Green, Environment & Energy Audit Report 2017 - 2018

For

Educational Institution

At

S.F. No. 235/1, 235/2, 235/3, 235/4, etc. Of Nemili (B) Village and 94/1A, 94/1B, 94/2, etc, of Pennalur Village, Sriperambudur Taluk, Kancheepuram District.

Submitted to

M/S. Sri Venkateswara Educational & Health Trust

Post Bag #1, Chennai - Bangalore High Road, Pennalur, Sriperumbudur Taluk, Kancheepuram District, Tamil Nadu 602 117

Prepared by

Eco Services India Pvt. Ltd.
No. 1/134, Dhanakotiraja Street, Sundar Nagar
Ekkaduthangal, Guindy, Chennai – 600032
Tel: +91-44-30683067/43102232 Fax: +91-44-30680006

ECO SERVICES

03rd September 2018

Certificate

This is to certify that we have conducted a Green Environment & Energy Audit for the Academic Year 2017-2018 at the **Sri Venkateswara College of Engineering (SVCE)** located in Pennalur Village, Sriperumbudur Taluk, Kancheepuram District, Tamil Nadu

The audit broadly covered the following components in the campus,

- Biodiversity Aspects of Campus
- Solid Waste, Hazardous Waste and Bio-Medical Waste Management
- Water and Waste Water Management
- Operations of Sewage Treatment Plant Facilities (STPs)
- Rain Water Harvesting Facilities
- Renewable Energy/Energy Conservation Aspects
- Transportation Facilities and Carbon Footprint Reduction
- Green Campus/Environmental Promotional Initiatives

The activities and management of various components mentioned above have been verified and found satisfactory. The efforts taken by the management, faculty and students towards Environmental Protection and Sustainability are highly appreciated and commendable.

For **Eco Services India Pvt. Ltd.,**

P.M

Dr. P. Kalaiselvan
Accredited EIA Coordinator (NABET)

Eco Services India Private Limited
No.1/134, Dhanakotiraja Street, Sundar Nagar, Ekkaduthangal, Guindy, Chennai – 600 032, Tamil Nadu, India
Phone: (044) 30683067/43102232 E-mail: info@ecoservices.in, www.ecoservices.in

Declaration

I hereby declare and certify that this audit report is prepared by a team of our in-house accredited experts based on their visits to the campus and physical verification of records. I hereby confirm that I have applied complete due diligence on my part in ascertaining the appropriateness of the information furnished in this audit report.

For **Eco Services India Pvt. Ltd.,**

Dr. P. Kalaiselvan

Accredited EIA Coordinator (NABET)

Table of Contents

1.0Executive Summary

In accordance with the Environmental Management Plan of Sri Venkateswara College of Engineering, the Eco Services India Private Limited conducted a green audit of the college in August 2018.

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution. With this in mind, the specific objectives of the audit were to evaluate the adequacy of the management control framework of Environment Sustainability as well as the degree to which the Departments are in compliance with the applicable regulations, policies and standards.

During the initial planning of the audit, an analysis was conducted in order to identify, evaluate and prioritize the risks associated with the environmental sustainability. The analysis was based upon an examination of the policies, manuals and standards that govern the environmental sustainability, on data analysis, and on the results of preliminary interviews with personnel considered key in the environmental management in the campus. The criteria and methods used in the audit were based on the identified risks.

The methodology used included site inspection of the campus, review of the relevant documentation.

2.0 Statement of Assurance

In our professional judgment, sufficient and appropriate audit procedures were completed and evidence gathered to support the accuracy of the conclusions reached and contained in this report. The conclusions are based on a comparison of the situations as they existed at the time of the audit with the established criteria.

3.0 Methodology

In order to meet its objectives, this audit combined physical inspection with a review of relevant documentation and interviews with various stakeholders.

3.1 Review of the Documentation

For the purpose of this audit the Green Policy of the institute was reviewed. Other relevant standards Environmental Statutory guidelines were also considered.

3.2 Interviews

Interviews were conducted with the faculties, staffs and students.

3.3 Physical Inspection

A team consist of 4 members having different functional area expertise inspected the Educational Institution campus and audited the report physically.

4.0 Objectives and Scope

The purpose of this audit was to ensure that the Green Policy is followed and implemented in the campus, across all departments, administrative bodies and students.

5.0 Summary of Findings

The main findings of the audit show that, in general, all the departments and students are aware about the need for environmental protection at a general level. It was also observed that a number of best practices such as maintaining potted plants, introducing plastic free zone, using renewable energy sources, Energy efficient devices etc. are followed in the campus.

6.0 Audit findings

The following audit is used for conducting Green Energy and Environment Audit. The framework also lists the findings and observations for every criterion.

Description	Objectives/Scope	Audit Observation
Solid Waste Management	Management of Organic Waste such as food waste rom canteens, hostels and garden waste	• All organic waste, green wastes are converted into bio gas in the campus and the fuel is used in hostel mess. • It was observed that the records at the bio gas plant was maintained properly
	Management of Non-Biodegradable waste such as papers, cardboards, plastics, etc.	• It is reported that non-biodegradable waste such as papers, cardboards, etc. are collected from each departments and handed over to ITC's WOW initiative periodically. • The plastic waste are collected and hand over to the recyclers and also it was noted that management is taking steps to reduce the waste generation in all possible ways.
E- Waste Management	Recycle or safely dispose of white goods, computers and electrical appliances.	Safe disposal being practiced through authorized agents (TES-AMM) for computers and electrical wastes.
Hazardous Waste Management	Collection and safe disposal of Hazardous waste	Team informed that hazardous waste used oil collected from the DG sets, Discarded cotton waste, filters are collected and segregated and disposed through the authorized vendor
Energy Conservation (Reduce energy consumption, especially of	Look in to the possibility of on-site micro-generation of renewable electricity.	Solar panels were installed in the roof tops for renewable electricity to a capacity of 35 kW.
	Given preference to the most energy efficient and environmentally sound	The LED bulbs could be seen in the new built blocks.

energy derived from fossil fuels)	appliances available, this includes only using energy-saving light bulbs	
	Encourage staff, students and conference guests to save energy through visible reminders, incentives and information to increase awareness. This particularly concerns turning off electrical appliances when not in use.	Wastage of electricity is controlled by turning off the appliances when not required.
Water Management.	Repair sources of water leakage, such as dripping taps and showers as quickly as possible.	Regular checking and maintenance of pipelines is reported to control water wastage.
	Rain Water Harvesting	• It was observed that a Rain Water Harvesting Pond was constructed with a capacity of 4MLD to collect and store the roof top rain water. • Also trench provisions were made to collect the surface water and directing them to pond.
	Minimize dependency on Fresh water source	• Water need is meet through alternative sources such as using treated water from STP for toilet flushing, gardening ‘ • It is said that using the rain water whenever available by doing prior water treatment located within the campus.
Waste Water Management	Proper Collection, treatment and disposal of waste water	• The Institution has provides a STP with 250 KLD capacity to carter the sewage generated from the campus. • The records at the STP was reviewed and the records are properly maintained

