2024

# GREEN AUDIT REPORT


## SCVB GOVT. COLLEGE

## PALAMPUR H.P.

**SHIVALIK SOLID WASTE MANAGEMENT LIMITED**

**SCO 20-21, 1st Floor, Near Hotel Dolphin, Kalka- Shimla Highway, Baltana, Zirakpur, Punjab**

# INDEX

**AUDIT CERTIFICATE**

**Shivalik Solid Waste Management Limited**

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Ref. No. SSWML/Au/23-24/17628 Dated 29/3/2024

# CERTIFICATE

PRESENTED TO

SCVB Govt. College Palampur, H.P.

Has been assessed by Shivalik Solid Waste Management Limited for the Comprehensive study of environmental impact on institutional working framework to fulfill the requirement of

## GREEN AUDIT

The environmental legal compliances and initiative carried out by the college have been verified on the report submitted and was found to be satisfactory.

The efforts taken by management and faculty towards environment and sustainability are highly appreciated and noteworthy.

SHIVALIK SOLID WASTE MANAGEMENT LTD. NALAGARH

**SCVB GOVT. COLLEGE, PALAMPUR, DISTT. KANGRA**

**HONOURABLE PRINCIPAL**
**DR. ANIL KUMAR AZAD**
**SCVB GOVT. COLLEGE PALAMPUR**

**IQAC CO-ORDINATOR**
**DR. SUNIL KUMAR KATOCH**
**SCVB GOVT. COLLEGE PALAMPUR**

## ACKNOWLEDGEMENT

Shivalik Solid Waste Management Limited (SSWML) would like to thank the management of SCVB Govt. College Palampur H.P. for assigning this important work of Green Audit. We appreciate the co-operation to the teams for completion of assessment.

We would like to specially thank (*Dr. Anil Kumar Azad) SCVB Govt. college Palampur Principal* for giving us an opportunity to evaluate the performance of the campus from the energy audit guidelines perspective.

We would also like to *thank Dr. Sunil Kumar Katoch Coordinator IQAC*, for his Continuous Support and guidance, without which the completion of the project would not have been possible. We are also thankful to other staff members who were actively involved while collecting the data **and conducting field measurements. We are also thankful to:**

**Committee members name:**

*Dr. Sunil kumar katoch*

*Dr. Meenakshi Thakur*

*Mr. Vipin kumar*

*Dr. Diwaker*

*Dr. Tanbir Singh*

## DISCLAIMER

**SSWML** Audit Team (Mr. Silbhadra Brahma, Dr. Simranjit Kaur, Ms. Kamini Bhardwaj, Mr. Naveen Bharmoriya) have prepared this report for SCVB Govt. College, Palampur based on input data submitted by the representatives of college complemented with the best judgment capacity of the expert team.

While all sensible care has been taken in its preparation, details contained in this report have been compiled in good faith based on information gathered.

It is further informed that the conclusions are arrived following best estimates and no representation, warranty or undertaking, express 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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## CONTEXT AND CONCEPT

ln India, the process for environmental audit was first mentioned under the Environment Protection Act, 1986 by the Ministry of Environment of forests on 13th March 1992. As per this act, every person owning an industry or performing an operation or process needs a legal consent and must submit an environmental report or statement.

The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory from the academic year 2019-20 onwards that all Higher Educational Institutions should submit an annual Green, Environment and Energy Audit Report. The grade given by NAAC is crucial for state universities/colleges to operate optimally and maintain their reputation. The NAAC accreditation helps a university/college to apply for and obtain UGC grants, RUSA grants, financial donations, etc.

ln view of the NAAC circular regarding environment auditing, the college management decided to conduct an external environment assessment study by a competent external auditor.

The term 'Environmental audit' or' Green audit means differently to different people. Terms like 'assessment', 'survey' and 'review' are also used to describe similar activities. Furthermore, some organizations believe that an ‘environmental audit' addresses only environmental matters, whereas others use the term to mean an audit of health, safety and environment-related matters. Although there is no universal definition of Green Audit, many leading companies/institutions follow the basic philosophy and approach summarized by the broad definition adopted by the International Chambers of Commerce (lCC) in its publication of Environmental Auditing (1989).

The ICC defines Environmental Auditing as: "A management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of safeguarding the environment and natural resources in its operations/projects."

## EXECUTIVE SUMMARY

The rapid environmental degradation at local, regional, and global level is leading us to global "Environmental poverty". Stabilization of human population, adoption of environmentally sound and sustainable technologies, reforestation and ecological restoration are crucial elements in creating an equitable and sustainable future for all humans in harmony with nature and natural resources.

Thus, academic leaders must initiate and support mobilization of internal and external resources and knowledge so that their institutions respond to environmental challenges. As an Institution of higher learning and research, SCVB Govt. College is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends of environment degradation.

The rapid urbanization and economic development at local, regional, and global level has led to several environmental and ecological crisis. On this background it becomes essential to adopt the system of the Green Campus for the institute which will lead to sustainable development.

# INTRODUCTION

## 1. INTRODUCTION TO GREEN AUDIT

The term "Green" means eco-friendly or not damaging the environment. This can acronymically be called as "Global Readiness in Ensuring Ecological Neutrality" (GREEN). Green Audit can be defined as systematic dentification, quantification, recording, reporting and analysis of components of environmental diversity. Green accounting can be defined as systematic identification quantification, recording, reporting & analysis of components of ecological diversity & expressing the same in financial or social terms. "Green Auditing", an umbrella term, is known by another name "Environmental Auditing".


The green audit aims to analyse environmental practices within and outside the college campuses, which will have an impact on the eco-friendly atmosphere. Green audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of college environment. It was initiated with the motive of inspecting the effort within the institutions whose exercises can cause threat to the health of inhabitants and the environment. Through the green audit, a direction as how to improve the structure of environment and there are include several factors that have determined the growth of carried out the green audit.

Government of India through its National Environment Policy (2006) has made mandatory for every organization to have green audit / environmental audit in their organization. The process of environmental audit was formalized by Supreme Audit Institution (SAI) according to the guidelines given in Manual of Standard Orders (MSO) issued by Authority of the Controller and Auditor General of India 2002. University Grants Commission has mentioned "Green Campus, Clean Campus" mission mandatory for all higher educational institutes. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

## 1.1. NEED FOR THE GREEN AUDIT

Green auditing is the process of identifying and determining whether institutions practices are eco-friendly and sustainable. Traditionally, we are good and efficient users of natural resources. But over the period of time excess use of resources like energy, water, are become habitual for everyone especially, in common areas. Now, it is necessary to check whether our processes are consuming more than required resources? Whether we are handling resources carefully? Green audit regulates all such practices and gives an efficient way of natural resource utilization. In the era of climate change and resource depletion it is necessary to verify the processes and convert it in to green and clean one. Green audit provides an approach for it. It also increases overall consciousness among the people working in institution towards an environment.

As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent. The rapid urbanization and economic development at local, regional, and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institutes which will lead for sustainable development and at the same time reduce a sizable amount of atmospheric $CO_2$ from the environment. Some of the strategic approaches for the green campus are as follow-

- **Self-assessment –** It allows the universities and colleges to review the ideal steps and implement them for the campus. The audit assists in self-assessment and the decision-making process.
- **Awareness –** It develops awareness among everyone associated with the campus with conscious and consistent efforts.
- **Improved scopes –** By complying with the norms, universities can ensure higher scopes of getting the best grade from NAAC. It is vital to follow the systematic way and implement the best steps for green audits on the campus under professional guidance.

## 1.2. THE ROLE OF THE REPORT

Based on the audit reports, the college can make the best strategies to make the campus ideal for students, teachers, and anyone associated. It also helps the college acknowledge the wastage volume and consider different recycling projects for developing a sustainable ecosystem for the learners. Simply put, it is a way to minimize wastage and create a more suitable place for learning with improved NAAC grades.

The National Assessment and Accreditation Council (NAAC) was introduced by the university/college Grants Commission or UGC in September 1994. NAAC was established in Bangalore for reviewing the performance and operational quality of Indian universities.

The NAAC accreditation is compulsory for all learning institutes in the country. The grade given by NAAC is crucial for state universities to operate optimally and maintain their reputation. The NAAC accreditation helps a organization to apply for and obtain UGC grants, RUSA grants, financial donations, etc. However, there is more to the NAAC accreditation that relates it to the green audit.

