

Jesus and Mary College

University of Delhi
Chanakyapuri, New Delhi - 110021
Accredited by NAAC with "A" Grade



Tel No. : +(91)-(011)-26110041, 26875400

Fax No. : +(91)-(011)-24105466

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JESUS AND MARY COLLEGE

UNIVERSITY OF DELHI

SUPPORTING DOCUMENT FOR 7.2.1

Part I

BEST PRACTICE

**“The Gift of Green”:
Towards Building a Sustainable
and Clean College Campus**

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This document includes information regarding:

- 1. The Green Campus, Energy and Environment Policy**
- 2. Environment Audit Report 2019-20**
- 3. Energy Audit Report 2019-20**
- 4. Green Cover in college**
- 5. Biodiversity in college:**
 - a. Bird Count**
 - b. Dogs in JMC**
- 6. Plastic-free campus**
- 7. Solar Energy**
- 8. Rain Water Harvesting**
- 9. Waste Water Recycling**
- 10. Restricted entry of automobiles**
- 11. Pedestrian-friendly pathways**



The Green Campus, Energy and Environment Policy

LINK TO THE POLICY DOCUMENT:

<https://www.jmc.ac.in/uploads/staticfiles/iqac/policydocuments/Green%20Campus%20and%20Environment%20Policy.pdf>

Objectives of the Policy

- To protect and conserve ecological systems and resources within the campus.
- To ensure judicious use of environmental resources to meet the needs and aspirations of the present and future generations.
- To integrate environmental concerns into policies, plans and programmes for social development and outreach activities.
- To work with all stakeholders and the local community to raise awareness and seek the adoption of environmental good practice and the reduction of any adverse effects on the environment.
- To continuously improve our contribution to climate protection and adaptation to climate change and to the conservation of global resources.
- To continuously improve the efficient use of all resources, including energy and water, and to reduce consumption and the amount of waste produced, recovering and recycling waste where possible.
- To make the campus plastic free.
- To conduct environmental and energy audits from time to time.
- To minimize the use of paper in administration through having policy for E-governance

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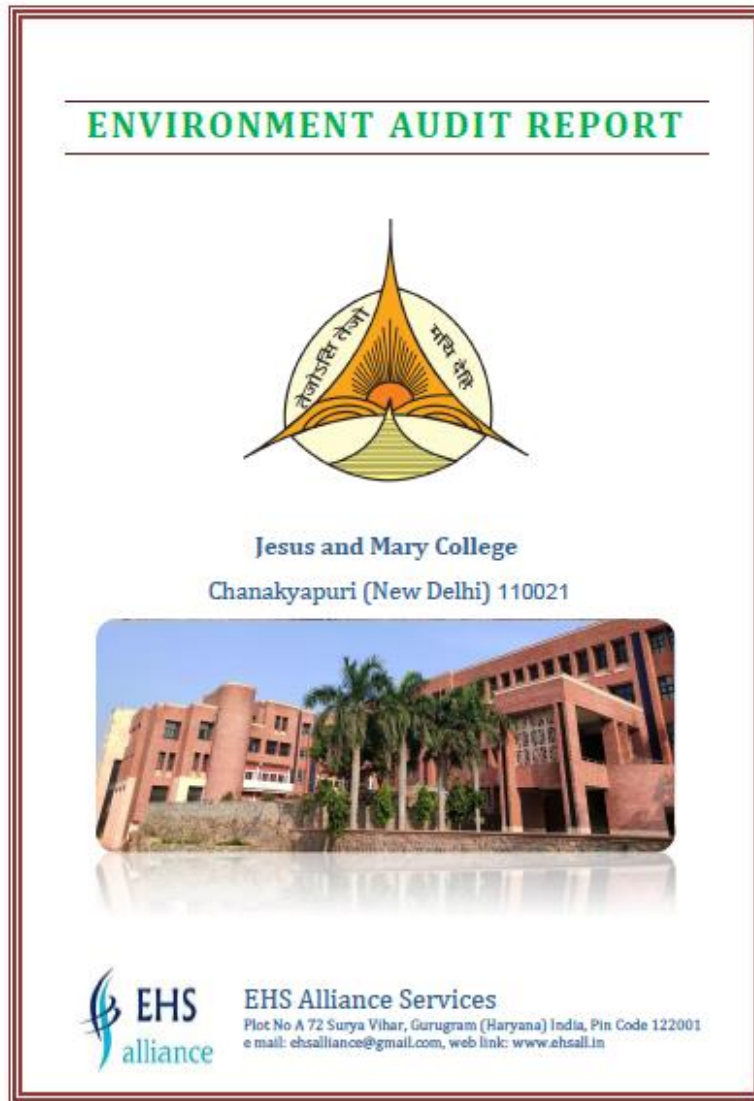
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ENVIRONMENT AUDIT REPORT UNDERTAKEN BY JMC **2019-20**

