

SCHOOL OF BUILDING AND ENVIRONMENT

DEPARTMENT OF ARCHITECTURE

PROFESSIONAL TRAINING REPORT FORMAT GUIDELINES

Sequence of the **A3 Formats** to be bounded in the Practical Training Report

Title Page –	Refer Annexure - I
Bonafide Certificate –	Refer Annexure - II
Declaration –	Refer Annexure – III
Acknowledgements – Order of names to be acknowledged -	Refer Annexure – IV
Confirmation letter	Annexure – V
Joining Letter	Annexure – VI
Weekly Report (Xerox copy of 2 weeks in one A3 sheet)	Annexure – VII
Work diary	Refer Annexure – VIII
Consolidated Certificate (Experience)	Annexure – IX
Table of Contents with page numbers	Refer Annexure – X

Note: Bring the original copy of the following

- **Letter of consent to appoint you as a trainee**
- **Confirmation letter, Joining Letter, Monthly Report, Consolidated Certificate**

PROFESSIONAL TRAINING REPORT

Submitted in partial fulfillment of the requirements for the award of
Master of Architecture degree in Sustainable Architecture

by

AUSHWINLAL J (39890003)



SCHOOL OF BUILDING AND ENVIRONMENT
DEPARTMENT OF ARCHITECTURE

SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
Accredited with Grade "A" by NAAC
JEPPIAAR NAGAR, RAJIV GANDHI SALAI, CHENNAI - 600 119

DEC 2020



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)

(Est U/s(3) of UGC Act,1956) Accredited with Grade "A" by NAAC (A Christian Minority Institution)

JEPPIAAR NAGAR, RAJIV GANDHI SALAI, CHEMMENCHERY, CHENNAI – 600119. TAMILNADU.

PHONE: 2450 1443/9941912481 INTERNET: www.sathyabama.ac.in

E-mail: archhod@sathyabama.ac.in



**SCHOOL OF BUILDING AND ENVIRONMENT
DEPARTMENT OF ARCHITECTURE
M. Arch (Sustainable Architecture)**

**PROFESSIONAL TRAINING PORTFOLIO (S89 INT)
DEC 2020**

Name of the Student : AUSHWINLAL J

Semester : III

Batch : 2019-2021

Reg No. : 39890003

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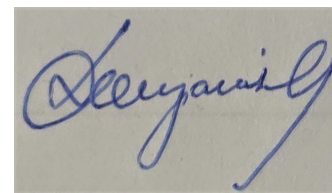
E-mail: archhod@sathyabama.ac.in

DEPARTMENT OF ARCHITECTURE

M. Arch (Sustainable Architecture)

BONAFIDE CERTIFICATE

This is to certify that the professional training (S89 INT) is the work of **AUSHWINLAL J (39890003)** who had undergone training in **Earthonomic Engineers Private Limited in Adyar, Chennai** and has been monitored by the continuous assessment during **Dec 2020 to Jan 2021**



DR. DEVYANI GANGOPADHYAY

DEAN,

School of Building and Environment

Department of Architecture

Submitted for Viva voce Examination held on



Internal Examiner

External Examiner

(Annexure III)

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PHONE: 2450 1443/9941912481 INTERNET: www.sathyabama.ac.in

E-mail: archhod@sathyabama.ac.in



DECLARATION

I **AUSHWINLAL J** hereby declare that the Professional Training Report (**Dec 2020 to Jan 2021**) done by me under the guidance of **Mr. Girish R Visvanathan** (**Director of Earthonomic Engineers Private Limited**) is submitted in partial fulfillment of the requirements for the completion of practical training session.

DATE :

PLACE :

A handwritten signature in blue ink, consisting of a large, stylized 'J' followed by some cursive letters.

SIGNATURE OF CANDIDATE

ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to Board of Management of **SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my thanks to **Dr. Devyani Gangopadhyay**, Dean and Head of Department , School of building and Environment, Dept. of architecture for providing me necessary support and details at the right time during the progressive training session.

I would like to express my sincere and deep sense of gratitude to **Mr. Girish R Visvanathan** (**Director of Earthonomic Engineers Private Limited**) for his valuable guidance, suggestions and constant encouragement paved way for the successful completion of my project work. My sincere thanks to **Ar.Sheetal Kalamkar**, Professional Training Coordinator for her motivation.

I wish to express my thanks to all Teaching and Non-teaching staff members of the Department of Architecture who were helpful in many ways for the completion of the project.

Also, thanks to **Mr. Siva Sankaran.R** (MANAGER-TECHNICAL) and **Mr. Prabhakaran.S** (MANAGER-TECHNICAL) for the guidance during this in

Earthnomic Engineers Private Limited
Registered office: F2 Ashok Castle, 47, 12th Avenue
Ashok Nagar, Chennai – 600083
Email: info@earthnomic.com
Website: www.earthnomic.com
GSTIN: 33AAFCE2933A1ZA



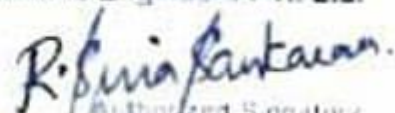
To
The Head of the Department,
Sathyabama Institute of Science and Technology
Rajiv Gandhi Salai, Jeppiaar Nagar,
Chennai - 600119,
Tamil Nadu.

Subject: Trainee Confirmation for Dec 2020 to Jan 2021

Respected Madam,

I Sivasankaran. R accept AUSHWINLAL J bearing reg no 39890003 Pursuing 3rd semester M Arch Department of Architecture in Sathyabama Institute of Science and Technology as an intern and Confirm his internship program with us for the period of one month (December 2020 to January 2021).

For Earthnomic Engineers Pvt. Ltd.


Authorized Signatory

Regards and Thanks,

Sivasankaran.R

(Manager - Technical)

Earthnomic Engineers Private Limited

Adyar, Chennai – 600020



Earthnomic Engineers Private Limited
Registered office: F2 Ashok Castle, 47, 12th Avenue
Ashok Nagar, Chennai – 600083
Email: info@earthnomic.com
Website: www.earthnomic.com
GSTIN: 33AAFCE2933A1ZA



To
The Head of the Department,
Sathyabama Institute of Science and Technology
Rajiv Gandhi Salai, Jeppiaar Nagar,
Chennai - 600119,
Tamil Nadu.

Subject: Joining letter for internship program.

Respected Madam,

This is to inform AUSHWINLAL J bearing reg no 39890003 Pursuing 3rd semester M Arch Department of Architecture in Sathyabama Institute of Science and Technology, has joined our office as an intern for his internship program for the academic year 2020-2021 (11th December onwards) .

For Earthnomic Engineers Pvt. Ltd.


Authorized Signatory

Regards and Thanks,

Sivasankaran.R

(Manager - Technical)

Earthnomic Engineers Private Limited

Adyar, Chennai – 600020



WEEKLY REPORT

(Annexure –VII)



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
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DEPARTMENT OF ARCHITECTURE - M. Arch (Sustainable Architecture)

Professional training Report 2021

(Continuous progress report of the trainee architect/Project Manager for the period of 30 working days in the office to be submitted to HOD by the Trainee in charge of the organisation)

1. Name of the Office / Organization: **EARTHONOMIC ENGINEERS**

2. Address and contact number: Yamuna B4, 4th St, Parameshwari Nagar,
Adyar, Chennai - 600020.
+91 6379181440, 4479635984

3. Name of the Student: **AUSHWINLAL J**

4. Duration: From 11.12.2020 To 19.12.2020

5. Total number of days: **8**

6. Evaluation of performance criteria shall be on

(Note: Kindly grade the student as per his overall performance in the office during the assessment month, which will be converted to the allotted 40 marks by the department.)

Description of works	Excellent	Good	Fair	Poor	NA
Understanding of office culture	✓				
Participation in the office	✓				
Reading of drawings		✓			
Presentation techniques			✓		
Model making works	✓				
Understanding of construction works					
Drafting skills (Manual / Computer)		✓			
Site supervision / Discussion with clients		✓			
Adherence to time schedule			✓		
Other computer skills			✓		
File and office maintenance		✓			
Coordination with other consultants		✓			

Overall Grading: **'B'**

(A - 80, B - 70, C - 60, D - 55, E - 50, F - <5)

7. Any other Remarks

8. Signature of the Head of the Office / Organization (With Seal)

R. Jini Jankaran

1. Name of the Office / Organization: **EARTHONOMIC ENGINEERS**

2. Address and contact number: Yamuna B4, 4th St, Parameshwari Nagar,
Adyar, Chennai - 600020.
+91 6379181440, 4479635984

3. Name of the Student: **AUSHWINLAL J**

4. Duration: From 21.12.2020 To 26.12.2020

5. Total number of days: **5**

6. Evaluation of performance criteria shall be on

(Note: Kindly grade the student as per his overall performance in the office during the assessment month, which will be converted to the allotted 40 marks by the department.)

Description of works	Excellent	Good	Fair	Poor	NA
Understanding of office culture	✓				
Participation in the office		✓			
Reading of drawings		✓			
Presentation techniques			✓		
Model making works	✓				
Understanding of construction works		✓			
Drafting skills (Manual / Computer)		✓			
Site supervision / Discussion with clients		✓			
Adherence to time schedule		✓			
Other computer skills			✓		
File and office maintenance		✓			
Coordination with other consultants		✓			

Overall Grading: **'B'**

(A - 80, B - 70, C - 60, D - 55, E - 50, F - <5)

7. Any other Remarks

8. Signature of the Head of the Office / Organization (With Seal)

R. Jini Jankaran



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INSTITUTE OF SCIENCE AND TECHNOLOGY
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DEPARTMENT OF ARCHITECTURE - M. Arch (Sustainable Architecture)

DEPARTMENT OF ARCHITECTURE - M. Arch (Sustainable Architecture)

Professional training Report 2021

(Continuous progress report of the trainee architect/Project Manager for the period of 30 working days in the office to be submitted to HOD by the Trainee in charge of the organisation)

Professional training Report 2021

(Continuous progress report of the trainee architect/Project Manager for the period of 30 working days in the office to be submitted to HOD by the Trainee in charge of the organisation)

1. Name of the Office / Organization: **EARTHONOMIC ENGINEERS**

1. Name of the Office / Organization: **EARTHONOMIC ENGINEERS**

2. Address and contact number: Yamuna B4, 4th St, Parameshwari Nagar,

2. Address and contact number: Yamuna B4, 4th St, Parameshwari Nagar,

Adyar, Chennai - 600020.

