Environment Audit

Study Period (One Year) 2023 - 2024

Sustainability study

AUDIT REPORT

Maharshi Karve Stree Shikshan Samstha's

Cummins College of Engineering for Women

Karvenagar, Pune – 411052

Studied in the capacity of

Accredited and Certified

Green Building Professional

Studied by

Website: https://thegreenviosolutions.co.in/

Email: greenviosolutions@gmail.com

Disclaimer

The Audit Team has prepared this report for **Maharshi Karve Stree Shikshan Samstha's Cummins College of Engineering for Women** located at *Karvenagar, Pune – 411052* based on input data submitted by the Institute analysed by the team to the best of their abilities.

The details have been consolidated and thoroughly studied as per the various guidelines for Green Buildings available in National and International Standards; the report has been generated based on comparative analysis of the existing facilities and the prerequisites formulated by various standards. The inputs derived are a result of the inspection and research. These will further enhance and develop a Healthy and Sustainable Institution.

These can be implemented phase wise or as a whole depending on the decision taken by the internal team. The warranty or undertaking, expressed or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

The audit is a thorough study based on the inspection and investigation of data collected over a period of time and should not be used for any legal action. This is the property of Greenvio Solutions and should not be copied or regenerated in any form.

The Report is prepared by the Team of Greenvio Solutions under their brand and department – Sustainable Academe as Consultancy firm with the Project Head - Ar. Nahida Shaikh who is as an Accredited and Certified Green Building Professional-Architect. Green Building consultancy is her forte and she is one of the most sought after names when it comes to providing excellent quality services within the stipulated time frame.

The Study is conducted in capacity of Accredited & Certified Green Building Professional with extensive experience.

Ar. Nahida Abdulla

Greenvio Solutions

Developing Healthy and Sustainable Environments

We are an Environmental and Architectural Design Consultancy firm

Sustainable Academe is our department for Conducting Audits

Palghar District, Maharashtra- 401208

sustainableacademe@gmail.com

Acknowledgement

The Audit Assessment Team extends its appreciation to **Maharshi Karve Stree Shikshan Samstha's Cummins College of Engineering for Women, Maharashtra** for assigning this important work of Environment Audit. We appreciate the cooperation extended to our team during the entire process.

Our special thanks are extended are due to everyone from the Management.

We are also thankful to Institute's Task force who have played a major role in data collection.

Sustainable Academe
Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

Contents

1. Introduction

1.1 About the Institution

1.1.1 Vision

The Institute proposes *" To be globally renowned engineering institute for imparting holistic education and developing professional women leaders in engineering and technology."*

1.1.2 Mission

The Institute adheres and focuses

- *To impart quality engineering education with a multidisciplinary approach.*
- *To promote creativity, innovation and entrepreneurial attitude.*
- *To inculcate values, lifelong learning skills and sense of contribution towards industry and society.*
- *To provide opportunities for holistic development.*

2. Overview

2.1 Summarised Populace analysis for 2023-24

2.1.1 Students data

The data (shared by Institute) shows there were 2,701 students.

2.1.2 Staff data

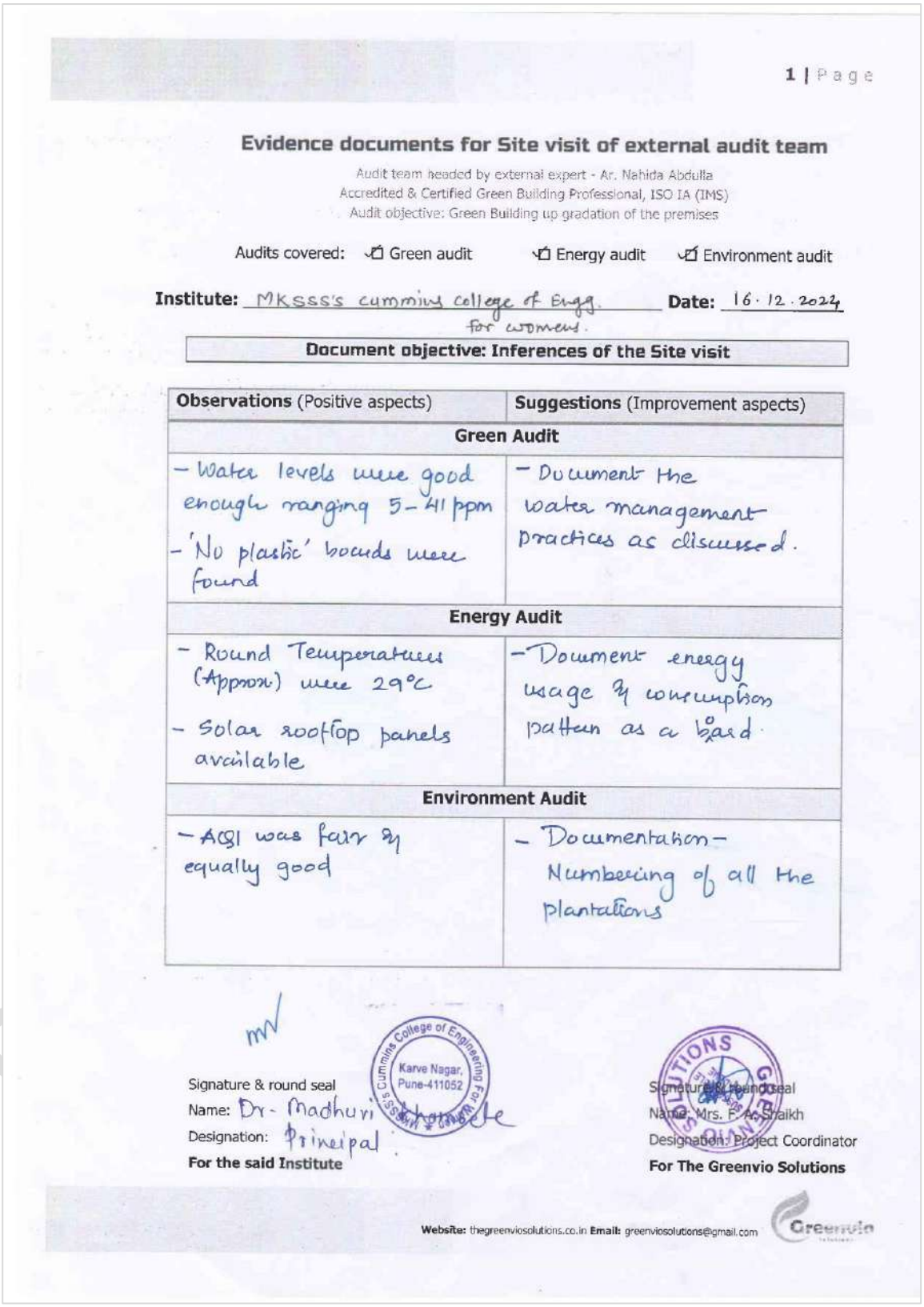
Sl. No.	Particulars	Male	Female	Total
1	Admin Staff	21	18	39
2	Teaching Staff	46	113	159
3	Non-teaching Staff	56	52	108
Total		**123**	**183**	**306**

Table 1: Staff data of the Institution for 2023-2024

Above data documents 306 staff members.

Thus, total populace stands at 3,007 nos.

3. Observation



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Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO IA (IMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: MKSSS's cummins college of Engg. for women. **Date:** 16.12.2024

Document objective: Inferences of the Site visit

Observations (Positive aspects)	**Suggestions** (Improvement aspects)
Green Audit	
- Water levels were good enough ranging 5-41 ppm - 'No plastic' boards were found	- Document the water management practices as discussed.
Energy Audit	
- Round Temperatures (Approx) were 29°C - Solar rooftop panels available	- Document energy usage & consumption pattern as a baseline.
Environment Audit	
- AQI was fair & equally good	- Documentation - Numbering of all the plantations

Signature & round seal
Name: Dr. Madhuri Khambete
Designation: Principal
For the said Institute

Cummins College of Engineering for Women, Karve Nagar, Pune-411052

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

Website: thegreenviosolutions.co.in **Email:** greenviosolutions@gmail.com

Plate 1: Evidence files related to inferences

Evidence documents for Site visit of external audit team

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Institute: MKSSS's Cummins College of Engg. for Women **Date:** 16.12.2024

Document objective: Proof of the Site visit

Meeting with the core team

Investigation of the systems

Signature & round seal
Name: Dr. Madhuri Khambete
Designation: Principal
For the said Institute

Karve Nagar, Pune-411052

Signature & round seal
Name: Mrs. [illegible]
Designation: Project Coordinator
For The Greenvio Solutions

Website: thegreenviosolutions.co.in **Email:** greenviosolutions@gmail.com

Plate 2: Evidence files related to proof

Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
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Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: MKSSS's cummins college of Engg. For women. **Date:** 16.12.2024

Document objective: Induction Meeting attendance sheet

2nd VISIT

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. Nivedita Daimiwal	Internal	Associate Dean Quality Assurance	Daimiwal
4.	Prof. Hitendra Khairnar	Internal	Dean Quality Assurance	
5	Prof. Vishal Deore	Internal	Asst. Prof.	
6.	Prof. Mrunal Mohanir	Internal	Asst. Prof.	

Signature & round seal
Name: Dr. Madhuri Khambet
Designation: Principal
For the said Institute

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
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Plate 3: Evidence files related to visit

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Institute: MKSSS's cummins College of Engg. For Women **Date:** 16.12.2024

Document objective: Exit Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. Nivedita Dairnwal	Internal	Ass. Dean Quality Assurance	
4.	Prof. Hitendra Khairnar	Internal	Dean Quality Assurance	

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Designation: Principal.
For the said Institute

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Plate 4: Evidence files related to discussion

4. Investigation

The following results were carried out during visit on ***16 December 2024***.

4.1 Micro-site study

1. Mechanical building @ 16:00

Figure 1: Study at Mechanical building

The details are noted below:

- Micro-climate temperature of site in (degree Celsius) – 29
- Particulate matter 2.5 micrometres or less in diameter ($PM_{2.5}$) – 43
- Particulate matter 10 micrometres or less in diameter (PM_{10}) – 39
- Carbon Monoxide (CO) – 2
- Sulphur dioxide (SO_2) – 7
- **As per the application the AQI was 43 and found to be Fair**

2. Terrace area of Mechanical building @ 16:19

Figure 2: Study at Terrace area of Mechanical building

The details are noted below:

- Micro-climate temperature of site in (degree Celsius) – 29
- Particulate matter 2.5 micrometres or less in diameter ($PM_{2.5}$) – 43
- Particulate matter 10 micrometres or less in diameter (PM_{10}) – 39
- Carbon Monoxide (CO) – 2
- Sulphur dioxide (SO_2) – 7
- **As per the application the AQI was 43 and found to be Fair**

3. Outdoor area @ 16:34

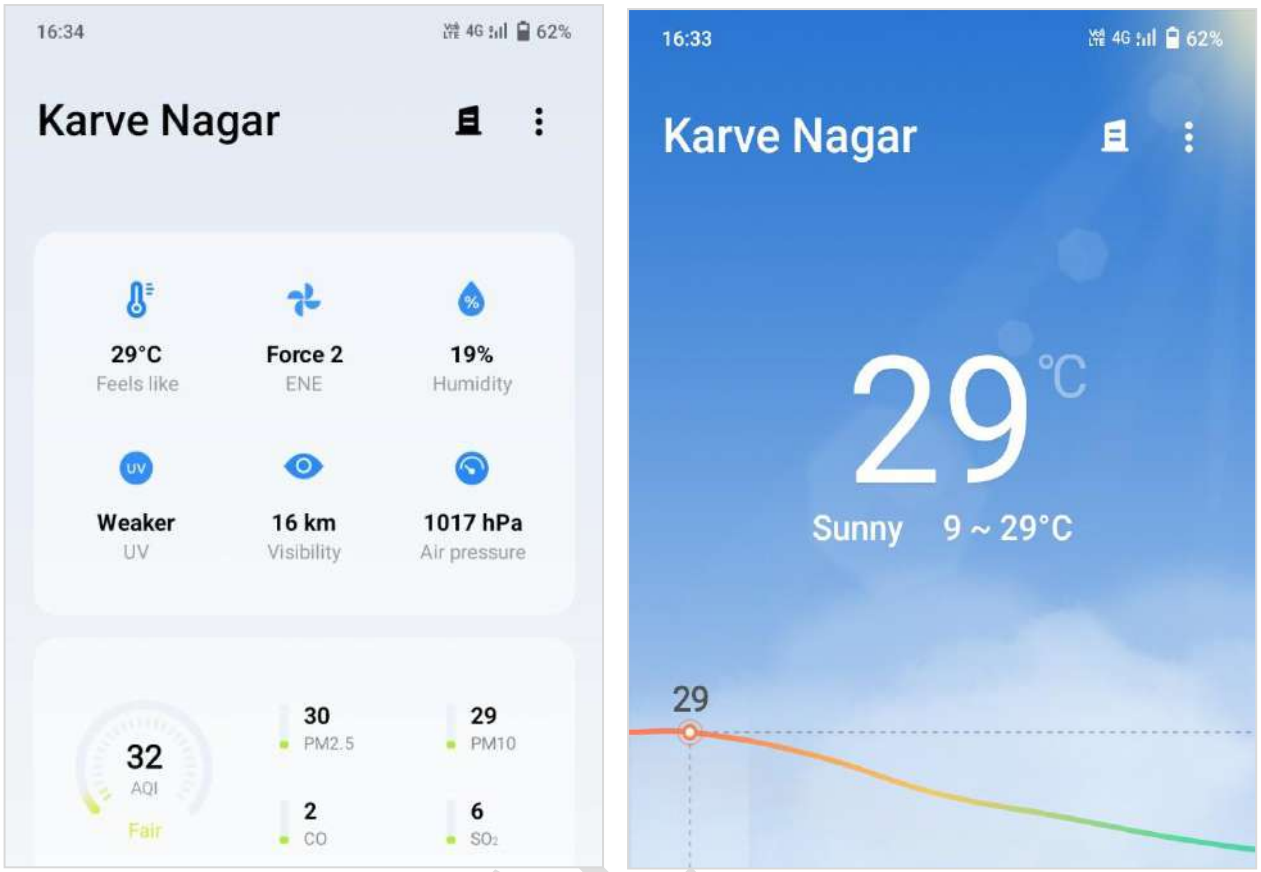


Figure 3: Study at outdoor areas

The details are noted below:

