



Guru Jambheshwar University
of Science & Technology

ENVIRONMENT AND GREEN AUDIT REPORT



PREPARED BY
EHS ALLIANCE SERVICES

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CERTIFICATE

M/s Guru Jambheshwar University

Hisar - 125001, Haryana (India)

Has been assessed by us for the comprehensive study of environmental impact on institutional working framework to fulfill the requirement of

Environment & Green Audit

The green initiatives carried out by the University 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

Date of Audit: 03 Jan, 2022


Puneet Kaushik
For EHS Alliance Services



EHS Alliance Services

Plot No A-72, Surya Vihar, Near Sector-4, Gurugram (Haryana)-122001
Phone-0124-2250624, Email: ehsalliance@gmail.com, www.eshall.in

Acknowledgement

EHS Alliance Services Environment & Green Audit Team thanks the management of Guru Jambheshwar University for assigning this important work of Environment & Green Audit. We appreciate the co-operation to our team for completion of study.

Our special thanks are due to:

Environment & Green Audit Coordinator –Professor (Dr.) Rajesh Lohchab

Teaching & Supporting Staff of campus for giving us necessary inputs to carry out this very vital exercise of Environment & Green Audit. We are also thankful to other staff members who were actively involved while collecting the data and conducting field measurements.



Disclaimer

EHS Alliance Services Environment & Green Audit Team has prepared this report for Guru Jambheshwar University based on input data submitted by the representatives of university complemented with the best judgment capacity of the expert team.

While all reasonable 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.

If you wish to distribute copies of this report external to your organisation, then all pages must be included.

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Puneet Kaushik
Lead Auditor EMS



Vijay Singh
Lead Auditor - EMS & Energy

Context

In 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. 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.

In view of the NAAC circular regarding environment auditing, the University management decided to conduct an external environment assessment study by a competent external professional auditor headed by Dr. Rajesh Lohchab, HOD – Department of Environmental Sciences, GJUST University.

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 (ICC) 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.”

The outcome of audit should be established with concrete evidence that the measures undertaken and facilities in the institution under green auditing. This audit focuses on the Green Campus, Waste Management, Water Management, Air Pollution, Energy Management & Carbon Footprint etc. being implemented by the institution. The concepts, structure, objectives, methodology, tools of analysis, objectives of the audit are discussed below.

Introduction

A Nation's growth starts from its educational institutions, where the ecology is thought as a prime factor of development associated with environment. Educational institutions now a day are becoming more sensitive to environmental factors and more concepts are being introduced to make them eco-friendly.

To preserve the environment within the campus, various viewpoints are applied by the several educational institutes to solve their environmental problems such as promotion of the energy savings, recycle of waste, water reduction, water harvesting etc. The activities pursued by colleges can also create a variety of adverse environmental impacts.

Environment & Green Audit is a way to show businesses what type of carbon footprint they are leaving on the planet, while also giving them ways to reduce it. Environment & Green Audit involves the inspection of a company to assess the total environmental impact of its activities, or of a particular product or a process.

The Environment & Green Audit s are tools that organizations use to identify their environmental impacts and assess their compliance with applicable laws and regulations, as well as with the expectations of their various stakeholders. It also serves as a means to identify opportunities to save money, enhance work quality, improves employee health, safety and morale, reduce liabilities and achieve other form of business values.

Environment & Green Audit can be a useful tool for a college to determine how and where they are using the most energy or water or resources; the college can then consider how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan.

Environment & Green Auditing and the implementation of mitigation measures is a win-win situation for all the college, the learners and the planet.

It can also create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus.



Overview of University

Guru Jambheshwar University of Science and Technology started its journey on October 20, 1995 under Haryana State Legislative Act No. 17 of 1995 at Hisar, Haryana State of India to impart education on the frontiers of Technology, Pharmacy, Environmental Studies, Non-conventional Energy Sources, Mass Media and Management Studies.

Today the university is rock standing on three hundred seventy two acres of lush green land with 18 Teaching Departments classified in 10 Faculties for coordinated teaching in particular and effective governance in general. The University at present offers 58 Regular Programmes on Campus including B.Tech, M.Tech, B.Pharma, M.Pharma, B.Physiotherapy, M.Physiotherapy, M.Sc, M.B.A, M.Com and M.C.A. etc. with Ph.D. degree programme in all the Departments. The University also offer 17 Programmes through Distance Mode. These Distance Education Programmes stand approved by the joint committee of UGC, AICTE and DEC.



The University is recognized by the University Grants Commission (UGC) under Section 2(f) for recognition of degrees on 11.1.1996 and under section 12(B) of the UGC Act to be eligible for central assistance on 7.2.1997.