Link to the entire report:

[https://www.jmc.ac.in/uploads/staticfiles/naac/naac%20certificate/Environment%20Audit%20Report%20%20\(Jesus%20&%20Mary%20College\).pdf](https://www.jmc.ac.in/uploads/staticfiles/naac/naac%20certificate/Environment%20Audit%20Report%20%20(Jesus%20&%20Mary%20College).pdf)



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ENERGY AUDIT UNDERTAKEN JMC 2019-20

Link to the entire report:

<https://www.jmc.ac.in/uploads/staticfiles/naac/greenpractices/Energy%20Audit%20Report%20-%20JMC.pdf>

ENERGY AUDIT REPORT

Draft Report
January, 2020



Jesus & Mary College, New Delhi

CONDUCTED BY:



Petroleum Conservation Research Association
Sanrakshan Bhawan, 10 Bhikaji Cama Place
New Delhi – 66
Email: pcra@pcra.org



GREEN COVER

Link to geotagged photos of Green Campus Initiatives:

<https://www.jmc.ac.in/uploads/staticfiles/naac/supportingdocuments/criterion7/7.1.5/>

8.	Is there a garden in your institute?	Yes, about 1.5 Acre is the Green Area.	
9.	Do students spend time in the garden?	2-4 Hours during winters	
10.	Total number of Plants in Campus	Plant type	Approx. number
		Trees	More than 350
		Shrubs	More than 1000
		Grass Cover	1.5 Acre
11.	Suggest plants for your campus. (Trees, vegetables, herbs, etc.)	Ashoka, Ficus Religeosa, Boganvella, Alovera, Azadirachta indica , and many more as per geographical regime.	
12.	Is the College campus have any Horticulture Department	Yes	
	Number of Staff working in Horticulture Department	Five Gardeners	
13.	Number of Tree Plantation Drives organized by College per annum. (If Any)	Yes, Three Tree Plantation Drives are Organized Annually. 50+ trees and 100+ shrubs planted in this financial year.	
14.	Number of Trees Planted in Last FY.	80	
	Survival Rate	90%	
15.	Plant Distribution Program for Students and Community	Yes, Seed Bank is developed and, Saplings are distributed to Students and visitors at various Occasions.	
16	Plant Ownership Program	No	

Source: Environmental Audit p. 18



Different species of trees identified and tagged in our college campus to develop awareness about diversity in nature. There are more than 350 trees and more than 1000 shrubs on campus along with 1.5 acre of grass cover.

