

4.4.2: There are established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.

Contents: Additional Information

1] Maintenance Policy

Maintenance Policy

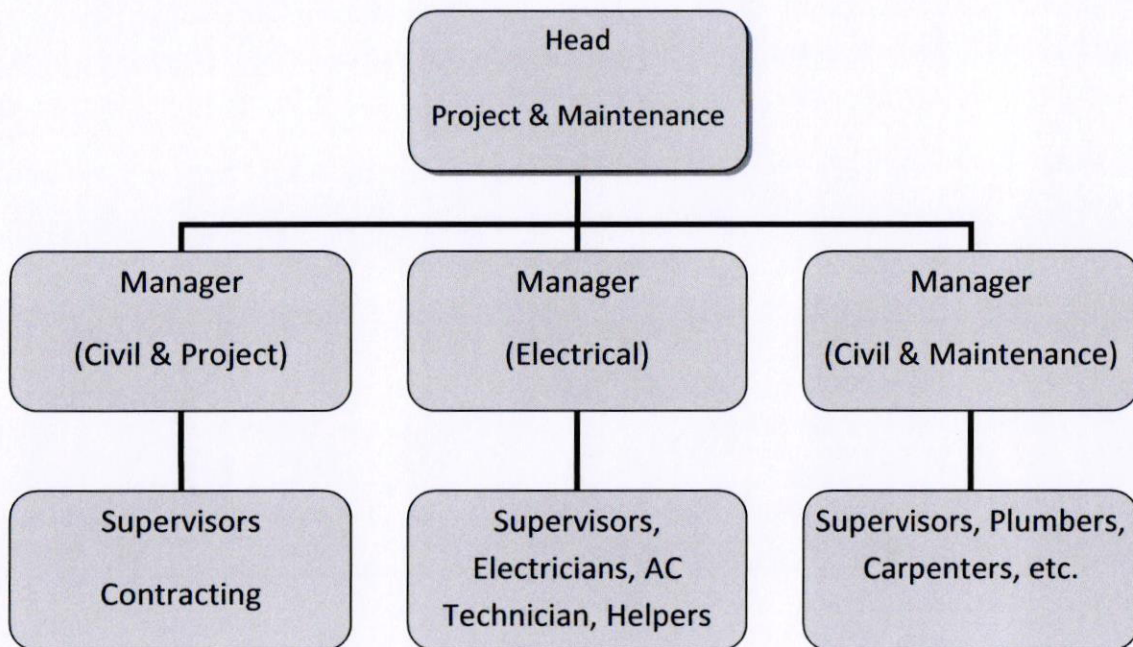
CONTENTS

01) INTRODUCTION	03
02) ORGANIZATION CHART.....	03
03) MAINTENANCE OF PHYSICAL FACILITIES	04
04) MAINTENANCE OF CLASSROOMS, FURNITURES AND LABORATORIES	04
05) MAINTENANCE AND UTILISATION OF SEMINAR HALLS AND AUDITORIUMS	05
06) MAINTENANCE OF ICT FACILITIES	05
07) MAINTENANCE OF SPORTS AND GAMES FACILITY	05
08) MAINTENANCE OF ELECTRICAL SYSTEMS	05
09) WATER MANAGEMENT.....	07
10) REVERSE OSMOSIS PLAN PROCESS & MANAGEMENT.....	07
11) SEWAGE TREATMENT PLANT & MANAGEMENT.....	08
12) CIVIL & OTHER MAINTENANCE MANAGEMENT	08
13) LIFE SAFETY SYSTEMS	09
14) MAINTENANCE OF CAMPUS CLEANLINESS	09
15) ALLIED AND INCIDENTAL MAINTENANCE	09
16) WASTE MANAGEMENT	10
17) RAINWATER HARVESTING	10
18) LANDSCAPING, GROUND & GARDEN MANAGEMENT.....	10
19) CONTRACTING FOR SERVICES	10

01) INTRODUCTION: -

The Marwadi Education Foundation owns and operates an extensive portfolio of buildings and land assets utilized to deliver its teaching and research program. The University has an established system for maintenance and utilization of infrastructure in the campus. The Project & Construction Division of the Marwadi Education Foundation is responsible for managing the estate maintenance function. This document provides a management framework to ensure that these assets are maintained effectively to support the Marwadi Education Foundation's strategic objectives. This document also presents a consistent approach to the maintenance of all UQ assets and defines the roles and responsibilities of the Property & Facilities Division (P & F).