**1.3. THE LINK BETWEEN GREEN AUDIT AND NAAC ACCREDITATION**

- The NAAC accreditation regulates and defines the performance and quality of the educational institution. The NAAC grade exhibit the quality of education, learning infrastructure, research facilities, etc. The Green Audit is associated with the 7th criterion of NAAC.
- A green audit is critical for a college in determining the best grades from the National Assessment and Accreditation. The audit reports exhibit the practical ways through which colleges and universities are consuming natural resources and energy. The reports determine whether the educational campus is exploiting the various natural resources.
- Having the best reports with the green audit ensures the environmental sustainability of the campus. It determines the greenery quotient on the campus and covers other influential environmental aspects. It includes the consumption and management of energy resources and environmental components.

It has made mandatory that all Higher Educational Institutions should submit an annual Green Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through carbon footprint reduction measures.

## 1.4. BENEFITS OF NAAC ACCREDITATION

- Institution to know its strengths, weaknesses, and opportunities through an informed review process.
- Identification of internal areas of planning and resource allocation
- Collegiality on the campus
- Funding agencies look for objective data for performance funding.
- Institutions to initiate innovative and modern methods of pedagogy.
- New sense of direction and identity for institutions
- The society look for reliable information on quality education offered.
- Employers look for reliable information on the quality of education offered to the prospective recruits.
- Intra and inter-institutional interaction

# ABOUT COLLEGE

## 2. ABOUT COLLEGE

Shaheed Captain Vikram Batra Govt. College, Palampur (Kangra) came into existence as Govt. College Palampur vide Govt. of Himachal Pradesh, Education Department Notification No. Chha(15), 3/86-Shiksha ka-II Dated 07-04-1995. Later it was renamed in the memory of Capt. Vikram Batra (Param Veer Chakra) the martyr and Hero of Kargil war, 1999. The College was recognized by UGC under section 2(f) & 12(B) of the UGC Act. 1956, vide latter no. 8-471/2008(CPP-I) dated 29 Sep, 2009. The college affiliated to Himachal Pradesh University, Summer Hill, Shimla-5.

The college functioned in a small, rented accommodation till 18-06-2008 and now this College had been shifted to its own spacious building on 19-06-2008. Consisting of 12 Lectures Room and 06 Lecture theatres, separate Labs for Botany, Zoology, Physics, Chemistry, Geography, Math and Computer Department. A Boy Hostel has been newly constructed with the capacity of 105 occupants. The college is making the optimal use of the infrastructure.

The college has a well-equipped Computer lab with 38 Pentium-IV Computers, Three Printers, One Xerox machine and One Overhead Projectors. All Head of Departments in all faculty have been provided with an office Computer connected through LAN with INTERNET Connectivity. The Science Labs are spacious, well-furnished and well equipped. The College Library has more than 4000 books of all subjects. It also subscribes 11 daily Newspapers & 20 Magazines. Installation of SOUL 2.0, a library software for library automation is in process. E-System with the help of NME (National Mission for Education) project has been working successfully which help to explore the world with knowledge resources in boom of e-books, e-journals and open education resources.

The Palampur is very well connected to various places through railway and road and feeding area is very large, At present the College is imparting education in Science, Commerce, Humanities streams in UG level & Economics in PG level and some Professionals courses like BBA, BCA, Journalism. In future it is planned to start few others professional courses like MBA, MCA, PGDCA, BJMC and Tourism &Travel management.

## 2.1. VISION


- To promote the foundational values like work culture, spirit of public service, inculcating discipline, dedication & determination in students.

## 2.2. MISSION


- The college has a mission to serve the people of the area in a committed manner and especially work towards the goal of nation building.
- We involve our students in diversely creative activities which enable them to discover their innate potential and result in their wholesome growth.
- With dedication, we prepare our students to be socially and morally responsible citizens who believe in the sagacity of the ancient Indian wisdom and spread the massage of peace, harmony and universal brotherhood.

# GREEN AUDITING

## 3. GREEN AUDITING

The green audit aims to analyse environmental practices within and outside the college campus, which will have an impact on the eco-friendly atmosphere. Green audit can be defined as systematic identification, quantification, documenting, reporting and analysis of components of college environment. It was initiated with the motive of inspecting the effort within the institutions whose exercises can cause threat to the health of students & staff and the environment.

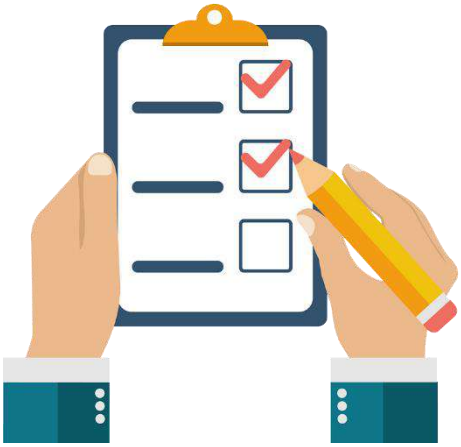
### 3.1. METHODOLOGY OF GREEN AUDITING

The purpose of the green audit of SCVB Govt. College is to ensure that the practices followed in the campus are in accordance with the Green Policy of the country.

The criteria, methods and recommendations used in the audit were based on the identified areas of concern. During audit, the methodology included preparation and filling up of questionnaire, physical inspection of the campus, observations, and review of the documents, interviewing responsible persons and data analysis, measurements, and recommendations. The methodology adopted for this audit was a three-step process comprising of:

**I. Pre-Audit**

- Plan the audit.
- Select the audit team.
- Acquire the background information.
- Visit the site .



**II. Audit on Site:**

- Understand the scope of audit.
- Analyze the strengths and weaknesses of internal controls.
- Conduct the audit.
- Evaluate the observations of audit program.
- Prepare a report of the observations side by side.

**III. Report Preparation:**

- Produce a draft report of the data collected.
- Produce a final report of the observations and the inference with accuracy.
- Distribute the final report to the management.
- Prepare an action plan to overcome the flaws Keep a watch on the action plan.

In recent time, the Green Audit of an institution has been becoming a paramount important for self-assessment of the institution which reflects the role of the institution in mitigating the present environmental problems. The college has been putting efforts to keep our environment clean since its inception. Therefore, the purpose of the present green audit is to identify, quantify, describe, and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies, and standards. The steps of carrying out Green Audit are:

1. To map the geographical location of the college
2. To document the floral diversity of the college

**3.2. GREEN CAMPUS**

Choosing a college to pursue one's higher studies is one of the toughest decisions of one's life, and a high level of stress associated with change and other variables is understandable. The college is bound to be a second home to many of the students for years to come, and thus, along with academic excellence, the presence of a calming and beautiful campus attains a relevance of its own in making the students feel comfortable and cheerful. Not only does a lovely campus encourage a peacefully healthy lifestyle outside the classroom, but the proximity to nature also inculcates in the students the inclination to introspect themselves to become part of something that is greater than merely their materialistic reality.

The college has gorgeous campus generously dotted with large tracts of gardens. The college has a vast area of open ground lined with lush, green trees along with certain areas ear-marked for sports activities. The main grounds of the college serve to be the venues for the various sporting and co-curricular events. The SCVB Govt. college is covered by the University Grant Commission (UGC) under 2f and 12B. With professionally competent faculty members, spacious library, extensive campus, well equipped computer labs with Internet Connectivity, Sports facility, a host of extracurricular activities, 2 NSS units, 1 NCC units each for Boys and Girls, Rovers and Rangers, we at SCVB Govt. Colleges are committed to work for the overall development of the students by channelizing their energy. The college is equipped with the latest technology, numerous internet labs, Wi-Fi facility, overall e-surveillance and the largest library and hi-tech among the colleges in Palampur city.