S.No.	Name of Trees	Number of Trees
1.	Bamboo	more than 50
2.	Mulberry	4
3.	Molsree	6
4.	Karnikara	1
5.	Ashok	84
6.	Yellow bells	12
7.	Neem	118
8.	Ficus	1
9.	Christmas tree	8
10.	Palash	1
11.	Bottle brush	10
12.	Bel tree	3
13.	Sharifa	3
14.	Scholars tree	8
15.	Australian Babul	4

Outdoor Gymnasium in college surrounded by trees



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JMC Sports field surrounded by trees on all sides



View of the JMC Nursery



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Greenhouse at JMC



Medicinal flora at JMC





BIODIVERSITY

This green cover is maintained by organizing annual tree plantation drives. The diverse green cover of JMC is also home to a number of animals and birds creating a campus rich in biodiversity. More than 200 squirrels, 8 dogs, 2 cats and others including butterflies, insects, bees, earthworms, etc. can be found on campus.

Bird Count was carried out by Dr. Divya Agarwal, Department of Environmental Sciences and a B.Sc. (Zoology Honours, II year) student of Hansraj College, Mr. Himanshu Sharma dated 29 Nov, 6.50 AM onwards. The reported birds are Black Kite, Rufous Treepie, Common Tailor bird, Purple Sunbird, Indian Robin, Jungle Babblers, Pavo