02) ORGANIZATION CHART: -



COMPONENTS OF A MAINTENANCE SYSTEM: -

By developing a maintenance system that has these components in place, the authority will have the tools it needs to control the performance of maintenance work at the Marwadi Education Foundation. The Marwadi Education Foundation maintenance system shall include certain components:

- 01) Prioritization of work
- 02) Comprehensive work procedures
- 03) Performance standards and goals
- 04) Work order system.
- 05) Skills Updates and Training program
- 06) Long-range planning

The work priorities adopted by the project and maintenance section based on its philosophy of delivering maintenance services. This priority system ensures that the most important maintenance work is done at a time it can be performed most cost-effectively. The head of the maintenance section will ensure that there are sufficient clear procedures in place to allow staff to implement the Maintenance Policy.

The project and maintenance section shall have a comprehensive work order system that includes all work request information, viz. source of work, description of work, priority, cost, and days to complete. This information is required for the University to plan for the delivery of maintenance services as well as evaluate performance. To obtain the greatest effectiveness from the work order system, all work requests and activities performed by maintenance staff must be recorded on work schedules which will include at the minimum, the following:

- I. Source of request (Help Desk / Verbal / Preventive Inspection)
- II. Priority assigned.
- III. Location of work.
- IV. Date and time received.
- V. Date and time assigned.
- VI. Worker(s) assigned.
- VII. Description of work requested.
- VIII. Description of work performed.
- IX. Estimated and actual time to complete.
- X. Materials used to complete work.

The Project and Maintenance section will put in place and maintain a long-range maintenance planning capability to ensure the most cost-effective use of university resources and to maximize the useful life of university properties by preventive maintenance and maintaining monthly minimum inventories stock for the quick complaint resolution. By developing a work plan, the University will be able to anticipate its staff, equipment and material needs. It will also be possible to determine need for contracting services.

03) MAINTENANCE OF PHYSICAL FACILITIES: -

The physical facilities in the campus of the university are maintained by the Project and Maintenance section comprising of competent civil and electrical engineers. The services of plumbers, electricians, carpenters, etc. are available round the clock in the campus. The section is responsible for the uninterrupted water supply, sanitation, power supply and maintenance of buildings, elevators, or lifts, fountains, roads, lake & equipment like generator sets, general lighting, power distribution system, solar plants etc. Maintenance of water pumps, sewage and drainage is undertaken by support staff.

The Project and maintenance section with a team of maintenance supervisors and area officers, monitors the maintenance and cleanliness of the buildings, classrooms, labs, furniture, campus ground, sports facilities, students' amenity areas, ramps, medicinal garden, staff offices, etc.

Ensuring adequate fire-fighting arrangement in common areas such as Library, Auditorium, and other Academic & Administrative buildings. gymnasium, indoor sports hall, lifts, amphitheatre, dining hall, cafeteria, and hostel buildings.

04) MAINTENANCE OF CLASSROOMS, FURNITURE AND LABORATORIES

Classrooms, Furniture, teaching offices and laboratories are maintained by the Project and Maintenance Section. The Heads of Departments report to the Project and Maintenance section for all the maintenance

works. Students optimally utilize all classrooms during the daylong working hours and are also mentored to upkeep the furniture.

05) MAINTENANCE AND UTILISATION OF SEMINAR HALLS AND AUDITORIAMS

Maintenance of Board Room, Seminar halls, Auditoriums and Amphitheater, etc are under the purview of the Project and Maintenance section. The Board Room, Seminar halls, Auditoriums and Amphitheater are under the supervision of project and maintenance section, & their booking is done by the academic administrative office. Effective utilization of seminar halls and auditoriums for organizing academic meetings, seminars, conferences, and cultural events is made.

06) MAINTENANCE OF ICT FACILITIES: -

The ICT Center maintains the ICT facilities including computers, networking, Wi-Fi system, CCTV surveillance system and servers. The ICT center is responsible to provide the necessary computing software, procurement and installation of systems, antivirus and firewalls, and up gradation. To minimize e-waste, electronic gadgets like projectors, computers, printers, photocopiers are serviced and maintained.