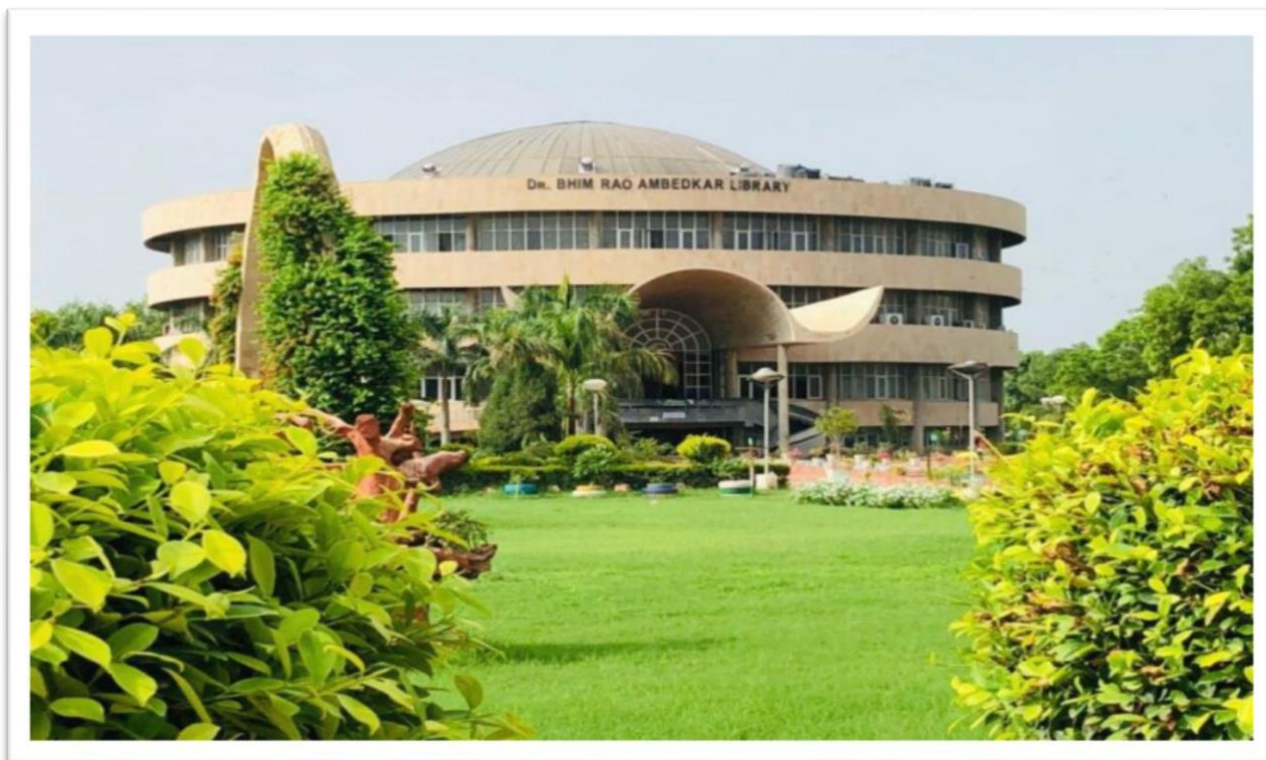
The University has been accredited 'A' Grade by National Assessment and Accreditation Council (NAAC), in 2002 as grade 'A' and has been re-accredited as grade 'A' with (CGPA 3.26), in 2009. Thereafter, the University has also been re-accredited third time as "A" Grade with (CGPA 3.28) by National Assessment and Accreditation Council (NAAC),

Bangalore for a period of five years from 10.12.2014 to 09.12.2019 and further extended for seven (five+two) years i.e. upto 09.12.2021.



Further, affiliated college of Hisar district from this University offers bachelor and Master degrees in Engineering, Management, Architecture, Physiotherapy, Pharmacy, Law, Arts, Commerce, Science and Sports etc.

The various infrastructural facilities in the campus include: Eight Teaching Blocks, Auditorium, Four Boys Hostels, Four Girls Hostels, One Working Women Hostel, University Central Library, Research Laboratories in each Department, University Computer and Informatics Centre, Administrative Block, University Health Centre, University Sports Grounds, Two Multipurpose Halls for Indoor Games, VIP Guest House, Faculty House, V.C. Residence, University Cafeteria, Shopping Complex, Open Air Theatre, Post Office, Bank, Guru Jambheshwar Bhawan, Water Treatment Plant, Sewerage Treatment Plant, Animal House, Bio Nano-Science Research & Technology Centre, University Sports Stadium. Ch. Ranbir Singh Auditorium is the technical jewel of the university.



This gigantic structure is capable of accommodating hundred to eighteen hundred persons at one go in its four state of the art seminars and theatre construction This building is intended for convocations, conferences, seminars, workshops, concerts, ballets, film shows, plays and other stage performances etc. of national & international level.

Faculties & Departments

S.No.	Name of Faculty	Name of Department
1.	FACULTY OF MEDIA STUDIES	Department of Communication Management and Technology
2.	FACULTY OF ENVIRONMENTAL AND BIO SCIENCES & TECHNOLOGY	Department of Environmental Science & Engineering
		Department of Bio & Nano Technology
		Department of Food Technology
3.	HARYANA SCHOOL OF BUSINESS	Haryana School Of Business

4.	FACULTY OF PHYSICAL SCIENCES & TECHNOLOGY	Department of Physics
		Department of Chemistry
		Department of Mathematics
		Department of Data Science
5.	FACULTY OF ENGINEERING AND TECHNOLOGY	Department of Printing Technology
		Department of Computer Science & Engineering
		Department of Electronics & Communication Engineering
		Department of Biomedical Engineering
		Department of Mechanical Engineering
		Department of Electrical Engineering
		Department of Civil Engineering
		Computer Science and Engineering (AI and Machine Learning)
		Electronics and Biomedical Engineering
6.	FACULTY OF MEDICAL SCIENCES	Department of Physiotherapy
		Department of Pharmaceutical Sciences
7.	FACULTY OF RELIGIOUS STUDIES	Department of Religious Studies
8.	FACULTY OF EDUCATION	Board of Studies & Research in Education
9.	FACULTY OF LAW	Board of Studies & Research in Law
10.	FACULTY OF HUMINITIES & SOCIAL SCIENCE	Board of Studies & Research in Humanities & Social Sciences
		Department of Applied Psychology
		Department of Economics

		Department of Hindi
		Department of English
		Certificate Programme in Swami Vivekananda Studies run by the Directorate of Distance Education

Google Map – Satellite View of Campus



Geo-tagging Coordinates: 29.1691951, 75.7389584

Vision Mission & Objective of GJUST

The University has drawn its Vision and Mission which has been defined keeping in view the objectives of the University enshrined in its Act.