	Reuse of Treated Water from STP	It was observed that the treated water from the STP is being used for Toilet Flushing and Green Belt Development.
Ensure that environmental awareness is created	Conduct environmental awareness workshops as a part of the program.	Institution have an active CARE Eco club for monitoring the same.
	Conduct events such as plant trees to spread environmental awareness among the students	Tree Plantation event has been organized by NCC.
	Create awareness of environmental sustainability and takes actions to ensure environmental sustainability.	Seminars and awareness programmes are conducted periodically on Nature and natural resources, wildlife for the conservation of Biodiversity.
Ensure that the Environmental Policy is enacted, enforced and reviewed	To inculcate a strong sense of commitment and responsibility among students and members of faculty to follow an eco-friendly lifestyle and habits.	It is observed that institution is making efforts to bring the eco-friendly habits into practice such as encouraging the use of indigenous products, reduction in usage of resources such as water, food etc.
	To make students aware of the sustainability goals at the micro and macro level and to strength their participation and involvement to promote and implement sustainability goals.	• The faculties and other staffs were aware about their responsibilities in adopting Environmental & sustainable practices. • It was also observed efforts are being made by the management to create awareness about SDG goals
	To advance governance regarding environmental compliance and employ methods to reduce the waste and conserve energy and water conservation.	Encouraging the students and staff to follow 3R's Principle to reduce the Waste generation.

	To improve the biodiversity of the campus.	• Two Micro Habitat was created to create ecosystem for faunal diversity. • Thick Green Belt was seen all around the campus and created a good ecosystem within the campus.
	To be recognized as Eco friendly and green campus.	Institution is making efforts to make the campus as ecofriendly by using Solar Panel for power generation, developing thick green cover around the campus, etc.
Enforce governance in compliance with environmental norms prescribed by the government	compliance with the Statutory Requirements.	• Environmental Clearance is available and reviewed. • Consent To Operate under Air & Water Acts is obtained and valid till 31.03.2022. • Hazardous Waste Authorization obtained under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 was obtained and valid till 15.08.2022.

6.1 Summary of the Findings:

The educational institution has taken various new initiatives in addition to existing steps made towards making the campus green and sustainable. Following are the area for focus in which improvements can be made for betterment.

- Energy conservation measures such as installation LED bulbs, sensors, etc. shall be considered in addition to the Solar panel installation at the roof top.
- Bio Gas Plant shall be renovated for better maintenance.

Annexures

Annexure 1

Environmental Policy & Environmental Committee

Environmental Policy:

During the Audit, the educational institution's Environment Policy were reviewed and the policy is as follows:

Objectives

- To inculcate a strong sense of commitment and responsibility among students and members of faculty to follow an eco-friendly lifestyle and habits.
- To make students aware of the sustainability goals at the micro and macro level and to strength their participation and involvement to promote and implement sustainability goals.
- To advance governance regarding environmental compliance and employ methods to reduce the waste and conserve energy and water conservation.
- To improve the biodiversity of the campus.
- To be recognized as Eco friendly and green campus.

Sri Venkateswara College of Engineering
Autonomous Institution, Affiliated to Anna University, Chennai.
Approved by the A.I.C.T.E Accredited by NAAC
Post Bag No.1, Pennalur, Sriperumbudur Tk. 602117 India.
Phone : 91-44-27152000(20 lines)
: 27163783 / 27163784 / 27107016
Fax : 91-4427162462 / 27162494
Email : acm@svce.ac.in URL : https://www.svce.ac.in

Green and Environment Policy

Statement

Sri Venkateswara College of Engineering (SVCE) is committed to making the Institution one of the most environmentally conscious and sustainable institutions in of the Country.

Objectives

- To inculcate a strong sense of commitment and responsibility among students and members of faculty to follow an eco-friendly lifestyle and habits.
- To make students aware of the sustainability goals at the micro and macro level and to strengthen their participation and involvement to promote and implement sustainability goals.
- To advance governance regarding environmental compliance and employ methods to reduce the waste, and conserve energy, and water consumption.
- To improve the biodiversity of the Campus.
- To be recognized as Eco friendly and Green Campus.

Process

- By introducing environmental sustainability concepts in the curriculum and research.
- By improving governance regarding environmental compliance: reduce its waste, energy, and water consumption proportionally against its growth in staff and student numbers.
- By enhancing, monitoring, and developing the biodiversity of the Campus by creating microhabitats, planting indigenous plant species.
- By promoting and creating smart, sustainable approach to the Institution's plans and projects.

Provisions

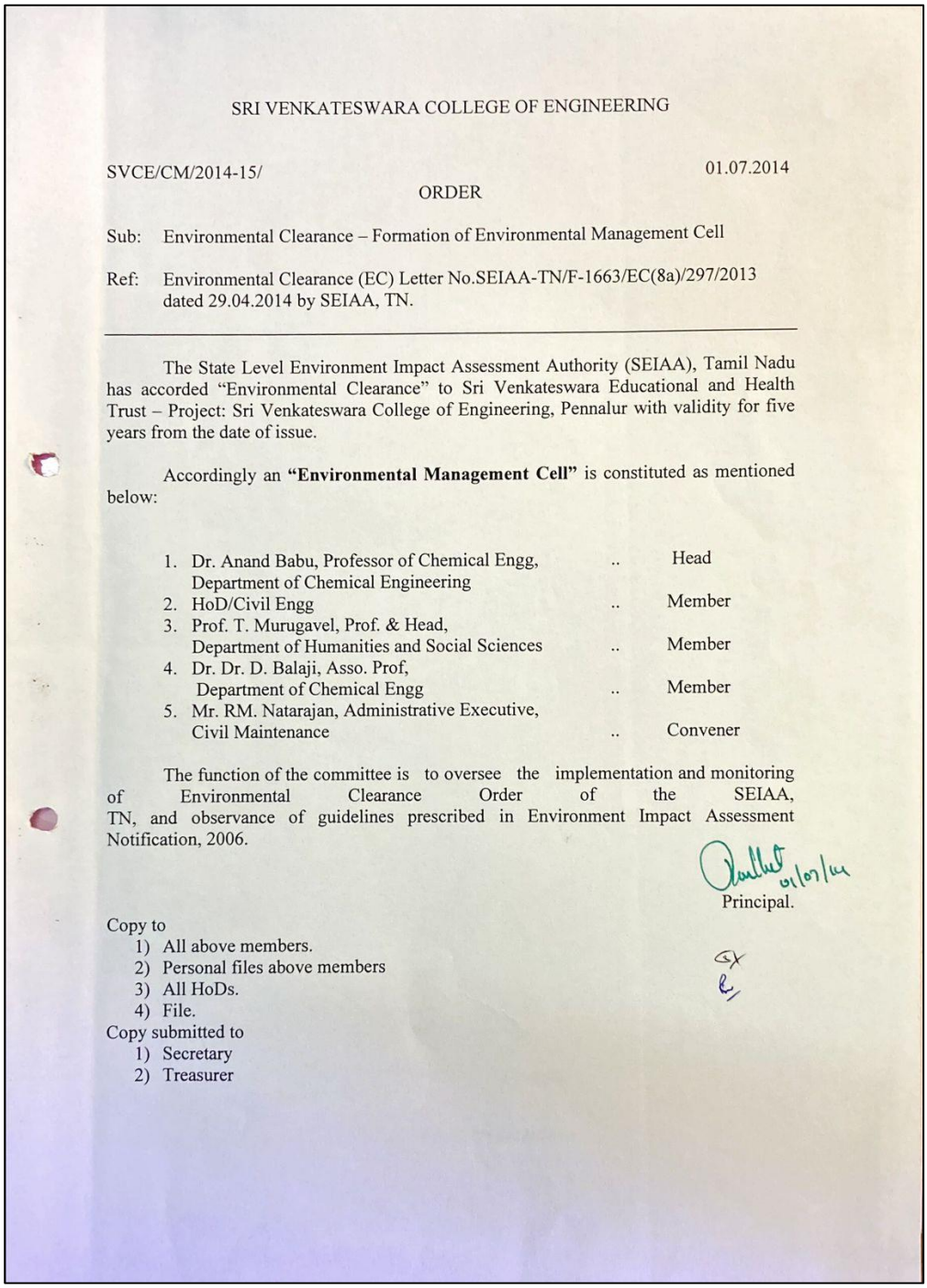
The College will provide adequate funding, infrastructure and staff for implementing the Green and Environment policy.

