

CRITERIA 7.1.4:

WATER CONSERVATION FACILITIES AVAILABLE IN THE INSTITUTION

TABLE OF CONTENTS:

S.No	Content	Page No
1	1. Vision , Mission	2
2	2. Introduction	3
3	3. Water Conservation Policy Goals	4-5
4	4. Available Sources & Alternate Sources	
5	• Rain Water Harvesting	6-7
6	• Recharge Wells	8-10
7	• Construction of Tanks/buds	11-15
8	• Waste water Management	16-25
9	• Maintenance of Water Bodies and distribution System: Map	26-27
10	5. Climate Changes	28
11	6. Conclusion	28

1.1 VISION

Committed to excellence, we seek to advance education and enhance knowledge to develop transformative skills in women fuelled with innovation, research, and integrity, and environmental consciousness, social and ethical sensitivity to create the finest women leaders, technocrats and social innovators.

1.2 MISSION

- To create a supportive ambiance in which new ideas and innovation flourish, and from which the leaders and innovators of tomorrow emerge.
- To address contemporary issues and provide solutions at the local, regional, national and global level.
- Advance education and collaborative research that transform pupils through rigorous coursework and intellectual delivery.
- Create a sustainable ecosystem.
- Invent new knowledge by engaging in cutting-edge research and academic growth.
- Undertake collaborative projects which offer opportunities for long-term interaction with academia and industry.

Develop human potential to its fullest extent so that intellectually capable and imaginatively gifted leaders can serve in a diverse range of professions.

2. Introduction

Water is a prime natural resource, a basic human need and a precious national asset. (National Water Policy – 2002) Planning, development and management of water resources need to be governed by national perspectives.

The '**Jal Shakti Abhiyan**' will focus on five aspects -- water conservation and rainwater harvesting, renovation of traditional and other water bodies, reuse of water and recharging of structures, watershed development, and intensive afforestation, Drinking Water Sanitation.

As a result, The Mody University of Science and Technology with its credential in academics and involvement in development of environment has enacted water conservation policy to resolve and create set of water conservation requirements as well as rate structures design to conserve water.

3. Water Conservation as Policy

The University has identified many techniques for conservation of water for which University has made an assessment and review water utilization, and identify key areas where frequent utilization of water as resources, maintain and provides hassle free supply of water for 24*7.

Mody University of Science and Technology water conservation policy is to achieve water in natural way without disturbing the ecosystem. The University has implemented water efficient fixtures in its campus ensuring 100% treatment and recycling of sewage and rain water harvesting. The campus has sewage treatment using new technologies and will be recycled for use in flush tanks and irrigation. Student and staff plays a major role in our water sustainability strategy. Reducing water consumption and protecting is our key objective of water conservation policy. The University views water from the three interrelated dimensions of efficient conservation, responsible consumption and restoring and retaining surface and ground water.

There is a dedicated & segregated water supply Grid system in Mody University of Science and Technology for fresh water and garden use. Seven tube wells for fresh water and three tube wells for garden use water are connected in separate grid system. Water storage tank in each building is fitted with float valves and two staff remains available for 24x7 to monitor & identify any overflow or leakage, if any to conserve and judicious efficient use of water.

Waste water is used again after being treated at water treatment plant. The treated water is used for watering the gardens and maintaining lawns in the campus to conserve the water. Thus, the entire waste water which is generated in the campus is treated and reused. Waste Water treatment process facilitates the treatment of existing contamination in the water or reduces the concentration of such contamination so that the water becomes fit for the desired use.

Mody University of Science and Technology has underground rainwater harvesting system in Academic building of the University. Rainwater is collected from rooftops of buildings which are connected to a common header. Rainwater harvesting is done by diverting water drains towards Recharge well in order to recharge the ground water. University has 06 rain

water storage wells with capacity of 240 KL each. This helps in recharging the ground water and conservation of the water. All fountains in University campus are based on reused water system to conserve water. In the academic building & Hostel having separate RO and water cooler to facilitate safe & clean drinking water supply through tap in judicious manner.

4. Available Sources & Alternate Sources

A. Rain Water Harvesting

Acharya Brihaspatti Bhawan (ABB), the building with the largest footprint, is the main Academic Building of the University, covering a plinth area of over 70,000 Sq ft. The rain water on the terrace catchment has been channelized to five recharge wells located in the vicinity of the building.

The lush green campus of Mody University of Science and Technology is a testimony of our efforts to judiciously manage this precious Natural Resource. Plan for Rain Water Harvesting of other larger buildings within the campus are also under active consideration and shall be implemented in a phased manner.

Mody University of Science and Technology has a well laid down and established underground rainwater harvesting system in Academic buildings and Dining Hall. Rainwater is collected from rooftops of buildings which are connected to a common header and led to a trickling sand filter. Rainwater collection is done by diverting water drains towards recharge wells in order to recharge/replenish the ground water. University has six rainwater storage wells with capacity of 240 KL each and four numbers of rain water harvesting system in & around Dining Hall through roof drain. All drains are provided with filters for allowing water to reach the soil and thus increasing/sustaining the ground water level. This also helps in maintaining the salinity, quality by recharging the ground water.



