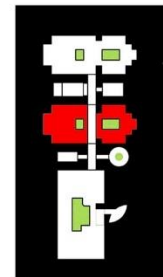
**OUT - PATIENT DEPARTMENT = 3,706.45 sq.ft**  
**GENERAL WARD = 8,792.66 sq.ft**  
**RAMP + CONNECTING CORRIDOR = 2,102.00 sq.ft**



**KEY PLAN**



**BLOCK - " B "**  
**GROUND FLOOR PLAN**



**KEY PLAN**

**AREA DETAILS :**

**AREA OF FIRST FLOOR = 6,398 sq.ft.**

**OT COMPLEX = 2,776.25 sq.ft.**  
**TRAINING +COMMON AREA = 907.00 sq.ft.**  
**RAMP + CONNECTING CORRIDOR = 2,102.00 sq.ft**



**BLOCK - " B "**  
**FIRST FLOOR PLAN**

# MASTER PLAN- SITE PLAN



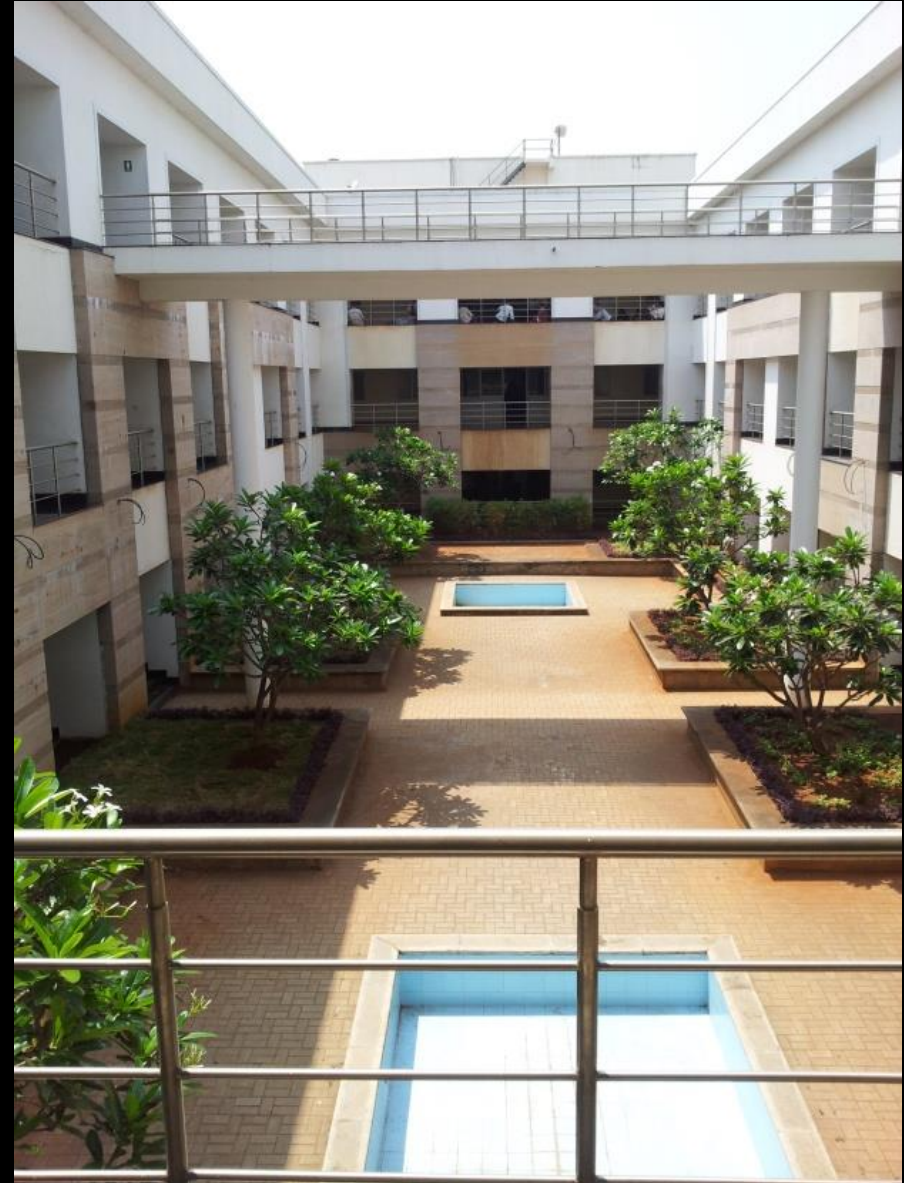


# MASTER PLAN- SITE PLAN





## KEY STEPS and DESIGN CONCEPTS : PLANNING



# ***MASTER PLAN- SITE PLAN***





***HOSPITAL FOR M/S TULSI CHANRAI FOUNDATION AT  
ABUJA, NIGERIA***



**SITE AREA: 5.27 Acres**

**TOTAL BUILT UP AREA: 7220 Sq.M**

**Plot Coverage: 22 %**

**F.S.I: 34**

## CONTEXT

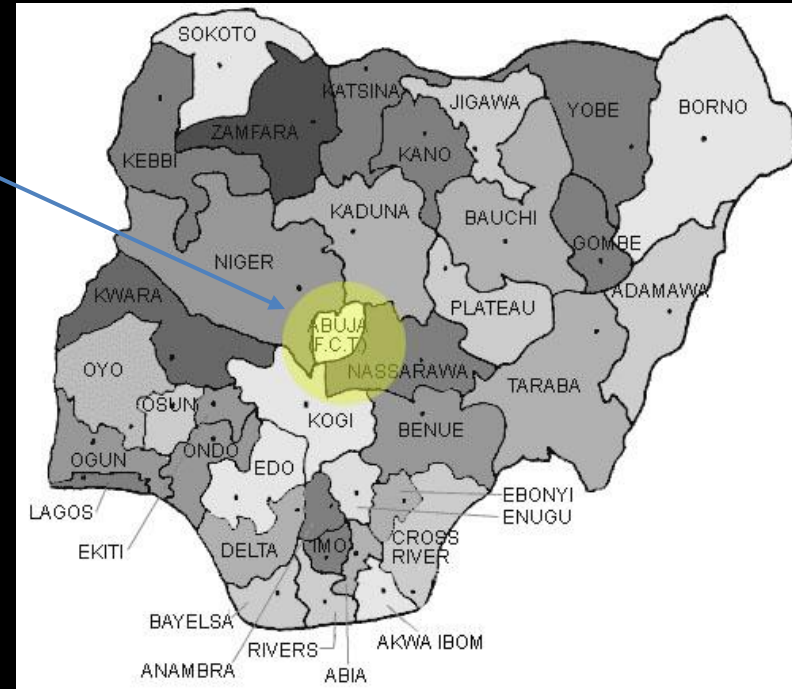
### **GEOGRAPHICAL INFORMATION:**

- **Latitude: 9° 12', North. Longitude: 7° 11', East.**
- **Elevation is 344.00m above MSL.**

### **CLIMATE :**

- **Temperature Ranges form 22 degrees to 40 degrees Celsius.**
- **Predominantly south westerly winds.**
- **Relatively high Humidity and heavy rainfall**

ABUJA

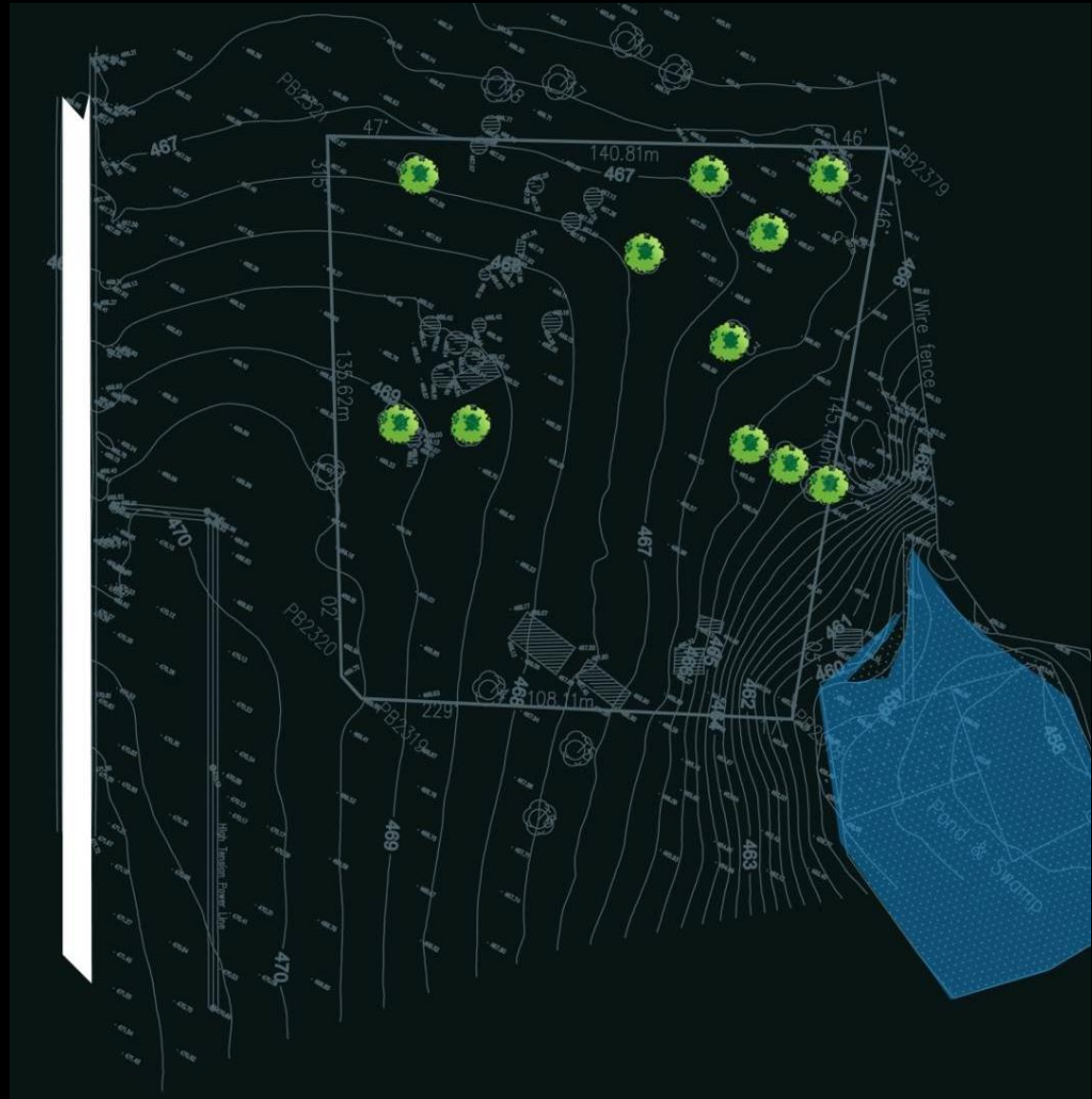


# MASTER PLAN- SITE ANALYSIS

- The Site is located along a major highway enjoying good connectivity to the airport.
- It is mildly contoured with the North
- There is a small man-made pond in the corner where the contour heavily dips down.
- There are few good trees available on site which can probably be retained



SITE PLAN



SEIL MASTERPLAN

VERTICAL OFFICE



# MASTER PLAN

- The Brief called for separate facilities for paying and non paying patients to be integrated under one roof
- The planning of the spaces have been done around courtyards and other landscape features which blur the line between the outside and the inside
- The building is planned in a slightly spread out manner, taking into consideration the typical Nigerian way of planning .
- The kitchen , Operation theater complex have all been integrated , but with separate entrances, to bring efficiency and economy to the scheme.