- Micro-climate temperature of site in (degree Celsius) – 29
- Particulate matter 2.5 micrometres or less in diameter ($PM_{2.5}$) – 30
- Particulate matter 10 micrometres or less in diameter (PM_{10}) – 29
- Carbon Monoxide (CO) – 2
- Sulphur dioxide (SO_2) – 6
- **As per the application the AQI 32 and found to be Fair**

4. Instrumentation block @ 16:42

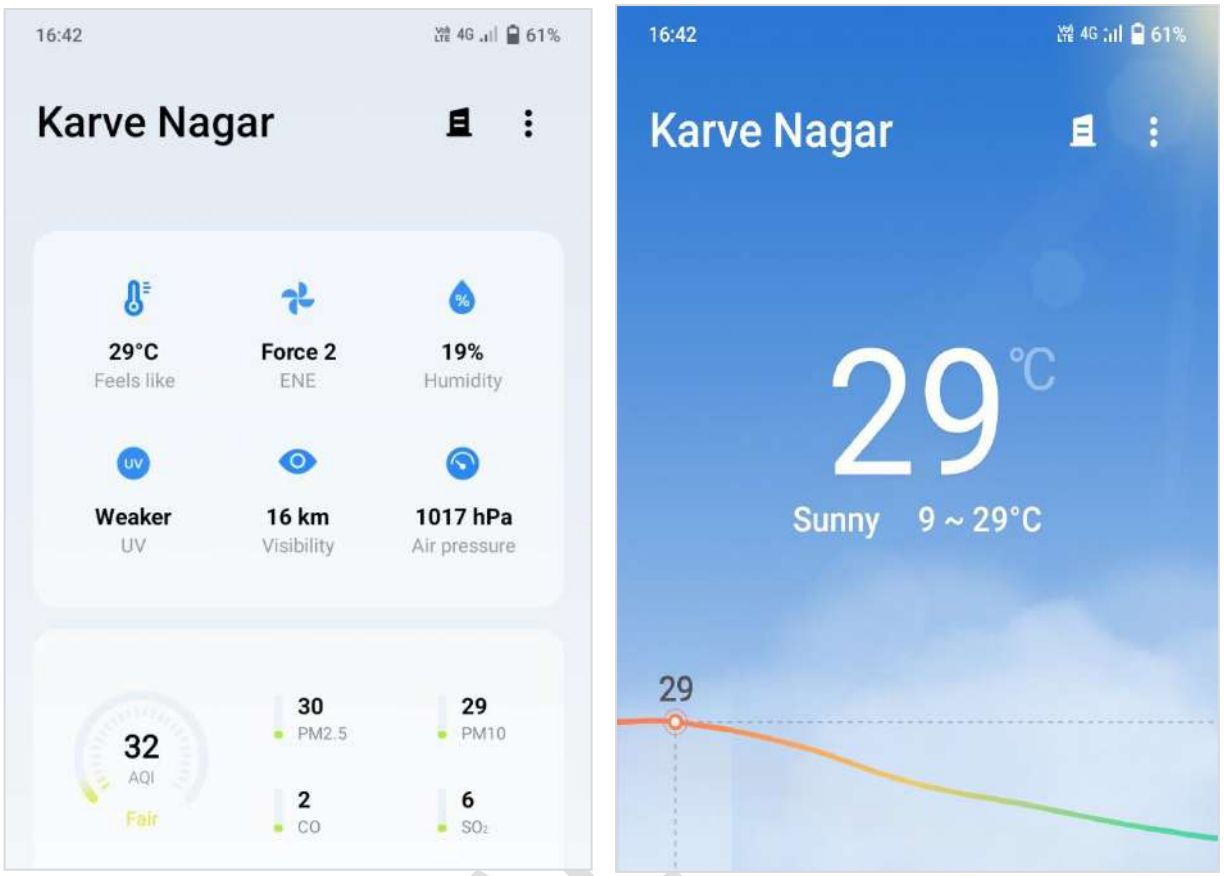


Figure 4: Study at Instrumentation block

The details are noted below:

- Micro-climate temperature of site in (degree Celsius) – 29
- Particulate matter 2.5 micrometres or less in diameter ($PM_{2.5}$) – 30
- Particulate matter 10 micrometres or less in diameter (PM_{10}) – 29
- Carbon Monoxide (CO) – 2
- Sulphur dioxide (SO_2) – 6
- **As per the application the AQI 32 and found to be Fair**

5. IT building @ 16:57

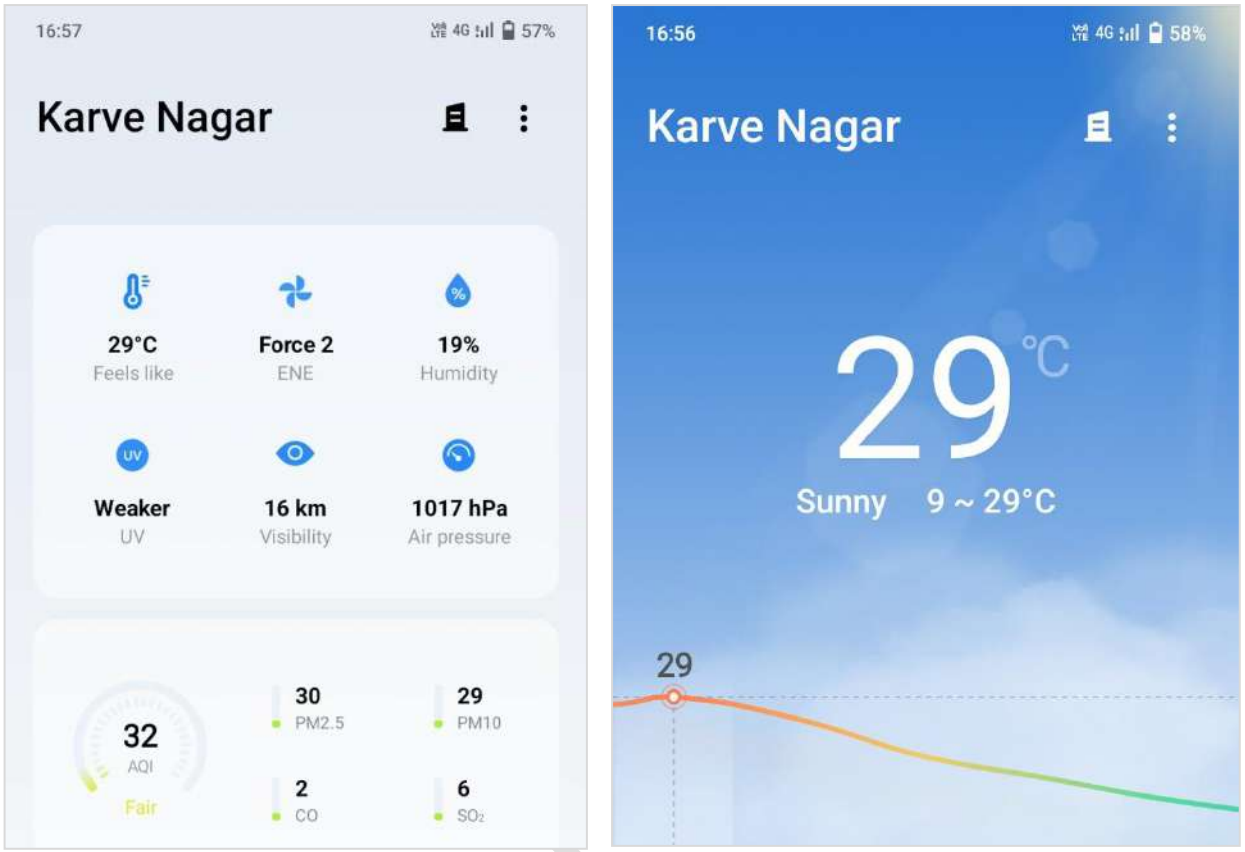


Figure 5: Study at IT building

The details are noted below:

- Micro-climate temperature of site in (degree Celsius) – 29
- Particulate matter 2.5 micrometres or less in diameter ($PM_{2.5}$) – 30
- Particulate matter 10 micrometres or less in diameter (PM_{10}) – 29
- Carbon Monoxide (CO) – 2
- Sulphur dioxide (SO_2) – 6
- **As per the application the AQI 32 and found to be Fair**

4.2 Macro summary study (Institute level)

4.2.1 Institute level

This study is the combined study of all the micro-studies taken place in previous section to draw a specific conclusion of overall AQI.

S. No.	Time	AQI as per meter	AQI Comment	Requires improvement
1.	Mechanical building @ 16:00	43	Fair	No
2.	Terrace area of Mechanical building @ 16:19	43	Fair	No
3.	Outdoor area @ 16:34	32	Fair	No
4.	Instrumentation block @ 16:42	32	Fair	No
5.	IT building @ 16:57	32	Fair	No

Table 2: Macro level study of the site – AQI parameters

The above study was conducted using the HuaFeng Accuweather software.

As the above study shows the sampling carried in all areas following are major observations:

- The time when testing was done was December month and winter season (Early morning to mid afternoon)
- The testing was done in both enclosed and open areas
- The testing results were FAIR and do not require improvement but similar maintenance