B. Bore well/ Recharge Wells:

In Mody University of Science and Technology, rain water harvesting with recharge well/ borewell is taken up considering watershed as a unit. Surface spreading techniques are common since space for such systems is available in plenty and quantity of recharged water is also large.

University has 10 Nos Bore wells located at different locations in the Campus. Each bore well fitted with 15 HP submersible pump. Seven bore wells are available for fresh water supply and three bore wells are available for horticulture & garden use water supply. There is no open well in the campus.







C. Construction of Tanks/buds:

The University campus is beautifully landscaped with orchards, lush green lawns, forest belts, and artificial water bodies, which transforms the Shekhawati region of the desert into an Oasis.

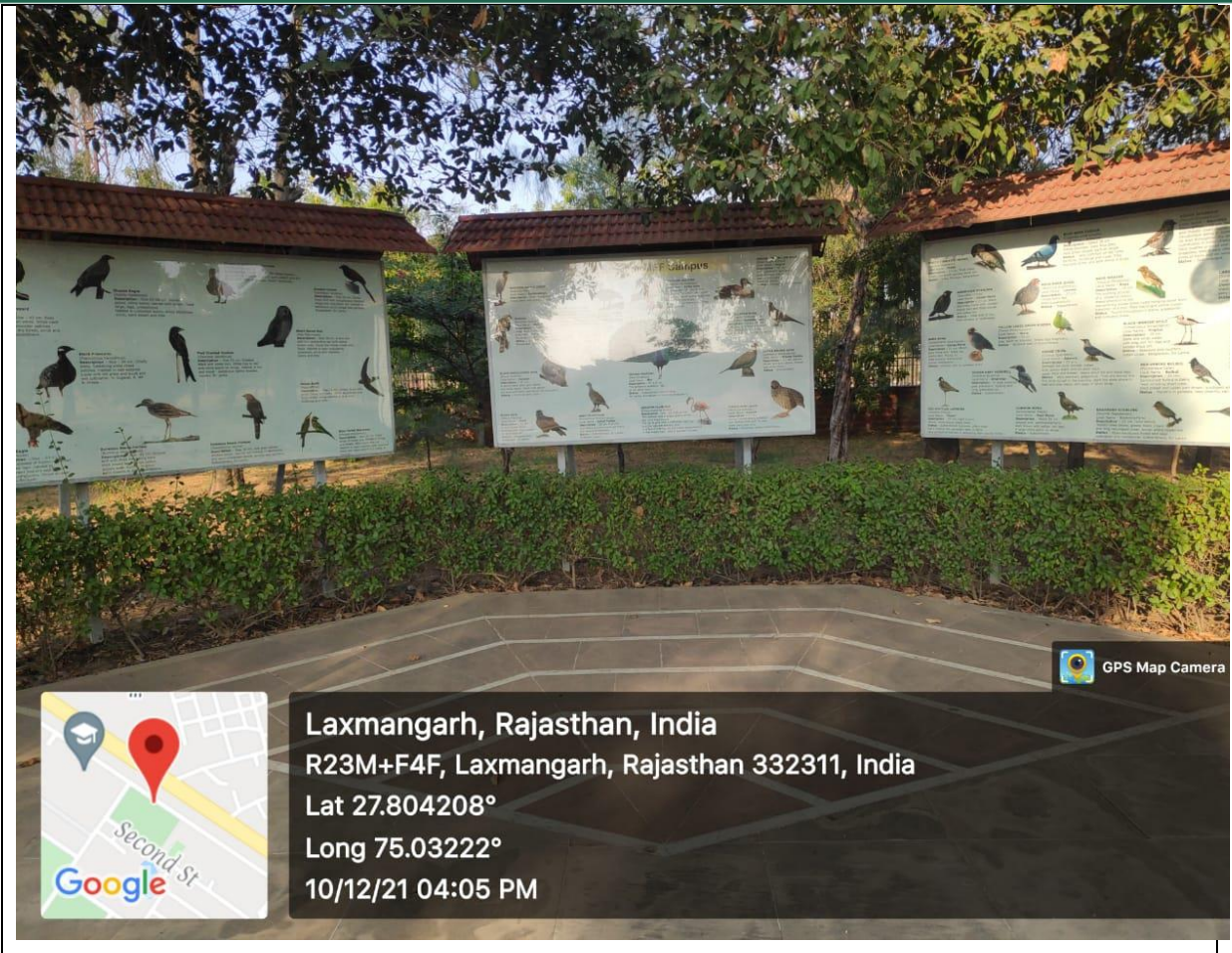
03 artificial water bodies have been created in the University campus. One of the water bodies is situated at Street No.2 near Dining Hall and another two are situated at Street No. 10. The surplus treated water generated from Sewage Treatment Plant is fed to all three water bodies.

These water bodies attract beautiful migratory birds, Flamingo, Demoiselle Cranes etc. during migration seasons thus contributing to the overall ecosystem of the University campus. These birds from Europe, Siberia, Northern Russia, Ukraine and Kazakhstan come to the Thar Desert in Rajasthan as they find the environment here good for wintering and nesting and we welcome these winged ambassadors every year.

University students feel happy and elated to see flocks of Rosy Starling birds. Around these water bodies, there are approx. 81 species of birds certified by Ornithologists from World Wildlife Fund India and approx.15 species of butterflies certified by Lepidoterlogists from WWF India, adding charm to the scenic beauty of these water bodies.







