SRI VENKATESWARA COLLEGE OF ENGINEERING

Prepared by:

ECO SERVICES INDIA PRIVATE LIMITED

GREEN, ENVIRONMENT & ENERGY AUDIT REPORT: 2021 - 2022

ECO SERVICES

16th December 2022

Certificate

This is to certify that we have conducted a Green, Environment & Energy Audit for the Academic Year 2021-2022 at the **Sri Venkateswara College of Engineering (SVCE) campus** 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 Conservation and Waste Water Management
- Operations of Sewage Treatment Plant Facilities (STP)
- 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, faculties and students towards Environmental Consciousness and Sustainability are highly appreciated and commendable.

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

ECO SERVICES INDIA PVT LTD No.1/134, Dhanakotiraja Street, Sundar Nagar, Ekkaduthangal GUINDY, CHENNAI-32

Sushmitha D.
Accredited EIA Coordinator (NABET)

Declaration

Our Team Members has inspected the campus physically towards conducting Green Environment & Energy Audit. We hereby declared that the given audited information's regarding particulars of the Sri Venkateswara College of Engineering campus in the report is correct and we certified the same.

For Eco Services India Private Limited

ECO SERVICES INDIA PVT LTD No.1/134, Dhanakotiraja Street, Sundar Nagar, Ekkaduthangal GUINDY, CHENNAI-32

NABET Accredited EIA Coordinator

Contents

1.0 Introduction

1.1. About SVCE

Sri Venkateswara College of Engineering (SVCE), managed by Sri Venkateswara Educational and Health Trust (SVEHT) is the one of the pioneer engineering institution in the state inaugurated to foster the academic community since its inception in 1985. The institution implements Engineering programs to promote research, to disseminate knowledge, to exchange of ideas between the academic community & industrial organizations and to develop entrepreneurship skills among students. It strives to achieve academic excellence along with the harmonious development of personality of students for the nearly 4 decades.

SVCE spread over on the 95 acres vast lush green campus located at the Pennalur Village i.e at the western outskirts of Chennai. The campus houses in architecturally exquisite buildings with ample infrastructure such as Laboratories, Workshops, Faculty Rooms, Office, Conference Hall, Dispensary, Technology Innovation Centre, Staff Quarters, Guest House, Open Air Auditorium, Library, Canteen, Hostels, Swimming Pool, RO Plant, Gymnasium, Indoor Sports Facility and Play Grounds.

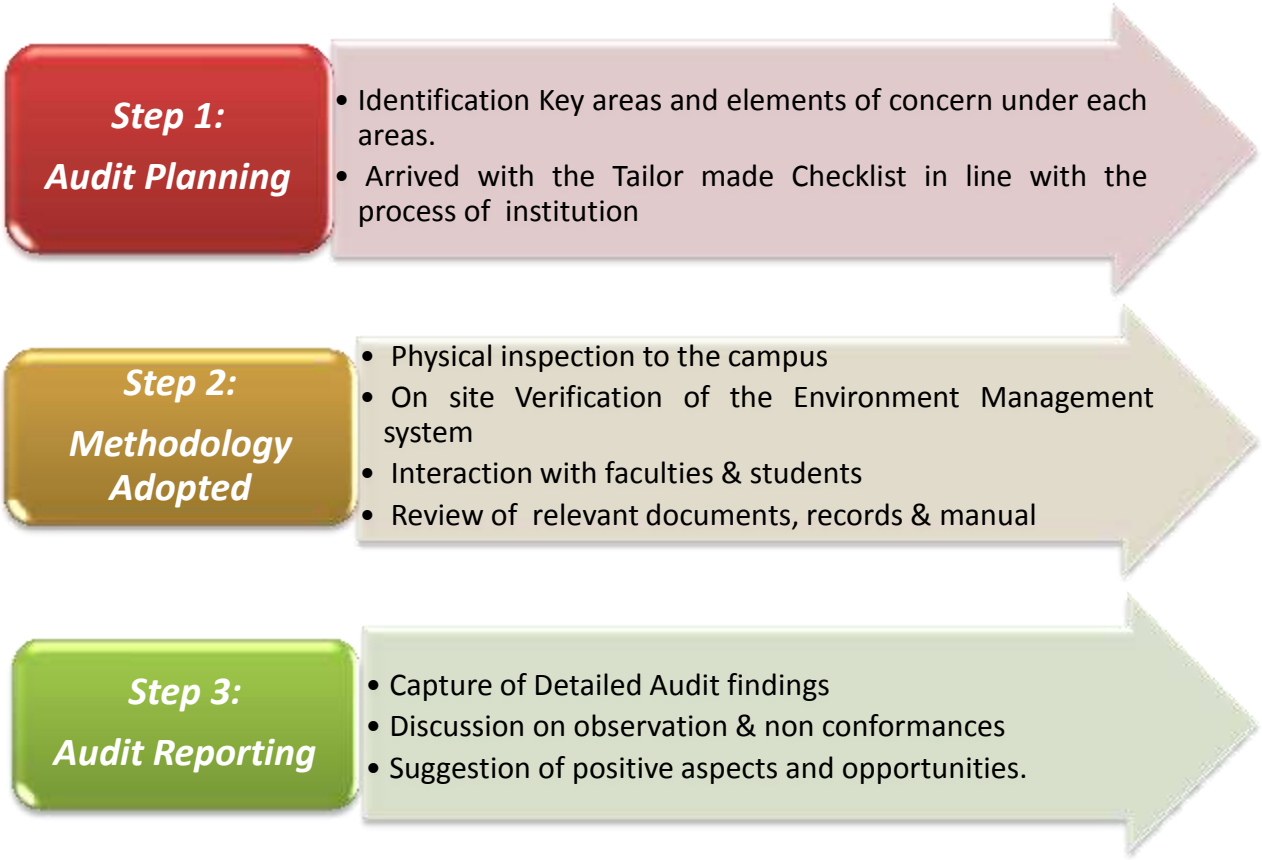
1.2. Environmental Framework of Institution

SVCE prioritize its Environmental Consciousness and sustainability initiatives and have framed an Exclusive Environmental & Green Policy to be adopted by the institution to achieve the objectives. In order to evaluate their objective, the Green, Energy & Environment Audit shall be conducted in every Academic year. Hence, SVCE has engaged Eco Services India Private Limited to evaluate, audit and report the Environmental Management & sustainability initiatives and efforts practiced by the institution.

The audit also reviews the extent to which the campus activities are in compliance with the applicable regulations, policies and standards pertaining to the environmental entirety of the campus. In addition, the specific Environmental objectives of the audit were evaluated to ensure the Environment & Sustainability Framework of the institution is in place.

