CMR
GROUP OF INSTITUTIONS
EXPLORE TO INVENT

CMR
INSTITUTE OF TECHNOLOGY
UGC AUTONOMOUS
Approved by AICTE, New Delhi & Permanently Affiliated to JNTUH, Hyderabad & Accredited by NBA, NAAC with 'A' Grade

Dr. B. Satyanarayana
B.Tech., M.Tech., Ph.D., MISTE
Professor & Principal

AUTHENTICATION CERTIFICATE

This is to certify that the following Water Conservation Facilities available in the Institution.

S.No	Name of the Facility
1	Rainwater harvesting pits
2	Borewell /Open well recharge
3	Construction of Tank
4	Waste Water Recycling
5	Maintenance of water bodies and distribution system in the campus

Principal

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Kandlakoya (V), Medchal Dist.,
Hyderabad - 501 401.
Ph: 8008557612
Telefax: 040-200240
Email: principal@cmritonline.ac.in
Website: www.cmritonline.ac.in

7.1.4 Water Conservation Facilities available in the Institution

S.No	Description	Page No
1	**Geo-tagged photographs of the facilities**	03-08
	Rainwater harvesting pits	
	Borewell /Open well recharge	
	Construction of Tank	
	Waste Water Recycling	
	Maintenance of water bodies and distribution system in the campus	
2	**Bills for the purchase of equipment's for the facilities**	09-12
3	**Green audit reports on water conservation by recognized bodies**	13-31
	Green audit Certificate	
	Green audit reports on water	

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Rainwater harvesting

The institute has arranged harvesting pits for rainwater to percolate at Right side of the Institute building between the CMRIT Canteen and Building according to the elevations. A total number of 4 harvesting pits each of size 1.2m x 1.2 m are under operation in the campus and are well maintained. Graded material of size 80mm, 40mm, 20mm and sand were laid in the pits with each layer of one foot. The existing rooftops of the building that receive direct rainfall are used as the catchment for collecting rainwater. To maintain maximum purity of water, the rooftops are maintained regularly. The collected water is carried/transported through the gutters and PVC pipes to channelize the water into the collection/harvesting pits.

Rainwater harvesting Pits

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Borewell /Open well recharge

One out of two Bore-wells is in use which are located in CMRIT and are provided with rainwater recharge pit. All the water requirement to the institute is being met by the Bore-well. The second Bore-well although not in use is also recharged by the recharge pit. The rainwater recharge is being practiced directly to the bore well which is located at Institution. This water potentially recharges the bore well through simple infiltration.

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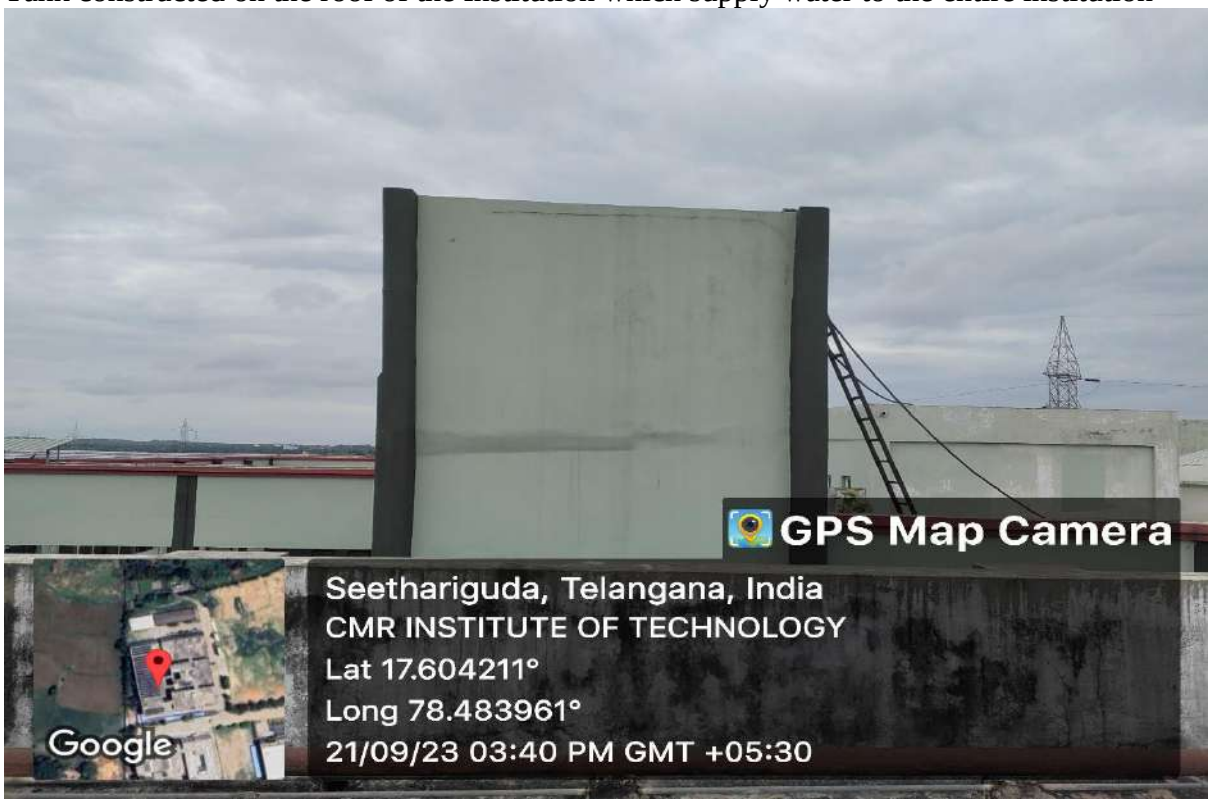
Construction of Tank