**TABLE 1 - AREA DESCRIPTION**

| Facilities | | Existing |
|---|---|---|
| **Campus area** | | 16.6 Acres(67177.8 sq.m) |
| **Covered/ built-up Area.** | | 6258.06 sq.m |
| Classrooms | 12 | |
| Laboratories | 7 | |
| Seminar Halls | 6 | |
| Classrooms with LCD facilities | 1 | |
| Classrooms with Wi-Fi/ LAN | 12 | |
| Smart Classroom | 1 | |
| Video Centre | 1 | |
| **Uncovered Area** | | 60,919.74 sq. m. |
| **Green/open area** | | **6258.06 sq. m** |
| **Green cover as per google image** | | 19001.1 sq. m |

The college has well planned and maintained infrastructure. It has fully Wi-Fi and automated campus with spacious classrooms, seminar rooms with audio visual aids, auditoriums, Central Instrumentation, 7 Labs, 1-IT lab. It has separate hostels for the boys and girls having recreation rooms with TVs, Indoor Games and outdoor games facilities. The College has ramps facility and toilet facility for differently abled students. The college has vast playgrounds, shooting range and basketball ground . The college has many wings for various activities Rovers & Rangers, NCC, Cultural, Sports, Clubs, and Societies, well as NSS Units.

The college has adopted the 'Green Campus' system for environmental conservation and sustainability. The main three pillars are zero carbon footprint, positive impact on occupant health and performance of 100% graduates demonstrating environmental literacy. The goal is to reduce $CO_2$ emission, energy and water use, while creating atmosphere where students can learn and be healthy. The college campus spreads over 16.6 Acres of land comprising of the following (Shown in Figure-2 Google image)


**FIGURE -1 GOOGLE IMAGE OF SCVB GOVT. COLLEGE CAMPUS**

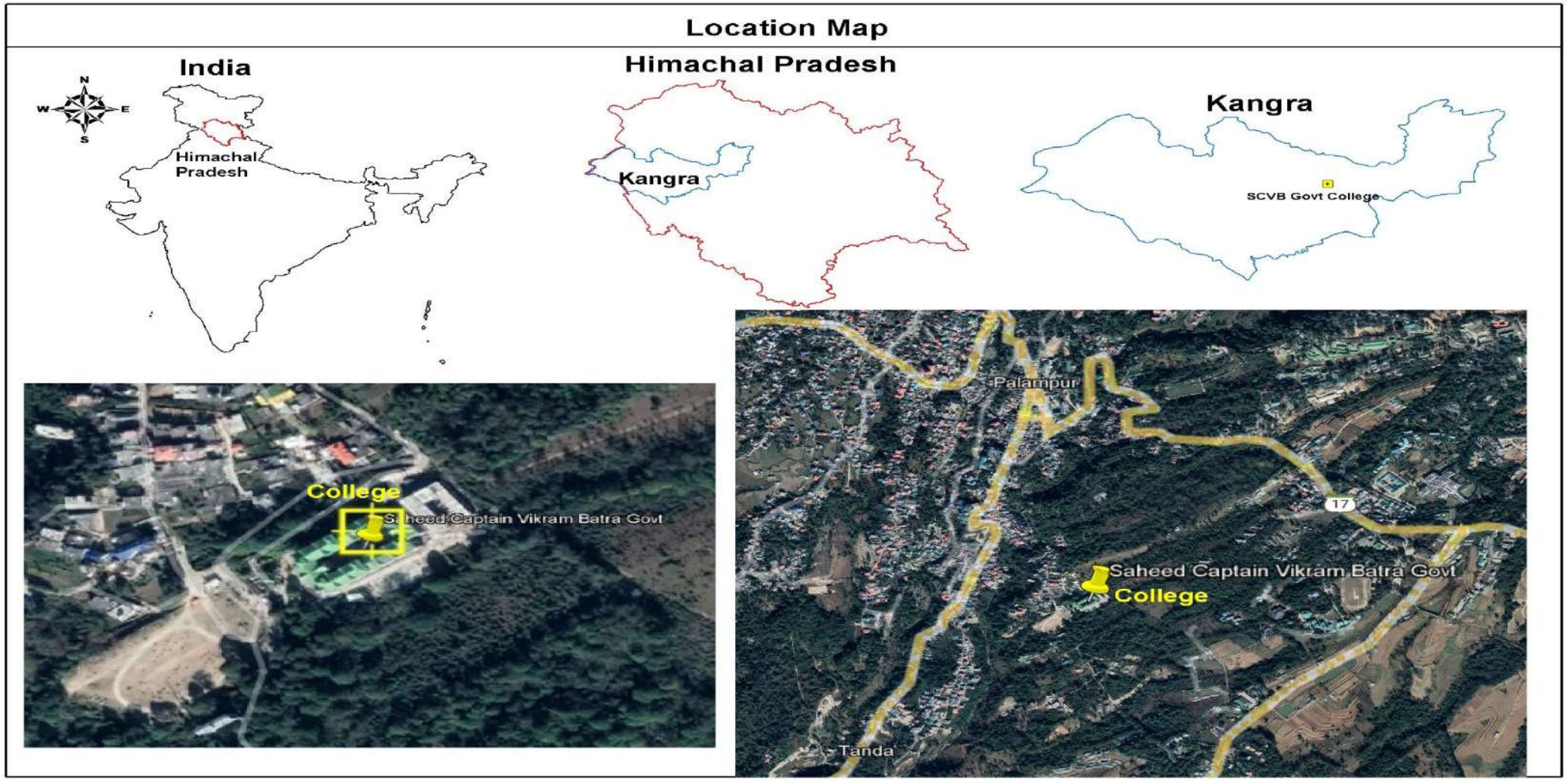



**FIGURE -2 LOCATION OF SCVB GOVT. COLLEGE CAMPUS**

# BIODIVERSITY

## 4. BIODIVERSITY OF THE COLLEGE CAMPUS

The importance of biodiversity planning in urban area is a small step to mitigate the biodiversity loss because of urbanization and deforestation. The sustainable urban communities can be created by designing the landscapes with diverse group of plants ranging from trees, medicinal plants and ornamental plants which not just provide healthy, pollution free environment but also provide with various ecosystem services like medicinal value, food and fruit supply, aesthetic value and educational services. This audit aims at understanding the contribution of plants in providing ecosystem services to the people so that the readers have a sense of appreciation towards the healthy environment created by diverse group of plants growing in the college campus.

### 4.1. FLORA BIODIVERSITY

SCVB Govt. College is located in district kangra in the middle of Palampur the geo-position between latitude 32° 6'3.94"N and longitude 76°32'16.83"E in Palampur, India. Palampur is 35 km from Kangra, is a quiet town situated on a plateau with the backdrop of the dramatic Neugal chasm and the Bundla stream cutting across on one edge. Surrounded by green tea estates and forests of pine and deodar, Palampur has several interesting trekking trails.

Some of these paths leading to the hills are often used by Gaddis – the nomadic shepherds of the area. With a number of interesting areas in the vicinity, angling in the river Bundla, paragliding at Bir-Billing 35 km away. It encompasses an area of about 16.6 Acres. The area is immensely diverse with a variety of tree species performing a variety of functions. Most of these tree species are planted in different periods of time through various plantation programmes organized by the authority and have become an integral part of the college. The trees of the college have increased the quality of life, not only the college fraternity but also the people around of the college in terms of contributing to our environment by providing oxygen, improving air quality, climate amelioration, conservation of water, preserving soil, controlling climate by moderating the effects of the sun, rain, and wind. Leaves absorb and filter the sun's radiant energy, keeping things cool in summer. Many species of birds are dependent on these trees mainly for food and shelter. Nectar of flowers and plants is a favourite of birds and many insects. Different species display a seemingly endless variety of shapes, forms, texture, and vibrant colours. Even individual trees vary their

appearance throughout the course of the year as the seasons change. The strength, long lifespan and regal stature of trees give them a monument – like quality. A thick belt of large shady trees exists in the periphery of the college. This barrier reduces noise and cut down dust and storms from outside.

There are approx. 200 trees within the campus, some of the Plants with their Common names & Botanical Names is given below:

**FLORA**

1. ***Acacia Catechu (Khair)***

2. ***Pinus Roxburghii (Chill)***

3. ***Eucalyptus*** **(Safeda)**

4. ***Prunes Cornuta*** **(Himalayan Bird Cherry)**

5. ***Embilica officinalis*** **(Amla)**

6. ***Baurhimia Variegata*** **(***Kachnar)*

7. ***Lannea Coromendelica (Kembal)***

Apart from the above plantations detail, lawns are being maintained in front of many buildings of SCVB Govt. College with flowerpots and seasonal plants. Both sides of large lawns are planted with rows of trees and college boundary is surrounded by canopy of trees.