2.0 Audit Framework

The Audit Team understood the scope of work done and framed the below audit Framework in the following steps.



3.0 Audit Findings

The Audit Findings against each area/ aspects were evaluated and enlisted in the below table. The supporting documents & detailed information about the Environmental Management Measures and other initiatives is appended as Annexures.

Table 3.1 Detailed Audit Findings:

Area/Aspect	Objectives/Criteria	Audit observation on Implementation
Environmental Objectives	• To inculcate a strong sense of commitment and responsibility among students and members of faculty to follow an eco-friendly life style and habitats	• Students and Faculties are strongly committed to reduce the use of Plastic Materials and make the campus a Plastic free Zone and have under gone many campaigns to make the environment, eco-friendly. • The faculties and other staffs were mindful about their responsibilities in adopting and encouraging Environmental & sustainable practices.
	• To make students aware of the sustainability goals at the micro and macro level and to strengthen their participation d involvement to promote and implement sustainability goals.	• Students informed that Environmental Science and Engineering (GE18251) is part of their curriculum that inculcates environmental consciousness among them. • Students were encouraged to go Field visits to understand the significance of environment. • An Environmental Committee incorporating faculties & students is in place. • Committee advices & overviews the environmental and sustainability practices of the institution.
	• To advance governance regarding environment compliance and employ methods to reduce the waste, and conserve energy, and water consumption.	• Encouraging the students and faculties to follow 3R(Reduce, Reuse & Recycle) • Waste being generated from the campus is treated and reused within the campus. • Reuse of treated sewage about (114 KLD) for green belt maintenance is being observed.

Area/Aspect	Objectives/Criteria	Audit observation on Implementation
	• To improve the biodiversity in the campus	• Flowering species & Non Flowering plants developed to add the aesthetics of the campus. • Greenbelt Development was envisaged around the periphery of the campus. • 20 – 30 years deep-rooted Trees were seen and maintained • Nectar yielding species planted to attract insects and butterflies. • 2 Micro Habitats were created to habit different forms of insects, Squirrels and birds • Fleet of butterflies around the shrubs was naturally seen • Water Bowls & Feeder Boxes were fastened/placed under in trees to cater the birds & pets. (Photographs of flora and Fauna attached as Annexure I)
	• To be recognized as Eco Friendly and Green Campus.	• Composting yard for management of littered horticultural wastes was observed. • Bio Gas Plant operation is observed which treats Food wastes from canteen • E-Shuttles were employed to facilitate low carbon operations. • Eco friendly practices such as avoiding Single Use Plastics, Lush green belt maintenance, solar energy utilization and operation of In-situ STP were observed.
Energy Conservation	• Utilization of Solar Energy	• Photovoltaic Panels of 35 KW was installed over the Terrace in one of Academic blocks. The Photographs of solar panel is enclosed as Annexure - II) • Solar water heaters are installed in the hostel blocks

Area/Aspect	Objectives/Criteria	Audit observation on Implementation
	• Use of LED Bulbs/ energy saving Fixtures	• All the lighting Fixtures inside the Admin Block, New Library Block, and Canteen and in some Hostel Blocks are LED types. • It is informed that eventually all the CFL Lamps are being replaced with LED fixtures.
	• Transportation & Carbon Footprint Reduction	• E – shuttles facilities could be seen in the campus • Students & staffs were encouraged to opt of common/ college bus & E – Shuttle services to minimize the travel carbon foot print. • Fuel Free - Material handling carts employed to save fuel The Photographs of transportation services (Diesel vehicles & E-shuttles) is enclosed herewith as Attached as Annexure - III
	• Bio gas & other alternative fuels	• Institution operates a Biogas Plant (35 Cu.m capacity) to treat the food waste. • Bio gas storage cylinders available for reuse in Kitchens was seen. The Photographs of Bio gas plant components enclosed as Annexure - V
Water Conservation	• Rain Water Harvesting	• Huge Rain water harvesting pond observed at the site. (4 MLD) • Internal storm drains were constructed to have their outfall to the Pond.
	• Recycling of treated sewage/ water	• Excess storm runoff collected was stored, treated and reused for Flushing & gardening purposes. • Exclusive WTP can be seen for the storm runoff treatment.

Area/Aspect	Objectives/Criteria	Audit observation on Implementation
	• Water Quality	• Water Treatment Plant (200 KLD) was operated to treat the raw water. The Photographs of WTP enclosed as Annexure IV • Reports from NABL Accredited labs were reviewed and qualities of water samples are well within the ISO 10500:2012 standards.
	• Water Distribution system	• Drinking Water distributed through Water Dispenser bottles and dispatched to classrooms and all other blocks.
Waste Management	• Municipal Solid Waste Management	• Campus declared to be a Plastic Free Zone • Tri color Bin – Collection System near the entry/exit of can be found near Blocks, Canteens & common areas. • Workers stated that Organic Waste generated is treated in Bio gas plant and the horticultural wastes were treated in a separate Composting Yard. • Bio Gas flow records reviewed and found effective. • It is informed that recyclable plastic and paper waste is stored and periodically handed over to ITC wealth out of Waste Recycling drive. • The Bio gas plant Photographs attached as Annexure – V
	• E-waste management	• Separate Room stacked with E waste components CPU, Monitors etc. is inspected. • The MOUs & Photos of E Waste storage room attached in Annexure – VII.
	• Hazardous Waste Management	The Spent lube oil derived from DG sets is stored separately.
Air Emissions & Control	Stack Emissions	Exhaust Stack connected to for 3 Nos. of Diesel Generator sets.

Area/Aspect	Objectives/Criteria	Audit observation on Implementation
		Stack Height is in line with CPCB Norms and Consent issued.
Waste Water Management	• Treatment options available	• Conventional Activated Sludge Process Based STP is seen under operation. • Tertiary Treatment systems Ultra Filtration installed to increase the quality of treated sewage.
	• Waste water Quality	• Month wise STP Outlet Sample Test Reports was reviewed. • Environmental Monitoring Reports shows that the Treated Sewage meets the TNPCB Norms.
Green Campus & Environment Initiatives	Environmental awareness workshops	• Environmental Committee framed combining students & faculties. • The Hierarchy chart with Qualification was verified. • Institution has created the active CARE Eco club conducting activities. • Tree Sapling plantation programs has been conducted during the month of July & January 2021 to create environmental awareness. • Institution is regularly conducting Seminars and awareness programmes to highlight the principle of Sustainability in every seminars & programs • The Photos & list of activities carried out to promote environmental awareness can be seen in Annexure – X.
Statutory Compliance	Compliance with the Statutory Requirement.	• Environmental Clearance from State Environment Impact Assessment Authority dated 29.04.14 is available and reviewed. • Renewed Consent To Operate under Air & Water Acts is obtained from Tamil Nadu Pollution Control Board on 23.08.2022 valid till