Tank constructed on the roof of the Institution which supply water to the entire institution



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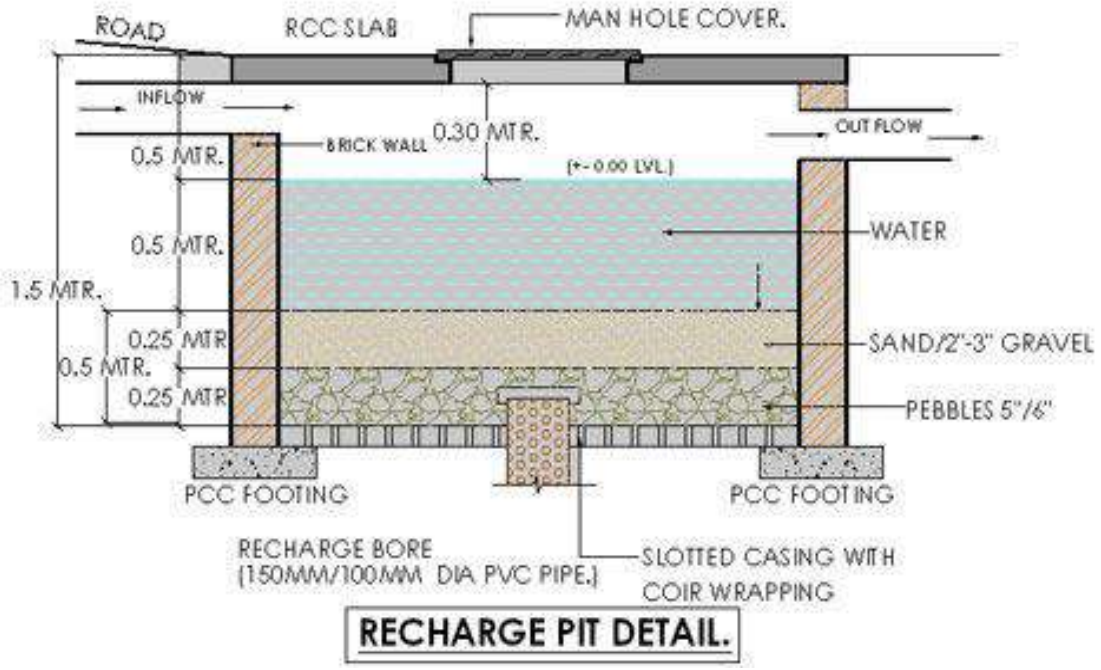
Waste Water Recycling

The Institution installed 200 KLD Sewage Treatment Plant to recycle the waste water



Sewage Water treatment plant

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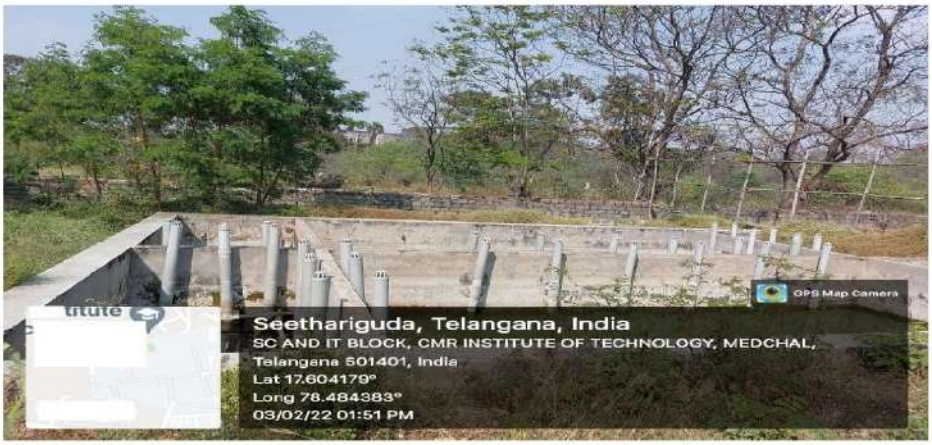
Sewage Water treatment plant



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Maintenance of water bodies and distribution system in the campus

Distribution of Water from Tank

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☎ 040 - 27759311 (City Office)
Cell : 9848668800

M.G.R. EDUCATIONAL SOCIETY

Regd. No. 6352/01, Hyderabad
173, Mallareddy Gardens, Bowenpally, Secunderabad - 500 011. T.S

WORK ORDER

Ref. No.CMRGI/STP/PO/29/2018 Date: 05-12-2018

To
BlueDrop Enviro Pvt Ltd,
101, Plot # 25,
Near Chirec Public School,
Kondapur, Hyderabad – 500018.

Sir,

SUB: Work Order for Design, Consulting and Supervision of 200 KLD Sewage Treatment Plant to CMR Group of Institutions - Reg.
REF: Your Quotation dated 30.11.2018 and negotiations held on 05.12.2018.

