

Date: 08 December 2023

Ref no: LA/08/12/107

Letter of Appreciation

For

Recognition as Green, Clean & Energy Efficient Educational Institute

Awarded to

Viswambhara Educational Society's

Vaagdevi Degree & P.G. College

2-2-457/A, Telangana- 506001

We highly appreciate the engagement of all stakeholders of the Institute primarily the student community, towards the goals such as cleanliness and sustainability.

We are delighted to appreciate outstanding efforts of effective management of towards energy and sustainable resources that have provided positive impact.

- Undertaking Green, Energy and Environment Audit for the premises.
- Implementing the Audit suggestions as per previous year notes:
 - Environment audit – Cutlery in the Canteen; By putting more plants such as planting medicinal plants; Campaigns and seminars on green audit improvement will bring more awareness among students; Planting trees and watering every day, instructing the students to keep their surroundings clean and best, awareness about the trees plantation; Parking of bikes in premises and water facilities need to improve; Planting and preserving trees and landscaping in the campus, and maintain them throughout the year; Fire & Life safety; Divyangjan toilet has been constructed in the cellar; Keeping plates with water and grains; Fruit bearing plants also present in the campus;
 - Energy audit – Energy efficient and sensor based appliances used, signages and replacement of old appliances
 - Green audit – Introduction of more medicinal plants; Eco clubs; Bicycles as a gift; Avoid paper wastage through books; Pollution Control; Promote the use of Eco-friendly vehicles and Steps towards plastic management

All of these initiatives are highly commendable. We hope the College continues similar efforts in the future as well.

Best regards,

Ar. Nahida Shaikh

Project Head and Green Building Consultant

Sustainable Academe

Sustainability Department of Greenvio Solutions, Hyderabad

An environment Design and Consultancy developing Healthy and Sustainable Environment

sustainableacademe@gmail.com | greenviosolutions@gmail.com



GREEN AUDIT

STUDY PERIOD (TWO YEARS) 2021 – 2022 AND 2022 – 2023

Sustainability study

RENEWAL AUDIT REPORT

Studied for

Viswambhara Educational Society's

Vaagdevi Degree & P.G. College

2-2-457/A, Ramnagar,

Telangana- 506001

Studied in the capacity of

Accredited and Certified

Green Building Professional



Studied by

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

Email: greenviosolutions@gmail.com

Valid till **30 June 2024**

Disclaimer

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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 a 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 Hon'ble Management and Institute. 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.

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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 an Accredited and Certified Green Building Professional. 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 incapacity of an Accredited & Certified Green Building Professional with extensive experience.

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

Acknowledgment

The Audit Assessment Team thanks the **Viswambhara Educational Society's Vaagdevi Degree & P.G. College, Telangana** for assigning this important work of Green 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 and the Head of the Institute.**

We are also thankful for **Institute Taskforce.**

We highly appreciate the assistance of the **entire Teaching, Non-teaching, and Admin staff** for their support while collecting the data.

Sustainable Academe

Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

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1. Introduction

1.1 About the Viswambhara Educational Society

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1.2 About the Institute

The Vaagdevi Degree College is a Co-Educational college affiliated to Kakatiya University successfully introduced P.G Courses to cater the needs of the students. Located at the heart of the tri-cities in Warangal, since its inception, it has been our earnest endeavour to maintain high standards of discipline and achieved academic excellence. **The institution reached unimaginable heights and is now it is one among the premier institutions which is mostly sought.**

The college provides a perfect platform to meet world class challenges. For the past two decades the determination and dedication of teaching gave successful placements to the students. We are committed for the overall development of the students to meet the global challenges. Achieving excellence not only in the academic but also in sports, cultural, curricular fields is our motto.

1.3 About the timeline of activities for research

As the Institute had undergone a renewal for the Academic year 2021-2022 and 2022-2023, data collection processes for verification purposes were asked to be submitted.

- ➞ Allotment and Initiation by the Institute
- ➞ Process discussion with team
- ➞ Submission of the files

2. Compliance

The compliance study was carried out through investigative ways. This was done to understand the **extent of suggestions and their implementations based on previous report of Academic years 2019-2020 and 2020-2021.**

The details of the suggestions are based on the Original Report as in 2021 is further documented below. It is based on the data collection process.

S. No.	Recommendation Title	Compliance Status
1.	Adaptive reuse of existing spaces through design intervention	Partially implemented
2.	Facility management systems and controls	Not implemented

Table 1: Details of the compliance study

3. Inferences

The following suggestions are to be considered as a **first priority** for implementation. These **should be executed within the next 1.5 to 2.5 years from the date of the Report submission.** The Institute can execute a plan after discussion with Project Head.

