

ENVIRONMENT & GREEN AUDIT REPORT

PART- B: GREEN AUDIT REPORT

7. WATER UTILIZATION, CONSERVATION & WATER MANAGEMENT

7.1: Source of Water, Storage and Distribution:

Table-5 shows the source of water, location of storage along with their application.

Table-5: Source of Water, Location of Storage and Application

Type of Water	Source	Application
Fresh Water	RO Water	Drinking application
Bore Water	1. Science Block – 300 Ft	Utensil Cleaning, Bathing, Cloth Washing & Gardening
Open Well	1. Ladies Hostel – 30 Ft 2. Mens Hostel – 40 Ft 3. Near Main Canteen – 30 Ft	
Lorry Water	1. 150 Tankers/Month (10,000/Tank)	
Rain Water Harvesting System (RWHS)	1.College/Life Science Block – 1 No 2.New Architecture Block – 1 No 3.Computer Science Block – 1 No 4.Pharmacy Block – 1 No 5.MS Block – 5 No's 6.Ladies Hostel – 3 No's 7.New Staff Quarters – 6 No's 8.Mens Hostel – 18 No's 9.Library Block – 1 No	<ul style="list-style-type: none"> ➤ Used to increase the ground water ➤ To store building run-off only

7.2: Details of the Water Utilities, Storage, Motor Capacity and Approximate Run

Hours:

The following table provides the details of the Water Utilities, Storage, Motor Capacity and Approximate Run Hours available inside the college for regular application.

Table-6: Details of the Water Utilities, Storage, Motor Capacity and Approximate Run Hours

S. No.	Location	Tank Capacity	Motor Capacity	Usage
1.	Main Building (UG Sump) (Lorry + Open well)	80 KLD	3 * 7.5 H.P/5 kW	Main Block 3,000 – Litters * 5 No's (Syntax)
				MBA Block 3,000 – Litters * 2 No's (Syntax)
				1 st Year Block 3,000 – Litters * 4 No's (Syntax)
				Main Canteen 3,000 – Litters * 2 No's (Syntax)
2.	Science Block	60 KLD		Science Block

	(UG Sump) (Lorry + Open well + Bore well)		2 * 7.5 H.P/5 kW	3,000 – Litters * 4 No's (Syntax) Pharmacy Block 3,000 – Litters * 2 No's (Syntax) GM Office 3,000 – Litters * 2 No's (Syntax) Power Room 3,000 – Litters * 2 No's (Syntax)
3.	Mens Hostel - 1 (Lorry + Open well)	1,100 KLD (New Sump Room)	5 * 10 H.P/7.5 kW + 2 * 7.5 H.P/5 kW	A – Block 3,000 – Litters * 7 No's (Syntax) B – Block 3,000 – Litters * 6 No's (Syntax) C – Block 3,000 – Litters * 9 No's (Syntax) D – Block 3,000 – Litters * 11 No's (Syntax)
4.	Mens Hostel - 1 (Lorry + Open well)	40 KLD (Main Block + Mess)	1 * 7.5 H.P/5 kW + 3 * 5 H.P/3.7 kW	Main Block 3,000 – Litters * 10 No's (Syntax) Mess 3,000 – Litters * 5 No's
5.	Mens Hostel - 2 (Open well)	60 KLD (PG Block)	2 * 7.5 H.P/5 kW + 1 * 5 H.P/3.7 kW	Mosque 3,000 – Litters * 2 No's PG Block 3,000 – Litters * 6 No's Incubation Block 3,000 – Litters * 4 No's
6.	Ladies Hostel (Lorry Water)	180 KLD	3 * 5 H.P/3.7 kW	Main Block 3,000 – Litters * 7 No's
7.	Annuxer Block (Open well)	30 Ft	1 * 5 H.P/3.7 kW	RCC Tank 15,000 Litters
R.O Water				
1.	Main Building RO Plant	Water From Main Block Syntax Tank		Main Block – 3,000 Litter * 1 No MBA Block – 3,000 Litter * 1 No
2.	Science Block RO Plant	Water From Science Block Syntax Tank		Science Block+Pharmacy Block+Canteen – 3,000 Litters * 1 No

3.	New Architech RO Plant	Water From New Architech Block UG Sump	New Architech – 3,000 Litters * 1 No
4.	Auditorium RO Plant	Water From New Architech Block UG Sump	Auditorium – 3,000 Litters * 1 No
5.	Old Staff Quaters RO Plant	Water From New Architech Block UG Sump	Old Staff Quaters – 3,000 Litters * 1 No
6.	Chancellor Villa RO Plant	Water From New Architech Block UG Sump	Chancellor Villa – 3,000 Litters * 1 No
7.	N.Staff Quaters RO Plant	Water From New Architech Block UG Sump	N.Staff Quaters – 3,000 Litters * 1 No
8.	MS Block RO Plant	Water From New Architech Block UG Sump	MS Block – 3,000 Litters * 1 No
9.	LS Block RO Plant	Water From LS Block UG Sump	LS Block – 3,000 Litters * 1 No
10.	Mens Hostel RO Plant	Water From New Sump Room	A,B,C,D Block – 3,000 Litters * 4 No's
11.	Mess + Main Block RO Plant	Water From Mess Block Syntax Tank	Mess + Main Block – 3,000 * 2 No's
12.	Ladies Hostel RO Plant	Water From New Block Cement Tank	New Block – 5,000 – RCC Tank

Note:

- ☞ Over Head (OH) tanks are made using Syntax.
- ☞ The maintenance team ensure to clean the tank for six months once.
- ☞ Bleaching power is mostly used to clean the inside tank.