07) MAINTENANCE OF SPORTS AND GAMES FACILITY

The sports equipment, fitness equipment, ground and various courts in the Campus are supervised and maintained by the Project and Maintenance section. Ground level maintenance is done annually during vacation in addition to the seasonal maintenance done in once in every three months. Grounds men, vendors of Sports goods and students of Physical Education jointly maintain the sport equipment. Seasonal maintenance of all equipment and ground are carried out regularly by the Department of Physical Education & Sports. Gymnasium and playgrounds are maintained by the staff of the Project and Maintenance Section, Staff of Horticulture dept. and the Department of Physical Education & Sports.

08) MAINTENANCE OF ELECTRICAL SYSTEMS

The Electric Manager of the Project and Maintenance Department of the Marwadi Education Foundation is responsible for managing the maintenance of electrical systems. By developing a maintenance system that has these components in place, the authority will have the tools it needs to control the performance of Electric maintenance work at the Marwadi Education Foundation. The section is responsible for the power supply, power distribution panels, and maintenance of electrical safety devices, elevators, or lifts, generator sets, UPS Systems, general lighting, solar plants etc.

Electric Panels and Distribution boards: -

Power Distribution System includes 11KV main incoming power supply to main distribution panel, DG synchronization panel, solar synchronization panel to individual building distribution panels. Monthly preventive maintenance scheduling for panel maintenance like checking of cable connection and its tightening, Cable ampere check for proper power load, hotspot checking, dust cleaning, etc. Working on corrective actions, if any abnormal parts found then corrective action it replaced with proper rating.

AC Maintenance: -

The University is having centralized managed 1200HP Daikin VRV AC system for pleasant air conditioning during Study in classrooms, laboratories, and staff offices. Centralized ductable Air Conditioning System is available in Auditorium, Seminar Hall. Additionally, 150+ Split ACs available in Hostel Buildings.

- Daily basis checking VRV and ductable ac units, if fault found then try to short out problem within time limit periods.
- General Checking and servicing of Split AC Unit.
- Quarterly Preventive maintenance work done for smoothly running AC system.
- Maintain emergency AC spare parts for timely repairing ac system.
- AMC of VRV AC and Ductable ac to Qualified Vendors for smoothly running of ac system.
- Maintaining records of AC services and breakdown reports for future references.

Lifts or Elevators: -

- There are 24 No's Lift / elevators available in the Campus.
- The team is responsible to maintain emergency lift spare parts for timely repairing of system.
- Preventive maintenance scheduling for all lifts for smoothly Lift operations.
- Maintaining records of all lift service and breakdown reports for future references.
- Scheduling quarterly Lift rescue safety training for Emergency rescue operations.

Diesel Generator Set: -

- DG set installed in campus with capacity of 1630KVA.
- Maintaining emergency DG set spare parts for timely repairing of DG Set system.
- Monthly Preventive maintenance work done in all DG sets for smoothly operations.
- Maintaining records of all DG set service and breakdown reports for future references.
- DG set useful in condition when PGVCL power supply failure.

Uninterruptible Power Supply (UPS)

- Total 16 nos online UPS(s) are available for uninterrupted power supply to ICT devices of all the classrooms, laboratories, seminar halls, auditoriums, computer systems, networking and Wi-Fi devices, CCTV surveillance system etc.
- An uninterruptible power supply (UPS) is a device that **allows ICT Systems and computers to keep running for at least a short time when incoming power is interrupted**. As long as utility power is flowing, it also replenishes and maintains the energy storage.
- The section is responsible to maintain emergency spare parts for timely repairing of UPS system.
- Quarterly Preventive maintenance month work done in all ups systems for smoothly operations.
- Maintaining service and battery maintenance reports for future references.

Water cooler and Chiller: -

- 06 nos Chiller System available for Cold water supply of Hostel building, College building.
- 38 nos water cooler system available for Cold water of Hostel Building, College building.
- Managing and maintaining emergency spare parts for timely repairing.
- Maintaining records of services and breakdown for future references.

Geyser and Hot Water (Gas burner) system

- Hot water system facility in Hostel building through Geyser, Gas Burner (Boiler) System.
- The section is maintaining emergency spare parts for timely repairing.
- Maintaining service and breakdown reports for future references.