3.1 Green Audit

- ➔ **Plant as a gift** - As a kind gesture, the guests visiting the premise can be asked to plant a small plant on the premise itself and they can be even given plants/bouquets from the flowers of the plants on the premise as a gift.
- ➔ **Environmental awareness** - There can be various artworks on the compound wall giving the message of saving the environment through the joint efforts of the students and staff thereby making the student socially and environmentally responsible citizens.

3.2 Waste Audit

- ➔ Tie up with **Bisleri International** regarding their 'Bottles for change program' also with '**Thereco**' for their waste management.
- ➔ Invite companies such as '**Thaely**' and '**Recharkha**' to undertake skill development workshops.

3.3 Water Audit

Waterless urinals - There can be the provision of waterless urinals as a Green Building initiative in the premise, either the existing ones can be replaced with such a facility or new toilets can be constructed in this manner.

3.4 Health and Hygiene Audit

- ➔ **Signboards** – The Institute should have multiple signboards about 'No smoking' and 'Healthy premises' at every nook and corner of the Institute.
- ➔ **Compound wall** – The compound wall should have awareness messages about 'No Smoking' and 'No Tobacco'

4. Compilation

The study is based on the data collected, analysed, 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 analyse and study the data collected.

- ➔ Uniform Plumbing Code – India, 2008
- ➔ IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
- ➔ IGBC Green Landscape Rating system, March 2013
- ➔ BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST – Canada
- ➔ Used only for understanding Universal design - Universal Accessibility Guidelines for Pedestrian, Non-motorized vehicle and Public Transport Infrastructure – Report guidelines by Samartham (National center for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation and www.umassd.edu
- ➔ The city of Cheyenne, Streetscape/ Urban Design elements - Wyoming Planning Association, Gillette, Wyoming, United States

ENVIRONMENT AUDIT

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1. Introduction

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As the Institute had undergone a renewal for the Academic year 2021-2022 and 2022-2023, data collection processes for verification purposes were asked to be submitted.

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2. Compliance

The compliance study was carried out through investigative ways. This was done to understand the **extent of suggestions and their implementations based on previous report of Academic years 2019-2020 and 2020-2021.**

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S. No.	Recommendation Title	Compliance Status
1.	Adaptive reuse of existing spaces through design intervention	Partially implemented
2.	Facility management systems and controls	Not implemented

Table 1: Details of the compliance study

3. Observations

Investigative suggestions

The following suggestions are to be considered as a **first priority** for implementation. These **should be executed within the next 1.5 to 2.5 years from the date of the Report submission.** The Institute can execute a plan after discussion with Project Head.

The following observations have been documented for site up gradation purposes. Though features such as follows impart positive features of the premises.

- ➞ State of the art infrastructure for the entire premises.

Certain aspects noted below in red font should be upgraded as per the convenience of the Institute; these are common to the site and can be considered for entire premises wherever there are similar areas.

- ➞ **Extra care for the rooftop areas**

- Introduce the signboards about 'No students are allowed to enter this area'
- Increase the height of parapet walls
- Upgrade the space as cool roof by painting it with cooltop material.
- Undertake feasibility study of before and after temperature reading.
- Take precautions to keep terrace areas free of any kind of storage materials

- ➞ **Messages on the beam area**

Include quotes and messages from eminent personalities all over the premises on beam for inspiration and beautification.

- ➞ **General aspects (Outdoor areas)**

- Placards and manuals for awareness
- Dedicated reserved parking for physically disabled
- Introduce information boards everywhere
- Increase sensitization programmes
- Upgrade the website w.r.t. green initiatives

4. Inferences

The following suggestions are to be considered as a **first priority** for implementation. These **should be executed within the next 1.5 to 2.5 years from the date of the Report submission.** The Institute can execute a plan after discussion with Project Head.

5.1 Universally accessible premises

- ➔ **Universal Toilet** - There should be a minimum of 1 toilet in every block for the specially-abled people as per guidelines of National Building Code 2016.
- ➔ **Provisions for visually impaired - Signages** – In addition to the signages being in regular language there should be additional signages in braille language for the specially-abled students.
- ➔ **Provisions for visually impaired - Tactile flooring** – The indoor and outdoor of the premises should have dedicated tactile flooring for the visually impaired.