VISION

To develop the University as a Centre of Excellence for the quality teaching, research and extension services to produce the dynamic and the knowledgeable human resources and act as a knowledge power-house capable of contributing to the national development and welfare of the society.

MISSION

The University aspires to be a globally recognized Centre of excellence in the field of technical education and research. It strives to achieve this by introducing innovative job oriented courses, employing competent and motivated faculty, developing state-of-the-art infrastructure, striking purposeful linkages with industry and professional bodies, and promoting quality of work life on campus. The University focuses on the student community to imbue them with passion for knowledge and creativity and to promote sustainable growth in academic resources, student placements, holistic human development with a strong conviction for professional ethical, social and environmental issues.

OBJECTIVES

The objectives of the University as enshrined in the Act are to facilitate and promote studies and research in emerging areas of higher education with focus on new frontiers of and also to achieve excellence in these and connected fields.

The University has taken a number of steps to promote quality technical education and has already made a mark in certain areas that contribute to promote quality education in the present global competitive environment.

Objectives

The broad aims/benefits of the eco-auditing system would be:

- Environmental education through systematic environmental management approach
- Improving environmental standards and Enhancement of university profile
- Benchmarking for environmental protection initiatives
- Sustainable use of natural resource in the campus.
- Financial savings through a reduction in resource use
- Curriculum enrichment through practical experience
- Development of ownership, personal and social responsibility for the university campus and its environment
- Developing an environmental ethic and value systems in young people

Audit Participants

On behalf of Institute:

Name	Position/Department
Dr. Avnesh Verma	Registrar, GJUST University
Dr. Rajesh Lohchab	Environment & Green Audit Co-ordinator, GJUST University
Dr. Ashish Agarwal	Prof. & Chairman Physics, Director IQAC
Dr. Jitender Pal	Professor Deptt. of Env.Sc. & Engg., GJUST
Er. Raghubir Singh Sunda	XEN, Deptt. of Public Health
Er. Sunil Grover	XEN, Deptt. of Civil
Er. Sandeep Gauri	XEN, Deptt. of Electrical
Dr. Sumit Saroha	Asstt. Prof. Deptt. of Elect. Engg.
Sh. Navdeep Mor	Asstt. Prof. Deptt. of Civil Engg.

Audit was conducted on behalf of EHS Alliance Services:

Name	Position	Qualification
Puneet Kaushik	Lead Auditor	M.Sc. M.Tech (Environment Science & Engineering),
	EMS	PGDISM, Lead Auditor ISO 14001:2015, OHSAS 18001:2007
Vijay Singh	Co- Auditor	M.Sc. M.Tech (Environment Science & Engineering), Energy Auditor , Post Diploma in Industrial Safety Management
Dr. Uday Pratap	Co-Auditor	Ph.D., EMS: Lead Auditor ISO14001:2015, QCI-WASH

Executive Summary

Environment & Green Audit is a snapshot in time, in which one assesses campus performance in complying with applicable environmental laws and regulations. Though a helpful benchmark, the audit almost immediately becomes out dated unless there is some mechanism in place to continue the effort of monitoring environmental compliance.

This is third external audit of institute for NACC affiliation; QS Programme and doing their bid towards environmental protection and environmental awareness at local and global front. Audit criterion is environmental cognizance, waste minimization and management, biodiversity conservation, water conservation, energy conservation and environmental legislative compliance by the campus. A questionnaire is used during audit. This audit report contains observations and recommendations for improvement of environmental consciousness.



Environment & Green Audit - Analysis

General Information

Does any Environmental Audit conducted earlier?

Yes, This is third time a systematic way of monitoring their environmental eminence initiative taken by university for environment protection.

What is the total permanent population of the Institute?

Population	Male	Female	Total	Approximate Number of Visitors (Per day) is 10 in university campus.
Students	3358	2434	5792	
Teachers	136	61	197	
Non-Teaching Staff	982	226	1208	
Sub Total	4476	2721	7197	

What is the total number of working days of your campus in a year?

There are Two Hundred and Sixty (260) working days in a year.

Where is the campus located?

The campus is located in Hisar city.

Which of the following are available in your institute?

Garden area	Available
Play ground	Available
Kitchen	Available
Toilets	Available
Garbage Or Waste Store Yard	Available
Laboratory	Available
Canteen	Available
Hostel Facility (numbers)	Yes
Guest House	Available

Which of the following are found near your institute?

Municipal dump yard	Not in vicinity of institute
Garbage heap	No Garbage heaps
Public convenience	Yes , public convenience is available
Sewer line	4 km sewer line within campus
Stagnant water	No stagnant water
Open drainage	No
Industry - (Mention the type)	No
Bus / Railway station	Yes, nearby the campus
Market / Shopping complex	Yes

I - Waste Minimization and Recycling

Does your institute generate any waste? If so, what are they?	Yes, Solid waste Canteen waste, paper, plastic, Horticulture Waste etc.			
What is the approximate amount of waste generated per day? (in Kilograms/month) (approx.)	Bio Degradable	Non-Biodegradable	Hazardous	others
	400kg	216kg	3.2kg	26kg
How is the waste generated in the institute managed? By	Bio degradable waste is disposed using technology Vermi Composting. And, Non-Bio degradable waste packed in bags and disposed-off, Auction to Junk dealers			
1 Composting	Reuse of one side printed Paper for internal communication. Sewage water is treated in STP plant and reused for gardening and flushing. Domestic Waste is given to Municipal Corporation. Two types of Waste bins are provided at campus for biodegradable and non-biodegradable waste. Solid waste is also given to Municipal Corporation and Composting is done for horticulture waste management.			
2 Recycling				
3 Reusing				
4 Others (specify)				
Do you use recycled paper in institute?	Yes, in academic evaluation works			
How would you spread the message of recycling to others in the community?	Nukkar-Natak by Students to increasing awareness as per the annual theme of the World Environment Day, Ozone Day etc.			
Can you achieve zero garbage in your institute? If yes, how?	Not yet achieved. Possible through waste management policy and plan.			