Steppe Eagle
(*Aquila nipalensis*)
Description - Size 63-66 cm. Brown above, white below, barred with brown, head large, legs, unfeathered. Habitat in cultivated plains, stony deciduous scrub, semi desert and hills.

Chestnut-Bellied Sandgrouse
(*Pterocles Exultans*)
Description - Size 28 cm. Pin tailed pigeon, ground bird. Habitat in stony semi desert and dry fallow land East to Bengal, South Tamilnadu.

Greater Coucal
(*Centropus Sinensis*)
Description - Size 48 cm. Glossy black bird with conspicuous chestnut wings and long black tail. Habitat in deciduous scrub jungle and gardens Bangladesh, Sri Lanka.

Black Francolin
(*Francolinus francolinus*)
Description - Size - 34 cm. Chiefly black, Gestering white cheek patches. Habitat in well watered tracts with tall grass and scrub and wet cultivation. N. Gujarat, N. MP N. Orissa.

Pied Crested Cuckoo
(*Clamator Jacobinus*)
Description - Size 33 cm. Crested black and white bird. White tips to tail and white patch on wings. Habitat in dry and moist - deciduous lighty wooded, country Sri Lanka.

Short-Eared Owl
(*Asio Flammeus*)
Description - Size 38 cm. A slim owl with two upstanding ear tufts above brown eyes. Facial disc white mixed with black. Habitat in open undulating grassland, scrub and marshes plains and hills.

House Swift
(*Apus affinis*)
Description - Size 15 cm. Smoky black with white throat and rump. Short square tail and long narrow wings. Habitat in & around buildings and cliffs.

Tawny Eagle
(*Eagle rapax*)
Description - Size - 63-71 cm. Wing shades of brown round tail, feathered legs. Habitat in semi desert and dry and those country. Found all over

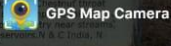
Eurasian Stone-Curlew
(*Burhinus oedicnemus*)
Description - Size - 41 cm. Ground bird with thick head long bare thick kneed legs. Large yellow poggie eyes. habitat in stony

Common Hawk-Cuckoo
(*Hierococcyx Varius*)
Description - Size 34 cm. Ash grey above, whitish below. Barred tail Habitat in deciduous and semi evergreen forest, groves and gardens. Subcontinent Sri Lanka.

Blue-Tailed Bee-Eater
(*Merops philippinus*)
Description - Size 31 cm. Black stripe through and breast. Habitat in open places and reserves N & C India, N



Laxmangarh, Rajasthan, India
R24J+3VG, Laxmangarh, Rajasthan 332311, India
Lat 27.804375°
Long 75.032221°
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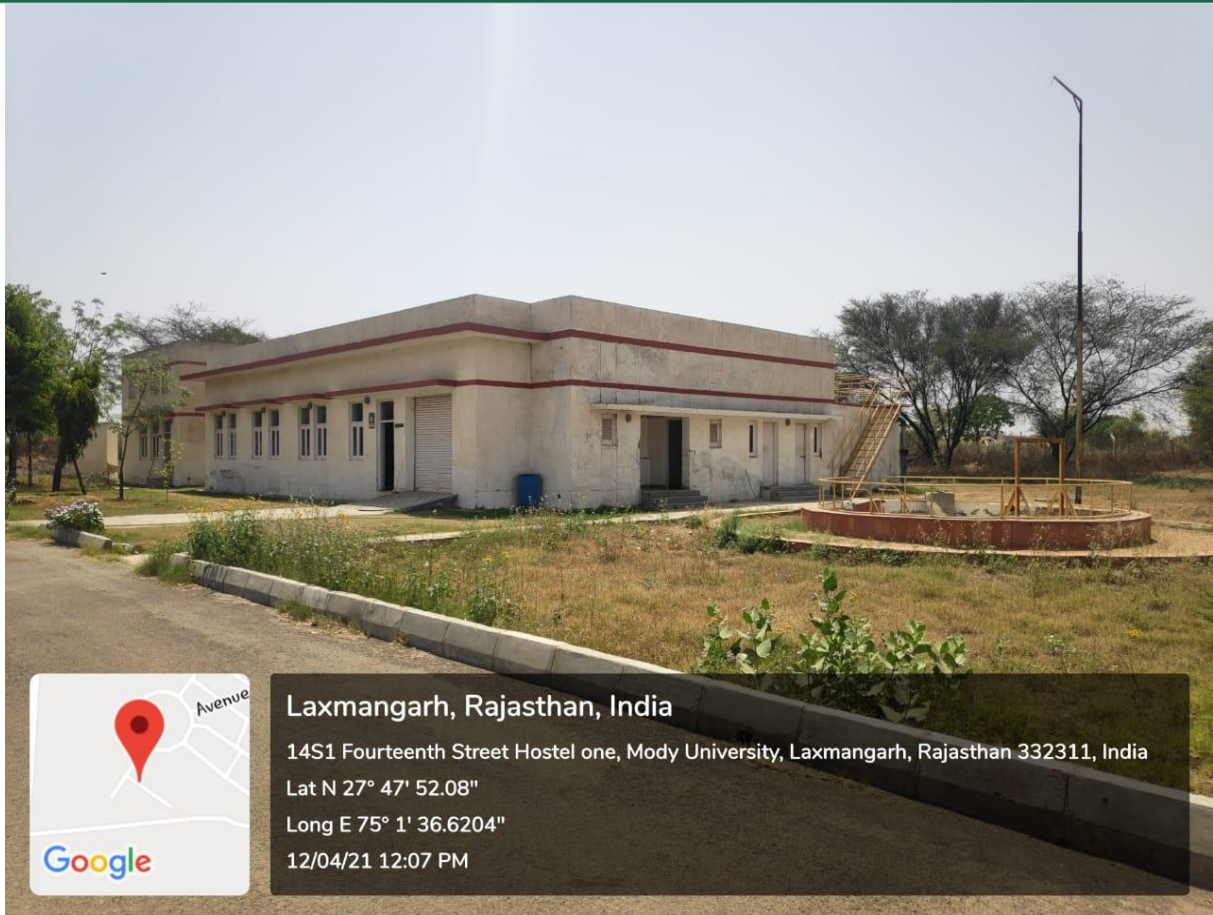
D. Waste water Management:

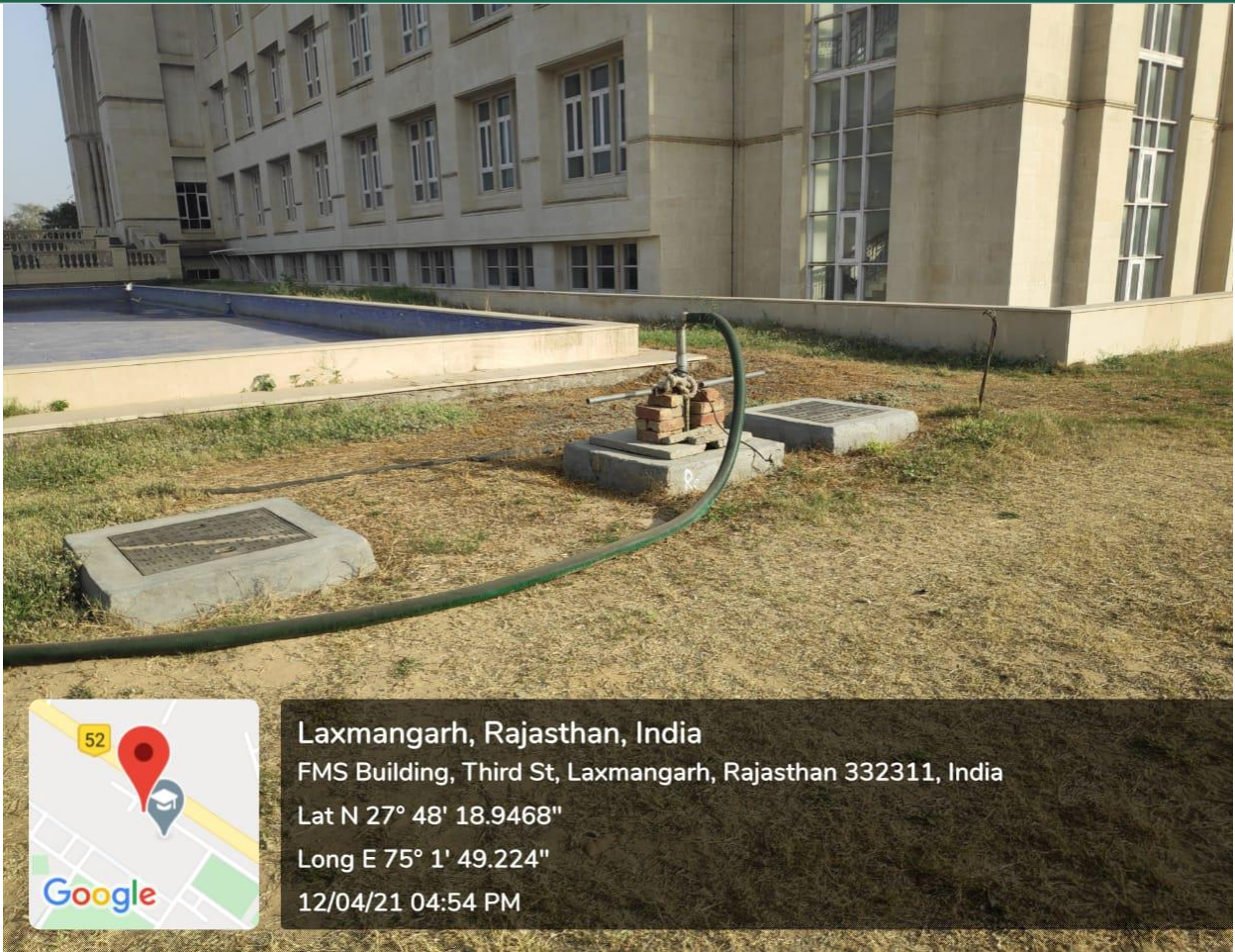
Waste water management has been critical towards our sustainability models for reducing and reusing water at our campuses. The students & staff use water for showering, dishwashing, laundry and flushing the toilet. Additionally, departments use water for many purposes including processes, laboratory uses, and cleaning or rinsing of parts, air conditioning. After the water has been used, it enters the wastewater stream, and it flows to the wastewater treatment plant.