***

With reference to your quotation cited above, we are pleased to place Work Order for completion of the tasks i.e. Design, Consulting and Supervision of a Decentralized 200 KLD Sewage Treatment Plant at CMR CAMPUS, Hyderabad on or before 29.02.2019.

Sl. No	Item	Description	Rate
1	Technical Consultation, Hydraulics & Aeration Execution, Facultative Microbes and PMC, On-Site Supervision (3 months)	• Solution design, Hydraulic design, architectural drawings & Estimates • Procurement of material & execution of Hydraulics/Aeration works within the wetlands (Specialized job) • Initial/ Booster dosage (Patented & Generic) (For 12 months) • Monitoring of all Civil works & installation of electrical equipment/works and functioning of STP, water reports inlet & treated by qualified engineers & subject matter experts	1,00,000/-
2	Wetland plants	• Procurement, handling, plantation &stabilization(Specialized job)	17,00,000/-
		TOTAL	18,00,000/-

Annual Service Suite
Quarterly fee of Rs 8,000/- (Rupees Eighteen Thousand Only) plus taxes, (microbes extra) applicable from 12 months of commissioning.

Terms & Conditions:
- Inclusive of all Taxes (GST).
- 25% advance of Rs.4,50,000/- through Cheque bearing No. 104086 dated 05.12.2018.
- 25% to be paid upon submitting the preliminary drawings & estimates, good for construction, drawings and bill of quantities.
- 40% after finishing of excavation by CMRGI and supply of plants by BlueDrop.

Received the Purchase Order
for BlueDrop Enviro. 9505423809.

M.G.R. Educational Society * Medchal 501 401 *

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- 10% after commissioning of the project and submission of the water quality test report.
- Existing infrastructure shall be repurposed as much as needed.
- 1 year warranty provided, the customers maintains the Standard Operating Procedures as per BlueDrop Enviro.
- A separate proposal is shared for the O&M of the STP with detailed scope.
- Treated water (after ultra filtration) is suitable for flushing, gardening and construction purposes.

Annexure with this proposal has the scope of work between the customer and BlueDrop.

ANNEXURE

TREATMENT PROCESS:

The entire system is designed based on the principles of constructed wetlands adapted worldwide. Wastewater from various outlets gathered into a single collection tank; screening for solids to be provisioned where necessary. From the collection tank, wastewater is pumped into a chamber connected to wetland basins from where the same flows into multiple wetlands sequentially. The hydraulics & aeration are designed for achieving higher treatment efficiencies. Various facultative microbes which work in tandem with & symbiotic in nature to the specifically selected species of plants in wetlands are dosed periodically into the holding tank. Treated water is 100% chemical free which is good for gardening and non-contact purposes. Disinfection can be done based on nature of treated water usage.

VARIOUS COST COMPONENTS OF THE BLUEDROP ETP

COMPONENT	DESCRIPTION	PROCESS OWNER
HOLDING TANK	RCC Structure with baffle walls	BlueDrop
BAR SCREEN CHAMBER	RCC Structure with Stainless Steel screens	BlueDrop
PUMPING CHAMBER	RCC Structure (Also known as wet well)	BlueDrop
PUMPS	Pump purchase by customer as advised by BlueDrop; maintenance includes repairs and supervision excludes parts	BlueDrop
WETLAND BASINS	Structure with brick/Lining/RCC walls & raft Foundation	BlueDrop
MEDIA FILLING	Course and fine aggregate filling different sizes different layers	BlueDrop
MAIN DISTRIBUTION PLUMBING LINE WITH IN WETLANDS	PVC/CPVC/UPVC with all accessories	BlueDrop
AERATION NETWORK FOR WETLANDS	Procurement of materials &execution of Hydraulics/Aeration works within the	BlueDrop
FACULTATIVE MICROBES	Supply & dosing of facultative microbes for holding tank (Booster dose and periodical doses)	BlueDrop
WETLAND PLANTS	Supply and installation of plants in Wetlands	BlueDrop
DISINFECTANT	Non-Chemical; UV Treatment	Not in scope at the moment
QUALITY ANALYSIS REPORT	Two samplings drawn every quarter for testing pollution parameters (inlet & outlet)	BlueDrop
SME SUPERVISION	Subject Matter Expert and/or Engineer visit @ every 3 months	BlueDrop

M.G.R. Educational Society Medchal 501 401 Kandlakoya

Ch. Gopal Reddy
Secretary & Correspondent

Secretary & Correspondent
MGR Educational Society
Kandlakoya (V), Medchal,

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

CMR INSTITUTE OF TECHNOLOGY
Kandlakoya(V), Medchal
TELANGANA

Journal Voucher

No. : **53** Dated : **24-May-2018**

Particulars		Debit	Credit
Office Equipment	*Dr*	**2,13,000.00**	
To Rainbow Aqua Fresh System			**2,13,000.00**
On Account of : PURCHASE OF RO PLANT AND 2000 Ltrs Capacity SS Tank vide bill no			
		₹ 2,13,000.00	**₹ 2,13,000.00**

Authorised Signatory

Principal
CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

CMR INSTITUTE OF TECHNOLOGY - 2020-21

Kandlakoya(V), Medchal
TELANGANA

Sewage Treatment Plant(STP)

