AUTOMOBILE MUSEUM,PUNE

A Thesis Submitted
In Partial Fulfilment of the Requirements
For the Degree of

BACHELOR OF ARCHITECTURE
In
ARCHITECTURE

by
ROHIT SINGH
(1150101065)
Under the Supervision of
AR. PROF.K.K. DIXIT

to the
SCHOOL OF ARCHITECTURE

BABU BANARASI DAS UNIVERSITY
LUCKNOW

June, 2020

SCHOOL OF ARCHITECTURE AND PLANNING
BABU BANARASI DAS UNIVERSITY, LUCKNOW (U.P.).

CERTIFICATE

I hereby recommend that the thesis entitled, "**AUTOMOBILE MUSEUM ,PUNE**" under the supervision, is the bonafide work of the student and can be accepted as partial fulfillment of the requirement for the degree of Bachelor's degree in architecture, School of Architecture and Planning, BBDU, Lucknow.

Prof. Mohit Kumar Agarwal
Dean of Department

Prof. Sangeeta Sharma
Head of Department

Recommendation

Accepted

Not Accepted

Examiner-1

Examiner-2

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CERTIFICATE OF THESIS SUBMISSION FOR EVALUATION

1. Name : **ROHIT SINGH**
2. Roll No. : **1150101065**
3. Thesis title: **AUTOMOBILE MUSEUM ,PUNE**
4. Degree for which the thesis is submitted: **BACHELOR OF ARCHITECTURE**
5. Faculty of the University to which the thesis is submitted : **PROF. K.K. DIXIT**
6. Thesis Preparation Guide was referred to for preparing the Thesis. YES/NO
7. Specifications regarding thesis format have been closely followed. YES/NO
8. The contents of the thesis have been organized based on the guidelines. YES/NO
9. The thesis has been prepared without resorting to plagiarism. YES/NO
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(Signature of the supervisor)

(Signature of the candidate)

Name : ROHIT SINGH
Roll no. : 1150101065
Enrollment : 11501010065

PREFACE:

„We shape buildings, thereafter they shape us"- Winston Churchill. A **prison** has always been **conceived as a dark, dreadful and secretive facility** by the outside world. All of the **practices** that are being carried out **within the prison premises are unknown** by many. **Reformation and rehabilitation** of prisoners and the **effect of the prison environment** on their **psychology** while they are at the prison and after they are released has always been a **major concern**.

With the **numbers of crimes increasing** by the day, the count of the **criminals are increasing** too. Many of these criminals are **not first time offenders**. If a criminal or an **ex-offender gets himself into a situation where he manages to commit a crime for the second time** even **after being punished and rehabilitated**, there must seem to be **inefficiency with the methods incorporated for the reformation** of these criminals. **Punishment is not the sole aim, reformation and rehabilitation follow it too**. The latter seems to be more of a serious consideration since it has not been successful in most of the cases.

Prisons have been one of the most **neglected sectors in terms of architecture**. Most of the prisons in our country have been **functioning the way they used to since the British times**. In terms of **infrastructure** the prisons in our country need **tremendous up gradation**. **As one enters a space**, be it positive or negative, he is **psychologically affected by that space**,

This project aims at providing a conducive and humane environment to the prisoners, in order to **positively influence their thought process** and **instill within them a sense of hope and faith** towards the future to come. A **positive environment** will help **motivate them** and give them a direction towards the right path. There also is a p**roposed interaction center adjacent to the prison** which will consist of **retail stores run exclusively by the ex-prisoners.** The retail stores will **sell goods manufactured within the prison premises** and will in **turn provide employment opportunities** to the ex-prisoners **breaking the ice of social stigma** towards them amongst the members of our society.

Thus, the basic objective is to **change the way one perceives a prison**, not just as a place meant for punishment but **primarily for reformation and rehabilitation producing reformed beings** who can **contribute back to the society** in some way or the other.

ACKNOWLEDGEMENTS:

First and foremost gratitude towards the almighty "**GOD**" for his blessings.

I have no words to express my gratitude for the love and affection of my parents who gave me support at every step of my life. So, this thesis is dedicated to them.

I am thankful to **Prof. Keshav Kumar** all my faculty members who have been extremely co-operative since the very beginning and who helped me to utilize my skills and creativity to the utmost.

Sincere thanks to **Ar. Urvashi and Ar.Shailesh Yadav** (Thesis Co-ordinator), who left no stone unturned to shape our thesis in the best possible way and also for his untimely help whenever required.

I express my deepest gratitude to my thesis guide **PROF. K.K. DIXIT**, for his valuable dispassionate guidance, critical discussions, suggestions and continuous support all through my B.Arch thesis.

I would like to thank all my friends specially for their support during my thesis as well as the whole 5 year of study. Each one of them has contributed towards making me a better person and the time I spent with all of them will always be cherished.

Thanks to all my juniors specially **SNEHA SINGH, SHAMS AJAZ, SHAIKH FARAZ , MOHIT** and **SIDHATH** for their help in the thesis.

CONTENTS

01

SYNOPSIS

1. SYNOPSIS:

INTRODUCTION:

1.1 AIM:

To create spatial interaction of a luxurious brand with the everyday people

• to create a visually impressive and aesthetically beautiful space for the brand such that it serves the functional aspect of a museum & exhibit space and also something that weaves the history of their products and their merging into a single corporate entity as JAGUAR LAND ROVER into the building architecture thus becoming more than a museum and becoming the signature itself.

• To create a landmark in the autocity of pune , also home to first JLR factory in india since its aquisition by TATA motors pvt ltd.

1.2 DESIGN GUIDELINES:

• Site Planning
• Architecture
• Construction details
• Building Accessories
• Landscaping
• Parking and Circulation
• Public experience Through Design

1.3 OBJECTIVES:

• To find the materials required for cost effecient building of the museum keeping in mind that the aesthetics and functional aspects of the design are
not compromised.

• To sense how people react to a designated space in relation to the design
and architecture of a building form.

• Practical research - like how exhibits are preserved and maintained , services required for the maintenance of a specimen and its accessibility

1.4 SCOPE:

• Museum buildings perform ambitious demands for sound conditions of exhibits and comfort of visitors.
• There is a narrow allowance for room temperature and relative humidity,
which has to be maintained for varying situations of weather and occupancy.
• Lighting has to assure an excellent visual performance but to avoid deterioration of exhibits.
• Climate of site-both micro and macro
• GOOGIE architecture
• Experience based designs
• Technological advancement

1.5 PROJECT FEASIBILITY:

• One of the most distinguished car designers and manufacturers in the international market , JAGUAR AND LAND ROVER has NO museum deidcate to themself .
• India has a worthy potential for luxury car market .

1.6 PROPOSED SITE:

Site is located in PIMPRI CHINCHWAD , PUNE on SPINE ROAD
near NEXT TO ITS FIRST ASSEMBLY PLANT IN INDIA

1.7LIMITATIONS:

• Not fully self sustainable design:

02

SITE ANALYSIS

SITE ANANLYSIS

INTRODUCTION

MUSEUM IS A PLACE TO COLLECT, PRESERVE, INTERPRET, AND DISPLAY ITEMS OF CULTURAL, ARTISTIC, OR SCIENTIFIC SIGNIFICANCE FOR THE EDUCATION OF THE PUBLIC. THE PURPOSE CAN ALSO DEPEND ON ONE'S POINT OF VIEW. TO A FAMILY LOOKING FOR ENTERTAINMENT ON A SUNDAY AFTERNOON, A TRIP TO A LOCAL HISTORY MUSEUM OR LARGE CITY ART MUSEUM COULD BE A FUN, AND ENLIGHTENING WAY TO SPEND THE DAY.

AIM

• THE EXPERIENCE CENTRE IS USED AS A MEANS TO BRING THE BRAND INTO THE VISITORS MINDS AND SHOW THEM THE BRANDS HERITAGE BY SHOWING PAST, PRESENT AND FUTURE IN AN ENVIRONMENT THAT IS NOT DIRECTLY AIMED AT SELLING MORE CARS

• TO CREATE A VISUALLY IMPRESSIVE AND AESTHETICALLY BEAUTIFUL SPACE FOR THE BRAND SUCH THAT IT SERVES THE FUNCTIONAL ASPECT OF A MUSEUM & EXHIBIT SPACE AND ALSO SOMETHING THAT WEAVES THE HISTORY OF THEIR PRODUCTS AND THEIR MERGING INTO A SINGLE CORPORATE ENTITY AS JAGUAR LAND ROVER INTO THE BUILDING ARCHITECTURE THUS BECOMING MORE THAN A MUSEUM AND BECOMING THE SIGNATURE ITSELF.

• TO CREATE A LANDMARK IN THE AUTOCITY OF PUNE , ALSO HOME TO FIRST JLR FACTORY IN INDIA SINCE ITS AQUISITION BY TATA MOTORS PVT LTD.

OBJECTIVE

• TO FIND THE MATERIALS REQUIRED FOR COST EFFECIENT BUILDING OF THE MUSEUM.
KEEPING IN MIND THAT THE AESTHETICS AND FUNCTIONAL ASPECTS OF THE DESIGN ARE NOT COMPROMISED.

• TO SENSE HOW PEOPLE REACT TO A DESIGNATED SPACE IN RELATION TO THE DESIGN AND ARCHITECTURE OF A BUILDING FORM.

• PRACTICAL RESEARCH - LIKE HOW EXHIBITS ARE PRESERVED AND MAINTAINED , SERVICES REQUIRED FOR THE MAINTENANCE OF A SPECIMEN AND ITS ACCESSIBILITY.

SCOPE

• MUSEUM BUILDINGS PERFORM AMBITIOUS DEMANDS FOR SOUND CONDITIONS OF EXHIBITS AND COMFORT OF VISITORS.

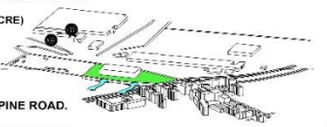
• THERE IS A NARROW ALLOWANCE FOR ROOM TEMPERATURE AND RELATIVE HUMIDITY,WHICH HAS TO BE MAINTAINED FOR VARYING SITUATIONS OF WEATHER AND OCCUPANCY.

• LIGHTING HAS TO ASSURE AN EXCELLENT VISUAL PERFORMANCE BUT TO AVOID DETERIORATION OF EXHIBITS.

• EXPERIENCE BASED DESIGNS.

INTRODUCTION

CLIENT : TATA COMPANY
LOCATION :PIMPRI CHINCHWAD PUNE ON SPINE ROAD.
AREA : 30,364 SQM (7.5 ACRE)



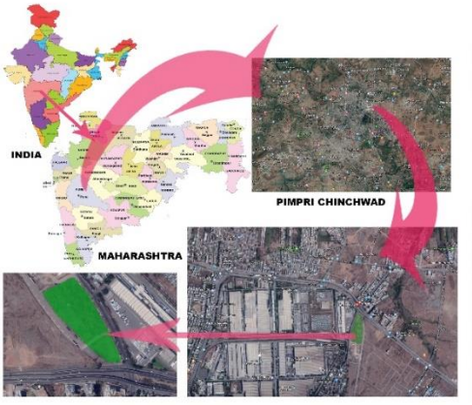
• THE SITE IS ALONG SPINE ROAD.

• A 12M WIDE SERVICE LANE RUNS ALONG THE NORTHERN PERIPHERY OF THE SITE.

• A PERIPHERAL 9 M ROAD RUNS ALONG THE WEST AND EAST SIDE.

• THE SITE IS FLANKED BY 2 ROADS ON THE LONGEST SIDES WHICH ARE 24 METRES WIDE. THIS REDUCES THE CHANCE OF TRAFFIC CONGESTION NEAR THE SITE, SHOULD IT ATTRACT A LARGE AUDIENCE.

SITE LOCATION



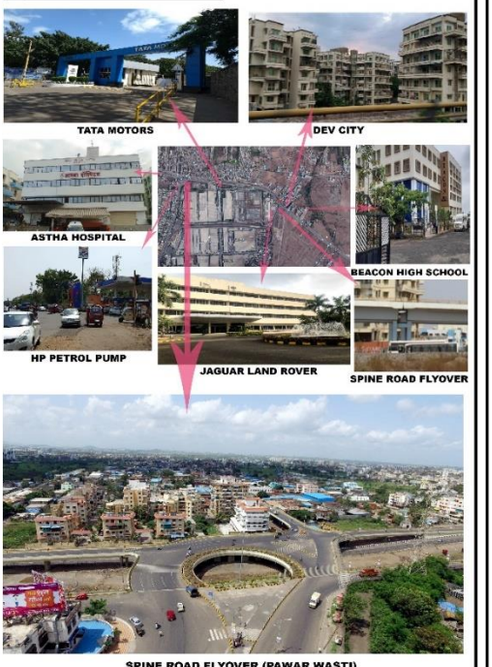
SITE ACCESSIBILITY

19.2 KM FROM
(PUNE RAILWAY STATION)

19.7 KM FROM
(PUNE INTERNATIONAL AIRPORT)

6.1 KM FROM
(PIMPARI BUS STAND)

SITE SURROUNDING



SPINE ROAD FLYOVER (PAWAR WASTI)

ROHIT SINGH (1150101065)

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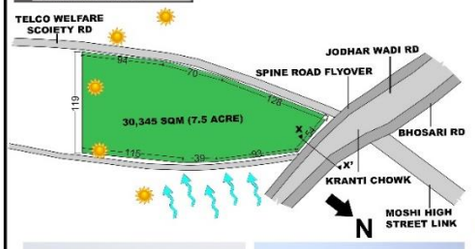
SITE ANANLYSIS

SITE DETAIL



SOUTH VIEW

ARIEL VIEW OF ENTRY OF SITE

NORTH VIEW

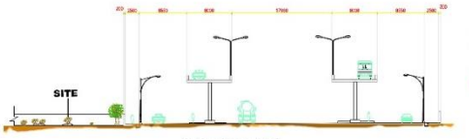
BELOW THE FLYOVER

KRANTI CHOWK

ON SITE CONSIDERATIONS

TOPOGRAPHY OF SITE
SITE IS HAVING UNDULATION WITH TER RAIN RISE FROM ± 00 LEVEL TO +900MM.

SOIL CONDITION
SITE HAVING HARD STRATA HAVING COMPOSITE OF GRET ALLUVIAL SOIL WITH ROCK FORMATION AT SOME PART.



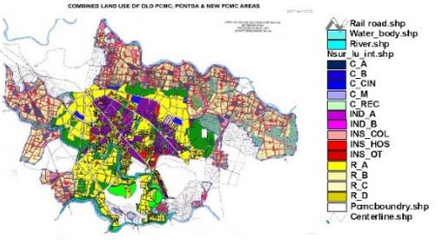
SECTION AT XX'

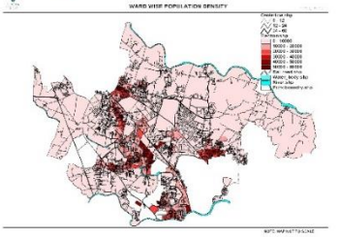
CLIMATE
WARM AND HUMID CLIMATE

ELECTRICITY
PCNTDA (PIMPRI CHINCHWAD NEW TOWN DEVELOPMENT AUTHORY).

OLD STRUCTURE
SITE IS EMPTY .

WATER
PIMPRI CHINCHWAD PUNICIPAL CORPORATION





PUNE WEATHER BY MONTH // WEATHER AVERAGES

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature (°C)	21.2	23.1	26.2	29	28.8	27.3	24.8	24.8	24.8	25.4	23	21.1
Min. Temperature (°C)	12.2	13.8	17	20.7	22.8	23	22	21.9	20.8	19.4	16.3	12.9
Max. Temperature (°C)	30.3	32.7	35.7	37.4	35.1	31.7	27.6	27.5	28.9	31.5	30.7	30
Avg. Temperature (°F)	70.2	73.6	79.2	84.2	83.8	81.1	76.6	76.1	76.6	77.8	73.4	70.0
Min. Temperature (°F)	54.0	56.9	62.6	69.3	73.7	73.4	71.9	71.7	69.4	67.1	61.3	54.1
Max. Temperature (°F)	86.5	90.9	96.3	99.3	95.1	89.1	81.7	81.5	84.0	88.7	87.3	86.0
Precipitation / Rainfall (mm)	0	1	2	13	41	132	211	125	132	82	26	8

The difference in precipitation between the driest month and the wettest month is 211 mm | 8 inch. During the year, the average temperatures vary by 8.5 °C | 47.3 °F.

SWOT ANALAYSIS

STRENGTH

- BEING IN CLOSE PROXIMITY TO THE LAND ROVER/JAGUAR ASSEMBLY PLANT LENDS POSITIVELY TO THE EXPERIENCE OF THE MUSEUM. THE PHYSICAL PRESENCE OF THE PLANT MAKES THE ORGANISATIONAL MEMORIES MUCH MORE TANGIBLE TO THE PEOPLE.
- THE ASSEMBLY PLANT IS IN CLOSE PROXIMITY WITH TWO MAJOR ROADS OF THE AREA. THE FIRST ONE BEING THE HIGH TRAFFIC PASSENGER CORRIDOR, AND OTHER BEING THE SPINE ROAD. THIS HELPS MAKES THE SITE MORE ACCESSIBLE, AND MAKES THE COMMUTE EASIER.
- THE SITE FALLS IN SEISMIC ZONE IV, WHICH MEANS A LOWER RISK FOR EARTH QUAKE IN THE AREA. THEREFORE, A COMPLEX BUILDING STRUCTURE CAN BE DEVELOPED. THE STRUCTURE WON'T BE BURDENED WITH ARCHITECTURAL LIMITATIONS THAT COME ALONG WHILE DESIGNING A STRUCTURE IN A HIGH SEISMIC ZONE.
- THE SITE IS SITUATED IN A AREA OF LOW POPULATION DENSITY. AT THE SAME TIME, ITS ALSO LOCATED ACCROSS A RESIDENTIAL AREA. THE SITE WOULD ALSO SERVE AS A RECREATIONAL PUBIC SPACE FOR THE RESIDENTS.
- THE LONGER SIDES OF THE SITE ARE ORIENTED ALONG THE NORTH-SOUTH AXIS. CONSEQUENTLY, THESE SIDES FACE THE EAST AND THE WEST DIRECTIONS. AS THE WINDS BLOW IN THE EAST-WEST DIRECTIONS IN THE AREA, ONE CAN LEVERAGE THE WIND DIRECTION TO PROVIDE PASIVE COOLING IN THE STRUCTURES.
- THE SITE IS FLANKED BY 2 ROADS ON THE LONGEST SIDES WHICH ARE 24 METRES WIDE. THIS REDUCES THE CHANCE OF TRAFFIC CONGESTION NEAR THE SITE, SHOULD IT ATTRACT A LARGE AUDIENCE.

WEAKNESS

- THE SITE IS LOCATED IN A REMOTE PART OF THE CITY, AWAY FROM IT'S CENTRE. THEREFORE, THE MUSEUM MAY REQUIRE SOME TIME TO TAKE OFF. SHOULD THE POPULARITY OF THE SITE GO UP, THE INCREASED INFLUX OF
- TRAFFIC MAY POSE PROBLEMS FOR THE RESIDENTS LIVING NEARBY.
- THE PRICES OF THE ADJOINING RESIDENTIAL PROPERTIES MIGHT INCREASE OWING TO THE COMING UP OF AN PROMINENT TOURIST ATTRACTION IN THE REGION.

OPPORTUNITIES

- ABILITY TO EXPAND IN RAPIDLY GROWING MARKETS IN THE HIGHER END SEGEMENT.
- BUILD A LOYAL CUSTOMER BASE TO CREATE PREFERENCE FOR CUSTOMERS FACED WITH SIMILAR PRODUCTS.