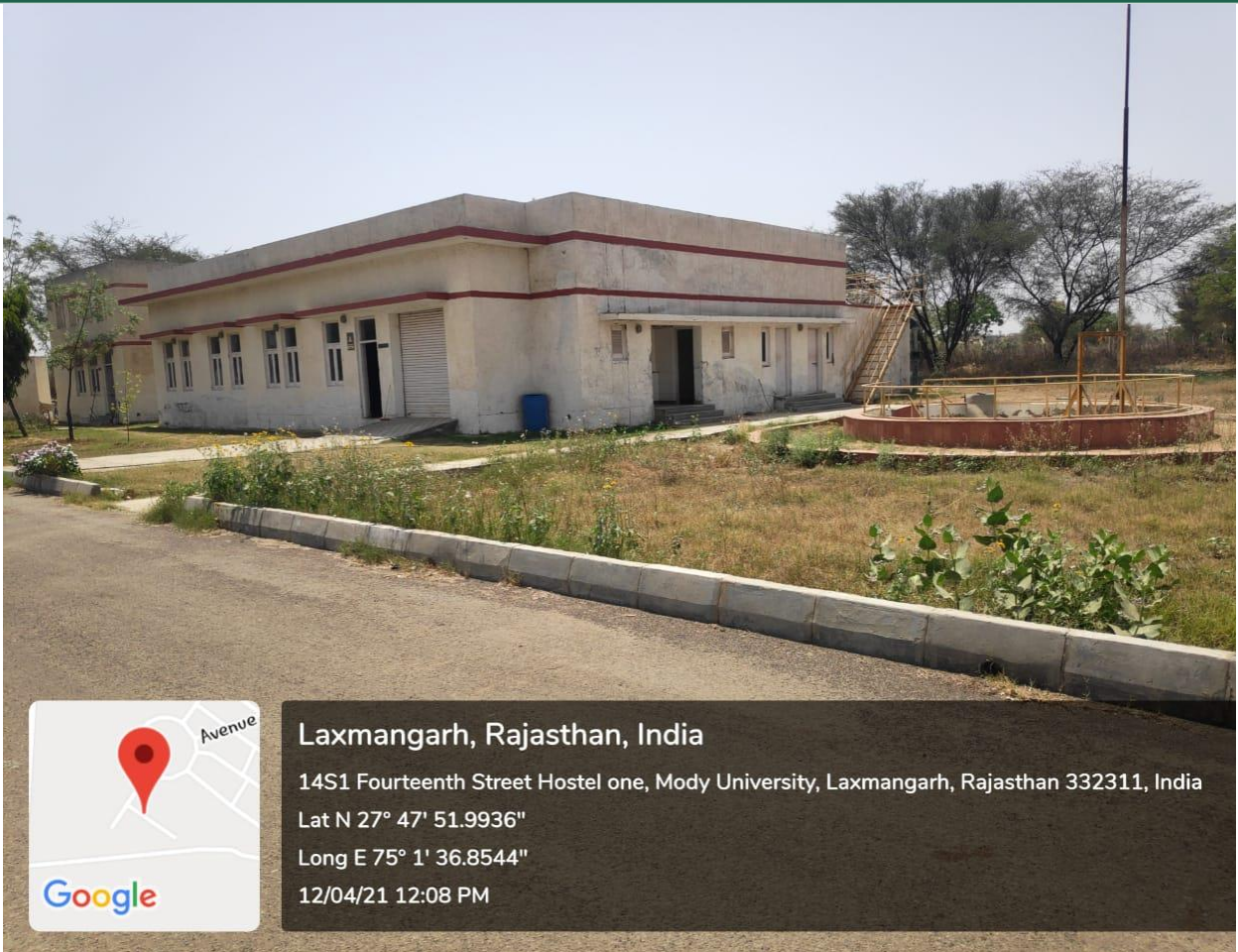
Mody University of Science and Technology has a functional Sewage Treatment Plant (STP) of 11 Lacs Litre Per Day treating capacity. The plant is based on Moving Bed Biofilm Reactor (MBBR) waste water treatment process.

Waste Water Recycling process facilitates the treatment of existing contaminants in the water or reduces the concentration of such contaminants so that the water becomes fit for the desired use.

The average waste water generated in the campus is 1000 KLD and there is a Sewage water treatment plant in campus of 1100 KLD capacity to recycle the used water. The water treatment plant installed in campus is based on MBBR (Moving Bed Bio Reactor) based technology. In this technology, Bacteria is generated in sewage water by aeration process which reduces the contamination and foul odour in water thus keeping the surrounding atmosphere clean. The treated water is free from contamination and foul odour and is mineral rich which is very fertile for plants. This treated water is re used for watering the gardens and maintaining lawns in the campus. The foul odour free sludge settled in the STP is removed alternate day and is disposed inside the earth.