II - Greening the Campus

Is there a garden in your institute?	Yes, about 771216 SQM area are developed as green area.		
Do students spend time in the garden?	2-4 Hours during winters		
Total number of Plants in Campus	Plant type	Approx. number	
	Full Grown Trees	22000	
	Semi Grown Trees	7000	
	Hedge Plants	15000	
	Grass Cover	294 Acre	
Is the university campus have any Horticulture Department? (If yes give details)	Yes, Total 103 staff deployed in horticulture		
Number of Tree Plantation Drives organized by campus per annum. (If Any)	Annually, Six Tree Plantation Drives are Organized by campus. Total 2006 trees and hedge plants planted in this Financial Year with more than 85% survival rate.		

Plant Distribution Program for Students and Community	Yes, Twice Saplings are distributed to Students and visitors at various Occasions. Besides this landscape of some area in city are developed by Institute. <i>(photographs attached)</i>
Plant Ownership Program	

III - Energy

List ten ways that you use energy in your institute. (Electricity, LPG, firewood, others). Using this list, try to think of ways that you could use less energy every day.	Electricity saves by use of CFL/LED bulbs for illumination, LPG saves by use of Pressure cookers for cooking food. Alternate source of energy i.e. Solar Heater Installed.
Are there any energy saving methods employed in your institute? If yes, please specify. If no, suggest some	Yes, Renewable source of energy through solar plant of 1 MW (500 + 500 KW) is operational. Messages are displayed at various locations to Aware the Peoples about Energy Savings. Use of Natural Lights and Natural Ventilation are promoted.
How many CFL/LED bulbs has your institute installed?	75 % of Total Conventional bulbs are replaced by LED/CFL Lights.
Do you run "switch off" drills at institute?	Yes
Are your computers and other equipment's put on power-saving mode?	Yes, In Practice
Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby modes most of the time? If yes, how many hours?	No

Energy Share	kWh	Percentage
Electric Grid kWh
Solar PV-kWh
HSD-Eq.kWh
LPG Eq. kWh
Total -kWh

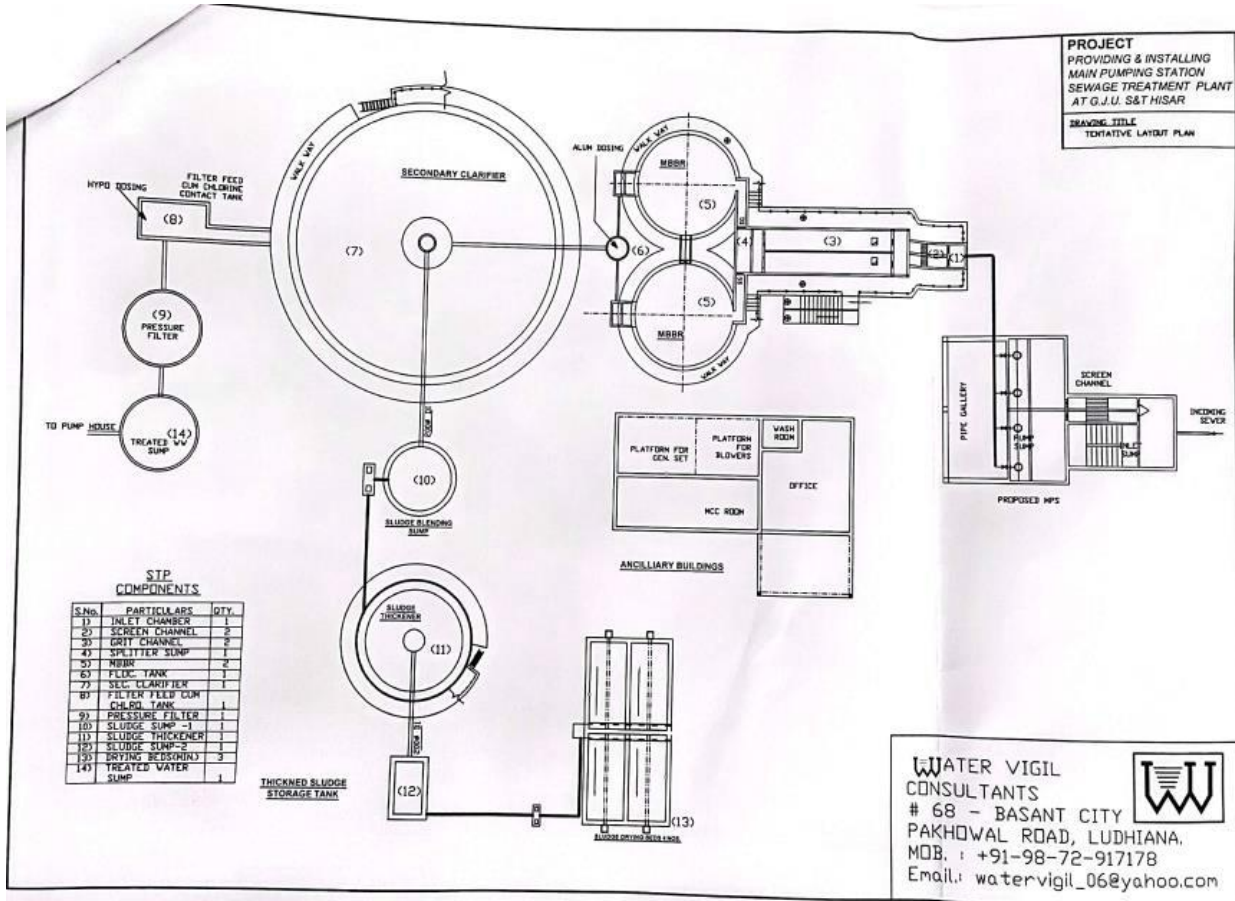
Renewable Energy-Solar PV Installation-1000 Kwph