THREATS

- VISITORS WILL HAVE DIFFICULTIES AT APPROACHING SITE DUE TO ITS LOCATION AWAY FROM THE MAIN CITY.
- DISTANCE FROM NEAREST RAILYWAY AND AIRPORT.

ROHIT SINGH (1150101065)

THESIS GUIDE : PROF. K.K DIXIT
AR. ARPIT TIWARI

AUTOMOBILE MUSEUM
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03

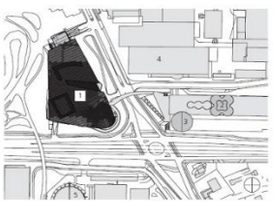
LITERATURE STUDIES

INTRODUCTION

TYPE OF PROJECT : BMW MUSEUM
CLIENT : BMW
ARCHITECT :ATELIER BRUCKNER
LOCATION :MUNICH GERMANY
AREA : 4000 SQM (.98 ACRE)
NO. OF VICHLES : 125
NO OF FLOORS : 5
HIGHT OF MUSEUM : 15 MTS
YEAR OF COMPLETE : 2008


BMW MUSEUM EXTERNAL VIEW

ARCHITECTS ATELIER BRUCKNER OF STUTTGART HAVE DESIGNED THE NEW BMW MUSEUM, WHICH OPENED IN MUNICH . THE PROJECT INVOLVED RENOVATING THE EXISTING MUSEUM BOWL DESIGNED BY KARL SCHWANZER IN 1973 - ON THE SITE OF BMW'S HEADQUARTERS AND ADDING A FURTHER 4000 SQUARE METRES OF EXHIBITION SPACE.
A KILOMETRE-LONG RAMP LEADS VISITORS THROUGH SEVEN PERMANENT EXHIBITIONS IN THE NEW THREE-STOREY BUILDING AND TEMPORARY EXHIBITIONS HELD IN THE 5- STOREY MUSEUM BOWL.

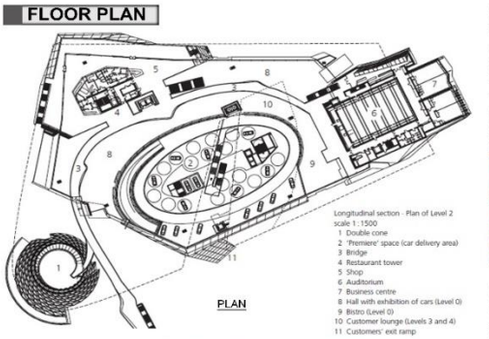

Site plan, scale 1 : 5000
1 BMW Welt
2 BMW Group headquarters
3 BMW Museum
4 BMW plant, Munich
5 Olympic ice rink

SITE PLAN

THE MUSEUM HAS 125 EXHIBITS ON SHOW, INCLUDING CARS, MOTORCYCLES, AIRCRAFT ENGINES AND RACING ENGINES. THE NEW BMW MUSEUM IN MUNICH HAS A MODERN, DYNAMIC LANGUAGE: THE LANGUAGE OF THE AUTOMOTIVE WORLD. OPENED ON JUNE 21ST, 2008, IT SETS A NEW STANDARD IN THE REALM OF BRANDFOCUSED
MUSEUMS. ALONG WITH THE BMW WELT, OPENED IN OCTOBER 2007, AND THE BMW FACTORY TOUR, THE MUSEUM IS THE FINAL COMPONENT OF THE BMW TRIAD, WHERE TWO MILLION VISITORS ARE EXPECTED ANNUALLY.


VIEW

FLOOR PLAN

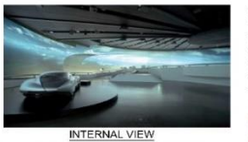

Longitudinal section - Plan of Level 2
scale 1:1500
1 Double cone
2 'Premiere' space (car delivery area)
3 Bridge
4 Restaurant tower
5 Shop
6 Auditorium
7 Business centre
8 Hall with exhibition of cars (Level 0)
9 Bistro (Level 0)
10 Customer lounge (Levels 3 and 4)
11 Customers' exit ramp

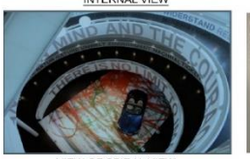
PLAN


SECTION

SCHWANZER'S BASIC IDEA FOR THE MUSEUM BUILDING WAS THE "CONTINUATION OF THE STREET IN ALTERED SPACE". THE FUTURISTIC SILVER CONSTRUCTION, WHICH OUTWARDLY IS VERY CLOSED, LOOKS LIGHT AND GENEROUS INSIDE. VIA A RISING SPIRAL RAMP, THE VIS TOR ENTERS FIVE SEEMINGLY FREE-FLOATING PLATFORMS THAT SERVE AS EXHIBITION AREAS. THE NEARLY CIRCULAR BASE OF THE MUSEUM WIDENS FROM APPROXIMATELY 20 METRES TO 40 METRES IN DIAMETER. ON PLATFORMS FOUR AND FIVE, THE WIDE AIRSPACE AND BUILDING EXPANSION BECOMES POSSIBLE TO EXPERIENCE.


INTERNAL VIEW


INTERNAL VIEW


VIEW OF SPIRAL VIEW


DISPLAY GALLERY

FROM THE EXISTING IDEA OF KARL SCHWANZER, THE "STREET IN ALTERED SPACE", STUDIO ATELIER BRUCKNER DEVELOPED A RAMP SYSTEM AS A CENTRAL MOTIF FOR THE ARCHITECTURE AND EXHIBITION. THE RAMP BECAME THE DYNAMIC CONCEPT OF THE NEW ARCHITECTURE. AS BOTH A FORMED AND FORMING ELEMENT, THE RAMP TAKES ON A KEY FUNCTION. IT LEADS THE VISITOR THROUGH THE MUSEUM AND CONNECTS THE NEW LONG-TERM EXHIBITION WITH THE "MUSEUM BOWL", NOW USED FOR SPECIAL EXHIBITIONS. IN THE END, A DIVERSE PERSPECTIVE ON VEHICLES, COMPANY HISTORY, AND COMPANY PHILOSOPHY IS ALLOWED BY THE RAMP SYSTEM. THE EXPERIENCE OF THE FLUENT SPACE LEAVES A LASTING IMPRESSION, DRAWING FROM THE VISUAL NARRATIVE OF MANY SINGLE PERSPECTIVES THROUGHOUT THE SPACE.


EXHIBITON HALLS


SECTION

UPON THE RAMP, MADE TO RESEMBLE A STREET-LIKE PATH OF POLISHED ASPHALT, THE VISITOR DIVES INTO THE BMW BRAND. THE UNINTERRUPTED WALKWAY OF ABOUT ONE KILOMETER LENGTH LEADS THE VISITOR THROUGH THE PERMANENT EXHIBITION AND "MUSEUM BOWL" SPACES. REFINED AUTOMOBILE-INSPIRED ARCHITECTURAL SCENERY WITH PLACES AND BRIDGES SURROUNDS THE VISITOR. ADDITIONALLY, THE RAMP SYSTEM RESEMBLES A THREE-DIMENSIONAL ROAD, WHERE ONE RECEIVES ACCESS TO THE EXHIBITION HOUSES ON DIFFERENT FLOORS.

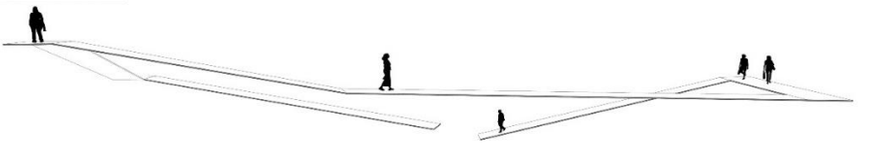

RAMP LEADING TOWARDS BUILDING


EXHIBITS

AN ORIGINAL, AUTHENTIC OBJECT STANDS IN THE CENTRE OF EACH EXHIBITION AND ACTS AS A STARTING POINT FOR EVERY SINGLE AREA. A REASONABLE THEMATIC DIFFERENTIATION OF THE EXHIBITION AREAS ORIGINATES FROM IT. THE FOCUS LIES EITHER ON THE OBJECT AS THE HIGHLIGHT OF THE AREA OR THE OBJECT GROUPS ARE PRESENTED AS DIRECT LINES OF DEVELOPMENT FROM IT. FROM THIS CENTRAL SPACE THE AURA UNFOLDS UNDISTURBED. BECAUSE OF THE COMMON DESIGN BASE WITHIN EACH EXHIBITION HOUSE EVERY OBJECT OR OBJECT GROUP IS EMPHASIZED ACCORDING TO A THEME. THUS THE SPATIAL EXPERIENCE IS DEVELOPED AND GENERATED FROM THE SPECIFIC CONTENTS OF THE EXHIBITION.


ENTRANCE

CONCEPT

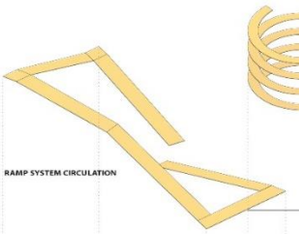


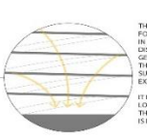
BMW MUSEUM, MUNICH

BMW MUSEUM LOCATED IN GERMANY, MUNICH DISPLAYING DIFFERENT KIND OF COLLECTIONS SERIES OF BMW PRODUCTIONS.

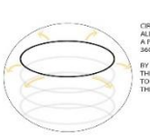
THE CORE CONCEPT OF THIS MUSEUM LIES ON THE IMPORTANCE OF CIRCULATION AND VISION OF VISITORS. THE CONCEPT OF BMW MUSEUM IS CALLED 'RAMP SYSTEM'. THIS ALLOWS PEOPLE TO FEEL THE EXPERIENCE OF THE FLUENT SPACES LEAVES A LASTING IMPRESSION, DRAWING FROM THE VISUAL NARRATIVE OF MANY SINGLE PERSPECTIVES THROUGHTOUT THE SPACE.

RAMP SYSTEM CAME FROM THE IDEA OF 'STREET ALTERED SPACE' AS A PRINCIPLE OF A DYNAMIC ARCHITECTURE. THIS ALLOWS PEOPLE TO GET THE MOST EXPERIENCE OUT OF THIS SPACE.


RAMP SYSTEM CIRCULATION


THE SPIRAL WALK WAY FORCES PEOPLE TO WALK IN A LONGER TIME AND DISTANCE IN ORDER THE GET THE MOST OUT OF THE ATMOSPHERE AND SURROUNDING OF THE EXHIBITION AREA.

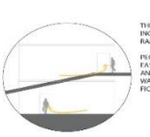
IT FORCES PEOPLE TO LOOK AT THE CENTER OF THE SPIRAL WHERE THERE IS DISPLAYED ITEM


CIRCULAR PATTERN ALLOWS PEOPLE TO SEE IN A PANORAMIC VIEW, IN A 360 ANGLE VIEW.

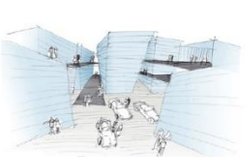
BY SEEING ALL AROUND THE AREA, HELPS PEOPLE TO SEE ALMOST EVERYTHING IN THAT PLACE.


RAMP SYSTEM IS CREATED TO ALLOW THE MOST EFFICIENT CIRCULATION WITH THE DISPLAYED OBJECTS. THIS KIND OF CIRCULATION FORCES PEOPLE TO SEE IN EVERY DISPLAYED AREA OF THE ROOM, WHETHER IT IS ONE THE SECOND OF THIRD FLOOR.

IT CREATE A COMBINING SPACE, EVEN SEPARATED FLOORS.


THE ACCESS POINT CAN BE INCREASE USING THE RAMP WALK WAY.

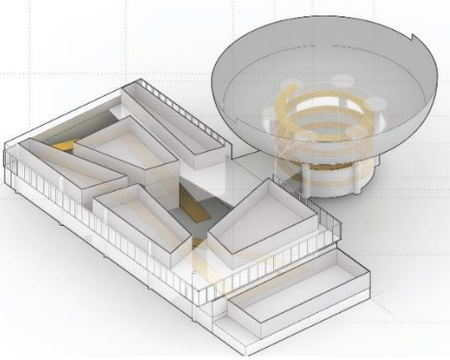
PEOPLE CAN ACCESS EASIER IN THEIR FLOOR AND CREATING LESS WALKING TIME AND INEFFICIENT CIRCULATION.



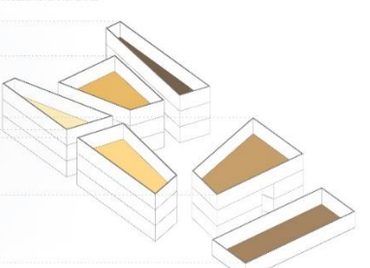
CONSTRUCTION

THE CONSTRUCTION SUPPORTED THE UPPER FLOOR DISPLAYING AREAS, WHRE THESE FLOOR ARE CURVED AND SLANTED IN ORDER THE LET THE VISITOR CAN VIEW THE VEHICLES MORE ANGLES. NOT JUST SEEING THEM FROM THE SIDE WAYS BUT A LITTLE FROM THE TOP LIKE A THREE DIMENSIONAL VIEW.

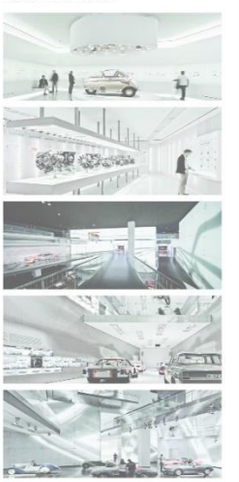
THE CONSTRUCTION IS MADE FROM STEEL COLUMN, SIX OF THE SEPARATED AT THE SAME ROTATION ANGLES.



ROOM TYPES - COLLECTIONS DISPLAYED



EXAMPLE PHOTOS



PROTOTYPE/NEW MODELS
CLASSIC BMW COLLECTIONS
NO ROOF VEHICLES
ENGINES AND DETAILS
RACING TYPE COLLECTIONS
MODIFIED COLLECTIONS

STANDARD & BYE LAWS

OVERVIEW

THE SIMILARITY AMONG ALL THE MUSEUMS AND ART GALLERIES IS THAT NO OBJECT ON DISPLAY WERE EVEN DESIGNED TO BE THERE .THEY RANGE IN SIZE FROM GENERAL COLLECTION ,ARTIFACTS ,NATURAL MINERAL OBJECTS ,STUFFED ANIMALS ,COINS AND FABRICS, ETC. IN GENERAL THE MAIN CONCERN OF THE MUSEUM AND ART GALLERIES ARE COLLECTING, DOCUMENTIN, PERSEVERING, RESEARCHING AND EXHIBITING. THE VARIOUS ACTIVITIES THAT CAN BE ORGANIZED BY A MUSEUM TO SUPPLEMENT ITS PERMANENT EXHIBITIONS ARE:

- TEMPORARY EXHIBITIONS: ON SUBJECT TO CONTEMPORARY EXHIBITION
- MOBILE STRUCTURE: INSTANT POPULARITY WITH GENERAL PUBLIC.
- ORGANIZING POPULAR LECTURE AND DEMONSTRATIONS
- FILM AND AUDIO VISUAL SHOWS.
- TABLEAU WITH FULL SIZE FIGURES AND ANIMATION.
- WALK IN PANORAMAS
- THREE DIMENSIONAL ANIMATIONS.
- THE AVERAGE RATIO OF GALLERY TO NON GALLERY SPACES ARE 48.52 WITH PERMANENT DISPLAY TAKING G UP TO 40%OF THE TOTAL AREA.

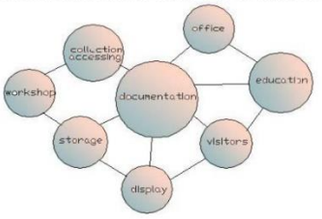


Plate no. 3.1

CIRCULATION

INTERNAL CIRCULATION

INTERNAL CIRCULATION IN A MUSEUM CAN BE DIVIDED INTO TWO ZONES :
CIRCULATION OF VISITORS:
- FOR LECTURES, FILM SHOWS.
- FOR PERMANENT DISPLAYS.
- FOR SPECIAL EXHIBITIONS.
- FOR STUDENTS AND SCHOLARS ATTENDING THE MUSEUMS.

CIRCULATION OF GOODS ETC.

EXTERNAL CIRCULATION

IT IS ESSENTIAL TO SEGREGATE THE PUBLIC MOVEMENT FROM STAFF AND GOODS ENTRANCE. AIM SHOULD BE TO ACHIEVE A CLEAR AND DEFINED CIRCULATION BY PROVIDING SEPARATE CIRCULATION PATHS FOR VEHICULAR AND PEDESTRIAN MOVEMENTS.

FLEXIBILITY WITHIN CIRCULATION

CIRCULATION CANNOT BE IN ISOLATION .IT IS A PART AND PARCEL OF THE ACTIVITY AREA, BUT STILL BE WELL DEFINED SO AS TO RESULT PROBABLY IN OVERLAPPING OF FUNCTION MAKING SPACES WHICH BECOME MULTIFUNCTIONAL.

SEQUENTIAL CIRCULATION

ADEQUATE SPACE SHOULD BE PROVIDED FOR PEOPLE TO VIEW THE EXHIBITS AND ALSO TO PASS BETWEEN GROUPS OF PEOPLE. MORE VIEWING SPACE SHOULD BE PROVIDED FOR POPULAR EXHIBITS.

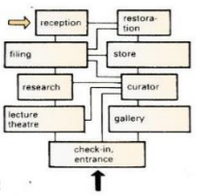
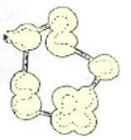


Plate no. 3.2



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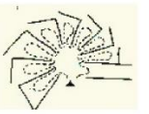

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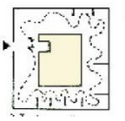
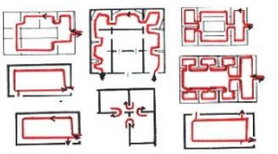


Plate no. 3.5



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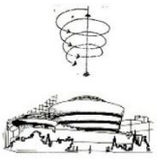
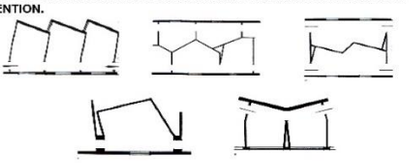


Plate no. 3.7

EXHIBITION ROOMS

A ROOM HAVING ALL THE SIZES SAME BECOMES MONOTONOUS .BY VARYING THEIR DIMENSIONS AND RELATION BETWEEN HEIGHT AND WIDTH AND ALSO USING THE COLOURS FOR THE WALLS AND DIFFERENT KINDS OF FLOORING-WE PROVIDE SPONTANEOUS AND UNCONSCIOUS STIMULUS TO ATTENTION.