Area/Aspect	Objectives/Criteria	Audit observation on Implementation
		31.03.2027. • Hazardous Waste Authorization obtained under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 from Tamil Nadu Pollution Control Board.
COVID'19 Protocols	Prevention & Management in spread of COVID'19	• It is informed that College remained closed during the onset of 2nd lock down and students attended class in the virtual mode. • Upon reopening of college, Students, faculties & staffs were mandated for wearing Face masks. • SOP to prevent COVID'19 Spread towards Reopening of College was reviewed and its implementation verified. • Thermal Detectors check was seen near the Entry Exit of Campus • Hands Free Sanitizer Access was found in all the Entrances of blocks of the Campus. • We were informed that Procedure to deal with COVID Contracted patients will be ensured in the event of any COVID outburst/surge.

Annexures

Annexure I

Bio Diversity:

The educational Institution Campus 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.

Floral Diversity:

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.

A well designed green-belt helps in intercepting particulate matter and gaseous pollutants and helps in purifying the air. Trees acts as effective barrier and absorber of noise. The green belt around the campus acts as an indicator in the event of release of gaseous emission by visible morphological changes in the leaves, stem etc.

To accrue the benefits of greenbelt and to maximize its potential in environmental management around the campus, choice of the green belt tree and shrub species plays a vital role. About 1400 nos. of trees and 450 nos. of Shrubs are planted and the details of trees and shrubs species are furnished below.

List of tree species planted:

S.No.	Common Name	Botanical Name	Tamil Name
1.	Royal poinciana	*Delonix regia*	Sengonrai Maram
2.	Fishing rod tree	*Pterospermum suberifolium*	Taddaemarum
3.	Flame of the forest	Butea monosperma	*Kincukam*
4.	Trumpet/ Yellow Snake tree	Stereospermum colais	Vasantha Rani
5.	Ceylon ebeny tree, East Indian Ebony	Diospyros ebenum	*Karingali*

6.	Jodpakli	Dimorphocalyx glabellus	Thenthukk
7.	Seashor Mempari, Pongam, Indian Beech	Pongamia pinnata	Pongam
8.	Alexandrian laurel	Calophyllum inophyllum	Punnnai
9.	Indian lilac	Azadirachta indica	Malai vembu
10.	Rain Tree	Samanea saman	Seema vaagai
11.	Banyan	Ficus benghalensis benghalensis	Aalam
12.	Fig tree	Ficus glomerata	Atthi maram
13.	Strangler fig	Ficus aurea	
14.	Noni	Morinda tinctoria	Nuna maram
15.	Neem	Azadirachta indica	Vembu
16.	Indian bael	Aegle marmelos	Vilva maram
17.	Tamarind tree	Tamarindus Indica	Puliyamaram
18.	Rosy trumpet tree	Tabebuia rosea	Vasantharani Tree
19.	Royal Palm	*Roystonea regia*	Panamaram
20.	Fishtail Palm	*Caryota urens*	Panamaram
21.	Table palm	*Livistona Rotundifolia*	Panamaram
22.	Areca palm	*Dypsis lutescens*	Date Palm
23.	Date palm	*Phoenix dactylifera*	Date tree
24.	Copperpod	*Peltophorum pterocarpum*	Perungondraii maram
25.	Ironwood tree	*Cassia Siamea*	Sinnakennai
26.	Casuarina	*Casuarina junghuhniana*	Savukku maram
27.	Zebra wood	*Guettarda speciosa*	Panneer maram
28.	Devils Tree	*Alstonia scholaris*	Ezilai aalai
29.	Kadam	*Neolamarckia cadamba*	Kadamba maram
30.	Malabar Neem	*Melia dubia*	Malai Vembu
31.	Teak	*Tectona grandis*	Thekku
32.	Beach-almond	*Terminalia bellirica*	Than-dri.
33.	Golden Shower,	*Cassia fistula*	Sarakondrai

	Indian Laburnum		
34.	Indian cork tree	*(Millingtonia hortensis*	Mara malli
35.	Cannon Ball Tree	*Couroupita guianensis*	Nagalinga maram
36.	Indian ash tree	*Lannea coromandelica*	Othiyan maram
37.	Malabar plum	*Syzygium cumini*	Naval maram
38.	Bullet Wood	*Mimusops elengi*	Makila maram
39.	Butter tree	*Madhuca longifolia*	Iluppai maram
40.	Mango tree	*Mangifera indica*	Maa amram
41.	Bastard poon tree	*Sterculia foetida*	Pootha karapaan
42.	Peacock flower fence	*Adenanthera pavonina*	Annai kundrimani
43.	Indian laurel	*Terminalia elliptica*	Neer mathi
44.	Sea almond	*Terminalia catappa*	Badam tree
45.	Gooseberry tree	*Phyllanthus emblica*	periya nelli maram
46.	Indian rock fig	*Ficus arnottiana*	Kallala maram
47.	Notched Leaf Soapnut	*Sapindus emarginatus*	Poovandikottai Maram
48.	Mahogany	*Swietenia macrophylla*	Mahogany
49.	Orchid tree	*Bauhinia variegata*	Mantharai
50.	Orchid tree	*Bauhinia racemosa*	Mantharai
51.	Singapore Cherry	*Muntingia calabura*	
52.	River tamarind	*Leucaena leucocephala*	Peru-n-takarai
53.	Nipa palm	*Nypa fruticans*	Panamaram
54.	Guava	*Psidium guajava*	Guava
55.	Pala indigo	*Wrightia tinctoria*	Veppalai
56.	Yellow Bells	*Tecoma stans*	Nagasambagam
57.	Earleaf acacia	*acacia auriculiformis*	Kaththik karuvel

Site Photographs of the Green Cover:

Faunal Diversity:

It was also noted during the audit, a micro habitat was created within the campus with aim of marinating the biodiversity of the campus.

In order to attract butterflies, 20 species of nectar-yielding saplings were planted. As a result of planting a total of nearly 40 species of butterflies have been identified in the Micro Habitat. A well-maintained lawn alone will not attract butterflies, other insects or smaller life forms.