Adyar, Chennai - 600020.

+91 6379181440, 4479635984

+91 6379181440, 4479635984

3. Name of the Student: **AUSHWINLAL J**

3. Name of the Student: **AUSHWINLAL J**

4. Duration: From 28.12.2020 To 2.1.2021

4. Duration: From 4.1.2021 To 11.1.2021

5. Total number of days: 5

5. Total number of days: 7

6. Evaluation of performance criteria shall be on

6. Evaluation of performance criteria shall be on

(Note: Kindly grade the student as per his overall performance in the office during the assessment month, which will be converted to the allotted 40 marks by the department.)

(Note: Kindly grade the student as per his overall performance in the office during the assessment month, which will be converted to the allotted 40 marks by the department.)

Description of works	Excellent	Good	Fair	Poor	NA
Understanding of office culture	✓				
Participation in the office		✓			
Reading of drawings		✓			
Presentation techniques		✓			
Model making works	✓				
Understanding of construction works			✓		
Drafting skills (Manual / Computer)		✓			
Site supervision / Discussion with clients		✓			
Adherence to time schedule			✓		
Other computer skills	✓				
File and office maintenance		✓			
Coordination with other consultants		✓			

Overall Grading:

'A'

(A - 80, B - 70, C - 60, D - 55, E - 50, F - <5)

7. Any other Remarks:

8. Signature of the Head of the Office / Organization (With Seal)

R. Pankar

Overall Grading:

'A'

(A - 80, B - 70, C - 60, D - 55, E - 50, F - <5)

7. Any other Remarks:

8. Signature of the Head of the Office / Organization (With Seal)

R. Pankar



SATHYABAMA

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DEPARTMENT OF ARCHITECTURE - M. Arch (Sustainable Architecture)

Professional training Report 2021

(Continuous progress report of the trainee architect/Project Manager for the period of 30 working days in the office to be submitted to HOD by the Trainee in charge of the organisation)

1. Name of the Office / Organization: **EARTHONOMIC ENGINEERS**

2. Address and contact number: Yamuna B4, 4th St, Parameshwari Nagar,
Adyar, Chennai - 600020.
+91 6379181440, 4479635984

3. Name of the Student: **AUSHWINIAI**

4. Duration: From 19.1.2021 To 21.1.2021

5. Total number of days: 5

6. Evaluation of performance criteria shall be on

(Note: Kindly grade the student as per his overall performance in the office during the assessment month, which will be converted to the allotted 40 marks by the department.)

Description of works	Excellent	Good	Fair	Poor	NA
Understanding of office culture	✓				
Participation in the office		✓			
Reading of drawings	✓				
Presentation techniques		✓			
Model making works					
Understanding of construction works	✓				
Drafting skills (Manual / Computer)		✓			
Site supervision / Discussion with clients		✓			
Adherence to time schedule	✓				
Other computer skills	✓	✓			
File and office maintenance		✓			
Coordination with other consultants		✓			

Overall Grading:	'B'
------------------	------------

(A - 80, B - 70, C - 60, D - 55, E - 50, F - <5)

7. Any other Remarks

8. Signature of the Head of the Office / Organization (With Seal)

R. Prasad



SATHYABAMA

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(Annexure VIII)

DEPARTMENT OF ARCHITECTURE

M. Arch (Sustainable Architecture)

Continuous Assessment Report for Professional training **WORK DIARY - (DEC 2020 - JAN 2021)**

(Continuous progress report of the trainee architect/Project Manager for the period of 30 working days in the office to be submitted to HOD by the Trainee attending the training session)

1. Name of the office / organization : **Earthonomic Engineers Private Limited**

Yamuna B4, 4th St, Parameshwari Nagar,

Adyar, Chennai, Tamil Nadu 600020.

+91 6379181440, 4479635984

info@earthonomic.com

2. Student name : **AUSHWINLAL J**

3. Duration of internship : From 11.12.2020 To 23.01.2021

4. Total No. of days : **30**

5. Evaluation of Performance criteria shall be on

* **Note:** Kindly grade the student as per his/her overall performance in the office during the assessment month;

* which will be converted to the allotted marks by the department.

* * DATE	* DESCRIPTION OF WORK	* EXCELLENT	* GOOD	* FAIR	* POOR	* NA
* 11/12/2020	Guindy office modelling	✓				
*						
* 12/12/2020	Guindy office modelling	✓				
* 13/12/2020	SUNDAY					
* 14/12/2020	IGBC daylight compliance presentation		✓			
* 15/12/2020	Study on Ventilation		✓			
* 16/12/2020	Signature villa w5, Hyderabad	✓				
* 17/12/2020	Study on water conservation.	✓				
18/12/2020	Signature villa W5, Hyderabad	✓				
19/12/2020	Signature villa W7, Hyderabad Report generation and Study on RWH.	✓				
20/12/2020	SUNDAY					
21/12/2020	Signature villa E6, Hyderabad	✓				

* 22/12/2020	Signature villa E6, Hyderabad Report generation	✓				
* 23/12/2020	Signature villa w8, Hyderabad	✓				
* 24/12/2020	HOLIDAY					
* 25/12/2020	Guindy office simulation review	✓				
* 26/12/2020	Signature villa w8, Hyderabad		✓			
* 27/12/2020	SUNDAY					
* 28/12/2020	Signature villa w6, Hyderabad	✓				
* 29/12/2020	Signature villa w6, Hyderabad	✓				
* 30/12/2020	Signature villa E6, Hyderabad		✓			
* 31/12/2020	Signature villa W7, Hyderabad		✓			
* 1/1/2021	HOLIDAY					
* 2/1/2021	HOLIDAY					
* 3/1/2021	SUNDAY					
* 4/1/2021	Guindy office report discussion	✓				

* 5/1/2021	Signature villa W5, Hyderabad Modelling and Daylight analysis.		✓			
* 6/1/2021	Signature villa E8, Hyderabad Report generation		✓			
* 7/1/2021	Ventilation Calculation	✓				
* 8/1/2021	Ventilation Calculation	✓				
* 9/1/2021	LIGHT CALCULATION REPORT	✓				
* 10/1/2021	SUNDAY					
11/1/2021	LIGHT CALCULATION REPORT	✓				
12/1/2021	HOLIDAY					
13/1/2021	HOLIDAY					
14/1/2021	HOLIDAY					
15/1/2021	HOLIDAY					
16/1/2021	HOLIDAY					
17/1/2021	HOLIDAY					
18/1/2021	SUNDAY					

*

19/1/2021	Signature villa , Hyderabad site selection points for IGBC GREEN HOME	✓				
20/1/2021	Signature villa , Hyderabad site Ventilation analysis for IGBC GREEN HOME	✓				
21/1/2021	Signature villa , Hyderabad Rain Water Harvesting Calculation for IGBC GREEN HOME	✓				
22/1/2021	Signature villa , Hyderabad Urban Heat Island Effect Calculation for IGBC GREEN HOME	✓				
23/1/2021	STUDY ON GREEN BUILDING RATING SYSTEMS.		✓			

*

Understanding of office culture and methodology
Active Participation in the Project activities
Documentation and tracking of project
Presentation Skills developed
Understanding of construction details & techniques
Participation and contribution in project meetings
Understanding of codes and standards

Schedule preparation & tracking activities
Preparation / Management of drawings
Learning / Application of software in Projects
Preparation of concept for projects
Site Management / Discussion with clients

Overall Grading*

A.

(A – 8.0, B – 7.0, C – 6.0, D – 5.5, E – 5.0, F – <5)

7. Any other Remarks : _____

8. Signature of the
Head of the Office /
Organization (With Seal)



Earthnomic Engineers Private Limited
Registered office: F2 Ashok Castle, 47, 12th Avenue
Ashok Nagar, Chennai – 600083
Email: info@earthnomic.com
Website: www.earthnomic.com
GSTIN: 33AAFCE2933A1ZA



To,

The Head of the Department

Sathyabama Institute of science and technology,

Rajiv Gandhi Salai,

Jeppiaar Nagar,

Chennai -600019.

Subject: Successful completion of 1month long professional training.

Respected madam,

This is to certify that 'AUSHWINLAL J' bearing reg. No 39890003 of 3rd semester M. Arch (SA), Department of Architecture in Sathyabama institute of science and technology, has successfully completed 1 month long professional training by working in our office "Earthnomic Engineers". He was associated as a trainee for the period between (11th Dec 2020 - 22nd Jan 2021).

He Excelled in his work as an intern in " Earthnomic engineers, Adyar, Chennai." during his period of work.

For Earthnomic Engineers Pvt. Ltd.

R. Sivasankaran
Authorized Signatory

Thanks and Regards,

Sivasankaran.R

(Manager – Technical)

Earthnomic Engineers Private Limited

Adyar, Chennai - 600020.



TABLE OF CONTENTS

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2.	HISTORY OF THE FIRM	
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4.	DRAWINGS	
5.	PROJECT 2 DETAILS	
6.	DRAWINGS	
7.	PROJECT 3 DETAILS	
8.	DRAWINGS	
9.	PRESENTATIONS	
10.	CRITICAL OVERVIEW OF THE FIRM	

GENERAL

Firstly, I always wanted to have my job or Internship in a compact Firm which has quiet good number of projects and a small team. Because, I Believe that being in a small team helps to work in all fields and take up all responsibilities and learn a lot which will be very helpful when I need to start up my own firm. This certainly develops a lot of skills like understanding and convincing the client, Finding out the building materials which is good and economical, Understanding the practical difficulties that needs to be addressed on site during the time of execution.

Thereby, I found Mr.Girish R Visvanathan runs a compact Firm with a small capable team in Chennai and working on sustainable projects in more practical way. I had a look into his prior projects, which were unique. I admire their self- sustainability concepts which had very less impact on the environment. He was aware in the ecological aspects of the site, which inspired me further.