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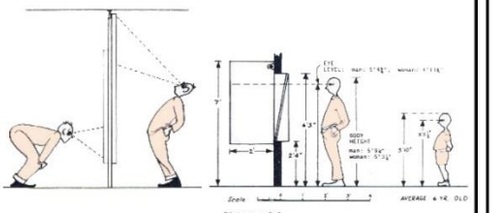


Plate no. 3.9

LIGHT CONTROL

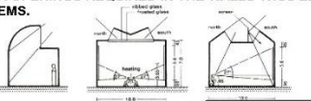
THERE ARE THREE TASKS FOR THE LIGHTING IN MUSEUMS, VISIBILITY OF OBJECTS, CONSERVATION OF OBJECTS, AND ILLUMINATION OF ROOMS, WHICH CAN BE REALIZED BY DAYLIGHT AND/OR ARTIFICIAL LIGHT.
A GOOD VISIBILITY OF OBJECTS NEEDS A MINIMUM BRIGHTNESS, GOOD CONTRASTS WITHOUT CAST SHADOWS, GOOD COLOUR REPRODUCTION, AND AVOIDANCE OF GLARE. DEPENDING ON THE KIND OF OBJECTS, E.G. TWO-DIMENSIONAL PICTURES WITH MICRO STRUCTURES ON THE SURFACE, THREE DIMENSIONAL SCULPTURES OR LARGE EXHIBITS LIKE BUILDING MONUMENTS, THE OBJECT LIGHTING WILL DIFFER A LOT, ESPECIALLY AS THE REPLACEMENT OF EXHIBITIONS REQUIRES A CERTAIN VARIETY. FOR A TRUE COLOUR REPRODUCTION OF ARTWORK IT IS HIGHLY IMPORTANT WHETHER DAYLIGHT OR ARTIFICIAL LIGHT SOURCES ARE USED AND WHICH COLOUR RENDERING IS APPLIED ON THE ROOM SURFACES

LIGHTING IN A MUSEUM HAS A TWO FOLD FUNCTION:

- FOR THE INTERPRETATION OF OBJECTS AND SURROUNDINGS.
- FULFILL THE PHYSIOLOGICAL AND PSYCHOLOGICAL NEEDS.
- THE DEGREE OF VISIBILITY IS DETERMINED BY THE AMOUNT, COLOUR AND THE ANGLE OF ILLUMINATION.
- THE AMOUNT OF LIGHT NEEDED IS DIRECTLY PROPORTIONAL TO THE DE TAILS TO BE SEEN AND THE COLOUR OF THE OBJECT.
- LIGHTING HAS TO FULFILL THE THREE BASIC FUNCTIONS OF VISIBILITY, DECORATION AND MOOD CREATION.

NATURAL LIGHTING

METHODS OF NATURAL LIGHTING
- DAY LIGHT MAY COME FROM ABOVE OR FROM SIDE.
- OVERHEAD LIGHTING
- OVERHEAD LIGHTING PROVIDES THE FOLLOWING ADVANTAGE:
- EVEN ILLUMINATION ON WALLS.
- LESS OBSTRUCTED BY LATERAL OBSTRUCTIONS AS TREES, BUILDINGS.
- IT IS POSSIBLE TO REGULATE THE AMOUNT OF LIGHT COMING IN.
- GOOD VISIBILITY WITH MINIMUM OF DISTORTATION.
- WALL SPACE REMAINS FREE FOR EXHIBITS.
- FEWER OPENINGS REQUIRED IN THE WALLS THUS LESS SECURITY PROBLEMS.



COMPARATIVE AREA ANANLYSIS AND OBSERVATION

INFERENCES

HERITAGE TRANSPORT MUSEUM

- TO CONSIDER THE LOCAL CLIMATE AND ENVIRONMENTAL FACTORS WHILE FACING THE ORIENTATION OF THE DEVELOPMENT.
- PROVIDE A WELL DEFINED ENTRY, MEET SECURITY DEMAND EFFECTIVELY.
- TO ENSURE EASY AND UNINTERRUPTED ACCESSIBILITY WITHIN THE SITE, CONSIDERING ALL TYPES OF MOVEMENT AND VISIBILITY.
- TO CREATE BARRIER FREE ARCHITECTURAL SPACES.
- TO USE LANDSCAPING, CONSIDERING THE CLIMATIC AND ENVIRONMENTAL FACTORS, TO DEFINE POSITIVE SPACES.
- SEGREGATE INDOOR AND OUTDOOR SPACES PROVIDING TRANSITION ZONE.
- PROVIDE ADEQUATE SPACE FOR STORAGE AND CULTURAL PRACTICES.
- KEEP PROVISION FOR REST AREAS BETWEEN THE GALLERIES FOR THE VISITORS.
- ENCOURAGING VISUAL TRANSPARENCY WITHIN THE GALLERY LAEVELS.
- PROVIDE AMPLE SPACE FOR LOADING UNLOADING.
- PROVISION FOR RAIN WATER HARVESTING.
- PARKING AREA PROVIDED UNUSUAL.
- USE OF STEEL STRUCTURE IN MUSEUM IS VERY MODERN.

NATIONAL MUSEUM

- TO HARMONIZE THE BUILT FORMS WITH THE STRONG CONTEXTUAL HERITAGE.
- PROVIDE ADEQUATE SPACE FOR ANCILLARY FACILITIES LIKE THE THEATRE GALLERY ETC.
- PROVIDE BETTER LIGHTING OBSERVE THE EXHIBITION.
- PROVIDE BETTER LIGHTING OBSERVE THE EXHIBITION.
- PROVIDE A BETTER RELIEF AREA AT GROUND FLOOR, THE COURT.
- SEPARATE ENTRY FOR THE VIP.
- THE DISPLAYING GALLERIES ARE INTERCONNECTED APPEARING IN A CONTINOUS FASHION WITHOUT ANY PAUSE.
- GOOD NATURAL LIGHT IN CORRIDORS AND SOME OF GALLERIES.
- COLUMNS HAVE BEEN VERY EFFECTIVELY USED AS A BACKDROP FOR THE DISPLAY OF SCULPTURE.
- TOILETS ARE LOCATED AT STAIRCASE WHICH IS NOT SO GOOD.
- PROVISION OF PARKING SPACE IS VERY LESS.
- BUILDING IS WELL CONSERVED FROM 1949.
- PROVISION OF FIRE EQUIPMENT IS GIVEN BUT SOME PLACES HAVE NOT.

ON SITE CONSIDERATIONS

HERITAGE TRANSPORT MUSEUM	NATIONAL MUSEUM
• LOCATION OF MUSEUM IS VERY FAR FROM THE CITY, PUBLIC TRANSPORT IS RARELY AVAILABLE.	• LOCATION OF MUSEUM IS VERY CLOSE TO INDIA GATE, UDYOG BHAWAN, RAJPATH. PUBLIC TRANSPORT IS AVAILABLE EASILY.
• AREA OF SITE IS ABOUT 3.09 ACRES.	• AREA OF SITE IS ABOUT 5 ACRES APPROX.
• MADE IN MODERN STYLE.	• MADE IN TRADITIONAL STYLE.
• STEEL STRUCTURE IS USED MAINLY.	• RCC AND RED SAND STONE IS USED MAINLY.
• RAMP, LIFT IS MAINLY USED FOR PUBLIC TO ACCESS THE FLOORS BUT FIRE ESCAPE IS ALSO PRESENT.	• LIFT AND STAIRCASE IS USED FOR ACCESS THE FLOORS..
• NO ANY GARRAGE OR LABORATARY IS PROVIDED FOR CONSERVATION OR MAINTENANCE.	• 300 SQM. LABORATARY IS PROVIDED FOR 350 PERSONS HAVING AREA OF 1200 SQM.
• MINI-AUDI HAS CAPACITY OF 35-40 PERSONS HAVING AREA OF 72.2 SQM.	• AUDITORIUM IS PROVIDED FOR 350 PERSONS HAVING AREA OF 1200 SQM.
• OPEN RECEPTION IS GIVEN HAVING RESTAURANT AND SOUVINIOR SHOP HAVING AREA OF 250 SQM.	• RECEPTION IS GIVEN WITH TICKET COUNTER WITH A TRIPLE HIGHTED FOYER HAVING AREA OF 150 SQM.
• NATURAL LIGHT IS GIVEN IN EXHIBITION SPACE VERY LESS BY SMALL VENTILATOR TYPE WINDOWS.	• NATURAL LIGHT MAINLY GIVEN IN CENTRAL COURTYARD AND ONE ROOM OF EXHIBITION SPACE.
• EXHIBITION SPACE IS OPEN THROUGH OUT THE FLOOR WITH STEEL SECTION COLUMNS.	• SPACES ARE DIVIDED IN MANY PARTS WITH WOODEN PARTITIONS.
• CORRUGATED STEEL SHEET IS USED IN ENTRANCE FOYER.	• DOME IS MADE ABOVE THE ENTRANCE FOYER.
• LESS SPACE FOR ADMINISTRATION.	• ADMINISTRATION AREA GIVEN IN EACH FLOORS.
• ANNUAL FOOTFALL IS ABOUT 30000.	• ANNUAL FOOTFALL IS ABOUT 2 LAKHS.

COMPARATIVE AREA ANALYSIS

LIST OF REQUIREMETS	HERITAGE TRANSPORT MUSEUM	NATIONAL MUSEUM	STANDARDS
FOYER, RECEPTION	112 SQM.	250 SQM.	-
DIRECTOR'S OFFICE	20 SQM.	35 SQM.	MIN. 30 SQM
TICKET COUNTER	-	20 SQM.	MIN. 2 WINDOW
CURATOR'S ROOM	-	15 SQM.	15 SQM. @ 200 TO 300 SQM OF EXHIBITION
WORKSHOP	-	1000 SQM.	-
ADMINISTRATION	100+240 SQM.	840 SQM.	-
SECURITY (ENTRANCE)	15 SQM.	20 SQM.	-
CANTEEN+KITCHEN	200 SQM.	400 SQM.	1.25 SQM/ PERSON +30%
CLOAK ROOM	-	20 SQM.	0.5-.075 SQM/ PERSON
LIBRARY	100 SQM.	720 SQM.	-
AUDITORIUM	72.2 SQM.	420 SQM.	2.5 SQM /PERSON
CONFERENCE HALL	350 SQM.	-	1.5 SQM /PERSON
STORE	-	700 SQM.	-
PARKING	20 CARS	60 SQM.	13.75 SQM /CAR
NO. OF GALLERIES	14	29	AS REQUIRED
TOTAL NO. OF EXHIBITIONS	4000 SQM.	11850 SQM.	-
AHU	EACH FLOOR	EACH FLOOR	-
TOILETS	20 SQM. EACH	30 SQM. EACH	-

04

CASE STUDIES

INTRODUCTION

TYPE OF PROJECT : AUTOMOBILE MUSEUM
CLIENT : MR. TARUN THAKRAL
ARCHITECT :JYOTI RATH ASSOCIATES.
LOCATION :BILASPUR , TAORU , GURGAON
AREA : 26,299 SQM (6.5 ACRE)
NO. OF VICHLES : 120
FLOOR HIGHT : 4050MM
BUILDING HIGHT : 16.72M
BUILT UP AREA : 8825 SQM
FACILITES : AIR CONDITIONED SPACE SPREAD OVER FOUR FLOOR HOUSES THE EXHIBITION GALLERIES , LIBRARY , CONFERENCE ROOMS, MINI AUDITORIUM.


HERITAGE TRANSPORT MUSEUM

SURROUNDINGS


APOLO TYERS


AGRICULTURE LAND


PARKING


SITEPLAN


FOR EXHIBITION


CHAUDARY DHABHA

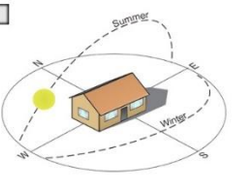

HP PETROL PUMP

SITE LOCATION

N

SITE ACCESSIBILITY

66.8 KM FROM (NEW DELHI RAILWAY STATION)
51 KM FROM (INDRA GANDHI AIRPORT)
39 KM FROM (IFFCO METRO STATION)
70.8 KM FROM (KASHMERE GATE BUS STAND)



SITE PLAN

FLOOR PLAN

SERVICES
DISPLAY
PEDESTRIAN
EXHIBITION AREA


BASEMENT PLAN

GROUND FLOOR

FIRST FLOOR

SECOND FLOOR

SERVICES


FIRE EXIT


BIG LIFT


PASSENGER LIFT


FHC ALL OVER SITE


BIG LIFT FROM OUTSIDE


SPRINKLER


FHC INSIDE


PARKING


WATER PUMP ROOM

- **FIRE FIGHTING -** EACH FLOOR RQUIPPED WITH SMOKE DETECTORS, FIRE ALARMS, FIRE ESCAPES AND FIRE RETARDING SPRINKLERS.
- **TOILETS -** (EACH FLOOR EXCEPT BASEMENT)
  MALE- 2WC, 2 URINALS, 3 BASIN
  FEMALE- 3WC, 3 WASH BASIN.
- **HVAC -** AC DUCT AND DIFFUSER.
- **LIGHTING -** DIRECTIONAL SPOT LIGHTER.
- **WHEEL CHAIR -** ACCESS.
- **ADEQUATE PARKING**
- **WATER PUMP ROOM -** SITUATED BEHIND THE BUILDING.
- **AHU -** PLACED ON ROOF.

FEATURES

RECEPTION : RECEPTION TABLE IS BUILD BY CAR BOADY.

HYDRAULIC CAR WASH: HERE THEY USE HYDRAULIC CAR WASH TO CLEAN THE CARS.

AUDIO TOUR: AUDIO GUIDE PROVIDES A RECORDED SPOKEN COMMENTARY.

CAFETERIA: MANY VARIETY OF FOOD AND FRESH .

CONFERENCE ROOM: THEY HAVE TWO CONFERENCE ROOM AND ITS CAPCITY IS 175 AND 150.

VR EXPERIENCE: THEY GAVE REALISTIC FEEL IN MUSEUM.

LIBRARY: THEY HAVE LIBRARY AREA AND LOTS OF COLLECTION OF BOOKS.

STEEL STRCTURE: THEY HAVE USE STEEL STRCTURE IN WHOLE MUSEUM AND ALSO USED IN FACADE.


RECEPTION


HYDROLIC CAR WASH


AUDIO TOUR


CAFETERIA


CONFERENCE ROOM


VR EXPERIENCE


LIBRARY


STEEL STRCTURE

AREAS

VENUE	CAPACITY	AREA	DIMENSION
CAFÉ	85	173.45 QM	10.2MX19.5M
TERRACE 1(FIRST FLOOR)	200	230.7 SQM	30.6MX7.2M
TERRACE 2(SECOND FLOOR)	475	566.9 SQM	7.52MX38.6 34.9MX7.9M
CONFERENCE ROOM 1	175	177.7 SQM	15.6MX11.4M
CONFERENCE ROOM 2	325	357.5 sqm	31.4mx11.4m
MINI AUDI	35-40	72.2 SQM	8.59MX8.4M
ENTRANCE/RECEPTION	100	111.2 SQM	39.2MX28.3M

SWOT ANALYSIS

STRENGTH

- LOCATION OUTSIDE CITY.
- LEAST DISTRIBUTION FROM NEARBY SURROUNDINGS.
- BARRIER FREE ARCHITECTURE.
- DESIGN IN ACCORDANCE WITH SURROUNDING ARCHITECTURE.
- DESIGN GALLERIES PROVIDES DIFFERENT VIEWING ANGLES.
- AMPLE SPACE FOR OUT SIDE EVENTS.

WEAKNESS

- NO PERMANENT SPACE FOR RESTORATION WORKSHOP.
- NO STORAGE SPACE FOR OLD AUTOMOBILES BOUGHT FOR RESTORATION.
- OUTDOOR EVENT SPACES NOT MAINTAINES PROPERLY.
- ALLOTTED PARKING AREA FALLS SHORT DURING SPECIAL EVENTS.

OPPORTUNITY

- INDIA'S FIRST HERITAGE AUTOMOBILE MUSEUM.
- NEAR TO IMP, INDUSTRIAL HUB WITH LOTS OF AUTOMOBILE INDUSTRIES NEARBY.
- GROWING AUTOMOBILE INDUSTRY & ENTHUSIASM AMONG INDIANS.
- MOST OF THE VEHICLES GO ON BOOKING FOR SPECIAL EVENTS.

THREATS

- DISTANCE FROM NEAREST AIRPORT.
- DISTANCE FROM NEAREST METRO STATION.
- TEMPERATURE GAIN FROM ENVIRONMENT INCREASE COOLING COSTS.
- SLOW RESPONSE OF LOCAL VISITORS.

INTRODUCTION

TYPE OF PROJECT : MUSEUM
ARCHITECT :GWYER COMMITTEE.
LOCATION :JANPATH, NEW DELHI, INDIA
AREA : 36028.00 SQM (8.9 ACRE)
PLANNING/DESIGN : TRADITIONAL ARCHITECTURE AROUND WITH A ROTUNDA
FACILITES : AIR CONDITIONED SPACE SPREAD OVER FOUR FLOOR HOUSES THE EXHIBITION GALLERIES , LIBRARY , CONFERENCE ROOMS, AUDITORIUM.
YEAR OF COMPLETE : 1949


NATIONAL MUSEUM

SURROUNDINGS


SHASTRI BHAWAN


INDIA GATE


JAWAHARLAL NEHRU BHAWAN


SITEPLAN


VIGYAN BHAWAN


LAL BAHADUR SHASTRI MEMORIAL


UPSC NEW DELHI

EAST- VIGYAN BHAWAN
WEST- JAWAHARLAL NEHRU BHAWAN
NORTH-RAJPATH ROAD
SOUTH-ARCHAELOGICAL SURVEY OF INDIA

SITE LOCATION


INDIA


NEW DELHI

N

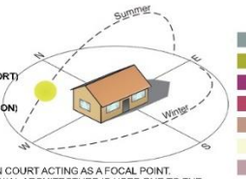
SITE ACCESSIBILITY

3.8 KM FROM
(NEW DELHI RAILWAY STATION)

14.5 KM FROM
(INDRA GANDHI INTERNATIONAL AIRPORT)

1.2 KM FROM
(CENTRAL SECRETARIAT METRO STATION)

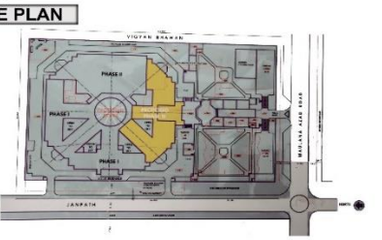
(NATIONAL MUSEUM BUS STAND)



DESIGN PHILOSOPHY

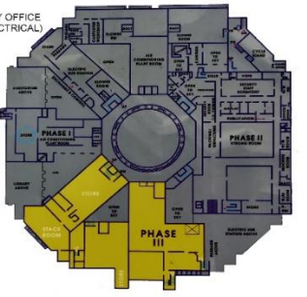
- BASED ON CONCEPT OF CENTRAL CIRCULATION COURT ACTING AS A FOCAL POINT.
- GALLERIES ORIENTATING TO THE COURT, COLONIAL ARCHITECTURE IS USED DUE TO THE URBAN CONTEXT.
- PORCH DEFINING ENTRANCE.
- DOME OVER THE LOBBY DEGINING AND EMPHASIZING THE AREA AND ADDING GRANDNESS TO THE VOLUME.

SITE PLAN

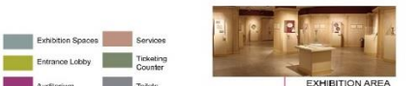


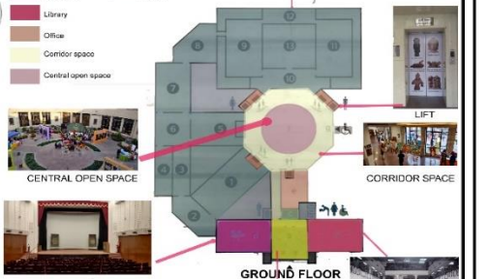
FLOOR PLAN

- STORE
- STACK ROOM
- A.C. PLANT
- CPWD ENQUIRY OFFICE (CIVIL AND ELECTRICAL)
- BOOK STORE



BASEMENT FLOOR


EXHIBITION AREA



CENTRAL OPEN SPACE

LIFT

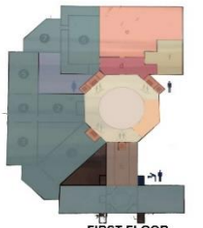
CORRIDOR SPACE

AUDITORIUM

GROUND FLOOR


ENTRANCE


LIBRARY


FIRST FLOOR


SECOND FLOOR

Conservation laboratory

- Exhibition halls are interconnected with one anotherwith a center ciculation court 6 m wide.