Main access from outside road

Paying patient Entry

Service areas

Free patient Entry

Central courtyard



VERTICAL OFFICE

SEIL MASTERPLAN

# MASTER PLAN- SITE PLAN

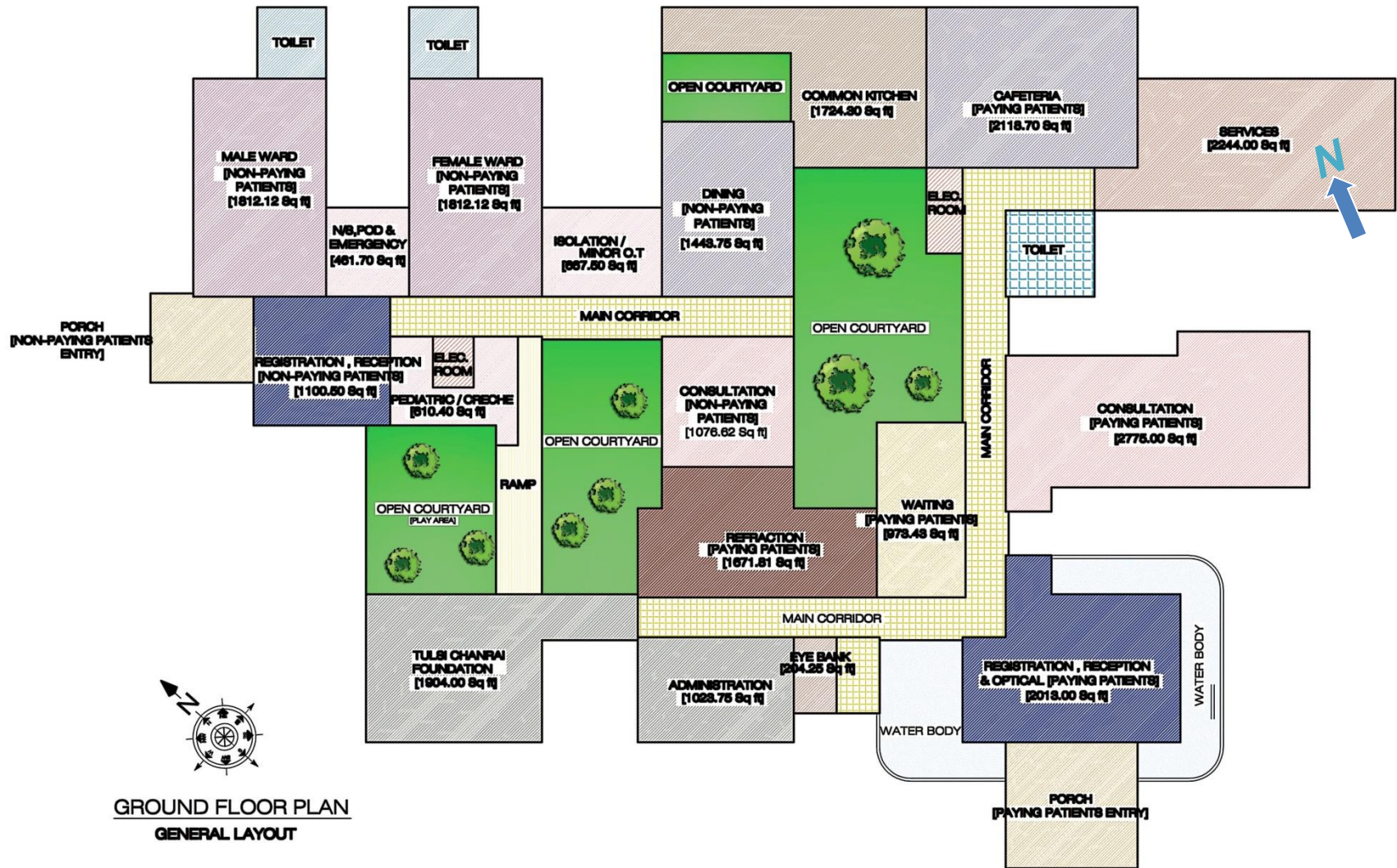
## SITE PLAN

AREA: 4.46 Acres

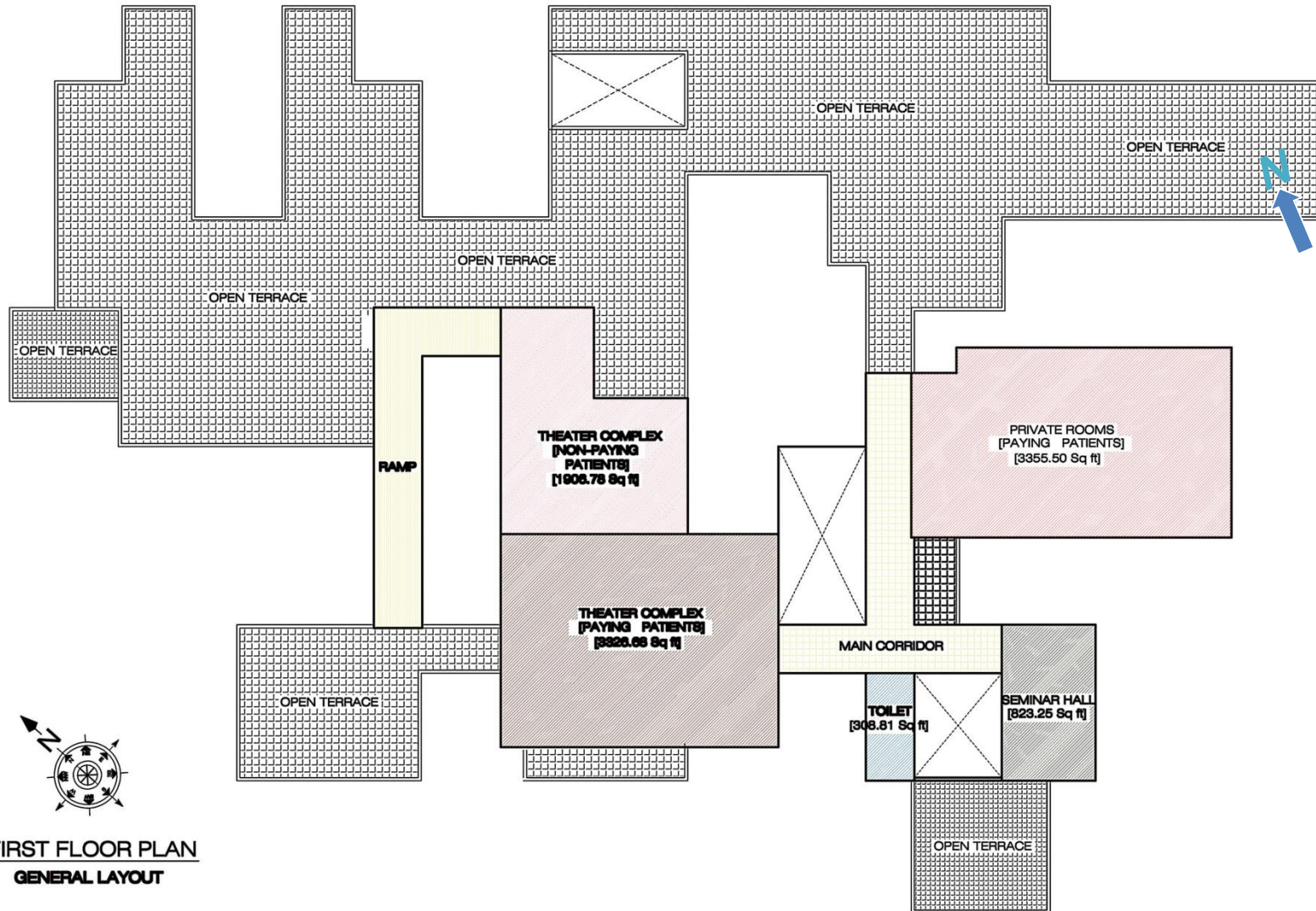




# DESIGN CONCEPTS



# DESIGN CONCEPTS



FIRST FLOOR PLAN  
GENERAL LAYOUT



# DESIGN CONCEPTS







## *Conceptualisation*

### *Hi tech Global Image :*

- *Serving as a ROLE MODEL Hi tech hospital for the region.*
- *It is a project that will highlight not only TCF's commitment to the region but also will serve as a project that all Nigerians can be proud of.*
- *Interesting form with high tech aesthetics*

### *Environmentally Sensitive:*

- *Maximum usage of natural light and ventilation.*
- *Reducing heat gain.*
- *Thus providing comfort condition for work as well as for patients*



## DESIGN CONCEPTS

### ENVIRONMENTALLY FRIENDLY FORM :

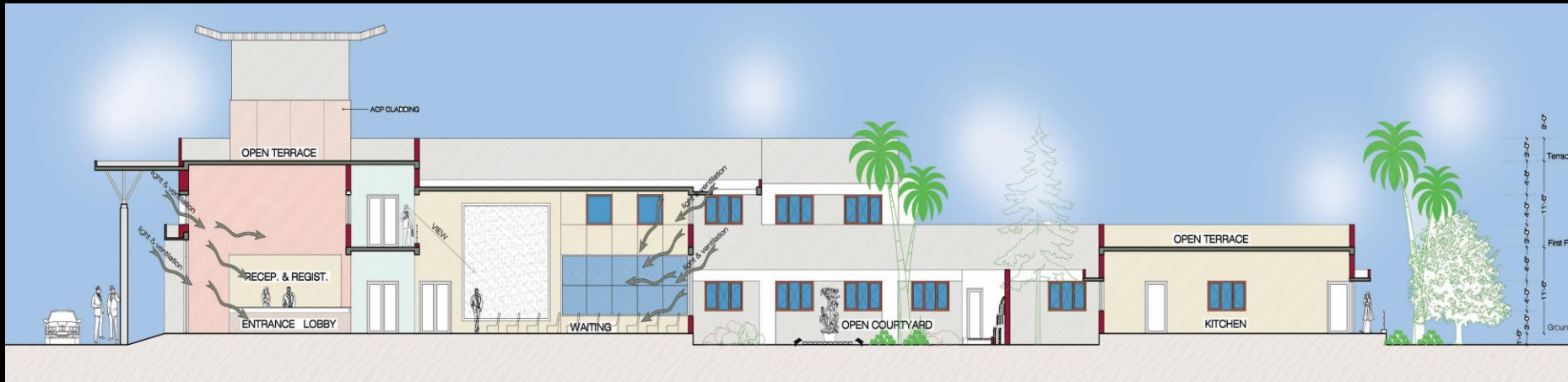


The form of the building is derived from the deconstruction of the geometry to bring in green spaces so that every body may enjoy daylight and natural ventilation

## DESIGN CONCEPTS

### THE COURTYARD SPACE

PLOT 2



- Brings in natural light and ventilation into the building.*
- Acts as a connecting spaces between the floors.*
- Landscaped atrium brings in greenery*

## ***DESIGN CONCEPTS***



***-Grandeur through lobby and atrium spaces.***

***-Natural elements throughout the building.***

***-Use of modern material and techniques to enhance the global image of the building.***



# ***DESIGN CONCEPTS***

## ***FORM***





## DESIGN CONCEPTS



VIEWS

## ***DESIGN CONCEPTS***

### ***FORM***



***VIEW***



# ***DESIGN CONCEPTS***

## ***FORM***



# EXPERIENCES

## For regular user

- Green Splices through building enhances user performance
- Good view for work spaces with climatic protection
- Work Spaces separate yet interconnected through the courtyard
- defined public semi-public-private areas

Branding



Branding

## For the visitor

- Grand in terms of Volumes (atrium / courtyard)
- Natural light & ventilation
- Brand reflected through Hi tech Environmentally sensitive Architecture
- semi open spaces for interaction (terraces / green pockets)
- Uniquely Nigerian identity through murals, art and system of planning