Cristatus, Brown headed Barbet, Rose ringed Parakeet (identified both male and female), Whiskered Bulbul, Starling (Myna), Brahminy Starling, Green Bee Eater, Oriental Magpie Robin, Eurasian Collared-Dove, Lesser White-throat, House Crow, Large billed Crow (Indian Jungle), Red vented Bulbul, Red-whiskered Bulbul, Hume's Warbler, Greenish Warbler, Indian White-eye and Indian Peafowl. The bird species were identified by spotting and listening to their melodious calls. Diversity of birds indicates the maintenance of healthy habitat niche and good quality air within the campus.

Indian Peafowl sighted in college campus



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Rose ringed Parakeet enjoying at the colourful branches of *Bauhinia* tree species, sighted besides the main gate of the college



Roufers Treepie bird seen at one of the windows of the college



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Black Kite on campus



Nest found in one of the branches of the tree



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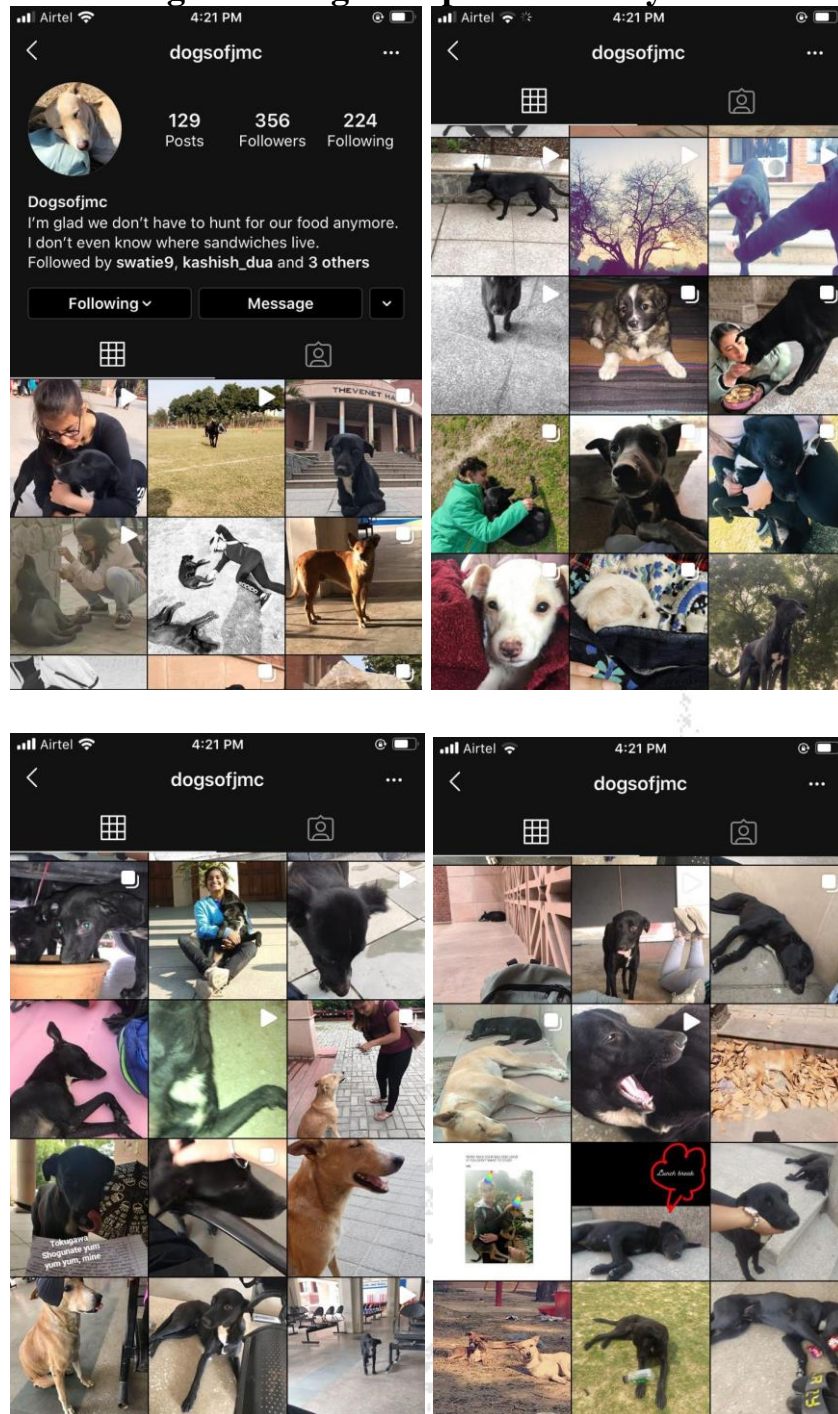
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Student run instagram page documenting the dogs on college campus over the years