Ledger Account

1-Apr-2020 to 31-Mar-2021

Date		Particulars	Vch Type	Vch No.	Debit	Credit
8-6-2020	To	**Sri Ashoka Marketing Services** *STP Prpose Pipes Purchased Vide invoice No:SIR-120*	Journal	17	3,14,016.00	
12-6-2020	To	**Sri Ashoka Marketing Services** *STP Prpose Pipes Purchased Vide invoice No:SIR-146*	Journal	18	67,069.00	
	To	**Sri Ashoka Marketing Services** *STP Prpose Pipes Purchased Vide invoice No:SIR-146*	Journal	19	706.00	
2-7-2020	To	**Airvac Industries Pvt Ltd.** *Airvac Rotary Twin Lobe Air Blower with all Accessories (with 3 HP ABB Motor) Vide Invoice No:1333*	Journal	2481	1,03,840.00	
10-7-2020	To	**Andhra Pumps and Motors** *Eterna 1500CW Vide Invoice No: A0780*	Journal	2484	47,040.00	
20-7-2020	To	**Microset Instrumentation and Controls** *Electromagnetic Flow Meter Make:Microset, Model : MS FL 0117 Size-2", Electronics -Integral SN: 00024 Vide Invoice No:MIC /2020-21/056*	Journal	2486	25,240.00	
17-8-2020	To	**Clean Aquato Engineering Environmental** *ozone Generator For STP 100 gm/Hr Flow, Oxygen Concentrator to give 5 lpm oxygen at 95% purity, Venturi 1.5", Submersible Pump, Ozone Pipe and Oxygen Pipe Vide Invoice No:CA/20/18*	Journal	2493	2,95,000.00	
	To	**(as per details)** **TDS ON CONSULTANCEY CHARGES** **Bluedrop Enviro Pvt Ltd.** *Asper Work Order 25% Paid*	Journal **33,750.00 Cr** **4,16,250.00 Cr**	2494	4,50,000.00	
4-9-2020	To	**Cash** *Cash Paid to Ranjith T/w STP Project Material Exp.*	Payment	211	2,268.00	
	To	**Cash** *Cash Paid to Ranjith T/w STP Project Material Exp.*	Payment	212	14,194.00	
17-2-2021	To	**Patel Enterprises** *CC Sheet Purchased Vide Invoice No: 1093*	Journal	4307	52,880.00	
					13,72,253.00	
	By	**Closing Balance**				13,72,253.00
					13,72,253.00	**13,72,253.00**

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GV/GA/12-23/ 243

Green Audit Certificate (As per Green Building Parameters)

The study is conducted as per Indian and International Green Building Standards initiated in the capacity of an Accredited & Certified Green Building Professional

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

(Analysed for 2 years and extended validity for 1 year, thus total 3 years)

MGR Educational Society's

CMR Institute of Technology

Kandlakoya Village, Medchal Road, Hyderabad- 501401

(Site visit held on 04 December 2023)

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

Issued on **Monday, 04 December 2023** and valid till **30 November 2024**

Ar. Nahida Abdulla Shaikh

"Elite 100 Green Architects of India" Econaur, 2022

Certified G.B.P. (Registration. No. 22/718)

Project Head and Green Building Professional-Consultant

Sustainable Academe I Sustainability Department of Greenvio Solutions, Naigaon

An environment Design and Consultancy developing Healthy and Sustainable Environments

Email: **sustainableacademe@gmail.com** I **greenviosolutions@gmail.com**

Greenvio Solutions

Website: https://thegreenviosolutions.co.in/

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GREEN AUDIT

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

Sustainability study

AUDIT REPORT

Studied for

MGR Educational Society's

CMR Institute of Technology

Kandlakoya Village,
Medchal Road,
Hyderabad- 501401

Studied in the capacity of

Accredited and Certified GBP

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Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

Studied by

Greenvio Solutions

Website: https://thegreenviosolutions.co.in/
Email: greenviosolutions@gmail.com

Background reference image Sasin Tipchai on unsplash

Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO IA (IMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Inferences of the Site visit

Observations (Positive aspects)	**Suggestions** (Improvement aspects)
Green Audit	
- Rain water recharge pits and dedicated sewage treatment plants available	- Scope to implement waste management practices in additional aspects.
Energy Audit	
- Connected to alternate sources of energy providing innumerable benefits	- Scope to introduce sensor based systems & appliances in campus
Environment Audit	
- peaceful & pollution free campus with good green cover in and around.	- Documentation & reflectance can be undertaken

04/12/2023

Signature & round seal
Name: Dr. B. Satyanarayana
Designation: principal & prof. CSE
For the said Institute

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO IA (IMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Proof of the Site visit

Investigation of the systems

04/12/2023

Signature & round seal
Name: Dr. B. Satyanarayana
Designation: Prof. CSE & Principal
For the said Institute

CMR INSTITUTE OF TECHNOLOGY • Kandlakoya • CMR

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

GREENVIO SOLUTIONS

Website: thegreenviosolutions.co.in **Email:** greenviosolutions@gmail.com

Greenvio

Disclaimer

The Audit Team has prepared this report for the **MGR Educational Society's CMR Institute of Technology** located at *Kandlakoya Village, Medchal Road, Hyderabad- 501401* based on input data submitted by the Institute analysed by the team to the best of their abilities.