7.3: Treated Water for Drinking Application:

- The college management is keen on providing uninterrupted, safe and healthy drinking water to all; throughout the year.
- Water dispenser are provided at appropriate places offering the treated water for the students (Both Normal and Hot temperature)
- The overhead tanks storing the well water are cleaned at regular intervals and the water management team has been maintaining a cleaning schedule Utensil Cleaning, Bathing & Cloth Washing.



PVC and Metal Based Taping System for Water Distribution Line

7.4: Water Savings in Foreign Toilets:

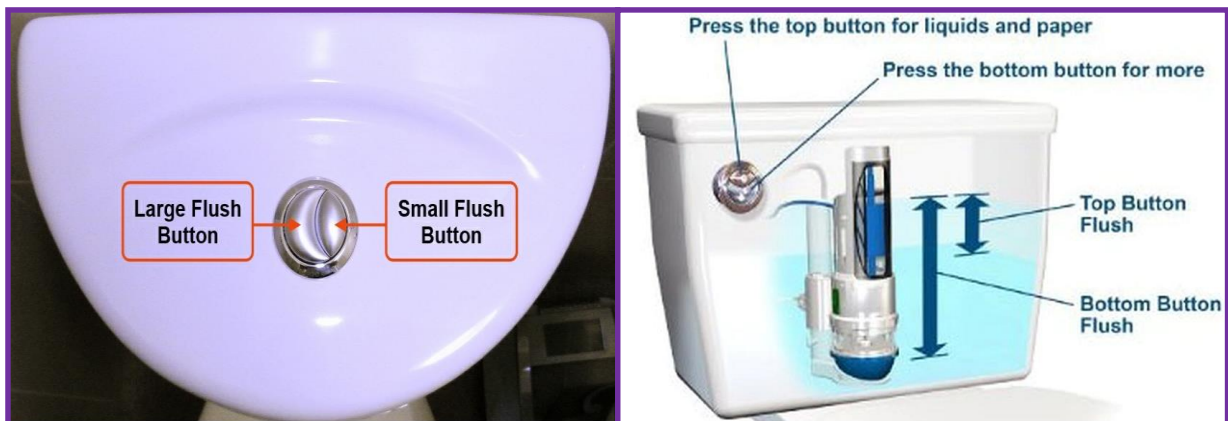
- The list of availability of Indian & Foreign style toilets are presented in the below Table-7.

Table-7: List of Indian & Foreign Style Toilets

S. No.	Location	Description (Quantity)	
		Indian	Foreign
1.	Auditorium Block	29	16
2.	Main Block	24	6
3.	MBA Block (CBS)	11	8
4.	Science Block (CSE)	25	7
5.	Basic Science Block	27	5
6.	Pharmacy Department	19	6

7.	Mechanical Science Block	-	89
8.	Life Science Block	-	37
9.	New Architecture Block	-	24
10.	Common Toilet Near Ground	-	10
11.	Arabic College & Hostel	44	-
12.	New Toilet Near MBA Block	-	18
13.	Estate Office	1	3
14.	Common Toilet in Sports Village	-	4
15.	Common Toilet Towards Men's Hostel	2	6
16.	Bio Toilet Near Security Cabin & Near DATA Centre	-	4
17.	CIIC Block	5	40
18.	Firest Year Canteen	-	4
Total		187	287

- In general, the flush tank capacity may be 8 to 10 Litres (depends on make and model). Water savings also leads to power saving it saves the operating duration of the water pumps directly.



7.5: Rain Water Harvesting (RWH) – from Building Roof Area & Run-off Area:

- The audit team appreciates the effects taken by the management of **B.S. ABDUR RAHMAN CRESCENT INSTITUTE OF SCIENCE AND TECHNOLOGY** for harvesting the rain water almost in all buildings.
- The roof area is so arranged to collect the rainwater and then passed through proper piping system, and then bring back to the RWH pits which are located close to each pit
- The building run off are collected through each pit mostly located in each building. Common area and road run-off are properly collected and routed to nearby water body.



7.6: General Recommendations for Rain Water Harvesting:

- RWH has been fitted with their specifications indicating their i) year of installation, ii) approximate average rainfall and duration in the RWH location and iii) filter cleaning schedule (if any).
- Conduct a GIS based study on the improvement of ground water table especially before the rainy session and after rainy session. Compare the data and ensure that the water table improves due to percolation of rain water.
- Similar study must be conducted (in future) before installing an RWH and after RWH.
- Increase the no. of RWH pits and may be developed to place at least 2 per building.



Sample Name Board in front a Rain Water Harvesting System

7.7: General Recommendations:

- It is advisable to replace all the old taps without aerator into aerator-based taps in a phased manner.
- Aerators helps to reduce and regulate water flow and also offer the following benefits;
 - ✓ Lower Water Bills & Improved Water Pressure
 - ✓ Increased Filtration & Minimized Splashing

- All the pump motor must be fitted and controlled by floating sensor and hence the motors are automatically ON and OFF. It avoids the overflow; saves water and electrical energy.
- All the buildings are fitted with water flow meters & hence the water utilization must be properly accounted. Similar to the water flow meter; energy consumption of all pumping motors is recorded using panel board meters.
- Fault and leakage in the water distribution line will be promptly informed by the respective in-charges to the maintenance team and immediately arrested.

7.8: Installation on Fire extinguishers:

- The college has installed Fire extinguishers at all the vulnerable points.
- They are also refilled and in good condition (with adequate pressure indicated in the meter)



Sample Fire Extinguishers & First Aid Kit Placed in the College