Annexure II

Power Requirements & Energy Sources

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 1089 kVA and sanctioned demand from TNEB is 9000 kVA. 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

Estimation of Energy Savings:

S. No.	Description	No. of fixtures	Power consumption without Energy saving measures		Power consumption with Energy saving measures	
			Load per Fitting (in watts)	Total load (in watts)	Load per Fitting (in watts)	Total load (in watts)
1.	Lighting Fixtures					
a	New Library Block	430	70	30,100	45	19,350
b	Canteen & Hostel Blocks	315	75	23,625	21	6,615
c	Admin Block	70	70	4,900	40	2,800
d	Common area	175	80	14,000	30	5,250
2.	External Lighting Main Gate, Workshop & Hostel Block Lighting	21	250	5,250	72	1,512
3.	Lifts	2	8,000	16,000	5,000	10,000
4.	Solar Panel					35,000
	Total			93,875		80,527
	Total power consumption/year in KW			41,11,72,500		35,27,08,260
	(Assuming 12 Hrs/ day / 365d)					
	Thus, energy saved in %			14.21890812		
				11% (say)		

Solar Panels

Installed capacity – 35 kW

Solar Water Heater

Annexure III

Transportation Facilities

Majority of the students in the campus rely on public transport, and the transport service provided by the educational institution indicating lesser carbon foot print of the student community. The institution has also provided E vehicles for commuting the students & staffs within the Campus. Diesel buses for commuting the students & staffs from various parts of city in daily basis.

Annexure IV

Water & Waste Water Management

The Campus Water Requirement is reported as 408 KLD and their Fresh Water Requirement is said to be 171 KLD (which is being sourced through the Private Tankers water supply and treated in Water Treatment Plant with a capacity of 200 KLD) and the Flushing water requirement is 237 KLD.

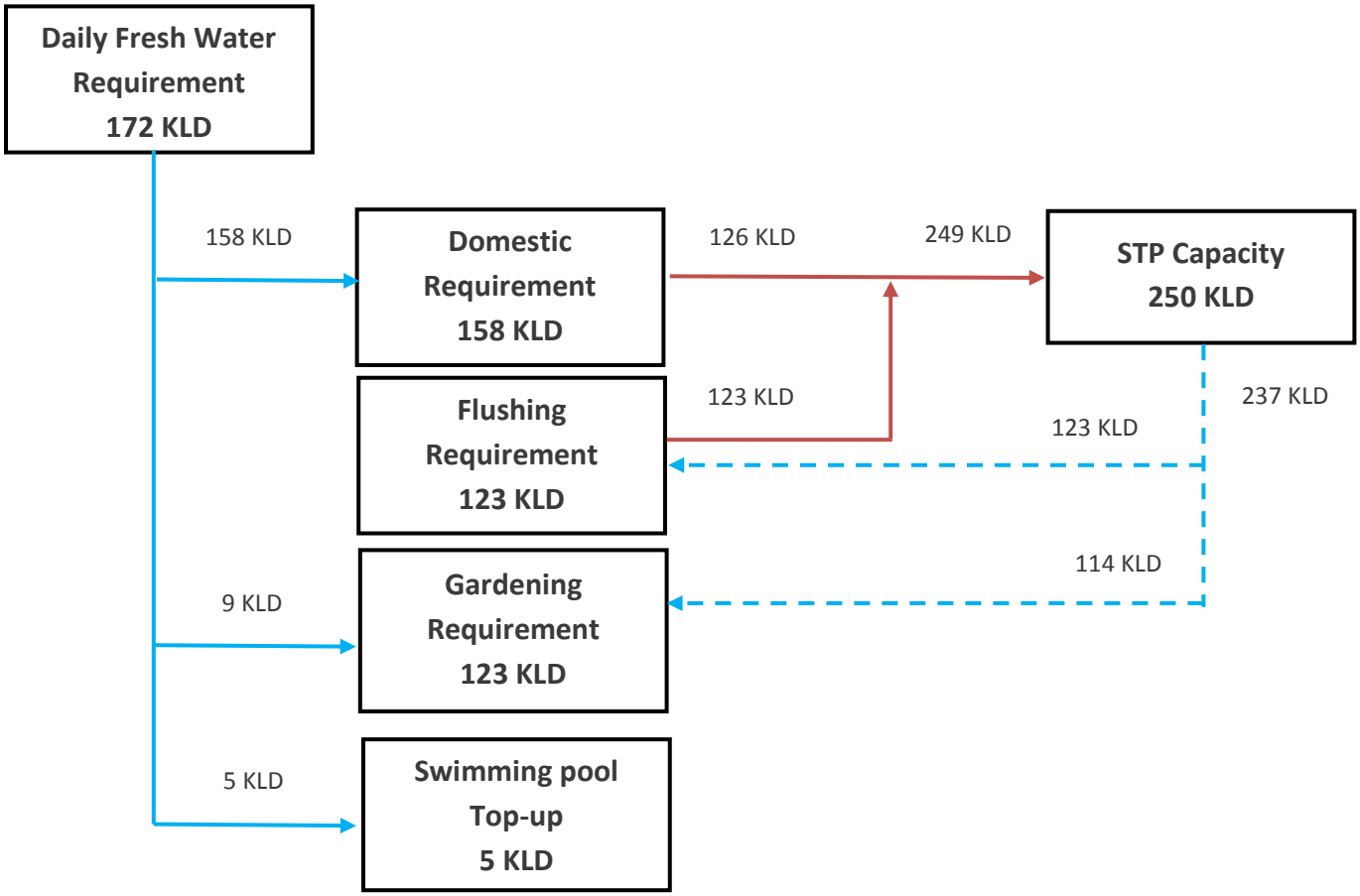
The Sewage generation from the campus is about 249 KLD which is being treated in Sewage Treatment Plant having 250 KLD Capacity. The details of water requirement and the water balance chart is shown in table below:

Project Component	Total Occupancy (Nos.)	Water Requirement (LPCD)			
		Water Requirement rate (LPCD)	Fresh Water for Domestic Requirement	Flushing Requirement	Total Water Requirement (L)
Students	3,566	45	20	25	160,470
			71,320	89,150	
Teaching Staff	258	45	20	25	11,610
			5,160	6,450	
Boys Hostel	792	90	70	20	71,280
			55,440	15,840	
Girls Hostel	288	90	70	20	25,920
			20,160	5,760	
Non-Teaching Staff	173	45	20	25	7,785
			3,460	4,325	
Staff Quarters	26	135	90	45	3,510
			2,340	1,170	
Swimming pool Top-up	-	-	5000	-	5000
Sub Total	**5,103 Nos.**	**-**	**162,880**	**122,695**	**285,575**
Green belt Development	**-**	35000 @ 3.5 KL per Ha	8,646	113,854	122,500
Total			**171,526 LPD**	**236,549 LPD**	**408,075 LPD**
			(Say 172 KLD)	**(Say 237 KLD)**	**(Say 408 KLD)**

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.