4.2.2 City level

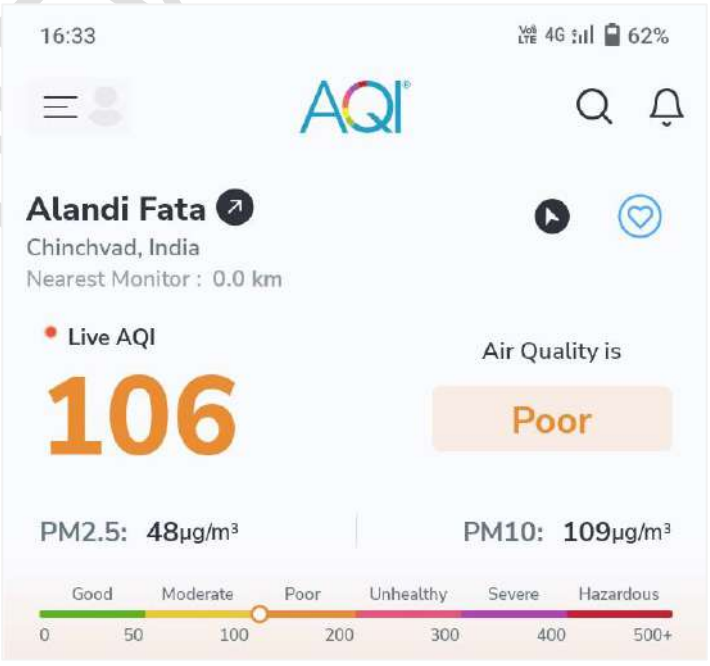


Plate 5: AQI study - Macro level from a carbon footprint aspect

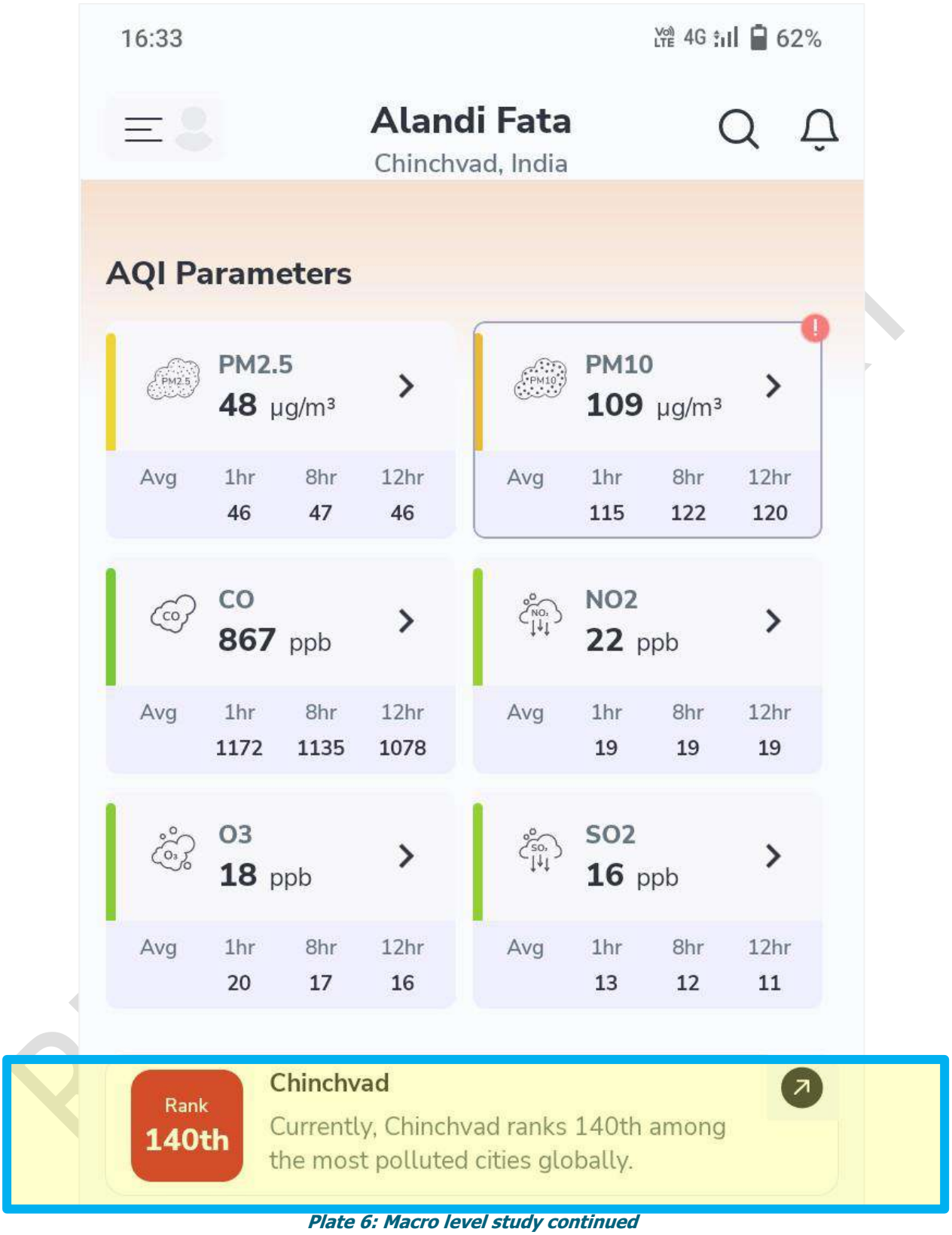


Plate 6: Macro level study continued

As per above study through the AQI software (Referring to the blue highlighted box) Alandi ranks 140th among polluted cities.

5. Documentation

5.1 Ecological audit

The campus is well divided into:

- Open space – Further divided as:
  - Hardscape
    - Walkways
  - Softscape
    - Garden
- Built space – Further divided as:
  - Constructed area

Plate 7: Open ground with plantations

5.2 Biodiversity (Flora) audit

The provided information is documented below:

5.2.1 Flora audit

S. No.	Plant name	Type	Nos.
1	*Spathodea Campanulata*	Tree	27
2	*Dalbergia Sisso*	Tree	3
3	*Azadirachta Indica*	Tree	20
4	*Tamarindus Indica*	Tree	8
5	*Pithecellobium Dulce*	Tree	25
6	*Psidium Guajava*	Tree	10
7	*Millingtonia Hortensis*	Tree	24
8	*Polyalthia Longifolia*	Tree	15

9	*Ficus Religiosa*	Tree	7
10	*Eucalyptus Globulus*	Tree	64
11	*Gmelina Arborea*	Tree	1
12	*Delonix Regia*	Tree	21
13	*Syzygium Cumini*	Tree	15
14	*Cascabela Thevetia*	Shrub	6
15	*Grevillea Robusta*	Tree	8
16	*Ficus Benjamina*	Tree	23
17	*Terminalia Catapa*	Tree	12
18	*Acacia Horrida*	Tree	6
19	*Tectona Grandis*	Tree	10
20	*Cocos Nucifera*	Tree	4
21	*Ficus Benghalensis*	Tree	9
22	*Mangifera Indica*	Tree	58
23	*Ficus Racemosa*	Shrub	16
24	*Casuarina Equisetifolia*	Tree	9
25	*Annona Reticulata*	Tree	2
26	*Jacaranda Mimosifolia*	Tree	10
27	*Peltophorum Pterocarpum*	Tree	25
28	*Ficus Elastica*	Tree	10
29	*Areca Palm*	Shrub	15
30	*Plumeria Alba*	Shrub	1
31	*Caryota Urens*	Tree	3
32	*Bauhinia Tomentosa*	Shrub	45
33	*Callistemon*	Shrub	35
34	*Plumeria*	Shrub	12
35	*Saraca Ashoka*	Tree	15
36	*Tabebuia*	Shrub	6
37	*Cassia Fistula*	Tree	6
38	*Samanea Saman*	Tree	7
39	*Roystonea Regia*	Tree	23
40	*Caesalpinia Pulcherrima*	Shrub	42
41	*Putranjiva Roxburgii*	Tree	1
42	*Cassia Grandis*	Tree	1

43	*Plumeria Rubra*	Shrub	7
44	*Araucaria Columnaris*	Tree	130
45	*Calliandra Haematocephal A*	Shrub	550
46	*Tabernaemont Ana Divaricata*	Shrub	1
47	*Eucalyptus Tereticornis*	Tree	15
48	*Ficus Elastica*	Tree	5
49	*Bauhinia Variegata*	Tree	18
50	*Erythrina Indica*	Tree	13
51	*Musa Acuminata*	Large Herb	2
52	*Gliricidia Sepium*	Tree	12
53	*Aiphanes Erosa*	Tree	1
54	*Sandulum Album*	Tree	1
55	*Leucaena Leucocephala*	Tree	1
56	*Holoptelia Integrifolia*	Tree	1
57	*Artocarpus Heterophyllus*	Tree	28
58	*Moringa Oleifera*	Tree	3
59	*Hardwickia Binata*	Tree	13
60	*Plumeria Obtusa*	Shrub	3
61	*Tecoma Stans*	Shrub	3
62	*Carpentaria Acuminata*	Tree	1
63	*Albizia Lebbeck*	Tree	1
64	*Seena Siamea*	Tree	3
65	*Michelia Champaca*	Shrub	1
66	*Khaya Senegalensis*	Tree	30
67	*Senna Spectabilis*	Tree	1
68	*Tabernaemont Ana Coronaria*	Shrub	3
69	*Wrightia Tinctoria*	Tree	1
70	*Pongamia Pinnatia*	Tree	2
71	*Murraya Koenegi*	Tree	1
72	*Areca Catechu*	Tree	1
73	*Casabella Thevetia*	Shrub	10

Table 3: Details about the flora in the campus

There are 1,522 plantations; previously there were 651+ plantations. Comparatively there has been an increase in the nos. as per data.

5.2.2 Fauna audit

The shared data is documented below:

- Parrots
- Hornbills
- Crows
- Owls
- Koels
- Black Kite
- Red-Whiskered Bulbul
- Woodpeckar
- Bats
- Sparrows
- Greater Coucal
- Purple Sunbird
- Indian White-Eye
- White-Throated Fantail
- Spot-Breasted Fantail
- Common Tailorbird

Plate 8: Plantations in the premises

5.3 Carbon Footprint Audit – Heat Island Reduction

5.3. Light pollution study

This type of pollution is not experienced within premises

5.3.2 Heat Island Reduction

The heat island effect refers to the study of micro climatic feature within a site. There are multiple factors that add on to feature such as external temperature, internal temperatures, site context including available and site adjacent facilities. Observed features include:

- Light Colored Interiros
- Light Colored Exteriors
- Shaded Outdoor
- Shaded Walkways

Plate 9: Elements related to heat island reduction

5.4 Noise Audit

This study is conducted within site premises.

5.4.1 Micro-level detail inputs

Figure 6: Noise levels at various times

5.4.2 Macro level summary inputs

S. No.	Space	Actual Noise (dB)	Max. Noise (dB) as per norms	Requires improvement
1.	Mechanical building @ 16:01	72	50	Yes
2.	Terrace area of Mechanical building @ 16:20	50	50	NO
3.	Outdoor area @ 16:34	72.5	50	Yes
4.	Instrumentation block @ 16:44	63.3	50	Yes
5.	IT building @ 16:57	73.7	50	Yes

Table 4: Summary study of the noise

The above study was conducted using the NoiseCapture software.

As the above study shows the sampling carried in all areas following are major observations:

- The noise levels are more in almost all areas except Terrace area
- Accoustical treatment for interior spaces can be thought of to improve the noise levels

5.5 Site audit (Amenities perspective)

The following amenities were observed for stakeholder assistance in the campus.

Plate 10: Awareness signages in the premises

6. Compliance

The compliance study was carried out through investigative ways. This was done to understand extent of implementations based on previous reports.

- Original report study was for June 2020 to May 2021 and June 2021 to May 2022
- Renewal study currently done is for June 2023 to May 2024

6.1 Compliance status in form of Action taken report

The inputs are documented below:

MKSSS's

Cummins College of Engineering for Women, Pune

(An Autonomous Institute Affiliated to Savitribai Phule Pune University)

MKSSS's Cummins COLLEGE OF ENGINEERING FOR WOMEN, PUNE

ACTION TAKEN REPORT ON

Green and Environmental AUDIT

4th December 2024

Based on the Report prepared for Academic year

AY 2022-2023 Conducted by Greenvio Solutions

On the Institution letterhead

ACTION TAKEN REPORT ON

(Green and Environment) AUDIT

S. No.	Recommendation	Page nos. of Report	Action taken (Implemented/ Under process/ Steps to be taken)	Evidence (Geo tag photo or other)
1	Environment Certificate Courses – The College could begin courses such as Bachelors, Diploma, or Certificate courses with National and International Collaboration related to Environment as part of the courses provided. Though, this is not a requirement or compulsion.		We have asked students to take online course on Youth leadership for climate action(environmental activity).	
2.	Nature club		We have formed a green club having 120 students under which various activities are planned.	

7. Suggestion

The suggestion (inference) would act as a 'PLAN OF ACTION' to implement all the suggestions in a detailed manner.

- Conduct the 'Before' and 'After' study with photos
- Document the same in 'Action taken report'

S. No.	Aspect with evidence if any	Suggestion
1.	Ecological aspect **Aspect area:** **Plant as an extension of 'Green motto'**	External resource persons visiting the premises can share the goal of green environment in the following ways: 1. Plant a sapling within the premises 2. Handover a sapling as a gesture
2.	Biodiversity aspect **Aspect area:** **Numbering the plantations in the premises**	Make a list of all the plantations in the premises and start numbering the plantations in either of the ways: 1. Paint the nos. on iron plates and nail the same 2. Print nos. on paper, laminate and paste the same 3. Paint the nos. directly Sample image for 3 examples are noted below.  ***Options for numbering the plantations*** Care should be taken that the display should be visible. Uniform color palette should be identified and used. Measures should be taken to avoid withering during monsoon. This could be undertaken as a student activity.
3.	Biodiversity aspect **Aspect area:** **Water and food**	At appropriate locations there can be provisions for drinking water and some grains for birds as they visit the site much frequently.

	feeders	  ***Food and water feeder*** Waste plastic bottles can be recycled & used as a student activity
4.	Carbon footprint aspect **Aspect area:** **Environment monitoring**	Install CO_2 monitor in public areas of indoor areas such as porch and AQI meter in outdoor areas near compound wall
5.	Carbon footprint aspect **Aspect area:** **Cool rooftop**	➲ Keep terrace areas free of any kind of storage materials ➲ Terrace rooftops can be painted with Cooltop (Reflective material) to reflect the harsh sun rays and reduce the heat absorption in the top most floor and surrounding areas of the building. ➲ Introduce signboards about 'No students are allowed to enter' ➲ Undertake feasibility study of before - after temperature reading. Current status for terrace 

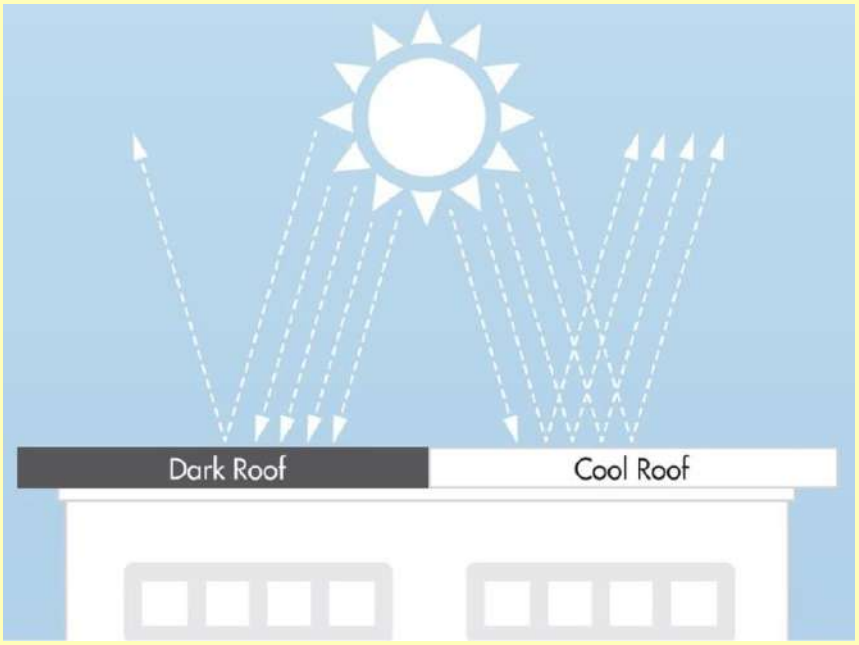
		Proposed status  ***Plate 11: Cool roof comparative analysis (For reference purpose only)*** *Source: Image by https://www.gaf.com/en-us/blog/six-truths-about-cool-roofs-281474980105387*
6.	Noise aspect **Aspect area:** **Demark & display board about Silent zone**	A signboard highlighting and 'No honking or Silent zone' should be displayed outside campus near all entrance gates; near roadside approach of site (Outdoor areas) and 'Quite zone' outside the library space (Indoor areas)  
7.	General aspect **Aspect area:** **Demark & display board about zone**	Intrdouce following zones: ➲ Breakout zone ➲ Restricted zone ➲ Danger zone ➲ No vehicle zone ➲ No smoking zone

Table 5: Observation based suggestion study of the campus

8. Compilation

The study is based on the data collected, analyzed, rechecked, and confirmed through multiple modes. For the quality study, some standards/ notes have been referred to. These are listed and noted below. However, no direct references have been used anywhere. These are used as a base to analyze and study the data collected.