Solar Power plant: -

- 600KW solar rooftop solar power plant system is installed for green energy.
- The section is responsible for weekly scheduling cleaning of solar panels for efficient power generation.
- Maintaining of records of services, maintenance, and daily power generation.

Lighting and Fan maintenance: -

- Maintenance of Lighting, Fans and keeping emergency spare parts for timely repairing.
- Maintaining records of complaint, breakdown and replacement reports through online electric complaint for future references.

09) WATER MANAGEMENT

Source & Storage of Water for University campus: -

- The principal source of Water is supplied by Government of Gujarat (Narmada Water).
- The University is having 6,00,000.00 lacks liters of storage capacity in underground water sump.
- Tanker arrangement through external vendors in case of incidentally shortages of water.
- Three nos. of borewells.

Water Management for University campus: -

- Checking and monitor on the source of water supply and the storage area on daily basis.
- Checking of water quality and storage on daily basis.
- Maintain proper operation of all motors and sufficient supply of water in all college campus.
- Softener Plant is being utilize for softening of bore well water.
- Hydro pneumatic circulation system is being utilized for water to each and every area of campus. In case of failure of the Hydro pneumatic system the water is supplied by normal gravity method from sump to over head tanks which is located in each building.
- Water hardness is maintained between 80ppm to 120ppm for portable purposes, if hardness is crossing beyond 120ppm at consumption point regeneration is carried out.
- To maintain the hygiene & quality of water, following steps are carried out periodically: -

Sr. No.	System	Process	Frequency
1	Underground & overhead tanks	Manual Cleaning	Every 3 months
2	Hardness checking	Manual	Twice in a week

10) REVERSE OSMOSIS PLANT PROCESS & MANAGEMENT: -

- Total 8 nos. of R. O. Plant are Installed for the drinking water requirement of the campus.
- Only filtered water from the R.O. plant is used only for drinking purpose.
- The institute is ensuring that good water quality to be maintained with Norms.
- Sufficient storage tank is available in each building for R.O. water.
- Normal operational limits shall be maintained for hardness 0-5 PPM and PH contain 6.8-7.2
- Online record system is utilized for maintaining record for pressure of pump and TDS of water
- Preventive maintenance is implemented for each R. O. Plant by trained and professional person.
- Daily utilization report is maintained by site technician of R. O. Plant

11) SEWAGE TREATMENT PLANT (S. T. P.) & MANAGEMENT: -

- S. T. P. is installed in college campus with capacity of 2,00,000.000 liter.
- Treated water fertilizer shall be utilized in gardening and plantation for entire college campus dropped out from S. T. P.
- Technician / AMC staff will be taking care of operation and maintenance of the S. T. P.
- The Aeration pump will run for 24 hours, and each pump will be working for 12 hours per day.
- Bar screen/ chamber for clogging will be checked by the technician.
- The MLSS (Mixed Liquor Suspended Solids) will be always maintained at 150 to 350 mg/l
- If required, the technician shall divert excess sludge from the clarifier to the aeration tank to maintain the required MLS.
- The Filter Back wash is done by technician every week either when the head losses increases, and pressure gauge indicate 3 psig or 0.2kgs/cm².
- The treated water always to be chlorinated before letting into the final water tank.
- In case of any malfunction of the STP, it shall be shut down and proper clearing of effluent shall be done by the third-party vendor, and the same time the shut down / breakdown is to be reported to Pollution control board.
- S. T. P. plant cleaning & maintenance shall be done every year with prior planning; it includes replacement of media etc.
- Proper preventive maintenance of Electrical system for STP shall be done time to time with consumption of power.
- Operational log sheet shall maintain on daily basis with authorized signature.
- The institute must present all Test report of treated water which is come from STP to the pollution control board on regular basis.
- Technician shall monitor the output of the STP on daily basis.
- The STP is to be kept neat and tidy at all point of view.

12) CIVIL & OTHER MAINTENANCE MANAGEMENT: -

- Civil & Other Maintenance includes.
 - Civil maintenance works
 - Carpentry work
 - Aluminum Section
 - Plumbing & sanitary
 - Painting
 - Furniture
 - Gardening & horticulture
- Building and other maintenance is work undertaken to keep, restore or improve every facility i.e. every part of a building, its services including Horticulture operations to a currently acceptable standard and to sustain the utility and value of the facility.