The gardening water requirement totals to 123 KLD.

Water Balance Chart:



Water Treatment Plant – 200 KLD

Sewage Treatment Plant – 250 KLD Capacities

Bar Screen Chamber

Collection Tank

Aeration Tank

Clarifier Tank

Clarified Water Storage Tank

Pressure Sand Filter & Activated Carbon Filter

Ultra Filtration Plant

Sludge Drying Bed

Annexure V

Solid Waste Management

The solid waste generation of the campus comprises of biodegradable waste e.g. domestic waste, food waste, horticultural waste etc. and recyclable waste, like plastics, paper etc., and inert fractions. The current scenario of solid waste is as follows:

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	3,566	0.4	1,426	855	584
2	Teaching Staff	258	0.4	103	61	38
3	Boys Hostel	792	1.2	950	570	336
4	Girls Hostel	288	1.2	345	207	112
5	Non-Teaching Staff	173	0.4	69	41	30
6	Staff Quarters	26	0.6	15	9	6
Total Solid Waste Generation (Kg/day)		**5,103 Nos.**	**-**	**2,910**	**1,746**	**1,164**
Total (Tonnes/day)			**-**	**2.91**	**1.75**	**1.16**

S. No.	Name of Solid Waste	Quantity T/day	Mode of Disposal
1.	Bio Degradable Waste (Food, vegetables, paper wastes etc.)	1.75	Treated in Bio Gas plant and Used in Hostel Kitchens/Canteen
2.	Non Bio Degradable Waste Plastics, Carton boxes, scraps etc.)	1.16	Handed over to Authorized Recyclers
3.	STP Sludge	0.03	Used as manure for greenbelt Development

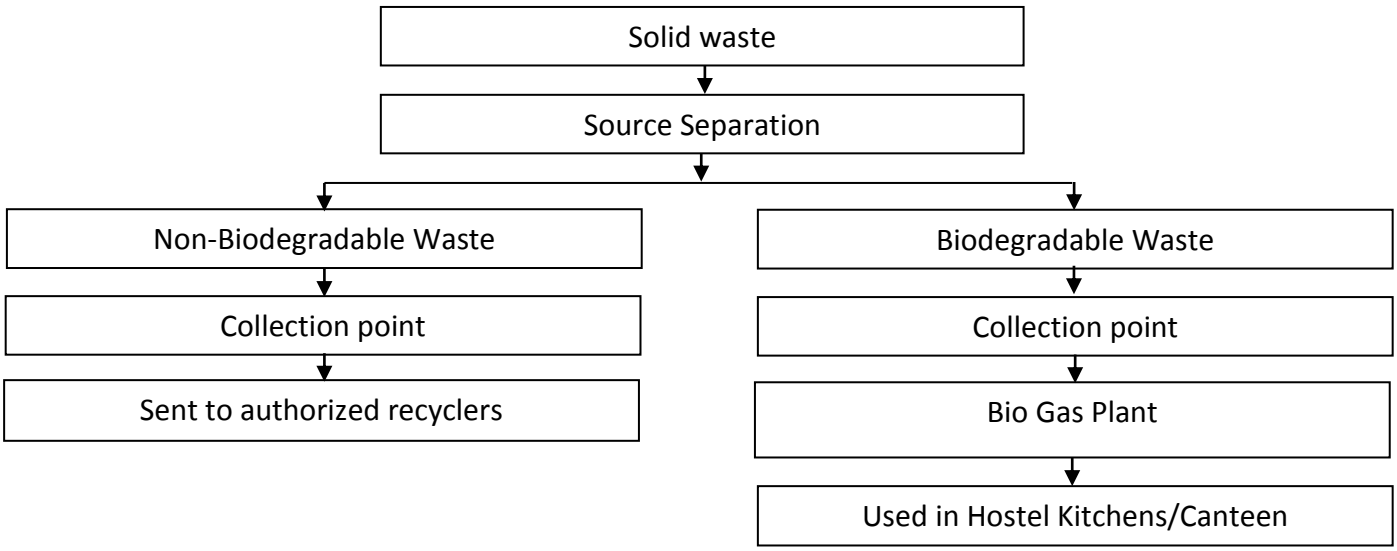
In the campus, sweepers are engaged for handling domestic waste. Adequate number of collection bins separately for biodegradable and non-biodegradable waste has been provided as per the Municipal Solid Waste (Management and Handling) Rule, 2016. Waste from such bins are collected separately on daily 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 collected and feed into the Bio Gas Plant for Bio Gas Production and the Bio gas is used in hostel kitchen. 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 they are treated in a separate composting Yard which are then used for manure in green belt development.

The non-biodegradable wastes are given to the ITC Limited for recycling Project called WOW (Well Being Out of Waste – A National Recycling Initiative).

The solidified sludge from the STP is being dewatered, and used as manure for the green belt.