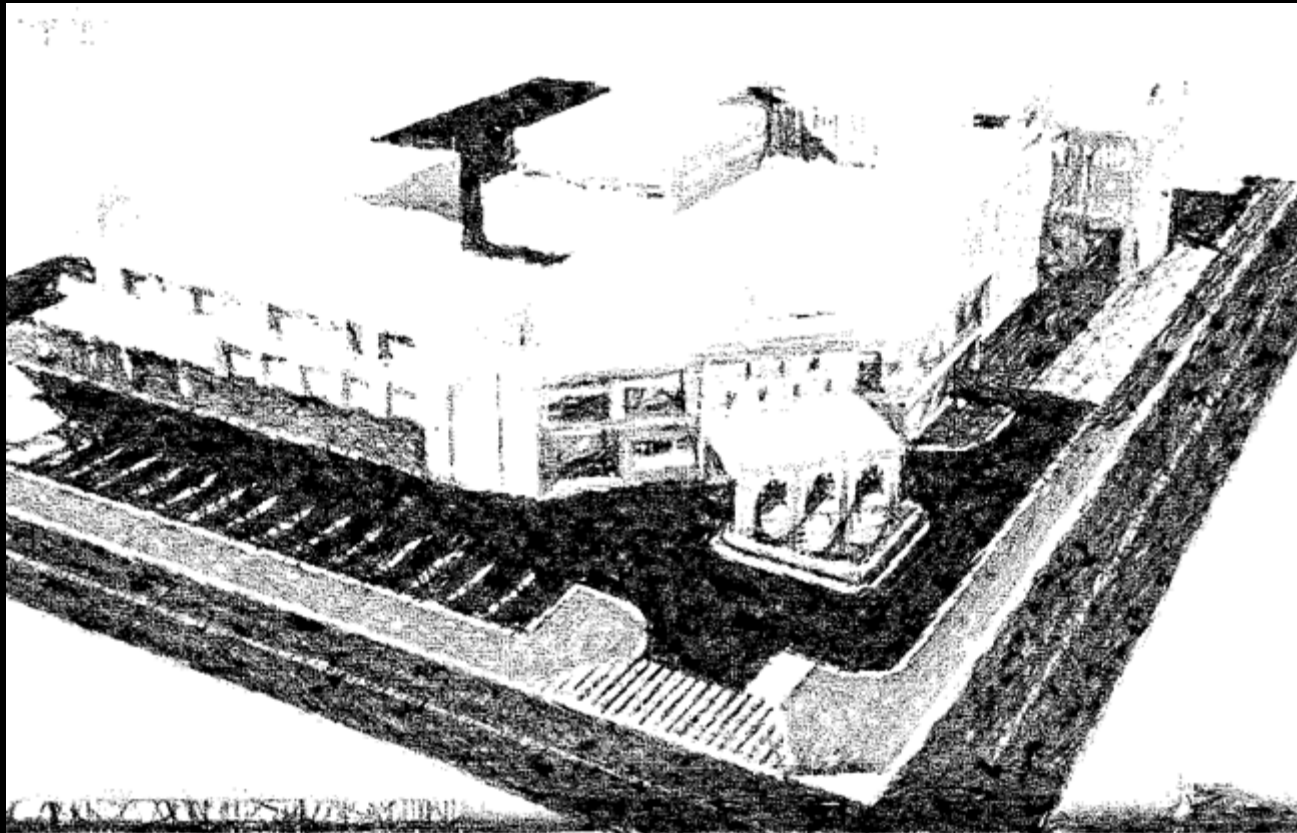


## ***MEDIUM SITES/HORIZONTALLY PLANNED FACILITIES (BUILDING PLANNING)***





***HOSPITAL FOR M/S SANKARA EYE CENTER AT  
JAIPUR***



***SITE AREA: 2.06 Acres***

***TOTAL BUILT UP AREA: 6,326  
SQ.M***

***PLOT COVERAGE: 30.51 %***

***F.S.I: 0.76***

# MASTER PLAN

- The Brief called for separate facilities for paying and non paying patients to be integrated under one roof
- The planning of the spaces have been done around courtyards and other landscape features which blur the line between the outside and the inside
- The building is planned in a more compact manner because of site area constraints as well as budget constraints
- The kitchen , Operation theater complex have all been integrated , but with separate entrances, to bring efficiency and economy to the scheme.



**Main access  
from  
outside road**





## ***SITE PLAN***





# DESIGN CONCEPTS





[illegible]

Architectural floor plan of the 1st floor of a building. The plan shows various rooms including a large 'OPEN TERRACE' on the left, a 'PLATFORM AT TERRACE LEVEL (10 RUN WATER SUPPLY PIPES)' in the center, and a 'LABORATORY' on the right. A large blue arrow points from the 'OPEN TERRACE' towards the 'LABORATORY'. The plan also includes a 'STAIR' and a 'LIFT' area. Dimensions are provided along the top and bottom edges.

**SFAREA: 29611.20 SQ FT**



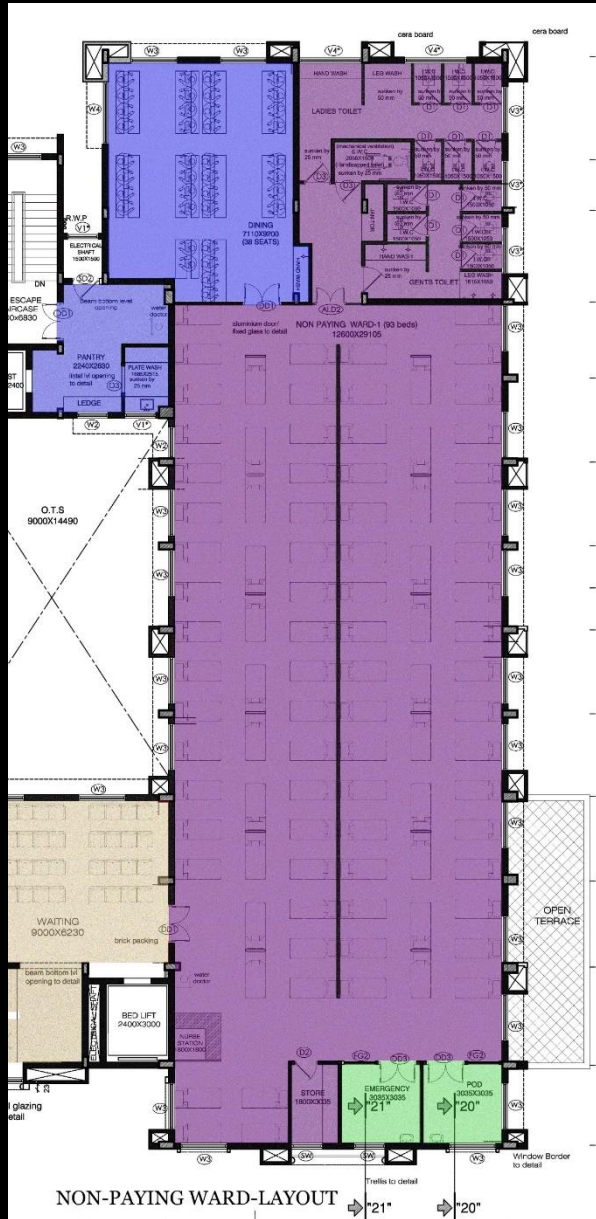
# DESIGN CONCEPTS



VERTICAL OFFICE



## DESIGN CONCEPTS



# DESIGN CONCEPTS





## DESIGN CONCEPTS



M/S. SANKARA EYE HOSPITAL AT JAIPUR

VIEW



# DESIGN CONCEPTS



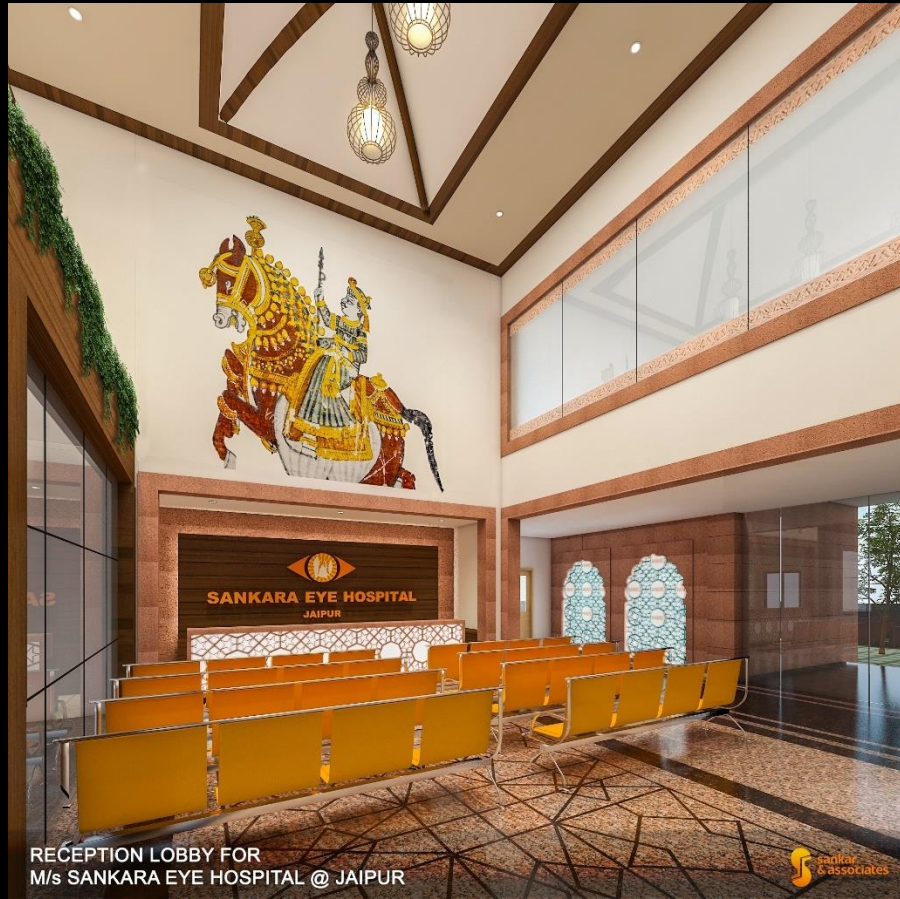
<sup>E</sup> M/S. SANKARA EYE HOSPITAL AT JAIPUR



VIEW



## DESIGN CONCEPTS



VIEW

# Conceptualisation

## *Hi tech Global Image :*

- *Serving as a ROLE MODEL Hi tech hospital for the region.*
- *The aesthetics reflect the local culture and architectural flavour*
- *Planning aims at creating a compact block which also serves to handle 2 completely different sets of patients.*

## *Environmentally Sensitive:*

- *Maximum usage of natural light and ventilation.*
- *Reducing heat gain.*
- *Thus providing comfort condition for work as well as for patients*





## ***HOSPITAL FOR M/S ARAVIND/ TCF AT ABUJA,NIGERIA***



***SITE AREA: 5.27 Acres***

**TOTAL BUILT UP AREA: 6390 SQ.M**

**PLOT COVERAGE: 19.95 %**

**F.S.I: 0.30**

# MASTER PLAN

- The Brief called for separate facilities for paying and non paying patients to be integrated under one roof
- The planning of the spaces have been done around courtyards and other landscape features which blur the line between the outside and the inside
- The building is planned as a compact block to suit budget and programmatic requirements
- The kitchen, Operation theater complex have all been integrated, but with separate entrances, to bring efficiency and economy to the scheme.