National references

- IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
- IGBC Green Landscape Rating system, March 2013

International references

- The city of Cheyenne, Streetscape/ Urban Design elements - Wyoming Planning Association, Gillette, Wyoming, United States
- Streetscape elements – Chapter 6 on San Francisco
- American lung association https://www.lung.org/
- Study related to air pollution https://www.airgle.com/
- Exploring the light pollution https://education.nationalgeographic.org/
- Urban heat island effect https://www.epa.gov/heatislands/what-you-can-do-reduce-heat-islands

ENERGY AUDIT

STUDY PERIOD (ONE YEAR) 2023 - 2024

Sustainability study

AUDIT REPORT

Studied for

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Background reference image Janko Ferlic on pexels

Disclaimer

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Acknowledgement

The Audit Assessment Team extends its appreciation to **Maharshi Karve Stree Shikshan Samstha's Cummins College of Engineering for Women, Maharashtra** for assigning this important work of Energy Audit. We appreciate the cooperation extended to our team during the entire process.

Our special thanks are extended are due to everyone from the Management.

We are also thankful to Institute's Task force who have played a major role in data collection.

Sustainable Academe
Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

Contents

1. Introduction

1.1 About the Institution

1.1.1 Vision

The Institute proposes *" To be globally renowned engineering institute for imparting holistic education and developing professional women leaders in engineering and technology."*

1.1.2 Mission

The Institute adheres and focuses

- *To impart quality engineering education with a multidisciplinary approach.*
- *To promote creativity, innovation and entrepreneurial attitude.*
- *To inculcate values, lifelong learning skills and sense of contribution towards industry and society.*
- *To provide opportunities for holistic development.*

2. Overview

2.1 Summarised Populace analysis for 2023-24

2.1.1 Students data

The data (shared by Institute) shows there were 2,701 students.

2.1.2 Staff data

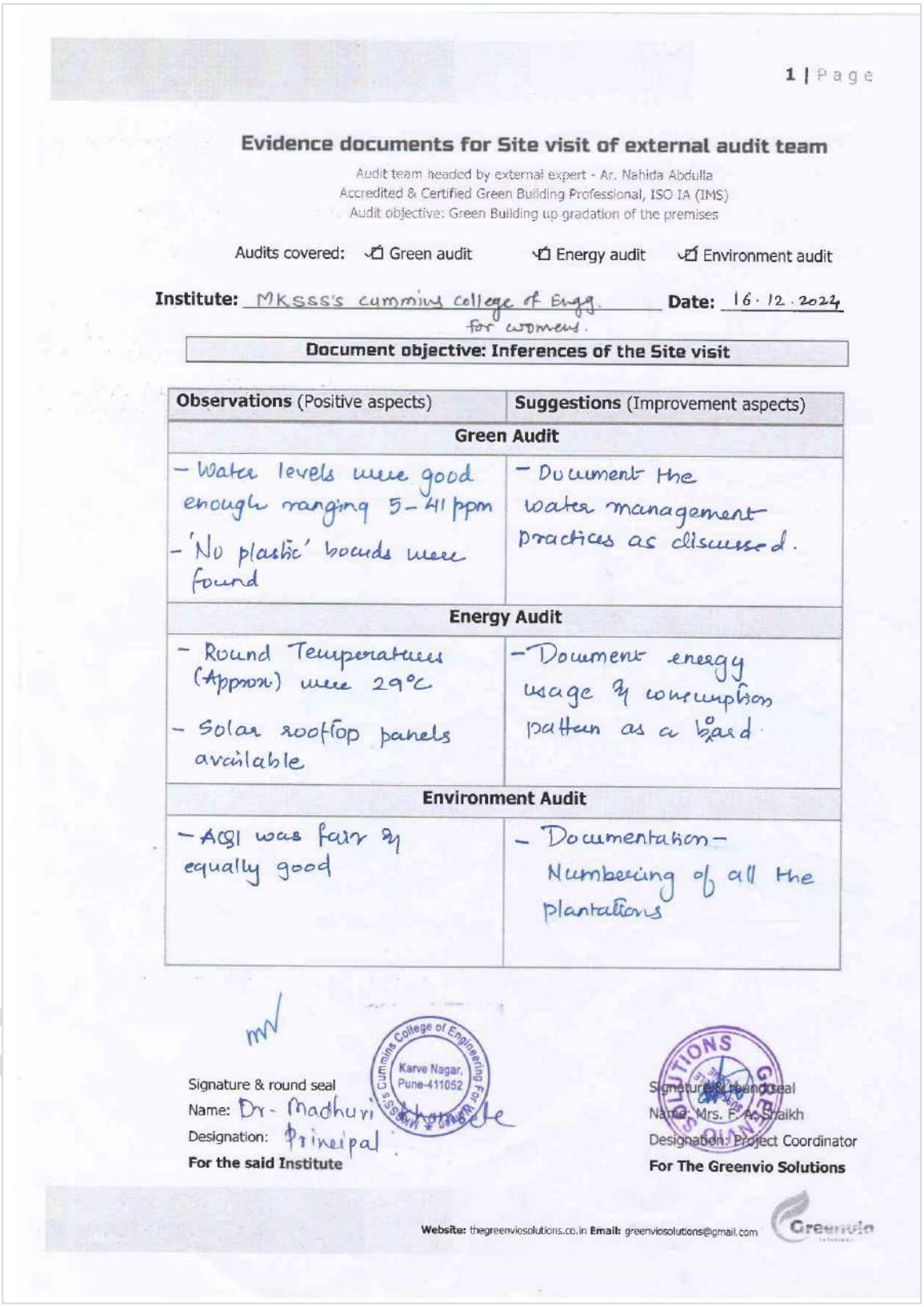
Sl. No.	Particulars	Male	Female	Total
1	Admin Staff	21	18	39
2	Teaching Staff	46	113	159
3	Non-teaching Staff	56	52	108
Total		**123**	**183**	**306**

Table 1: Staff data of the Institution for 2023-2024

Above data documents 306 staff members.

Thus, total populace stands at 3,007 nos.

3. Observation



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Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO IA (IMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: MKSSS's cummins college of Engg. for women. **Date:** 16.12.2024

Document objective: Inferences of the Site visit

Observations (Positive aspects)	**Suggestions** (Improvement aspects)
Green Audit	
- Water levels were good enough ranging 5-41 ppm - 'No plastic' boards were found	- Document the water management practices as discussed.
Energy Audit	
- Round Temperatures (Approx) were 29°C - Solar rooftop panels available	- Document energy usage & consumption pattern as a baseline.
Environment Audit	
- AQI was fair & equally good	- Documentation - Numbering of all the plantations

Signature & round seal
Name: Dr. Madhuri Khambete
Designation: Principal
For the said Institute

Cummins College of Engineering for Women, Karve Nagar, Pune-411052

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

Website: thegreenviosolutions.co.in **Email:** greenviosolutions@gmail.com

Plate 1: Evidence files related to inferences

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Document objective: Proof of the Site visit

Meeting with the core team

Investigation of the systems

Signature & round seal
Name: Dr. Madhuri Khambete
Designation: Principal
For the said Institute

Cummins College of Engineering for Women ★ MKSSS's ★ Karve Nagar, Pune-411052

Signature & round seal
Name: Mrs. [illegible]
Designation: Project Coordinator
For The Greenvio Solutions

GREENVIO SOLUTIONS SUSTAINABLE ARCHITECTURE

Website: thegreenviosolutions.co.in **Email:** greenviosolutions@gmail.com

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Document objective: Induction Meeting attendance sheet

2nd VISIT

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. Nivedita Daimiwal	Internal	Associate Dean Quality Assurance	Daimiwal
4.	Prof. Hitendra Khairnar	Internal	Dean Quality Assurance	
5	Prof. Vishal Deore	Internal	Asst. Prof.	
6.	Prof. Mrunal Mohanir	Internal	Asst. Prof.	

Signature & round seal
Name: Dr. Madhuri Khambet
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Document objective: Exit Meeting attendance sheet

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Plate 4: Evidence files related to discussion

4. Investigation

The micro-climate temperatures of the site depends upon various factor including through evapotranspiration, trees and other vegetation cool the air around them. (Reference and further edited with details from dnr.louisiana.gov)

The base temperature for thermal comfort in India is 24°C (75°F) – Reference study https://www.researchgate.net/post/What_is_the_base_temperature_for_thermal_comfort_in_India#:~:text=The%20base%20temperature%20for%20thermal%20comfort%20in%20India%20is,C%20(75%C2%B0F).

The following results were carried out during visit on ***16 December 2024***.

S. No.	Space	Result (^{0}C)	Required (^{0}C)	Requires improvement
1.	Mechanical building @ 16:00	29	24	Since the difference is not major the result is fine
2.	Terrace area of Mechanical building @ 16:19	29	24	
3.	Outdoor area @ 16:34	29	24	
4.	Instrumentation block @ 16:42	29	24	
5.	IT building @ 16:57	29	24	

Table 2: Results for the micro-climate temperature study

The above study shows the spaces are having 'GOOD MICROCLIMATE'.

5. Documentation

Section 1 – Life safety management

5.1 Facilities study

Plate 5: Fire and life safety measures undertaken

The facilities include fire extinguishers, PASS signage, fire alarm and fire hydrant.