Solid Waste Management

Waste Segregation System

Food Waste Crusher

Bio Gas Plant

Gas Accumulator

Boiler with Bio-Gas Burner

Composting Yard

Composting bed

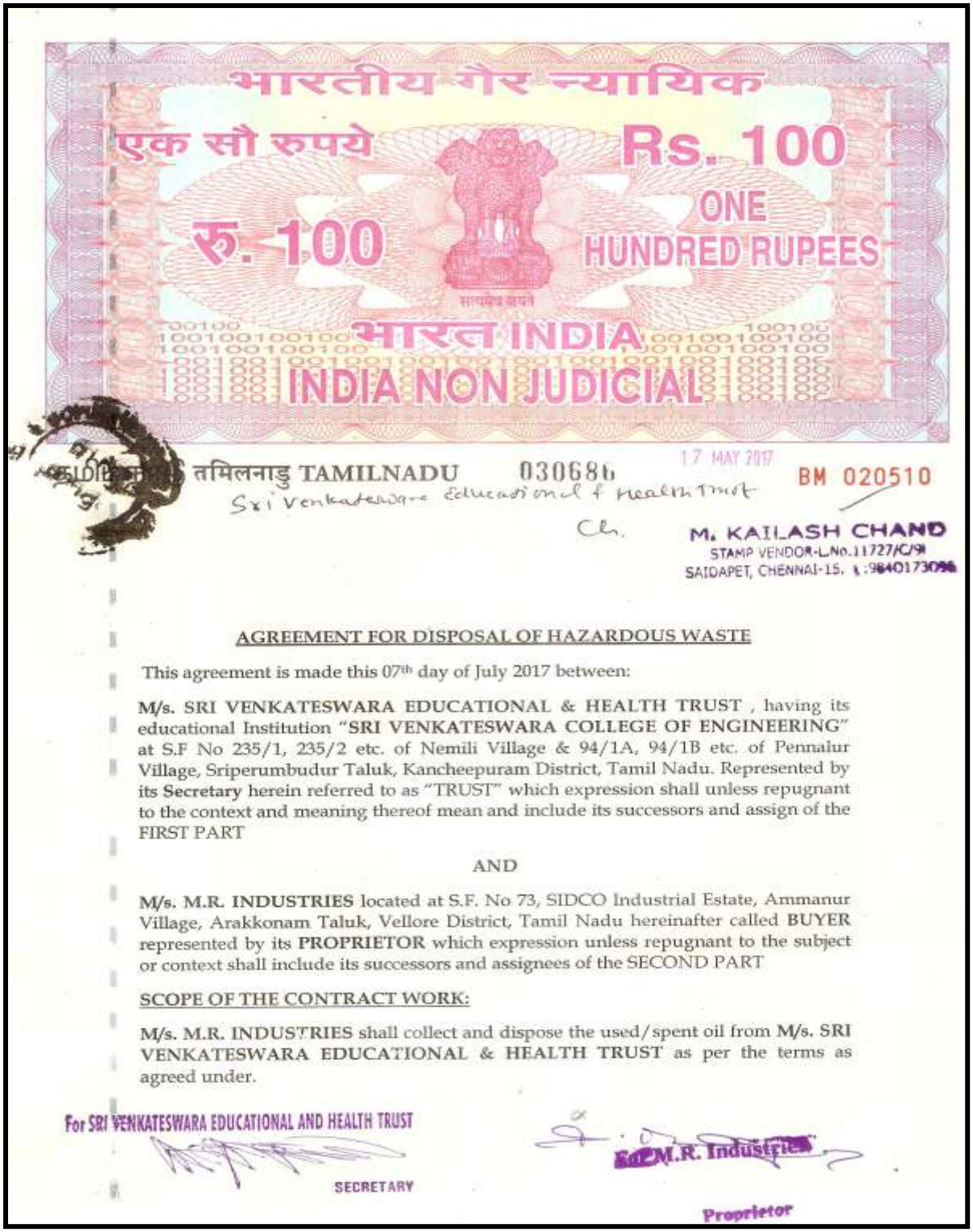
The other non-biodegradable wastes are being handed over to the recyclers on a regular basis.

Annexure VI

Hazardous Waste Management

In an educational institution, the source for generation of Hazardous waste is mainly from Diesel Generators (DG) sets from which spent/used oil and filters will in hazardous in nature. These wastes 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 minimization, safe handling, and ultimate elimination of these materials are essential to the long-term health of the planet. For environmental sustainability the drainage of chemical laboratory collected in air tight cement chamber and frequently the chemical waste from chamber is sent for recycle or for scientifically destroy process.



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एक सौ रुपये Rs. 100

रु. 100 ONE HUNDRED RUPEES

भारत INDIA

INDIA NON JUDICIAL

तमिलनाडु TAMILNADU 030686 17 MAY 2017 BM 020510

Sri Venkateswara Educational & Health Trust

Ch.

M. KAILASH CHAND
STAMP VENDOR-Lic.No.11727/C/98
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

Annexure VII

E – Waste Management

The E –Waste generated like, obsoleted Computers from laboratories, Administration Buildings, Electrical and Electronic Equipment from the Laboratories is being collected and stored in a centralized earmarked area which will be handed over to the authorized recyclers for Recycling and Disposal.

The Purchasing Department will be responsible for the disposal of defective equipment's and E Scrap by the method which obtains Best Value for money. Intimation to the authorized recyclers through mail/ telephone for collection will be given on a periodic basis.

The next E Waste Recycling will be done by the Month of December and they will be handed over to the authorized recyclers for Recycling and Disposal.

Collection and Storage Room of E – Waste generated in the campus

Annexure VIII

Rain Water Harvesting

Rainfall

Kancheepuram district receives rainfall during North-East Monsoon (Oct - Dec) and South-West Monsoon (June - September). A major portion of the rainfall is during North-East Monsoon. Sometimes the city also receives rainfall during January and February, but that is quite rare.

The annual rainfall in Kancheepuram is in the range of 800- 1000 mm. The characteristics of our rainfall demands not only to conserve large quantity of rainwater during these few days but also to store wherever it rains in preferably for direct use and alternatively as ground water.

Rain harvesting system

Rain Water Harvesting Pond:

Keeping in mind 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 trench of suitable capacity and stored in a Rain water harvesting Pond.

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

Annexure IX

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.

Annexure X

Green Campus & Environmental Initiatives

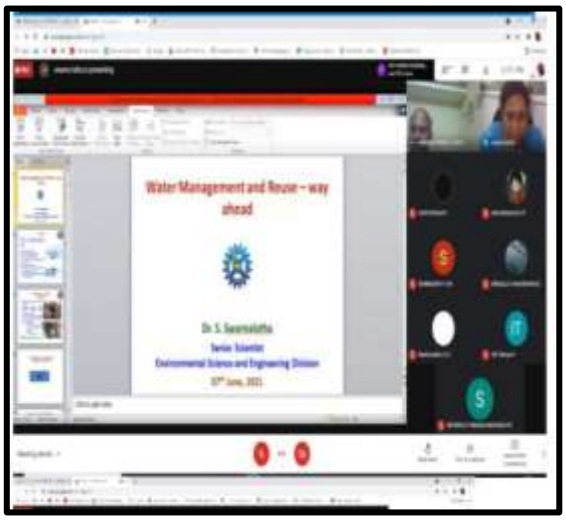
Environmental Activities:

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.

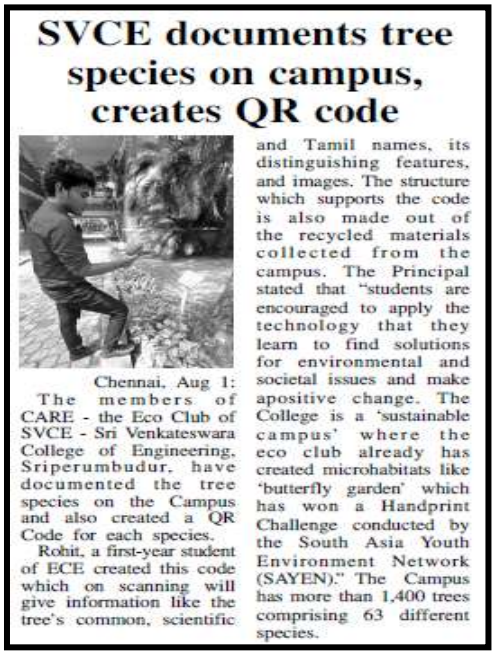
The activities carried out in the academic year related to Environmental is as follows:

1. SVCE organized a Webinar Programme on 7th June 2021 on the topic of "Water Resources and Reuse" given by Dr. Swarnalatha Sr. Scientist of Central Leather Research Institute, Chennai. The Webinar sensitized the Students about the Water Crisis on the Global Scale and for India and technologies for Waste Water Treatment and Reuse developed by CLRI.