- Day to day repairs service facilities shall be implement.
- Annual repairs contract shall be finalized.
- Preventive Maintenance shall be done time to time which includes.
 - Catch basins/Storm Drainage
 - Compactors
 - Condensation pumps
 - Emergency lighting
 - Exhaust fans
 - Exterior lights
 - Fire extinguishers and other life safety systems
 - Mechanical equipment and vehicles
 - Domestic water
 - Day to day repairs service facilities shall be implement.

13) LIFE SAFETY SYSTEMS

The University is having a comprehensive program for maintenance of life safety systems to ensure that they will be fully functional in the case of an emergency. The project and maintenance section is responsible for the development and implementation of a schedule that includes the inspection, servicing and testing of this equipment. The equipment to be included in the plan are the following:

- i. Fire alarms and fire alarm systems
- ii. Fire extinguishers
- iii. Fire hoses
- iv. Emergency generators
- v. Emergency lighting
- vi. Smoke detectors
- vii. Sprinkler systems

The plan includes testing and servicing as per manufacturer's recommendations. It also includes a determination of the most reliable and cost-effective way to perform the work including the decision to hire a contractor.

14) MAINTENANCE OF CAMPUS CLEANLINESS

Cleaning of the campus area including the academic and administrative buildings is performed daily in the morning before the regular classes begin with the help of the admin section & housekeeping staff of the University. Toilets are cleaned thrice every day. The whole campus area is maintained by the administration section & their manager who will be reporting the completion of work to the in charge of admin section.

15) ALLIED AND INCIDENTAL MAINTENANCE

- I. To install energy meters in service kiosk, cafeteria and residential units, carry out readings for monthly consumption and ensure deduction of electrical charges from the bill of respective allottees through advice note to account officer.
- II. To ensure handing over the new added infrastructure facilities to the concerned Incharge of the office after verifying the lists of assets, fittings and fixtures etc.

- III. To ensure handing over the keys of the allotted residential quarters to the concerned employee as per the allotment by the Admin / HR and also take the vacated quarter keys from outgoing occupant.
- IV. To issue No-Dues Certification to employees after ensuring all rental dues.

16) WASTE MANAGEMENT: -

For disposal and treatment of solid waste, there is a Garbage Disposal Center. This Center is under the supervision of Admin Section. This Center is responsible for collecting the garbage daily from all departments, hostels, and residential areas. After collecting the garbage, it is disposed through the concerned agencies.

17) RAINWATER HARVESTING: -

Government of India has decided to make Rainwater Harvesting compulsory in urban areas considering increasing population and burden on water supply. Low rainfall situations and drying ground water level are main challenges in urban as well as rural areas to keep sufficient water supply.

Installation or Construction of Rainwater Harvesting unit is a solution for this problem. More than 50 units of Rainwater Harvesting have been installed in this campus. We can develop this campus a model for Water Conservation.

18) LANDSCAPING, GROUNDS & GROUNDS MANAGEMENT: -

- Landscaping and grounds include these features:
- Routine grounds maintenance includes numerous activities:
- Litter control
- Lawn care
- Maintenance of driveways, sidewalks, and parking lots
- Care of flower and shrubbery beds and trees
- Maintenance of playgrounds, benches, and fences

19) CONTRACTING FOR SERVICES

The Marwadi Education Foundation will contract for maintenance services when it is in the best interests of the Authority to do so. When the employees of the Authority have the time and skills to perform the work at hand, they will be the first choice to perform a given task. When the employees of the Authority have the skills to do the work required, but there is more work than there is time available to complete it, the Authority will determine whether it is more cost effective to use a contractor to complete the work.

Once the decision has been made to hire a contractor, the process set out in the Marwadi Education Foundation Procurement Policy will be used. These procedures vary depending on the expected amount of the contract. The Technical Services Supervisor and/or Working Foreman will work with the Executive to facilitate the contract award. The most important aspect of the bid documents will be the specifications or statement of work. The clearer the specifications the easier it will be for the Authority to get the work product it requires.


Registrar
Marwadi University