Service areas

Paying patient Entry

Free patient Entry

Main access from outside road



# MASTER PLAN- SITE PLAN



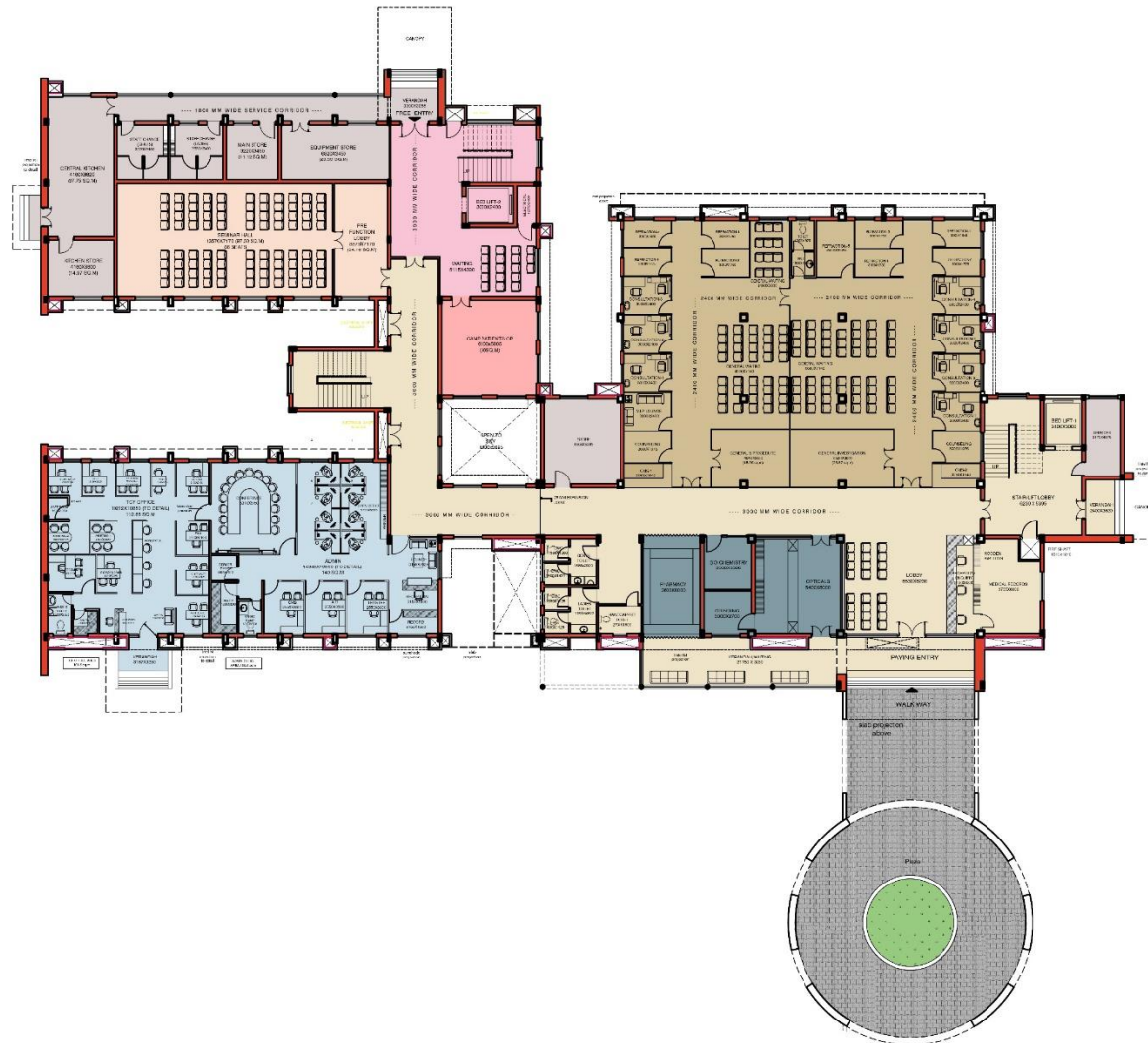
**SITE PLAN**

**SITE PLAN**



# DESIGN CONCEPTS

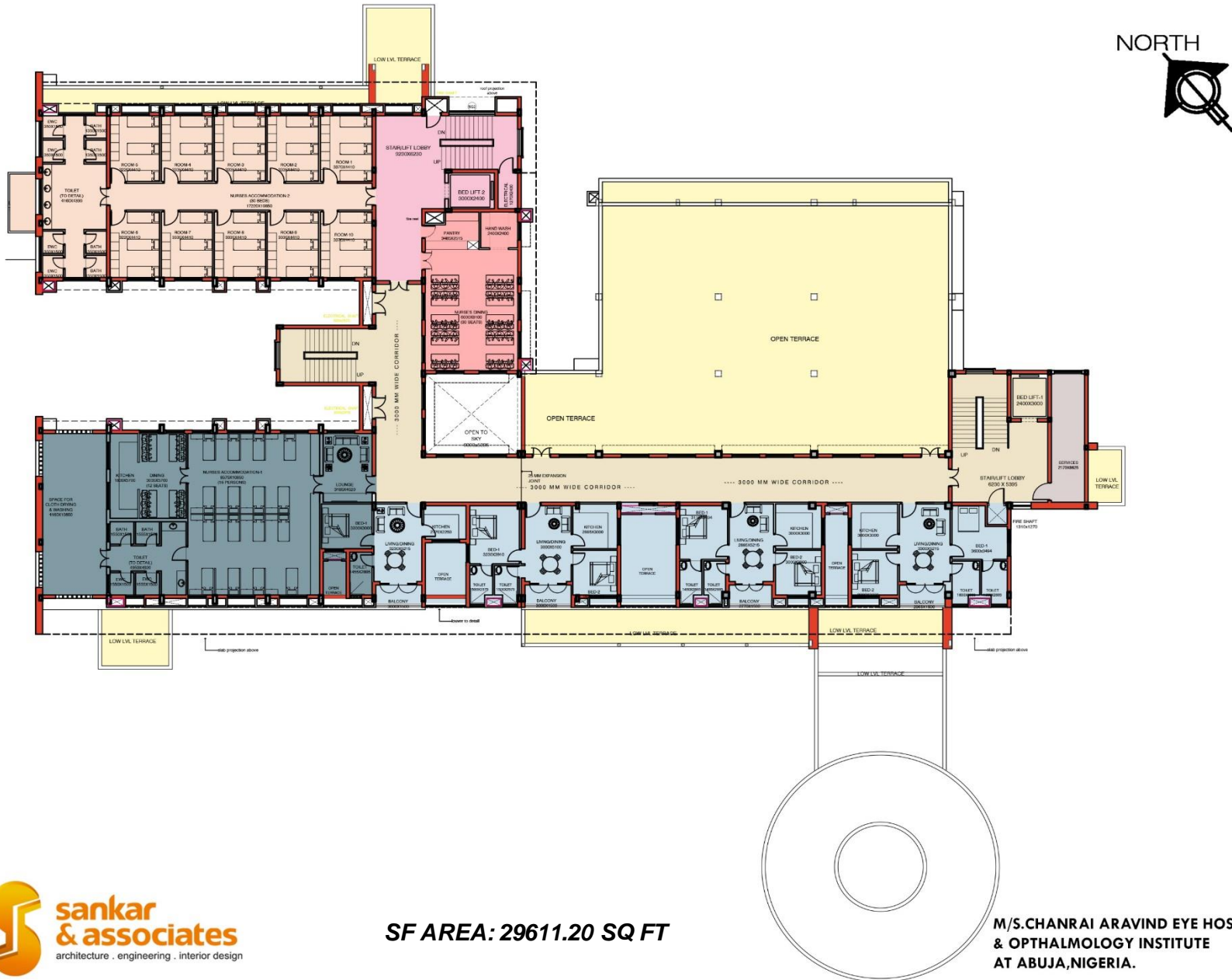
NORTH



# DESIGN CONCEPTS



# DESIGN CONCEPTS





# DESIGN CONCEPTS



PROPOSED HOSPITAL BUILDING FOR M/s TCF @ NIGERIA

## DESIGN CONCEPTS





## DESIGN CONCEPTS



PROPOSED HOSPITAL BUILDING FOR M/s TCF @ NIGERIA



## DESIGN CONCEPTS



PROPOSED HOSPITAL BUILDING FOR M/s TCF @ NIGERIA

**MEDIUM *SITES/HORIZONTALLY PLANNED FACILITIES (ONLY COMMUNITY EYE CARE)***



M/s SANKARA EYE HOSPITAL  
AT KANPUR

ARCHITECTS  
SANKAR & ASSOCIATES  
COIMBATORE

# **HOSPITAL FOR M/S SANKARA EYE AT KANPUR**



***SITE AREA: 2.76 Acres***

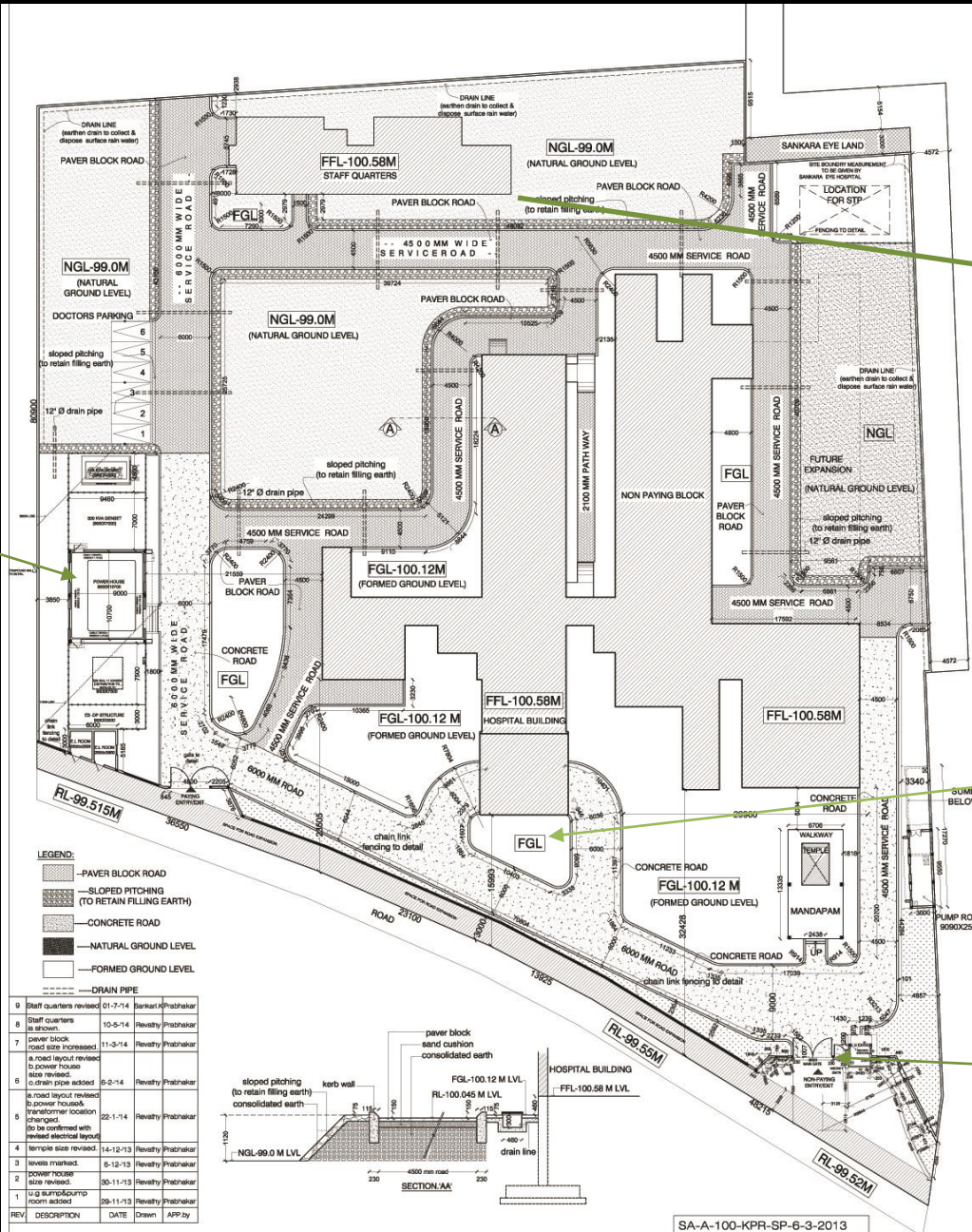
**TOTAL BUILT UP AREA: 3949 SQ.M**

**PLOT COVERAGE: 17.87 %**

**F.S.I: 0.35**



# MASTER PLAN- SITE PLAN



Service areas

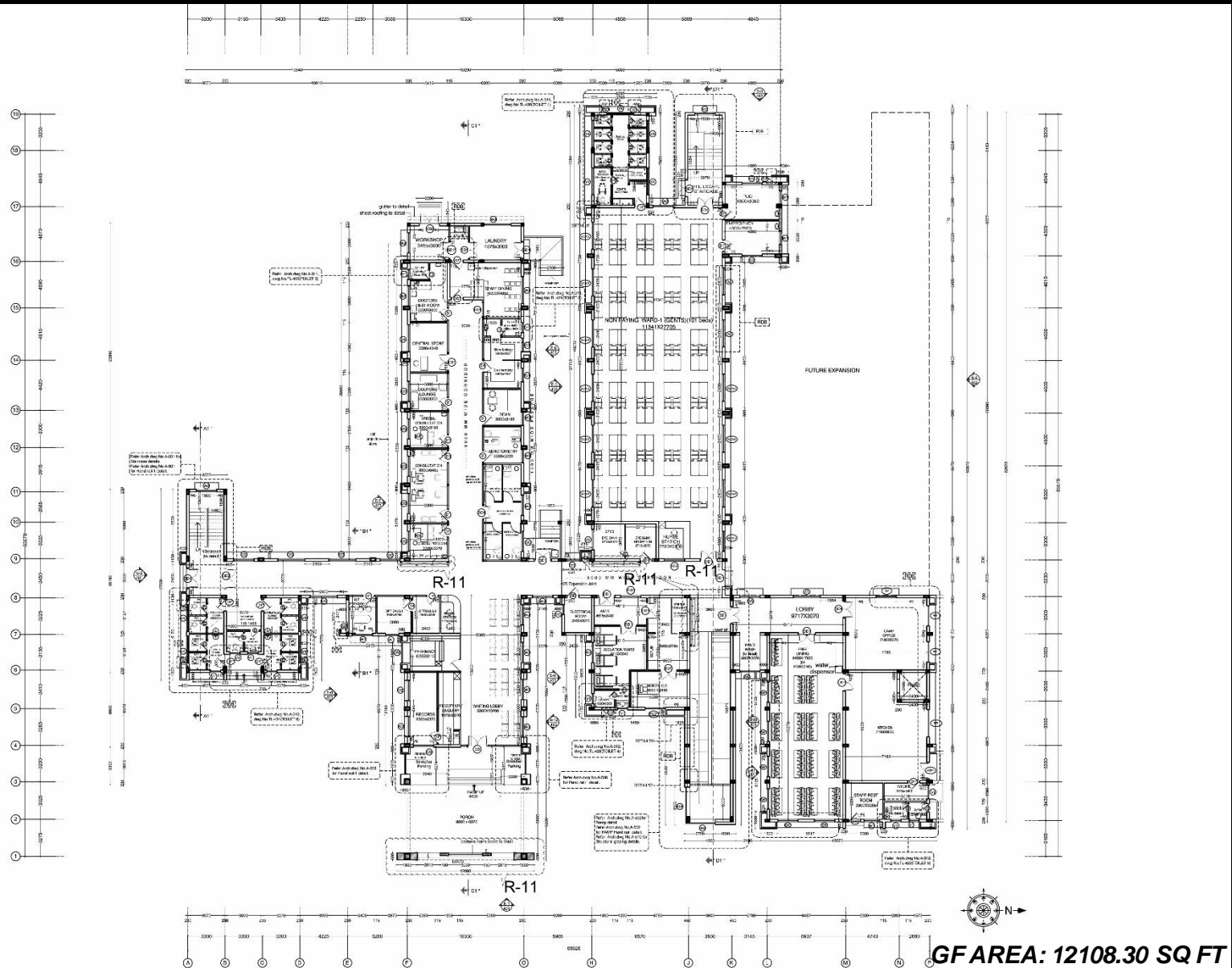
Staff quaters

Non Paying patient Entry

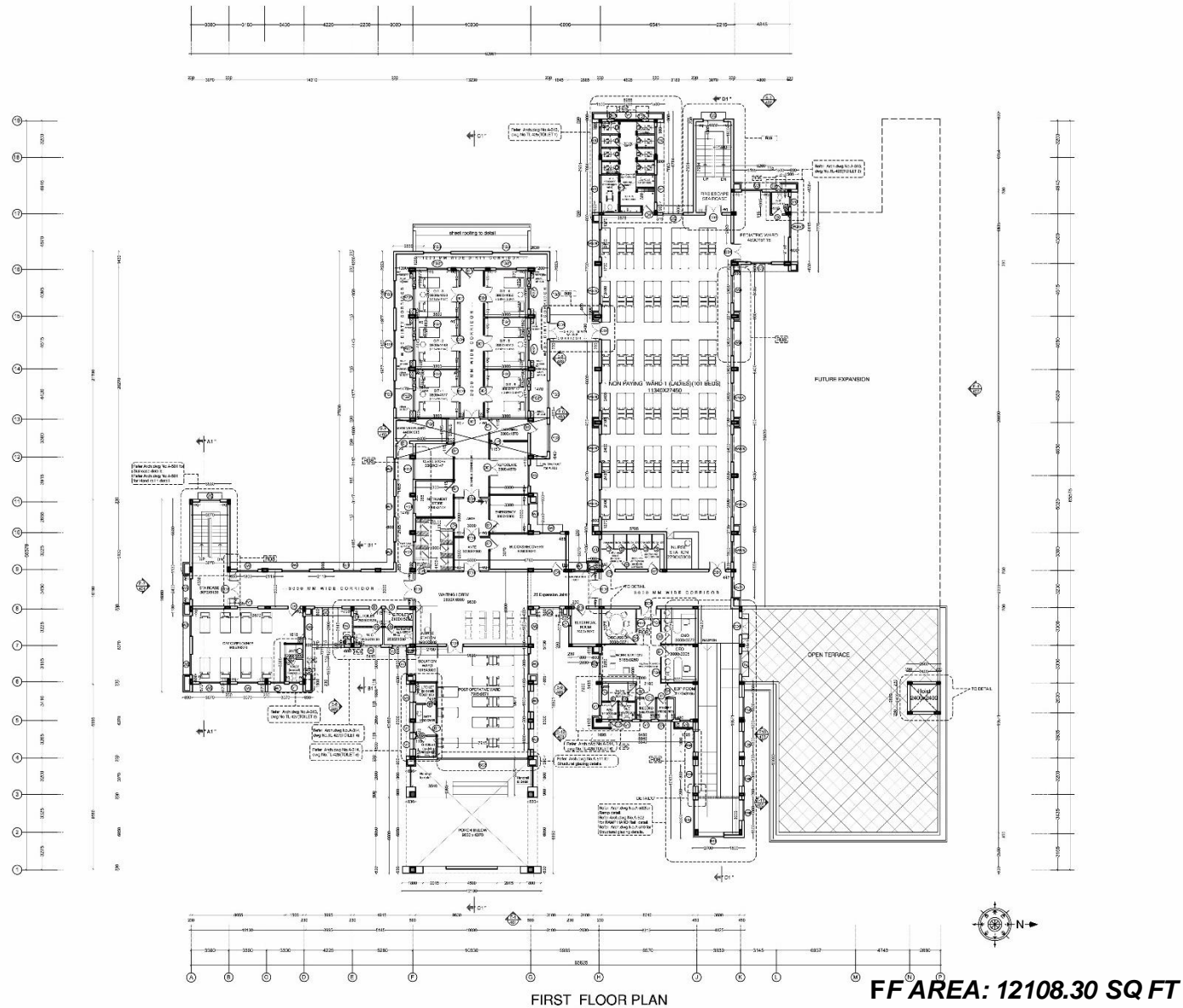
Main access from outside road