Location	20 KW	30 KW	50KW	Total KW
Boys Hostel
Girls Hostel
Admin Block
TOTAL KW

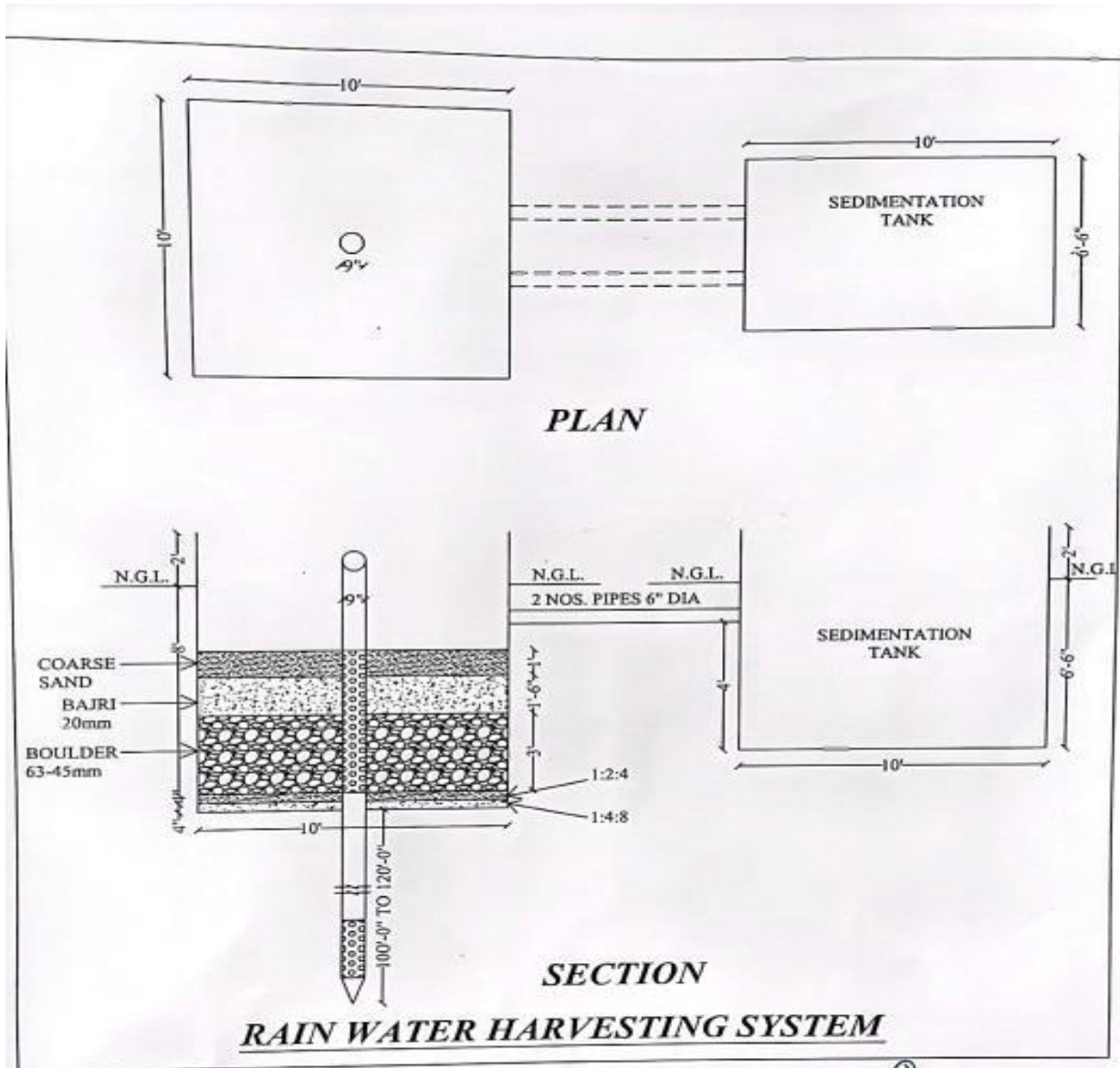
IV - Water Conservation

List uses of water in your institute	<p>Basic use of water in campus: Drinking - 1800 KL/month Gardening - 15000 kl/month STP treated water Kitchen and Toilets - 4500 KL/month Others - 8000 KL/month</p>
How does your institute store water? Are there any water saving techniques followed in your institute?	<p>62300 KL water storage capacity in university campus. 04# Overhead Water Tanks and 03# Underground Water tank installed for storage of water.</p> <p>Avoid overflow of water controlled valves are provided in water supply system. Close supervision for water supply system.</p>
Locate the point of entry of water and point of exit of waste water in your institute. Entry and Exit-	<p>Entry- Water comes from storage tanks, which are filled by canal water.</p> <p>Exit- From kitchen, laundry, mess, laboratories, bathrooms by covered drainage system to STP and ETP as per norms for further waste water treatment</p>
Write down ways that could reduce the amount of water used in your institute	<p>Basic ways:</p> <ul style="list-style-type: none"> • Close the taps after usage • Maintenance and monitoring of valves in supply system to avoid overflow, leakage and spillage • Water Conservation awareness for new students
Does your institute harvest rain water?	<p>Seven number of Modern rain water harvesting system are available.</p>
Is there any water recycling System.	<p>Yes, Zero discharge system adopted by campus by 01 STP plant is functional.</p>

Zero liquid discharge (ZLD) is a strategic wastewater management system that ensures that there will be no discharge of industrial wastewater into the environment. It is achieved by treating wastewater through recycling and then recovery and reuse for flushing, gardening, Dg cooling and housekeeping purpose. **2.5 MLD STP** installed and functional in Campus.