The details have been consolidated and thoroughly studied as per the various guidelines for Green Buildings available in National and International Standards; the report has been generated based on comparative analysis of the existing facilities and the prerequisites formulated by various standards. The inputs derived are a result of the inspection and research. These will further enhance and develop a Healthy and Sustainable Institution.

These can be implemented phase wise or as a whole depending on the decision taken by the internal team. The warranty or undertaking, expressed 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.

The audit is a thorough study based on the inspection and investigation of data collected over a period of time and should not be used for any legal action. This is the property of Greenvio Solutions and should not be copied or regenerated in any form.

Greenvio Solutions

Developing Healthy and Sustainable Environments

We are an Environmental and Architectural Design Consultancy firm

Sustainable Academe is our department for conducting Audits

Palghar District, Maharashtra- 401208

sustainableacademe@gmail.com

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Acknowledgement

The Audit Assessment Team extends its appreciation to the **MGR Educational Society's CMR Institute of Technology, Telangana** for assigning this important work of Green Audit. We appreciate the cooperation extended to our team during the entire process.

Our special thanks are extended are due to everyone from the Management.

Our heartfelt thanks extended to the Chairperson of entire process **Dr. M Janga Reddy,** (Director) for the valuable inputs.

We are also thankful to Institute's Task force who have played a major role in data collection.

- Teaching members – ***Ms. O. Nikhila, Dr. Shahbaz Khan and Dr. Umamaheswararao Gobbilla***
- Non-teaching staff members – ***Mrs. M. Deevenamma***
- Admin staff members – ***Mr. Narsing Rao***

We appreciate the cooperation of the **entire Teaching, Non-teaching, and Admin staff** for their support while collecting the data.

Sustainable Academe
Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

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Hyderabad-501 401.

Contents

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CMR INSTITUTE OF TECHNOLOGY
Kandlakoya (V), Medchal Road,
Hyderabad-501 401.

1. Introduction

1.1 About the Institute

CMR Institute of Technology is one of the best engineering Colleges for aspiring engineering students. It is one of the three colleges established by the MGR Educational Society.

CMR Institute of Technology was established in 2005 in 10 Acres and built-up area of 31132.72 Sq.M. with a single-minded aim to provide a perfect platform to students in the field of Engineering, Technology, and Management for their academic and overall personality development. The College has a rich tradition of soaring high with academic excellence & overall personal growth of students.

This is achieved by providing an excellent academic environment and excellent infrastructure with the help of dedicated & highly qualified faculty members with M.Tech. and Ph.D. qualifications and decades of experience.

State of art infrastructure includes labs with high-quality equipment, a rich collection of Library Books & IEEE, International, Indian journals, and amenities. The college has well – equipped City Center for Faculty Development, Student Training, and Placements Training Activities.

Academically challenging spirit, explorative attitude, discipline, and success are the few benchmarks of a successful career. The pragmatic learning environment at CMRIT offers every young aspirant such successful academic learning. Located amidst the heart of nature the institution is bolstered by a vibrant arcade of opportunities to flourish – and be a part of an enthusiastic community of competent students around Telangana. CMRIT is the right place to define student future with a will to question ideas, pursue long-held passions and explore new interests to redefine what is possible.

1.2 Assessment of the Institute

1.2.1 Affiliations

The technical courses provided by the College have received their affiliation through the **Jawaharlal Nehru Technological University, Hyderabad**, a public university, located in Hyderabad, Telangana.

1.2.2 Certification

The College has received the following Certifications

- **AISHE** – The All India Survey of Higher Education code is C-19837
- **NIRF** – Participated and received rank in National Institutional Ranking Framework under Innovation category 2022-2023 between range 101-150.
- **ISO** – Received the ISO 9001, 14001 and 50001 Certifications in 2023

1.2.3 Recognitions

The College has achieved the following recognitions:

- **Autonomous Status** - The College was conferred Autonomous status from 2017, for a period of 6 years by the University Grants Commission (UGC), the Institute has already applied for renewal and extension.
- **Recognition Under Section of UGC** – The College has been recognized under section *2 (f) and 12 (B) of the UGC Act, 1956* by University Grants Commission, New Delhi.

1.2.4 Accreditation

The following are details of the accreditation awarded by the National Assessment & Accreditation Council (NAAC) to the College.

Cycle	First
CGPA	3.16
Grade	A
Year	2018

Table 1: NAAC Accreditation details of the Institute

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The College is due to enter its Second cycle of NAAC.