.Separate entrance for VIP and physically handicapped is present.

.Basement consist of AC plan room, staff cafeteria, workshop.

SERVICES


ELECTRICAL ROOM


FIRE CONTROL


GENERATOR


GENERATOR-SMOKER
FHC OUTSIDE


PASSENGER LIFT


GOODS LIFT


CLOCK ROOM


PARKING


A.H.U. ROOM

- ALL THE MAJOR SERVICES ARE HANDLED FROM THE BASEMENT OF THE MUSEUM.
- THE GALLERIES ARE AIR-CONDITIONED BY CENTRAL AIR CONDITIONING PLANT.
- OTHER SERVICES LIKE ELECTRIC SUB-STATION AND OTHER SUPPORT SYSTEM ARE PROVIDED OUTSIDE THE MAIN BUILDING.
- IN SOME GALLERIES FLOOR MOUNTED AIR CONDITIONERS ARE ALSO PROVIDED.
- SERVICING INSIDE THE BUILDING IS DONE FROM THE SOUTH END WITH THE HELP OF RAMP WHICH LEADS UP TO THE PLINTH LEVEL OF THE MUSEUM SO THAT LOADING AND UNLOADING CAN BE DONE EASILY.
- WATER SUPPLY IS THROUGH THE PUMP ROOM AND WATER TANK ABOVE THE TERRACE OF 40000 LITERS.
- FIRE FIGHTING EQUIPMENT'S ARE PROVIDED. FIRE FIGHTING TANKS ARE NOT PROVIDED.

WHEEL CHAIR - ACCESS.
AHU - PLACED OUTSIDE THE MAIN BUILDING .
HVAC - AC DUCT AND DIFFUSER.
WATER PUMP ROOM - SITUATED BEHIND THE BUILDING.

FEATURES

- BUILDING IS MADE USING HIGH STRENGTH R.C.C. AND RED SAND-STONE.
- TEMPORARY STRUCTURES ARE PROVIDED AROUND THE BUILDING.
- FLOOR TO FLOOR HEIGHT IS 4M.
- ALL INTERNAL WALLS ARE PAINT-ED ACCORDING TO THE THEME.
- ALL FLOORS ARE WOODEN, TILES AND RUBBER FLOORING.
- MUSEUM SHOP AND INSTITUTE IS AN ADDITIONAL ADVANTAGE.

AUDIO TOUR: AUDIO GUIDE PRO-VIDES A RECORDED SPOKEN COM-MENTARY.

CAFETERIA: MANY VARIETY OF FOOD AND FRESH .

VR EXPERIENCE: THEY GAVE REAL-ISTIC FEEL IN MUSEUM.

LIBRARY: THEY HAVE LIBRARY AREA AND LOTS OF COLLECTION OF BOOKS.


OUTER WALLS


CAFETERIA


AUDIO TOUR


TEMPORARY STRCTURE


FOR HANDICAPPED

AUDITORIUM

LIBRARY

OPEN EXHIBITION

PARKING

- PARKING IS ONLY FOR THE OFFICIALS AND ARE RESTRICTED IN THE SET BACK ONLY.
- CAR PARKING OF 15 CARS ARE PROVIDED ON THE EASTERN SIDE OF THE SITE.
- ON THE WESTERN SIDE 30 TWO WHEELER PARKING SPACE IS PROVIDED.

PARKING

AREAS(BASEMENT)

CLAY MODELING

STORE ROOM

CARPENTER WORKSHOP

PHOTOGRAPHY SECTION

OTHER FEATURES

LIGHTING

- ARTIFICIAL LIGHTING IS PROVIDED MOST OF PLACES, NATURAL LIGHTING IS ALSO PROVID-ED IN CENTRE CORRIDORS.
- CENTRE COURTYARD IS USED AS THE SITTING PURPOSE.
- WELL PLAYED WITH FOCUSED LIGHTS WITH THE USE OF CONCAVE AND CONVEX LENSE DIFFERENT PLACES.
- IN JEWELLERY SECTION THE GALLERY WAS DARK AND RECESSED POCKETS WERE MADE WITH MINIMAL LIGHTING.
- THE WHOLE STRUCTURE IS BASED AROUND THE CENTRAL ROTUNDA WHICH LITS UP THE ENTIRE CORRIDOR.

GROUND FLOOR

FIRST FLOOR

SECOND FLOOR

SPOT LIGHT

REFLECTION OF LIGHT

DIRECTIONAL LIGHT

DIFFUSED LIGHT

COVE LIGHT

CEILING LIGHT

FOCUSED LIGHT

MERITS

- SEPARATE ENTRANCE FOR DISABLE PEOPLE.
- STONE SCULPTURES ARE PLACES AROUND THE BUILDING.
- SEATING ARRANGEMENT IS PROVIDED IN EVERY FLOOR.
- DIFFERENT LIFTS FOR ITEMS AND PEOPLE.
- AUDIO HAND-SET IS PROVIDED TO VISI-TORS.

CEILING LIGHT

REFLECTION OF LIGHT

DEMERITS

- PROPER PARKING FACILITY WAS NOT THEIR FOR VISITORS, ARCHAELOGICAL SURVEY.
- ONLY FRONT FACADE WAS ARTICULATED REAR FACADE WAS ONLY PLASTERED.
- NO EXTRA FIRE FIGHTING STAIRS IN BUILDING.

STONE SCULPTURES

05

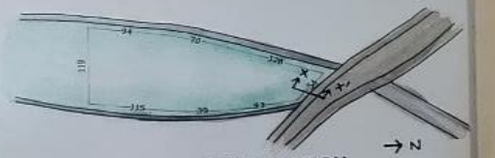
CONCEPT

CONCEPT

INTRODUCTION

INDIA

MAHARASHTRA
PUNE, PIMPRI CHINCHWAD



SITE LOCATION

CLIENT : TATA COMPANY
LOCATION : PIMPRI CHINCHWAD PUNE ON SPINE ROAD.
AREA : 30,364 SQM (7.5 ACRE)

SITE ACCESSIBILITY

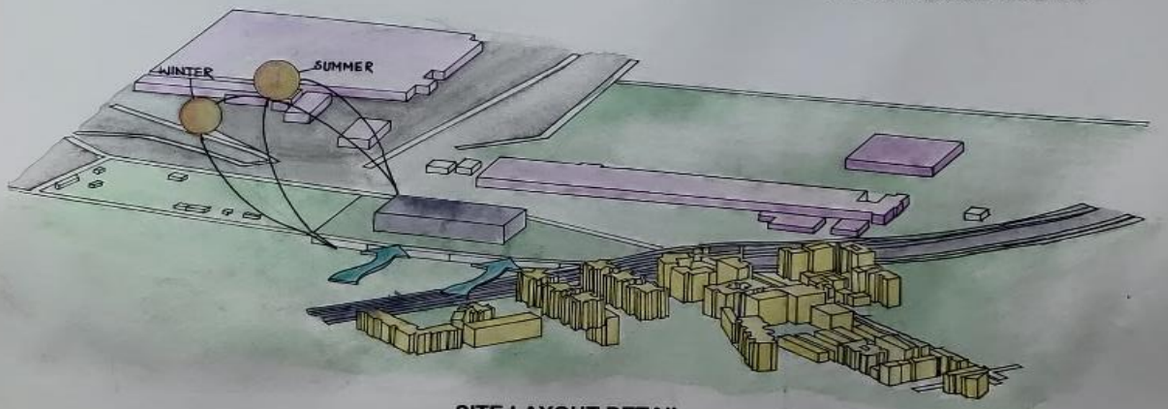
- 19.2 KM FROM (PUNE RAILWAY STATION)
- 19.7 KM FROM (PUNE INTERNATIONAL AIRPORT)
- 6.1 KM FROM (PIMPARI BUS STAND)

ABOUT TOPIC

- A PLACE /IT CAB BE A PLACE OR HUB WHERE AUTOMOBILE ENTHUSIASTIC CAN BECOME AN INTEGRAL PART OF THIS PLACE. FOR EXAMPLE EXPLORING NEW SECTORS OF THIS FIELD LIKE RACING , EXHIBITIONS, SEMINARS, AND CONFERENCE ETC.
- A TOURIST AS WELL AS BUSINESS ATTRACTION SPOT THAT HELP IN ENHANCING JOB OPPORTUNITIES BY INVESTORS AND TOURIST, BEING LOCATTED IN AMETROPOLITAN CITY.
- PEOPLE DON'T GET ENOUGH EXPOSURE TO VIEW THEIR PRODUCTS AND OBSERVE THE COMPETITORS PROPERLY.

ABOUT SITE

- THE SITE IS ALONG SPINE ROAD.
- A 12M WIDE SERVICE LANE RUNS ALONG THE NORTHERN PERIPHERY OF THE SITE.
- A PERIPHERAL 9 M ROAD RUNS ALONG THE WEST AND EAST SIDE.
- THE SITE IS FLANKED BY 2 ROADS ON THE LONGEST SIDES WHICH ARE 24 METRES WIDE. THIS REDUCES THE CHANCE OF TRAFFIC CONGESTION NEAR THE SITE,SHOULD IT ATTRACT A LARGE AUDIENCE.



SITE LAYOUT DETAIL

ON SITE CONSIDERATIONS

TOPOGRAPHY OF SITE

SITE IS HAVING UNDULATION WITH TER RAIN RISE FROM 00 LEVEL TO +900MM.

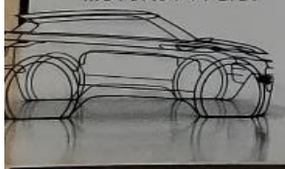
SOIL CONDITION

SITE HAVING HARD STRATA HAVING COMPOSITE OF GRET ALLUVIAL SOIL WITH ROCK FORMATION AT SOME PART.

SECTION AT XX'

AIM OF PROJECT

- TO CREATE A VISUALLY IMPRESSIVE AND AESTHETICALLY BEAUTIFUL SPACE FOR THE BRAND SUCH THAT IT SERVES THE FUNCTIONAL ASPECT OF A MUSEUM & EXHIBIT SPACE AND ALSO SOMETHING THAT WEAVES THE HISTORY OF THEIR PRODUCTS AND THEIR MERGING INTO A SINGLE CORPORATE ENTITY AS JAGUAR LAND ROVER INTO THE BUILDING ARCHITECTURE THUS BECOMING MORE THAN A MUSEUM AND BECOMING THE SIGNATURE ITSELF.
- TO CREATE A LANDMARK IN THE AUTOCITY OF PUNE , ALSO HOME TO FIRST JLR FACTORY IN INDIA SINCE ITS AQUISITION BY TATA MOTORS PVT LTD.

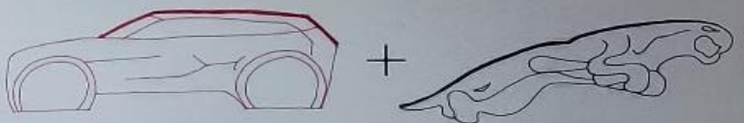


ROHIT SINGH (1150101065)

" the iconic roof of range rover meets the strong shoulderline of jaguar "

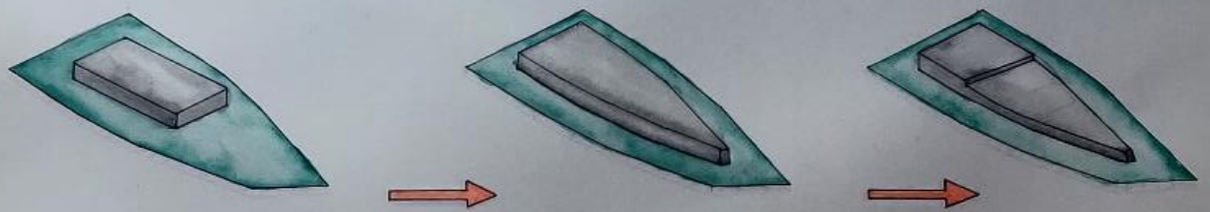
FORM EVOLUTION

THIS SITE IS PRAPOSED FOR JAGUAR & LAND ROVER AUTOMOBILE MUSEUM THAT'S WHY I DECIDED TO BRING TO-GETHER BOTH COMPANY LOGO'S FOR BRINGINGOUT ITS REFLECTION IN MY BUILDING DESIGN CONCEPT.



LAND ROVER + JAGUAR

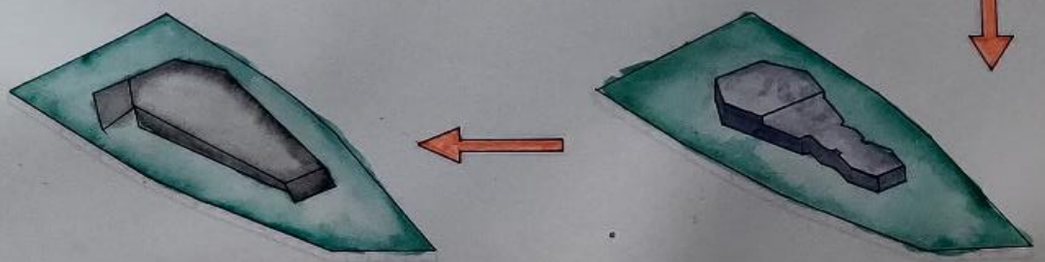
" the iconnic roof of range rover meets the strong shoulderline of jaguar "



THE BUILDING STANDS ON LAND AS DOES A SCULPTURE ON A PEDESTAL

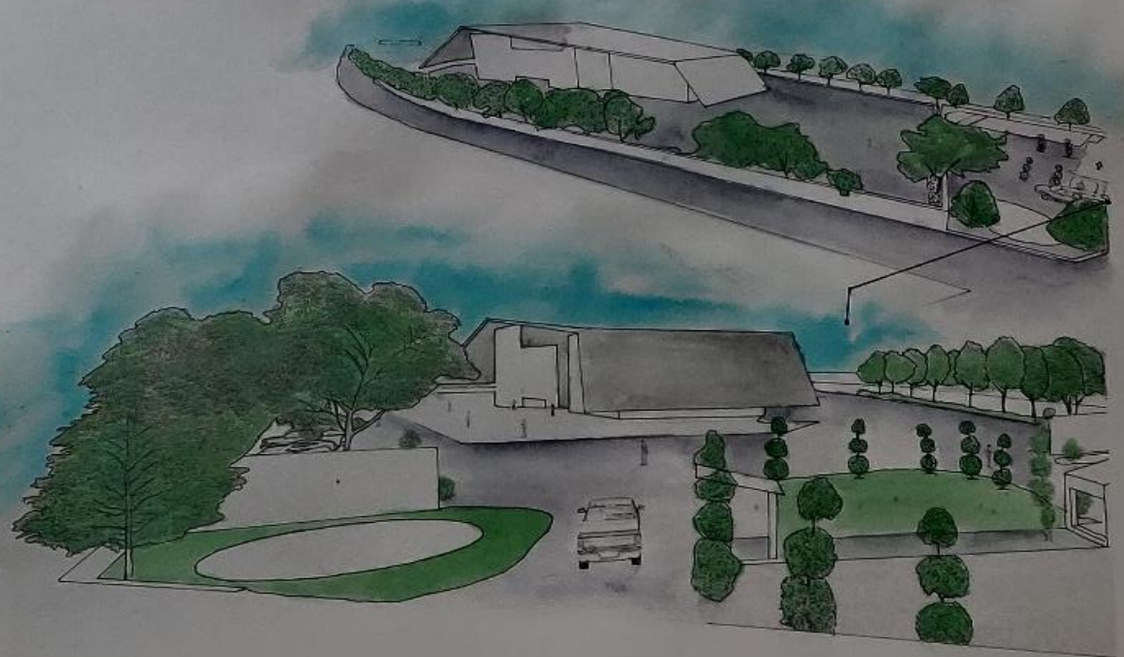
COHERENCE FROM SCULPTURE TO PEDESTAL

CULTIVATING FUNCTION FROM FORM



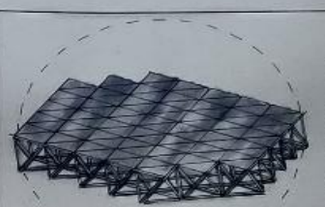
THE ROOF GIVES THE BUILDING THE IDENTITY FOR ITS CAUSE

CULTIVATING FORM FROM FUNCTION



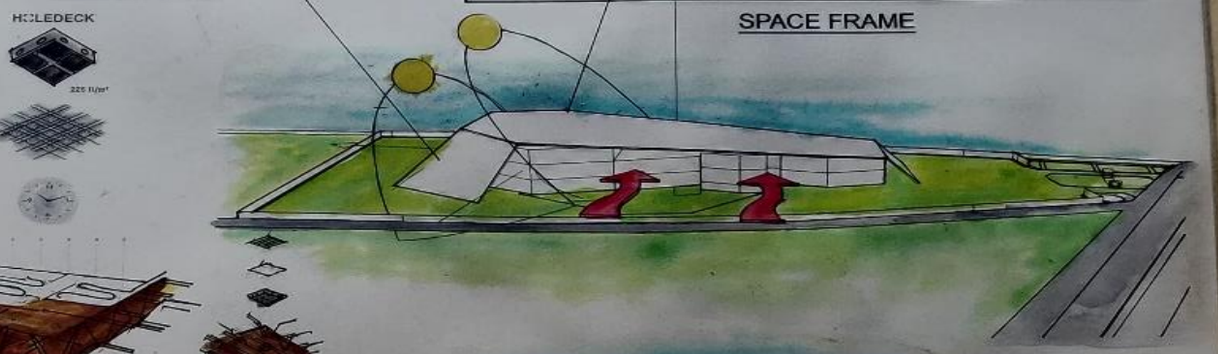
CLIMATE

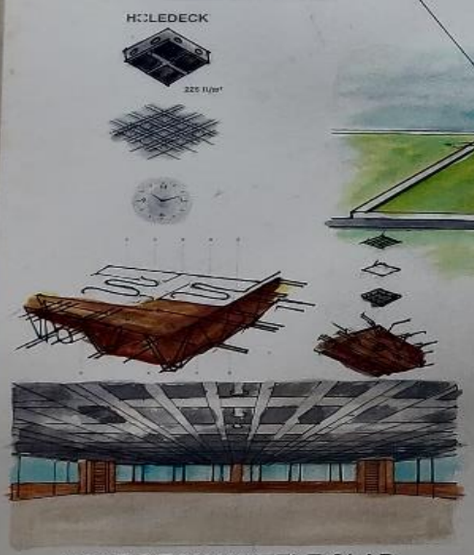
SOLAR PANEL



A space frame or space structure is a truss-like , lightweight rigid structure constructed from interlocking struts in a geometric pattern, spaceframes can be used to span large areas with few interior support. it is strong because of the inherent rigidity of the triangle.

SPACE FRAME





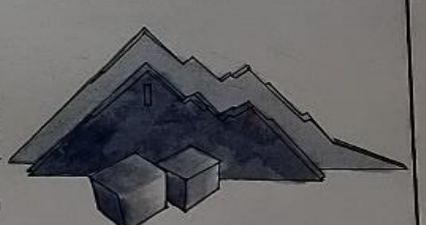
HOLE DECK WAFFLE SLAB

This means that services in cross- section occupy the same space as the structure itself and thus no additional suspended ceilings are required to hide them all. HOLEDECK is especially suitable for buildings requiring multiple services as well as big or medium spans such as office building , hospital , schools or any public , commercial or industrial building.

- HOLEDECK is suitable for big spans ranging from 10 to 18 meter high with a 50-60cm slab edge.
- It is possible to keep the structure with fair-faced concrete by adding dyes to the concrete mass.
- It provides greater freedom of design for the plant geometry and pillar placing.