## SITE PLAN

## DESIGN CONCEPTS



# DESIGN CONCEPTS





# DESIGN CONCEPTS



M/s SANKARA EYE HOSPITAL  
AT KANPUR

ARCHITECTS  
SANKAR & ASSOCIATES  
COIMBATORE

**VIEW**

## ***DESIGN CONCEPTS***



M/s SANKARA EYE HOSPITAL  
AT KANPUR

ARCHITECTS  
SANKAR & ASSOCIATES  
COIMBATORE

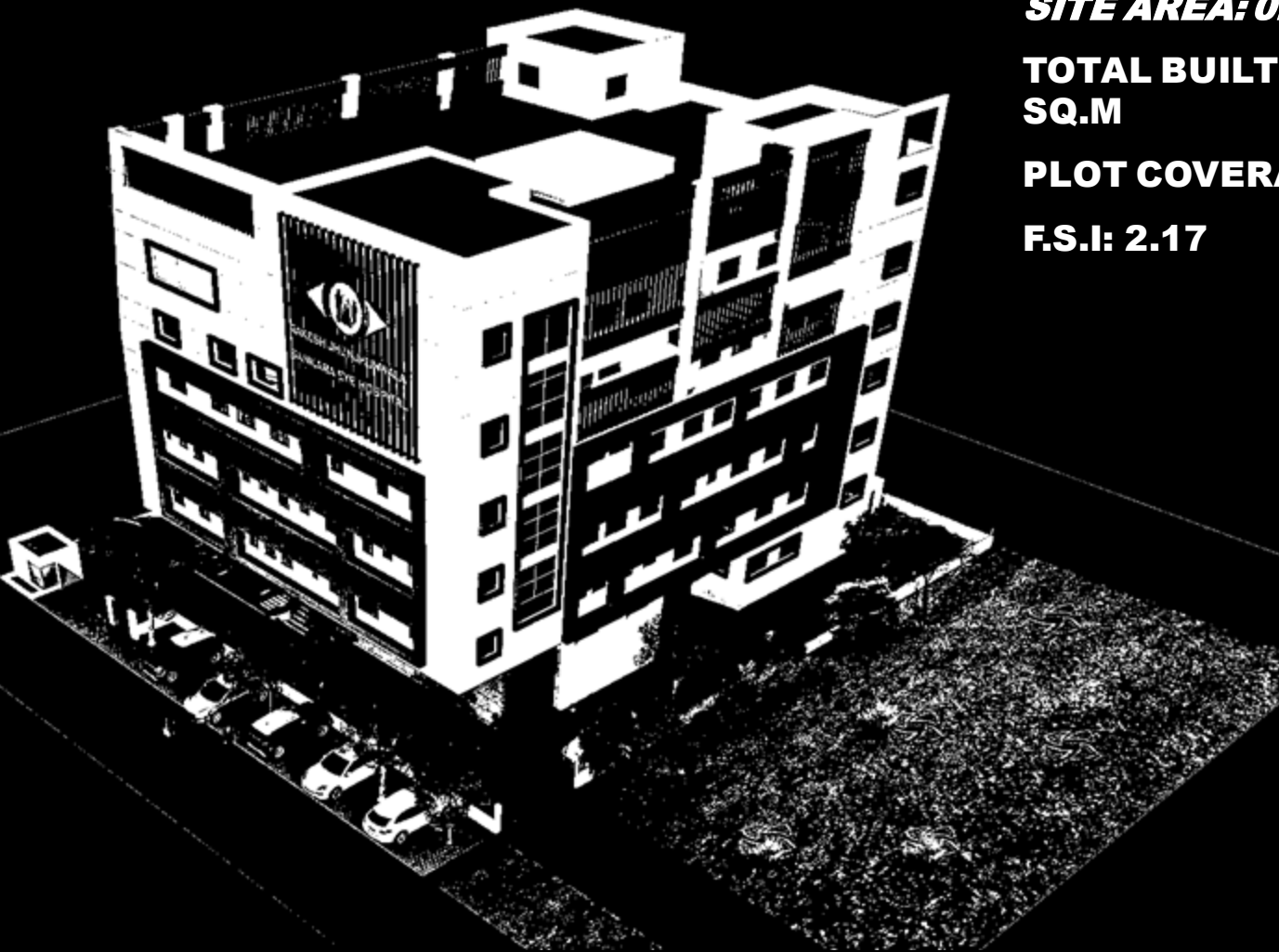
***VIEW***

***SMALL SITES/VERTICALLY PLANNED FACILITIES***





***HOSPITAL FOR M/S SANKARA JHUNJUNWALA FOUNDATION AT  
PANVEL***



***SITE AREA: 0.49 Acres***

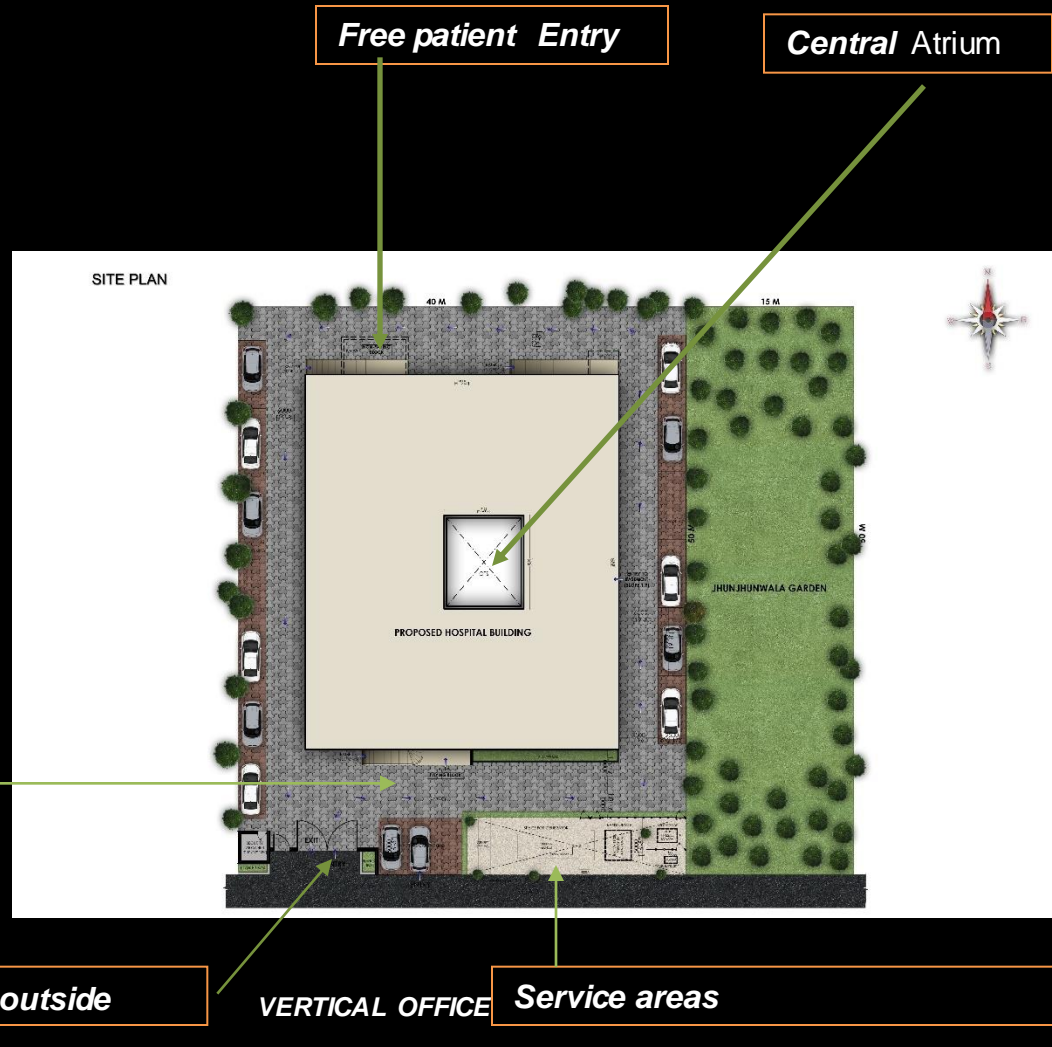
***TOTAL BUILT UP AREA: 7,043  
SQ.M***

***PLOT COVERAGE: 40 %***

***F.S.I: 2.17***

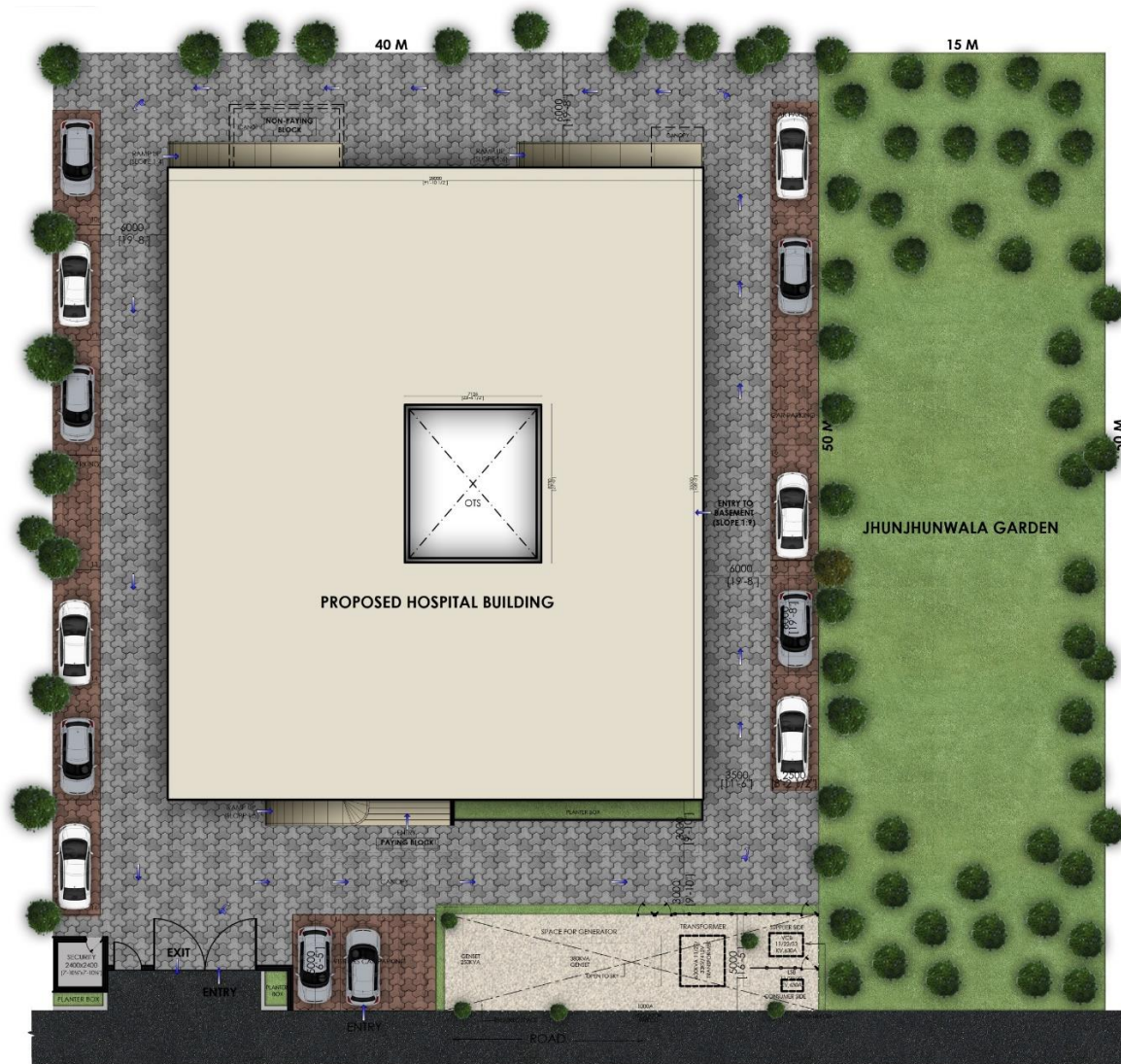
# DESIGN CONCEPTS

- *The Brief called for separate facilities for paying and non paying patients to be integrated under one roof*
- *The planning of the spaces have been done keeping in mind the strict local bye laws*
- *The building is vertically stacked because of the restriction of space and the program.*
- *The kitchen , Operation theater complex have all been integrated , but with separate entrances, to bring efficiency and economy to the scheme.*
