

ENVIRONMENT AUDIT

STUDY PERIOD (ONE YEAR) 2023 - 2024

AUDIT REPORT

Studied for

**Samridhi Sarwajanik Charitable Trust's
Jhulelal Institute of Technology**

Kh.No.68/1/2/3/72, Off Koradi Road, Lonara,

Nagpur – 441111, Maharashtra, India

Disclaimer

The Audit Team has prepared this report for the **Samridhi Sarwajanik Charitable Trust's Jhulelal Institute of Technology** located at Kh.No.68/1/2/3/72, Off Koradi Road, Lonara, Nagpur – 441111, Maharashtra, India based on input data submitted by the College 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 Hon“ble Management and College. 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.

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



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Acknowledgement

The Audit Assessment Team thanks the **Samridhi Sarwajanik Charitable Trust's Jhulelal Institute of Technology, Maharashtra** for assigning this important work of Green Audit. We appreciate the cooperation extended to our team during the entire process.

Our special thanks are due to **Hon'ble Mahesh Sadhwani, Chairman; Pramod Pampatwar**, Director Technical, **Dr. Hemant Asarani**, Dean Admin and Director and everyone from the Management.

Our heartfelt thanks to **Dr. Narendra G. Bawane**, Principal and for the valuable inputs.

We are also thankful to College's Task force the faculty members who have collected data required for green audit Prof. **Yuvraj Chavhan**, Assistant Professor, Department of Electrical Engineering for the inventory and data collection.

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



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1. Introduction

About the College

Jhulelal Institute of Technology is governed by Samridhi Sarwajanik Charitable Trust with a noble cause of providing quality technical education to the students in Central India. The society has eminent persons from the fields of technology and education on its governing body and academic advisory council.

The College is situated in a pleasant natural setting, 12 km away from the zero miles, off Koradi road. The peaceful environment in the campus provides ideal atmosphere for academic pursuit, concentrated studies and research. Over the years the College has maintained our position amongst one of the top unaided engineering colleges of the region.

Populace analysis for Academic year 2023-24

Students data

The student data (shared by the College) shows there were a total of **870 Boys and 709 Girls** students thus **a total of 1,579 students** in the premises.

Staff data

The staff data shows the premises had a total of **106** Staff Members.

Total College Area & College Building Spread Area

The total site area is 5.11 Acres and the total Built-up area of College is 1,32,079 sq. ft. for a total of 1,599 footfalls.

Timeline of activities for Green Building Study Audit

- ➔ Discussion with the College
- ➔ Allotment and Initiation by the College
- ➔ Process discussion with team
- ➔ Data submitted by College
- ➔ Submission of the Report

MoU's and Collaborations

The College has extended its Industry connect by being associated with reputed firms for educational and research exposure. The details of the recent collaborations are documented below; in addition to the Academic courses of Computer Science Engineering, CSE(Artificial Intelligence & Machine Learning), Electronics & Telecommunication Engineering, Electronics and Computer Engineering, Advanced Communication Technology, Electrical Engineering, Mechanical Engineering, Master Of Technology, Master Of Business Administration.

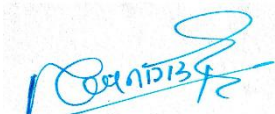
Sr no	Name of Agencies	Year of signing MoU / linkage	Tenure	Exercising Authority
1	Revat Networks, Nagpur	2023-24	1years	JIT (Dept. of ME)
2	Live TechSkills Solution Nagpur	2023-24	3years	JIT (Dept. of EE)
3	Shopcardd Business Solution, Nagpur	2023-24	3years	JIT (Dept. of MBA)
4	Risewell Cybersecurity Solutions Pvt. Ltd., Nagpur	2023-24	1years	JIT (Dept. of CSE)
5	IT Networkz Pvt. Ltd , Nagpur	2023-24	1years	JIT (Dept. of AIML)
6	Risewell Cybersecurity Solutions Pvt.Ltd	17 th March 2023	3years	JIT (Dept. of CSE)
7	Maximum Solutions Nagpur	10 th March 2023	3years	JIT (Dept. of EE)
8	NU Intelligence Pvt.Ltd Nagpur	01 st October 2023	3years	JIT (Dept. of EE)
9	NU Intelligence Pvt.Ltd Nagpur	08 th December 2022	3years	JIT (Dept. of ETC)
10	RCOEM- Tata Technologies Centre for Invention, Innovation & Training(CIIT)	19 th January 2023	3years	JIT (Dept. of ME)
11	VNIT,Nagpur – V R Jamdar Siemens Center of Excellence	16 th January 2023	3years	JIT (Dept. of ME)
12	NU Intelligence Pvt.Ltd Nagpur	19 st October 2023	3years	JIT (Dept. of ME)
13	EDU PLUS NOW Learning System Pvt Ltd, Nagpur	14 th November 2022	3years	JIT (Dept. of ME)
14	Widesoftech Pvt Ltd	16 th September 2022	3years	JIT (Dept. of MBA)
15	Data Council Nagpur	14 th September 2022	3years	JIT (Dept. of MBA)
16	Green Engineers Nagpur	21 st April 2023	3years	JIT (Dept. of T&P)