PRINCIPAL

Environmental Committee:

During the audit, details of the Environmental committee were reviewed which mainly consist of faculties from various departments in order to review the educational policy and to check the status of the targets made based on the Environmental policy.

The details of the Environmental committee is as follows:



SRI VENKATESWARA COLLEGE OF ENGINEERING

SVCE/CM/2014-15/ 01.07.2014

ORDER

Sub: Environmental Clearance – Formation of Environmental Management Cell

Ref: Environmental Clearance (EC) Letter No.SEIAA-TN/F-1663/EC(8a)/297/2013 dated 29.04.2014 by SEIAA, TN.

The State Level Environment Impact Assessment Authority (SEIAA), Tamil Nadu has accorded "Environmental Clearance" to Sri Venkateswara Educational and Health Trust – Project: Sri Venkateswara College of Engineering, Pennalur with validity for five years from the date of issue.

Accordingly an **"Environmental Management Cell"** is constituted as mentioned below:

1. Dr. Anand Babu, Professor of Chemical Engg, Department of Chemical Engineering .. Head
2. HoD/Civil Engg .. Member
3. Prof. T. Murugavel, Prof. & Head, Department of Humanities and Social Sciences .. Member
4. Dr. Dr. D. Balaji, Asso. Prof, Department of Chemical Engg .. Member
5. Mr. RM. Natarajan, Administrative Executive, Civil Maintenance .. Convener

The function of the committee is to oversee the implementation and monitoring of Environmental Clearance Order of the SEIAA, TN, and observance of guidelines prescribed in Environment Impact Assessment Notification, 2006.

01/07/14

Principal.

Copy to
1) All above members.
2) Personal files above members
3) All HoDs.
4) File.

Copy submitted to
1) Secretary
2) Treasurer

Annexure 2

Solid Waste Management

As per the manual on municipal solid waste prescribed by Central Public Health and Environmental Engineering Organization (CPHEEO), the quantity of solid waste generated varies between 0.3-0.6 kg / capita / day. The solid waste will comprise biodegradable waste e.g. domestic waste, food waste, horticultural waste etc. and recyclable waste, like plastics, paper etc., and inert fractions.

It is estimated that the municipal solid wastes is being generated in the following passion:

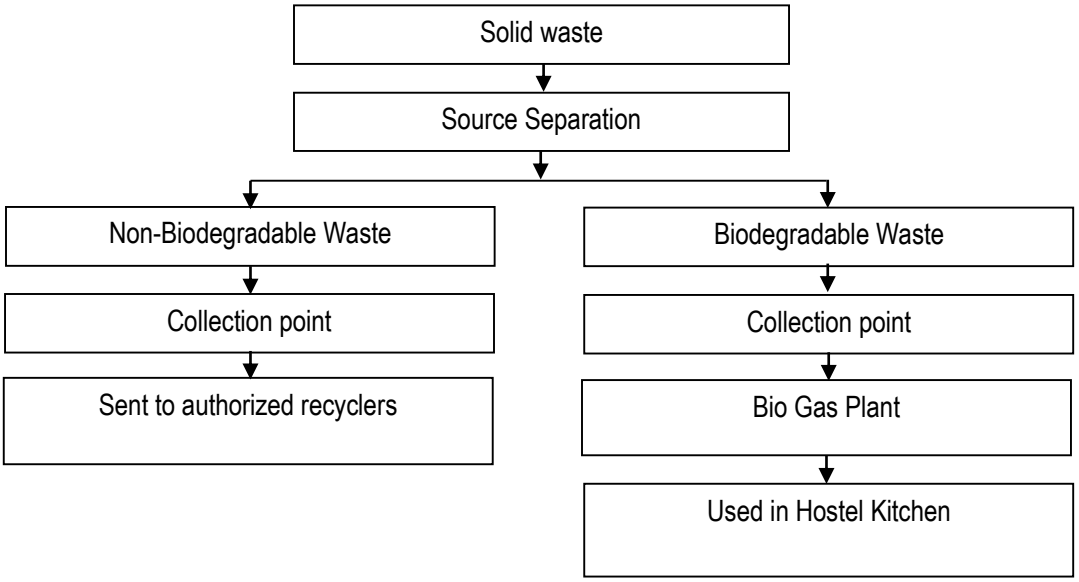
S. No	Project Component	Total Occupancy (Nos.)	Per Capita generation (Kg/P/D)	Total Solid Waste Generation (Kg/day)	Bio Degradable Waste (Kg/day)	Non Bio Degradable Waste (Kg/day)
1	Students	4,119	0.4	1,648	989	659
2	Teaching Staff	242	0.4	97	58	39
3	Boys Hostel	723	1.2	868	521	347
4	Girls Hostel	228	1.2	274	164	109
5	Non Teaching Staff	171	0.4	68	41	27
6	Staff Quarters	18	0.6	11	6	4
Total Solid Waste Generation		**5,501**	**-**	**2,965**	**1,779**	**1,186**
Total (Tonnes/day)				**3.0**	**1.8**	**1.2**

Biodegradable wastes : 1.8 Tons/day
Non-biodegradable wastes : 1.2 Tons/day

In the campus, private sweepers are engaged for handling domestic waste. Adequate number of collection bins separately for biodegradable and non-biodegradable waste has been provided as per the Solid Waste Management Rule, 2016. Waste from such bins are collected separately on daily basis and taken to a separate centralized collection facility. Final segregation of solid waste into biodegradable, non-biodegradable, and inert fraction are done in the centralized collection facility. The biodegradable wastes are converted into Bio Gas through Bio Gas Plant located within the campus. The non-biodegradable wastes are given to the authorized recyclers.

Horticulture wastes leaves, grass and vegetative residues are being collected at the secured location such that it will not hinder daily activity schedule or washed away by the surface run-off causing choking of drains, etc. and being separately treated and disposed off along with biodegradable

waste through vermicomposting unit in the campus and the manure is used for agriculture department and gardening. The solidified sludge from the STP is being stabilized and dewatered and used as manure for Green Belt development within the campus.