1.2.5 Approval

The courses by the Institute have received approval through:

- **All India Council for Technical Education (AICTE), New Delhi**
- **National Board of Accreditation (NBA), New Delhi**

1.3 Statements of the Institute

1.3.1 Vision

The Institute proposes *"To create world class technocrats for societal needs."*

1.3.2 Mission

The Institute adheres and focuses to achieve global quality technical education by assessing learning environment through:

- *Innovative Research & Development*
- *Eco-system for better Industry institute interaction*
- *Capacity building among stakeholder*

1.3.3 Objective

It is the objective of the College *"Strive for global professional excellence in pursuit of key-stakeholders."*

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2. Overview

2.1 Summarised Populace analysis for 2022-2023

2.1.1 Students data

The data (shared by the Institute) shows there were **4,211 students.**

2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Teaching staff	127	129	**256**
2	Admin & Non-Teaching staff	43	54	**97**
Total Staff Members		**170**	**183**	**353**

Table 2: Staff data of the Institution for 2022-2023

The staff data shows the Institute premises **353 Staff Members.**

2.2 Summarised Populace analysis for 2021-2022

2.2.1 Students data

The data (shared by the Institute) shows there were **4,021 students**

2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Teaching staff	129	126	**255**
2	Admin & Non-Teaching staff	41	54	**95**
Total Staff Members		**170**	**180**	**350**

Table 3: Staff data of the Institution for 2021-2022

The staff data shows the Institute premises had **350 Staff Members.**

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3. Research

3.1 Site & Institute Building Spread Area

The Institute spread over **10 acres** with a built-up area comprising of **31,132.72 sq. m**

3.2 Institute Infrastructure – Spatial Organisation

The Institute has the following spatial features:

- Infrastructure facilities with amenities for stakeholders
- Library with innumerable content of books
- Transport, hostel, drinking water, wifi, recreational facilities
- Sports and administrative facilities

3.3 Operation and Maintenance of the premises

The interview session was held with the staff regarding the operation and working hours. The Institution is open from Monday to Saturday with the timings being 09:10 am to 16:00 hours.

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Hyderabad-501 401.

Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO IA (IMS)
Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Induction Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. K. Praveen Kumar	Internal	Dean, IQAC	
4	Dr. K. Niranjan Reddy	Internal	HOD, ECE	
5.	Mr. A. Prakash	Internal	HOD, CSE	
6.	Dr. K. Pradeep Reddy	Internal	Associate Professor CSE	
7	Md Ahmed Ali	Internal	Associate Professor & TPO	
8.	Dr. A. NIRMAL KUMAR	Internal	Associate Professor	
9	Mr P. Pavan Kumar	Internal	Assoc. Prof	
10	Mr. G. Venkat Ramana	Internal	Assoc. Prof	
11	K. Srinivas	Internal	Asso. Prof	
12	Umamaheswararao G	Internal	Asso Prof	

Signature & round seal
Name: Dr. B. Satyanarayana
Designation: Prof. CSE & Principal
For the said Institute

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

Website: thegreenviosolutions.co.in Email: greenviosolutions@gmail.com

Principal
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Evidence documents for Site visit of external audit team

Audit team headed by external expert - Ar. Nahida Abdulla
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Audit objective: Green Building up gradation of the premises

Audits covered: ☑ Green audit ☑ Energy audit ☑ Environment audit

Institute: CMR Institute of Technology **Date:** 04-12-2023

Document objective: Exit Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. B. Satyanarayana	Internal	Dean. IQAC	
4.	Dr. K. Narayan Reddy	Internal	HOD, ECE	
5.	Dr. A. Prakash	Internal	HOD, CSE	
6	Dr. K. Pradeep Reddy	Internal	Associate Professor - CSE	
7	Md Ahmed Ali	Internal	Associate Professor & TPO	04/12/23
8	Dr. A. NIRMAL KUMAR	Internal	Associate Professor	4/12/23
9	Mr. P Pavan Kumar	Internal	Asso. Prof	
10	Mr. G. Venkat Ramana	Internal	Asso. Prof	
11	K. Srinivas	Internal	Asso. Prof	
12	Umamaheswararao G	Internal	Assoc Prof	

Signature & round seal
Name: Dr. B. Satyanarayana
Designation: Prof. CSE & Principal
For the said Institute

Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

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4. Evidence

Plate 1: Discussion with the team

Plate 2: Investigation of the system

Plate 3: Seminar on subject related to Sustainability for the stakeholders

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5. Documentation

5.1 Green Practices Audit

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

5.1.1 Green practices

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

- **Social awareness** - *The Institute has taken up awareness drives on various social issues for rural upliftment and regeneration in the Institute and surrounding villages.*
- **Cleanliness Campaign -** *The Swachha Bharat Abhiyan is carried out on Institute premises as well as off-premises.*
- **Fresh environment** – *The Institute provides an eco-friendly ambience with fresh air and soothing environment which helps to maintain a physical and mental balance. This kind of a space it a must for an educational institute is inviting and gives the stakeholders an opportunity to explore indoor and outdoor learning to a great extent.*
- **Silent and peaceful atmosphere –** *The Institute is located amidst residential areas which are well designed thus these help to maintain the pollution under control and provide a healthy ambience.*
- **Universal design** – *The Institute premises has special provisions such as ramps, lifts for the specially abled.*
- **Documentation of all the events –** *The best part about the Institute is the prompt and professional response, this was observed not only in the way the Team responded throughout the project but also through the documented data submitted be it the cleanliness report or the eco club activities report; each of these were documented and presented in a sophisticated manner which is highly appreciating.*

5.1.2 Community development

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

S. No.	Type	Since	Coordinator name
1	National Service Scheme (NSS)	2017	Ms. O. Nikhila
2	Employability Skills centre	Placement Cell-2009	Md. Ahmed Ali
3	Neighbourhood development scheme	UBA-2022	Ms. O. Nikhila

