POLICY GUIDELINES ON WATER USE AND WASTEWATER MANAGEMENT OF UNIVERSITI MALAYSIA TERENGGANU

A. Background

The purpose of this policy is to establish objectives for the University to reduce water consumption and improve wastewater management. This is crucial in alleviating pressure on the limited water resources. Effective sanitation and wastewater management within the University are essential to prevent the contamination of freshwater sources, which can lead to diseases, fatalities, and harm to ecosystems.

B. Scope

The policy applies to all students, university staffs, contractors, and visitors.

C. Terminology

Green water	Natural water from rain
Blue water	Water from rivers, groundwater, lakes, sea, and wetlands
Grey water	Water safe for technical use, such as run-off from shower, drain and treated ponds.
Black water	Untreated kitchen wash water, faces and flushing water from toilets.
Laboratory/Hatchery discharge water	Untreated waste water from hatchery and laboratory
Grey water Use	Wastewater (excluding Black water) which is most used in flushing toilets to avoid the use of freshwater for this purpose.
Rainwater harvesting	The collection and storage of rainwater via roof capture and storage tank systems. The water can be re-used in toilet flushing or irrigation.

D. Preparations, Implementation, Monitoring, Compliance and Reporting

The principles underpinning the Water Use and Wastewater Management Policy are set out as below. These principles guide the policy statement. The emphasis on these principles will change as the University progresses towards meeting its targets and the policy will be reviewed accordingly to reflect this. New objectives may also be introduced, or existing ones replaced at review.

I. Preparation: Baseline Study and Identification Knowledge Gaps

PPH and other related agencies in UMT collaborate to initiate a baseline study aimed at collecting data and identifying knowledge gaps. The baseline study shall include following activities: (i) review existing policies and partners (internal and external) involved in water and wastewater collection, transport, and treatment systems within campus and out-campus field stations, (ii) quantification of water and wastewater leakage, (iii) inventory of technical facilities and infrastructure, baseline to be continuously assessed and reviewed, and (iv) creation standard operation procedure for annual sector reviews, monitoring and evaluation, university community participation, investment planning for upgrading new infrastructure, water saving and water quality standard compliance requirement, use of equity criteria in annual maintenance budget allocations in sector, and capacity building of human resources in sector.

II. Implementation

Phase I_ Baseline Study: Special Task Force committee shall be formed to coordinate the baseline study. The policy cover administrators, experts from faculty, students, and service providers.

Phase II_ Monitoring, Compliance and Reporting: A university committee will coordinate water monitoring, compliance, and reporting. The campaign covers campus and field stations, including water-saving data collection, wastewater analysis at discharge points, and environmental water monitoring near facilities in Kenyir, Pulau Bidong, Pulau Redang, Setiu Wetlands, Bukit Kor, and Kuala Nerus.

III. Monitoring and Measuring Water Use

Using existing sub-meters, the University will monitor water consumption at entrance point to site and buildings. Additional sub-meters will be installed where

there is a lack of visibility and facility that consumed large amount of fresh water i.e. hostels, hatchery, out-campus research stations facility.

IV. Monitoring the Wastewater Quality at Discharge Points and adjacent Blue Water

The University will regularly monitor the water quality of discharged water from its wastewater treatment facilities to ensure compliance with DOE standards. In addition, environmental monitoring of adjacent groundwater, rivers, lakes, and seas within the campus and out-campus field stations will be conducted on a regular basis, every four months.

V. Conserving Water

The University will evaluate water using equipment including washroom facilities and where practicable, replace equipment with water efficient equipment. This is also particularly relevant in student hostel. For example, ageing washroom/bathroom facilities use considerably more water than modern fittings and, in some instances, have the facility to be left running. Replacing such fixtures via a targeted programme of work across the University and halls of residence will reduce water use. Where practicable, the University will consider the capture and re-use of water in new buildings via systems of greywater and rainwater harvesting. The systems will be evaluated on a whole life costing basis which also considers the carbon cost of pumping water from collection tanks.

VI. Wastewater management

Discharging laboratory and hatchery effluents directly into natural waters or public drainage is strictly prohibited. The Head of PTJ is tasked with overseeing chemical and wastewater management within the department and may appoint a designated individual to assist other PTJ members and students in wastewater responsibilities. Any discharges of substances or chemicals that do not meet guideline requirements must be reported promptly, as mandated by legislation, to the department's appointed health, safety, and environment officer. This HSE officer is responsible for conducting incident investigations and reporting findings to both the Head of Department and PPH. In the event of an emergency that could

potentially cause an environmental disaster, any department member is obligated to report the case directly to the UMT Security Hotline for immediate assistance.

VII. Compliance

The University will ensure that its operations meet and where practicable, exceed the legislative requirements pertaining to water conservation and wastewater management.

E. Relevant committee and their responsibilities

I. **Special Task Force** shall coordinate the campaign, monitor the implementation and ensure the enforcement of the policy.

II. **Pusat Pembanguna Harta (PPH)** shall ensure the facility needed to support the sustainable water use and wastewater treatment facility are functionable and deliverable. PPH shall ensure the maintenance of such facility by employing contractors, etc.

III. **Pusat Komunikasi Korporat (PKK)** shall be responsible for dissemination of information, education and communication campaign with rationale of water saving and good practice of wastewater discharge in campus.

IV. **UMT staffs** are required to cooperate and help educate and promote water saving and good practice in wastewater management in campus.

V. **Students, Alumni, Guests, Cafeteria owners** shall abide by the guidelines.

VI. **Bahagian Keselamatan** will provide assistance in the event of wastewater spill incidents on campus and report water leakages occurring in public areas within the campus.

F. Recommendations

I. Forming a university level task force to undertake following task:
   1. Review relevant policy and identify knowledge gaps
   2. Guidelines and Best Practices
   3. Standard Operation Procedures for Monitoring
   4. Reporting Requirement, Standard and Format

II. Forming a university level technical task force to conduct baseline study. Members of committee shall include:
    1. Center of Asset Management (PPH).
    2. Representatives of Head of PTJ
    3. Appointed Experts of Subject Matter or consultant in sector

III. The university will conduct essential training and competency checks in regular basic for all appointed Health, Safety, and Environment (HSE) officers to ensure the effective implementation of policy objectives.

A. The university will cover the costs associated with sampling and sample analysis for the baseline study and annual monitoring campaign.

G. Policy Enforcement

This policy is effective from March 30, 2024.