ABOUT THE FIRM:

The firm work towards developing sustainable environments for homes and organizations. Their primary aim is to provide the best options for sustainable living by creating high performance environments for everyone.

They aim to transform people's perception of "environment is cost" and strongly believe that going beyond compliance saves cost at the same time generates revenue. They are pioneers in providing a new lean and green paradigm that is ROI centric.

They assist architects and consultants to improve building designs, energy efficiency, selection of building materials, and optimize building economics, for residencies, institutions, offices, and factories.

APPROACH TO SUSTAINABILITY

In today's business setting, where organizations are realizing the importance of finding the right balance between economic, social, and environmental priorities, They provide a carefully orchestrated sustainability strategy that is vital to long-term success. Their strategies are integrated with existing initiatives and coordinated with an intelligent approach that evaluates the related risks and rewards. They aim to quantify and monetize impacts on sustainability initiatives beyond just financial return.

CORE COMPETENCIES AND TEAM EXPERTISE

- IGBC, LEED, ECBC, EDGE and GRIHA Accredited Professionals
- Trained Energy Modeling Software experts
- Architecture and Construction Experts
- HVAC, Thermal & Electrical Design Experts
- Lighting Design Experts

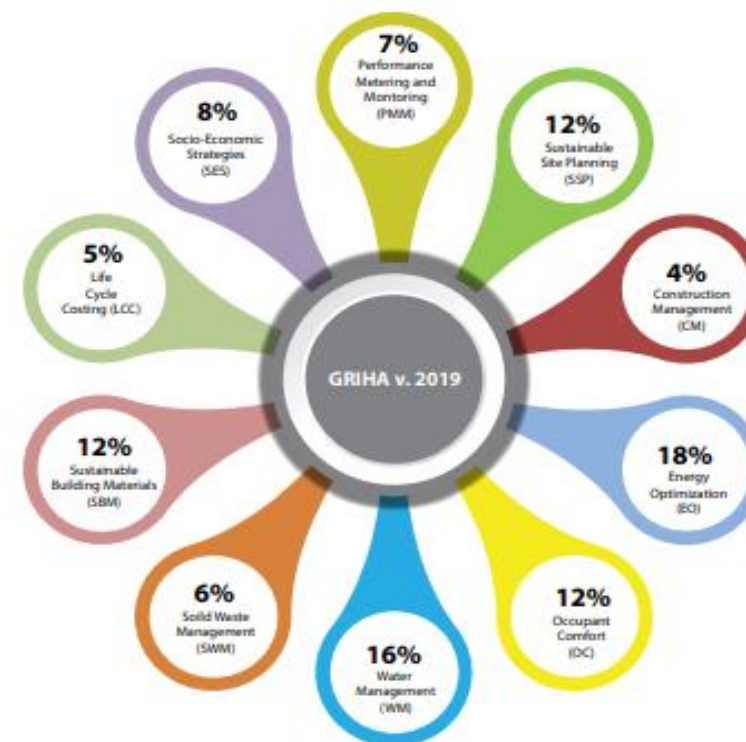
- Renewable Energy Specialists
- Commissioning and Energy Auditing Specialists
- Product Performance Analysts
- Phytoremediation Experts
- Organic Farming and Landscaping Experts
- Water Management and RWH Specialists

GRIHA

GRIHA is an acronym for Green Rating for Integrated Habitat Assessment. GRIHA is a Sanskrit word meaning – ‘Abode’. Human Habitats (buildings) interact with the environment in various ways. Throughout their life cycles, from construction to operation and then demolition, they consume resources in the form of energy, water, materials, etc. and emit wastes either directly in the form of municipal wastes or indirectly as emissions from electricity generation. GRIHA attempts to minimize a building’s resource consumption, waste generation, and overall ecological impact to within certain nationally acceptable limits / benchmarks.

RATING STRUCTURE

Section	Criterion No.	Criterion Name	Maximum Points
1. Sustainable Site Planning (SSP)	1	Green Infrastructure	5
	2	Low Impact Design Strategies	5
	3	Design to Mitigate UHIE	2
2. Construction Management (CM)	4	Air and Soil Pollution Control	1
	5	Topsoil Preservation	1
	6	Construction Management Practices	2
3. Energy Optimization (EO)	7	Energy Optimization	12
	8	Renewable Energy Utilization	5
	9	Low ODP and GWP Materials	1
4. Occupant Comfort (OC)	10	Visual Comfort	4
	11	Thermal and Acoustic Comfort	2
	12	Maintaining Good IAQ	6
5. Water Management (WM)	13	Water Demand Reduction	3
	14	Wastewater Treatment	3
	15	Rainwater Management	5
6. Solid Waste Management (SWM)	16	Water Quality and Self-Sufficiency	5
	17	Waste Management– Post Occupancy	4
	18	Organic Waste Treatment On-Site	2
7. Sustainable Building Materials (SBM)	19	Utilization of Alternative Materials in Building	5
	20	Reduction in GWP through Life Cycle Assessment	5
	21	Alternative Materials for External Site Development	2
8. Life Cycle Costing (LCC)	22	Life Cycle Cost Analysis	5



Percentile threshold	Achievable stars as per GRIHA v. 2019
25–40	★
41–55	★★
56–70	★★★
71–85	★★★★
86 and more	★★★★★

Non-linear point distribution

No. of strategies adopted	Points
2 (with at least 1 passive strategy)	1
3 (with at least 2 passive strategies)	3
5 (with at least 3 passive strategies)	5

Mandatory appraisals

In GRIHA v.2019, no points are awarded to mandatory appraisals, however, if the project fails to comply with any of them, in such a scenario, the rating will be denied

Non-linear point distribution

The concept of non-linear point distribution is applicable throughout this rating variant. This is done to recognize and award points based on the increased efforts to meet the requirements given in the appraisals. For example, observe the point distribution for low impact design, as mentioned

OCCUPANT COMFORT

Criterion No.	Criterion Name	Maximum Points	Appraisal Type
Criterion 10	Visual Comfort	4	Partly Mandatory
Criterion 11	Thermal and Acoustic Comfort	5	Partly Mandatory
Criterion 12	Indoor Air Quality	6	Partly Mandatory
Total weightage of the section		15	

CRITERION 10

The intent of this criterion is to ensure that visual comfort (daylighting and artificial lighting) is provided to the building occupants through an integration of active and passive design measures.

Maximum Points: 4

Daylighting

Demonstrate UDI or mean DA compliance as per the alternatives mentioned below.

Alternative 1

- Ensure that the WWR does not exceed 60% and the vertical fenestration complies with minimum VLT of 0.27.
- Ensure that the project meets the SHGC compliance as per Table 4.2/weighted façade average SHGC for each orientation.

- Mandatory

Alternative 2

Demonstrate through simulation that the project meets mean DA requirement (<3000 LUX) for 100% of the annual analysis hours for 100% of the the habitable spaces

- Mandatory

Demonstrate through simulation that the project meets mean **DA requirement** (>300 lux) for the percentage of annual analysis hours as listed in Table 4.4 for 100% of the habitable spaces.

Table 4.4 DA benchmarks for percentage hours exceeding 300 lux for different building typologies⁶

Healthcare Facility	Hospitality	Institutional	Office	Residential	Retail*	Transit Terminal** (only for airports and heliports)	Points
20%	25%	25%	25%	25%	5%	10%	Mandatory
25%	30%	50%	30%	30%	10%	20%	2 Points

Maximum SHGC for vertical fenestration for different climate typologies

	Composite	Hot and Dry	Warm and Humid	Moderate	Cold
Maximum SHGC non-North	0.27	0.27	0.27	0.27	0.62
Maximum SHGC North					
For latitude ≥ 15°N	0.5	0.5	0.5	0.5	0.62
For latitude < 15°N	0.27	0.27	0.27	0.27	0.62

Ensure that the SRR does not exceed 5% and SHGC for skylights² does not exceed 0.35. - **Mandatory**

Ensure that all habitable spaces³ are within the illuminance levels of **100 lux – 2000 lux** for the minimum percentage of floor area prescribed in Table 4.3 for 90% of the potential day-lit time in a year. UDI compliance can be demonstrated through simulation using validated software.

Healthcare Facility	Hospitality	Institutional	Office	Residential	Retail*	Transit Terminal** (only for airports and heliports)	Points
30%	45%	40%	40%	45%	10%	10%	Mandatory
40%	55%	50%	50%	55%	15%	20%	2
50%	65%	60%	60%	65%	20%	30%	4

Artificial Lighting

Demonstrate through simulation that the artificial lighting lux levels fall within limits (lower and higher range) as per recommended space/task specific lighting levels in NBC 2016, Part 8, Section 1, Table 4, and meet a minimum uniformity ratio of 0.4.

- **Mandatory**

COMPLIANCE

- Submit drawings (.dwg format) consisting of floor plans, elevations, and sections and doors – windows schedule, skylight schedule highlighting the various shading devices installed in the building with 'North' direction marked.
- Submit narrative detailing the alternative opted for and state the methodology used to demonstrate compliance
- Submit technical specification sheets/brochures for all glazing types highlighting their SHGC and VLT OR
- Submit valid GRIHA Product Catalogue certificate as applicable for the product
- Submit purchase orders reflecting the full quantities of all glazing installed in the project.
- Upload photographs with narrative of measures implemented.