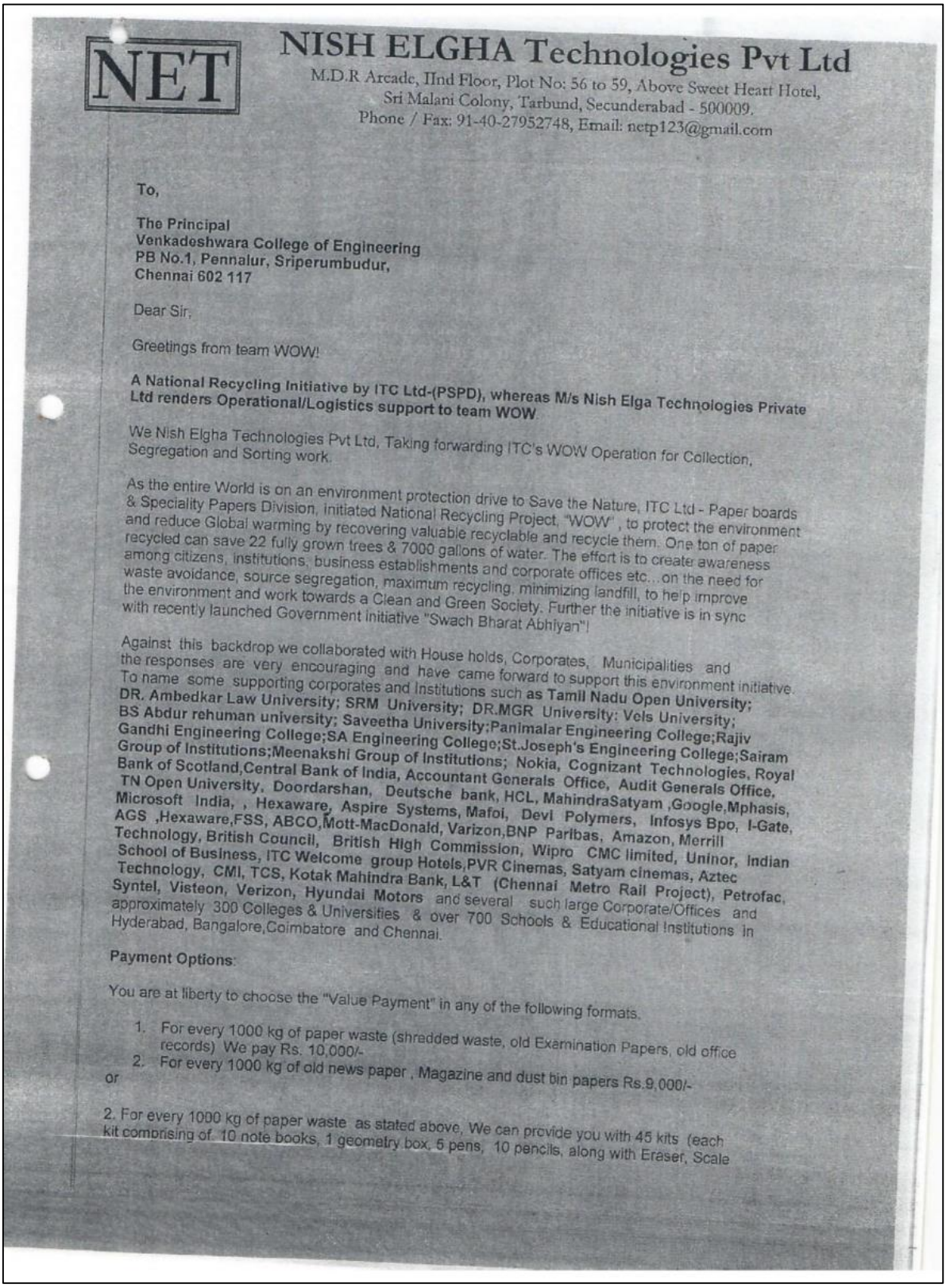
Fuel free Cart for Waste Collection from the campus

Waste Collection Bins in Campus

Food Waste Crusher at Bio Gas Plant

Gas Accumulator at Bio Gas Plant

Bio Gas Plant (35 Cu. M Capacity) within the campus



NET

NISH ELGHA Technologies Pvt Ltd

M.D.R Arcade, IInd Floor, Plot No: 56 to 59, Above Sweet Heart Hotel,
Sri Malani Colony, Tarbund, Secunderabad - 500009.
Phone / Fax: 91-40-27952748, Email: netp123@gmail.com

To,

The Principal
Venkadeshwara College of Engineering
PB No.1, Pennalur, Sriperumbudur,
Chennai 602 117

Dear Sir,

Greetings from team WOW!

A National Recycling Initiative by ITC Ltd-(PSPD), whereas M/s Nish Elga Technologies Private Ltd renders Operational/Logistics support to team WOW.

We Nish Elgha Technologies Pvt Ltd, Taking forwarding ITC's WOW Operation for Collection, Segregation and Sorting work.

As the entire World is on an environment protection drive to Save the Nature, ITC Ltd - Paper boards & Speciality Papers Division, initiated National Recycling Project, "WOW" , to protect the environment and reduce Global warming by recovering valuable recyclable and recycle them. One ton of paper recycled can save 22 fully grown trees & 7000 gallons of water. The effort is to create awareness among citizens, institutions, business establishments and corporate offices etc...on the need for waste avoidance, source segregation, maximum recycling, minimizing landfill, to help improve the environment and work towards a Clean and Green Society. Further the initiative is in sync with recently launched Government initiative "Swach Bharat Abhiyan"!

Against this backdrop we collaborated with House holds, Corporates, Municipalities and the responses are very encouraging and have came forward to support this environment initiative. To name some supporting corporates and Institutions such **as Tamil Nadu Open University; DR. Ambedkar Law University; SRM University; DR.MGR University; Vels University; BS Abdur rehuman university; Saveetha University;Panimalar Engineering College;Rajiv Gandhi Engineering College;SA Engineering College;St.Joseph's Engineering College;Sairam Group of Institutions;Meenakshi Group of Institutions; Nokia, Cognizant Technologies, Royal Bank of Scotland,Central Bank of India, Accountant Generals Office, Audit Generals Office, TN Open University, Doordarshan, Deutsche bank, HCL, MahindraSatyam ,Google,Mphasis, Microsoft India, , Hexaware, Aspire Systems, Mafoi, Devi Polymers, Infosys Bpo, I-Gate, AGS ,Hexaware,FSS, ABCO,Mott-MacDonald, Varizon,BNP Paribas, Amazon, Merrill Technology, British Council, British High Commission, Wipro CMC limited, Uninor, Indian School of Business, ITC Welcome group Hotels,PVR Cinemas, Satyam cinemas, Aztec Technology, CMI, TCS, Kotak Mahindra Bank, L&T (Chennai Metro Rail Project), Petrofac, Syntel, Visteon, Verizon, Hyundai Motors** and several such large Corporate/Offices and approximately 300 Colleges & Universities & over 700 Schools & Educational Institutions in Hyderabad, Bangalore,Coimbatore and Chennai.