Rainwater harvesting (RWH) is the collection and storage of **rain**, rather than allowing it to run off. **Rainwater** is collected from a roof-like surface and redirected to a tank, cistern, deep pit (well, shaft, or borehole), aquifer, or a reservoir with percolation, so that it seeps down and restores the ground **water**. Total **10 RWH** units have been installed in campus




 Executive Engineer (Civil)
 Guru Jambheshwar University
 of Science & Technology
 - HISAR

V –Air Quality Management

Are the Rooms in Campus are Well Ventilated?	Yes, as per NBC guidelines				
Window Floor ratio of the Rooms	Very Good, ample daylight utilization				
What is the ownership of the vehicles used by your campus?	A combination of campus-owned and personal-owned vehicles				
Provide details of school-owned vehicles?	Buses	Cars	Vans	Other	Total
No. of vehicles	14	03	19		
No. of vehicles more than five years old	1	3	2	1	7
PUC done	14	3	--	8	
Specify the type of fuel used by your campus's vehicles	Diesel-6, Petrol – 03				
Air Quality Monitoring Program (If Any)	Yes, Monitoring is being done by NABL and MoEFCC approved Laboratory.				
Details of DG Sets in campus	Yes, 6 Numbers of DG Set; The capacities of DG's are (750, 500, 250 & 125) KVA. All have acoustic enclosure canopy and stack height.				

Air Pollution Mitigation

The campus encourages the students to use public transport. There is no unauthorized vehicle movement is allowed within the campus, except for sticker goods and service movement periodically. The parking of staff vehicles is allowed at a designated space within the campus. Hence, air pollution due to vehicular movement is negligible. Paved roads and vegetation help in reducing dust pollution to a large extent Burning of waste within the campus is strictly banned.

VI - Animal Welfare

List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.)	Birds and Squirrels are commonly found in campus. A variety of birds species and other flora and fauna available but these are not harmful to human so institute doing their bit for its conservation. Dogs and cats are found in campus along with university staff's pets, other stray animals are not inside the camps due to hard fencing or boundary of premises.
Does your institute have a Biodiversity Programme or a KARUNA CLUB?	Yes Environment committee actively organized awareness through nukkar natak poster competition, in locality of villages Raipur, Behbalpur, Saantrod Kalan, Mirzapur Deva and Nangthala

VII - Environmental Legislative Compliance

Are you aware of any environmental Laws pertaining to different aspects of environmental management?	Yes, faculty members and administrative team is well aware of national environmental laws.
Does your institute have any rules to protect the environment? List possible rules you could include.	No rule but innovative initiatives are being taken by campus to reduce pollution and go green.
Does Environmental Ambient Air Quality Monitoring conducted by the Institute?	Yes, by NABL approved Laboratory.
Does Environmental Water and Quality monitoring conducted by the Institute?	Yes, by NABL approved Laboratory.
Does stack monitoring of DG sets conducted by the Institute?	Yes, by NABL approved Laboratory.
Is any warning notice, letter issued by government bodies?	Not Any, Half Yearly Compliance report submitted to statutory bodies.
Does any Hazardous waste generated by Institute?	Yes, e waste and plastic waste is managed by auction to authorised vendors.
Does any Bio medical waste generated by the Institute? If yes explain its category and disposal method	Bio medical waste managed by MOU with approved external agencies Synergy Waste Management Pvt Ltd

VIII -General

Does your institute have any rules to protect the environment? List possible rules you could include.	Yes, Environment committee decisions for environment protection by campus for example plastic crockery and single use plastic is banned in campus.
Are students and faculties aware of	Yes, Periodically pollution reduction,

environmental cleanliness ways? If Yes Explain	plantation, energy conservation awareness campaigns carried out by institute
Does Important Days Like World Environment Day, Earth Day, and Ozone Day etc. eminent in Campus?	Yes, World Environment Day, 5 th June 2021 celebrated by campus.
Does Institute participate in National and Local Environmental Protection Movement?	Yes, Swatch Bharat abhiyaan by students at campus.
Does Institute have any Recognition or certification for environment friendliness?	Yes, GJU has received several awards for their awareness and green initiatives. Some of them are Green Campus Award from <i>World Management Congress for the decade 2010-2020</i> , Best Infrastructure and Green Campus Award sponsored by <i>MNRE, GOI</i> and have achieved 2nd Position in Haryana State for <i>Cleanliness and Awareness in the adopted Villages by Ministry of MHRD</i>
Does Institution conduct a green or environmental audit of its campus?	Yes, this is 1 st external audit carried out by the university.
Has the institution been audited / accredited by any other agency such as NABL, NABET, TQPM, NAAC etc.?	Yes, periodically audited by such agencies for continual improvement.

Synergy Waste management Pvt limited – Biomedical Waste Management

WASYN
G R C
We Understand. We Care.
Synergy Waste Management Pvt. Ltd.

H-300

RENEWAL OF AGREEMENT

Synergy Seal

That the previous agreement executed on 01 Oct,2020, is renewed on 01 Oct,2021 and shall be valid only when endorsed through a SEAL of Synergy Waste Management (P) Ltd.

BETWEEN

M/s. Synergy Waste Management P. Ltd., having its Registered Office at 517-518, 5th Floor, D-Mall, Rohini West, New Delhi – 110085 and workplace at :

168 Sec 27,28 HUDA, Industrial Area ,Hisar, Haryana


AND

Department Of Bio & Nano Technology GJUS&T (Hisar)
Address : Chairperson Deptt.Of Bio & Nano Technology, Hisar ,Haryana 125001

Represented By -
Dr./Mr./Ms. PROF NEERAJ DILBAGHI, Designation Chair Person, Contact No : 9466402891 , Email ID : ndnano@gjust.org. The terms & conditions of the existing agreement shall remain unchanged as mentioned in the initial agreement, except the service charges which shall be Rs. 1000.0 (RS.ONE THOUSAND ONLY.) per month for Research Lab or Rs. NIL per bed per day having a declared bed strength of 00, subject to the condition of weight limit of 48.0 kg / month beyond which excess weight shall be charged @Rs. 30.0 per kg. That the above rates are exclusive of GST the same shall be charged extra as per then prevailing rates if becomes applicable.