VENTILATION MANUAL CALCULATION

		Block A																		
Floor Number	Flat number	Regularly Occupied Spaces	Total Floor Area (Carpet) (Sq.ft)	Total Floor Area (Carpet) (Sq.m)	Window type 1	Window type 2	Window type 3	Glazed Door if Any	Wooden Doors	Operable Window 1 Area	Operable Window 2 Area	Operable Window 3 Area	Operable glazed Door Area	Operable Wooden Door Area	Total Operable area	Opening to carpet area ratio	Mandatory Requirement to Meet credit point - Fresh Air	Credit Requirement to Meet credit point	Does it meet MR for Fresh Air	Does it meet CR for Fresh Air
Typical floor	unit 1,5	Kitchen	224.62	20.87					D1	0.00	0.00	0.00	0.00	2.10	2.10	10.06%	6.00%	6.00%	Yes	Yes
		suiteroom-2	184.06	17.10	W1					1.44	0.00	0.00	0.00	0.00	1.44	8.42%	8.00%	8.00%	Yes	Yes
		Master bedroom	277.71	25.80	W2					1.80	0.00	0.00	0.00	0.00	1.80	6.98%	8.00%	8.00%	No	No
		Living dinning and drawing	807.31	75.00				SD1	MD	0.00	0.00	0.00	4.20	2.88	7.08	9.44%	8.00%	8.00%	Yes	Yes
		Multipurpose room	214.76	19.95	W3					2.70	0.00	0.00	0.00	0.00	2.70	13.53%	8.00%	8.00%	Yes	Yes
		Suiteroom 1	181.44	16.86	W4					2.16	0.00	0.00	0.00	0.00	2.16	12.81%	8.00%	8.00%	Yes	Yes
		CH . Bed room	181.70	16.88	W5				SD1	0.90	0.00	0.00	0.00	4.20	5.10	30.21%	8.00%	8.00%	Yes	Yes

Floor Number	Flat Number	Regularly Occupied Spaces	Total Floor Area (Carpet) (Sq.ft)	Total Floor Area (Carpet) (Sq.m)	Window type 1	Window type 2	Window type 3	Glazed Door if Any	Wooden Doors	Operable Window 1 Area	Operable Window 2 Area	Operable Window 3 Area	Operable glazed Door Area	Operable Wooden Door Area	Total Operable area	Opening to carpet area ratio	Mandatory Requirement to Meet credit point - Fresh Air	Credit Requirement to Meet credit point	Does it meet MR for Fresh Air	Does it meet CR for Fresh Air
Typical floor	Unit - 2,3,4	Kitchen	135.20	12.56	KW				D1	0.54	0.00	0.00	0.00	2.10	2.64	21.01%	6.00%	6.00%	Yes	Yes
		suiteroom-2	184.00	17.10	W1					1.44	0.00	0.00	0.00	0.00	1.44	8.42%	8.00%	8.00%	Yes	Yes
		Master bedroom	273.91	25.46					SD1	0.00	0.00	0.00	0.00	4.20	4.20	16.50%	8.00%	8.00%	Yes	Yes
		Living dinning and drawing	801.73	74.51				SD1	MD	0.00	0.00	0.00	4.20	2.88	7.08	9.50%	8.00%	8.00%	Yes	Yes
		Suite Room 1	181.63	16.88	W5			SD1		0.90	0.00	0.00	4.20	0.00	5.10	30.21%	8.00%	8.00%	Yes	Yes
		C.H Bedroom	181.37	16.86	W4					2.16	0.00	0.00	0.00	0.00	2.16	12.81%	8.00%	8.00%	Yes	Yes
		Multipurpose room	214.68	19.95	W3					2.70	0.00	0.00	0.00	0.00	2.70	13.53%	8.00%	8.00%	Yes	Yes

Cross Ventilation - Tower A

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Regularly Occupied Spaces	Total Floor Area (Carpet) (Sq.Ft)	Window/Door type	Window/Door no	Satisfies Cross Ventilation Criteria	Area Which Satisfies Cross Ventilation Criteria
Regularly Occupied spaces in 1					
Bedroom 1	199.20			Yes	199.20
Bedroom 2	145.18			No	0
Bedroom 3	188.21			Yes	188.21
Bedroom 4	160.60			No	0
Kitchen	127.60			Yes	127.60
Living&Dining	472.26			Yes	472.26

Total Floor Area	1293.05
Floor area achieving Cross Ventilation	987.27
	76%

DAYLIGHT CALCULATION FOR IMPROVEMENT IN ENERGY PERFORMANCE IN FACTORY FOR IGBC RATING

s.no	zone	light nos	wattage	total wattage	s.no	zone	light nos	wattage	total wattage
1	Existing RMS	30	170	5100	1	Existing RMS	30	170	5100
2	expansion RMS 270	18	270	5400	2	expansion RMS 270	18	100	2000
		2	270				2	100	
3	expansion RMS 440	18	270	5400	3	expansion RMS 440	18	100	2000
		2	270				2	100	
4	Existing 440 mixer building-0level	38	80	12220	4	Existing 440 mixer building-0level	38	80	12220
		54	170				54	170	
5	Existing 440 mixer building-4.5level	0	0	0	5	Existing 440 mixer building-4.5level	0	0	0
6	Existing 440 mixer building-6.8level	50	170	8500	6	Existing 440 mixer building-6.8level	50	170	8500
7	Existing 440 mixer building-9.0level	24	80	4620	7	Existing 440 mixer building-9.0level	24	80	2920
		10	270				10	100	
8	Existing 440 mixer building-9.8level	0	0	0	8	Existing 440 mixer building-9.8level	0	0	0
9	Existing 440 mixer building-11.3level	18	270	4860	9	Existing 440 mixer building-11.3level	18	100	1800
10	Existing 440 mixer building-16.9level	16	270	4320	10	Existing 440 mixer building-16.9level	16	100	1600
11	Expansion 270 mixer building-0level	19	80	6620	11	Expansion 270 mixer building-0level	19	80	6620
		30	170				30	170	
12	Expansion 270 mixer building-4.5level	0	0	0	12	Expansion 270 mixer building-4.5level	0	0	0
13	Expansion 270 mixer building-6.8level	15	80	6610	13	Expansion 270 mixer building-6.8level	15	80	4060
		15	270				15	100	
		8	170				8	170	
14	Expansion 270 mixer building-9level	12	80	2310	14	Expansion 270 mixer building-9level	12	80	1460
		5	270				5	100	
15	Expansion 270 mixer building-9.8level	16	80	1280	15	Expansion 270 mixer building-9.8level	16	80	1280
16	Expansion 270 mixer building-11.3level	15	270	4850	16	Expansion 270 mixer building-11.3level	15	100	2300
		10	80				10	80	
17	Expansion 270 mixer building-16.9level	8	270	2160	17	Expansion 270 mixer building-16.9level	8	100	800
18	Expansion 440 mixer building-0level	19	80	6620	18	Expansion 440 mixer building-0level	19	80	6620
		30	170				30	170	
19	Expansion 440 mixer building-4.5level	0	0	0	19	Expansion 440 mixer building-4.5level	0	0	0
20	Expansion 440 mixer building-6.8level	25	170	4250	20	Expansion 440 mixer building-6.8level	25	170	4250
21	Expansion 440 mixer building-9level	12	80	2310	21	Expansion 440 mixer building-9level	12	80	1460
		5	270				5	100	
22	Expansion 440 mixer building-9.8level	0	0	0	22	Expansion 440 mixer building-9.8level	0	0	0
23	Expansion 440 mixer building-11.3level	9	270	2430	23	Expansion 440 mixer building-11.3level	9	100	900
24	Expansion 440 mixer building-16.9level	8	270	2160	24	Expansion 440 mixer building-16.9level	8	100	800
25	Existing Extruder Area	186	170	32100	25	Existing Extruder Area	186	170	32100
		6	80				6	80	
26	PCR Extruder building	61	270	16950	26	PCR Extruder building	61	100	6580
		6	80				6	80	
27	TBR Extruder building	63	270	17650	27	TBR Extruder building	63	100	6940
		8	80				8	80	
28	Existing Stock preparation-non Ac	21	170	12030	28	Existing Stock preparation-non Ac	21	170	7610

		26	270				26	100	
		18	80				18	80	
29	Existing Stock preparation-Ac area	19	170	3870	29	Existing Stock preparation-Ac area	19	170	3870
		8	80				8	80	
30	PCR stock preparation building	28	120	4680	30	PCR stock preparation building	28	120	4680
		11	120				11	120	
31	TBR stock preparationbuilding-non AC	28	120	3360	31	TBR stock preparationbuilding-non AC	28	120	3360
32	TBR stock preparationbuilding-AC	28	120	3360	32	TBR stock preparationbuilding-AC	28	120	3360
33	PCR tyre building	44	170	7480	33	PCR tyre building	44	170	7480
34	PCR expansion tyre building	8	80	10160	34	PCR expansion tyre building	8	80	10160
		56	170				56	170	
35	PCR gt painting	8	170	1360	35	PCR gt painting	8	170	1360
36	Expansion PCR gt st painting	16	170	2720	36	Expansion PCR gt st painting	16	170	2720
37	Expansion PCR GT storage	20	270	5400	37	Expansion PCR GT storage	20	100	2000
38	PCR TYRE CURING BUILDING	102	270	27540	38	PCR TYRE CURING BUILDING	102	100	10200
39	Expansion PCR CURING BUILDING	28	270	10560	39	Expansion PCR CURING BUILDING	28	270	10560
		24	125				24	125	
40	Existing PCR Final Finish	28	270	7560	40	Existing PCR Final Finish	28	100	2800
41	Expansion PCR FINAL FINISH	26	170	4420	41	Expansion PCR FINAL FINISH	26	170	4420
42	PCR mould storage	16	170	2720	42	PCR mould storage	16	170	2720
43	PCR FGS TOTAL AREA	65	170	11050	43	PCR FGS TOTAL AREA	65	170	11050
44	TBR tyre building	47	170	7990	44	TBR tyre building	47	170	7990
45	Expansion TBR tyre building	104	120	13760	45	Expansion TBR tyre building	104	120	13760
		16	80				16	80	
46	Existing TBR GT Painting	12	270	3240	46	Existing TBR GT Painting	12	100	1200
47	Expansion TBR painting & storage	12	270	3240	47	Expansion TBR painting & storage	12	100	1200
48	EXISTING TBR CURING BUILDING	56	270	15120	48	EXISTING TBR CURING BUILDING	56	100	5600
49	Expansion TBR Curing building	52	270	18840	49	Expansion TBR Curing building	52	100	10000
		40	80				40	80	
		20	80				20	80	
50	Existing TBR Final Finish	20	270	5400	50	Existing TBR Final Finish	20	100	2000
51	Expansion TBR final finish	40	120	4800	51	Expansion TBR final finish	40	120	4800
52	Existing Finished goods storage	16	120	1920	52	Existing Finished goods storage	16	120	1920
53	Expansion TBR Finished Goods Storage	48	270	14880	53	Expansion TBR Finished Goods Storage	48	100	6720
		16	120				16	120	
54	TBR mould shop	24	270	6480	54	TBR mould shop	24	100	2400
55	loading bay tbr	12	270	3240	55	loading bay tbr	12	100	1200
56	tyre test house	0	0	8600	56	tyre test house	0	0	0
57	canteen	0	0	3750	57	canteen	0	0	0
58	canteen handwasH	0		380	58	canteen handwasH	0		0
59	toilet near canteen	0	0	270	59	toilet near canteen	0	0	0
60	workshop	6	270	1620	60	workshop	6	100	600
61	engg stores	6	270	1620	61	engg stores	6	100	600
62	ahu 1	1	270	270	62	ahu 1	1	100	100
64	Expansion canteen	15	270	3750	64	Expansion canteen	15	100	1500

