

NAAC CRITERIA 7.1.3

ENVIROMENT AUDIT REPORT AND CETRIFICATE

Environment Audit Certificate

It is awarded for **2021-2022 and 2022-2023** to the Esteemed Institution

Bombay Suburban Art and Craft Education Society's

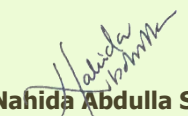
L. S. Raheja School of Architecture

Raheja Education Complex, Plot no. 341,
Kher Nagar, Bandra East, Mumbai – 400051

The study is conducted as per Green Building Standards

As part of the Institution's initiatives for a Healthy & Sustainable Institute the audit was conducted.
We appreciate the immense efforts taken by Staff and students towards the Environment Protection and Conservation.

Valid till **30 November 2024**



Ar. Nahida Abdulla Shaikh

Certified GBP (Registration. No. 22/718)

Sustainable Academe

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ENVIRONMENT AUDIT

STUDY PERIOD (TWO YEARS) 2021 – 2022 & 2022 - 2023

Sustainability study

AUDIT REPORT

Studied for

Bombay Suburban Art and Craft Education Society's

L. S. Raheja

School of Architecture

Raheja Education Complex, Plot no. 341,

Kher Nagar, Bandra East,

Mumbai – 4000051

Studied in the capacity of

Accredited and Certified

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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 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.

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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

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1. Introduction

1.1 About the Institute

The Institute aims to be a renowned learning community engaged in exemplary teaching and research; by creating entrepreneurs who have been trained in understanding design as a broad humanistic and scientific discipline with technical skills complemented by personal vision and ethical perception.

The Mission of the Institute includes - To create a dynamic institution of learners through creative and critical thinking and dedication to high standards; To produce leaders that meet the demand of a globally challenging profession through sound training; To prepare students to evolve with the ever changing world by offering comprehensive, high quality programs and services that respond to the need of the industry; To strive for excellence and foster the spirit of professionalism by creating a culture of constant improvement through measuring learning across the institution and To support diversity thereby adopting a holistic approach through the process of lifelong learning.

1.2 Assessment of the Institute

1.2.1 Affiliation

The courses provided by the Institute received affiliation through the **University of Mumbai**, a public state university in Mumbai, Maharashtra.

1.2.2 Certification

The Institute has received the code under **All India Survey of Higher Education** (AISHE) wherein the code is C-33788.

1.2.3 Approval

The courses by the Institute have received approval through

- **Council of Architecture (COA), New Delhi**
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2. Overview

2.1 Summarised Populace analysis for 2022-2023

2.1.1 Students data

The data (shared by the Institute) shows there were **367 students**.

2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	07	05	12
2	Teaching staff	20	15	35
3	Non-Teaching staff	09	01	10
Total Staff Members		36	21	57

Table 1: Staff data of the Institution for 2022-2023

The staff data shows the Institute premises had **57 Staff Members**.

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The staff data shows the Institute premises had **59 Staff Members**.

The numbers given above are all core full time faculty

3. Research

3.1 Institute Infrastructure

3.1.1 Establishment

The Institute was established on **1959**

3.1.2 Spatial Organisation

The infrastructure facilities of the campus include:

RESOURCES:

Learning Resources - The college boasts a grand, spacious and well planned campus. The Institute is centrally located and is easily accessible by all modes of public transport. We strive to provide a healthy, safe and encouraging, learning environment to all our students.

Studios - The premise has well lit and airy studio spaces. Studio spaces have independent working tables and storage facilities for each student. The walls of the studios are lined with vibrant soft boards for displaying students' work. The space is efficient and encourages students to use it flexibly and make it their own.

Lecture Halls - Each lecture hall has smart projector facilities and a public address system. This imparts flexibility in teaching and learning methods and encourages healthy interaction amongst faculty and students.

Library - The college library is a knowledge haven which enriches teaching, learning and research experience for the students and staff. It is well stocked with more than 6000 books, 350 e-books, several design magazines and E- journal subscription on varied subjects like Design, Graphics, Construction, Interiors, Landscape, Architectural Theories and several others. The Institute takes continual efforts to keep this compilation updated and maintained

Computer Lab - The Institute encourages students to envisage, develop and represent their ideas in innovative ways. To support this vision, the Computer lab has forty computers equipped with the latest design and visualization softwares.