Payment Options:

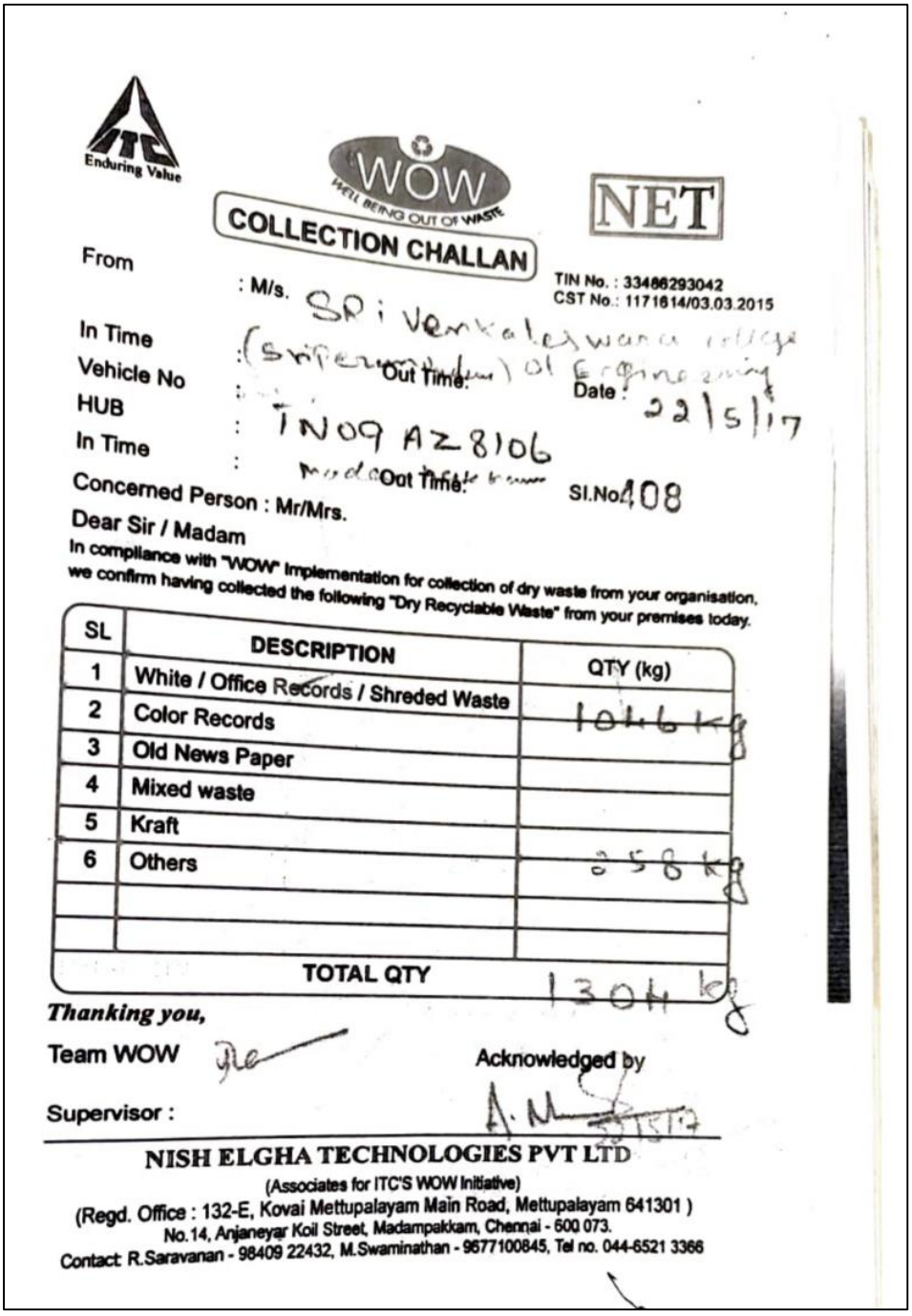
You are at liberty to choose the "Value Payment" in any of the following formats.

1. For every 1000 kg of paper waste (shredded waste, old Examination Papers, old office records) We pay Rs. 10,000/-
2. For every 1000 kg of old news paper , Magazine and dust bin papers Rs.9,000/-

or

2. For every 1000 kg of paper waste as stated above, We can provide you with 45 kits (each kit comprising of 10 note books, 1 geometry box, 5 pens, 10 pencils, along with Eraser, Scale

Letter from Nisha Elga Logisitc for Handing over Non – Biodegradable waste to ITC



ITC Enduring Value

WOW WELL BEING OUT OF WASTE

COLLECTION CHALLAN

NET

From : M/s. SRi Venkateswara college (Superintendent) of Engineering

TIN No. : 33486293042
CST No.: 1171614/03.03.2015

In Time : Out Time: Date : 22/5/17

Vehicle No : TN09 AZ 8106

HUB :

In Time : Out Time: Sl.No. 108

Concerned Person : Mr/Mrs.

Dear Sir / Madam

In compliance with "WOW" implementation for collection of dry waste from your organisation, we confirm having collected the following "Dry Recyclable Waste" from your premises today.

SL	DESCRIPTION	QTY (kg)
1	White / Office Records / Shreded Waste	101.6 kg
2	Color Records	
3	Old News Paper	
4	Mixed waste	
5	Kraft	
6	Others	28 kg
	TOTAL QTY	130 kg

Thanking you,

Team WOW

Acknowledged by

Supervisor :

NISH ELGHA TECHNOLOGIES PVT LTD

(Associates for ITC'S WOW Initiative)