65	Expansion drum tooling storage	14	80	1120	65	Expansion drum tooling storage	14	80	1120
66	Existing drum tooling storage	14	80	1120	66	Existing drum tooling storage	14	80	1120
67	Expansion TBR drum tooling storage	14	80	1120	67	Expansion TBR drum tooling storage	14	80	1120
68	MHE repair area	0	0	0	68	MHE repair area	0	0	0
69	pever area	0	0	0	69	pever area	0	0	0
70	proposed transforme station 4	0	0	0	70	proposed transforme station 4	0	0	0
71	kitchen	6	170	1020	71	kitchen	6	170	1020
72	first aid room	1	270	270	72	first aid room	1	100	100
73	proposed TBR MOULD shop	28	270	7000	73	proposed TBR MOULD shop	28	100	2800
74	proposed ENGG store	14	270	3500	74	proposed ENGG store	14	100	1400
75	proposed RMS EXTension	0	0	0	75	proposed RMS EXTension	0	0	0
76	proposed rms covered shed loading bay	0	0	0	76	proposed rms covered shed loading bay	0	0	0
77	SECURITY ROOM	5	80	400	77	SECURITY ROOM	5	80	400
78	chiller house	1	270	270	78	chiller house	1	100	100
79	proposed compressor house	17	80	1360	79	proposed compressor house	17	80	1360
80	Carbon storage	20	170	3400	80	Carbon storage	20	170	3400
81	compressor house (CS)	11	80	880	81	compressor house (CS)	11	80	880
82	sulphur godown	3	270	750	82	sulphur godown	3	100	300
83	coal shed	36	80	2880	83	coal shed	36	80	2880
84	ash dyke	13	170	2210	84	ash dyke	13	170	2210
85	cement house	2	170	340	85	cement house	2	170	340
86	office floor AC	33	80	2640	86	office floor AC	33	80	2640
87	conference room	1	270	270	87	conference room	1	100	100
88	mini conference hall	1	80	80	88	mini conference hall	1	80	80
TOTAL		426790			TOTAL		285620		

DIFFERENCE

107920

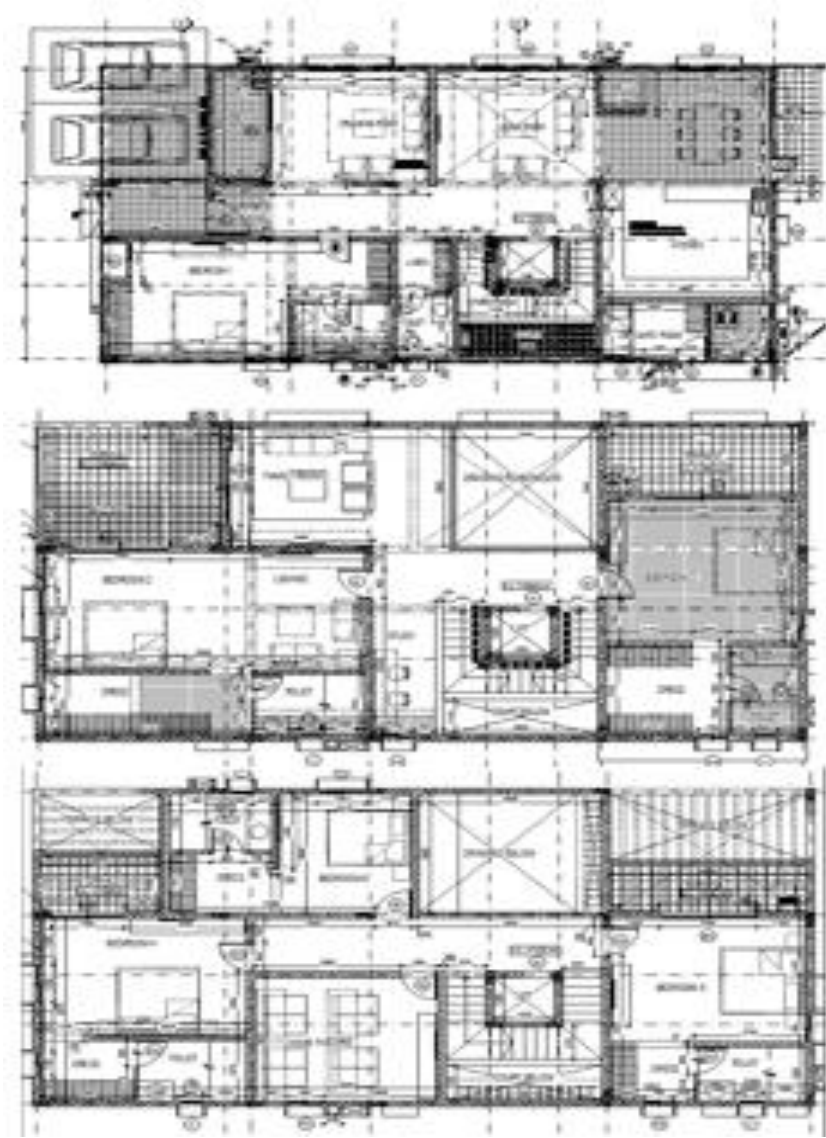
EXTERNAL LIGHTING	light nos	wattage
<u>1*250W</u>	63	15750
<u>250W HPSV</u>	107	26750
<u>LED(OPEN)250W</u>	8	2000
<u>LED(SEMI OPEN)250W</u>	14	3500
<u>LED HOLE 250W</u>	4	1000
<u>250W FULL LED ROUND</u>	6	1500
<u>250W LD OPEN FULL</u>	11	2750
<u>150W LED CLOSE FULL</u>	8	1200
<u>150W HPSV</u>	3	450
<u>150W FUL LED ROUND</u>	4	600
	228	55500

DIFFERENCE

EXTERNAL LIGHTING	light nos	wattage
<u>1*250W</u>	63	5670
<u>250W HPSV</u>	107	9630
<u>LED(OPEN)250W</u>	8	720
<u>LED(SEMI OPEN)250W</u>	14	1260
<u>LED HOLE 250W</u>	4	360
<u>250W FULL LED ROUND</u>	6	540
<u>250W LD OPEN FULL</u>	11	990
<u>150W LED CLOSE FULL</u>	8	720
<u>150W HPSV</u>	3	270
<u>150W FUL LED ROUND</u>	4	360
	228	20520

34980

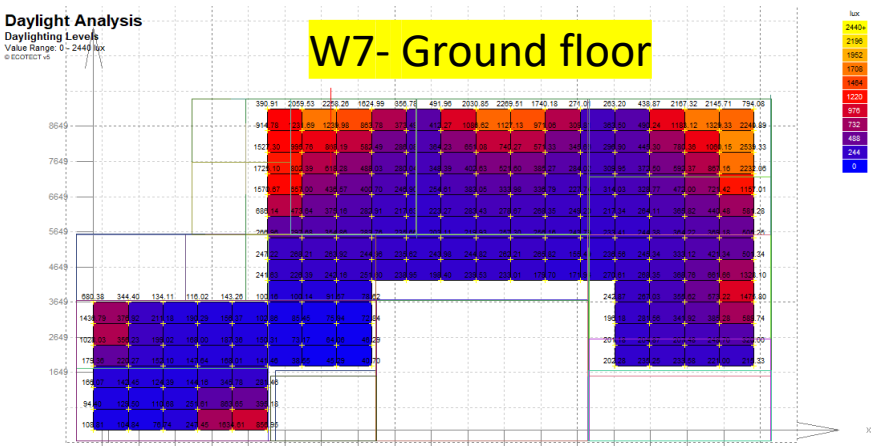
Signature villa W1, Hyderabad



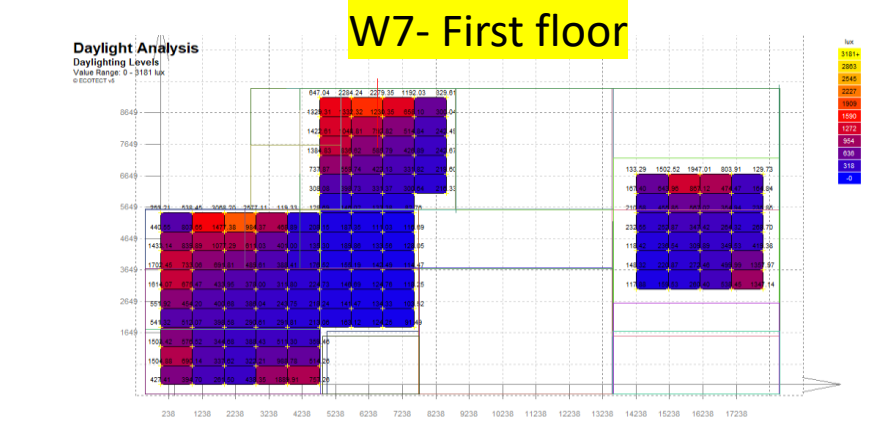
GF

FF

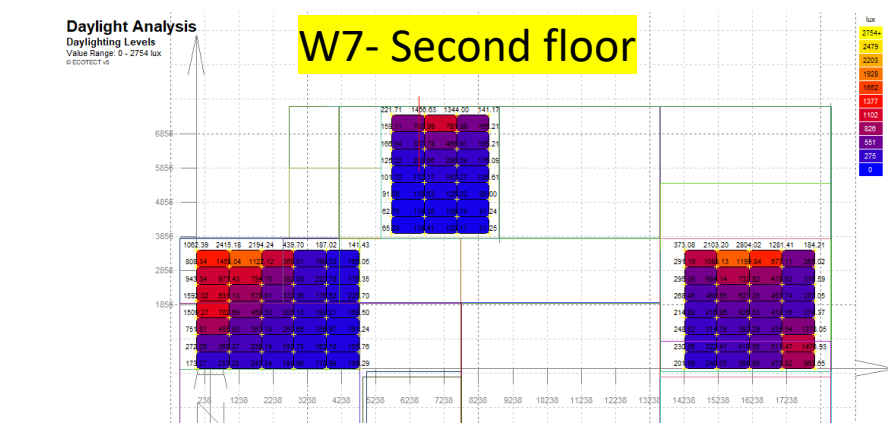
SF



W7- Ground floor



W7- First floor



W7- Second floor

- BEDROOM (24.3SQM)
- DRAWING (16.3SQM)
- LIVING (17.3 SQM)
- DINING AND KITCHEN (34.3 SQM)