**Figure 3: Green Campus**

The campus has a lush green environment. The college lawns are well maintained, and Gardeners are appointed to take good care of the greenery of the campus. Out of total campus area of 67177.8 sq.m., green cover of the campus(as per goggle image) is about 19001.1 Sq.m.

**BOTANICAL GARDEN**

A major contemporary objective of botanical gardens is to maintain extensive collections of plants, labeled with common and scientific names and regions of origin. Plant collections in such gardens vary in number from a few hundred to several thousand different kinds, depending on the land area available and the financial and scholarly resources of the institution. A separate Botanical Garden has been developed in the SCVB campus with more than 100 varieties of medicinal plants & shrubs as shown in **Figure 4.**


**FIGURE 4: BOTANICAL GARDEN**

## 4.2. FAUNA BIODIVERSITY

SCVB Govt. college campus witnessed a rich faunal diversity. List of **Fauna** diversity of the college campus is showing below:

**FAUNA**

1. ***Sus scrofa* (wild pig)**

2. **Cercopithecidae (Monkey)**

3. ***Lepus*** **(Hare)**

4. ***Erethizon dorsatum*** **(Porcupine)**

# WATER & WASTEWATER CONSERVATION

## 5. WATER AUDITING

Water auditing is a systematic & scientific examination of water accounts of the projects. It is an intelligent & critical examination by independent organization. It is a critical review of system of accounting. A water audit determines the amount of water used in different sectors; amount of water lost from distribution system due to leakages. Comprehensive Water Audit can give a detailed profile of distribution system & water users, thereby facilitating easier & effective management of resources and improved reliability. It has proved to be an effective tool for understanding & assessment of performance level of the projects. Water auditing involves checking of sector-wise water use against project planning.

### 5.1 FRESH WATER REQUIRMENT:

The SCVB Govt. college in-houses maximum 105 hostelers in hostel and few faculty members. The floating population of the college maximum 2713 & approx. 50 visitors per day, all available courses including non-academic staff. As per NBC, 2016 norms, the requirement of fresh water for domestic use including for flushing purpose works out to about 141.24 KLD. The details are given below in **Table -2.**

**TABLE 2 – WATER & WASTEWATER CALCULATION**

| S. No. | Particulars | Occupancy | Rate of Water Demand | Total Water Requirement (KLD) | Water Requirement | |
|---|---|---|---|---|---|---|
| | | | | | **Domestic** ***(Fresh Water)*** | **Flushing** ***(Recycled Water)*** |
| **1** | Students | 2713 | 45 | 122085 | 67,825 | 54,260 |
| **2** | Faculty | 81 | 45 | 3645 | 2025 | 1620 |
| **3** | Residential/Hosteler | 105 | 135 | 14175 | 9450 | 4725 |
| **4** | Visitor | 50 | 15 | 750 | 500 | 250 |
| **5** | Non-Teaching | 13 | 45 | 585 | 325 | 260 |
| | | | **Total** | **141240** | **80,125** | **61,115** |

### 5.2 WASTEWATER TREATMENT AND DISPOSAL:

Wastewater is generated from SCVB Govt. College is being disposed to Septic tanks.

# WASTE MANAGEMENT

## 6.0 WASTE MANAGEMENT

A waste management system or waste disposal is a streamlined process that organizations use to dispose of, reduce, reuse, and prevent waste. It is also an approach where companies implement comprehensive strategies to efficiently manage wastes from their origin until their final disposal.

### 6.1 SOLID WASTE MANAGEMENT IN DAV COLLEGE CAMPUS

Sustainable development has forced developing countries to have a focused look at their waste management system including educational institutions. The solid waste generated in the College campus of SCVB Govt. College, Palampur has followed the concept of Three "R" i.e., Reduce, Recycle and Reuse the solid waste. The major sources from where solid waste is generated are Hostels, Hostel Mess, canteen, coffee house, laboratories, and library Wastes from all these sources are segregated as dry and wet in dustbins with specific colour codes as per the international guidelines. The materials like paper, plastic and glass are managed by recycling process. This task has been made easier by placement of dustbins at appropriate places. For example, dustbins are placed at canteens, each corridor of all the buildings, roadsides, etc. Covered dustbins are used to prevent breeding of infectious vectors.


The vermicomposting unit installed in the campus to convert leftover food from mess and vegetable peels into compost which is utilized in the college gardens, lawns, and nursery. The grass and leaf litter are also converted into compost. To reduce the waste at institute, students and staff are educated on proper waste management practices through lectures, advertisement on notice boards, displaying slogan boards in the campus.


**FIGURE 5: SOLID WASTE MANAGEMENT SITE**

## 6.2 SOLID WASTE MANAGEMENT SYSTEM:

As per norms the quantum of waste generation 0.5 kg per capita per day, the estimated waste generation is 761.5 Kg/day on full occupancy.

**TABLE 3: WASTE CALCULATION**

| S.No. | Particulars | Occupancy | Rate of Waste Generated (Kg/Cap/Day) | Waste Generated (Kg) |
|---|---|---|---|---|
| **1** | Students | 2713 | 0.25 | **678.25** |
| **2** | Faculty | 81 | 0.25 | **20.25** |
| **3** | Non-Teaching | 13 | 0.25 | **3.25** |
| **4** | Hosteler | 105 | 0.45 | **47.25** |
| **5** | Visitor | 50 | 0.25 | **12.5** |
| | | | **Total** | **761.5** |

***Source:*** *For Waste Collection, Chapter 3, Table 3.6, Page no. 49, Central Public Health & Environment Engineering Organization, Ministry of Urban Development, Government of India, May 2000*

## SOURCES OF VARIOUS WASTES AND THEIR DISPOSAL

1. **Canteen:** The food waste generated from the canteen is collected and given to the recycler. Plastic waste is generally less generated from the canteen.
2. **Library:** The most generated waste is paper waste. It is taken for recycling.
3. **Store:** Not much waste is generated, Paper waste generated are recycled and reused.
4. **Office:** Paper waste generated are recycled and reused.
5. **Garden:** Plastic and paper waste is comparatively less. Fallen leaves are collected and used in Organic-composting unit.
6. **Auditorium:** The wastes are collected after each program and disposed it category wise.
7. **Health Centre:** Biomedical waste generated from Health Center is segregated in colour coded bins.
8. **Classrooms:** Paper wastes are collected in the waste basket and recycled.
9. **Laboratory:** The broken glass wastes and the useless instruments are disposed for recycling after thorough washing.
10. **College Premises:** Plastic waste generated is usually less but paper waste is generated in a larger amount are recycled through vendor.


**Waste from Laboratory**

- The acidic/alkaline waste is drained after reasonable treatment to make it neutral non-hazardous. Wastewater neutralisation has been provided separately for discharging wastewater from Chemistry lab and Biotech labs.
- Water based chemical reactions are carried out minimizing hazardous solvent chemical usage.
- Segregated wastes are kept in colour coded bins.


The organic waste from Kitchen of Girls & Boys Hostel Mess and from college canteen is collected separately and sent to Authorized vendor. Grease trap (to remove oil and solid) is used for discharging the water into sewerage system.

- Polythene bags are totally banned in the campus and other non - decomposable are separated before disposing the organic wastes.
- Organic waste from garden is swept & collected in a pit for conversion into manure for using into the garden.
- Old furniture is sold to the authorized seller or recycler. Wood of old or spare furniture is used again for other purpose.
- Biomedical waste from the PHC is segregated in the color-coded bins and Dispose of as per Biomedical Waste Management Rules, 2016.
- Coloured dustbins are kept for easy segregation of the waste from the campus.
- The municipal waste from the campus is segregated at the sources and handled with care to ensure that the "The clean and green "environment.
- The trash from girls' and boys' hostel is segregated and collected daily from door to door to ensure clean and hygienic atmosphere within hostel building.

Estimated quantity of the municipal waste during 2023-2024 shall be approx. 761.5 Kg/day.

The solid waste generation is mostly from hostels, campus, residential blocks, and mess which will be handed over to Muncipal Corporation Palampur.