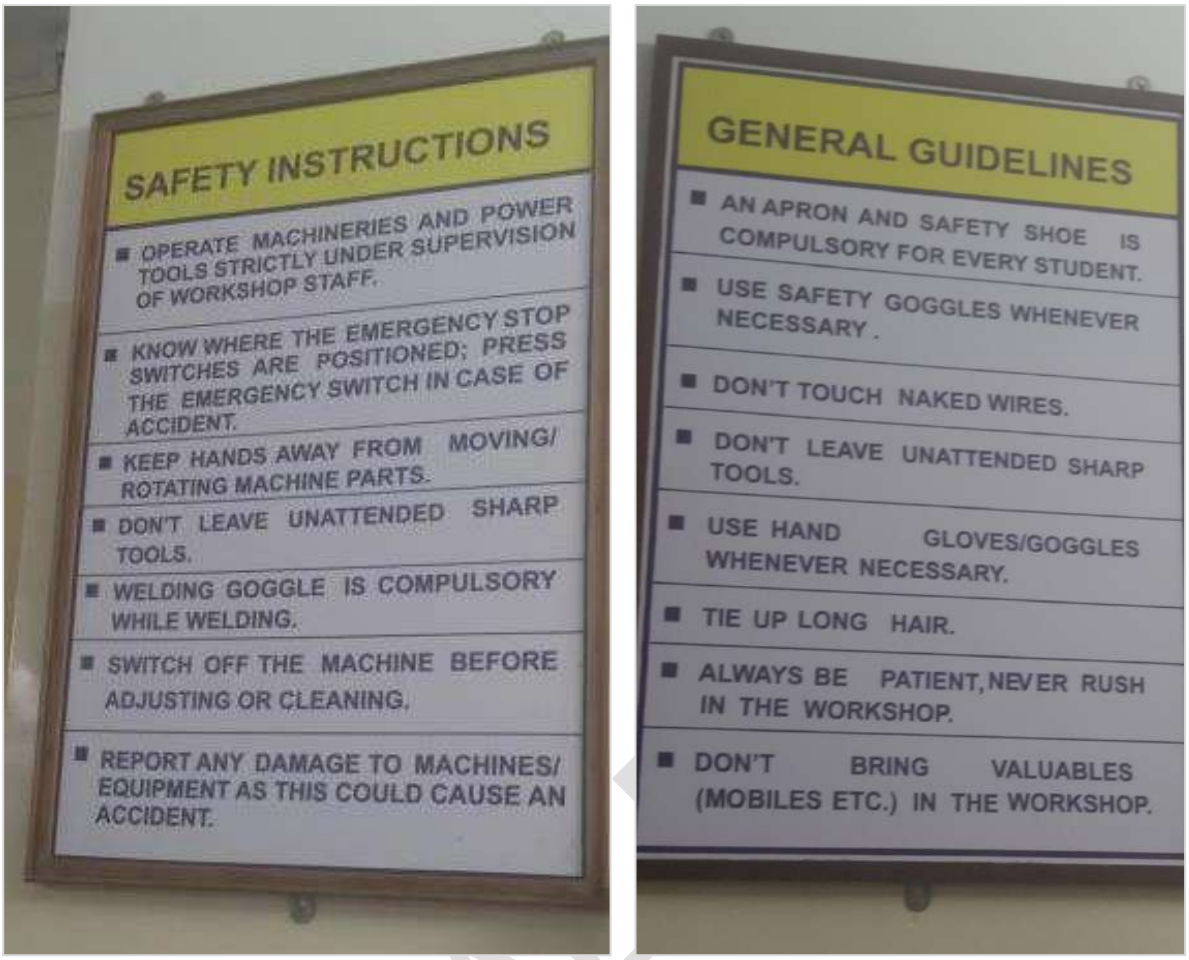


Plate 6: Safet instructions and general guidelines in workshop area

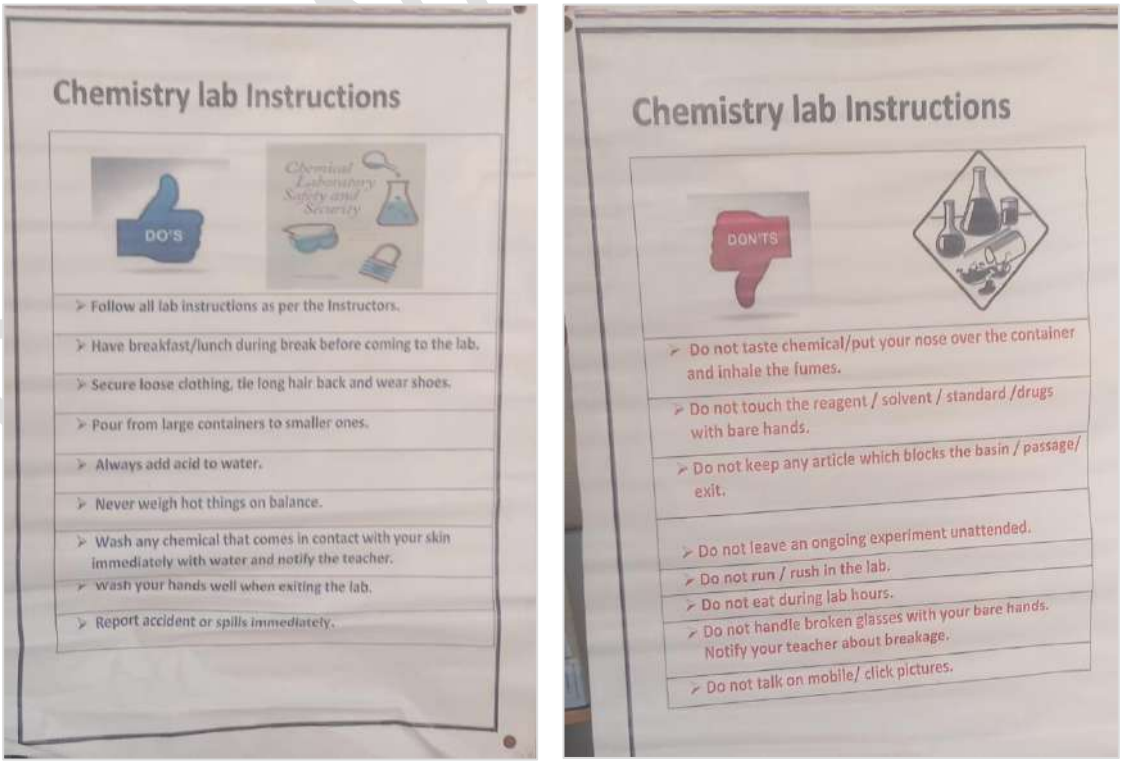


Plate 7: Safet instructions and general guidelines in laboratories

Section 2 - Energy generation & expense incurred

5.2 Load distribution study

5.2.1 Categorization

The campus has EDUCATIONAL facility thus the type of load can be stated as 'COMMERCIAL'

5.2.2 Primary sources of energy consumption

- **Electrical (Metered) –** Light, Fans, Equipments, Pumps comprise these sources.
- **Alternate sources of energy consumption –** Ther sources are documented below:
    - Solar panels
    - Gas cylinders

5.2.3 Secondary sources of energy consumption

The sources were are documented below:

Name	Nos. (Instrumentation Bldg)	Nos. (Main Bldg)	Nos. (Mechanical Bldg)	Nos. (IT Bldg)	Total
UPS	12	99	59	8	178

Table 3: Secondary sources

5.3 Technical payload study

The following details are for Main Building, I.T. Building, Mechanical Building & Instrumentation Building

S. No.	Month	Year	Amount	(A) Total units consumed	(B) Solar units generated**	(C = A-B) Gross units consumed after deduction
1	June	2023	5,52,428	11,782	10,672	1,110
2	July	2023	4,77,043	5,905	10,672	-4,767
3	August	2023	5,82,579	10,832	10,672	160
4	September	2023	5,28,705	9,303	10,672	-1,369
5	October	2023	5,36,501	5,439	10,672	-5,233
6	November	2023	4,82,764	4,715	10,672	-5,957
7	December	2023	4,28,131	3,259	10,672	-7,413
8	January	2024	4,80,861	3,296	10,598	-7,302
9	February	2024	4,77,875	3,439	10,598	-7,159
10	March	2024	6,15,893	3,440	10,598	-7,158
11	April	2024	6,86,359	3,386	10,598	-7,212
12	May	2024	7,24,173	4,800	10,598	-5,798

Table 4: Details of the electrical consumption

*** These are total No. of solar units generated & consumed by Cummins College as well as by MKSSS Samstha.*

The observation related to above information states:

- The **total amount** spent is **Rs. 65,73,312/-**
- **Total units** consumed was **-58,100 kWh (Only Electrical)**
- The **total units** consumed in past one year is **1,27,696 kWh (Only solar)**
- **Alternate source of energy is available through rooftop solar panels**

Section 3 – Energy consumption

5.4 Calculated electrical consumption study

(Energy consumption by the electrical appliances study)

The following documentation is based on the consumption practice on a regular working day.

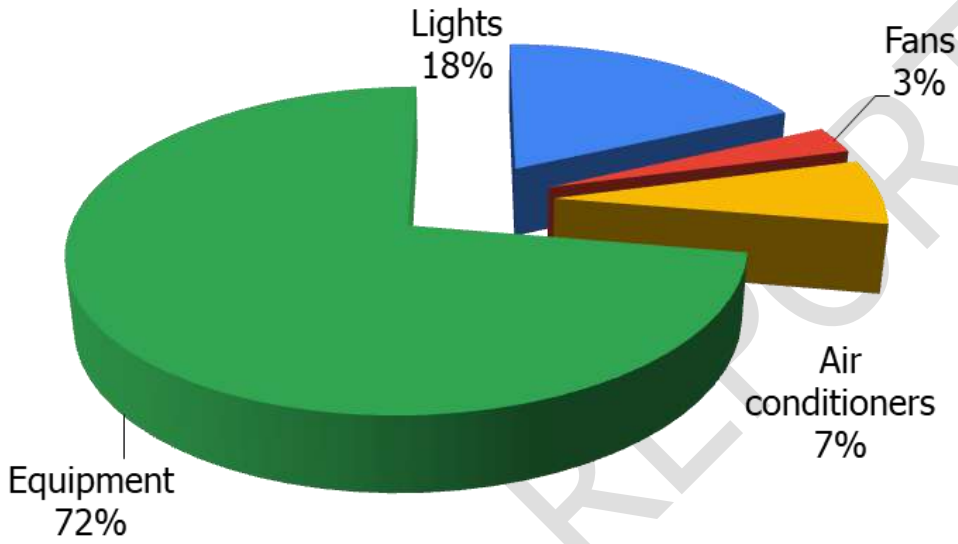


Figure 1: Summary of the calculated electrical consumption as per inventory

The above graph shows that equipment consume 72% whereas lights consume 18% while air conditioners consume 7% and fans consume 3% each of total calculated electrical energy.

5.5 Lights

5.5.1 Types of lights based on the numbers

There are **2,601 LED lights on the premises.**

5.5.2 Types of lights based on the power consumption

The energy consumption of lights is **2,27,119 kWh** of energy with LED lights consuming 100% of the total power consumed by lights.

5.6 Fans

5.6.1 Types of fans based on the numbers

There are **977 fans** on the premises as follows:

S. No.	Type	Nos.
1	BLDC fans	4
2	Regular ceiling fans	890
3	Exhaust (Small, regular and medium size)	47
4	Pedestal fans	12
5	Wall mounted fans	24

Table 5: Summary of the types of fans in the premises

5.6.2 Types of fans based on the power consumption

The energy consumption of fans is **35,066 kWh** of the energy.

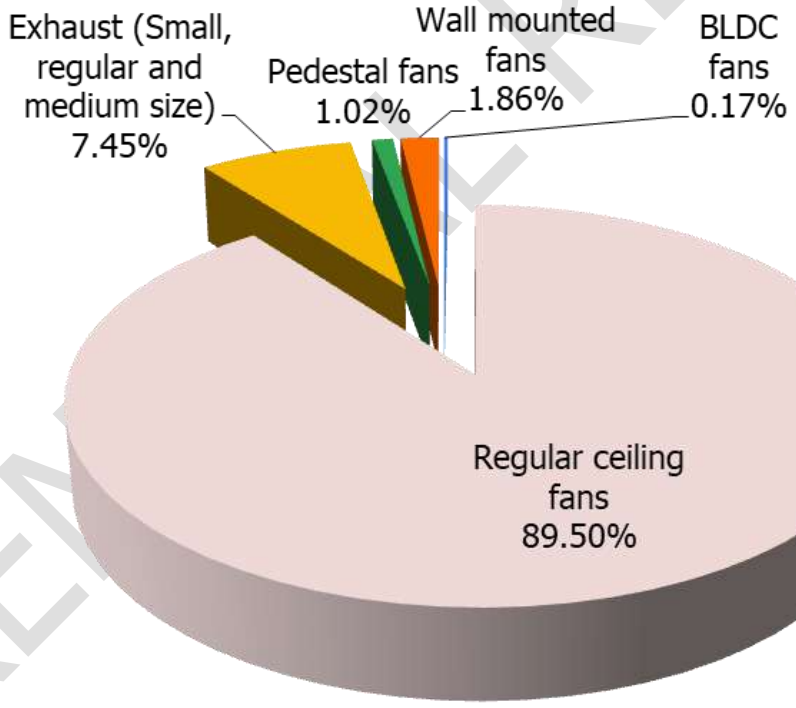


Figure 2: Types of fans based on power consumption

The above analysis shows regular ceiling fans consume 89.50% while the exhaust fans (all typeS) together consume 7.45% whereas the wall mounted fans consume 1.86% while the pedestal fans consume 1.02% and the BLDC fans consume 0.17% total power consumed by fans.

5.7 Air conditioners

5.7.1 Types of air conditioners based on the numbers

There are **118 air conditioners** on the entire premises**.**

5.7.2 Building-wise consumption analysis

The energy consumption of air conditioners is **84,099 kWh** of energy.

5.8 Equipment

Only the major appliances information was shared.

5.8.1 Types of Equipment

There are **1,892 nos. of equipment** in the premises.

5.8.2 Types of equipment as per their energy contribution

The energy consumption of equipment is **9,06,638 kWh** of energy.