5.2 Heat island reduction

- ➔ **Cool rooftops** - The Terrace rooftops should be painted with Cooltop – reflective materials to reflect the harsh sun rays and reduce the heat absorption in the top most floor and surrounding areas of the building.

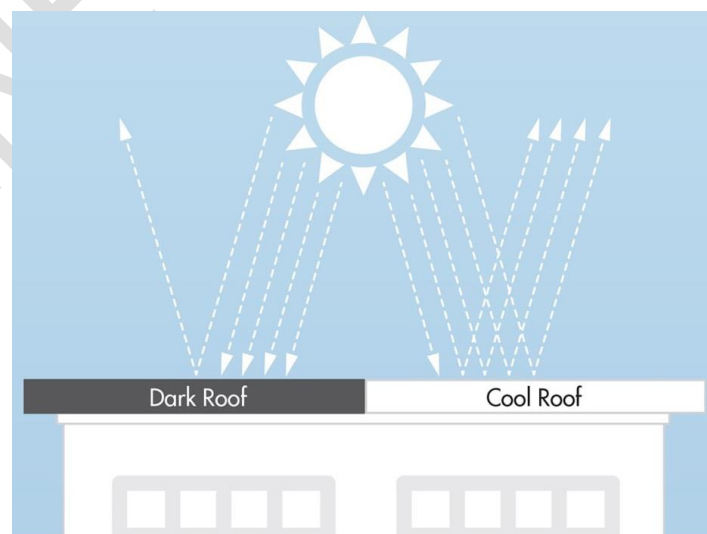


Plate 1: Cool roof comparative analysis (For reference purpose only)

Source: Image by <https://www.gaf.com/en-us/blog/six-truths-about-cool-roofs-281474980105387>

5.3 Life safety

- ➔ **Mandate fire extinguisher in spaces** - One fire extinguisher should mandatorily be there in every space which has an air conditioner/ gas cylinder.
- ➔ **Combustible equipment** - Every space which has a gas cylinder or combustible equipment should have a provision for the barricade around the gas cylinders, appropriate safety board's mentioning 'danger sign' and 'Do not touch' with an additional small fire extinguisher close by.

5.4 Pollution Control

- ➔ **Specific area designated for E-vehicles** – There should be designated area dedicated to E-vehicles parking and charging and this zone should be demarcated as 'Eco-Zone'
- ➔ **Bicycles as a gift** - As an appreciation gesture maybe the student's toppers/ staff best performers can be awarded a bicycle occasionally.

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Certain aspects noted below in red font should be upgraded as per the convenience of the Institute; these are common to the site and can be considered for entire premises wherever there are similar areas.

➔ Earth pit zones

- Add signboard about 'Outdoor Electrical area'
- Code the earthing pits in the courtyard.

➔ DG and Transformer area

- Add safety signages such as 'Danger-do not touch' etc.
- Add signboards about as 'Transformer areas' and 'Diesel Generator area'
- Every user in this space should compulsorily jacket, helmet, gloves, boots while working and being a part of this space.

➔ General safety aspects

- Rubber flooring in the laboratories to avoid an electric shock.
- Introduce 'PASS' information board about how to use Fire extinguisher and 'FIRE ZONE' display board where safety equipments are kept.

4. Inferences

Entire site recommendations

The following details are consolidated study recommendations related to 'entire Institute' and should be considered as **second priority** for implementation.

4.1.2 Solar tree

Since there is availability of space; the solar trees can be installed in multiple places as they will provide dual benefits of aesthetic and energy reduction.



Plate 1: Solar tree concept for the Institute (For reference purpose only)

Source: Image by <https://timesofindia.indiatimes.com/india/cmeri-installed-the-worlds-largest-solar-tree-at-durgapur/articleshow/77856790.cms>

4.1.3 Solar parking

The Institute can turn its existing parking areas into solar panel powered parking areas. This will provide shade and renewable energy benefit to the Institute.



Plate 2: Solar parking concept for the Institute (For reference purpose only)

Source: Image by <https://solarpowerproject.in/solar-panels-for-parking-lots.php>

4.1.2 Alternatives towards Smart premises mechanisms

4.1.2.1 Smart gardening

The Institute can undertake a Smart Gardening system using IoT Technology. This will result in saving time by scheduling time for watering; saving money through automated water schedules tracking dampness of soil to know when, how much water garden needs.



Plate 3: Solar farm concept for the Institute (For reference purpose only)

Image source: <https://housing.com/news/smart-gardening/>

Data source: <https://www.happysprout.com/inspiration/what-is-smart-gardening/>

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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