Dustbins are used all over the campus. At every place two dustbins green and blue are provided for the purpose of segregation of waste at the source. green dustbin is for wet waste *i.e.*, food, vegetables etc. and blue dustbin is for dry waste *i.e.*, plastic, glass, and paper waste.

**FIGURE 6 : SEGREGATION OF WASTE IN COLOR CODED BINS**

### 6.3 VERMICOMPOSTING:

Reduce waste at SCVB govt. college, recycling efforts must be improved, and organic recycling services must be provided. Additionally, students, faculty, and staff must be properly educated on proper waste management practices. The constant production of new products and packaging means knowledge of recyclable and compostable materials has become a complex and confusing topic for many people. In a society that values convenience, the current "throwaway" lifestyle encourages a linear approach to the production and disposal of products, rather than a circular approach that regards waste as simply another resource. College students, staff, and faculty often lead busy lives and value convenience; as they go about their day rushing between activities and classes, the purchase of single-use products is often the most convenient choice. The consequence of this convenience comes in the form of high quantities of waste. In an era where societies around the world are becoming more conscious of the issues surrounding waste, SCVB govt. College can greatly improve its image by increasing the diversion rate - the rate in which waste is removed from the main campus. SCVB Govt. College free of litter, 20 dustbins in the campus under Swachh Bharat Mission, Govt. of India to manage the waste generated in the campus have been installed. From where, the workers can easily clean the garbage regularly. From campus households, departmental buildings, canteens, hostels, thousands of students and staff filter in and out of campus on a daily basis which generates lot of garbage. It is our duty to keep the campus neat and clean by managing the garbage. The pristine campus will raise the morale of the student and leave a lasting impression on visitors. As a result, maintaining a clean campus through various solutions like

making of vermicompost should be regarded as an important aspect of college maintenance and also as an opportunity to implement sustainable initiatives within waste management.

**DISPOSAL OF WASTE GENERATED FROM KITCHEN**

**Biodegradable Waste :**

Wet waste from kitchen and campus canteens, leaves and other wastes being biodegradable in nature is converted to nutrient rich compost by eco-friendly method of composting. The institute practices different composting strategies such as

- Pit composting
- In-vessel composting


**FIGURE 7 : VERMICOMPOSTING UNIT**

**Non-Biodegradable Waste from kitchen:**

This type of waste including oil bottles, plastics, cans, broken glass wares, tins and other discarded material like cardboard, waste paper, packaging cartons etc., are sold to authorized vendors through annual auction.

## 6.4 HAZARDOUS WASTE MANAGEMENT:

Waste management is one of the vital environmental issues since last few decades. It has been noted that the generation of waste increases with increasing population, industrialization, and urbanization etc. The waste management strategy includes both non-hazardous and hazardous waste management. Non-hazardous waste does not cause potential threat to environment, but instead hazardous waste is the waste that poses substantial or potential threats to public health and the environment. Rapidly growing industrial sector has contributed to the generation of large quantity of hazardous waste material. Therefore, to reduce environmental hazard, proper attention is required during storage, segregation, transportation, and disposal of hazardous waste, because it cannot be disposed as off in the environment.

### SOURCES OF HAZARDOUS WASTE GENERATION IN SCVB CAMPUS:

Waste oils (HSD) from DG sets, damaged CFL's, empty paint boxes & Laboratory waste.

### CATEGORIES OF HAZARDOUS WASTE:

- Contaminated broken glassware like test tubes, beakers, pipettes.
- Left over chemicals.
- Spilled chemicals
- Used nutrient media in Biotechnology, chemistry lab

## 6.5 E-WASTE MANGEMENT

E-waste management is a process to collect e-waste, recover and recycle material by safe methods, dispose of e-waste by suitable techniques to reduce its adverse impacts on environment.

### SOURCES OF E-WASTE GENERATION IN SCVB GOVT. COLLEGE CAMPUS:

The E-Waste generated from SCVB Govt. college campus in the form of obsolete computers, instruments *etc* is disposed through Vendors.

## 6.6 PLASTIC WASTE:

The college authorities make constant efforts towards segregation and appropriate disposal of plastic waste. The usage of single use plastic products in canteen has been banned /prohibited by College.

Students are also made aware about the harmful effects of plastic products and are motivated not to use plastic cups, bottles and spoons.


A campaign 'International Plastic Bag Free day' was launched on 3rd July 2021with an aim to eliminate the use of plastic bags. Our college has also adopted this ideology and has become part of this noble cause. Several activities have been conducted in the college campus as an initiative to spread awareness about harms of using plastic as a part of this campaign.

### 6.7 GREEN WASTE MANAGEMENT

Green waste, also known as "biological waste", is any organic waste that can be composted. It is most usually composed of refuse from gardens such as grass clippings or leaves, and domestic or industrial kitchen wastes. Green waste does not include things such as dried leaves, pine straw, or hay. Such materials are rich in carbon and considered "brown wastes," while green wastes contain high concentrations of nitrogen.

Green waste can be used to increase the efficiency of many composting operations and can be added to soil to sustain local nutrient cycling. In the College, Plants are grown by purely organic way to avoid the harsh environmental effects of chemical fertilizers. SCVB Govt. college does microbial degradation of wet and organic waste by earthworms and microorganisms to help stabilize active organic materials and convert them to a valuable soil amendment and source of plant nutrients which is of brown colour, is used for plantation, gardening and development of Green Belt.

# ENERGY MANAGEMENT

## 7 ENERGY SOURCES:

Energy resources are utilized by all the departments, support services and the administrative buildings of college which include electricity, solar energy, LPG and liquid petroleum. Major use of the energy is at office, canteen, hostel and laboratories, for lighting, transportation, cooking and workshop instruments. Electricity is the major energy sources of the campus. Electricity is supplied by Himachal Pradesh Electricity Board. Diesel oil is being used in the DG sets for in-house generation of electricity during power cut. The institute has installed solar power plant having a capacity of 100 kW.

**FIGURE 8: USE OF LED, IN COLLEGE CAMPUS**

### 7.1 SOLAR ENERGY:

The institute has installed a solar power plant of capacity of 100kW.

**TABLE 4: SOLAR POWER PLANT**

| Particular | Unit | Value |
|---|---|---|
| Installation of Solar Power Plant | KW | 100 |
| Annual Saving Units | kWh/year | 120000 |
| Electrical Unit Cost | Rs. /kWh | 5.82 avg. |
| Annual Monetary Value | Rs/ Year | 6,98,400 |

**Advantage of solar power plant:**

1. Financial benefit
2. Renewable Energy Sources
3. Reduces Electricity Bill

4. Energy Independence
5. Solar Panels Increase Home Values
6. Long-Term Savings
7. Low-Maintenance Costs

**7.2 OTHER INITIATIVES TAKEN BY THE COLLEGE FOR ENERGY CONSERVATION:**

The entire operations of the college are computerized, the administrative block, Accounts wing, library, admission procedures, examination, and even the entry to the student's hostel is digitized. The student's portal displays all their academic information online also. The IT cell works efficiently round the clock to provide IT services throughout the college Campus and Hostels. They ensure the smooth and efficient functioning of the IT Services like all activities on the smooth working of campus wide LAN & WLAN facility, and surveillance system:

The following measures are undertaken by the Concerned Department for the conservation of energy.

- Copper chokes in tube lights are converted to electronic chokes which consumes less energy.
- LED (120 Watt) have been replaced by the 40W LED lights
- Halogen Lights (1000 watt) in campus replaced by Flood lights (100 Watt)
- 36-Watt CFL's replace with 18w PLL Lamp LED
- 36-Watt IGW TS LED fitting replace with 18/20-Watt
- 65W/150Watt sodium lamp replaced with 30-Watt streetlights LED
- 85watt, 150watt & 250watt replaced with 45-Watt streetlights
- 400-watt metal lamp replaced with 100-watt flood lights
- Energy saving fans are used in new classrooms and hostels. All heavy load fans replaced by more energy efficient fans( Five-star rating)
- Tripping system is used in case of short circuiting, overloading, and circuit break off.
- New Air conditioners with Three Star & Five Star rating in power saving fitted in Department of Computer Science, lecture halls, staff rooms.
- Timer based streetlight have been installed in the campus.
- Replacement of resistance regulator with electronic regulator.
- Replacement of CRT monitors with LCD monitors fitted with Computers.
- Replacement of DOT matrix printers with Desk Jet printers.
- Implementation of energy saving techniques is ensured *i.e.*, Lights and fans are switched

off by floor peons and staff after completion of the last lecture of the day.