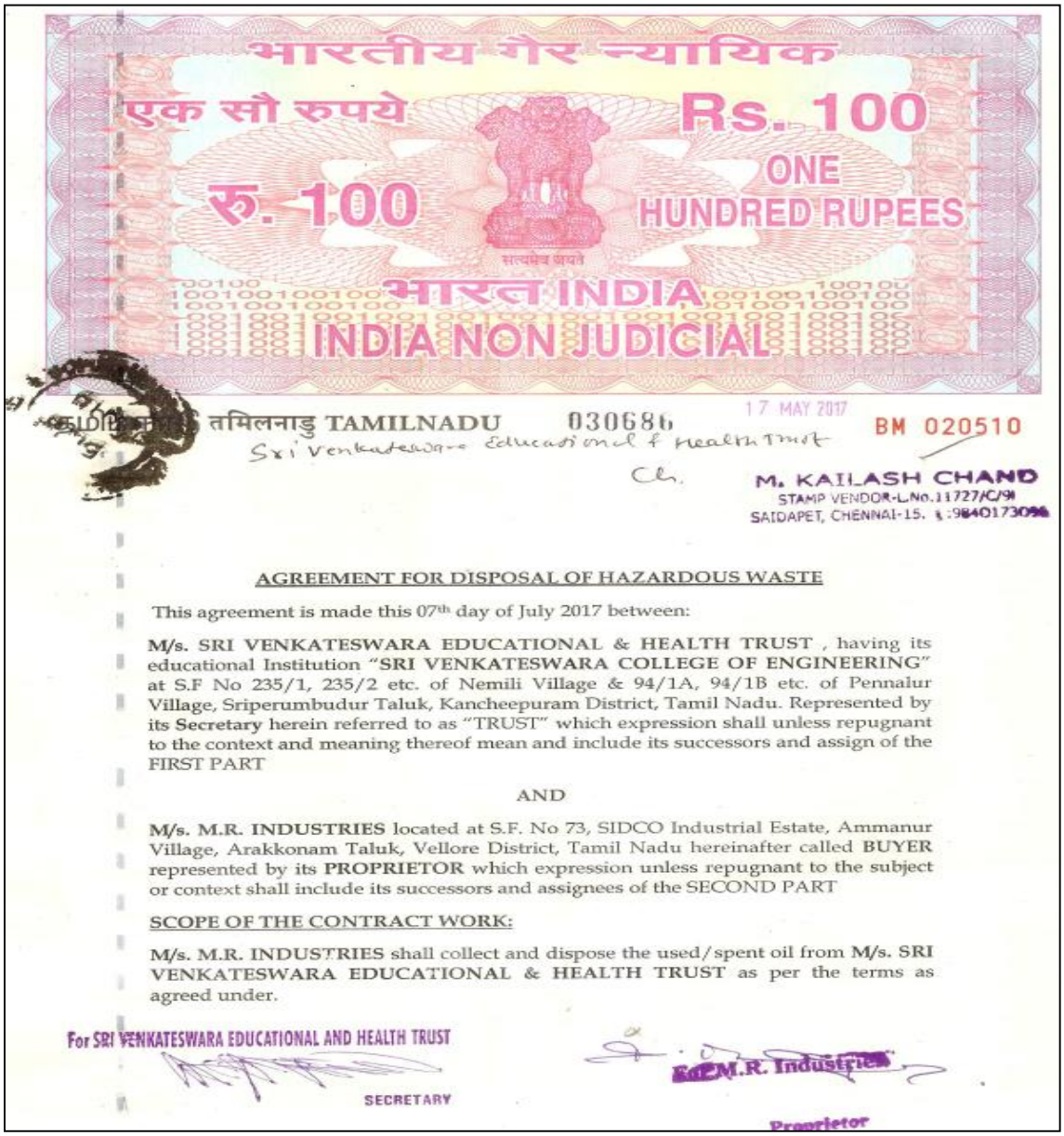
(Regd. Office : 132-E, Kovai Mettupalayam Main Road, Mettupalayam 641301)
No.14, Anjaneyar Koil Street, Madampakkam, Chennai - 600 073.
Contact: R.Saravanan - 98409 22432, M.Swaminathan - 9677100845, Tel no. 044-6521 3366

Chellan from ITC towards handing over the Non – Biodegradable Waste.

Annexure 3

Hazardous Waste Management & E-Waste Management

The hazardous waste such as used oil collected from the DG sets, discarded cotton waste, filters are collected and segregated and disposed through the authorized vendor as per the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2016. The waste from the laboratories are separately collected and sent for recycle or for sustainable method of disposal.



भारतीय गैर न्यायिक

एक सौ रुपये Rs. 100

रु. 100 ONE HUNDRED RUPEES

सत्यमेव जयते

भारत INDIA

INDIA NON JUDICIAL

तमिलनाडु TAMILNADU 030686 17 MAY 2017 BM 020510

Sri Venkateswara Educational & Health Trust

M. KAILASH CHAND
STAMP VENDOR-Lic.No.11727/C/91
SAIDAPET, CHENNAI-15. :9840173096

AGREEMENT FOR DISPOSAL OF HAZARDOUS WASTE

This agreement is made this 07th day of July 2017 between:

M/s. SRI VENKATESWARA EDUCATIONAL & HEALTH TRUST , having its educational Institution "**SRI VENKATESWARA COLLEGE OF ENGINEERING**" at S.F No 235/1, 235/2 etc. of Nemili Village & 94/1A, 94/1B etc. of Pennalur Village, Sriperumbudur Taluk, Kancheepuram District, Tamil Nadu. Represented by its **Secretary** herein referred to as "TRUST" which expression shall unless repugnant to the context and meaning thereof mean and include its successors and assign of the FIRST PART

AND

M/s. M.R. INDUSTRIES located at S.F. No 73, SIDCO Industrial Estate, Ammanur Village, Arakkonam Taluk, Vellore District, Tamil Nadu hereinafter called **BUYER** represented by its **PROPRIETOR** which expression unless repugnant to the subject or context shall include its successors and assignees of the SECOND PART

SCOPE OF THE CONTRACT WORK:

M/s. M.R. INDUSTRIES shall collect and dispose the used/spent oil from **M/s. SRI VENKATESWARA EDUCATIONAL & HEALTH TRUST** as per the terms as agreed under.

For SRI VENKATESWARA EDUCATIONAL AND HEALTH TRUST

SECRETARY

For M.R. Industries

Proprietor

Hazardous Waste Disposal agreement with M/s. M. R. Industries for disposal of Spent Oil from DG Sets.

E - Waste Management

E-waste generated from the institution are generally very less in generation quantity and are collected and stored in Centralized earmarked area which are being handed over to authorized recyclers for recycling and scientific way of disposal of the E-Waste.

Sri Venkateswara College of Engineering
(Approved by the A.I.C.T.E. Accredited by the NBA and NAAC and Affiliated to Anna University Chennai)
Post Bag No.1, Pennalur, Sriperumbudur Tk. 602117 India.
Phone : 91-44-27152000 (20 Lines)
Fax : 91-44-27162462 / 27162494 /27152111
Email : acm@svce.ac.in URL : http://www.svce.ac.in

SVCE/MAINT/E-Waste/2017-18/1

To

M/s.TES-AMM (India) Pvt Ltd.
A-18, Sipcot Industrial Growth Centre,
Panruti 'A' Village,
Oragadam, Sriperumbudur Tk.
Kancheepuram Dist – 631 604.

Sub : Disposal of E-Waste Materials.

Kind Attn : Mr.N.Raja

Sir,

With reference to the above, we are pleased to place the order with you, for removal of E-waste as per the list shown below.

Sl.No.	Description	Qty.	Price	Amount
1	Monitors	269	150.00	40350.00
2	CPU	227	150.00	34050.00
3	Mouse	253	5.00	1265.00
4	Keyboards	267	5.00	1335.00
5	LCD Printer	2	75.00	150.00
6	Printer	17	75.00	1275.00
7	OHP	5	50.00	250.00
8	Hard Disk	9	20.00	180.00
9	SMPS, Motherboard	15	20.00	300.00
10	Server	4	150.00	600.00
			Total	79755.00

(Rupees seventy nine thousand seven hundred fifty five only)

E-Waste handing over to M/s. TES-AMM (India) Pvt. Ltd.