SITE SECTION

Implementation of advanced construction techniques using cellular concrete technology.
High performance cellular concrete cab be applied is in the development of a lightweight binary density insulating concrete panel system .This product could be a consideration for future application in a new generation of buildings. These elements can be used for the construction in all types of building or structures worldwide.

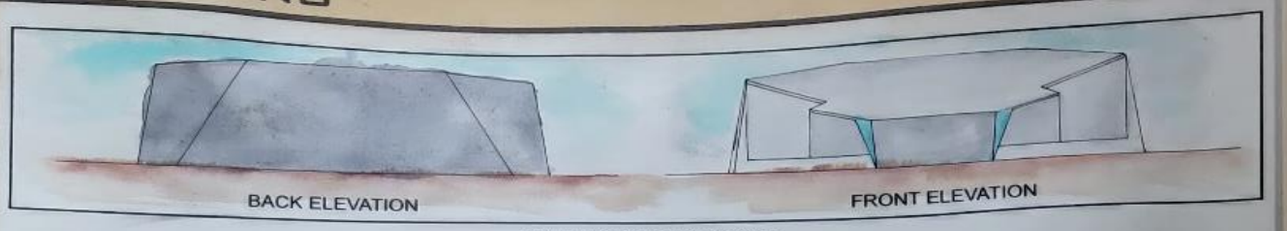


ADVANCED CONSTRUCTION TECHIQUES FOR PRECAST PANEL SYSTEM

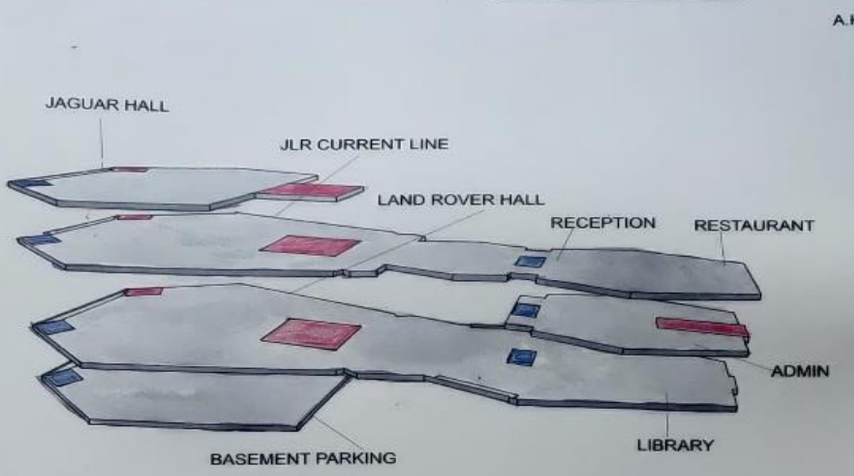
THESIS GUIDE: PROF. K.K. DIXIT
AR. ARPIT TIWARI

" the iconnic roof of range rover meets the strong shoulderline of ja

STAKING



VERTICAL STACKING

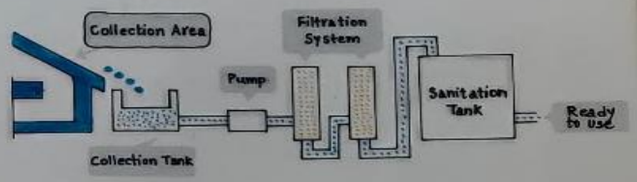


MATERIAL AND TECHNOLOGY

RAINWATER HARVESTING SYSTEM

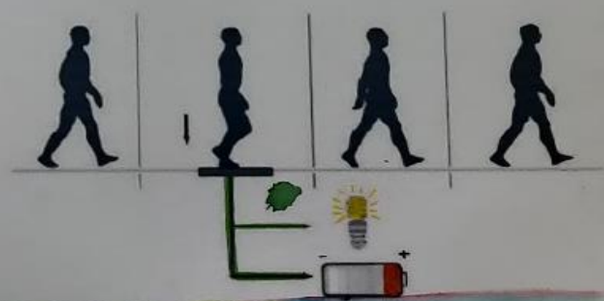
IN THIS MUSEUM THE RAIN WATER FROM ROOFTOP , SURFACE RUNOFF IS HARVESTED.
THE ROOF TOP RAINWATER FROM MUSEUM BLOCK IS COL-LECTED THROUGH A NETWORK OF PIPE AND CHAMBERS AND DIVERTED TO THE DRY OPEN WELL OF 15M DEPTH AND 2M IN DIAMETER.
THE RECHARGE WELL IS FILLED WITH A LAYER OF PEBBLE AND SAND FOR FILTERING THE SURFACE RUNOFF THAT IMPROVES THE QUALITY OF WATER HARVESTED.

HORIZONTAL STACKING



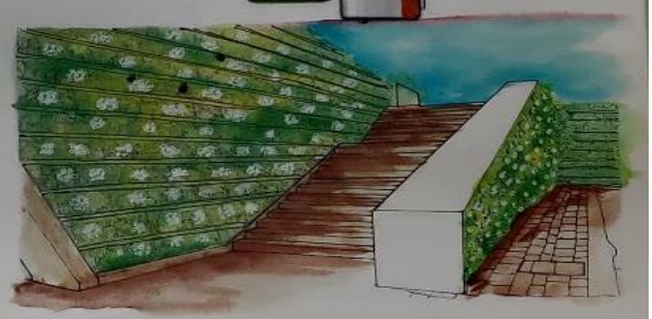
FOOT STEP POWER GENERATION

DESIGNED FOR USE IN HIGH FOOT -TRAFFIC AREAS, THE TILES CONVERT THE KINETIC ENERGY FROM FOOTSTEPS OF PEDESTRAINS INTO RENEWABLE ELECTRICITY, WHICH CAN BE STORED IN A LITHIUM POLYMER BATTERY OR USED TO POWER LIGHTING , DISPALYS, SPEAKERS, ALARMS, SIGNS, AND ADVERTISING.



LIVING WALL

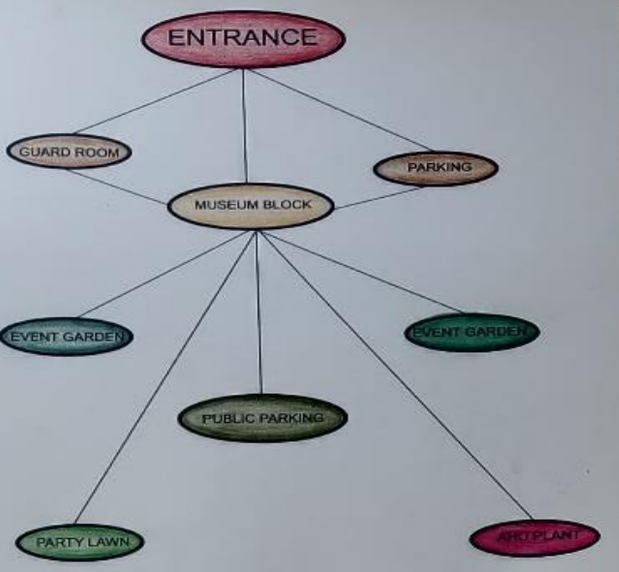
VEGETATION FOR COOLING CROSS VENTILATING AIR IS DRAWN FROM GRASSY AND VEGETATED AREAS.
VERTICALLY USING HYDROPONICS, ON STRCTURES THAT CAN BE EITHER FREE- STANDING OR ATTACHED TO WALLS. LIVING GREEN WALLS ARE ALSO REFERED TO AS VERTICAL GARDEN S, GREEN WALLS, LIVING WALLS OR ECOWALL.



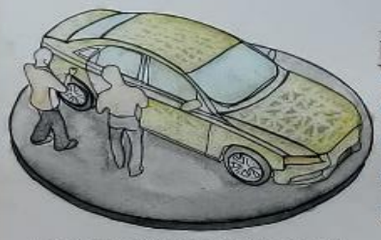
" the iconnic roof of range rover meets the strong shoulderline of jag

ZONING

MUSEUM CONNECTIVITY



SITE CONNECTIVITY

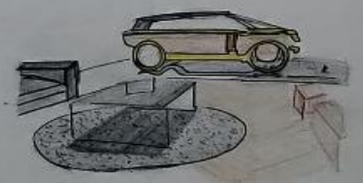


EXHIBITION PLATFORM

PASSAGE

SEATING SPACES

CARBON SCRUBBING TREE

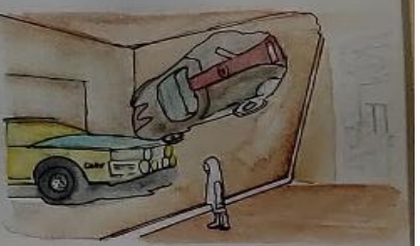


INTERIOR

CONNECTIVITY

TECHNOLOGY

PARKING



DISPLAY

CONCEPTUAL VIEWS

* the iconnic roof of range rover meets the strong shoulderline of jagu

FINAL REQUIREMENT

FINAL AREA REQUIREMENT

RECEPTION

S.NO.	REQUIREMENTS	STANDARDS	NO. OF UNITS OR PERSONS	FINAL AREA (SQMT)	
				PER UNIT/TAKE	TOTAL AREA
		30			
1	ENTRANCE FOYER	0.3 mt2 / Person	250PERSOM	80	80
2	LOBBY	2.2 mt2 / Person	250 PERSOM	500	550
3	TOILET	40 mt2 min.	2	80	80
	SECURITY CHECK	30 mt2 min.	1	30	30
	Total area =				740 sq. mt.
	40% Additional area for circulation and wall thickness =				296 sq. mt.
	NET TOTAL AREA =				1036sq. mt.

ADMINISTRATION

S.NO.	REQUIREMENTS	STANDARDS	NO. OF UNITS OR PERSONS	FINAL AREA (SQMT)	
				PER UNIT/TAKE	TOTAL AREA
1	DIRECTOR CABIN	30 mt2 min.	1	30	30
2	SECRETARY CABIN	20 mt2 min.	1	20	20
3	CURATOR CABIN	20 mt2 min.	1	20	20
	CONTROL ROOM	20 mt2 min.	1	30	30
4	SAFF	20 mt2 min.	2	40	40
5	TOILETS	20 mt2 min.	2	40	40
6	EMPLOYEE CABIN	50 mt2 min.	1	50	50
7	CONFRENCE	150 mt2 min.	1	150	150
	Total area =				380 sq. mt.
	40% Additional area for circulation and wall thickness =				152 sq. mt.
	NET TOTAL AREA =				532 sq. mt.

LIBRARY

S.NO.	REQUIREMENTS	STANDARDS	NO. OF UNITS OR PERSONS	FINAL AREA (SQMT)	
				PER UNIT/TAKE	TOTAL AREA
1	RECEPTION	10 mt2 min.	1	10	10
2	ADMIN CABIN	20 mt2 min.	1	20	20
3	SEATING	2.5 mt2 / Person	80 PERSON	200	200
	Total area =				230 sq. mt.
	40% Additional area for circulation and wall thickness =				92 sq. mt.
	NET TOTAL AREA =				322 sq. mt.

RETAIL

S.NO.	REQUIREMENTS	STANDARDS	NO. OF UNITS OR PERSONS	FINAL AREA (SQMT)	
				PER UNIT/TAKE	TOTAL AREA
1	SHOP	30 mt2 min.	4	120	120
	Total area =				120 sq. mt.
	40% Additional area for circulation and wall thickness =				48 sq. mt.
	NET TOTAL AREA =				168 sq. mt.

GARAGE

S.NO.	REQUIREMENTS	STANDARDS	NO. OF UNITS OR PERSONS	FINAL AREA (SQMT)	
				PER UNIT/TAKE	TOTAL AREA
1	GARAGE	400 mt2 min.	2	800	800
	Total area =				800 sq. mt.
	40% Additional area for circulation and wall thickness =				320 sq. mt.
	NET TOTAL AREA =				1120 sq. mt.

AHU ROOM

S.NO.	REQUIREMENTS	STANDARDS	OF UNITS OR PERSO	FINAL AREA (SQMT)	
				PER UNIT/TAKE	TOTAL AREA
1	AHU PLANT	630	1	630	630
	Total area =				630 sq. mt.

EXHIBITION

S.NO.	REQUIREMENTS	STANDARDS	NO. OF UNITS OR PERSONS	FINAL AREA (SQMT)	
				PER UNIT/TAKE	TOTAL AREA
1	JAGUAR EXHIBITION	55 mt2 min.	30	30	1650
2	AND ROVER EXHIBITION	55 mt2 min.	30	30	1650
3	JLR CURRENT	55 mt2 min.	30	30	1650
	Total area =				4950 sq. mt.
	40% Additional area for circulation and wall thickness =				1980 sq. mt.
	NET TOTAL AREA =				6930 sq. mt.

ARCHIVE

S.NO.	REQUIREMENTS	STANDARDS	NO. OF UNITS OR PERSONS	FINAL AREA (SQMT)	
				PER UNIT/TAKE	TOTAL AREA
	OFFICE	20 mt2 min.	1	20	20
1	CONTROL ROOM	35 mt2 min.	1	35	35
2	STUDIO	40 mt2 min.	1	40	40
	Total area =				95 sq. mt.
	40% Additional area for circulation and wall thickness =				38 sq. mt.
	NET TOTAL AREA =				133 sq. mt.

AUDITORIUM

S.NO.	REQUIREMENTS	STANDARDS	NO. OF UNITS OR PERSONS	FINAL AREA (SQMT)	
				PER UNIT/TAKE	TOTAL AREA
1	ENTRANCE FOYER	.3 mt2 / Person	50 PERSONS	30	15
2	SEAT+SPECTATOR	1.2 mt2 / Person	50 PERSONS	120	60
3	STAGE	12 mt2 min.	1	12	12
4	TOILET	10 mt2 min.	2	20	20
	Total area =				107 sq. mt.
	40% Additional area for circulation and wall thickness =				42 sq. mt.
	NET TOTAL AREA =				150 sq. mt.

LOUNGE

S.NO.	REQUIREMENTS	STANDARDS	NO. OF UNITS OR PERSONS	FINAL AREA (SQMT)	
				PER UNIT/TAKE	TOTAL AREA
1	LOUNGE	3 mt2 / Person	40 PERSONS	120	120
	Total area =				120 sq. mt.
	40% Additional area for circulation and wall thickness =				48 sq. mt.
	NET TOTAL AREA =				168 sq. mt.

RESTAURANT

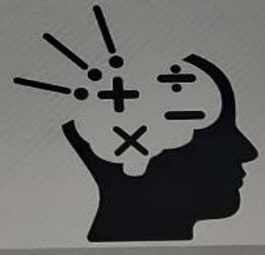
S.NO.	REQUIREMENTS	STANDARDS	NO. OF UNITS OR PERSONS	FINAL AREA (SQMT)	
				PER UNIT/TAKE	TOTAL AREA
1	SEATING	2 mt2 / Person	50 PERSONS	100	100
2	KITCHEN	.7 mt2 / Person	50 PERSONS	75	75
3	TOILET	10 mt2 min.	2	20	20
	Total area =				195 sq. mt.
	40% Additional area for circulation and wall thickness =				78 sq. mt.
	NET TOTAL AREA =				273 sq. mt.

PARKING

S.NO.	REQUIREMENTS	STANDARDS	NO. OF UNITS OR PERSONS	FINAL AREA (SQMT)	
				PER UNIT/TAKE	TOTAL AREA
1	BASEMENT PARKING	50 mt2 / Person	140	7000	7000
	Total area =				7000 sq. mt.

Area Analysis

S.No.						
1	Site Area	=			7.5	acre
		=			30364	Sqm.
2	Permissible F.A.R.	=			1.5	
3	Ground Coverage	=	40% of the Site Area	+	10% For entrance foyer	
		=	12145	+	1214	
		=			13594	Sqm.
4	Total Built up Area	=	F.A.R.	x	Site Area	
		=	1.5	x	30364	
		=			45546	Sqm.
5	Circulation	=	25% of Total Builtup Area			
			11385			
		=	Total Builtup Area	-	(Area+Circulation Area)	
			45546	-	30364+11385	
					41749	Sqm.
6	Landscape	=	15% of Total Area			
		=	(15X30364)/100		4554.6	Sqm.
		=			10500	Sqm.
		=			4	hectare
7	Site Area	=				
8	Tree Required At Site	=	50 Tree Per Hectare			
		=	50	X	3	
		=			150	Trees