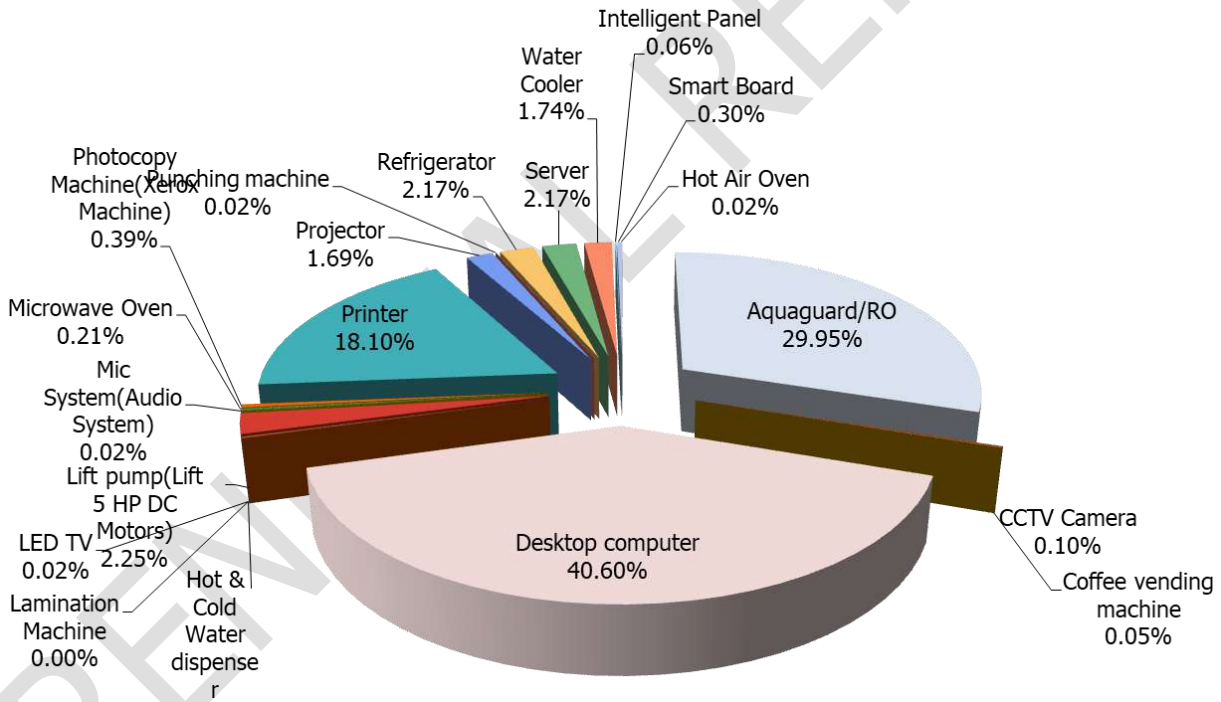


Figure 3: Energy consumed by types of equipment in the educational sector based on the usage study

The above summary shows that **desktop computer consumes more energy at 40.60%** while the **Aquaguard/ RO consumes 29.95%** whereas **printer consumes 18.10%** and **lift pump (5HP DC motors) consumes 2.25%** these are major consumers as compared to other equipment.

Section 4 – Building safety

No major safety hazards were observed.

5.5 Comparison study

A. Calculated Electrical requirement (in kWh) as per inventory

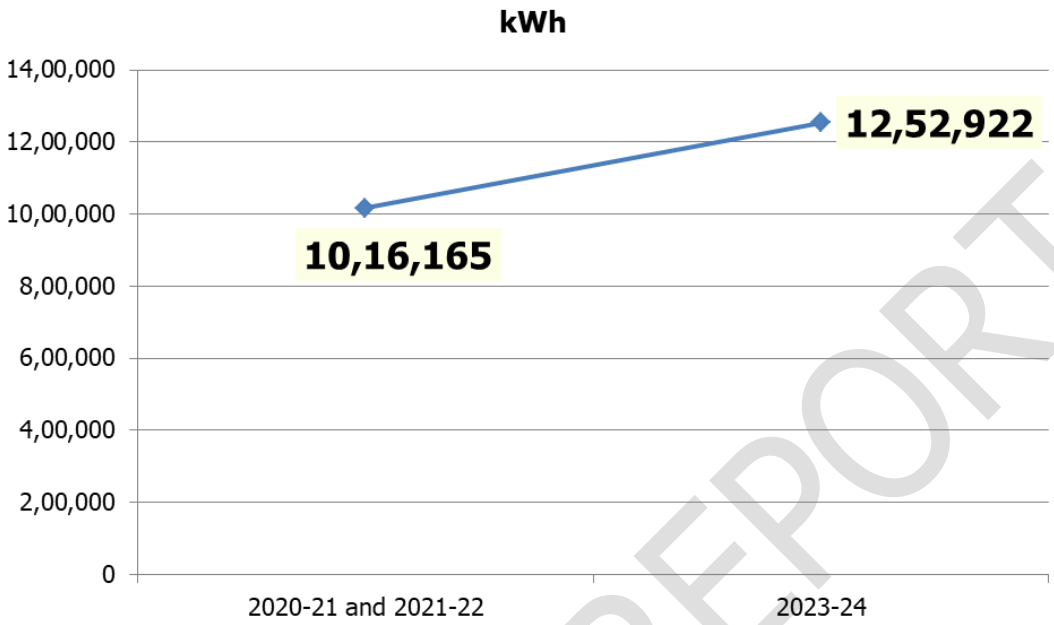


Figure 4: Comparative study of electrical requirement in kWh

There has been an increase of 2,36,757 kWh in the energy requirement.

6. Compliance

The compliance study was carried out through investigative ways. This was done to understand extent of implementations based on previous reports.

- Original report study was for June 2020 to May 2021 and June 2021 to May 2022
- Renewal study currently done is for June 2023 to May 2024

6.1 Compliance status in form of Action taken report

The inputs are documented below:

MKSSS's

Cummins College of Engineering for Women, Pune

(An Autonomous Institute Affiliated to Savitribai Phule Pune University)

MKSSS's Cummins COLLEGE OF ENGINEERING FOR WOMEN, PUNE

ACTION TAKEN REPORT ON

Energy AUDIT

4th December 2024

Based on the Report prepared for Academic year

AY 2022-2023 Conducted by Greenvio Solutions

S. No.	Recommendation	Page nos. of Report	Action taken (Implemented/ Under process/ Steps to be taken)	Evidence (Geo tag photo or other)
1	Change CFL lights to LED in Mech Conference Hall	19	Replaced with LED	
2	Focus lamps can be installed in admin, staff rooms , library and reading areas		Focus lamps are installed in library reading area	
3	Timer control of air conditioners		Timer control air conditioners are installed in IT building of cummins college	 
4	Install low flow taps with automatic shut off in the toilets		Low flow taps with automatic shut off are installed in the washrooms	
5	Install PIR control of the lighting in the toilet areas		PIR sensor is installed in Instrumentation and Control building First floor ladies toilet	

7. Suggestion

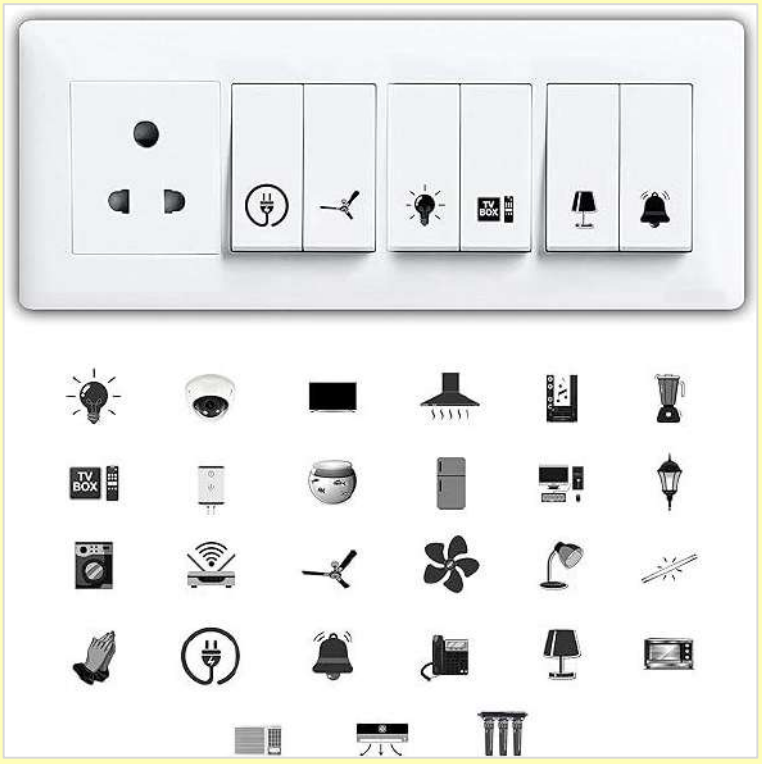
The suggestion (inference) would act as a 'PLAN OF ACTION' to implement all the suggestions in a detailed manner.

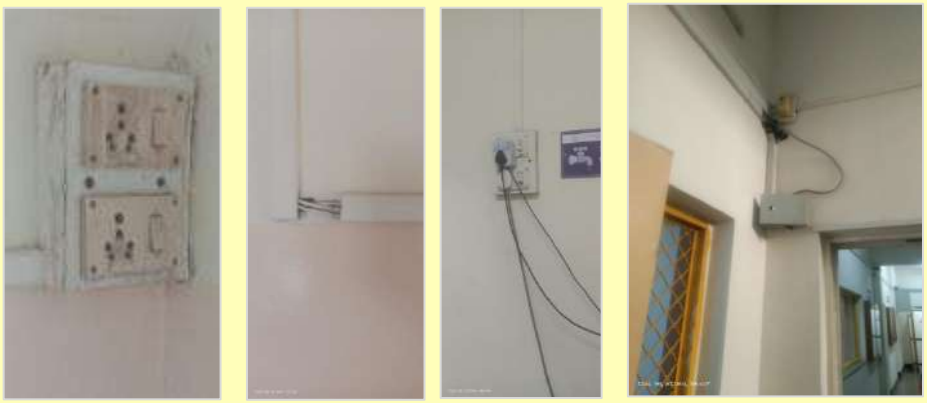
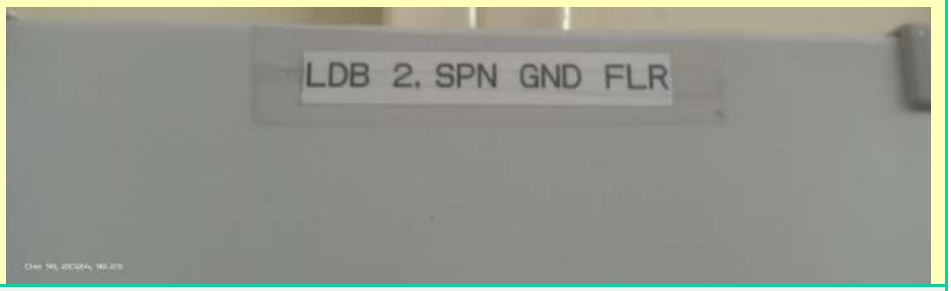
- Conduct the 'Before' and 'After' study with photos
- Document the same in 'Action taken report'

S. No.	Aspect with evidence if any	Suggestion
1.	Fire and life safety aspect **Aspect area:** **Display information**	Introduce intruction manual for: ➲ How to use a fire hose reel? ➲ A1 size PASS Boards for fire extinguishers ➲ RACE boardsin ground floor of every block ➲ Detail specification for fire hose reel drum with information about Range, pressure, diameter, location ➲ Name each fire alarm and hose reel such as CCOE/Fire Hose Reel/ IT Block / Ground floor/ NO. (1, 2 etc.) ➲ Along every fire mechanism include display board such as 'Last maintenance date – Done by (Name) – Under supervision of Institute incharge (Name)) For report contact adminitration'
2.	Fire and life safety aspect **Aspect area:** **Lift safety**	➲ Introduce sigange 'DO NOT USE LIFT IN CASE OF FIRE' ➲ Intrdouce fire escape route plan: ○ Highlight the corridors in light green highlighter ○ Signify the outline of staircase block ○ Include a ✘ symbol on lift and note on plan 'Do not use lift' ○ Highlight the locations of fire extinguisher in a blue or brown box and mention same in legend ○ Include 'You are here' indication on the route plan ➲ Include lift maintenance certificate in A/4 size inside the lift

3.	Fire and life safety aspect **Aspect area:** **Gas cylinder safety**	Intrdouce following signage display near gas cyclinder along with 'DANGER ZONE' and fire balls nearby; Undertake some potted plants nearby to avoid direct sun exposure Current state:  Proposed state: 

4.	Energy generation aspect **Aspect area:** **Solar panels**	Include specification in ground floor are about rooftop solar panel with information about: ➲ Do and Don't for the specific type of plant ➲ Plant name ➲ Capacity ➲ Location ➲ Type of renewable energy system ➲ Nos. of units ➲ Installation date, month and year ➲ Energy generated per day and annually ➲ Energy consumption actual requirement per day and annually ➲ Energy saved per day and annually ➲ Last maintenance date and vendor ➲ Institute name and logo
5.	Energy generation aspect **Aspect area:** **Danger areas**	Signage about 'Danger zone' should be displayed and sand bucket/ fire ball should be placed nearby **Battery storage area** 

		Transformer/ Diesel generator /Meter room/ Electrical board  The space referred to here transformer and diesel generator: 
6.	Energy consumption aspect **Aspect area:** **Signages for the switches**	The switches should be indicated as follows:  Image source: Amazon

7.	Energy consumption aspect **Aspect area:** **Document switches and overloaded switchboards**	Undertake study for: ➲ Overloaded switches - Introduce new plug-ins to balance loads ➲ Unwanted switches – Remove them or cover them with a black tape ➲ Unfabricated wiring – Undertake the casing and caping 
8.	Energy consumption aspect **Aspect area:** **Extend display**	Extend name and display of LT boards to all boards in campus along with large font display 
9.	Structural safety aspect **Aspect area:** **Safety signages**	Include 'Restricted area ZONE' board for access near terrace area  ***Sample aignages***

10.	Structural safety aspect **Aspect area:** **Cracks**	Certain minor cracks were observed in the campus that can be renvovated accordingly. 