- Air-conditioners in staff room switched on at 08.45 a.m. and switched off when the faculty moves to lecture rooms.
- All rooms are provided with large windows to ensure appropriate natural light and ventilation so that the use of electricity can be minimized.
- All the rooms of the campus are equipped with CFL/LED.
- Eco friendly and pollution control compliant DG set installed as standby electricity supply. This shows the Institution's commitment towards energy conservation.
- The major materials used for construction of the building is steel, cement, bricks, metal, flooring tiles/stones, sanitary and hardware items, electrical fittings, water etc. The building materials with low-embodied energy and which are locally available is used in construction.
- Day to Day behavior is taken care to conserve energy.

**FIGURE 9: 100 kW SOLAR POWER PLANT & SOLAR PANEL**

## GENERAL ENERGY CONSERVATION TIPS

### ELECTRICITY

- Schedule your operations to maintain a high load factor
- Minimize maximum demand by tripping loads through a demand controller
- Use standby electric generation equipment for on-peak high load periods.
- Correct power factor to at least 0.99 under rated load conditions.
- Set transformer taps to optimum settings.
- Shut off unnecessary computers, printers, and copiers at night.

### MOTORS

- Properly size to the load for optimum efficiency.
- (High efficiency motors offer of 4 - 5% higher efficiency than standard motors)
- Check alignment.
- Provide proper ventilation
- (For every 10°C increase in motor operating temperature over recommended peak, the motor life is estimated to be halved)
- Check for under-voltage and over-voltage conditions.
- Balance the three-phase power supply.
- (An Imbalanced voltage can reduce 3 - 5% in motor input power)
- Demand efficiency restoration after motor rewinding.

### FANS

- Use smooth, well-rounded air inlet cones for fan air intakes.
- Avoid poor flow distribution at the fan inlet.
- Minimize fan inlet and outlet obstructions.
- Clean screens, filters, and fan blades regularly.
- Use aerofoil-shaped fan blades.
- Minimize fan speed.
- Check belt tension regularly.
- Eliminate variable pitch pulleys.
- Use variable speed drives for large variable fan loads.
- Use energy-efficient motors for continuous or near-continuous operation
- Eliminate leaks in ductwork.

- Minimize bends in ductwork
- Turn fans off when not needed.

**HVAC (HEATING / VENTILATION / AIR CONDITIONING)**

- Tune up the HVAC control system.
- Consider installing a building automation system (BAS) or energy management system (EMS) or restoring an out-of-service one.
- Balance the system to minimize flows and reduce blower/fan/pump power requirements.
- Eliminate or reduce reheat whenever possible.
- Use appropriate HVAC thermostat setback.

**LIGHTING**

- Reduce excessive illumination levels to standard levels using switching; delamping, etc. (Know the electrical effects before doing de-lamping.)
- Aggressively control lighting with clock timers, delay timers, photocells, and/or occupancy sensors.
- Install efficient alternatives to incandescent lighting, mercury vapour lighting, etc. Efficiency (lumens/watt) of various technologies range from best to worst approximately as follows: low pressure sodium, high-pressure sodium, metal halide, fluorescent, mercury vapour, incandescent.
- Select ballasts and lamps carefully with high power factor and long-term efficiency in mind.

### 7.3 GHG EMISSIONS AND EFFORTS FOR CARBON NEUTRALITY

Institutes, as innovation drivers in science and technology worldwide, should be leading the Great Transformation towards a carbon–neutral society and SCVB Govt. college has picked up this challenge keeping the same in mind. Carbon Neutrality or having a net zero carbon footprint refers to achieving net zero carbon emissions by balancing carbon released with an equivalent sequestered or offset method. Simply, Carbon neutral means removing as much carbon dioxide from the atmosphere as we put in.

## CARBON EMISSION SOURCES ON THE COLLEGE CAMPUS:

Carbon emissions are categorized in three different types i.e. Scope 1, 2 and 3 as per the organization operations, and in its wider value chain. Scope 1 emissions are direct greenhouse (GHG) emissions that occur from sources that are controlled or owned by an organization (e.g., emissions associated with fuel combustion in boilers, vehicles etc.). Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling. Scope 3 emissions are the result of activities from assets not owned or controlled by the reporting organization, but that the organization indirectly affects in its value chain. Scope 3 emission sources include emissions both upstream and downstream of the organization's activities.

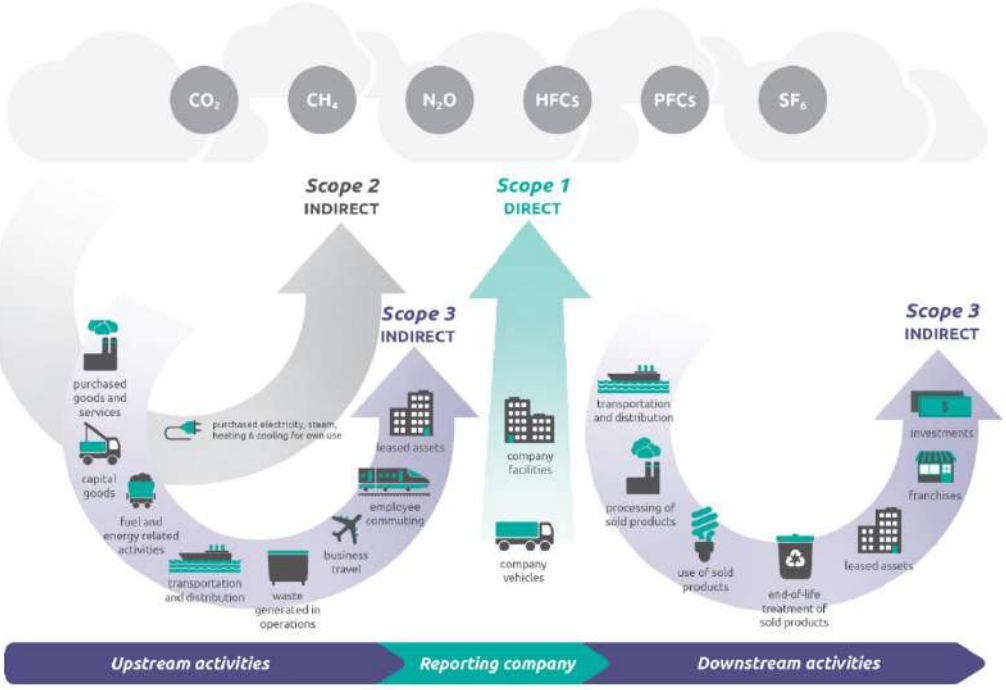



**FIGURE 10: CATEGORIZATION OF CARBON EMISSIONS**

*Source:https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporing-Standard_041613_2.pdf*

An attempt has been made to calculate the possible scope 1 as per the data availability. Under scope 1 emissions activities like use of LPG in canteen & hostel Kitchen and limited movement of fossil fuel run vehicles is there.

**TABLE 5: SCOPE 1 GHG EMISSIONS**

| Fuel type (e.g., solid fossil) | Fuel | Amount of fuel | Units (e.g., kg or kWh) | All GHGs (tonnes $CO_2e$) |
|---|---|---|---|---|
| **Gaseous fossil** | Liquified Petroleum Gases | 2280 | litres (l) | 3.684 |
| Liquid fossil | Gas/Diesel oil | 5 | litres (l) | 0.013 |
| **Total GHG emissions from fossil fuels (tonnes $CO_2e$):** | | | | **71.643** |

Further attempts made to offset or reduce the carbon emissions are also elaborated in the next section.

# GREEN CAMPUS MANAGEMENT

## 8.0 GREEN CAMPUS MANAGEMENT

Trees play an important ecological role within the urban environment, as well as support improved public health and provide aesthetic benefits to cities. In one year, a single mature tree will absorb up to 48 pounds of carbon dioxide from the atmosphere and release it as oxygen The amount of oxygen released by the trees of the campus is good for the people in the campus. So, while you are busy studying and working on earning those good grades.