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PLASTIC-FREE CAMPUS

Notification for the banning of single-use plastic in college

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1st November, 2019

Notification about Ban on Single Use Plastics Jesus and Mary College (University of Delhi)

1. As per the Solid Waste Management Rules, 2016, every urban body including all educational institutions are to abide by the directions of the Ministry of Environment, Forest and Climate Change published in the Gazette of India, Part II, subsection 3 (ii).
2. Jesus and Mary College had been observing most of its duties in terms of solid waste management since its inception. In view of the Government of India's resolution to ban all single use plastics due to the hazardous impact of plastic use – especially – single use plastics – cutlery, disposable plates, thermocol plates/glasses, plastic spoons, straws, plastic pet bottles (water bottles), plastic wrappers, food wrappers, cups, food, and beverage containers made of polystyrene and products made of oxo-degradable plastic, etc, the college administration, henceforth, bans the use of single use plastics in its premises to make it truly 'Plastic Free Campus' w.e.f. 2nd November 2019.
3. This ban is applicable to all the entities – including the college canteen, all departments, societies, and any external agency that organize any event at the college campus.
4. Each and every event organizer of the college community has to ensure that no single use plastics are to be used either by it or by the invited business entities (stall owners, external caterers, promotional stalls, vendors etc).
5. It shall be the duty of the event organizer (students council, students societies, departments, staff association, non teaching staff association) to inform any outside vendor that no single use plastics defined in para (2) is permitted by the college authorities.
6. Failure to comply with this ban shall invite penalties on the organizer.
7. It may be noted that as per the Solid Waste Management Rules, the waste generator will be penalized. Hence, the college administration will ensure that violation of this order will be met with suitable penalties.
8. It is also clarified that if any individual of the college community brings her / his water bottles/food wrapped in banned material etc, she or he shall dispose of it in the 'Non Bio degradable Bins' provided in the premises. Similarly, if any prepackaged food / or snacks (chips, wafers, biscuits, chocolates) are sold by the canteen (or any external vendor) in the premises, it is the duty of the seller to keep a separate bin for disposal of the same and also to inform the buyers (students/others) to drop the wrappers in the bin provided by him/her or by the college authorities.
9. Similarly, littering of premises is strictly prohibited. Any one doing it will be facing suitable action.