2. SVCE's CARE - the Eco Club students organized a Handprint Campaign along with the student and staff for a Green Diwali. The Campaign highlights the use of green crackers to reduce environmental pollution and health hazards.

3. Mr. C. Rohit, a First-year student of ECE created a QR Code for Documentation of each species with their scientific, common, and Tamil names and a very brief description of the tree. This QR Code is placed on a display board, close to the tree for people to scan and get information about that species.



SVCE documents tree species on campus, creates QR code

Chennai, Aug 1: The members of CARE - the Eco Club of SVCE - Sri Venkateswara College of Engineering, Sriperumbudur, have documented the tree species on the Campus and also created a QR Code for each species.

Rohit, a first-year student of ECE created this code which on scanning will give information like the tree's common, scientific and Tamil names, its distinguishing features, and images. The structure which supports the code is also made out of the recycled materials collected from the campus. The Principal stated that "students are encouraged to apply the technology that they learn to find solutions for environmental and societal issues and make apositive change. The College is a 'sustainable campus' where the eco club already has created microhabitats like 'butterfly garden' which has won a Handprint Challenge conducted by the South Asia Youth Environment Network (SAYEN)." The Campus has more than 1,400 trees comprising 63 different species.

4. CARE - the Eco club, along with Swachhta Action Plan (SAP) of Sri Venkateswara College of Engineering organized a Campaign 'Say No to Straws'. The motive of the campaign is to create awareness among students on consequences of improper disposal of plastics (Single-use plastics or Disposable Plastics) to the existing ecosystem and their chain effect on human Health.

5. Department of Civil Engineering of SVCE has conducted a Poster Presentation Event on the Theme OF Water Conservation on 22nd March 2022 which is celebrated as World Water Day.

6. SVCE has organized a Guest Lecture on 30th June 2022 on the Topic of "Role of IT in Watershed and Natural Resource Management – A Paradigm Shift" by Dr. S. V. Murugan, Director of National Agro Foundation.

7. Department of Information and Technology of SVCE visited Amirthi Forest on 30th December of 2021 at Vellore as a part of application of Environmental Science and Engineering subject. The Main Motto of the Visit is for the students to aware of the importance of ecosystem and relate them with their curriculum. The Students were eager to explore the Nature's boundary and its importance towards maintaining balanced ecological system.

8. CARE (Eco Club) and SAP of Sri Venkateswara College of Engineering conducted a "Awarness Program on Hygiene and Sanitation Commemorating the World Environment Day 2022 on 2nd June 2022 for the Students and Staff at Ladies Hostel, SVCE.

Annexure XI

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 XII

Covid – 19 Management Plan

Due to the COVID'19 outburst in the state, the Institution is committed to protect the health and safety of students and employees during these unprecedented times. The following SOP followed to ensure the health of students and employees (includes both teaching and non-teaching staff) and to reduce the risk of exposure to the Virus in the institution.

- Mandatory Thermal Scanning of everyone entering and exiting the institution is followed.
- All the students and staffs must be checked for vaccination certificate.
- Institution encouraged Teachers to adopt digital/technology enabled methods for conducting classes during the Lockdowns.
- Encouraged to consume food designated areas like cafeteria and canteens.
- Mandatory use of PPEs (face mask) by everyone entering the campus.
- Students and staffs should follow hand washing practices:
- Upon arriving at the institution and before going home at the end of the day
- Before and after eating & Between classes and lab hours
- After using the toilet
- Provision for hand wash & sanitizer (alcohol-based hand rubs containing at least 60 percent alcohol) made at all entry and exit points, classrooms, labs, canteens and other common areas
- Strict ban on spitting and throwing garbage on ground.
- Hospital/clinics in the nearby area, which are authorized to treat COVID-19 patients, are identified and list made available at institution all the time.
- Health care center will be available and with equipped doctors in case of emergency for first aid
- Guideline for Cleaning/fumigation in the campus was scheduled based on the guidelines given below.

Guideline for Cleaning Schedule

Sl. No	Cleaning Area	Particulars	Chemicals tobe used	MinimumCleaning frequency
1	Common areas	Roads, lawns, gardens, play grounds, Open Air Theatre, Multipurpose Hall, Sports complex, etc.	1% Sodium Hypochlorite	Once a week
2	Office / Department Buildings	Entrance door, lobbies, corridors and staircases, Secretary / Treasurer / Principal / Dean / HoD rooms, Faculty / Staff rooms, Meeting rooms, Conference halls, Seminar halls, Verandah, Swimming pool area, security guard booths,office rooms, etc.	1% Sodium Hypochlorite	Once a Day
3	Dining Areas	The dining hall, tables, chair sand food counters, etc.	1% Sodium Hypochlorite	Six times a day (before and after Breakfast, Lunch and Dinner)
4	Library	Books, Newspapers,other materials, etc.	NA	Quarantine for at least 24 - 48 hours or expose under UV light for at least 40 minutes
5	Buses/ Vans / Cars	Entrance doors, seats, ceilings, holding rods/ hooks, etc.	1% Sodium Hypochlorite	Twice a Day (before morning & evening trips)
6	High Contact Surfaces	Tables, light switches, door & window handles, doorframes, desks, handrails, lunch tables, phones, intercom systems, keyboards, call	1% Sodium Hypochlorite	Twice a Day

		buttons public counters sinks, lift, sports equipment, teaching and learning aids, etc		
7	Metallic surfaces	Door handles, security locks, keys, etc.	70% alcohol	Frequently
8	Laboratories, Workshops	Entrance doors, doorknobs, windows, equipment, machines, other furniture & fixtures, teaching aids, including UPS and Networking areas / switches / control panels, etc.	1% Sodium Hypochlorite	Twice a Day (before the commencement of the day and between the batches)
9	Computer Centers	Entrance doors, doorknobs, windows, Printers/scanners, table tops, chair handles, keyboards, mouse, mouse pad and other office machines, furniture & fixtures, teaching aids including UPS and Networking areas / switches / control panels, etc.	1% Sodium Hypochlorite	Twice a Day (before the commencement of the day and between the batches)
10	Hostels	All open and common areas like entrance, corridors, entertainment areas like TV hall, staircases, dining halls, corridor walls, door & windows opening in the corridors / walkthrough, office and student rooms, etc.	1% Sodium Hypochlorite	Once a Day
11	Classrooms	Entrance doors, windows, desks, other furniture & fixture, teaching aids, equipment, etc.	1% Sodium Hypochlorite	Twice a Day (before the commencement of the day i.e. morning and during lunch break)
12	Restrooms	Toilet pod/commode, Washbasins, Urinals, Floor, etc.	1% Sodium Hypochlorite	Twice a Day