Table 6: Observation based suggestion study of the campus

8. Compilation

The study is based on the data collected, analyzed, rechecked, and confirmed through multiple modes. For the quality study, some standards/ notes have been referred to. These are listed and noted below. However, no direct references have been used anywhere. These are used as a base to analyze and study the data collected.

Specific references for study related to energy

- https://www.energy.gov/eere/buildings/zero-energy-buildings
- https://www.dsaarch.com/zero-net-positive-energy
- U.S. Energy Information Administration
- https://www.happysprout.com/inspiration/what-is-smart-gardening/
- https://ieeexplore.ieee.org/document/6779316
- https://www.murata.com/en-global/apps/industry/security/entranceandexitsystem
- https://www.energuide.be/en/questions-answers/what-are-the-alternatives-to-air-conditioning/2121/
- IGBC Green Campus rating system Abridged Reference Guide
- GEM Sustainability Certification Rating Program
- Inference study reference images
    - https://seors.unfccc.int/applications/seors/attachments/get_attachment?code=NG125PFE4WHMWSYAK8TCAKIHMWX0F4QD
    - https://housing.com/news/smart-gardening/
    - https://solarpowerproject.in/solar-panels-for-parking-lots.php

GREEN AUDIT

STUDY PERIOD (ONE YEAR) 2023 - 2024

Sustainability study

AUDIT REPORT

Studied for

Maharshi Karve Stree Shikshan Samstha's

Cummins College of Engineering for Women

Karvenagar, Pune – 411052

Studied in the capacity of

Accredited and Certified

Green Building Professional

Studied by

Website: https://thegreenviosolutions.co.in/

Email: greenviosolutions@gmail.com

Background reference image Sasin Tipchai on unsplash

Disclaimer

The Audit Team has prepared this report for **Maharshi Karve Stree Shikshan Samstha's Cummins College of Engineering for Women** located at *Karvenagar, Pune – 411052* based on input data submitted by the Institute analysed by the team to the best of their abilities.

The details have been consolidated and thoroughly studied as per the various guidelines for Green Buildings available in National and International Standards; the report has been generated based on comparative analysis of the existing facilities and the prerequisites formulated by various standards. The inputs derived are a result of the inspection and research. These will further enhance and develop a Healthy and Sustainable Institution.

These can be implemented phase wise or as a whole depending on the decision taken by the internal team. The warranty or undertaking, expressed or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

The audit is a thorough study based on the inspection and investigation of data collected over a period of time and should not be used for any legal action. This is the property of Greenvio Solutions and should not be copied or regenerated in any form.

The Report is prepared by the Team of Greenvio Solutions under their brand and department – Sustainable Academe as Consultancy firm with the Project Head - Ar. Nahida Shaikh who is as an Accredited and Certified Green Building Professional-Architect. Green Building consultancy is her forte and she is one of the most sought after names when it comes to providing excellent quality services within the stipulated time frame.

The Study is conducted in capacity of Accredited & Certified Green Building Professional with extensive experience.

Ar. Nahida Abdulla

Greenvio Solutions

Developing Healthy and Sustainable Environments

We are an Environmental and Architectural Design Consultancy firm

Sustainable Academe is our department for Conducting Audits

Palghar District, Maharashtra- 401208

sustainableacademe@gmail.com

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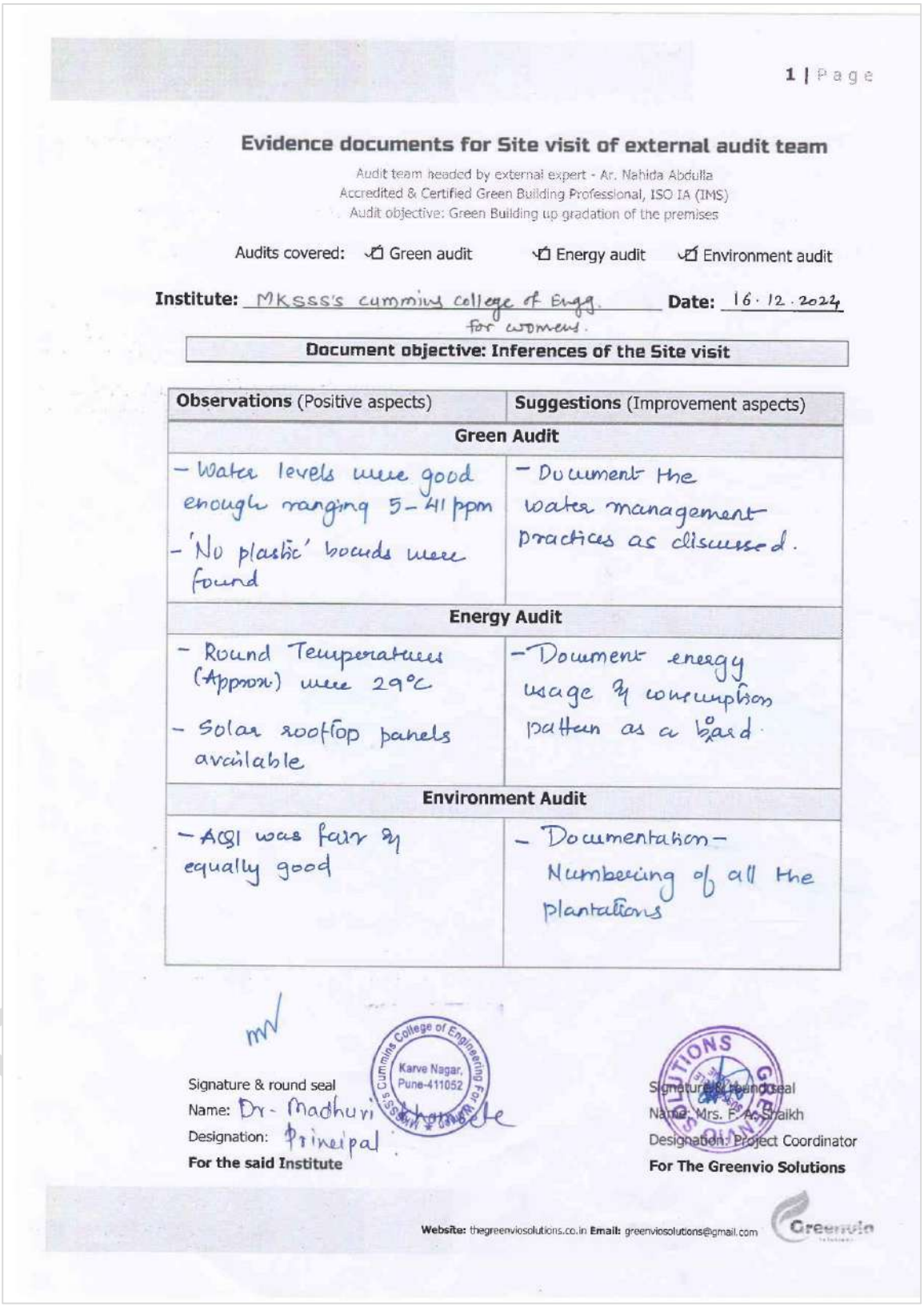

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Institute: MKSSS's Cummins College of Engg. for Women **Date:** 16.12.2024

Document objective: Proof of the Site visit

Meeting with the core team

Investigation of the systems

Signature & round seal
Name: Dr. Madhuri Khambete
Designation: Principal
For the said Institute

Cummins College of Engineering for Women ★ MKSSS's ★ Karve Nagar, Pune-411052

Signature & round seal
Name: Mrs. [illegible]
Designation: Project Coordinator
For The Greenvio Solutions

GREENVIO SOLUTIONS SUSTAINABLE ARCHITECTURE

Website: thegreenviosolutions.co.in **Email:** greenviosolutions@gmail.com

Plate 2: Evidence files related to proof

Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO IA (IMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: MKSSS's cummins college of Engg. For women. **Date:** 16.12.2024

Document objective: Induction Meeting attendance sheet

2nd VISIT

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. Nivedita Daimiwal	Internal	Associate Dean Quality Assurance	Daimiwal
4.	Prof. Hitendra Khairnar	Internal	Dean Quality Assurance	
5	Prof. Vishal Deore	Internal	Asst. Prof.	
6.	Prof. Mrunal Mohanir	Internal	Asst. Prof.	

Signature & round seal
Name: Dr. Madhuri Khambet
Designation: Principal
For the said Institute

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

Plate 3: Evidence files related to visit

Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO IA (IMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: MKSSS's cummins College of Engg. For Women **Date:** 16.12.2024

Document objective: Exit Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. Nivedita Dairnwal	Internal	Ass. Dean Quality Assurance	
4.	Prof. Hitendra Khairnar	Internal	Dean Quality Assurance	

Signature & round seal
Name: Dr. Madhuri Khambete
Designation: Principal.
For the said Institute

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

Website: thegreenviosolutions.co.in **Email:** greenviosolutions@gmail.com

Plate 4: Evidence files related to discussion

4. Investigation

The following results were carried out during visit on ***16 December 2024***.

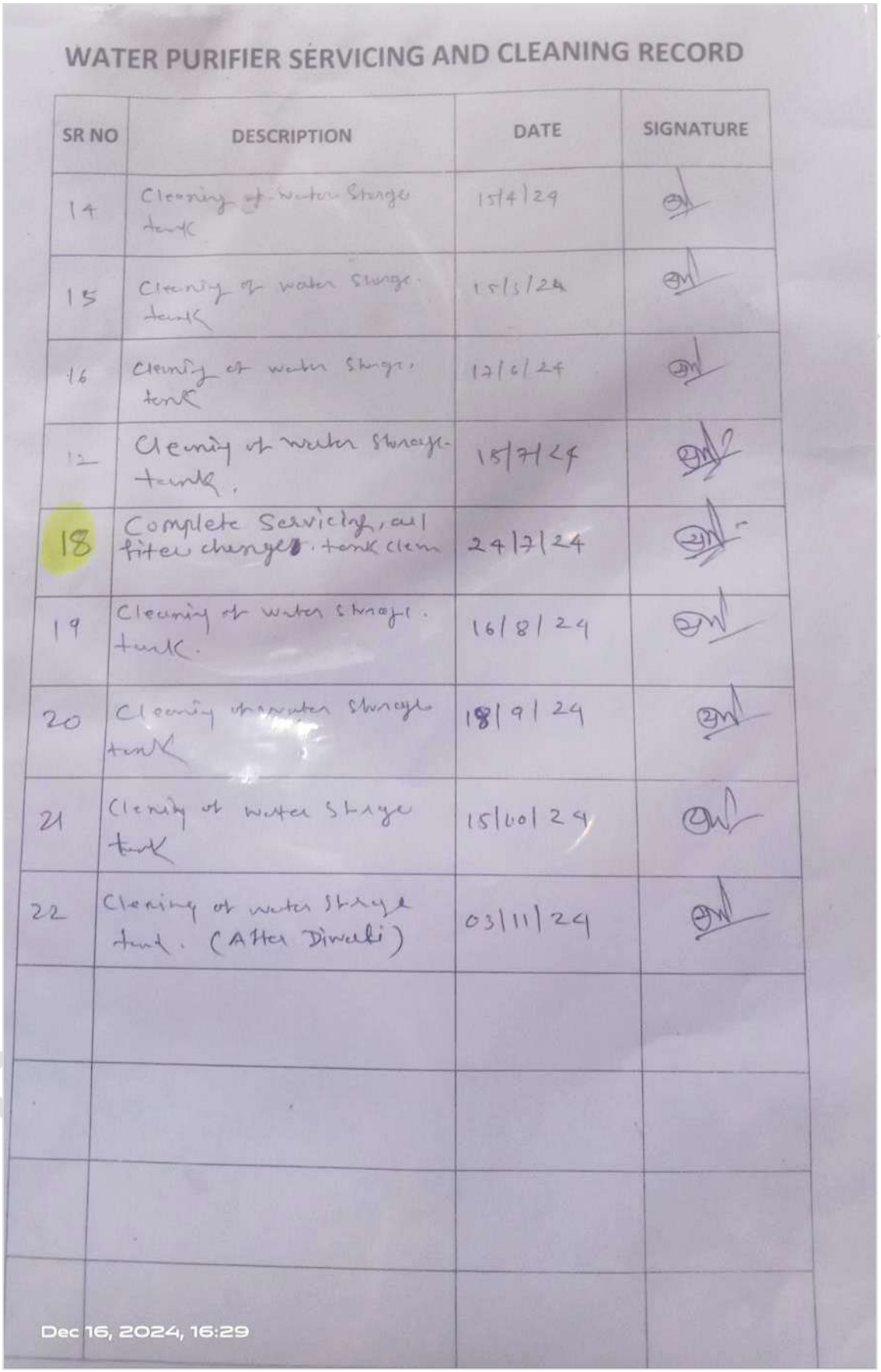
4.1 Drinking water testing

Figure 1: Water testing investigation study of all water coolers

4.2 Macro summary study

S. No.	Block	Time	Actual level	Required level	Inference
1.	Mechanical block	16:28	5	50	Fine
2.	Instrumentaion block	16:46	41	50	Can be checked
3.	IT block	16:59	14	50	Fine

Table 2: Drinking water testing details



WATER PURIFIER SERVICING AND CLEANING RECORD

SR NO	DESCRIPTION	DATE	SIGNATURE
14	Cleaning of water Storage tank	15/4/24	
15	Cleaning of water storage tank	15/5/24	
16	Cleaning of water storage tank	17/6/24	
17	Cleaning of water storage tank.	15/7/24	
18	Complete Servicing, all filter changes. tank clean	24/7/24	
19	Cleaning of water storage tank.	16/8/24	
20	Cleaning of water storage tank	18/9/24	
21	Cleaning of water storage tank	15/10/24	
22	Cleaning of water storage tank. (After Diwali)	03/11/24	

Dec 16, 2024, 16:29

Plate 5:Water purifier checking record

5. Documentation

5.1 Green Practices Audit

5.1.1 Green practices

The practices undertaken as an awareness/ sensitization activity with stakeholder involvement have been documented below: (June 2023 to May 2024)

S. No.	Name of the event	Type	Date
1	World Environment Day	Awareness Quiz	5th June 2023
2	Tree Plantation	Physical	29th August 2023
3	Swachhta Hi Seva (SHS) 2023	Physical	3rd October 2023
4	Fire Safety Demo and Hands-On	Physical	26th October 2023
5	E-waste & Plastic Waste Collection	Physical	5th November 2023
6	Cleanliness Drive	Physical	19th January 2024

Table 3: Details of the environmental initiatives undertaken by Institute

5.1.2 Community development

The details of ***extension initiatives*** under various heads in Institute are documented below:

S. No.	Type	Since	Coordinator name
1	National Service Scheme (NSS)	2011	Dr. Shubhangi R. Chaudhary
2	National Cadet Corps (NCC)	2020	Augustine Anjushree
3	Unnat Bharat Abhiyan	2021	Prof. Vishal Deore
4	Eco club	2021	Dr. Bageshree Pathak

Table 4: Details of the extension initiatives by the Institute

5.2 Waste Audit

5.2.1 Waste management (Parameters adopted)

The following practices are common to entire campus.