Annexure 4

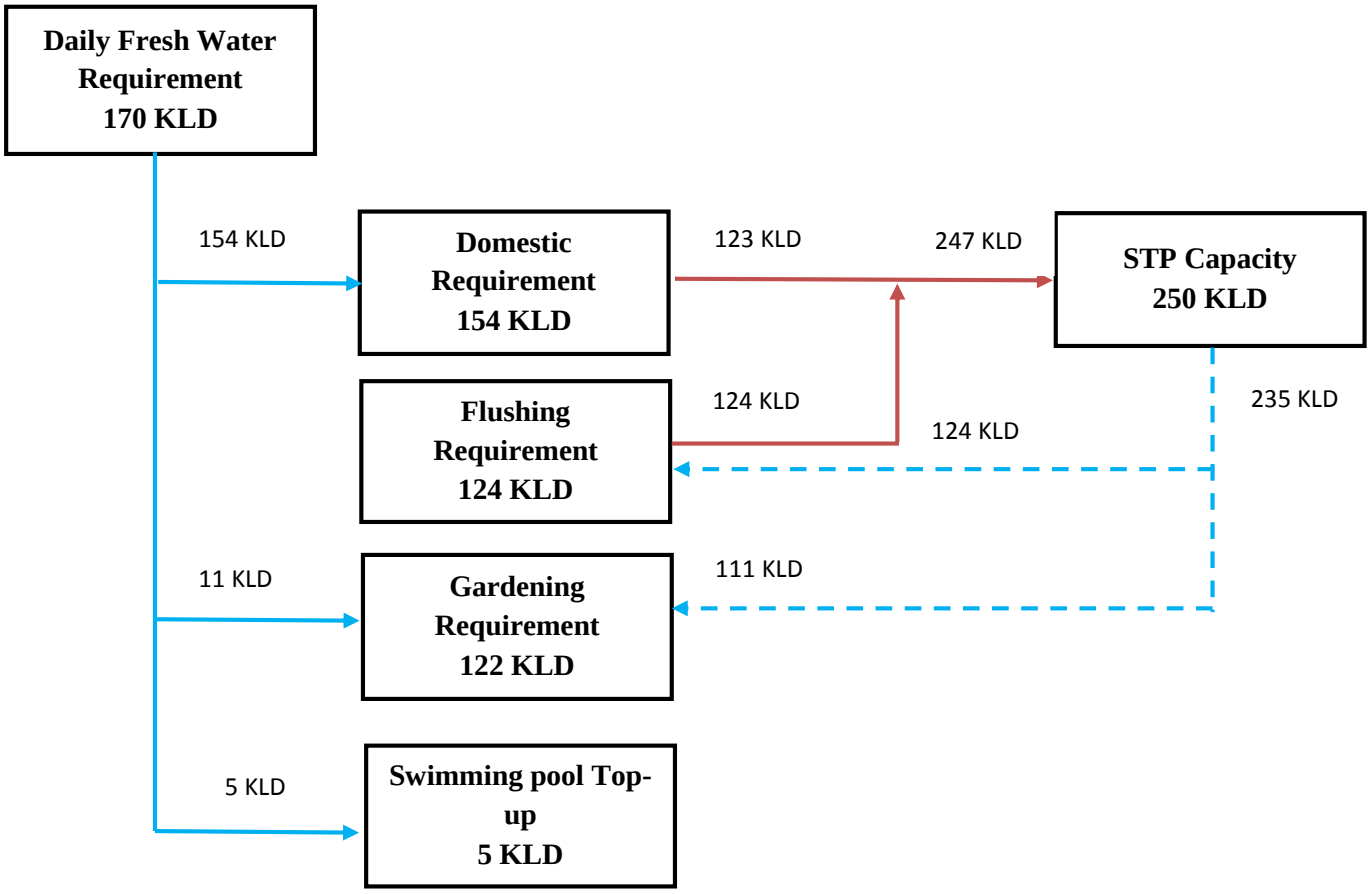
Water & Waste Water Management

During the Audit it was observed that, the total water requirement during operation is 293 KLD. The wastewater generation from the project is about 249 KLD, which is treated in the sewage treatment plants of 250 KLD Capacity and being recycled for flushing and gardening. The details of water requirement and the water balance chart is shown in table below;

Project Component	Total Occupancy (Nos.)	Water Requirement (LPCD)			
		Water Requirement rate (LPCD)	Fresh Water for Domestic Requirement	Flushing Requirement	Total Water Requirement (L)
Students	4119	45	20	25	1,72,998
			78,261	94,737	
Teaching Staff	242	45	20	25	10,890
			4,840	6,050	
Boys Hostel	723	90	70	20	63,624
			49,887	13,737	
Girls Hostel	228	90	70	20	20,064
			15,732	4,332	
Non-Teaching Staff	171	45	20	25	7,695
			3,420	4,275	
Staff Quarters	18	135	90	45	2,430
			1,620	810	
Swimming pool Top-up	-	-	5,000	-	5,000
Sub Total	**5501**	-	**1,58,760**	**1,23,941**	**2,82,701**
			(Say 150 KLD)	**(Say 123 KLD)**	**(Say 273 KLD)**
Green belt	35000 @ 3.5 KL per Ha		11,839.45	1,10,660.55	1,22,500.00
Total			**1,70,599.45**	**2,34,601.55**	**4,05,201.00**

About 60% of the total water demand is being met through the recycled water from the STP's which used for toilet flushing and green belt development within the premises. For this duel piping system has been incorporated in the campus.

Water Balance Chart:



Sewage Treatment Plant – 250 KLD Capacity

Bar Screen Chamber at STP

Aeration Tank at STP

Annexure 5

Rain Water Harvesting

Rain harvesting system

Due to the importance of water and it scarcity it is implemented to conserve water by rainwater harvesting by which the subsoil water condition / moisture content is maintained / improved to a great extent. Also to harvest rainwater from the terrace area by collecting the same in a rainwater collection sump of suitable capacity and re-used for domestic purposes with the provision of a filtration unit. And the rainwater collected from open paved and landscape area is being collected in the storm water drain which is connected to Rainwater recharging pit.

Rain Water Harvesting Pit

Rainwater from the roof-top of the institution buildings which is about 2,400 Sq. m is being collected in the pond with a capacity of 40 lakh liters. The collected water is reused for the domestic purpose within the campus with the provision of a filtration unit.

Rain Water Harvesting Pond within the Campus

Annexure 6

Power Requirement & Renewable Energy

This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliances, natural gas and vehicles. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment. However, many may not realize how much influence the higher education sector has in the larger energy market. Energy sources utilized by all the departments and common facility centers include electricity.

Major use of energy is in office, canteen, hostels and laboratories for lighting, and laboratory work. Energy consumption by major energy. The total connected load is 297 kVA and from TNEB. The campus is achieved utilizing the Solar Energy to generate 35 kwh out of the total consumption. Furthermore the followings are adopted as energy conservation measures in the campus.

Transformer and Diesel Generator Details

S.No.	Power House	Transformer	Qty	Total Capacity
1	Sub Station	500 kVA	3	1500 KVA

S.No.	Generators	Capacity	Qty	Make	Status
1	DG sets 1	500 kVA	1 Ns	Powerica	Under Operation condition
2	DG sets 2	500 kVA	1 Ns	Powerica	Under Operation condition
3	DG sets 3	500 kVA	1 Ns	Powerica	Under Operation condition

Solar Water Heater installed Hostel Blocks

Solar Panel Installed at Admin Block of the campus.