This agreement shall remain valid for a period of 1 Year / 0 Months / 0 Days w.e.f. 01 Oct,2021 to 30 Sep,2022.

That this agreement may be renewed further for the period and terms and conditions as agreed in between both of the parties hereto.



Authorized Signatory – Service Provider
CIN No. : U74999DL2005PTC283340

Authorized Signatory – Waste Generator
CHAIRPERSON

Deptt of Bio & Nano Technology
Guru Shambhoo University
Sector - 10, Rohini West, New Delhi - 110085
HISAR-125001 (Haryana)

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HISAR-125001 (Haryana)

The MOU validity up to 30th September 2022 needs to renew

Submission of Annual EC Form V to Haryana SPCB



GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY
HISAR - 125001 (HARYANA)
(Established by state Legislature Act 17 of 1995)
A Grade NAAC Accredited

Ref. No. SE-21/264-66

Dated 19/07/2021

To

State Environment Impact Assessment Authority (SEIAA),
Bay No. 55-58, ParyatanBhavan, Sector-2,
Panchkula, Haryana.

Sub: Submission of Six Monthly Compliance Report of Stipulated Conditions of Environmental Clearance for Expansion of Institutional Project "Guru Jambheshwar University of Science & Technology", Delhi Bye Pass Road, Hisar-125001, Haryana for submission period of June 2021.


Ref. No. SEIAA/HR/2014/1377 dated 07/11/2014

Sir,

In accordance to the environmental clearance for the above project received from the State Environment Impact Assessment Authority (SEIAA), Haryana, vide letter no. SEIAA/HR/2014/1377 dated 07/11/2014. We are submitting herewith six monthly compliance report of stipulated conditions of Environment Clearance (soft copy) for the submission period of June 2021.

Thanking you

For M/s Guru Jambheshwar University of Science & Technology, Hisar


19-7-2021
(Authorized signatory)

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Designation- Executive Engineer
E-mail - sgrover.hisar@gmail.com
Contact No.- 94661-70400

Copy to:

1. The Advisor, Ministry of Environment, Forests & Climate Change (MoEF & CC) Govt. of India, Sector-31, Chandigarh.
2. The Chairman, Haryana State Pollution Control Board (HSPCB), C-11, Sector-6 Panchkula.

Ph. : 01662-263 (O) & 263 (R)
Fax No. : 01662-276025 & 276240
website : www.gjust.ac.in

Carbon Footprint - Emission & Absorption

Total Carbon Footprint (CO₂ emission per year, in metric tons)

1. Electricity used per year CO₂ emission from electricity	(electricity used per year in kWh/1000) x 0.84
2. Transportation per year (Bus) CO₂ emission from transportation (Bus)	(Number of the shuttle bus in our University x total shuttle bus service each day approximate distance travelled by the vehicle inside the campus in kilometres x 240 /100) x 0.01 =1x10x2x240/100x0.01 =.48 ton
240 working days per year, 0.01 is the coefficient to calculate the emission in metric tons per 100	
3. Transportation per year (car) CO₂ emission from transportation (car)	(Number of cars entering University campus x 2 x approximate distance travelled by the vehicle inside the campus in kilometres x 240/100) x 0.02 =8x10x2x240/100x0.02 =7.68 ton
Total CO₂ emission per year cumulative by electricity usage + bus transportation + car transportation (.....+.48+7.68) = ton	

Carbon absorption by flora in the institution

There are 22000 trees of different species, on the campus spread over 294 acres.

Carbon absorption capacity of one full grown tree 22 kg CO₂ Therefore Carbon absorption capacity of 22000 full-grown trees 22000 x 22 kg CO₂ 484000 kg of CO₂ 484 tons of CO₂.

The carbon absorption capacity of semi-grown trees is 6.8kg. Hence the carbon absorption 7000 x 6.8 kg of CO₂- 47600 kg of CO₂- 47.6 tons of CO₂

There are approximately Hedge Plants 15000 of various species being raised in the gardens and grown in the areas where no buildings are built Carbon absorption of bush plants varies widely with their species. Certain bushes absorb very high level of CO₂ where as some others absorb very low level of CO₂. In the absence of a detailed scientific study, 200g of CO₂, absorption is taken per bush (in consultation with Environmental Science specialists).

Based on this, total carbon absorption of bushes is $15,000 \times 200 \text{ g} = 3,000,000 \text{ g}$ 3000 kg, 3.0 tons of CO_2

The lawns on the campus have buffalo grass, Mexican grass and indigenous grass species and cover a total area of- 8301300 sq. ft.

Carbon absorption capacity of a 10 sq. ft. area of lawn is 1 g per day Therefore, carbon absorption by lawn area $8301300 \times 0.1 \text{ g} = \text{CO}_2 - 830130 \text{ g}$ or $\text{CO}_2 830.130 \text{ kg}$ CO_2 per day, Total carbon absorption per year is $830.13 \times 365 = 302997.45 \text{ kg}$ of CO_2 ; 303 tons of CO_2

Grand total of carbon absorption capacity of the campus is 1002.17 tons per year. University is doing their best towards carbon neutrality.