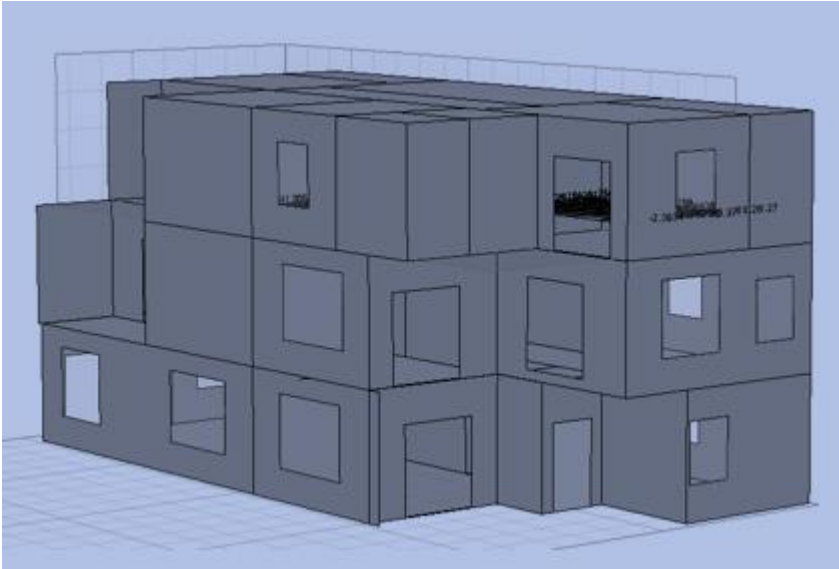
Avg: 750LUX

- FAMILY(19.9SQM)
- BEDROOM2 (29.1SQM)
- BEDROOM3 (20.9SQM)

Avg: 732.4 LUX

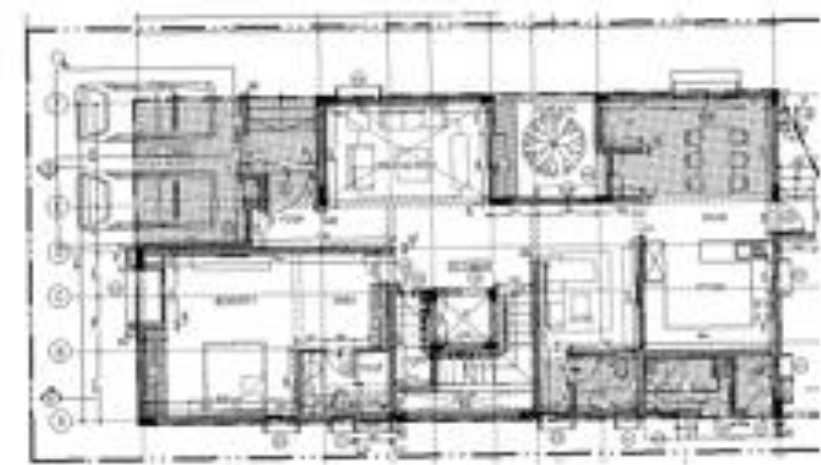
- BEDROOM4 (18.4 SQM)
- BEDROOM4 (11.9 SQM)
- BEDROOM4 (18.4 SQM)

Avg: 591.1 LUX

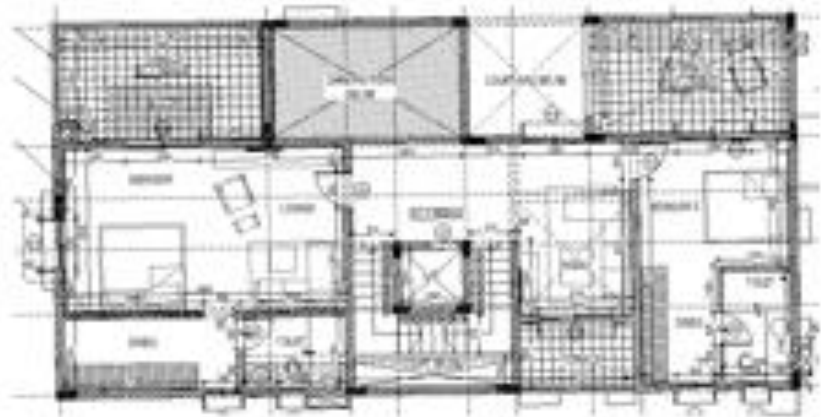


FLOOR TYPE	% OF DAYLIGHT ACHEIVED
GROUND FLOOR	86.5
FIRST FLOOR	88.1
SECOND FLOOR	90.7
OVERALL % OF DAYLIGHT ACHEIVED –	88.4%

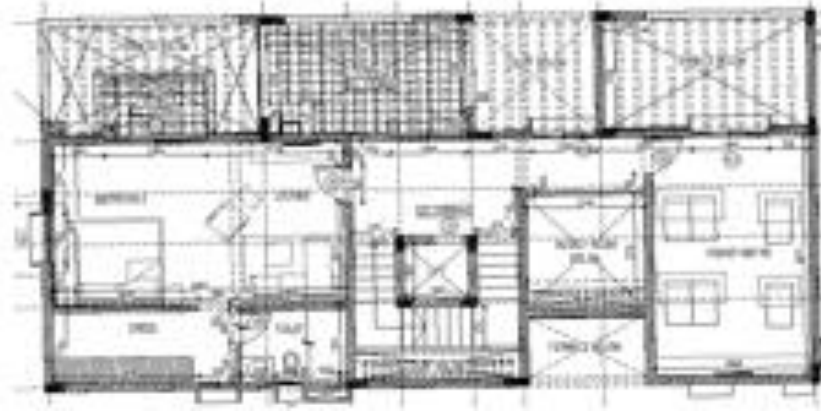
Signature villa W5, Hyderabad



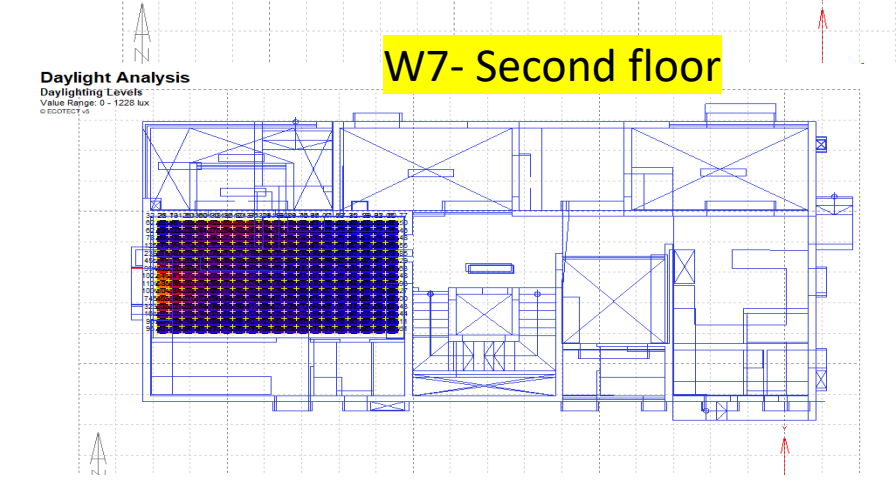
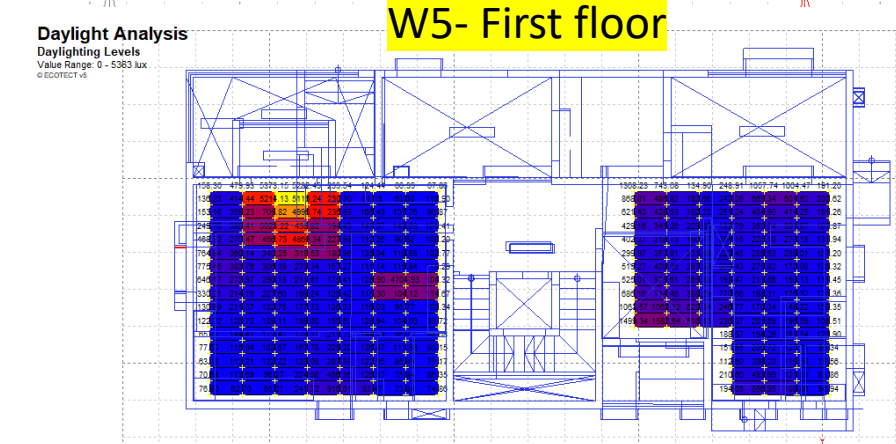
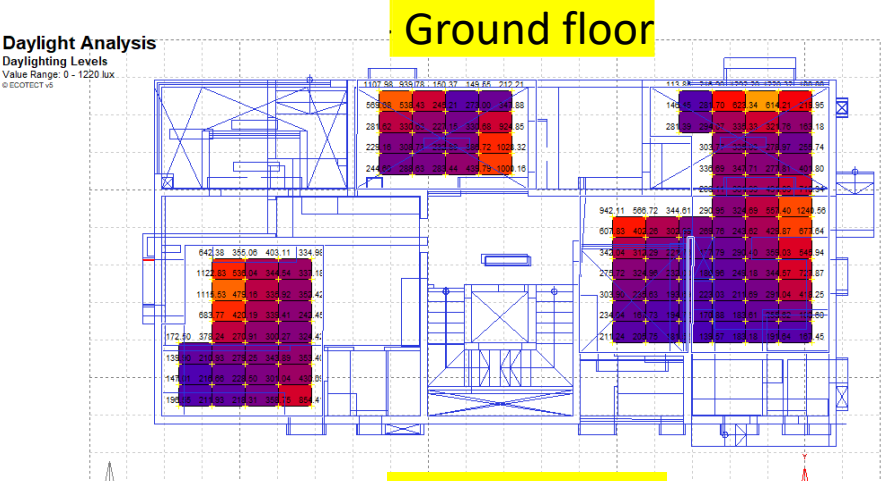
GF