Table 4: Details of the extension initiatives by the Institute

The details of the ***environmental activities*** conducted as part of the extension initiatives by the Institute documented below:

S. No.	Initiative	Date
Academic year 1		
1	Plantation Drive	06-04-2022
2	World Environmental Day	06-05-2022
3	International Biodiversity Day	21/5/2022
4	Swacchh Bharat	24/12/2021
5	Clean India Campaign	30/10/2021
6	Pollution Day	12-02-2021
7	NSS day	24/09/2021
8	Traffic Awareness	15/07/2022
Academic year 2		
9	International Plastic Day	07-03-2023
10	World Environmental Day	06-05-2023
11	International Biodiversity Day	21/5/2023
12	Haritha haram	15/05/2023
13	Energy Swaraj Foundation	09-01-2023
14	National Science Day 2023	28/02/2023
15	Training on youth leadership & community development	2-4/02/2023

Table 5: Details of the environmental initiatives undertaken by Institute

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5.2 Waste Audit

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

5.2.1 Waste produced

There are 114 dustbins in indoor areas and 46 in outdoor areas (large bins).

S. No.	Type	Current disposal	Proposed disposal
1	Solid waste (Toilets)	Disposed through MMC card by local body & Disposed to local villagers and balance to MMC	***Biogas plant can be designed***
2	Organic waste (Regular)		***Dedicated compost area should be designed and practiced***
3	Liquid waste (Toilets, wash basins)	Flush through drainage system & Disposed	***Water treatment plant can be designed and practiced***
4	Chemical waste from laboratories		***Neutralize well and dig a pit 20 ft. from the main building where the waste can be disposed***
5	Toxic waste from laboratories		
6	E-waste	Disposed to local vendors for recycling on payment basis & Internalized mechanism for incineration	Continue with the current practice
7	Plastic waste		Continue with the current practice
8	Bio-waste (Sanitary)	Internalized mechanism for incineration	Continue with the current practice
9	Medical waste (Pharmacy etc.)		Continue with the current practice
10	Construction waste and reuse (Only if applicable)	Disposed to local vendors for recycling	Continue with the current practice

Table 6: Details of the waste management practices

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Greenvio Solutions

5.3 Water Audit

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

5.3.1 Water availability and consumption

5.3.1.1 Source of Primary water supply

The Institute requires water from the Local Municipality for drinking water purposes. The available facilities documented below:

S. No.	Type	Size	Capacity (litres)	Nos.
1	Underground	6 ft.	5,000 PER DAY	2
2	Overhead	6 ft.	10,000 PER DAY	2
3	Fire tank	2 ft.	-	15

Table 7: Details of the water facilities in the premises

For drinking water purposes an RO plant has been designated at the rooftop area. ***The study suggests that the space requires civil and structural modifications.***

Plate 4: RO plant and rooftop water tank facility in the premises

5.3.1.2 Source of Secondary water supply

The Institute uses the following sources of water supply for secondary usages such as watering plants, kitchen, toilets, and wash basins and other spaces. There are two bore wells that are 850 ft. deep with a capacity of 10,000 litres available.

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5.3.1.3 Source of Tertiary water supply

The tertiary source of water is **the source of water harvesting through rooftop collection and directing the same towards pit 5 ft. deep in 6 nos. The overflow pipes of these pits are connected to the bore wells for ground water recharging and water storage practice.**

Plate 5: Rain water harvesting pits in the campus

The study suggests that the current practice is fine, however painting, and notifying the pipes and pits with nos. etc. will be beneficial for sensitization. Additionally, the typology practiced can be displayed.

5.3.1.4 Source of Reusing waste water

This initiative is practiced through a sewage treatment plant. ***The study suggests that the current area requires certain up gradation w.r.t. documentation and civil modification, including the beautification of the approach to the plan.***

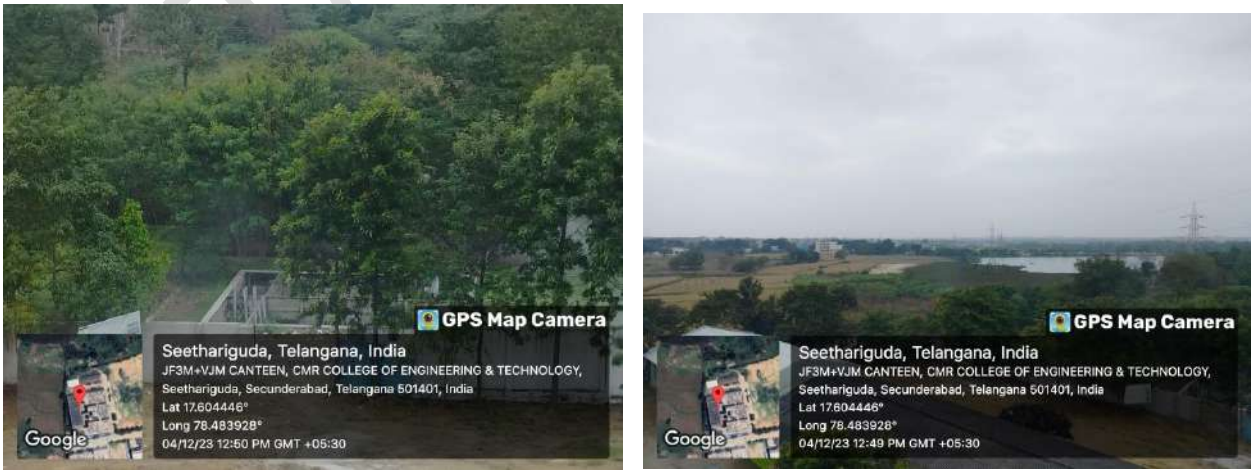

Plate 6: Sewage treatment plant and surrounding area

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5.3.2 Areas of water usage

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

- Handicap toilets for male
- Handicap toilets for female
- General toilets for male
- General toilets for female
- Taps for gardens and toilet facilities
- Sprinkler system
- Net-metering for water supply