All the trees in campus are also working hard to make the air cleaner for you. The college has adopted the 'Green Campus' system for environmental conservation and sustainability. The main three pillars are zero carbon footprint, positive impact on occupant health and performance of 100% graduates demonstrating environmental literacy. The goal is to reduce $CO_2$ emission, energy, and water use, while creating atmosphere where students can learn and be healthy. The college campus spreads over 16.6 Acres of land comprising of 19001.1 sq.m. is green area. The area is immensely diverse with a variety of tree species performing a variety of functions. Most of these tree species are planted in different periods of time through various plantation programmes organized by the authority and have become an integral part of the college. There are large varieties of trees spread all around the campus. A thick belt of large shady trees exists in the periphery of the college. This barrier reduces noise and cut down dust and storms from outside.

## 8.1 EFFORTS FOR CARBON NEUTRALITY

Burning of fossil fuels (such as petrol) has an impact on the environment through the emission of greenhouse gases into the atmosphere. The most common greenhouse gases are carbon dioxide, water vapour, methane, nitrous oxide and ozone. Of all the greenhouse gases, carbon dioxide is the most prominent greenhouse gas, comprising 402 ppm of the Earth's atmosphere. The release of carbon dioxide gas into the Earth's atmosphere through human activities is commonly known as carbon emissions. Vehicular emission is the main source of carbon emission in the campus, hence, to assess the method of transportation that is practiced in the institute is important.

The carbon neutrality or having a net zero carbon footprint refers to achieving net zero carbon emissions by balancing carbon released with an equivalent sequestered or offset method. Simply, carbon neutral means removing as much carbon dioxide from the atmosphere as we put in.

## 8.2 CARBON EMISSION PROCESSES IN THE CAMPUS:

There are no direct carbon emission processes or activities in the campus except the use of LPG in canteen & hostel kitchen and limited movement of vehicles. The use of electricity, water and stationery are resulting in the carbon emission indirectly.

The major sources of direct carbon emission are from the petrol/diesel driven vehicles, human breathing, consumption of LPG, waste disposal and indirect sources are electricity, paper/stationary, etc. SCVB govt. college premises includes educational institute, including boys' and girls' hostel for students, residence for institutional staff and other staffs.

**COLLEGE CARBON OFFSETTING INITIATIVES:**

1. **REDUCING THE USE OF ELECTRICAL ENERGY:**
   - 100 kw Solar Power Plant in the campus to conserve electricity.
2. **REDUCING THE USE OF STATIONERY**
   - Communication to the faculty through conventional paper circulars has been almost replaced with the use of e-mail service or text message.
   - Whole campus has the Wi-Fi accessibility.
   - Admission to the campus through on-line portal is initiated.
3. **INCREASING GREEN VEGETATION ON THE CAMPUS:**
   - SCVB govt. College is situated in a lush green environment.
   - Every building in the Campus is surrounded by trees and lawns
   - Well planned plantation of wide varieties of trees and shrubs decorate the campus, and the campus looks beautiful.
   - Plantation programmes are undertaken on the campus to increase the number of plants.
   - Varieties of plant species are used in the campus for the development of green belt.
   - Out of total campus area of 67177.7 sq meters, green cover of the campus is about 19001 Sq.m.

**INITIATIVES TAKEN BY THE COLLEGE TO MAKE THE CAMPUS ECO- FRIENDLY**

- Avoid paper and plastic cups and plates in public functions where food is served. Instead, use utensils that can be washed and reused. Set up a compost facility to turn biodegradable waste into compost.
- This should be used for cultivating organic vegetables in grow bags and pots. D.G. sets are the direct emission source of pollutants. Therefore, low sulphur diesel is used as per the norms. However, the use of LPG in canteen & hostel kitchen and limited movement of vehicles are the other sources of emissions in the college campus.

***Ways that you can promote sustainability and help your college go green:***

- Install Recycling and Composting Stations on Campus
- Set Up an E-Waste Drive

- Start a Moving Season Donation Program
- Attend Summits on Sustainability
- Reduce Paper Waste
- To protect and conserve ecological systems and resources within the campus.
- Recycle and Compost.

**8.3 CARBON ABSORPTION BY FLORA IN THE INSTITUTION**

- There are 300 full grown trees and 180 semi grown trees of different species on the campus spread over 16 acres.

- Carbon absorption capacity of one full grown tree 22 kg $CO_2$. Therefore, Carbon absorption capacity of 5608 full-grown trees 300 x 22 kg $CO_2$ = 6,600 tons of $CO_2$.

- The carbon absorption capacity of 2250 semi-grown trees is 50% of that of full-grown trees. Hence the carbon absorption 180 x 6.8 kg of $CO_2$ = 1,224 tons of $CO_2$.

- Carbon absorption capacity full grown & semi grown is 7824 tons of $CO_2$.

**Total of $CO_2$ emissions reduction =7824 tons per year**

# INNOVATIONS

# &

# ACTIVITIES

## 9.0 INNOVATIONS & ACTIVITIES ORGANIZED BY THE SCVB GOVT. COLLEGE

### COLLEGE LIBRARY

SCVB Govt. college library, under the able leadership of **Mr. Mahesh Sood Librarian College Cadre**, is a vital catalyst for innovation and intellectual progress. Serving as the focal point of our institution, it offers a wide range of information in print and digital formats to meet diverse client needs. Utilizing **SOUL 2.0 Software**, the library employs an open-access system and follows the **Dewey Decimal Classification Scheme**. **With 8,719 print books**, subscriptions to **12 newspapers**, and **17 magazines**, it ensures a comprehensive collection. A proud member of N-List, the library provides online resources through the Information and Library Network Centre. Featuring a Digital Corner with **14 computers**, including **four for internal operations**, our library pioneers in technology, being the first in the state to integrate computerization and **RFID technology**. It remains a beacon of knowledge, fostering continuous learning in an ideal environment for exploration and leisurely reading.

### PALAM BHAVDARPAN:

The annual publication of the college magazine, "Palam Bhavdarpan," serves as a platform for our students to express their creative impulses and aspirations. Under the adept guidance of **Dr. Sunil Katoch as Chief Editor**, a skilled team of staff and student editors has been formed. The magazine is organized into sections such as English, Hindi, Pahadi, Sanskrit, Science, Planning and Commerce, and IT. This diverse structure provides ample opportunities for young minds to articulate their vibrant ideas and thoughts on a wide range of topics and aspects of life.

### ECO CLUB

Under the guidance of Prof. Anuradha Sharma, the Eco Club initiated numerous activities. Through the coordination of diverse events, campaigns, and initiatives, the club endeavors to nurture a sense of commitment to environmental responsibility and stimulate collaborative efforts towards constructing a more sustainable campus and society.

### ACTIVITIES ORGANIZED BY SCVB GOVT. COLLEGE

- Organised ‘Cleanliness Drive’ to make Campus Plastic Free on 8th Feb.2023.
- Organised a field visit for insect collection around Palampur on 13th Oct. 2023. Organised a visit to CSK Agriculture University, Palampur on 22nd Feb. 2023.
- Indian Yoga Day was celebrated in college on 21st June 2023.
- Kargil Vijay Diwas was celebrated on 26 July 2023.

- A tree plantation drive was organized on31st Aug. 2023.
- Organised Plantation Drive Under the Campaign ***'Meri Matti Mera Desh'*** on 31st Aug 2023.
- Birth Anniversary ***AMAR SHAEED CAPTIAN VIKRAM BATRA*** was celebrated on 09 Sep 2023.
- Organized a one-day cleanliness Drive on the college campus on 18.09.2024.
- Major Sandeep Kumar visited & a Motivation lecture was organized for NCC cadets on 24 Sep 2023.
- Blood Donation camp was organized at CSKHPKV Palampur where 22 cadets Donated the Blood.
- Organised Cleanliness Drive29th Sept 2023.
- The students from the science stream, guided by **Dr. Neena Sharma,** took part in organizing and actively participating in the plantation and maintenance of cleanliness in the Botanical Garden, with a total of 52 students involved.
- Organized a visit to CSIR Palampur on 6th Nov.2023.
- Organised Science Model Exhibition, Home Decor Model Exhibition, and On the Spot Painting Competition on 05.12.2023 under the ***'Best out of Waste'*** Awareness Program.
- Organised Ornamental Plantation Drive 11.12.2023.
- Organized a visit to the Dept. of Biotechnology at PSR Govt. College Baijnath on 27th Dec.2023.