JAGDAMBA LABORATORIES®

Govt. Approved Test House
119, Solitaire Industrial Park, Phase-1st, Dahmi Kallan
Bagru, Jaipur - 303007 (Rajasthan)

Tel. : 0141-2390604 Email : jagdambalab4@gmail.com, jagdamba_lab@yahoo.com Web : jagdambalab.com

TESTING OF WATER | FOODS | ALCOHOLIC DRINKS | DRUGS | HERBALS | COSMETICS | CHEMICALS | MINERALS | BUILDING MATERIAL | METALS



TEST REPORT

Sample Name	STP INLET WATER		
Report No.	JLWT210930004/A	Batch No.	NA
Sample Code	NA	Mfg. Date	NA
Date of Received	30/09/2021	Exp. Date	NA
Started of Analysis	30/09/2021	Sample Condition	OK
End of Analysis	04/10/2021	Sample Qty.	2 LTR.
Report Release Date	04/10/2021	Ref. No.	NA
Sample Submitted By	MODY UNIVERSITY OF SCIENCE & TECHNOLOGY LAXMANGARH SIKAR-332311		
Test Report Issued to	MODY UNIVERSITY OF SCIENCE & TECHNOLOGY LAXMANGARH SIKAR-332311 RAJASTHAN		

TEST RESULTS

Reference : As per Compliance of Environmental Acts/Rules 1998
Description : Colourless Liquid.

Sl. No.	Test Parameter	Unit	Found	Specifications	Method of Tests
1	pH	-	7.68	5.5 - 9.0	IS 3025 Part-11 : 1983, RA 2017
2	Total Dissolve Solids (T.D.S.)	mg/ltr	1172	---	IS 3025 Part-16 : 1984, RA 2017

The above sample not conforms to As per Compliance of Environmental Acts/Rules 1998 with respect to the above tests

END OF REPORT

K.S. RAJAWAT
4/10/21
Dy. Technical Manager
Analyst

MANOJ YADAV
04/10/21
Technical Manager, Chemical
Authorised Signatory

NOTE :

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2. Total liability of this Laboratory is limited to the invoice amount.
3. This results listed refer only to the above sample and applicable parameter's Endorsement of products is neither inferred nor implied.
4. Sample will be destroyed after one month (In case of nonperishable items only) the date of issue of test certificate unless otherwise specified.
5. Report refer to the Sample Submitted to us and not drawn by Jagdamba Laboratories unless mentioned otherwise.

JAGDAMBA LABORATORIES

Govt. Approved Test House

119, Solitaire Industrial Park, Phase-1st, Dahmi Kallan
Bagru, Jaipur - 303007 (Rajasthan)

Tel. : 0141-2390604 Email : jagdambalab4@gmail.com, jagdamba_lab@yahoo.com Web : jagdambalab.com

TESTING OF WATER | FOODS | ALCOHOLIC DRINKS | DRUGS | HERBALS | COSMETICS | CHEMICALS | MINERALS | BUILDING MATERIAL | METALS

TEST REPORT

Sample Name	STP OUTLET WATER		
Report No.	JLWT210930005/A	Batch No.	NA
Sample Code	NA	Mfg. Date	NA
Date of Received	30/09/2021	Exp. Date	NA
Started of Analysis	30/09/2021	Sample Condition	OK
End of Analysis	04/10/2021	Sample Qty.	2 LTR.
Report Release Date	04/10/2021	Ref. No.	NA
Sample Submitted By	MODY UNIVERSITY OF SCIENCE & TECHNOLOGY LAXMANGARH SIKAR-332311		
Test Report Issued to	MODY UNIVERSITY OF SCIENCE & TECHNOLOGY LAXMANGARH SIKAR-332311 RAJASTHAN		

TEST RESULTS

Reference : As per Compliance of Environmental Acts/Rules 1998
Description : Colourless Liquid. with having suspended particals.

Sl. No.	Test Parameter	Unit	Found	Specifications	Method of Tests
1	pH	-	7.97	5.5 - 9.0	IS 3025 Part-11 : 1983, RA 2017
2	Total Dissolve Solids (T.D.S.)	mg/ltr	956	—	IS 3025 Part-16 :1984, RA 2017

The above sample confirms to As per Compliance of Environmental Acts/Rules 1998 with respect to the above tests only.

END OF REPORT

K.S. RAJAWAT
4/10/21
Dy. Technical Manager
Analyst

MANOJ KADAV
04/10/21
Technical Manager-Chemical
Authorised Signatory

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- Report refer to the Sample Submitted to us and not drawn by Jagdamba Laboratories unless mentioned otherwise.

No. AIPL/MIER/STP/08-09/08
Dated 23rd March 2009

To,
M/s Modi Institute of Education and Research
Laxmangarh,
Dt. Sikar
Rajasthan

Kind Attention : Col. Parminder Singh, GM Engineering

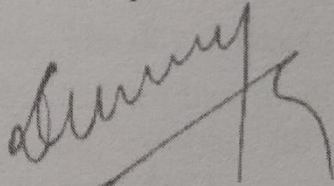
OMC PROPOSAL REV 2.0 : SEWAGE TREATMENT PLANT AT MIER

Dear Sir,

1. Ref your letter No. nil dated nil received under mail dated 23rd March 2009 regarding above mentioned subject.
2. We are pleased to re-submit our proposal for operation and maintenance your Sewage Treatment Plant located at M/s Modi Institute of Education and Research, Laxmangarh for the period 2009-2010 after including the amendments as suggested by you. Kindly find the revised proposal attached at appx "A" please.
4. We assure you our best services always and every time.