Table1:Details of the MoU's and collaborations

Awards

The College has received the following achievements recently.

- Best Engineering College In Vidarbha by ET ICONS OF Nagpur 2023
- Dr. Roopesh Rao Dean, Training & Placement JIT Awarded with Outstanding Contribution in the Field of Training & Placement Award by Mauli Group
- Prof. Anurag Karande Awarded with best paper award in the international conference on technological innovations and application in industry 4.0 organized by St. Vincent pallotti College Nagpur
- Rotaract Club of JIT has Received the prestigious DRR Citation Award and the Award for Outstanding Work in R.I.D.E during RIY 2023-24 from Rotaract District 3030!



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1. Audit inferences 2023-24

As the College had undergone **Audit** for the Academic year 2023-24, a data collection process for verification purposes were asked to be submitted. The report has been prepared based on the inputs provided for immediate action for improvement in this subject.

Positive points that are implemented as per previous Report

There has been an increase in the number of environmental related awareness campaign (events) which has helped in student sensitization and communal awareness.

- College has greenery thought the campus area.
- College planted 1000+ plants in campus area till now and planning to plant 250 more plants in upcoming year.
- College has water dripping system for newly plant trees and daily monitoring of all trees.
- Rain water harvesting tank of capacity 15000 liters to increase earth water reservoir.
- College has Savage tank of capacity 10000 liters.
- Ban on Single use of Plastic.

Implementations proposed for this year

The following points are listed as value addition to the existing premises, are should be considered as **first priority** for implementation under section wise study. These have to be **implemented in the next 2 years of the submission of the Report.** Owing to the excellent practices adopted at present, the numbers of recommendations are less for this section.

Site beautification

- ➔ **Additional facilities for birds** - There can be provision for drinking water and food facility for birds visiting the College premise.
- ➔ **Garden development** - The roofs of the buildings should be turned into **Green roofs** (By introducing terrace or vertical gardens) or **Cool roofs** (By painting the same with Cool top material for solar reflectivity).

Universally accessible premises

- **Universal Toilet** - There should be a minimum of 1 toilet for the specially-abled people as per guidelines prescribed by the National Building Code 2016 with size being a minimum of more than 1.5m x 1.5m
- **Design up gradation for Inclusive premises** – The following activities can be undertaken:
 - Wheelchair, Lifts in every block so that every block has its own wheelchair.
 - Include Disability Services staff/students with disabilities on planning boards and offer multiple ways to participate in programs
 - Information/materials provided in multiple forms (Standard, electronic, largeprint, Braille)
 - Class outlines/notes are available for all students on accessible websites.

Pollution Control

- **Bicycles as a gift** - As an appreciation gesture maybe the student's toppers/ staff best performers can be awarded a bicycle occasionally.
- **Promote the use of Eco-friendly vehicles** - There can be provision for cycle and battery operated vehicles/ low emission vehicles such as electrically driven vehicles parking in open space along with battery charge points, this would inspire students to change mode of transportation and adopt sustainable practices.
- **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”

Life safety

- One fire extinguisher in every space which has an air conditioner.
- Every laboratory space should have both sand bucket and fire extinguisher.
- Every space which has a gas cylinder or combustible equipment should have a provision for additional safety including the barricade around the gas cylinders, appropriate safety boards.
- Fire safety practices such as signages, Fire hydrant cabinets, sand buckets.