S. No.	Type	Current practice	Proposed practice
1.	Solid waste (Toilets)	Solid waste is collected separately in Wet and Dry dustbins in the campus. Biodegradable and non-biodegradable waste is segregated and biodegradable waste is used to prepare compost.	No changes
2.	Organic waste (Regular)	Food waste generated by the canteen and hostel mess in the college is utilized for production of Biogas and Compost. The generated Biogas is used for cooking in the hostels.	No changes
3.	Liquid waste (Toilets, wash basins)	Waste water / recycled water is used for gardening in the college premises.	No changes
4.	Chemical waste from laboratories	No volatile solvents are used in campus	No changes
5.	Toxic waste from laboratories	There is no hazardous chemical and radioactive waste generated in the Institute	No changes
6.	Bio-waste (Sanitary)	For the disposal of sanitary napkins, an Incinerator has been installed in the campus	No changes
7.	Medical waste (Pharmacy etc.)	No medical waste is generated in the campus	No changes
8.	Construction waste and reuse	Nil	
9.	Plastic	Send to the scrap Vendor	No changes
10.	E-waste	Send to the scrap Vendor - CPU 289 Units, Monitor 253 Units, UPS 45 Units, Battery 186 Units, Printer 9 Units, other 159 KG	No changes
11.	Paper	Send to the scrap Vendor	No changes
12.	Furniture	No information provided	

Table 5: Details of the waste management practices

5.3 Water Audit

5.3.1 Water availability and consumption

5.3.1.1 Source of Primary water supply

The facilities are noted below:

S. No.	Type	Nos.	Location	Capacity (litres)
1	Underground	2+ 1	1. Main building 2. Mechanical building	1. 65,400 2. 7,00,000
2	Overhead+ Fire tank	3+ 3+ 2+ 1	1. Main bldg 2. Instrumentation bldg 3. IT building 4. Mechanical building	1. 65,700 2. 18,200 3. 2,00,000 4. 62,800
3	Rain water harvesting	3	1. Behind Mechanical building 2. Behind Mechanical building 3. Near canteen	1. 50,000 2. 5,000 3. Dry
4	RO Plant	N.A.		

Table 6: Water tanks in the premises

5.3.1.2 Source of Secondary water supply

The Institute uses water supply for secondary usages such as watering plants, toilets, and wash basins and other spaces. No information provided.

5.3.1.3 Source of Tertiary water supply

The tertiary source of water is the source of water harvesting.

S. No.	Source	Size (in ft.)	Capacity	Connected to which output/ Used for what purpose
1	Farm pond	35 sq.ft	YES (2 Nos)	Beautification
2	Underground pit	Yes	Yes	1. 50,000 2. 5,000 3. Dry
3	Above ground tank	No		

Table 7: Rain water harvesting details

5.3.1.4 Source of Reusing waste water

This initiative is practiced.

5.3.1.3 Water proportion study

This section studies the total consumption of water and its proportion with the water recharged and saved on the premises.

- As per the Chapter 2 of the Report, total footfalls in premises were **3,007 nos.**
- As per NBC norms for Educational buildings with boarding facilities the water requirement is **90 litres per head for drinking water and 45 litres per head for flushing** (secondary) purposes thus making it 135 litres/ per day.
- However, in practical usage a stakeholder can use minimum of **0.25 or 0.5 to 1 litres for drinking and 6 to 8 litres for secondary purposes,** thus reframing the norm to actual requirement of 0.25 + 6 = 6.25 litres
- Thus, 6.25 litres x 1,690 populace x 215 (Min. working nos. of days) = **40,40,656 litres is the total water requirement** (Average assuming certain nos.)
- Bifurcating this study further we can assume **0.25 litres x 1,690 populace x 215 days = 1,61,626 litres for drinking** and primary purposes
- **As per shared data, the summary of all capacities is 11,67,100 litres**
- However, team did not inform any kind of deficiency in availability of water supply.

5.4 Health and Hygiene Audit

There are facilities such as dustbin are available; in certain areas odours issue was observed.

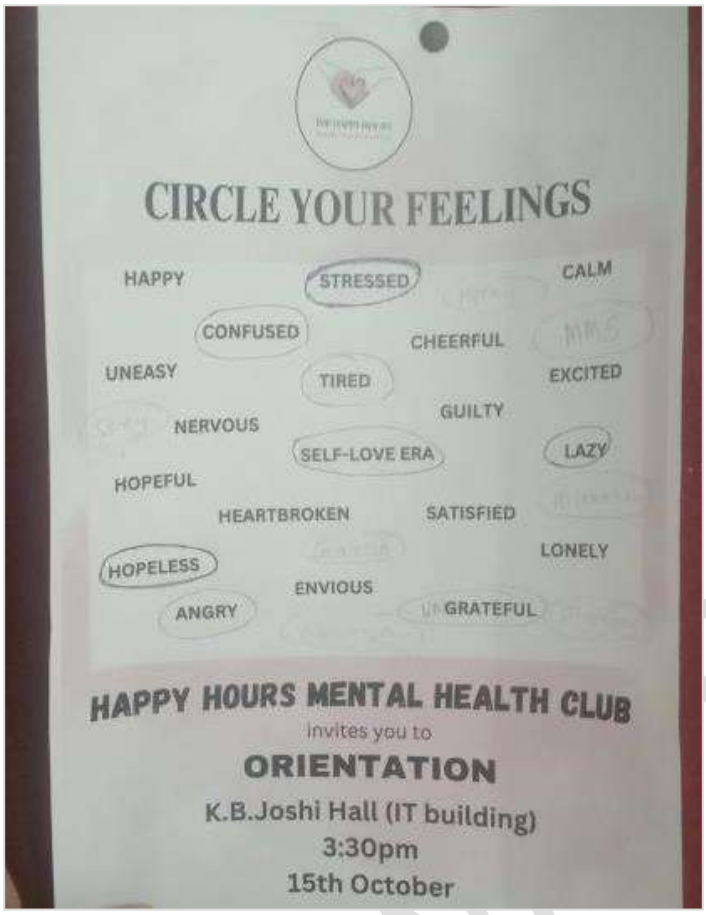


Plate 6: Awareness posters in the campus

6. Compliance

The compliance study was carried out through investigative ways. This was done to understand extent of implementations based on previous reports.

- Original report study was for June 2020 to May 2021 and June 2021 to May 2022
- Renewal study currently done is for June 2023 to May 2024

6.1 Compliance status in form of Action taken report

The inputs are documented below:

MKSSS's

Cummins College of Engineering for Women, Pune

(An Autonomous Institute Affiliated to Savitribai Phule Pune University)

MKSSS's Cummins COLLEGE OF ENGINEERING FOR WOMEN, PUNE

ACTION TAKEN REPORT ON

Green and Environmental AUDIT

4th December 2024

Based on the Report prepared for Academic year

AY 2022-2023 Conducted by Greenvio Solutions

On the Institution letterhead

ACTION TAKEN REPORT ON

(Green and Environment) AUDIT

S. No.	Recommendation	Page nos. of Report	Action taken (Implemented/ Under process/ Steps to be taken)	Evidence (Geo tag photo or other)
1	Environment Certificate Courses – The College could begin courses such as Bachelors, Diploma, or Certificate courses with National and International Collaboration related to Environment as part of the courses provided. Though, this is not a requirement or compulsion.		We have asked students to take online course on Youth leadership for climate action(environmental activity).	
2.	Nature club		We have formed a green club having 120 students under which various activities are planned.	

7. Suggestion

The suggestion (inference) would act as a 'PLAN OF ACTION' to implement all the suggestions in a detailed manner.

- Conduct the 'Before' and 'After' study with photos
- Document the same in 'Action taken report'

S. No.	Aspect with evidence if any	Suggestion
1.	Green practices aspect	**Mandatory programs should be conducted on following days** o January i. Wd. Braille Day o February i. Wd. Wetland day ii. Wd. Pulses day iii. Intd. Polar Bear Day iv. Nl. Science day o March i. Wd. Wildlife day ii. Intd. Action for Rivers iii. Global Recycling Day iv. Wd. Sparrow day v. Wordl forest day/ Intl. day of happiness vi. Wd. Water day vii. Wd. Meteorological & resources day o April i. Intd. Mine awareness day ii. World health day iii. Wd Atmosphere Day iv. Intd. Earth day v. Intd girl in ict/ Wd. Safety, health o May i. Wd Migratory Bird Day ii. Intd. Of plant health iii. Wd. Bee day iv. Intd. Biological diversity v. Wd. No tobacco day o June i. Wd. Bicycle day ii. Wd. Envt day iii. World Oceans Day iv. Global Wind Day v. Wd. Combat drought vi. Sustn. Gastronomy day

		vii. Intd. Of the tropics ○ July i. Intd. Of cooperatives & World Day Free of Plastic Bags ii. Soil conservation iii. Wd. Population day iv. Mangrove Ecosystem ○ August i. Intd. Indigenous day ○ September i. Intd. Clean blue sky ii. Intd. Literacy/ Clean-up Day iii. World ozone day iv. Intd. Of peace/ Zero Emission Day v. Intd. Aware food loss ○ October i. Wd. Nature day ii. Wd. Habitat day iii. Wd. Wildlife day iv. Wd. Cotton day v. Wd. Migratory bird vi. Intd. Rural women vii. Wd. Food day viii. Climate Action ix. Wd. Cities day ○ November i. Wd. Tsunami awareness ii. Nl. Birds day iii. Wd. Energy/ Diabetes iv. Wd. Toilet day ○ December i. Intd. Person with disability day ii. Wd. Soil day
2.	Green practices aspect	Undertake Unnat Bharat Abhiyan project
3.	Water aspect **Aspect area:** **Display board**	➲ Wherever taps supply regular/ non-potable water introduce a board stating **'Not suitable for drinking'** ➲ Similarly, intrdouce **'Drinking water don't wash here'** board on or above every drinking water cooler/ filter
4.	Water aspect **Aspect area:** **Information display**	Every water tank/ external pit/ water cooler should be painted with information as follows: ➲ Nos. ➲ Capacity in cu. Litres or litres

		➲ Usage – Primary (Drinking); Tertiary (Rain water) and Secondary (Cleaning, washing, flushing, watering etc.) ➲ Last cleaning maintenance date and by whom ➲ Name and logo of the Institute Paint the pipes/ pits with following color coding ➲ Red – Fire ➲ Cobalt blue – Rain Water harvesting ➲ Sky blue - Drinking water ➲ Grey – Electrical ➲ Brown – Sewage/ waste water
5.	Health & Hygiene aspect **Aspect area:** **Zone demarcation through signages**	Introduce zone boards (Optional through mention of state/ central govt. acts) at entrance of the premises in an enlarged A1 poster   *Sample images for zones* Image source: Compliance signs
6.	Health & Hygiene aspect **Aspect area:** **Odour issues**	There should be facilities such as potpourri, camphor tablets in the toilet to avoid smell and health related issues in toilet areas

Table 8: Observation based suggestion study of the campus

8. Compilation

The study is based on the data collected, analyzed, rechecked, and confirmed through multiple modes. For the quality study, some standards/ notes have been referred to. These are listed and noted below. However, no direct references have been used anywhere. These are used as a base to analyze and study the data collected.

- IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
- IGBC Green Landscape Rating system, March 2013