Dr. Rosily Tlrjm
Dr (Sr) Rosily Tlrjm
Officiating Principal

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JMC has reduced single-use plastic consumption by keeping steel crockery in the canteen



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SOLAR ENERGY



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Solar Powered Street-Lights

There are 20 street-lights which are working on solar power with battery. These lights are switched ON in the night with the help of timer.





We have installed environmentally friendly electrical appliances that save energy and reduce wasteful inefficiencies. The electrical wiring in the college has been protected against leakage and short circuit at three levels: MCBs on all the floors; ELCBs for each building; and electric feeder station for the campus set up by NDMC. We have phased out 95% of CFL and conventional light sources with LED lighting.

Source: Energy Audit Report

2.2 Air Conditioning Load

In the Unit/ college, there are package unit of 6 x 10TR, 4 x 8.5 TR, 8 nos of cassette unit (5 x 2TR, 3 x 3TR) and 15 nos of 2 TR split units Air-conditioners to maintain comfort temperature in the Auditorium/ office etc. Package units are installed mainly for the Auditorium.

Due to the study being done in winters, the Energy efficiency assessment could not be done for the ACs. However, it was observed that some split ACs fitted in the office carries 5 star, which is good from energy efficiency point of view. It is recommended that whenever new split/window ACs are being installed, it should be 5 star rated. Filters of package units were also checked during study which was found very clean.

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5 Star Energy Efficient ACs installed in college



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LED BULBS

The total lighting (luminary) load of the college is about 8 kW which includes Fluorescent tubes 36w/ 40w, LED lights 12w/ 36w etc. LED lights is good from energy efficiency point of view.

LED tube lights are also available in the market, which is also good from energy efficiency point of view. Whenever 36/40w tube gets fuse (not in warranty period) then it could be replaced by 18w/ 9w LED tube. There are 20 nos. of street lights which are working on solar power with battery. These lights are switched ON in the night with the help of timer.

During study, tube lights were ON in the class room and it was observed that lux level was good (240 – 320) in the class room near to window. But Lux level was down (120 – 200) near the entrance door and its wall side. It is advisable to increase some tube lights in the class room for better lux value.

Total Number of LED Bulbs = 500

Total Number of CFL Tubelights = 50

LED LIGHTS IN CORRIDORS



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LED LIGHTS IN OFFICES



LED LIGHTS IN CLASSROOMS



Link to Geotagged Photos of Energy Conservation Facilities:

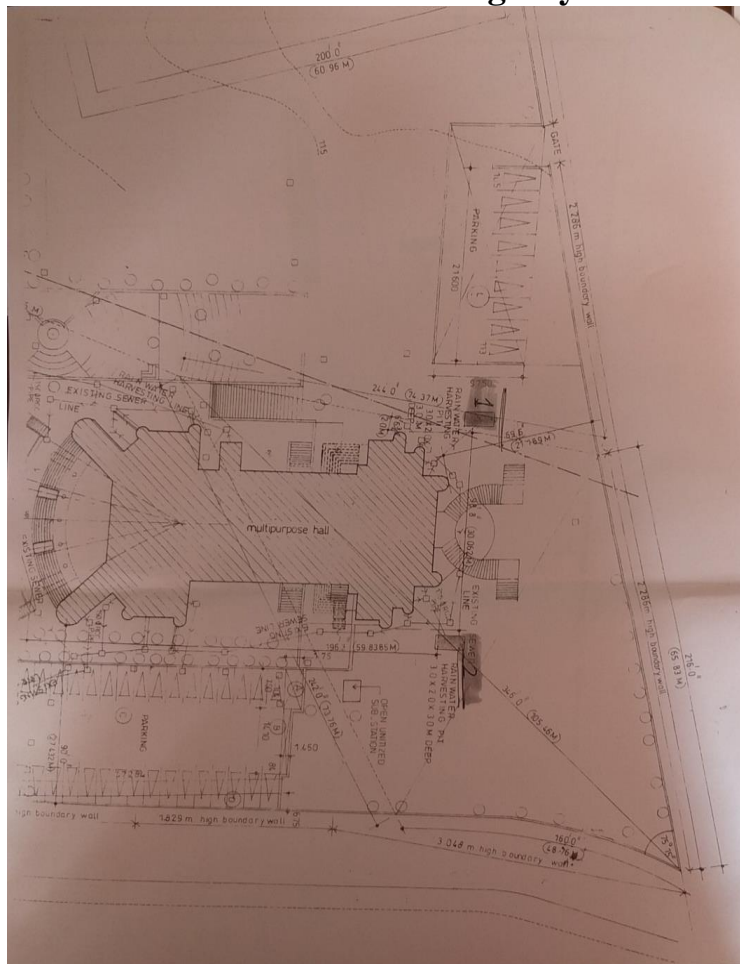
<https://www.jmc.ac.in/uploads/staticfiles/naac/supportingdocuments/criterion7/7.1.2/>