Staffroom - The staffroom is a comfortable space for the faculty. It also accommodates cabins for the Principal and senior faculty. The Principal's cabin and staffroom are always open for students. Students can approach for additional guidance or any other concerns.

CO-CURRICULAR FACILITIES

Multipurpose Hall - A fully air conditioned multipurpose hall becomes an integral part of a student's journey in the institute, from Orientation day to the Convocation ceremony. This hall is aereate, well-furnished and fitted with a state of the art public address system, making it a perfect setting for several co-curricular and extracurricular events through the year

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Material Bureau - Along with theoretical knowledge, to ensure a well-rounded education a material bureau has been set up. The Bureau has latest material samples, catalogues, application brochures and joinery prototypes. Being able to see materials upclose, gives students better visualization and understanding of all it's possible applications.

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Carpentry Workshop - The college has a wood and a metal workshop with necessary machines and tools. This gives an opportunity to students to explore various techniques, materials and also gain valuable hands-on experience.

Construction yard - The construction yard becomes the site of several creative endeavors and workshops. This space is used by students to create awe inspiring installations, life scale arches, creative wall bonds, prototypes of roofs, modifiable furniture and many more such interventions.

ALLIED FACILITIES

Canteen and Gym – The facility is provided to common to all shared campuses

Medical Assistance - The Institute cares for its students wellbeing. Along with basic first aid being available on campus, a general physician visits the institute every afternoon. The institute also has a psychologist visit once every week. Students who need assistance can make appointments and avail this free of charge facility.

Common rooms - The campus also has separate boys and girls common rooms, accessible to all students. This a space meant only for students. They use this space for group activities, co-curricular and extra-curricular participation, student council initiatives and many more.

Universal Access - The institute strives to provide its students universal access. The building is planned to give a barrier free access to all its spaces for physically challenged students. There is provision for ramps, elevators, wide lobbies and doors to ensure ease of movement. The driveway till the entrance of the institute allows access by all vehicles. This ensures easy approach and exit in case of any emergency.

Digital Campus - The entire campus has also been equipped with wireless internet access for its staff and students within the premises. This facilitates work and access to information wherever they are within the institute.

3.2 Operation and Maintenance of the premises

The interview session was held with the staff regarding the operation and working hours. The Institution is open from Monday to Saturday with the timings being 07:15 am to 19:00 hours.

4. Evidence



Plate 1: Discussion with the team and Principal of the Institute



Plate 2: Investigation of the fire & lie safety practices and internal spaces of campus



Plate 3: Discussion with the internal team about the facilities

5. Documentation

5.1 Open Spaces

There are no particular open spaces dedicated for sports or recreational purposes within periphery of the site. However, adjacent to the plot there is a public ground that provides an arena of green space.

5.2 Flora audit

A flora survey was carried out to identify the total numbers of plants and trees. The landscape area has a variety of plantations the details of the same are documented below.

S. No.	Plant name	Type	Nos.	Planted by
Outdoor plantations				
1	<i>Areca Palm</i>	Plant	20	Planted by staff
2	<i>Rhapis Palm</i>	Plant	24	Planted by staff
3	<i>Kentia Palm</i>	Plant	2	Planted by staff
4	<i>Dracaena</i>	Plant	3	Planted by staff
5	<i>Alpinea</i>	Plant	3	Planted by staff
6	<i>Schefflera</i>	Plant	3	Planted by staff
7	<i>Heliconia</i>	Plant	14	Planted by staff
8	<i>Good Luck Plants</i>	Plant	5	Planted by staff
9	<i>Snake Plants</i>	Plant	9	Planted by staff
10	<i>Song Of India</i>	Plant	2	Planted by staff
11	<i>Chaffa</i>	Plant	1	Planted by staff
12	<i>Green Dream</i>	Tree	6	Planted by staff
13	<i>Bamboo</i>	Tree	1	Planted by staff
14	<i>Ficus (Fig)</i>	Tree	27	Planted by staff
15	<i>Jaswand (Hibiscus Rosa-Sinensis)</i>	Plant	4	Planted by staff
16	<i>Sadafuli (Catharanthus)</i>	Plant	4	Planted by staff
Indoor plants				
17	<i>Snake Plant</i>	Shrub	4	Planted by staff
18	<i>Slipper Flower</i>	Shrub	1	Planted by staff
19	<i>Plilodendron</i>	Shrub	1	Planted by staff