AUTOMOBILE MUSEUM

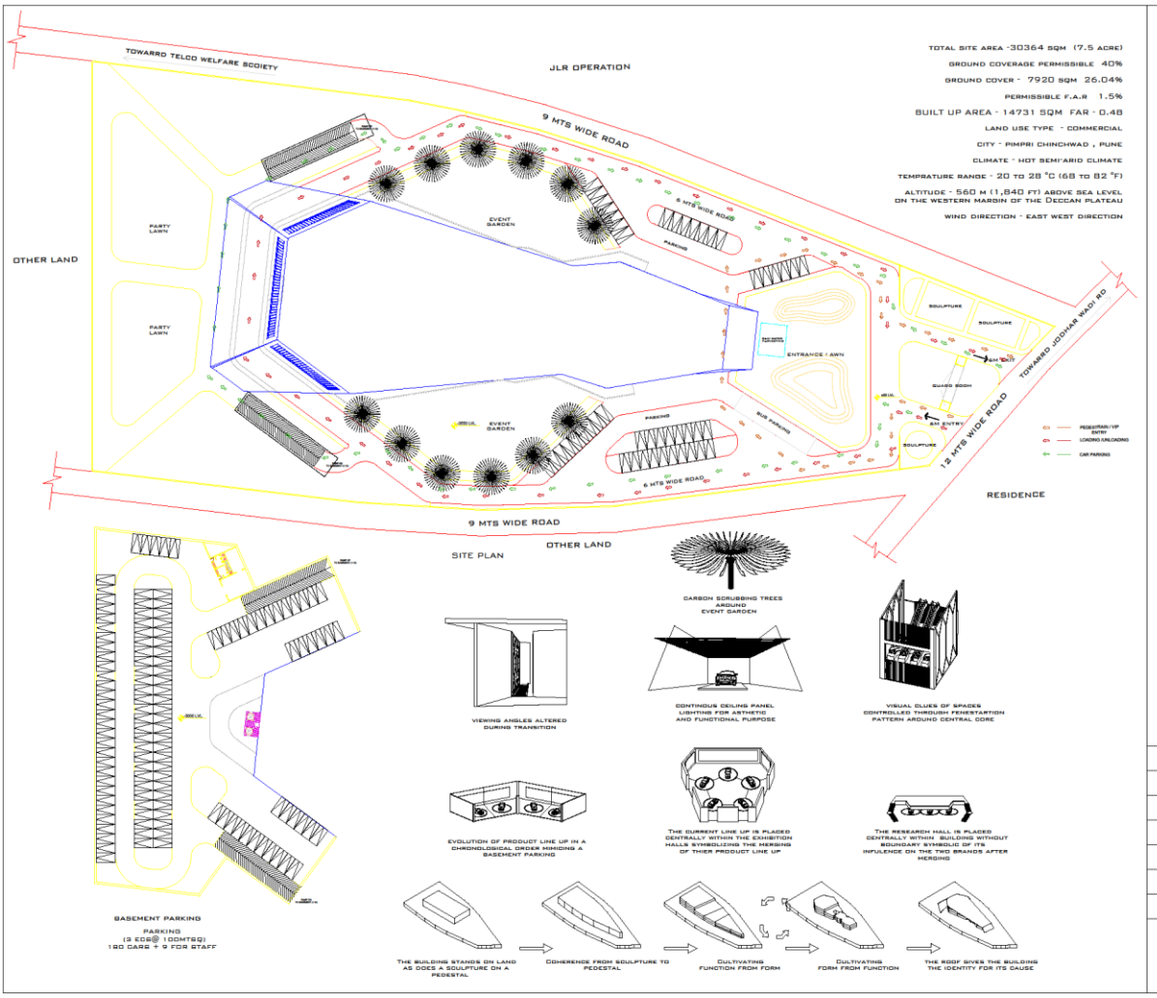
B.B.D.U , LUCKNOW

" the iconnic roof of range rover meets the strong shoulderline of

06

DRAWINGS

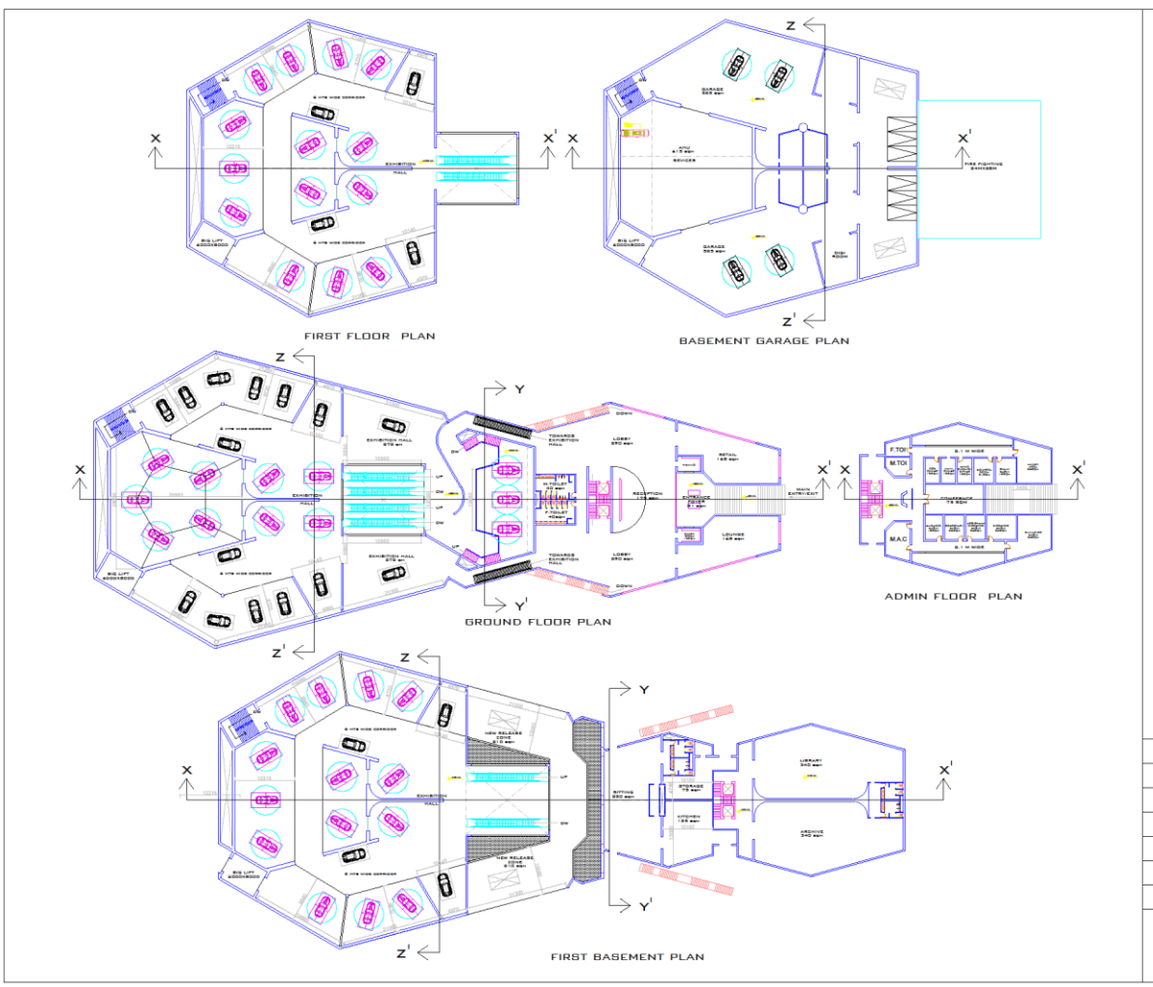
AUTOMOBILE MUSEME



SITE PLAN

ALL DIMENSION ARE MM
SCALE 1:300

ROHIT SINGH
B.ARCH 5TH YEAR
ARCH. DESIGN
BBDU LUCKNOW
GUIDED BY:-
PROF. K.K. DIXIT

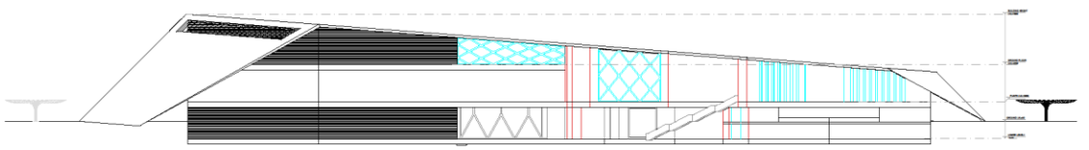


AUTOMOBILE MUSEME

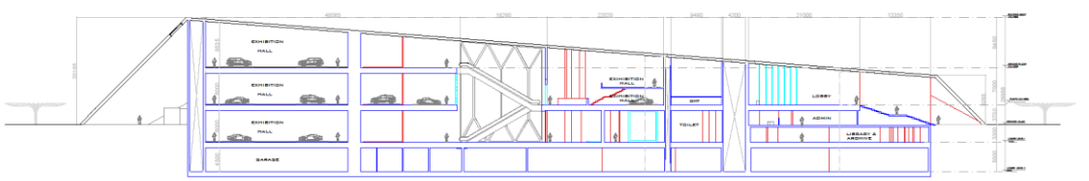
FLOOR PLAN

ALL DIMENSION ARE MM
SCALE 1:300

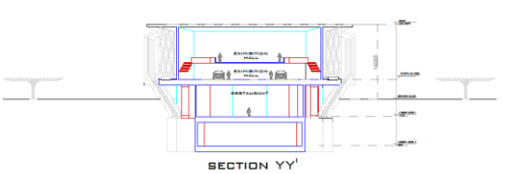
ROHIT SINGH
B.ARCH 5TH YEAR
ARCH. DESIGN
BBDU LUCKNOW
GUIDED BY:-
PROF. K.K. DIXIT



EAST ELEVATION



SECTION XX'



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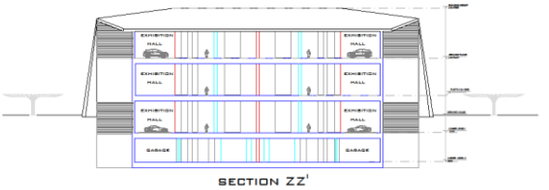

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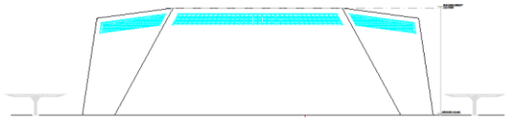
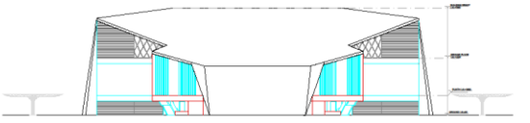


NORTH ELEVATION



SOUTH ELEVATION

AUTOMOBILE MUSEME

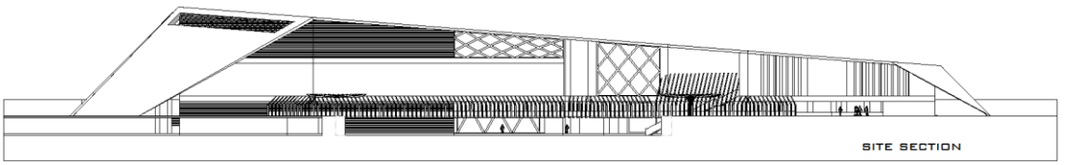
SECTION ,ELVATION

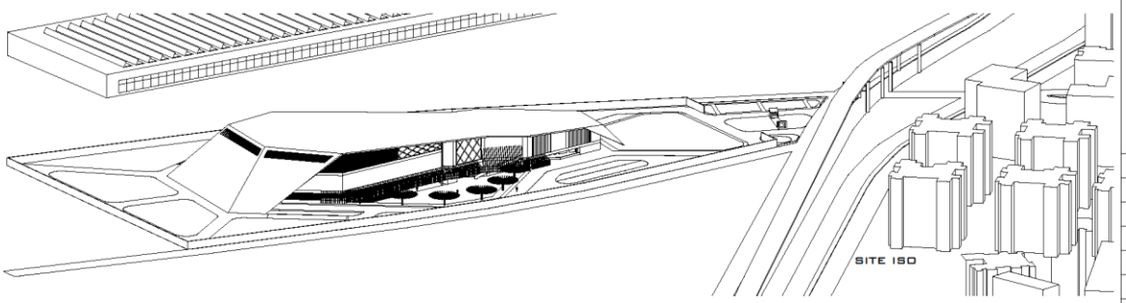
ALL DIMENSION ARE MM
SCALE 1:300

ROHIT SINGH
B.ARCH 5TH YEAR
ARCH. DESIGN
BBDU LUCKNOW
GUIDED BY:-
PROF. K.K. DIXIT

AUTOMOBILE MUSEUM

" the iconnic roof of range rover meets the strong shoulderline of jaguar "

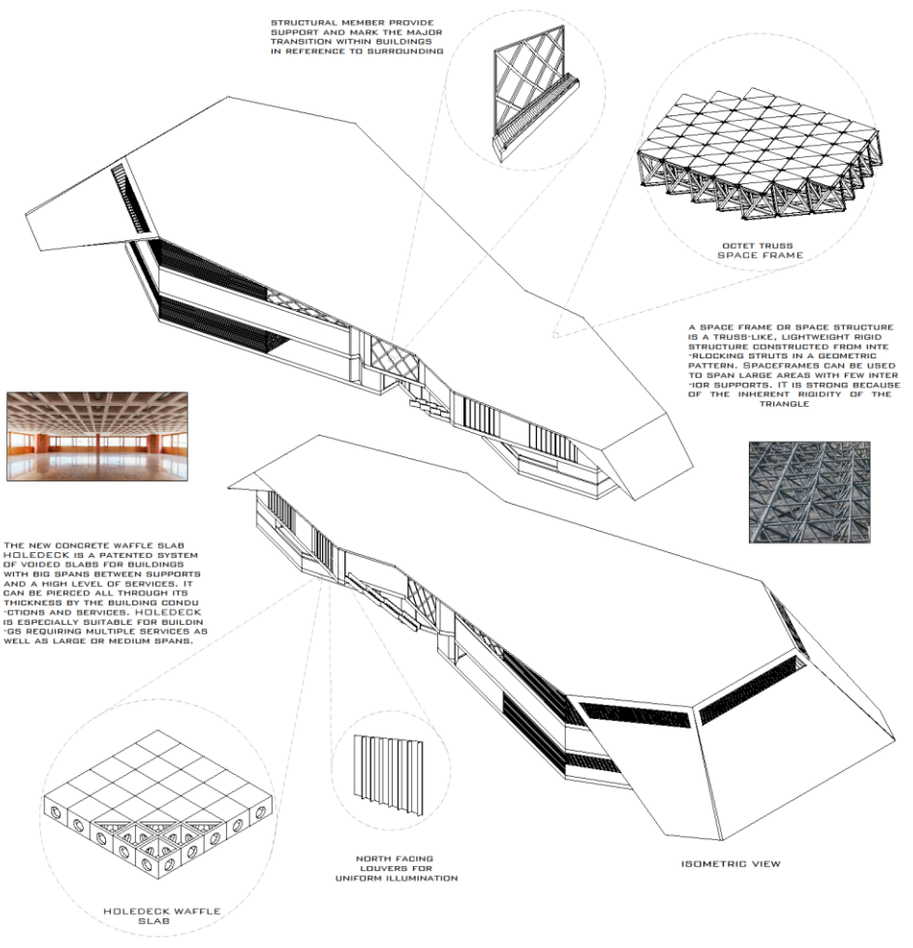




DETAIL

ALL DIMENSION ARE IN MM
SCALE - NTS

ROHIT SINGH
B.ARCH 5TH YEAR
ARCH. DESIGN
BBDU LUCKNOW
GUIDED BY:-
PROF. K.K. DIXIT

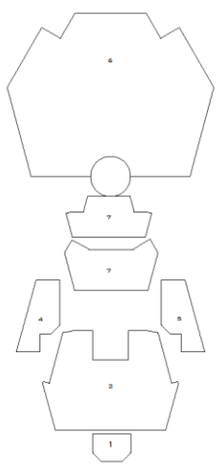


AUTOMOBILE MUSEME

DETAIL

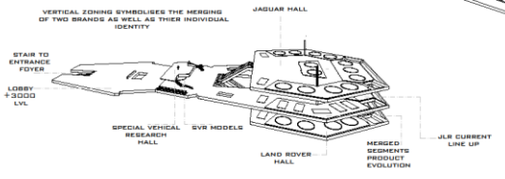
ALL DIMENSION ARE MM
SCALE - NTS

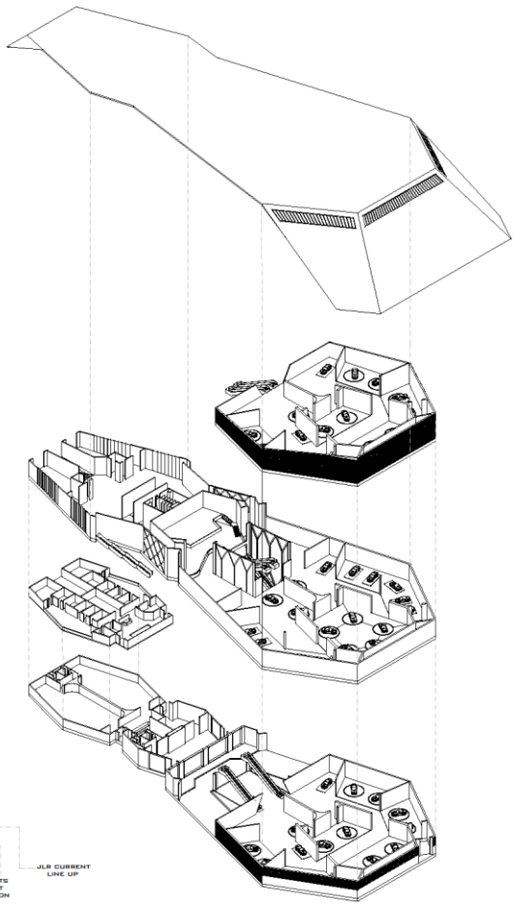
ROHIT SINGH
B.ARCH 5TH YEAR
ARCH. DESIGN
BBDU LUCKNOW
GUIDED BY:-
PROF. K.K. DIXIT



HORIZONTAL ZONING CREATES A LOOP LIKE MOVEMENT WITH EXHIBITION HALLS

B.NO	TYPE	AREA
01	ENT. FOYER	60MTSQ.
02	LOBBY	550MTSQ.
03	LOBBY TOI.	85MTSQ.
04	LOUNGE	164MTSQ.
05	RETAIL	164MTSQ.
06	EXB. HALL 1	226MTSQ. X 3
07	EXB. HALL 2	527MTSQ.
08	EXB. HALL 3	273MTSQ. X 2
09	RESTAURANT	525MTSQ.
10	LIBRARY	375MTSQ.
11	ARCHIVE	375MTSQ.
12	GARAGE	1091MTSQ. X 2
13	ADMIN BLK	674MTSQ.
14	LAUNCH AR	567MTSQ.
15	BASEMENT P.	7000MTSQ.





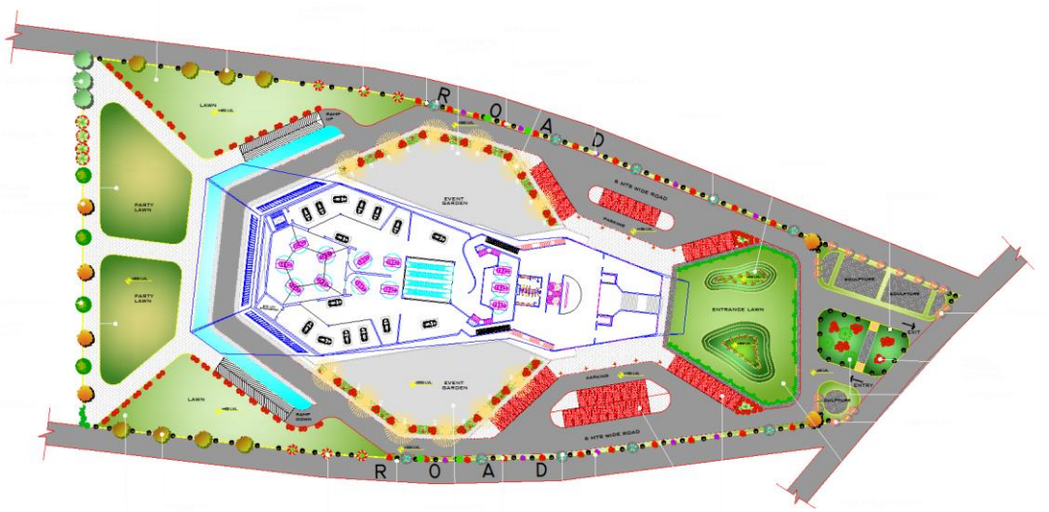
ISOMETRIC BLOW UP

AUTOMOBILE MUSEME

DETAIL

ALL DIMENSION ARE MM
SCALE - NTS

ROHIT SINGH
B.ARCH 5TH YEAR
ARCH. DESIGN
BBDU LUCKNOW
GUIDED BY:-
PROF. K.K. DIXIT



SITE PLAN

LEGEND

TREE	KEY	DIA	HT	BOTANICAL NAME	COMMON NAME	REMARK
	MI	3Ø	.5-4 MT	CALISTEMO	CRIMSON BETTLEBRUSH	PLANTS ARE ALL WOODY SHURBS
	PS	3Ø	3-4 MT	POPULAUS SP	POPULAR	EG MEDSIZE FAST GROWINGCOLUMNER FORM
	FD	4Ø	3-5 MT	FLOR DE FUEGO	FLAMBOYANT	FEATHERY LEAVES TWICE FLOWERING FEB/MAR-SEPT
	LS	3Ø	3-4 MT	LARGESTROEMEA	PRIDE OF INDIA	PURPLE,ALL TIMES, EXCEPT DEC/JAN
	CF	4Ø	3-4 MT	CASSIA FISTULA	AMALTAS	BRILLIANT YELLOW FLOWER ,
	CL	2Ø	3-4 MT	CALLISTEMON	BOTTEL BRUSH	DROOPING HABIT
	PA	3Ø	3-4- MT	PLUMENRIA ALB	PAGODA TREE	SCULPTUREAL FORM WHITE/RED FLOWER
	RO	.3Ø	.5- MT	ROSALES	ROSE	COLOR FULL FLOWER
	SI	3Ø	6-8- MT	SARACA INDICA	SITA ASHOKA	GRAND AVENUE TREE,