Rain Water Harvesting

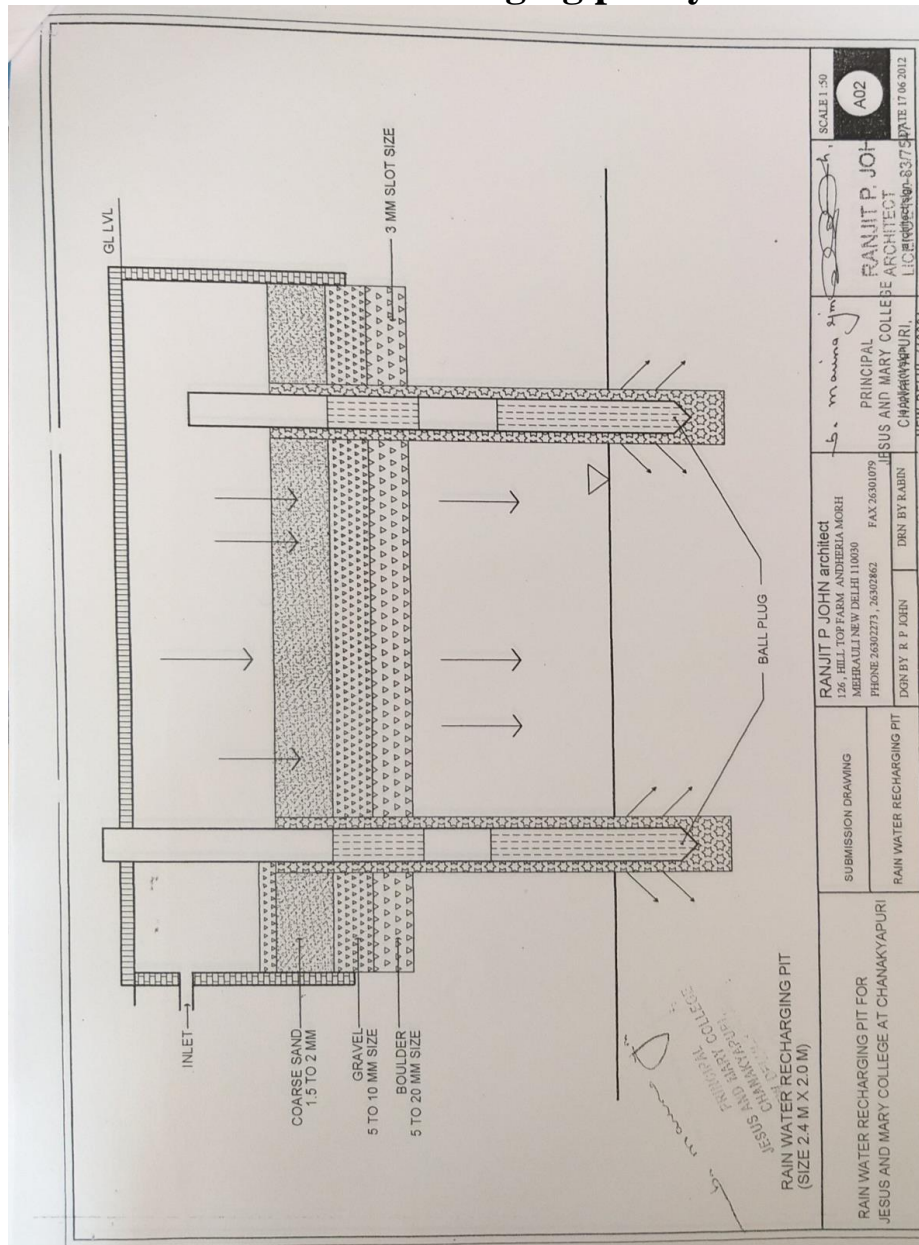
Jesus and Mary College has taken a sustainable initiative by installing Rooftop-Rain Water Harvesting Structure as a priority over other construction works. There are a total of 06 drainage lines that are connected to underground tanks spread in the campus. The underground tanks are cleaned yearly for maintenance. This practice is playing a key role in the recharging of the ground water table. Successful impact towards sufficient ground water recharge is evident from the growth of huge ancient trees growing superfluously in the campus viz. species of Ficus, Terminalia, Azadirachta, Bauhinia. Overall growth of birds, squirrels, insects including butterflies, grasses, herbs, shrubs and trees, which are visible in remarkable high number, also indicate towards healthy abiotic components (water, air, sunlight, soil etc.) of the institution as an ecosystem.