Annexure 7

Green Belt Development and Landscape

During the audit it was observed that the Educational Institution has already planted adequate numbers of saplings all along the periphery and inside the campus, roadways and available open spaces. The major aim of greenbelt development plan is to attenuate air pollutants released into the environment but it can also help in overall improvement in the environmental conditions of the campus. The plan will address the following issues such as attenuation of air pollution, noise reduction, improving the biodiversity of the region, adding aesthetics and combating soil erosion and prevention of land degradation.

Common name	**Scientific name**
1. Fishing rod tree	*Pterospermum suberifolium*
2. Flame of the forest	*Butea monosperma*
3. Trumpet Flower,Yellow Snake tree	*Stereospermum colais*
4. Ceylon ebeny tree, East Indian Ebony	*Diospyros ebenum*
5. Jodpakli	*Dimorphocalyx glabellus*
6. Seashor 7. Mempari, Pongam, Indian Beech	*Pongamia pinnata*
8. Alexandrian laurel	*Calophyllum inophyllum*
9. Indian lilac	*Azadirachta indica*
10. Rain Tree	*Samanea saman*
11. Banyan	*Ficus benghalensis benghalensis*
12. Fig tree	*Ficus glomerata*
13. Strangler fig	
14. Noni	*Morinda tinctoria*
15. Neem	*Azadirachta indica*
16. Indian bael	*Aegle marmelos*
17. Tamarind tree	*Tamarindus Indica*
18. Rosy trumpet tree	*Tabebuia rosea*
19. Royal Palm	*Roystonea regia*
20. Fishtail Palm	*Caryota urens*
21. Table palm	*Livistona Rotundifolia*
22. Areca palm	*Dypsis lutescens*
23. Date palm	*Phoenix dactylifera*
24. Copperpod	*Peltophorum pterocarpum*
25. Ironwood tree	*Cassia Siamea*
26. Casuarina	*Casuarina junghuhniana*
27. Zebra wood	*Guettarda speciosa*
28. Devils Tree	*Alstonia scholaris*
29. Kadam	*Neolamarckia cadamba*

30. Malabar Neem	*Melia dubia*
31. Teak	*Tectona grandis*
32. Beach-almond	*Terminalia bellirica*
33. Indian laurel	*Indian laurel*
34. Golden Shower, Indian Laburnum	*Cassia fistula*
35. Indian cork tree	*(Millingtonia hortensis*
36. Cannon Ball Tree	*Couroupita guianensis*
37. Indian ash tree	*Lannea coromandelica*
38. Malabar plum	*Syzygium cumini*
39. Bullet Wood	*Mimusops elengi*
40. Butter tree	*Madhuca longifolia*
41. Mango tree	*Mangifera indica*
42. Malabar plum	*Syzygium cumini*
43. Bullet Wood	*Mimusops elengi*
44. Butter tree	*Madhuca longifolia*
45. Mango tree	*Mangifera indica*
46. Bastard poon tree	*Sterculia foetida*
47. Peacock flower fence	*Adenanthera pavonina*
48. Indian laurel	*Terminalia elliptica*

Green Belt Development


CSE
Block

Annexure 8

Medical/ Clinical Facilities

The Medical centre of SVCE was instituted in the year 2008 with 6 beds, a resident Medical Officer, a trained residential nurse and a qualified lab technician. Besides that, the college has first aid kits made available in almost all blocks. A 24-hour ambulance facility, adequate pharmaceutical support, medical lab services are a few of the mentionable services offered.

Ambulance Facility in the Campus

Beds arrangements for first aid

Annexure 9

Green Campus & Environmental Initiatives

Environmental Activities:

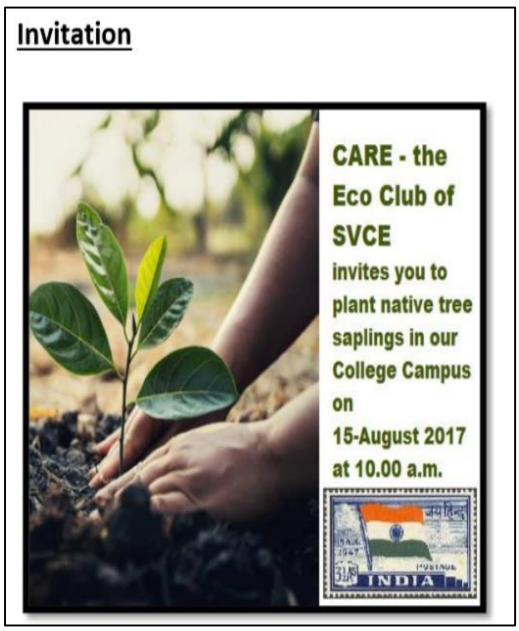
The main objective of conducting the Environmental activates within the campus for the students, teachers and stakeholders to acquire knowledge of the environment beyond the immediate environment including distant environment.

It helps the students understand how their decisions and actions affect the environment, builds knowledge and skills necessary to address complex environmental issues, as well as ways we can take action to keep our environment healthy and sustainable for the future.

CARE - Concern, Awareness, and Responsibility for Environment is a student-run organization that works with peers, faculty, and community to create environmental consciousness among public, in general, and students, in particular. It motivates students to have an eco-friendly life style and attempts make the campus a more sustainable campus by converting green ideas into reality.

The activities carried out in the academic year related to Environmental is as follows:

- The NCC (Army) Cadets of the campus has organized "Tree Plantation Program" on 15th July 2017, in which 30saplings were planted by the guests and by the NCC Cadets.



- The NSS has organized programs on World Environment Day covered on the basic theme of environmental impact and awareness in which around 60 Volunteers and Students were participated.

Annexure 10

Environmental Monitoring Programme

The environmental monitoring programs helps to continuously monitor the incremental increase in various pollutant concentration in the respective environment. It outlines the frequency of the pollutant concentration being measured in each environment and the parameters being monitored in respective environment.

S. No.	Description	Monitoring parameters	Frequency of Sampling and Analysis
Operation Phase			
1.	Ambient Air Quality	PM_{10}, $PM_{2.5}$, SOx, NOx and CO	Once in a month
2.	Stack Emissions from DG Set	PM, SOx, NOx, HC and CO	Once in a month
3.	Ambient Noise Level	Noise level in dB (A)	Once in a month
4.	Treated Sewage (STP)	pH, TSS, BOD and Fecal Coliform	Once in a month

All parameters shall be monitored; compilation and reporting is done by NABL Accredited Laboratory.

Annexure 11

Environmental Management Plan

Environmental Management Plan gives the strength, weaknesses and suggestions on the environmental issues of Educational campus. It also suggests about which area is to be given priority.

- The green audit of college campus reveals that the administration shall focus on the source segregation of the solid waste generated from the campus.
- Ecofriendly actions shall be encouraged among students like usage of Bicycle within the campus, etc.
- Energy Efficient devices such as LED bulbs, sensors, etc. shall considered for usage during the future replacement.

The entire exercise of green audit concluded that the Institution administration is keen on all the environmental issues. Students, staff, faculty and administration working together will produce the best results raising awareness and helping to push the environmental friendly agenda in front of campus.