20	<i>Dracenia</i>	Shrub	3	Planted by staff
21	<i>Spider Plant</i>	Shrub	14	Planted by staff
22	<i>Purple Heart</i>	Shrub	3	Planted by staff
23	<i>Jade</i>	Shrub	2	Planted by staff
24	<i>Adenium</i>	Shrub	1	Planted by staff
25	<i>Lasia Spinosa</i>	Shrub	1	Planted by staff
26	<i>Arrowhead Plant</i>	Shrub	1	Planted by staff
27	<i>Money Plants</i>	Shrub	5	Planted by staff
28	<i>Succulents</i>	Shrub	5	Planted by staff

Table 3: Details of the Flora in the premises

At present there are more than 169 numbers of plantations in the premises.

5.3 Fauna audit

The campus is located in an urban area with huge nos. of apartment blocks and concrete structures all over; the green cover is minimal and available only in the adjacent blocks. Thus, only general sparrows, crows are found in and around the campus as exceptional to certain exotic type of fauna species.

5.4 Noise Audit

Since the Institute is surrounded by an educational campus, multiple residential blocks and an open recreational ground the overall noise levels are quite low.

They do not have a direct negative impact on the day-to-day functioning and activities of the campus.

5.5 Carbon Footprint Audit

5.5.1 Eco-friendly Commuting Practices

- ➔ The campus is located with close proximity to:
 - Western express highway (City main road)
 - Bus stops
 - Railway station (Bandra)

- Thus, most of the stakeholders commute using public mode of transport keeping the carbon footprint is well under control.
- There are no major fossil fuels used inside the premises.

5.5.2 Heat Island Reduction

The positive aspects that help to keep the micro climate of the built-form under control are:

- Lights colored façade reflecting the harsh sunrays.
- Light colored walking pathway to keep the outdoor temperatures under control.
- Sufficient nos. of plantations around the periphery of campus.
- No use of any carbon emitting appliances.

The current measures taken are good enough and should be continued.

5.5.3 Outdoor Light Pollution Study

The Institute compound lights are not upward looking thus, these do not cause light pollution.

5.6 Fire Safety

Fire and life safety are an important consideration of the National Building Code 2016.

This aspect is touched upon as part of this study in the capacity of an Architect registered with the Council of Architecture. As part of the research, fire safety audit was considered from the 'Building systems' perspective. All provisions documented below:

- **Fire hose reel** – Near the appropriate duct areas
- **Fire extinguisher** – In spaces that have air conditioners
- **Fire sprinkler and alarm system** – This is available in the cellar areas as there is underground parking provision provided.
- **Fire hydrant cabinet** – This is available on every floor and Staircase mid-landing.

6. Suggestions

The following suggestions are section-wise recommendations and are supposed to be **executed within the next 2.5 years from the date of the Report submission.** The Institute can execute a plan after discussion with Project Head.

6.1 Site beautification

- ➔ **Bird house/ Feeders** - At appropriate locations there can be provisions for drinking water and some grains for birds as they visit the site much frequently.
- ➔ **Garden development** - *Scientific name plates and QR codes* – The team should undertake a project to have name plates with QR codes on every plant of the premises.

6.2 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.