- Vertical movement has been planned in such a way that the cores do not get congested.
- *A central atrium brings in light and creates spatial volumes .*



# MASTER PLAN- SITE PLAN

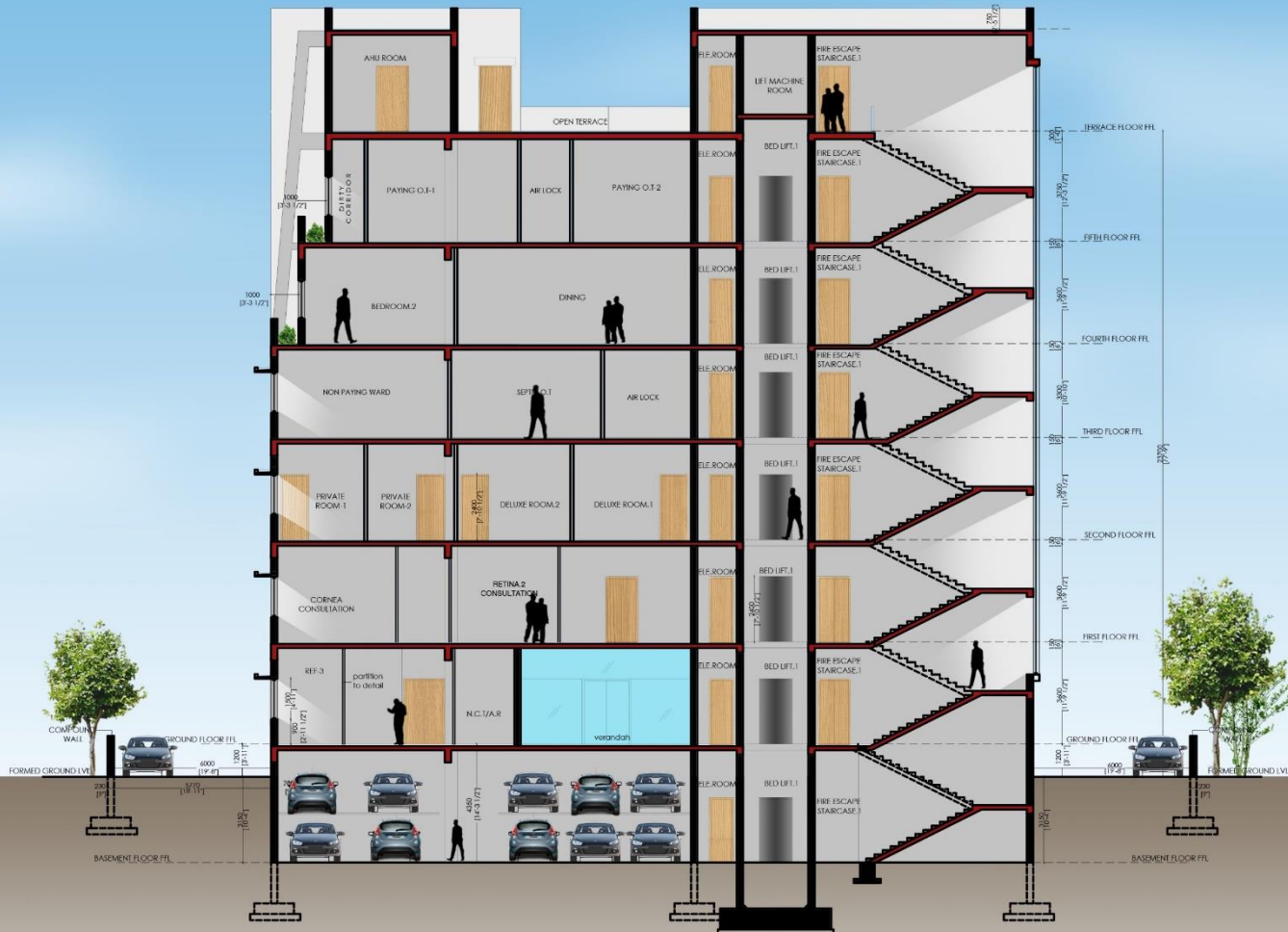
## SITE PLAN





# MASTER PLAN- SITE PLAN

## SECTION



# DESIGN CONCEPTS

## GROUND FLOOR

Area Details: 913.97 sq.m (9838 sq.ft)



## FIRST FLOOR

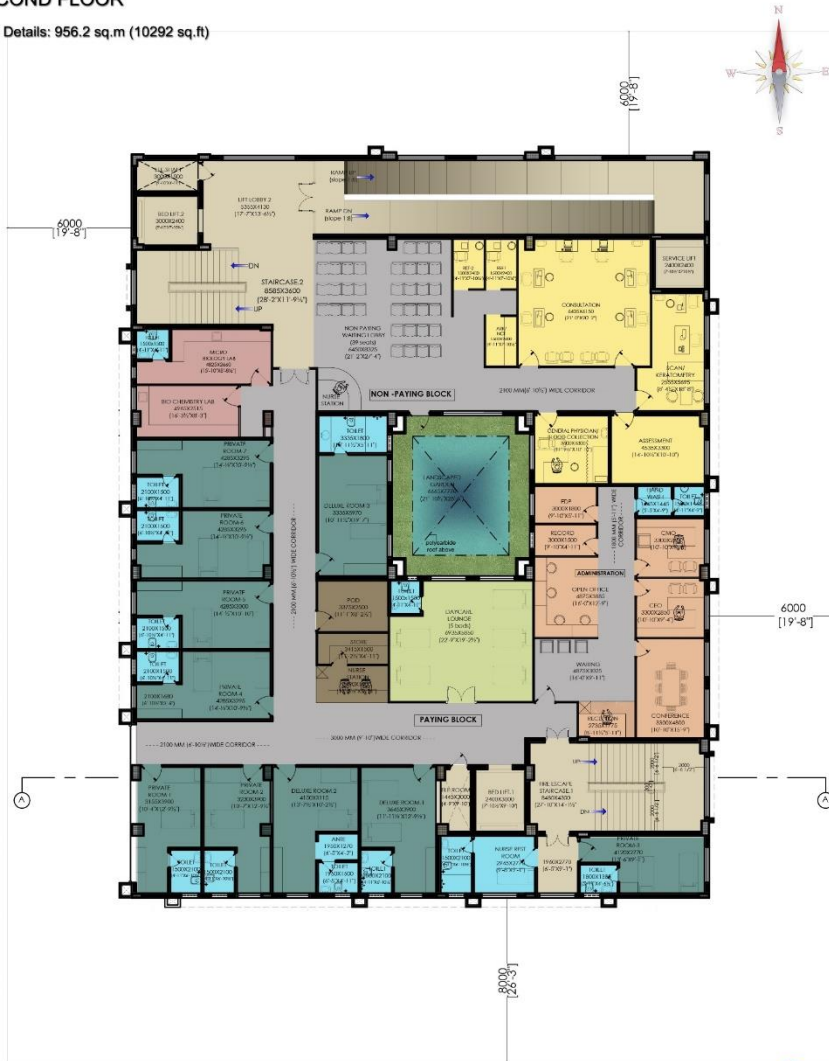
Area Details: 1007.99 sq.m (10850 sq.ft)



# DESIGN CONCEPTS

## SECOND FLOOR

Area Details: 956.2 sq.m (10292 sq.ft)



## THIRD FLOOR

Area Details: 956.2 sq.m (10292 sq.ft)







## DESIGN CONCEPTS



PROPOSED BUILDING FOR M/s SANKARA EYE HOSPITAL @ PANVEL



## DESIGN CONCEPTS



PROPOSED BUILDING FOR M/s SANKARA EYE HOSPITAL @ PANVEL



## DESIGN CONCEPTS



***HOSPITAL FOR M/S OSWAL HOSPITALS AT  
LUDHIANA***



- **The Brief called** an annex building specially for ophthalmic facilities
- **The planning of the spaces have been done** keeping in mind the strict local bye laws
- **The building is** vertically stacked because of the restriction of space and the program.