Green Initiatives by campus

Renewable Energy - Solar water Heater (..... Numbers) at GJU campus, A clean source of energy is utilized at campus. Efforts towards **Carbon Neutrality** The capacity of 1000 KW Solar plant on building roofs is fully functional.

Biodiversity Conservation -Flora and fauna conservation program and awareness campaign organized as per the local geographical i.e. adoption of Raipur village and other nearby villages of Hisar.

Tree Plantation Drives - Drives Annually as well as Every Guest is honored by Tree Plantation at Campus.

Ground Water Recharge - 12 units of Rain Water Harvesting System.

Air Pollution Reduction Personal Vehicles (Students) not allowed at campus and 70% CNG vehicles for transportation.

E - Waste Management - Old Computers Donated to Government School and discarded waste managed through HSPCB authorised recyclers.

Solid Waste Management - Waste segregation and management by the third party and waste minimization practices adopted by the campus like avoidance of food waste, ban on plastic crockery in the campus.

Adoption of Village - CSR for promoting environmental sanitation and public health in locality, five villages adopted by University.

Water Conservation - Waste water treatment plants like STP is fully functional, after treatment water is utilized for gardening.

Cleanliness practices - Sign and Symbol are used to keep university clean and green. Team has been constituted for 'Swachh Bharat Swasth Bharat' to periodically inspect all Swachhta Cultural activities

Recommendations

- ✿ Water metering records should be in practice for water auditing and balancing.
- ✿ Eco-friendly parameters should be included in the purchase of articles and goods for the campus.
- ✿ Green building guidelines for future expansion projects of the university.
- ✿ Water Meter should be installed at institute for monitoring of water consumption per capita.
- ✿ Car-pooling practice can be adopted by campus to minimise air pollution.
- ✿ Increase in display of environment conscious poster/paintings/slogans for spreading awareness amongst students.

Conclusion

This audit involved extensive consultation with all the campus team, interactions with key personnel on wide range of issues related to Environmental aspects. The GJU University has Environmental Committee for sustainable use of resources. Overall 30% of university campus is for landscaping. The audit has identified several minor observations for making the campus premise more environmental friendly. The recommendations are also mentioned with observations for university campus team to initiate actions.

The audit team opines that the overall site is maintained well from environmental perspective. There is no major observations but few things are important to initiate urgently are waste management plan, water balance cycle and periodic inspection of buildings and maintenance of solar power panels to increase the energy efficiency.

References

- The Environment [Protection] Act – 1986 (Amended 1991) & Rules-1986 (Amended 2010)
- The Petroleum Act: 1934 – The Petroleum Rules: 2002
- The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle Rules:1989 (Amended in 2005)
- Energy Conservation Act 2010.
- The Water [Prevention & Control Of Pollution] Act – 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975
- The Air [Prevention & Control Of Pollution] Act – 1981 (Amended 1987) The Air (Prevention & Control of Pollution) Rules – 1982
- The Gas Cylinders Rules – 2016 (Replaces the Gas Cylinder Rules – 1981)
- E-waste management rules 2016
- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006)
- The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)
- The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)
- The Batteries (Management and Handling) rules, 2001 (Amended 2010)
- Relevant Indian Standard Code practices

Transparency of Environment & Green Audit Report

Environment & Green Audit report is one of the useful means of demonstrating an organization's commitment to openness and transparency. If an Organization believes it has nothing to hide from its stakeholders, then it should feel confident enough to make its Environment & Green Audit reports freely available to those who request them. As a basic rule, Environment & Green Audit report should be made available to all stakeholders.

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Green Initiative Photographs



ROOF TOP SOLAR POWER PLANT



GARDEN + GREEN BELT ALONG BOUNDARY WALL



INDOR PLANTATION



STP TREATED WATER FOR GARDENING



GREEN BUILDING DESIGN FOR NATURAL LIGHT



COLOUR CODED DUSTBINS



ENVIRONMENT AWARENESS NOTICE BOARD



INNOVATIVE DESIGN BY REUSE OF MATERIAL



Reuse of Plastic Drums



RAIN WATER HARVESTING



STP PLANT - WASTE WATER TREATMENT



NO PLASTIC IN CAMPUS



E VEHICLE UTILIZATION



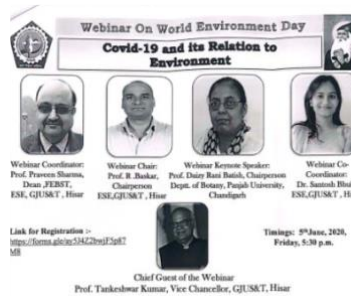
PLANTATION DRIVE BY STUDENT



SWATCHTA PAKHWADA



WORLD ENVIRONMENT DAY



ENVIRONMENT AWARENESS LECTURES



AAC PAVER BLOCKS IN PARKING AREA



WEBINAR ON INTERNATIONAL E-WASTE DAY



WORLD OZONE DAY CELEBRATION BY GJUST



GUEST LECTURE ON "AIR POLLUTION AND HEALTH"



NUKKAD NATAK FOR WASTE MANAGEMENT



SWACCHATA LECTURE TO GARDENERS AND SWEEPERS BY GJUST



SOLID WASTE MANAGEMENT AWARENESS IN LOCAL SOCIETY



CLEAN CAMPUS CAMPAIGN BY STUDENTS



RICH GREENERY MAINTAINED IN UNIVERSITY CAMPS



FLYASH PAVER BLOCKS FOR WALKWAYS



RAIN WATER HARVESTING POND



DRINKING WATER TREATMENT PLANT



IN-HOUSE NURSERY IN CAMPUS



INDORE PLANTS



TREE TRANSPLANTED TO NEW LOCATION



WATER SAVING TECHNIQUES



BIRD NEST IN CAMPUS



WATER SPRINKLERS TO SAVE WATER IN GARDENING



REUSE OF WASTE PLASTIC BOTTLERS