FF



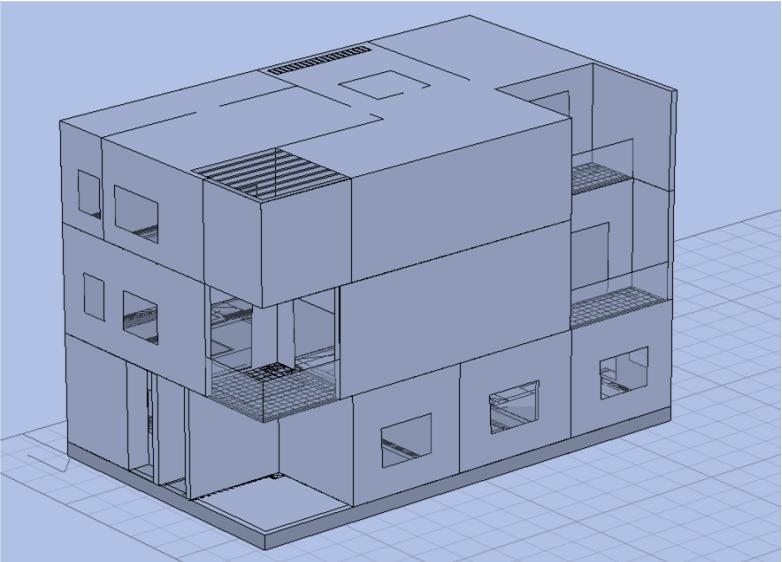
SF



BEDROOM (19.2SQM)
DRAWING (13.4SQM)
LIVING (12.5 SQM)
DINING AND KITCHEN (25.8SQM)
Avg: 740LUX

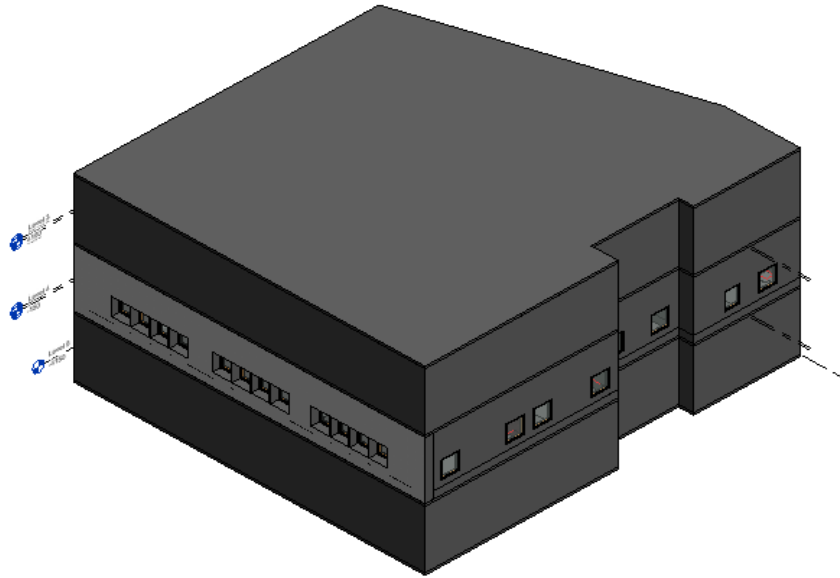
FAMILY(9.1SQM)
BEDROOM2 (27.2SQM)
BEDROOM3 (11.1SQM)
Avg: 480LUX

BEDROOM2 (27.2 SQM)
Avg: 391.1 LUX



FLOOR TYPE	% OF DAYLIGHT ACHEIVED
GROUND FLOOR	99.1
FIRST FLOOR	79.1
SECOND FLOOR	53.2
OVERALL % OF DAYLIGHT ACHEIVED –	77.1%

GUINDY OFFICE



REVIT DAYLIGHT ANALYSIS



Lighting Analysis in the Cloud

Select Analysis Type

For best results, follow the best practices checklist in Help

Analysis: LEED v4 EQc7 opt 2

Levels: All

Environment

Location: 12.96, 80.25

Date/Time: Equinox averages, 9am and 3pm, clear sky

The following weather values will be used:

Average weather file data of 2 clear sky days within 15 days of 9/21 3/21 at 9am and 3pm

Illuminance Settings

Threshold: 300 to 3000 lux

LEED v4 EQc7 opt 2 threshold will be used

Thresholds are used for results in Room and Floor Schedules

Cloud Credits

Resolution: 12 inch grid

Required: Check Price

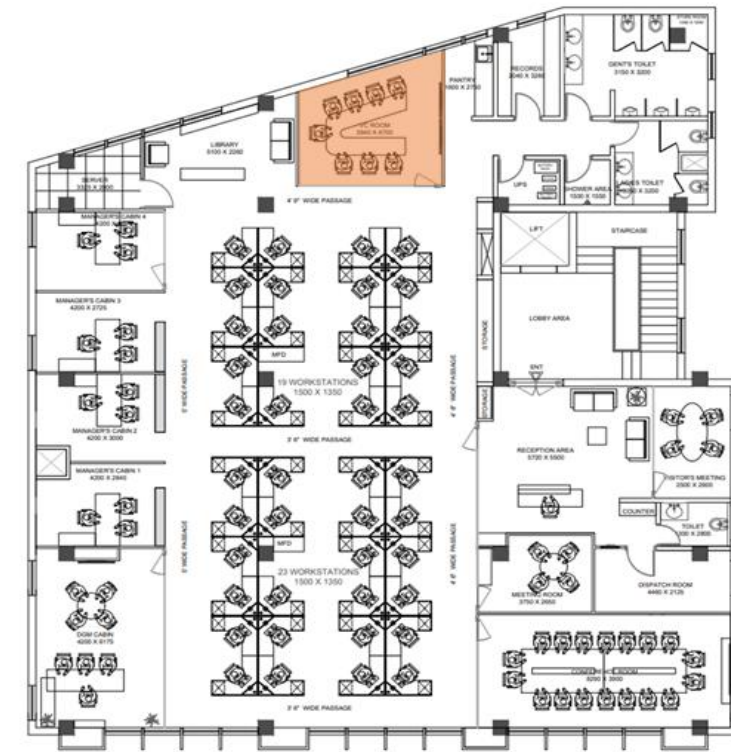
Available: Education

Check Price

Cancel

v4.0.4.3

Value	Color at value
Max	Yellow
3001	Yellow
3000	RGB 145-255-03
2000	RGB 145-255-07
1000	RGB 087-255-12
900	RGB 058-255-16
800	RGB 029-255-21
700	Cyan
600	RGB 004-209-25
500	RGB 009-163-25
400	RGB 013-166-25
300	RGB 023-023-25
299	RGB 159-000-00
Min	RGB 159-000-00



Lighting Analysis - Results Summary

LEED v4 EQc7 option 2
For all Rooms Included in Daylighting

0 Points

Total Equinox - 26% Passing
68% either time below threshold
7% either time above threshold