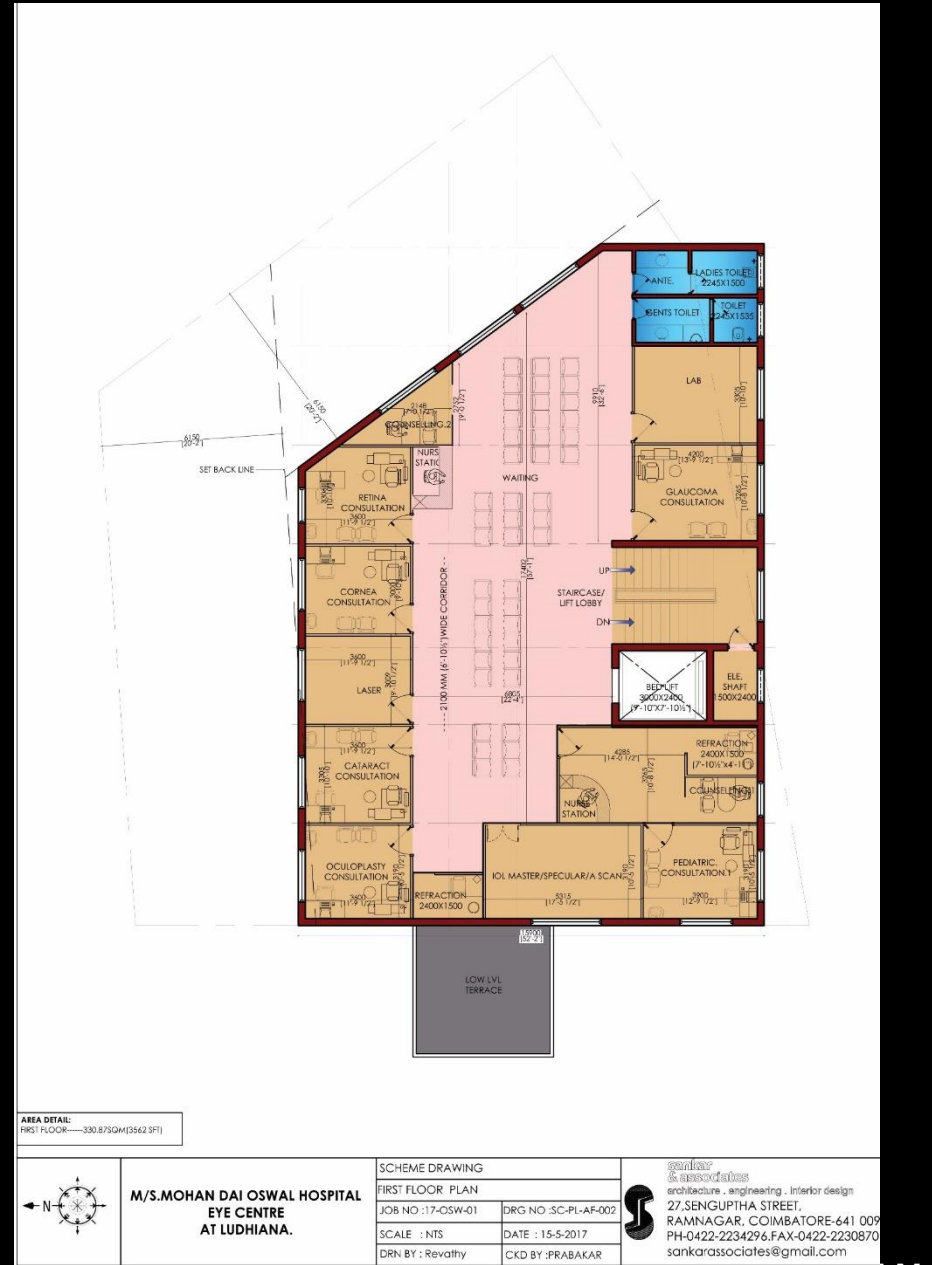
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**Main access from internal road**

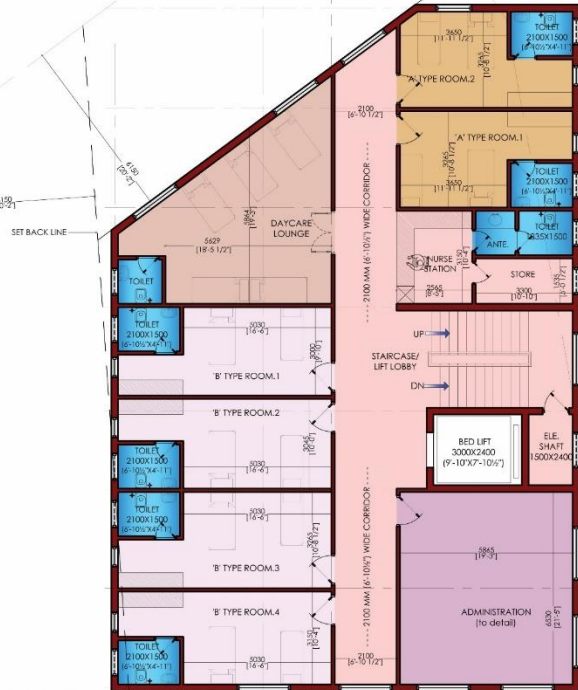
## SEIL MASTERPLAN



# DESIGN CONCEPTS



# DESIGN CONCEPTS



AREA DETAIL:  
SECOND FLOOR-----330.875GM(3542 SFT)  
'A' TYPE ROOM-----2 NOS  
'B' TYPE ROOM-----4 NOS  
DAY CARE LOUNGE-----5 BEDS



**M/S. MOHAN DAI OSWAL HOSPITAL  
EYE CENTRE  
AT LUDHIANA.**

SCHEME DRAWING

SECOND FLOOR PLAN

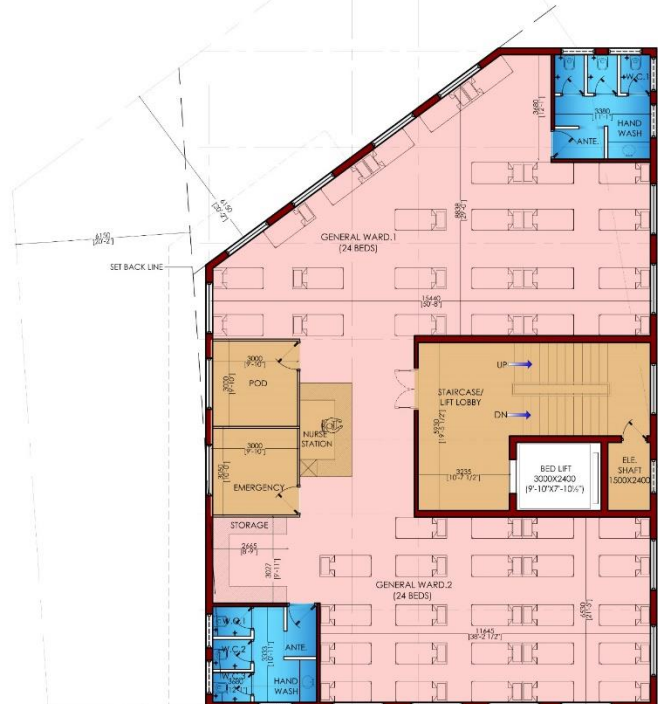
JOB NO : 17-OSW-01 DRG NO : SC-PL-AF-003

SCALE : NTS DATE : 15-5-2017

DRN BY : Revathy CKD BY : PRABAKAR



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sankarassociates@gmail.com



AREA DETAIL:  
THIRD FLOOR-----330.875GM(3542 SFT)  
GENERAL WARD-----48 BEDS



**M/S. MOHAN DAI OSWAL HOSPITAL  
EYE CENTRE  
AT LUDHIANA.**

SCHEME DRAWING

THIRD FLOOR PLAN

JOB NO : 17-OSW-01 DRG NO : SC-PL-AF-004

SCALE : NTS DATE : 15-5-2017

DRN BY : Revathy CKD BY : PRABAKAR



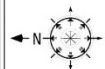
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**SEIL MASTERPLAN**

# DESIGN CONCEPTS



AREA DETAIL:  
FOURTH FLOOR — 380.57 SQM (4096 SFT)



**M/S. MOHAN DAI OSWAL HOSPITAL  
EYE CENTRE  
AT LUDHIANA.**

SCHEME DRAWING

FOURTH FLOOR PLAN

JOB NO : 17-OSW-01

DRG NO : SC-PL-AF-005

SCALE : NTS

DATE : 15-5-2017

DRN BY : Revathy

CKD BY : PRABAKAR



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**VERTICAL OFFICE**

**SEIL MASTERPLAN**

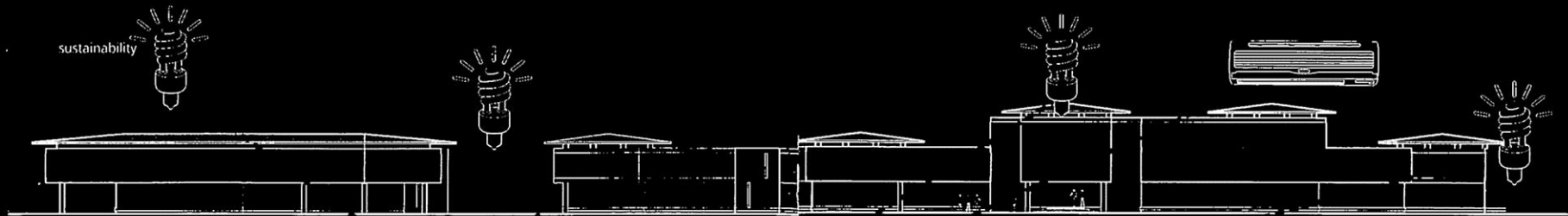


## IMPROVING PATIENT EXPERIENCE:

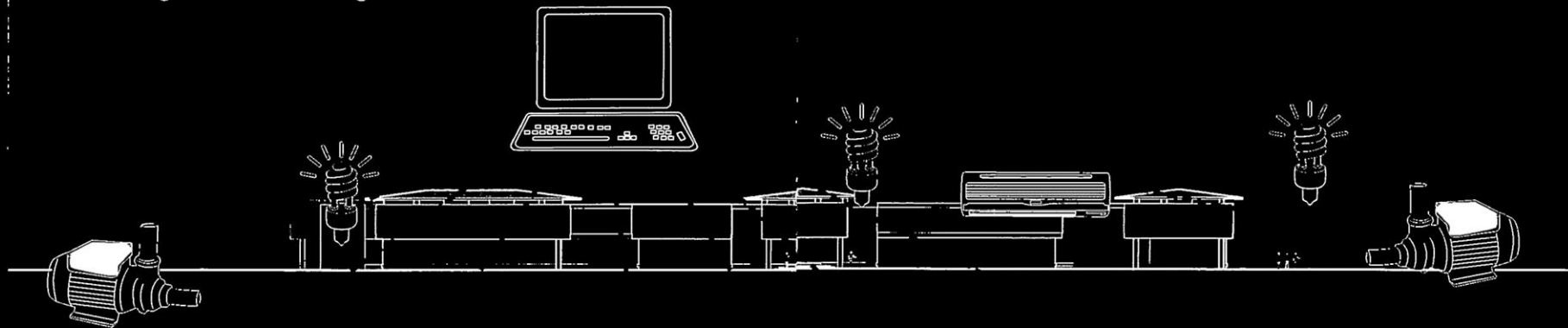
Besides planning and material choice considerations, to enhance patient experience and promoter efficiency the following can be adapted

- Building Management systems
- Effective Semionics
- Efficient parking systems
- Green concepts

## IMPROVING PATIENT EXPERIENCE:



### Intelligent building



The IBMS (integrated building management system) monitors and calculates the use of water and electricity by each block.

Internal lighting has day light sensors which calculate the lux level and adjust accordingly.