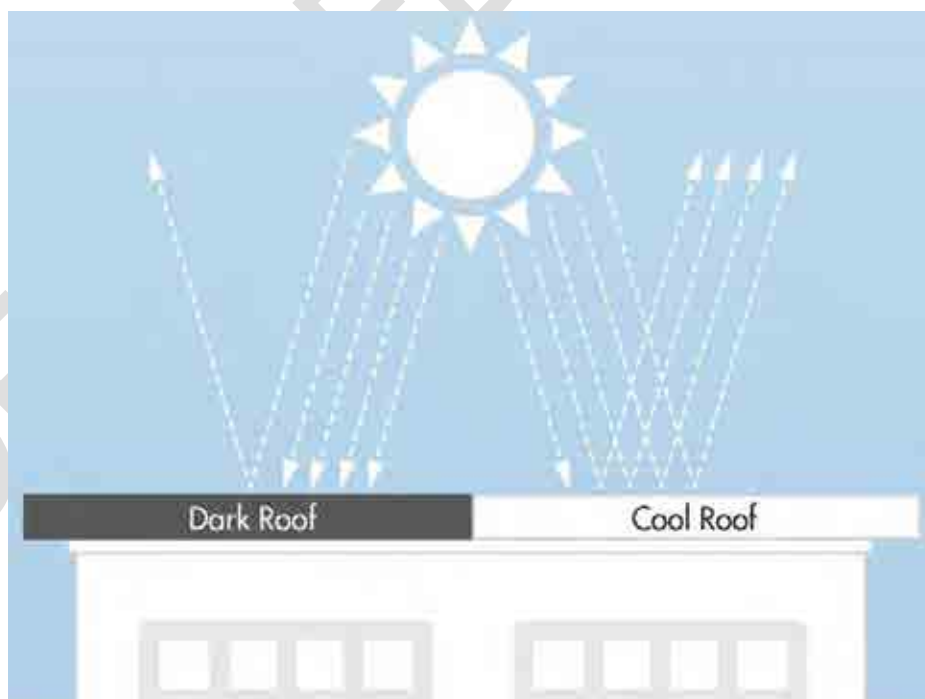


Plate 4: Cool roof comparative analysis (For reference purpose only)

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

- ➔ **Green wall** - The outdoor walls in areas could be modified as 'Green walls' to keep external temperatures under control. This is applicable based on the parameters of light, shade, wind, temperature, structural ability and rainfall. Know more <https://green-walls.co.uk/blog/5-key-considerations-when-designing-a-green-wall/>



Plate 5: Green roof (For reference purpose only)

Source: Image by <https://www.geoplastglobal.com/en/solutions/green/outdoor-green-wall/>

6.3 Life safety

- ➔ **Fire station** – A dedicated fire station could be established within the premises as part of the Fire and Life safety practices.
- ➔ **Mandate fire extinguisher in spaces** - One fire extinguisher should mandatorily be there in every space which has an air conditioner/ gas cylinder.
- ➔ **Sensitization programs** - Regular seminars/ webinars by experts such as Architects, Govt. Fire department on subjects related to fire and life safety should be organized and the outputs should be adopted and documented.

6.4 Pollution Control

- ➔ **Promote the use of Eco-friendly vehicles** - There can be student and staff sensitization program on eco-friendly and battery-operated vehicles/ low emission vehicles for daily use.

- ➔ **Battery charging points for Eco-friendly vehicles** - There can be provision for battery charge points, this would inspire students to change their mode of transportation and adopt sustainable practices.
- ➔ **Bicycles as a gift** - As an appreciation gesture maybe the student's toppers/ staff best performers can be awarded a bicycle occasionally.
- ➔ **Plant more radiation absorbing plants** - The following flora helps in reducing the harmful effects to a certain extent, the Institute can develop a radiation free zone and take to planting these through potted plants or permanent planting:
 - a. Spider plant
 - b. Rubber plant
 - c. Asparagus fern
 - d. Snake plant
 - e. Nelumbo nucifera (Includes colourful flowers)
 - f. Cactus
 - g. Areca palm
 - h. Mustard green
 - i. Betel
 - j. Aloe vera
 - k. Sprengers asparagus
 - l. Fiddle fig

7. 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.

- ➔ 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 Samarthyam (National centre for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation.
- ➔ Reference images for suggestions:
 - ❑ <https://www.gaf.com/en-us/blog/six-truths-about-cool-roofs-281474980105387>
 - ❑ <https://earthbound.report/2021/07/14/5-ways-to-reduce-the-urban-heat-island-effect/>

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Canteen and Gym – The facility is provided to common to all shared campuses

Medical Assistance - The Institute cares for its students wellbeing. Along with basic first aid being available on campus, a general physician visits the institute every afternoon. The institute also has a psychologist visit once every week. Students who need assistance can make appointments and avail this free of charge facility.