Thanking you,

For Akar Impex Pvt. Ltd.



(D K ASHARA)
Lt. Col. (Rtd)
GM, Project

Appendix "A"

(Refers to para 2 of Akar Impex letter No.
AIPL/MIER/STP/08-09/08 dt.23rd Mar 2009)

Akar Impex Pvt. Ltd.,
E-9, Sector-6, Noida
(Dist. Gautam Budh Nagar),
U.P. India - 201 301.
Phones: +91-120-4255580 to 4255582, 4346745
Fax: +91-120-4255583

**PROPOSAL FOR OPERATION AND MAINTENANCE OF SEWAGE
TREATMENT PLANT AT MODI INSTITUTE OF EDUCATION
AND RESEARCH, LAXMANGARH, DT. SIKAR, RAJASTHAN**

1. PROPOSAL

Akar Impex Pvt. Ltd., E-9, Sector-6, Noida (Dist. Gautam Budh Nagar), U.P. – 201301, proposes to undertake the operation and maintenance of Sewage Treatment Plant located at M/s Modi Institute of Education and Research, Laxmangarh.

2. SCOPE OF PROPOSAL

The scope of the proposal is as under:

- (a) The day to day operation of the plant.
- (b) Ensure that plant remains in operation 24 Hrs a day unless there is an external power supply failure and generator backup is not provided by the customer or there is a major breakdown.
- (c) Regular day to day maintenance of plant to be carried out.
- (d) All minor/major repairs/replacements of the equipment/pumps/civil works (which was executed by Akar Impex) will be carried out by us for the duration of one year from the date of taking over the plant by MIER.
- (e) Keeping adequate minor spares at the plant site so as to avoid delay in repair.

- (f) Accumulation of oil, grease, sludge and screening removed from and within Sewage Treatment Plant area from time to time in a hygienic and orderly manner. However, Shifting of material so collected to distant location will be responsibility of the customer, when it becomes enough to be shifted. Client shall also provide means of storage of sludge/screenings in the meantime. However, the sludge pit should be cleared regularly by the customer so as to avoid accumulation of the dried sludge.
- (g) Sewage Treatment Plant always to be kept in presentable condition.

3. CHARGES FOR OPERATION AND MAINTENANCE

Monthly charges of Rs. 44000/- (Rupees Forty Four Thousand only) + service charges and any other statutory GOVT. taxes as applicable will be charged extra. The breakdown given is as under:

Ser No.	Item description	Unit	Rate in Rs.	Total in Rs.
1	Trained operators	3 Nos	6000/- per person	18000-00
2	Assistants	3 Nos	4000/- per person	12000-00
3	Outstation allowance	6 Nos.	50/- per day/pers	9000-00
4	Accommodation	1 Nos.	2000/- per month	2000-00
5	Visit of supervisory Staff	At least one visit/month	3000/- (averaged)	3000-00
Total				44000-00

4. PAYMENT TERMS

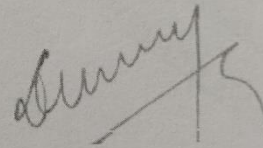
Related operation and Maintenance bills will be submitted to MIER on monthly basis on first day of each month and payment to be released by 7th of same month by the MIER.

5. PERIODICITY OF THE CONTRACT

- (a) The operation and maintenance contract shall be for one year from the date of acceptance and allotment of the same.
- (b) The same may be renewed for the following year in mutual consultation of both parties.

6. TERMS AND CONDITIONS

- (a) Provision of adequate power supply for operation of the plant will be responsibility of the customer.
- (b) Shifting of material like accumulated oil, grease, sludge so collected to distant location will be the responsibility of the customer, when it becomes enough to be shifted.
- (c) All bills must be cleared by 07th of every month.
- (d) Chemicals and consumables shall be provided by client.
- (e) The list of persons employed will be submitted to MIER. Police verification/authenticity of the person employed will be the responsibility of Akar Implex. Person so employed will be fully trained to do the job. Operation and Maintenance will be done in three shifts. Documentation i.e. logbooks for all pumps etc will be maintained and updated daily.”



(D K ASHARA)
Lt. Col. (Rtd)
GM, Project

E. Maintenance of Water Bodies and distribution System:

MAINTENANCE OF WATER BODIES AND DISTRIBUTION SYSTEM:

Our Mody University of Science and Technology has water sprinkling in its vast garden and many fountains (20 numbers) all across the campus which are connected water bodies maintained by conservation system. All the plants and trees in the campus are in network of water distribution system obtained from waste water.