Sri Venkateswara College of Engineering
Sriperumbudur Tk - 602 117

COVID-19
Coronavirus

STANDARD OPERATING PROCEDURES (SOP)
FOR COMMON AREAS, BUILDINGS,
CLASSROOMS, LABORATORIES, HOSTELS AND
OFFICES
(For Internal Circulation / Use only)

JUNE 2020
This SOP is distributed to all the Sections, Departments and Offices.

Standard Operating Procedure (SOP) prepared by the Institution

Sanitizer Dispenser installed at Library

Annexure – XIII

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 life style and habitats.
- To make students aware of the sustainability goals at the micro and macro level and to strengthen their participation d involvement to promote and implement sustainability goals.
- To advance governance regarding environment compliance and employ methods to reduce the waste, and conserve energy, and water consumption.
- To improve the biodiversity in the campus.
- To be recognized as Eco Friendly and Green Campus.

SVCE | Sri Venkateswara College of Engineering
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Phone : 91-44-27152000(20 lines)
Fax : 91-44-2715 2111
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

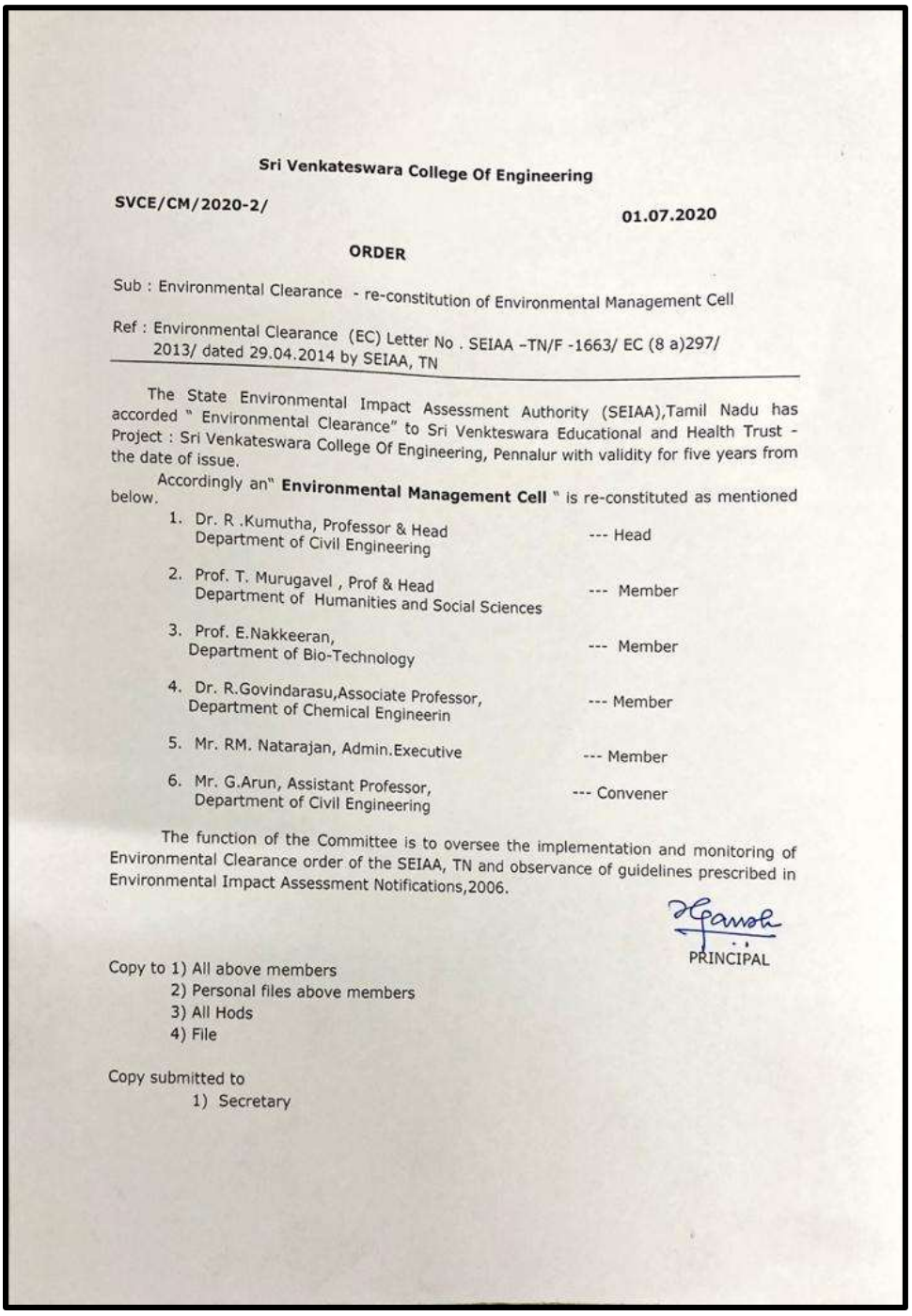
The College will provide adequate funding, infrastructure and staff for implementing the Green and Environment policy.

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 are as follows:



Sri Venkateswara College Of Engineering

SVCE/CM/2020-2/ **01.07.2020**

ORDER

Sub : Environmental Clearance - re-constitution of Environmental Management Cell

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

The State Environmental Impact Assessment Authority (SEIAA),Tamil Nadu has accorded " Environmental Clearance" to Sri Venkteswara 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 re-constituted as mentioned below.

1. Dr. R .Kumutha, Professor & Head, Department of Civil Engineering --- Head
2. Prof. T. Murugavel , Prof & Head, Department of Humanities and Social Sciences --- Member
3. Prof. E.Nakkeeran, Department of Bio-Technology --- Member
4. Dr. R.Govindarasu,Associate Professor, Department of Chemical Engineerin --- Member
5. Mr. RM. Natarajan, Admin.Executive --- Member
6. Mr. G.Arun, Assistant Professor, Department of Civil Engineering --- 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 Environmental Impact Assessment Notifications,2006.

PRINCIPAL

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

Copy submitted to
1) Secretary