Common rooms - The campus also has separate boys and girls common rooms, accessible to all students. This a space meant only for students. They use this space for group activities, co-curricular and extra-curricular participation, student council initiatives and many more.

Universal Access - The institute strives to provide its students universal access. The building is planned to give a barrier free access to all its spaces for physically challenged students. There is provision for ramps, elevators, wide lobbies and doors to ensure ease of movement. The driveway till the entrance of the institute allows access by all vehicles. This ensures easy approach and exit in case of any emergency.

Digital Campus - The entire campus has also been equipped with wireless internet access for its staff and students within the premises. This facilitates work and access to information wherever they are within the institute.

3.2 Operation and Maintenance of the premises

The interview session was held with the staff regarding the operation and working hours. The Institution is open from Monday to Saturday with the timings being 07:15 am to 19:00 hours.

4. Evidence



Plate 1: Discussion with the team and Principal of the Institute



Plate 2: Investigation of the fire & lie safety practices and internal spaces of campus



Plate 3: Discussion with the internal team about the facilities

5. Documentation

5.1 Green Practices Audit

The increasing global warming and climate change have made us realise that apart from the enormous strategies the individual small efforts need to be taken by individuals and Educational Institutes as the younger generations are the future of the world and once they are taught about these practices only then can we assume a better future.

5.1.1 Green practices

We observed the following points during the Site investigation and data verification of the premises; these are common for all the Buildings in the premises.

- **Social awareness** - *The Institute has taken up awareness drives on various social issues for rural upliftment and regeneration in the Institute and surrounding villages.*
- **Silent and peaceful atmosphere** – *The Institute is located amidst residential areas which are well designed thus these help to maintain the pollution under control and provide a healthy ambience.*

5.1.2 Community development

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

S. No.	Type	Coordinator name
1	National Service Scheme (NSS)	Ar. Ninad Sansare
2	Campus placement event	Ar. Mridula, Ar. Anuj, Ar. Arun
3	Elective Glass in Architecture	Ar. Mrridula, Ar. Anuj
4	Elective - Software Auto CAD, Revit and Grasshopper	Ar. Gargi

Table 3: Details of the extension initiatives by the Institute

The details of the **environmental activities** by the Institute documented below:

S. No.	Activity	Details	Type	Date
1	Tree plantation drive	On field visit	Physical	2018
2	World Environmental Day	Screening of film	Physical	-

Table 4: Environmental initiatives undertaken by the Institute

The **activities** at present are not practiced in a full-fledged manner but the Institutes' team have been guided about awareness posters that can be initiated.

5.2 Waste Audit

Waste is an inevitable part of our lives. Over the years the awareness about waste management techniques has given a rise to rethink how the waste can be avoided being sent to the landfills. The audit provides an approximation of the types of waste generated, location of waste collections, disposal techniques used, waste segregation methodologies adopted, and waste management strategies that are implemented in addition to the newer ways that can be adopted aiming to make the premise clean and sustainable.

5.2.1 Waste produced

S. No.	Type	Current disposal system	Proposed disposal system
1	Solid waste (Toilets)	City sewerage system, Dry waste - Garbage collection van	Continue with the same
2	Organic waste (Regular)	City sewerage system, Canteen kitchen waste - Municipal garbage collection van	A small sized compost bin can be purchased to manage the same and convert it into manure, if successful a full sized project can be undertaken
3	Dry paperwaste, consisting mainly paper, books, newspaper etc.	Collected by local Raddiwala	
4	Liquid waste (Toilets, wash basins)	City sewerage system	
5	Chemical waste from laboratories	NA	NA
6	Toxic waste from laboratories	NA	NA
7	E-waste	Collected by E waste recycling agency - certificate inserted in adjoining cell	
8	Plastic waste	Municipal garbage collection truck	Tie up with a vendor
9	Bio-waste (Sanitary)	Municipal garbage collection truck	
10	Medical waste (Pharmacy etc.)	NA	NA
11	Construction waste and reuse (during maintenance, repairworks and renovation)	Debris collection vendors	Continue with the same

Table 5: Waste management system by the Institute

Currently, there are 40 twin litter dustbins inside and 3 large bins in the outdoor areas.