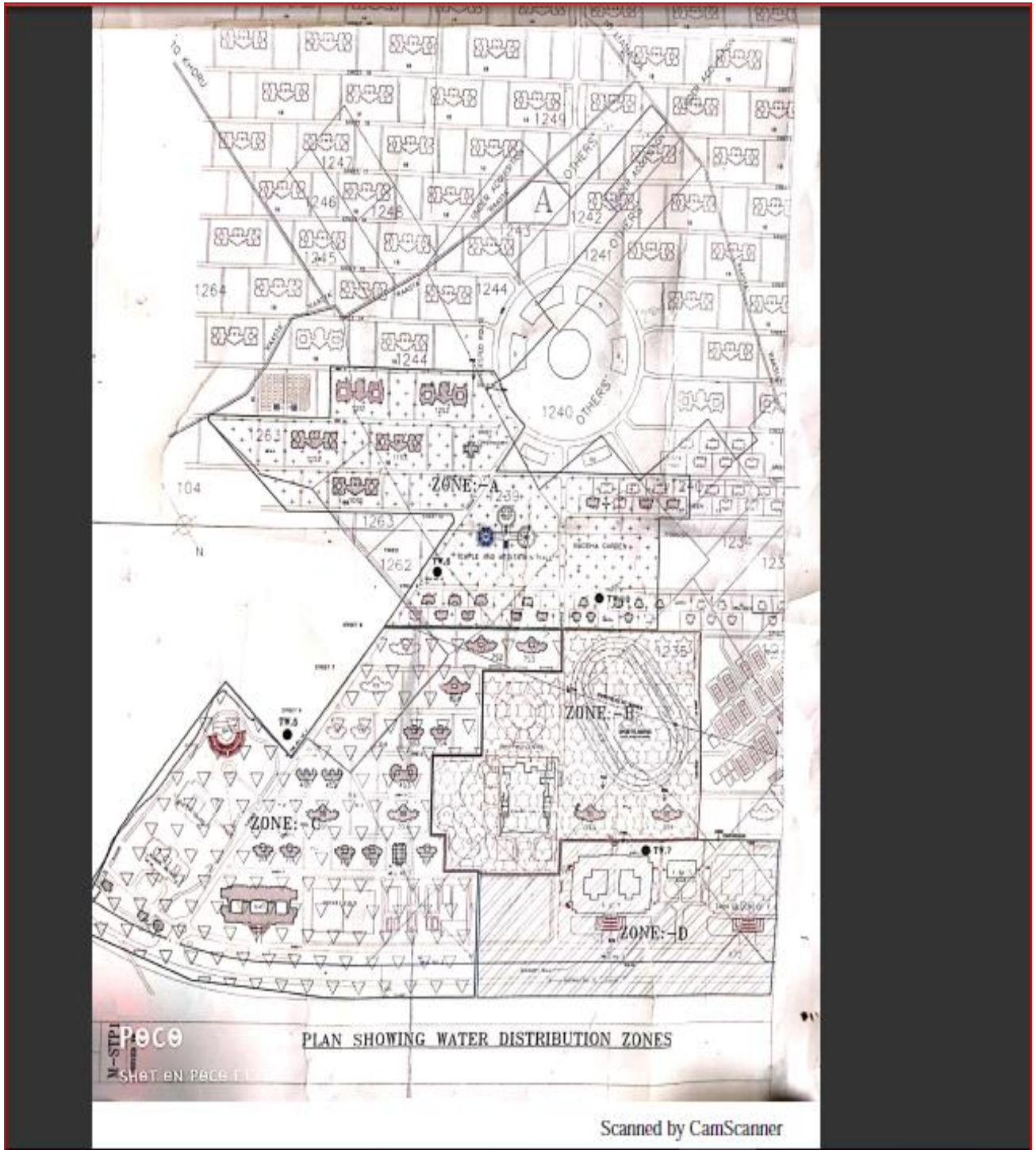
The university campus has dedicated water distribution system. There is total of 10 bore wells. All bore wells are connected with dedicated and segregated water supply grid system of the campus. All bore wells run almost continuously to supply water in the grid. There is a water storage tank in each building and fitted with float valve to prevent over flow of water. Each academic building & Hostel is having separate RO and water cooler to facilitate safe & clean water supply through tap in a judicious manner. Staff remains available for 24x7 to monitor and identify any overflow or leakage in the system.

POTABLE WATER DISTRIBUTION SYSTEM

1. Potable Water Distribution System in the University is based on ground water from bore wells being pumped in common feeder grid. These are two separate grids in the campus with a provision for inter connectivity. There are total six tube wells, three each connected to the two grids.
2. For Drinking and cooking purposes, the water is treated at user end with a domestic RO. At the Dining Hall separate water softening plant and a commercial RO has been installed.
3. The tube wells pumps are switched on and off depending upon the water requirement. For this purpose, two valve men have been deployed 24x7.

Below mentioned the Layout diagram of Water Distribution System:

Map



5. Climate Changes

Mody University of Science and Technology is situated in the desert area of Sekhawati region where rainfall is very less. But with the establishment of water conservation structures five km area around the University campus has become lush green and has very larger of tall trees. Our assessment is that average rainfall has increased in surrounding area of University and Lakshmangarh town. The environment has become soothing around the University for Sustainable Growth of flora and fauna.

6. Conclusion

Efficient water storage is a visible solution to water conservation. This means that University should protect surrounding environment and available water resources. Regardless is an institution of higher learning the Mody University of Science and Technology have a moral responsibility and propagate the message among the educational communities and society as well. Over past many years University has undertaken number of initiative to utilise water more efficiently, effectively within the campus. Our conservation policy is in line with the policy announced by the Government of India 2011 that is '**Jal Shakti Abhiyan**'.