Rain Water Harvesting Layout





Rain water recharging pit layout

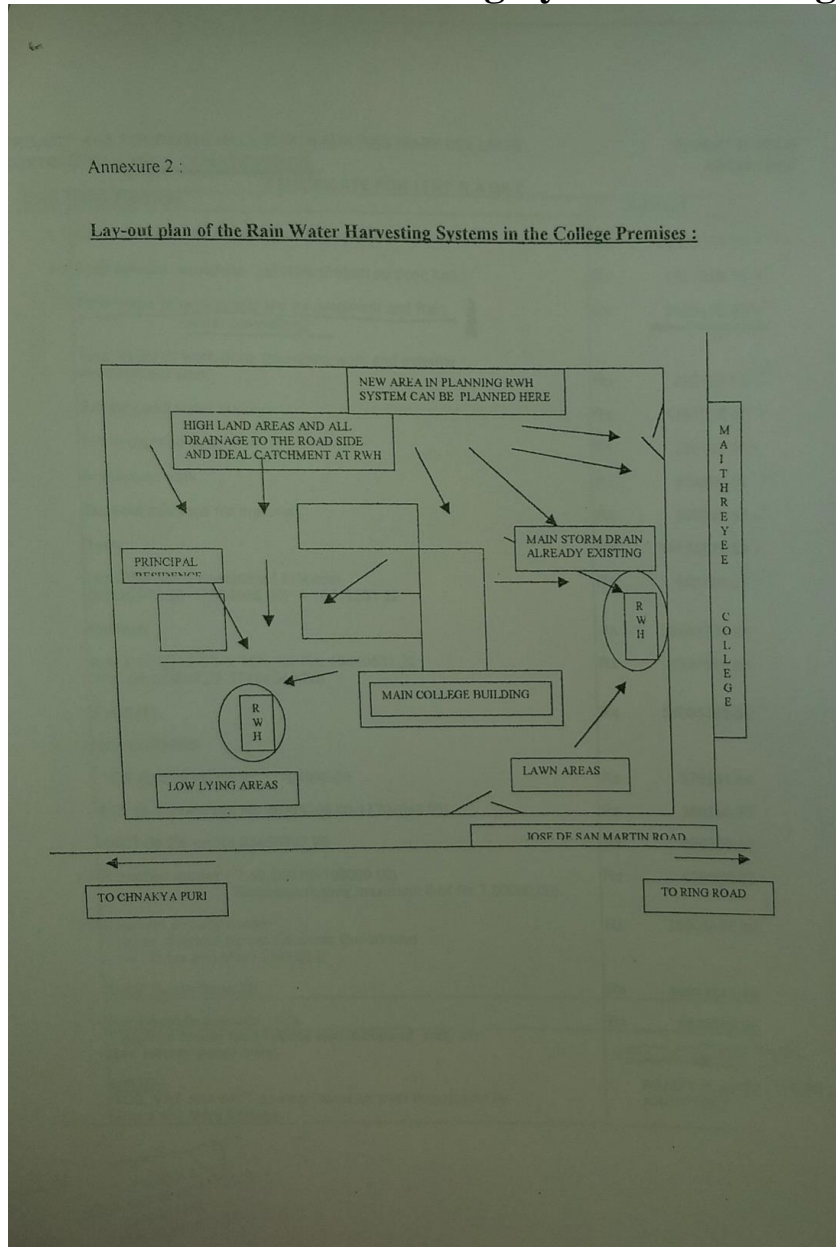




Layout of the Rain Water Harvesting Systems in College Premises

Annexure 2 :

Layout plan of the Rain Water Harvesting Systems in the College Premises :



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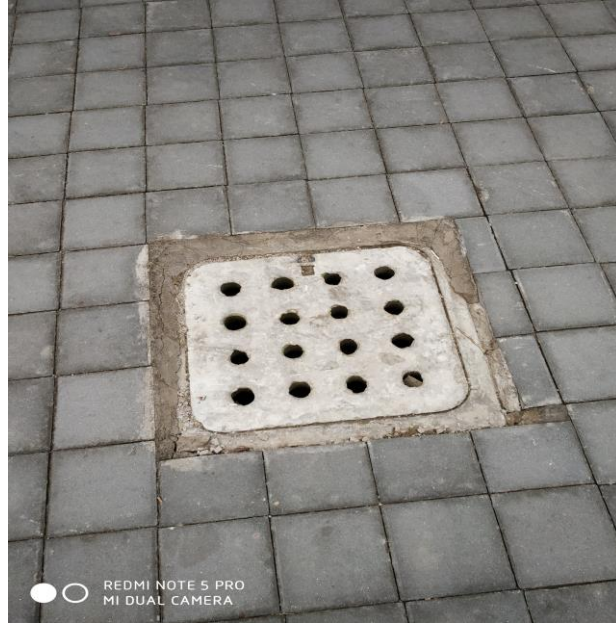
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Rain Water Harvesting Structures





Waste Water Recycling

R.O. Waste Water Recycling Unit

A separate tank is installed at the roof-top, to collect the waste water coming out of R.O. unit, from where it is sent to washrooms by a separate pipeline network and is used for the purpose of flushing.





Grease Trap System

Grease trap system is installed with three sedimentary tanks to remove excess oil and organic impurities of canteen waste before the waste water is released. This reduces the Biochemical Oxygen Demand in the effluent waste water produced by the JMC canteen.



Link to Geotagged Photos of Water Conservation Facilities:

<https://www.jmc.ac.in/uploads/staticfiles/naac/supportingdocuments/criterion7/7.1.4/>

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RESTRICTED ENTRY OF AUTOMOBILES

JMC has 5 gates of which only one is used for thoroughfare. The rest are kept locked. Entry of automobiles is restricted by the security guards present at all times at the main gate.



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PEDESTRIAN-FRIENDLY PATHWAYS

Due to the restricted entry of automobiles in college premises, the pathways are pedestrian friendly. The college campus is also disabled-friendly.