5.3 Water Audit

Water is one of the basic needs. Pure drinking water is a resource that needs to be preserved efficiently. A water audit helps to identify the sources of water consumption, and the water requirement by the premises is met by these sources. The effective usage of water without any wastage should be a mandatory practice. Understanding the techniques as per site context to increase water conservation in terms of awareness and practice can be identified and executed as part of this exercise.

5.3.1 Water availability and consumption

5.3.1.1 Source of Primary water supply

The Institute requires water from the Local Municipality for drinking water purposes. **The facilities available include the following:**

S. No.	Type	Size	Capacity (litres)	Nos.
1	Underground	15X6.5X10	27,593	1
		15X9X8	30,564	1
		15X9X8	30,564	1
2	Overhead	21X18X8.5	90,925	1
		21x2.5x7.10	1,07,596	3
3	Fire tank	15.5x4x10	17,546	1
		15.5x 6.5x10	26,319	1
4	Rain water harvesting tank	15.5x4x10	17,546	1
5	Water cooler	-	-	3

Table 6: Details of the water facilities

5.3.1.2 Source of Secondary water supply

The Institute uses the following sources of water supply for secondary usages such as watering plants, kitchen, toilets, and wash basins and other spaces. **There are no wells or bore wells available at present.**

5.3.1.3 Source of Tertiary water supply

The tertiary source of water is **the source of water harvesting; the project at present practiced through pit connected to the rooftop rain water pipes.**

5.3.1.4 Source of Reusing waste water

This initiative is not practiced at present. Since the campus **is located is not a technical campus with laboratories etc.** the system is not an urgent requirement.

5.3.2 Areas of water usage

Based on the inventory done and data shared by the staff we found that the premise has the facilities such as toilets and washbasins.

5.4 Health and Hygiene Audit

The hygiene is a part and parcel of our daily life. It is extremely essential to keep the surroundings clean in the same manner as we would want our houses to be.

Educational Institutes have a bigger role to play in order to affect the young minds in the positive manner through better hygienic practices.

5.4.1 Facilities available

The Institution has washroom facility, hand wash, drinking water and dustbin facilities.

5.4.2 Hygiene aspects

The team should undertake steps to upgrade the hygiene areas of the site as per the instructions and discussion. **The current practices however are fine.**

6. Suggestions

Section-wise suggestions related to premises

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

6.1 Green practices 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 slogans in local and national language 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.
- ➔ **Signages on the plants mentioning scientific names** - The practice of having the names of each plant and tree will provide awareness among the staff and students.
- ➔ **Government initiatives** - The Institute can take up initiatives such as Swachh Bharat Abhiyan, cleanliness drives in the Institute and surrounding villages also activities such as the capacity building of locals in surrounding villages by Institute students.
- ➔ **Increase the green awareness practice** – This should be in terms of the physical and virtual events which will be beneficial for all stakeholders in the shared premises. (Basically the frequency of the lectures should be increased)
- ➔ **Documentation** – Improve and increase the documentation and visibility/ reflectance of the environment related events on the website, social media handles.

6.2 Waste Audit

- ➔ **Signages** - Messages about avoiding wastage should be placed at appropriate locations.
- ➔ **Include better plastic/ E-waste management measures** - The Institute can celebrate one day of every month as a 'Plastic/ E-waste awareness day' The stakeholders (Students and staff members) can be asked to bring plastic/ E-waste which can be further given to an NGO for recycling or better purpose.
- ➔ 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.

6.3 Water Audit

No changes proposed for this section.

6.4 Health and Hygiene Audit

Compound wall – The compound wall should have awareness messages about 'No Smoking' and 'No Tobacco'

7. 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.

- ➔ 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 Samarthyam (National centre for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation.
- ➔ Reference images for suggestions:
 - ❑ <https://www.gaf.com/en-us/blog/six-truths-about-cool-roofs-281474980105387>
 - ❑ <https://earthbound.report/2021/07/14/5-ways-to-reduce-the-urban-heat-island-effect/>