2. Inferences as Consolidated study

These are to be considered as **second priority** for implementation, once the section wise recommendations are implemented. The following recommendations should be **implemented within the next 2.5 years from the date of the Report submission.**

- **Articles and Documentation** – The premises has multiple features which add to the beauty of the nature and improve the environment in the premises, it is thus suggested to have an article written every month as guided by the Team based on the MoU.
- **Scope for executing multiple dense forests (Green zones) in the premises based on the prototype** – This can be executed after the Carbon sequestration study has been completed. The Miyawaki technique can be undertaken for this purpose.
- **Determination of Plastic (orange) zones** – The study and execution can be undertaken through a pilot project where the waste plastic can be collected through areas within 5 km of the premises and a product can be developed.
- **Social welfare** – The College can undertake an activity under the NSS/ NCC to prepare a prototype of Solar panels at a low-cost for the rural areas/ villages that are adopted under rural development programmes.

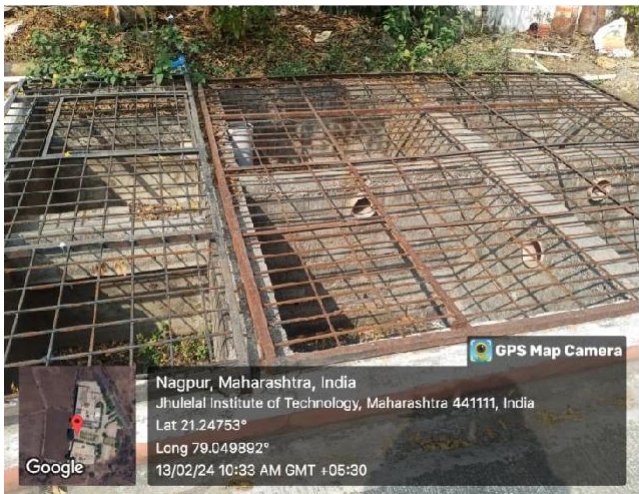


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Green Campus photograph



Rain water harvesting tank



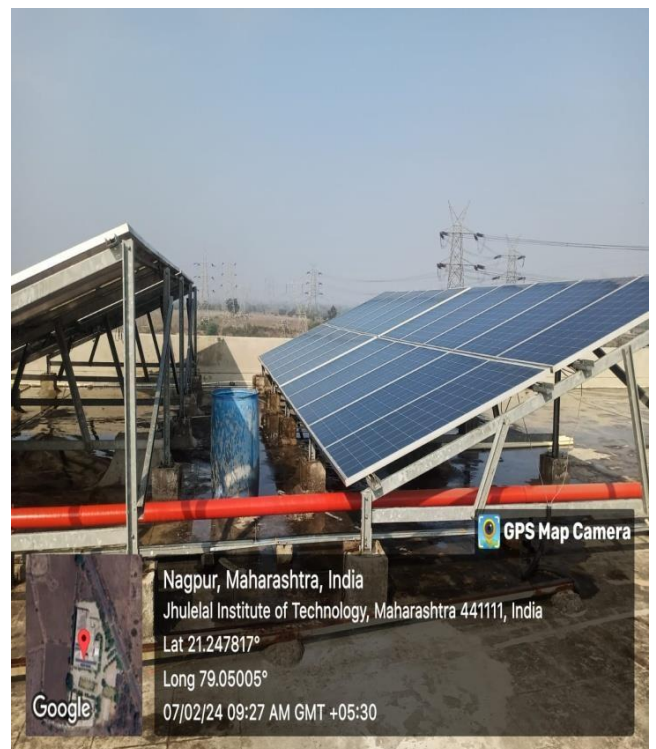
Sevage tank



E-Vehicle Charging Point



E-Vehicle



50KW ROOF Top Solar System to improve Renewable energy

3. References

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.

➤ *National references*

- ⇒ 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

➤ **International references**

- ⇒ 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 Samarthyam (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
- ⇒ 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/>
- ⇒ Accessibility study <https://www.washington.edu/>
- ⇒ Urban heat island effect <https://www.epa.gov/heatislands/what-you-can-do-reduce-heat-islands>

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