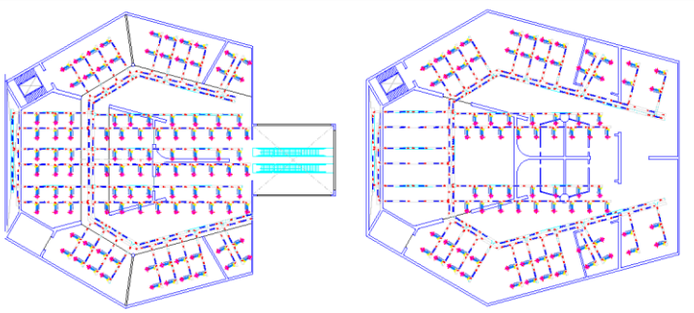
TREE	KEY	DIA	HT	BOTANICAL NAME	COMMON NAME	REMARK
	CJ	3Ø	3-4- MT	BAUHINIA ALBA		SCULPTUREAL FORM PURPLE FLOWER
	MM	3-5Ø	4-8 m	MAQUILISHUAT MORADO	TABEBUIA ROSEA	EG, TALL, SPREADING
	AS	3-5Ø	8-12m	POLYALTHIA	ASHOKA	EG, TALL, PYRAMIDIAL
	KN	0-1Ø	0.5-2m		KANER	
	MR	0-1Ø	0.5-2m		MOR PANKHI	
	GD	0-1Ø	0.5-2m	GOLDEN DUANTA		
	S	0-1Ø	0-1.2m		SEASONAL FLOWER	

AUTOMOBILE MUSEME

LANDSCAPE

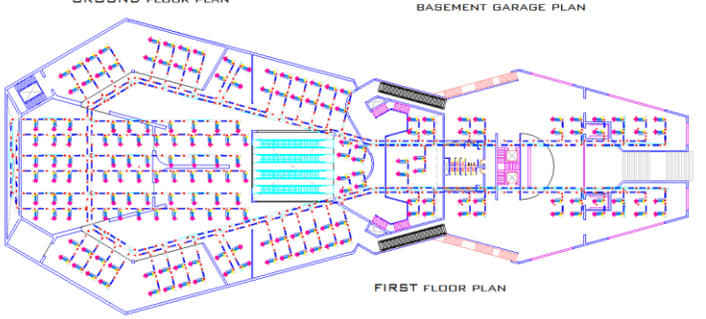
ALL DIMENSION ARE MM
SCALE 1:500

ROHIT SINGH
B.ARCH 5TH YEAR
ARCH. DESIGN
BBDU LUCKNOW
GUIDED BY:-
PROF. K.K. DIXIT

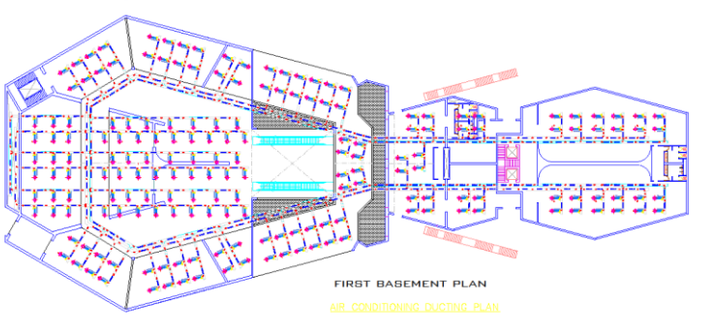


GROUND FLOOR PLAN

BASEMENT GARAGE PLAN



FIRST FLOOR PLAN



FIRST BASEMENT PLAN

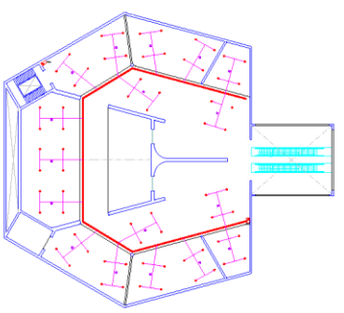
AIR CONDITIONING DUCTING PLAN

AUTOMOBILE MUSEME

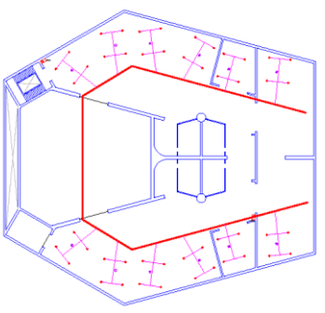
AIR CONDUCTING

ALL DIMENSION ARE MM
SCALE 1:500

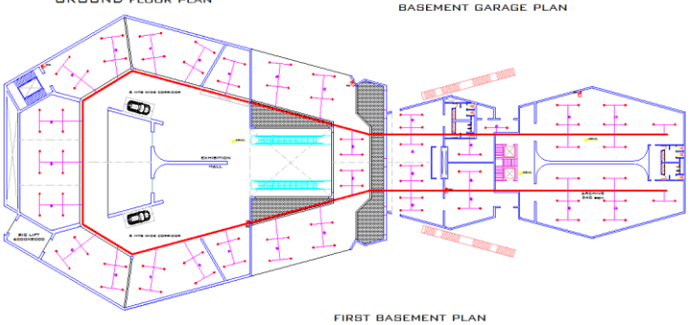
ROHIT SINGH
B.ARCH 5TH YEAR
ARCH. DESIGN
BBDU LUCKNOW
GUIDED BY:-
PROF. K.K. DIXIT



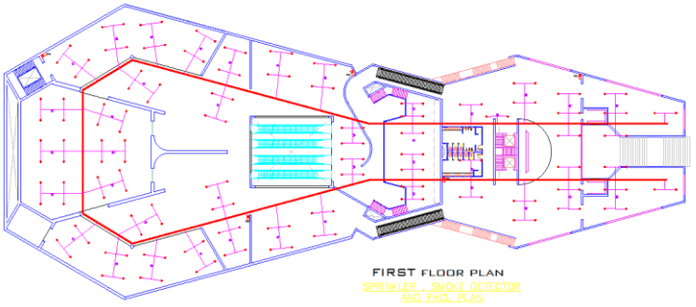
GROUND FLOOR PLAN



BASEMENT GARAGE PLAN



FIRST BASEMENT PLAN



FIRST FLOOR PLAN

SPRINKLER , SMOKE DETECTOR AND FHCL PLAN

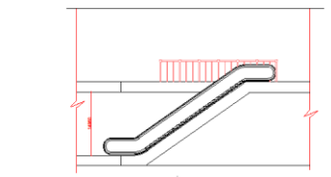
S.NO.	SYMBOL	DESCRIPTION	POSTION
1.		15 M.M. DIA. SPRINKLER	
2.		SMOKE DETECTOR	

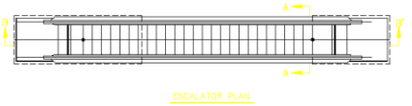
AUTOMOBILE MUSEME

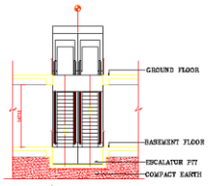
FIRE FIGHTING DETAIL

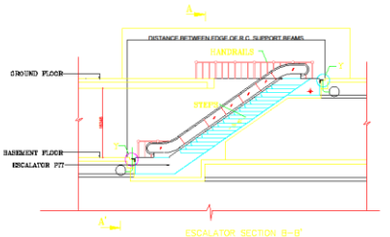
ALL DIMENSION ARE MM
SCALE 1:500

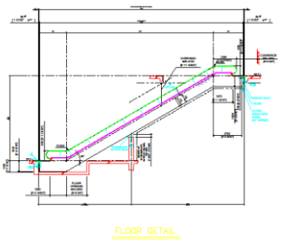
ROHIT SINGH
B.ARCH 5TH YEAR
ARCH. DESIGN
BBDU LUCKNOW
GUIDED BY:-
PROF. K.K. DIXIT

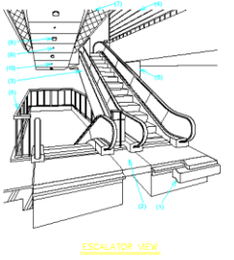




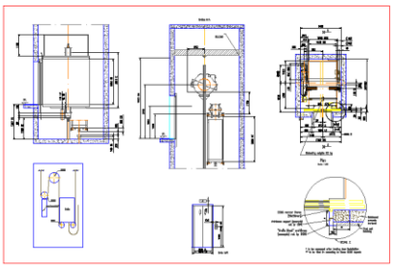




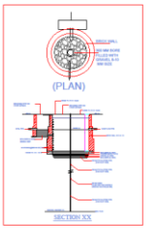




ESCALATOR DETAIL

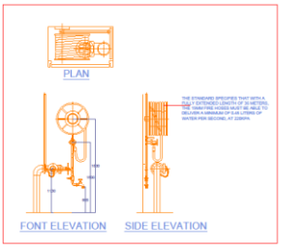


LIFT DETAIL



(RAIN WATER HARVESTING)

FIRE FIGHTING



(FIRE HYDRANT)

AUTOMOBILE MUSEME

DETAIL

ALL DIMENSION ARE MM
SCALE 1:500

ROHIT SINGH
B.ARCH 5TH YEAR
ARCH. DESIGN
BBDU LUCKNOW
GUIDED BY:-
PROF. K.K. DIXIT

07

PROPOSALS

1.CELLULAR CONCRETE

Cellular Concrete is a cementitious paste of neat cement or cement and fine sand with a multitude of micro/macroscopic discrete air cells uniformly distributed throughout the mixture to create a lightweight concrete.

It is commonly manufactured by two different methods. Method A, consists of mixing a pre-formed foam [surfactant] or mix-foaming agents mixture into the cement and water slurry. As the concrete hardens, the bubbles disintegrate leaving air voids of similar sizes.

Method B, known as Autoclaved Aerated Concrete [AAC] consists of a mix of lime, sand, cement, water and an expansion agent. The bubble is made by adding expansion agents [aluminum powder or hydrogen peroxide] to the mix during the mixing process. This creates a chemical reaction that generates gas, either as hydrogen or as oxygen to form a gas-bubble structure within the concrete. The material is then formed into molds. Each mold is filled to one-half of its depth with the slurry. The gasification process begins and the mixture expands to fill the mold above the top. Similar to baking a cake. After the initial setting, it is then cured under high-pressured-steam [180° to 210°C / 356°to 410°F] “autoclaved” for a specific amount of time to produce the final micro/macro-structure.

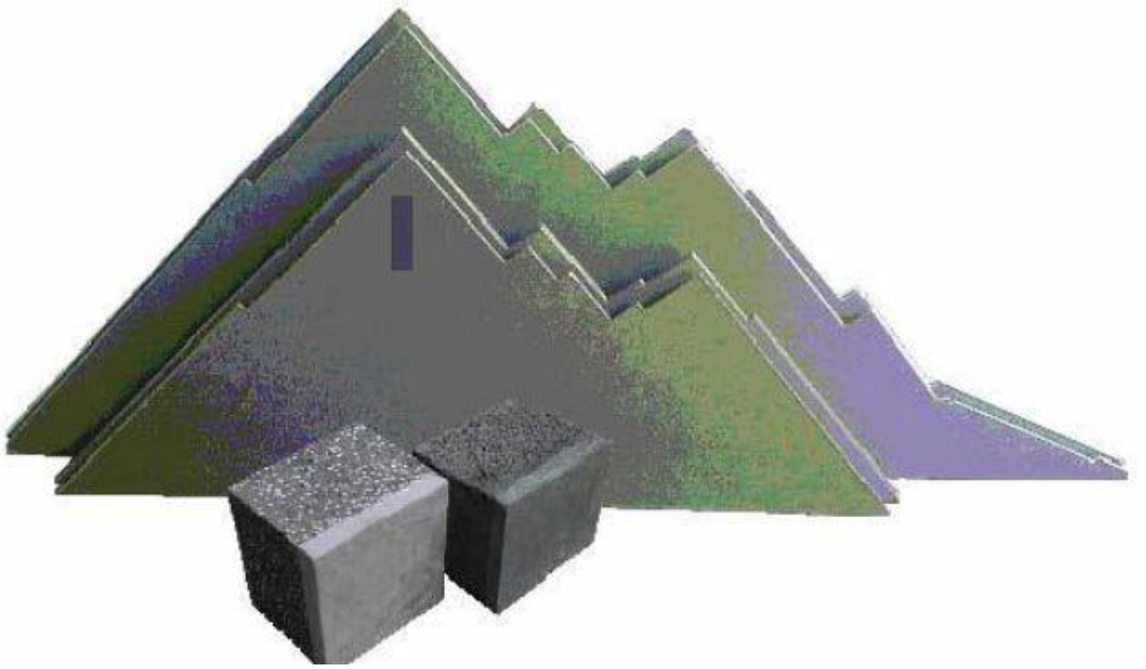
Recently, a direction to concrete compositions prepared by using aqueous gels [aquagels] is being considered as all or part of the aggregate in a concrete mix. Aquagel spheres, particles, or pieces are formed from gelatinized starch and added to a matrix. Starch modified or unmodified such as wheat, corn, rice, potato or a combination of a modified or unmodified starches are examples of aqueous gels. A modified starch is a starch that has been modified by hydrolysis or dextrinizaton. Agar is another material that can create a pore or cell in concrete. During the curing process as an aquagel loses moisture, it shrinks and eventually dries up to form a dried bead or particle that is a fraction of the size of the original aquagel in the cell or pore in the concrete. This results in a cellular, lightweight concrete.

High carbon ash, recycled aluminum waste and zeolite powders are additional mechanical structures suitable in the production of cellular lightweight concrete. These cells may account for up to 80% of the total volumne. Weight of the concrete mixtures range from 220 kilograms per cubic meter [l4 lbs. cubic foot] to 1922 kilograms per cubic meter [120 lbs. cubic foot] and compressive strengths vary from 0.34 megapascals [50 pounds per square inch] to 20.7 megapascals [3,000 pounds per square inch].

2. ADVANCED CONSTRUCTION TECHNIQUES FOR PRECAST PANEL SYSTEM

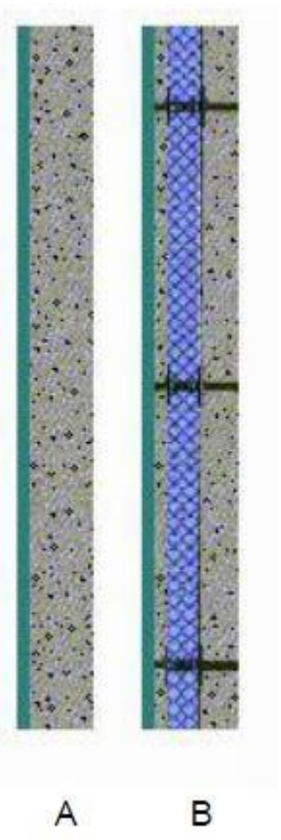
Implementation of advanced construction techniques
using cellular concrete technology.

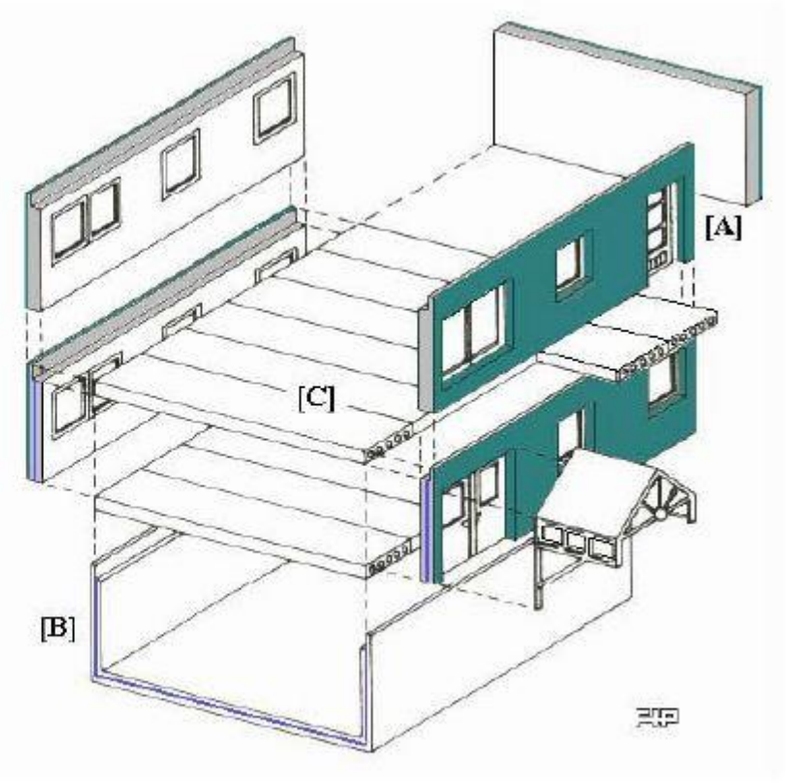
One example of areas to which High Performance Cellular Concrete can be applied is in the development of a lightweight binary density insulating concrete panel system. This product could be a consideration for future applications in a new generation of buildings. These elements can be used for the construction in all types of building or structures worldwide. For instance affordable housing, schools, senior citizen's centers, industrial, military and municipal facilities, and structures requiring service life in severe or hostile environments. Another precast application would be for new or replacing metal sheeting on the exterior skins on metal buildings.



[EPS beads + foam
foam only 50.80 mm [2 in. X 2 in.] cube specimens

These two illustrated samples represent this binary process. The thinner 7.62mm [3/8"] coloured finish would contain a density in the range of 1522 kg/m^3 to 1762 kg/m^3 [95 lb/ft^3 to 110 lb/ft^3]. And the second density following the first would be a 1041 kg/m^3 [65lb/ft^3] thermal density. Two main advantages with system is [1] Savings on colouring, since it only is encapsulated in this thin area, and not throughout the entire mix. [2] Thermal conductivity through both members lowering costs to heat or cool inside the structure. The binary system reduces the weight of the material in addition decreasing structural weight yet maintaining medium or high Mpa [psi].





[A] Single Skin Bi-Density Panel with EPS Beads Facing skin: Clay, Ceramic, Brick Face, Terra Cotta ,Stone, Marble, Metal]
[B] Sandwich Panel with internal rigid insulation board with EPS beads
[C] Hollow Core Planks produced with HPCC
A B
Hollow Core
Application that can benefit from this process. Hollow core concrete planks and wall panels products are one of the most advanced building materials being used in the construction industry today. The advantage of these extruded wall panels is in durability. They offer outstanding reductions in sound transmission and can obtain fire ratings of up to 4 hours. The problem with this product it has very little or if any insulation properties.
High-Performance Cellular Concrete [HPCC] can provide excellent insulation and reduce the weight to half of the normal weight for this product to 32 kilograms per cubic foot [70 pounds].

3. HOLE DECK WAFFLE SLAB

The new concrete waffle slab HOLEDECK is a patented system of voided slabs for buildings with big spans between supports and a high level of services. It can be pierced all through its
thickness by the building conductions and services.

This means that services in cross-sections occupy the same space as the structure itself and
thus no additional suspended ceilings are required to hide them all. HOLEDECK is especially
suitable for buildings requiring multiple services as well as big or medium spans, such as office buildings, hospitals, schools or any public, commercial or industrial building.

» HOLEDECK is suitable for big spans ranging from 10 to 18 meter high with a 50-60cm slab
edge.

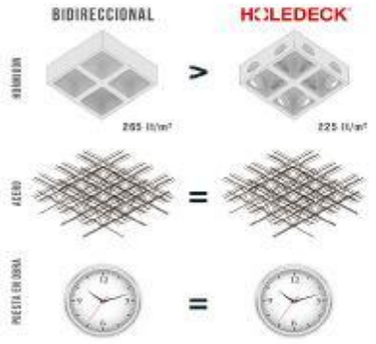
» It is possible to keep the structure with fair-faced concrete by adding dyes to the concrete
mass.