5.4 Health and Hygiene Audit

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

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

5.4.1 Facilities available

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

5.4.2 Hygiene aspects

The team should undertake steps to upgrade the hygiene areas of the site as per the instructions and discussion. ***The current practices however are fine since there was no odour issue or other problem of insects, open drain etc.***

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6. Suggestion

6.1 Section-wise suggestions

The following suggestions are to be considered as a ***first priority*** for implementation. These **should be executed within the next 2.5 years from the date of Report submission.**

- **Water tanks in all areas**
  - Include the information about size, capacity and usage
  - Paint the tank in light blue colour
  - Add *signboards* about the usage such as 'Drinking' or 'Secondary'
  - Add *signboard and map* about the process/ system in practice

- **Carpets**
  - Green carpets could be placed outside drinking water and toilet blocks.
  - This will add to hygiene areas and keep the water spillage under control.

- **Awareness displays**
  - E-waste management chart can be displayed in spaces that have computers such as offices and laboratories.
  - Going paperless, Print less etc. awareness boards could be displayed.

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6.2 General suggestions

The following are consolidated study related to 'entire Institute' should be considered as ***second priority*** once section wise recommendations are implemented.

6.2.1 Green practices audit

- **Increase the plantations on the premise -** There can be provision for more plantations on the premise maybe even a Kitchen garden facility.

- **Plant as a gift -** As a kind gesture, the guests visiting the premise can be asked to plant a small plant on the premise itself and they can be even given plants/bouquets from the flowers of the plants on the premise as a gift.

- **Environmental awareness -** There can be various slogans in local and national language on the compound wall giving the message of saving the environment through the joint efforts of the students and staff thereby making the student socially and environmentally responsible citizens.

- **Signages on the plants mentioning scientific names -** The practice of having the names of each plant and tree will provide awareness among the staff and students.

- **Increase the organic farming practices -** The premises can have an organic farming facility in terms of farms, kitchen, terrace gardens the produce can be directly utilised in the premises.

6.2.2 Waste Audit

- **Signages -** Messages about avoiding wastage should be placed at appropriate locations.
- **Dustbins at every 100m -** There should be a dustbin at every 50-100m in open spaces
- **Material of dustbin -** The plastic dustbins should be replaced with eco-friendly material.
- Tie up with **Bisleri International regarding their 'Bottles for change program'** also with **'Thereco'** for their waste management.
- Invite companies such as **'Thaely'** and **'Recharkha'** to undertake skill development workshops.

- **Organic compost pit maintenance methodology -** The Institute can recheck the current methodology as it can yield better results in terms of quantity if it is well maintained with the following strategies:
  - The sanitary pad incineration dust can be sent to the compost pit
  - There should be a balance of brown and green waste material
  - Shred the materials before adding them to pit
  - Add twigs
  - Stir occasionally
  - Add water in less quantity to avoid the smell
  - Keep ample air circulation to avoid the smell
  - Regular monitoring and maintenance.

6.2.3 Water Audit

No changes proposed for this section.

6.2.4 Health and Hygiene Audit

- **Avoid burning waste -** The waste produced on the premises should not be burned as it is dangerous to the health of students and staff
- **Signboards** – The Institute should have multiple signboards about 'No smoking' and 'Healthy premises' at every nook and corner of the Institute.
- **Compound wall** – The compound wall should have awareness messages about 'No Smoking' and 'No Tobacco'
- **Toilet hygiene** – There should be facilities such as potpourri, camphor tablets in the toilet to avoid smell and health related issues.

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7. Compilation

The study is based on the data collected, analyzed, rechecked, and confirmed through multiple modes. For the quality study, some standards/ notes have been referred to. These are listed and noted below. However, no direct references have been used anywhere. These are used as a base to analyze and study the data collected.

National references

- Uniform Plumbing Code – India, 2008
- IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
- IGBC Green Landscape Rating system, March 2013

International references

- BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST – Canada
- Used only for understanding Universal design - Universal Accessibility Guidelines for Pedestrian, Non-motorized vehicle and Public Transport Infrastructure – Report guidelines by Samarthyam (National center for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation and www.umassd.edu
- The city of Cheyenne, Streetscape/ Urban Design elements - Wyoming Planning Association, Gillette, Wyoming, United States
- Streetscape elements – Chapter 6 on San Francisco
- American lung association https://www.lung.org/
- Study related to air pollution https://www.airgle.com/
- Exploring the light pollution https://education.nationalgeographic.org/
- Accessibility study https://www.washington.edu/
- Urban heat island effect https://www.epa.gov/heatislands/what-you-can-do-reduce-heat-islands

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