**ACHIEVEMENTS:**

- **Miss Rani of B.A.**3rd Year **won the Gold Medal** in the **HP University Taekwondo Championship,** the **Bronz Medals** in the H.P. University **Wushu, the Judo and the Wrestling** Inter-College Championships. She also participated in the All India Inter College Taekwondo Championship
- **24 Boy Cadets & 21 Girl cadets** passed the BEE certificate Examination in 2023.
- **20 Boy Cadets &11 Girl cadets** passed the CEE certificate Examination in 2023.
- **14 Cadets** joined the Armed forces.

# OBSERVATIONS

**OBSERVATIONS**

- College has installed Bio-composting facility for kitchen waste in the hostel and Organic-Composting facility in the college campus for dry/wet waste.
- College has taken efforts for sustainable development on the college campus.
- Renewable energy is being generated through solar PV plant.
- E-waste management system needs to be adopted.

**MAJOR RECOMMENDATIONS**

- Open ground area should be regularly maintained with grass cover.
- Display boards for switching off the taps to be put on at appropriate place.
- To eliminate the spillage and over usage of water in washbasins, urinals and toilet; push taps are highly recommended.
- Exhaust gases shall be monitored, analysed and check regularly.
- Parking zone of college shall be organized, and green or solar shed can be provided.
- Energy saving awareness shall be done by displaying the boards at appropriate place.
- The biodiversity is to be maintained while considering the plantation in future.
- Lab wastewater should be collected separately and neutralized before discharge.
- Awareness among students and staff about green environment shall be done use tools like display boards, group discussions, organizing camps etc.

# DISCLOSURES OF CONSULTANTS

# NABET ACCREDITATION CERTIFICATE

भारतीय गुणवत्ता परिषद्
QUALITY COUNCIL OF INDIA
Creating an Ecosystem for Quality

NABET

## National Accreditation Board for Education and Training

## Certificate of Accreditation

**Shivalik Solid Waste Management Limited, Zirakpur**

SCO 20-21, 1st Floor, Near Hotel Dolphin, Dhakoli, Zirakpur - 140604, Punjab

*The organization is accredited as **Category-A** under the QCI-NABET **Scheme for Accreditation of EIA Consultant Organization, Version 3**: for preparing EIA/EMP reports in the following Sectors*

| S.No | Sector Description | Sector (as per) | | Cat. |
|---|---|---|---|---|
| | | NABET | MoEFCC | |
| 1. | Mining of minerals including open cast and underground mining | 1 | 1 (a) (i) | A |
| 2. | River Valley projects | 3 | 1 (c) | A |
| 3. | Metallurgical industries (ferrous & non-ferrous) | 8 | 3 (a) | B |
| 4. | Cement plants | 9 | 3 (b) | B |
| 5. | Pesticides industry and pesticide specific intermediates | 17 | 5 (b) | A |
| 6. | Synthetic organic chemicals industry | 21 | 5 (f) | B |
| 7. | Industrial estates/ parks/ complexes/ Areas, export processing zones(EPZs), Special economic zones (SEZs), Biotech parks, Leather complexes | 31 | 7 (c) | B |
| 8. | Common hazardous waste treatment, storage and disposal facilities (TSDFs) | 32 | 7 (d) | A |
| 9. | Bio-medical waste treatment facilities | 32A | 7 (d a) | B |
| 10. | Common Effluent Treatment Plants (CETPs) | 36 | 7 (h) | B |
| 11. | Common Municipal Solid Waste Management Facility (CMSWMF) | 37 | 7 (i) | B |
| 12. | Building and construction projects | 38 | 8 (a) | B |
| 13. | Townships and Area development projects | 39 | 8 (b) | B |

*Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated October 27, 2023 posted on QCI-NABET website.*

*The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACO/23/3065 dated Dec 13, 2023. The accreditation needs to be renewed before the expiry date by Shivalik Solid Waste Management Limited, Zirakpur following due process of assessment.*

Issue Date
December 13, 2023

Valid up to
August 17, 2026

Mr. Ajay Kumar Jha
Sr. Director, NABET

Certificate No.
NABET/EIA/23-26/RA 0310

Prof (Dr) Varinder S Kanwar
CEO- NABET

*For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.*

# NABL ACCREDITATION CERTIFICATE

National Accreditation Board for Testing and Calibration Laboratories

NABL

## CERTIFICATE OF ACCREDITATION

**SHIVALIK SOLID WASTE MANAGEMENT LIMITED**

has been assessed and accredited in accordance with the standard

**ISO/IEC 17025:2017**

**"General Requirements for the Competence of Testing & Calibration Laboratories"**

for its facilities at

VILLAGE -MAJRA, P.O. -DABHOTA, SOLAN, HIMACHAL PRADESH, INDIA

in the field of

**TESTING**

Certificate Number: TC-12094

Issue Date: 11/08/2023 Valid Until: 10/08/2025

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Entity: SHIVALIK SOLID WASTE MANAGEMENT LIMITED

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

# ISO 45001:2018 CERTIFICATE

bsi.

# Certificate of Registration

OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM - ISO 45001:2018

This is to certify that:

Shivalik Solid Waste Management Limited
Village: Majra
P.O.: Dabhota
Teh.: Nalagarh
Dist. Solan 174 101
Himachal Pradesh
India

Holds Certificate No: **OHS 589719**

and operates an Occupational Health and Safety Management System which complies with the requirements of ISO 45001:2018 for the following scope:

I. Collection, Treatment, Storage and Disposal of Hazardous Waste; and
II. Providing Environmental Related Analytical and Monitoring Services and Environmental Consultancy.

[Previously certified to BS OHSAS 18001:2007 since 05-09-2012]

For and on behalf of BSI:

Chris Cheung, Head of Compliance & Risk - Asia Pacific

Original Registration Date: 2018-06-29
Latest Revision Date: 2021-07-05

Effective Date: 2021-08-20
Expiry Date: 2024-08-19

Page: 1 of 1

...making excellence a habit.™

# ISO 9001:2015 CERTIFICATE

bsi.

# Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

Shivalik Solid Waste Management Limited
Village: Majra
P.O.: Dabhota
Teh.: Nalagarh
Dist. Solan 174 101
Himachal Pradesh
India

Holds Certificate No: **FS 589717**

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

I. Collection, Treatment, Storage and Disposal of Hazardous Waste; and
II. Providing Environmental Related Analytical and Monitoring Services and Environmental Consultancy.

For and on behalf of BSI:

Chris Cheung, Head of Compliance & Risk - Asia Pacific

Original Registration Date: 2012-09-05
Latest Revision Date: 2021-07-05

Effective Date: 2021-08-20
Expiry Date: 2024-08-19

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...making excellence a habit.™

# 5S CERTIFICATE

CERTIFICATE

The Certification Body
of
**Quality Circle Forum of India**
Certifies that

**SHIVALIK SOLID WASTE MANAGEMENT LTD, NALAGARH**

*has successfully implemented*
*FIVE-S Workplace Management System in their units*
*An audit was performed and it was found that*
*all the requirements are fulfilled.*

This certificate is valid until 28.02.2026

*subject to the continued satisfactory implementation of workplace management system for sustenance and improvements with a check by Surveillance audit.*

5S

Date : 08.02.2023

Code: 5S1119-0094

D.K.Srivastava
Executive Director

# IGBC CERTIFICATE

IGBC

CII
Confederation of Indian Industry

*Membership Certificate*

*This is to certify that*

**Shivalik Solid Waste Management Ltd**

*is an Annual Member of Indian Green Building Council (IGBC)*

*Bearing Membership No* **IGBCCS232298**

*This certificate shall be valid up to December 2023*

**K S Venkatagiri**
Executive Director
CII - IGBC

**Gurmit Singh Arora**
Chairman
Indian Green Building Council

**B Thiagarajan**
Vice Chairman
Indian Green Building Council

Indian Green Building Council
CII - Sohrabji Godrej Green Business Centre, Survey No. 64, Near Hitech City, R R Dist, Hyderabad - 500 084
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