9:00 am - 40% Passing

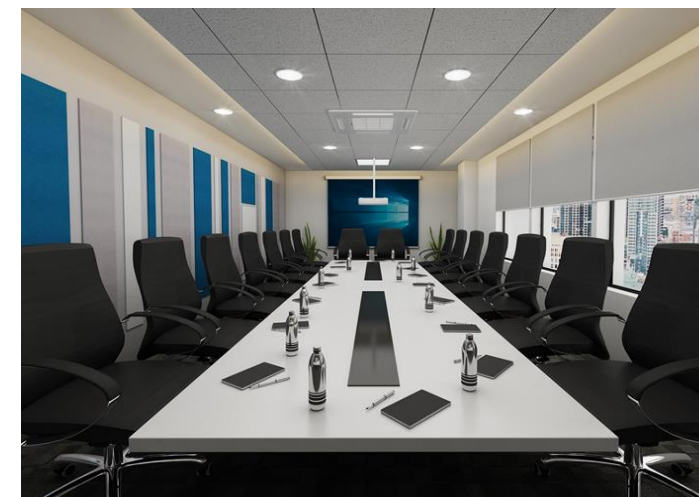
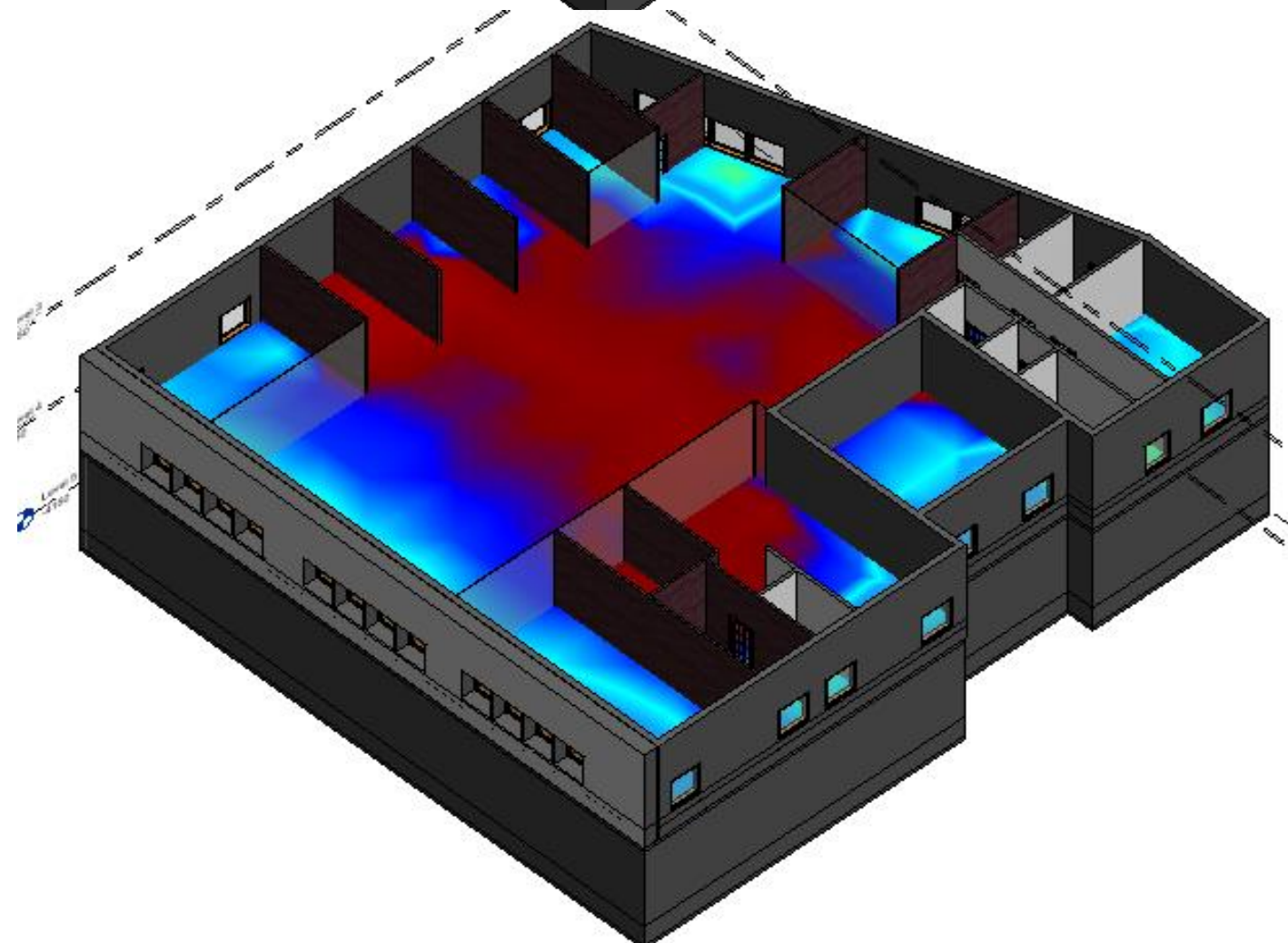
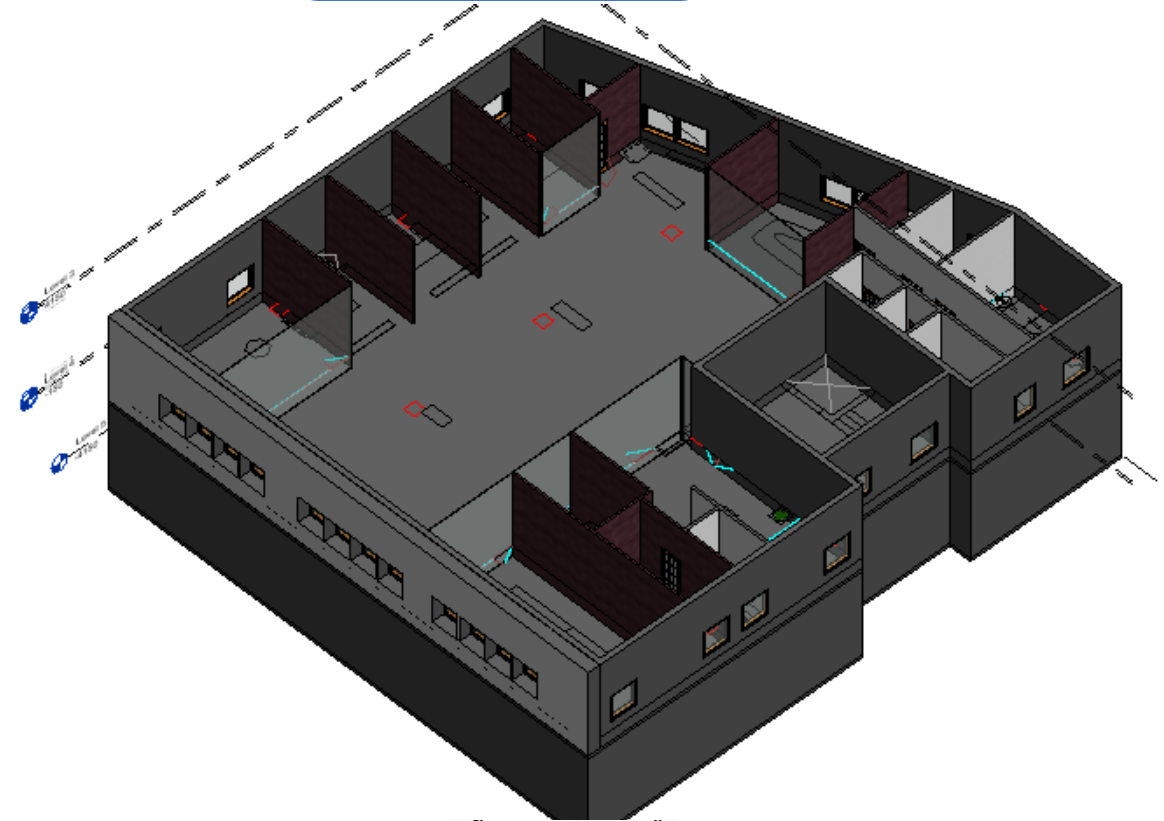
Equinox
GHI: 799, DNI: 796, DHI: 95
57% below threshold
3% above threshold w/o shades

3:00 pm - 36% Passing

Equinox
GHI: 273, DNI: 464, DHI: 78
59% below threshold
5% above threshold w/o shades

% ABOVE 300 LUX = 43%

LUX LEVEL INSIDE THE SPACE



GLASS SELECTION

Showing all products for: #any air VLT #0-74 OLR #0-43 SHGC #0.1-1 U-Value #1-6 LSG #0.3-1.9

Glazing Config	Thickness	Shade	Brand	Product Code	VLT %	OLR(%)	SHGC	U VALUE (AIR)	U VALUE (ARGON)	LSG Ratio	Available Thickness	Compare
Double Glazed Unit	24	Neutral	Envision	SKN 165	59	16	0.32	1.50	1.20	1.80	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Envision	SKN 144	39	20	0.23	1.60	1.30	1.70	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Planitherm	PLT T	74	12	0.54	1.80	1.50	1.40	4, 5, 6, 8, 10, 12	☒
Double Glazed Unit	24	Neutral	Nano	KT 164	56	14	0.44	1.90	1.60	1.30	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Nano	KT 140	36	23	0.27	1.80	1.50	1.30	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Nano	KT 155	46	17	0.36	1.90	1.60	1.30	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Nano	KN 130 II	31	21	0.24	1.80	1.50	1.30	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Evo	ET 125	25	28	0.23	2.00	1.70	1.10	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Antelio Plus	ST 167	59	22	0.56	2.80	2.60	1.10	4, 5, 6, 8, 10, 12	☒
Double Glazed Unit	24	Neutral	Cool-lite	ST 150	45	20	0.44	2.80	2.60	1.00	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Cool-lite	ST 136	33	23	0.33	2.70	2.60	1.00	4, 5, 6, 8, 10, 12	☐



IGBC GREEN HOMES BUILDING



CREDITS	POINTS AVAILABLE
Site Selection & Planning	9
Water Efficiency	11
Energy Efficiency	22
Material & Resources	13
Indoor Environment Quality	15
Innovation & Design Process	5
TOTAL	75



Indian Green Building Council



Certification Level	Points Required	Recognition
Certified	38-44	Best Practices
Silver	45-51	Outstanding Performance
Gold	52-59	National Excellence
Platinum	60-75	Global Leadership



ENERGY EFFICIENCY



ENERGY EFFICIENCY



- ✓ CFC Free Equipments
- ✓ Minimum Energy Performance
- ✓ Enhanced Energy Performance
- ✓ On-site renewable energy
- ✓ Solar Water Heating System
- ✓ Energy Saving Measures in Other Appliances & Equipment



- Utilization of renewable energy
- Lowest operating and maintenance cost with positive life-cycle benefits
- 100 % self-sufficiency in energy and to be an **ENERGY POSITIVE HOME**
- "No electric light" during daytime



- **Energy savings of over 87%** is achieved by considering the maximum running load of all appliances at the peak time in a comparison over the Baseline standard of IGBC Green home.



IGBC Green Homes Individual Residential Unit - Checklist



Energy Conservation	Points Available	Points Achievable
CFC-free equipment	Mandatory	Required
Minimum Energy Performance	Mandatory	Required
Enhanced Energy Performance	10	10
On-site Renewable Energy	6	6
Solar Water Heating System	4	0
Energy Saving Measures in Other Appliances & Equipment	2	2
Total	22	18

Target points achievable

18

CRITICAL OVERVIEW

I had a wonderful time in learning many new things in this firm. The project which I worked on was sustainable in many ways like use of recycled materials, use of lime mortar, which has eliminated the use of Cement which is huge contribution towards sustainability.

Another great thing I learnt from the Firm is dealing with the client. Clients usually keep changing their requirement which needs to be updated in the drawings but keep on changing Irritates a lot, Patience is very important and Understanding the Client and convincing them is a great challenge. If the project needs to be Sustainable, we need to develop Managing skills in dealing with client, contractors and labors which directly and indirectly affects the Project.