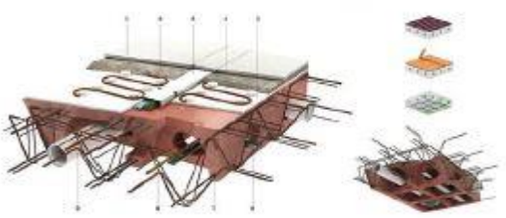
» It is set up in a similar way to other voided flat plate slabs.

» It provides greater freedom of design for the plant geometry and pillar placing.

» It is modulated according to a 80cm interaxis so its modules are interchangeable with any
voided two-way flat plate slab system.

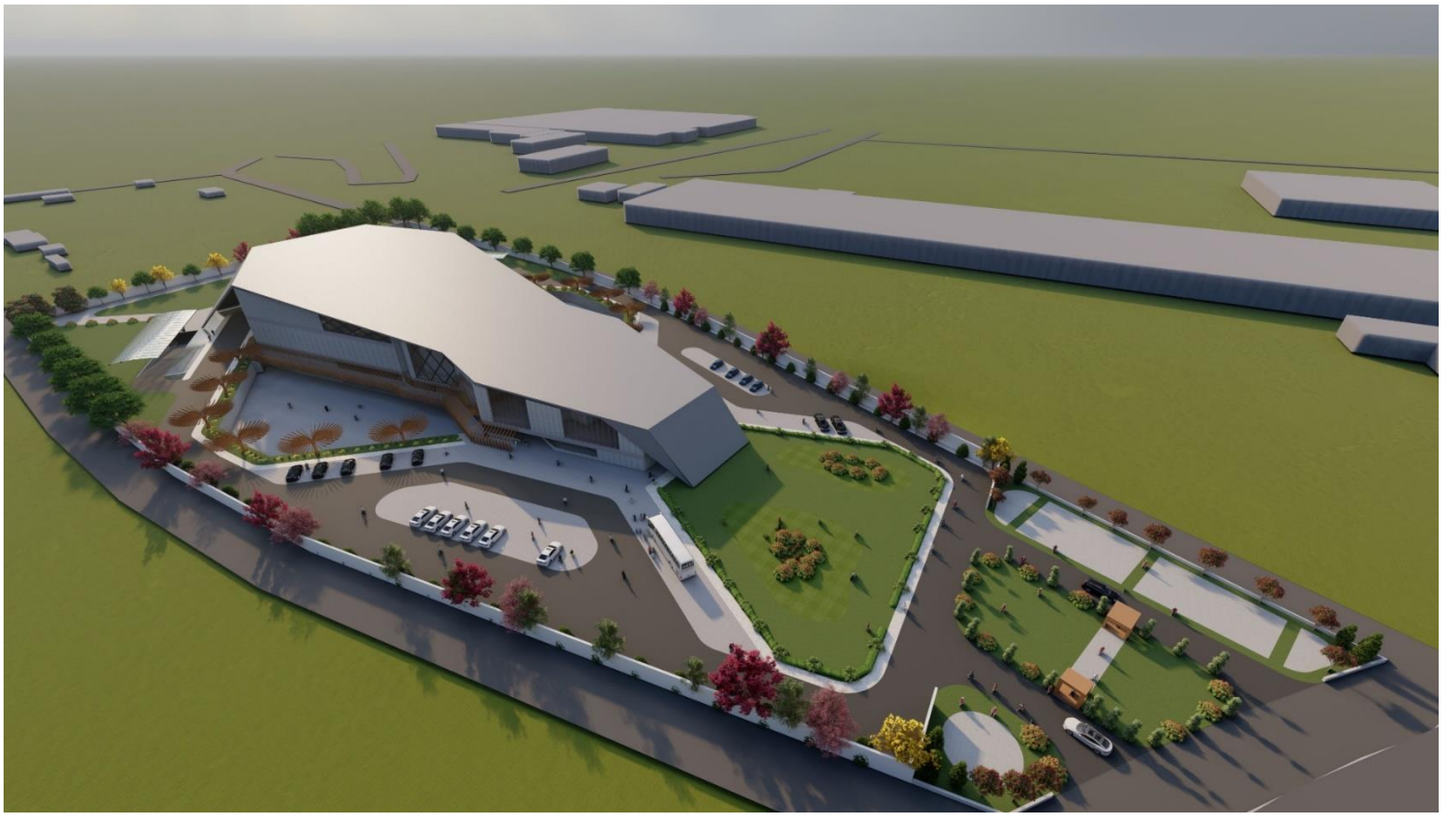
Air may be distributed through conventional semi-flexible conduits or through a plenum system, which requires a sealed suspended ceiling and removable locks in lateral windows..

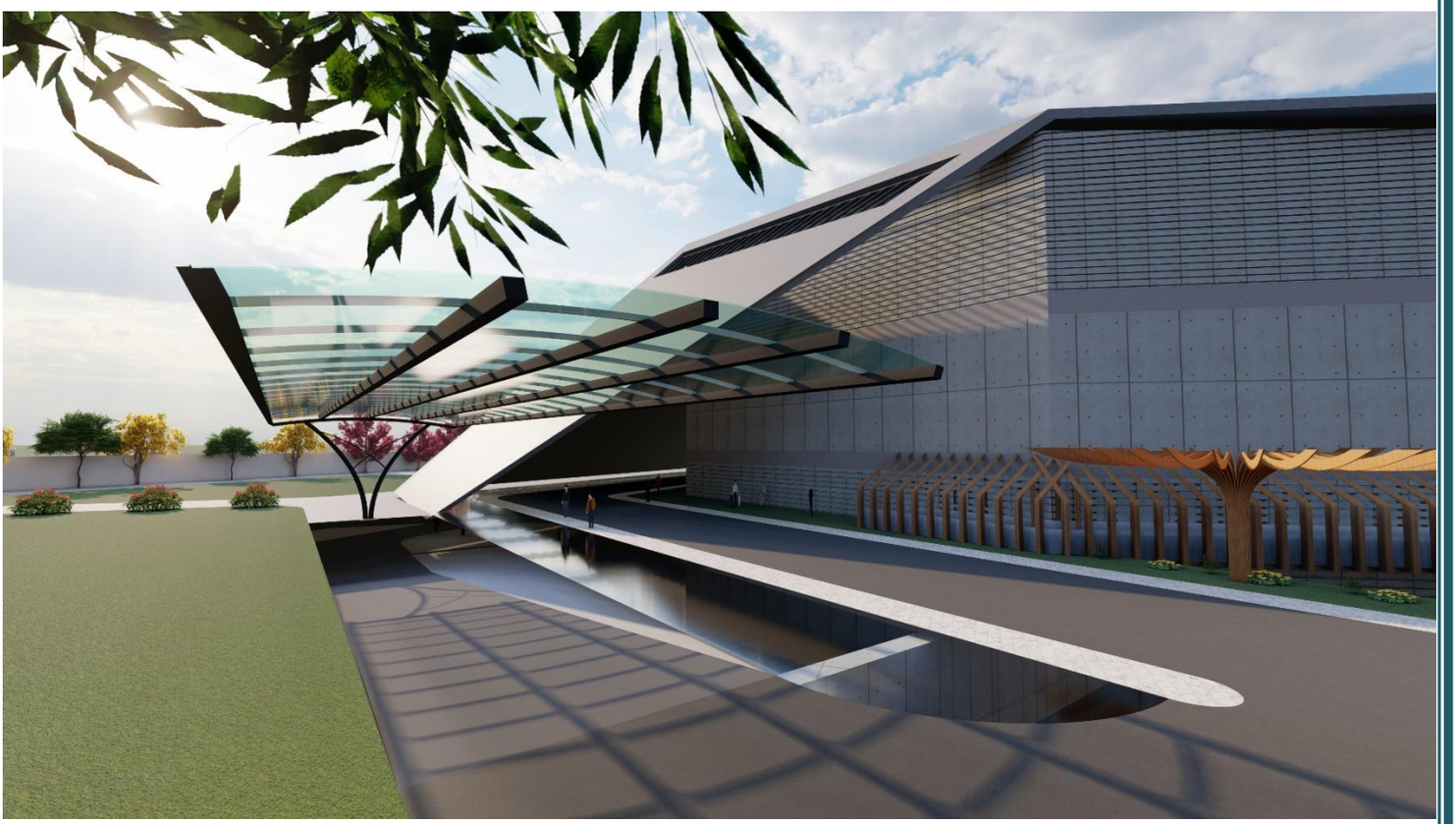


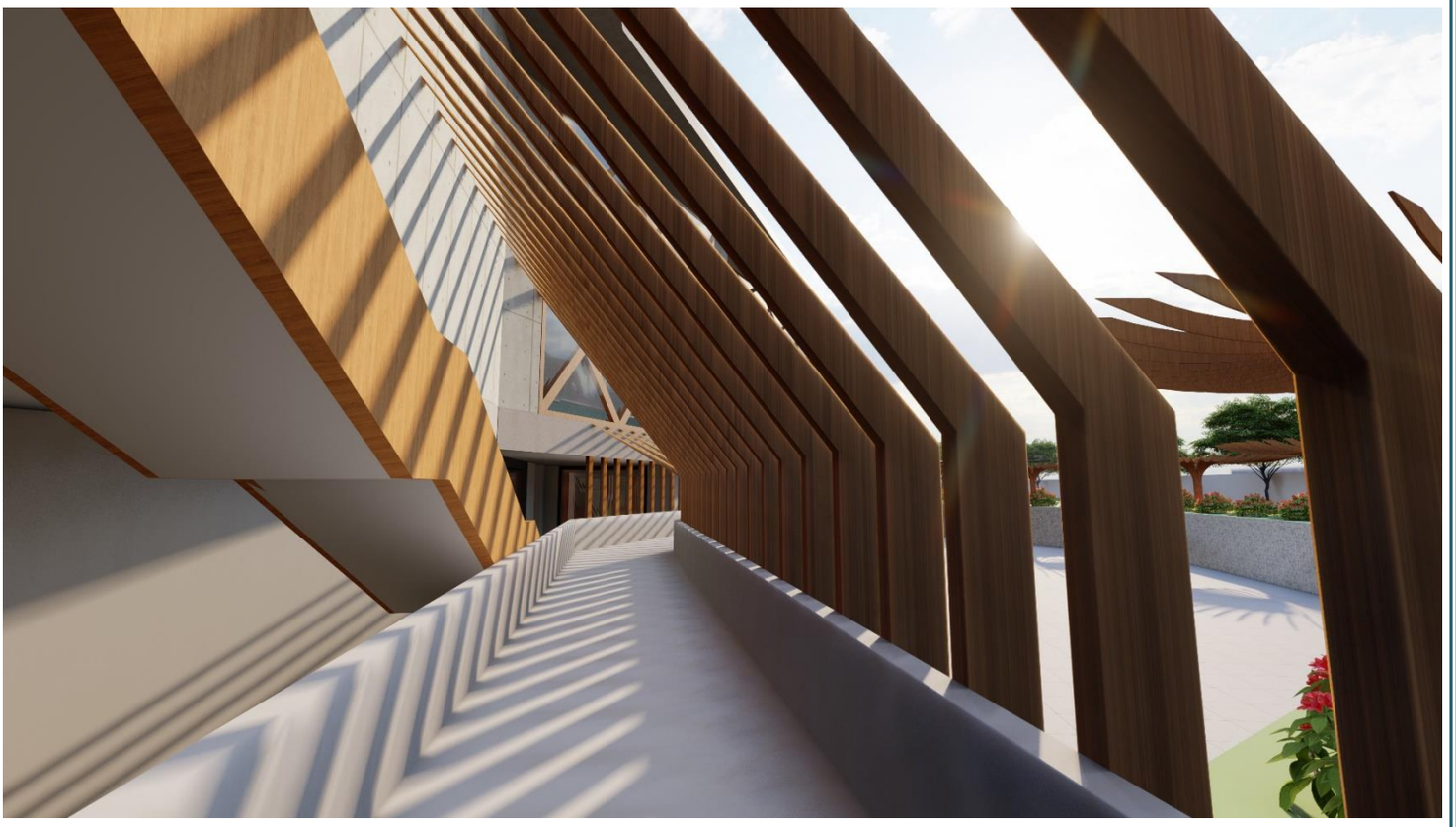


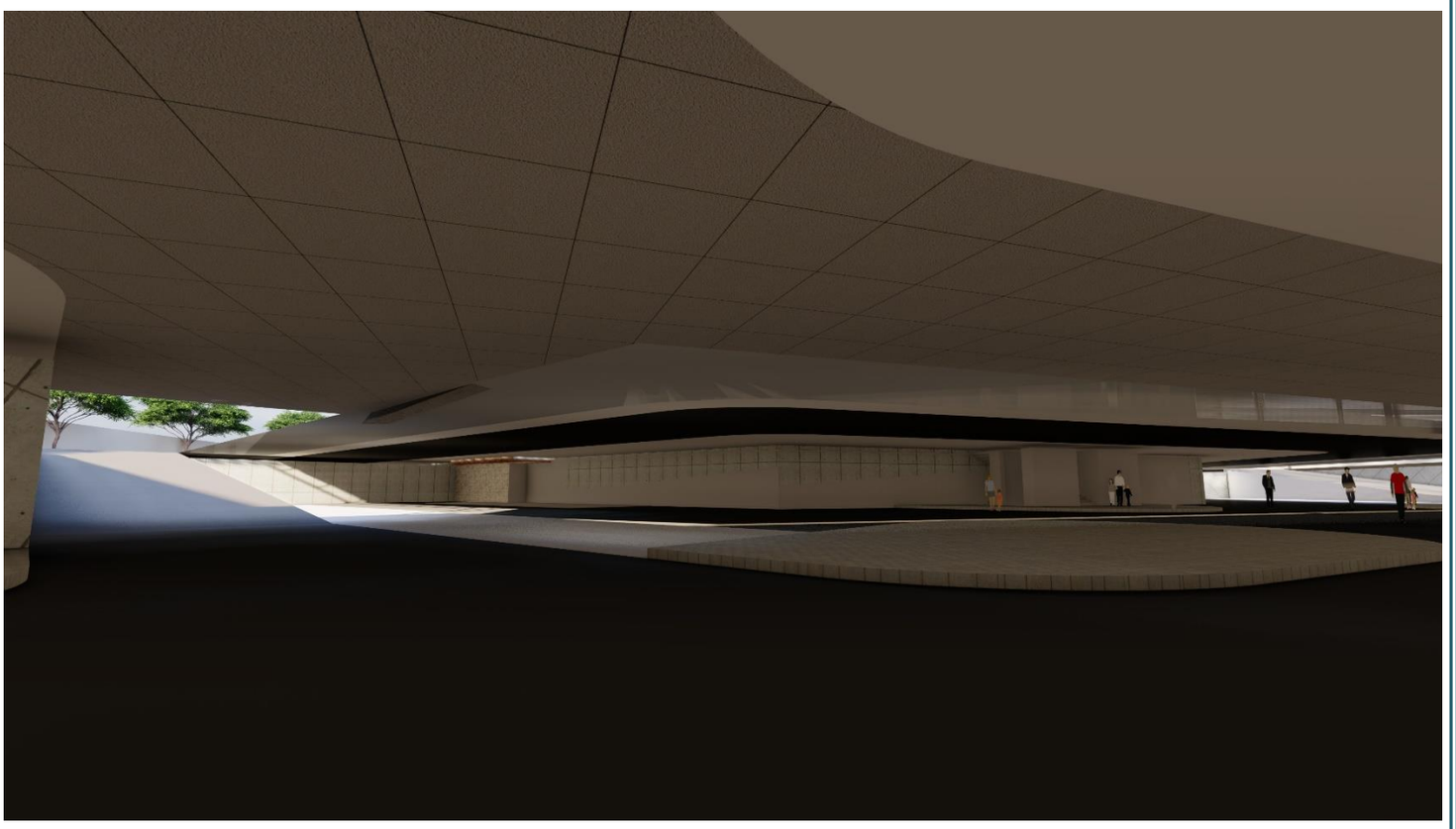
08

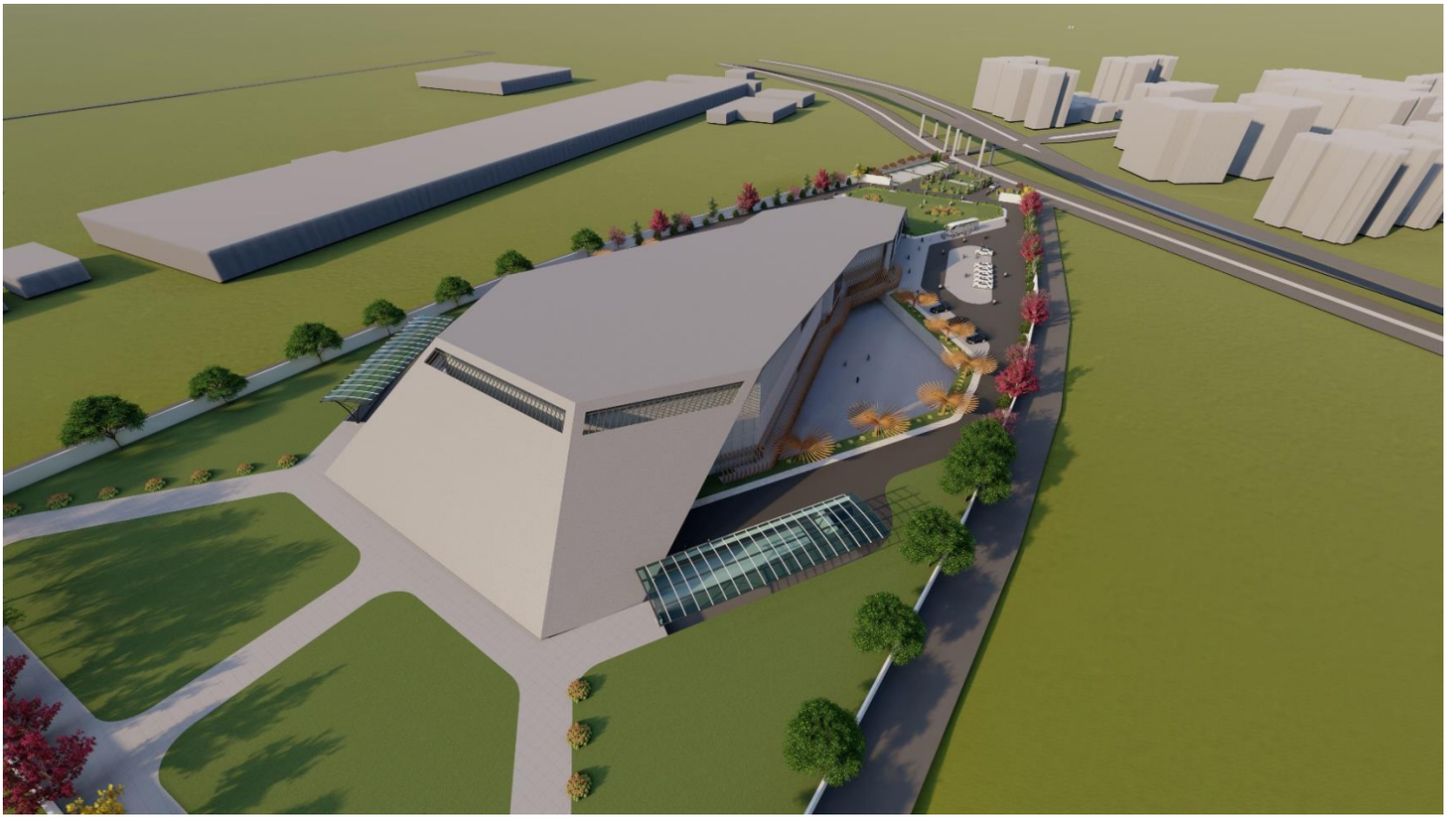
SITE VIEWS











THANK YOU