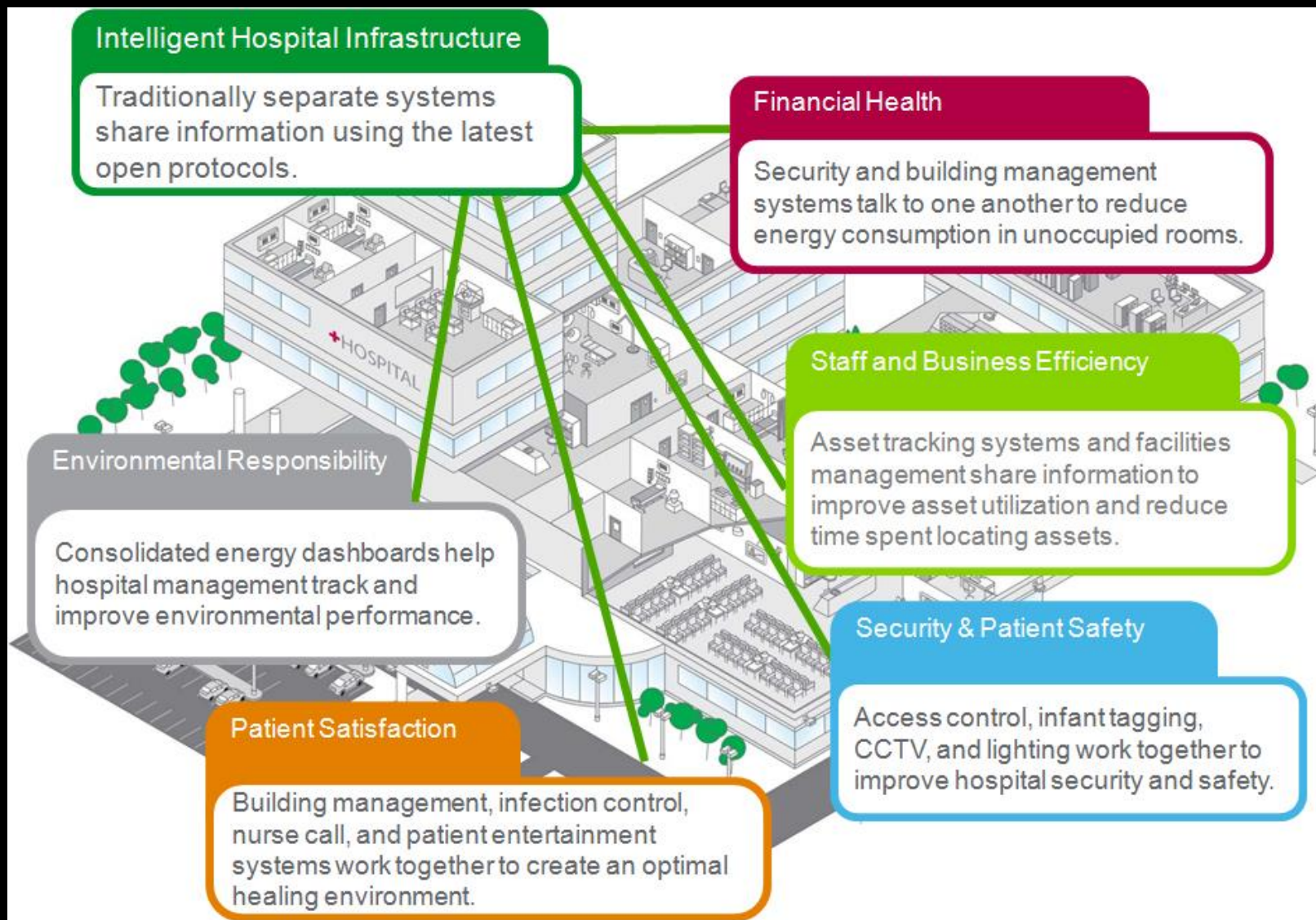
The campus uses water cooled AC's which are much more efficient in terms of energy consumption and usability.

The cafeteria is 100% naturally lit in spite of being in the basement, creating a vibrancy in the space. It has it's own garden and the water body flowing through it.



## INTELLIGENT BUILDING CONCEPTS

# INTELLIGENT INFRASTRUCTURE





# PARKING

---

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## IMPROVING PATIENT EXPERIENCE: PARKING





## IMPROVING PATIENT EXPERIENCE: PARKING





## IMPROVING PATIENT EXPERIENCE:PARKING



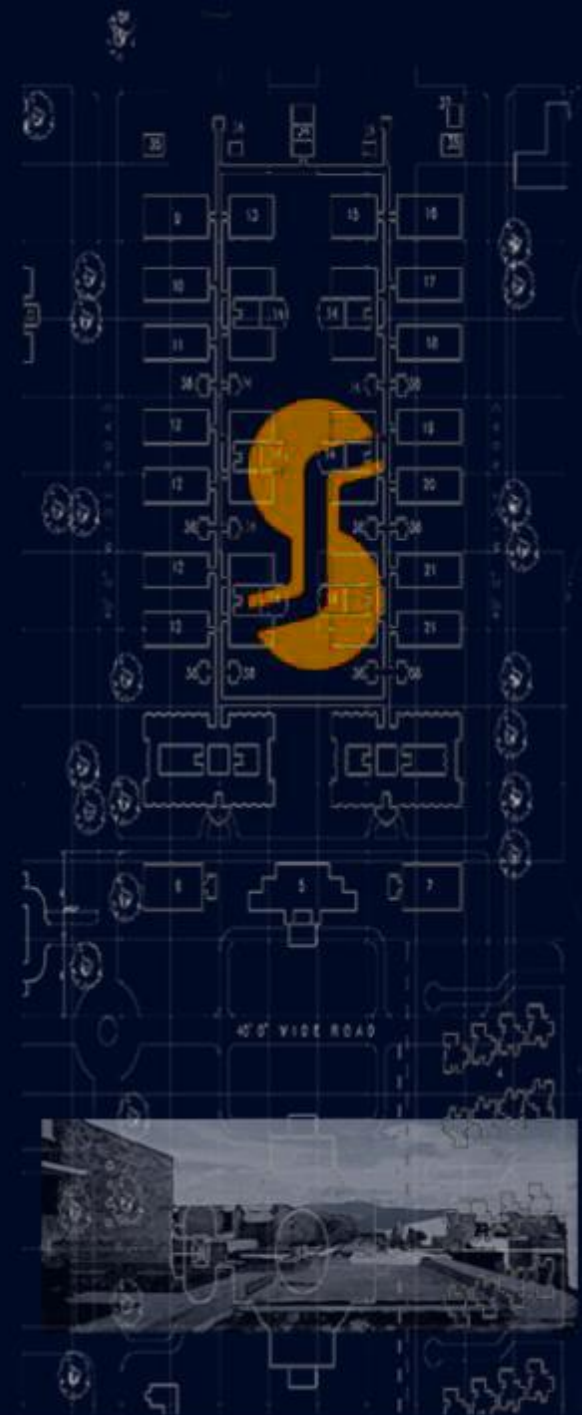
## IMPROVING PATIENT EXPERIENCE: PARKING



# *SIGNAGE*

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# IMPROVING PATIENT EXPERIENCE: SIGNAGES



Room indication sign



Floor key plan



# *GREEN CONCEPTS*

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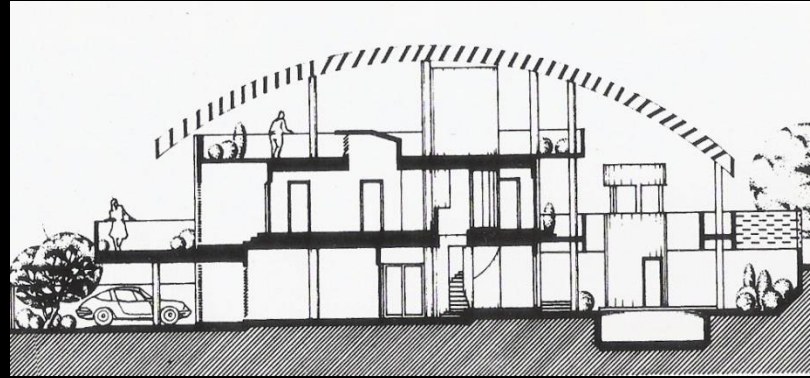
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## KEY STEPS and DESIGN CONCEPTS : RATING SYSTEMS

### GRIHA:

. GRIHA, an acronym for Green Rating for Integrated Habitat Assessment, is the National Rating System of India. It has been conceived by TERI and developed jointly with the Ministry of New and Renewable Energy, Government of India. It is a green building 'design evaluation system', and is suitable for all kinds of buildings in different climatic zones of the country.



### LEED:

**Leadership in Energy & Environmental Design (LEED)** is an internationally recognized green building certification system, providing third-party verification that a building or community was designed and built using strategies intended to improve performance in metrics such as energy savings, water efficiency, CO<sub>2</sub> emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

Developed by the U.S. Green Building Council (USGBC), LEED is intended to provide building owners and operators a concise framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions



## KEY STEPS and DESIGN CONCEPTS :

### Economics

The following data provides a comparison of the cost aspects of a standard building vs. Suzlon One Earth, which is aiming for LEED NC Platinum rating and GRIHA Five Star rating:

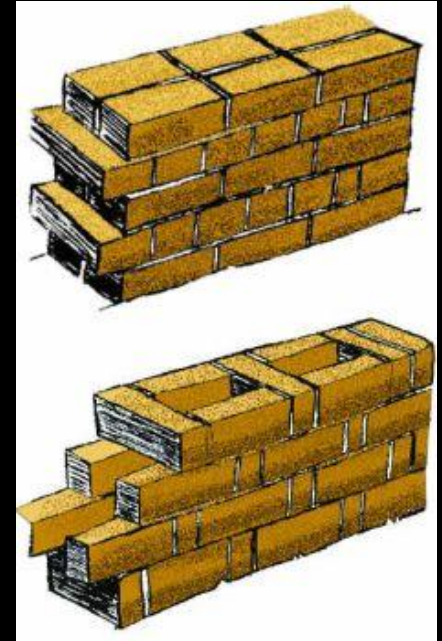
Sr. No	Particulars	One Earth Project Percentage of total cost	Conventional Project Percentage of total cost
1	Cold Shell Cost	24.30%	31.56%
2	Special Building Finishes	7.26%	6.51%
3	Green Building Cost	11.35%	1.50%
4	Basement Cost	4.29%	9.91%
5	Utilities Cost-HVAC	3.89%	3.17%
6	Utilities Cost-Electricals	5.43%	4.84%
7	Other Utilities	3.25%	5.81%
8	Landscaping Cost	3.70%	3.05%
9	Branding & Signages	2.22%	2.05%
10	Interior Cost	25.59%	23.91%
11	AV & IT Cost	8.72%	7.69%
	<b>Total</b>	<b>100%</b>	<b>100%</b>

## ECONOMICS

## KEY STEPS and DESIGN CONCEPTS :

### conclusions:

- While talking green is good and must be encouraged, it must also not become counter productive because of it being used so often that people are fatigued by it.
- The best way to market it is by sort of making it a less “ exclusive solution” and talk about it a grass root level eg: the rat trap bond by Laurie Baker.
- It is very important not to market green by associating it exclusively and extensively with a problem. Instead sensitize people that there quality of life will definitely be better and that they don't have to compromise anything .
- The difference between a green building and a regular building lies lesser in the technology but more in the Methodology and attitude.
- The government and statutory agencies should recognize , reward and subsidize green buildings and products.



## CONCLUSIONS:

### conclusions:

More often than not, planning horizontal or vertical is pre-decided by location, site, context and program. Here are some of the pros and cons of vertical and horizontal planning.

### Vertically planned Health Care Buildings:

#### Pros:

- It is the most viable option available in dense urban environments of today.
- More space for greenery around the site.
- Circulation more compact, shorter travel distances
- More built up area on a lesser footprint

#### Cons:

- More expensive to build
- Separate entrances and circulation more complex in community+corporate health care models.
- Services planning more complex and expensive.
- Statutory approvals more stringent
- Future expansion more complicated
- Planning of connected programs like OT and ICU on the same floor may not be possible.



## CONCLUSIONS:

### Horizontally planned Health Care Buildings:

#### Pros:

- If the site area allows horizontal planning, the planning is far simpler
- Allows space for courtyards, and other interbuilding greeneries because of the larger footprint
- Circulation planning is far simpler especially in corporate/community care combinations
- Services easier to plan.
- Statutory compliances less stringent.
- Future expansion less complex whether it is in additional blocks or adding another floor.

#### Cons:

- It is possible to build only on larger sites, which are more often than not located outside urban areas
- Longer circulation corridors
- Percentage of circulation spaces versus functional spaces less efficient