I approve
Managing Director
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«___» _____ 20___

PROGRAM
CONSERVATION OF WATER RESOURCES
NJSC "NATIONAL MEDICAL UNIVERSITY NAMED AFTER TOREGELDI SHARMANOV"

PG-MUA-53-02-26

Astana 2026

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Water Conservation Program Passport

Parameter	Content
Name	Water Resources Conservation Program of the JSC "Toregeldi Sharmanov National Medical University" for 2026–2030
Developer	Department of Infrastructure and Operations
Grounds	Rational water use, sustainable development, and operational reliability of water supply systems; consideration of ISO 46001:2019 and ISO 14046:2014 approaches
SDG	SDG 6 (targets 6.3, 6.4); SDG 12 (12.2, 12.8);
Target	Improving the efficiency of water resources management, reducing water consumption and water losses
Tasks	Monitoring, leak prevention, equipment upgrades, environmental education, reporting
Target indicator	Annual reduction in specific water consumption by at least 1% under comparable conditions
Period	2026–2030
Expected results	Reducing specific water consumption, reducing losses, improving accounting and environmental awareness

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1. General Provisions

1. This Water Resources Conservation Program of the JSC “Torgeldi Sharmanov National Medical University” (hereinafter referred to as the Program, the University) has been developed for the purposes of rational use of water, increasing the efficiency of water consumption, reducing losses and improving the operation of water supply systems.

2. The program contributes to the achievement of the UN SDGs: SDG 6 “Clean water and sanitation” (targets 6.3 and 6.4), SDG 12 “Responsible consumption and production” (targets 12.2 and 12.8).

3. The implementation takes into account the approaches of ISO 46001:2019 for water efficiency management, ISO 14046:2014 for water footprint assessment, and relevant QS Sustainability environmental sustainability criteria. Reference to standards does not imply certification.

2. Grounds for developing the Program

4. The following bases are used during the development of the program:

1) Environmental. Reducing wasteful water consumption, preventing water loss, and reducing environmental impact.

2) Social and hygienic. Maintaining appropriate sanitary and hygienic conditions for students, employees, and visitors.

3) Economic. Reducing water supply and sanitation costs, preventing emergency losses, and improving the efficiency of utility infrastructure.

4) Scientific and technological. Development of accounting and monitoring, application of water-saving equipment, and use of data in educational initiatives.

5) Climate. Increasing the resilience of water supply systems to operational and climate risks.

The program was developed taking into account the requirements of the legislation of the Republic of Kazakhstan in the field of water use, environmental protection, and the sanitary and epidemiological well-being of the population, including the following regulatory legal acts:

Water Code of the Republic of Kazakhstan dated April 9, 2025 No. 178-VIII ZRK;

Environmental Code of the Republic of Kazakhstan dated January 2, 2021 No. 400-VI ZRK;

Order of the Minister of Health of the Republic of Kazakhstan dated February 20, 2023 No. 26 "On approval of the Sanitary Rules "Sanitary and Epidemiological Requirements for Water Sources, Water Intake Sites for Domestic and Drinking Purposes, Domestic and Drinking Water Supply and Places of Cultural and Domestic Water Use and the Safety of Water Bodies."

When implementing the Program, applicable internal University documents governing the operation of engineering systems, rational use of resources, and sustainable development are also taken into account.

3. Purpose and objectives of the Program

5. The goal is to improve the University's water resources management system, aimed at reducing specific water consumption and water losses, increasing the resource efficiency of infrastructure, and promoting the achievement of the SDGs.

1) Improving the accounting and monitoring of water consumption.

2) Reduce water loss and prevent leaks.

3) Phased implementation of water-saving plumbing equipment.

4) Monitoring the technical condition of water supply and sanitation systems.

5) Increasing environmental awareness among students and employees.

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6) Annual evaluation of results and adjustment of activities.

4. Target indicators of the Program

6. The main target indicator of the Program is an annual reduction in specific water consumption by at least 1% compared to the previous year under comparable conditions.

7.The base year for assessing the effectiveness of the Program's implementation is 2025.

According to accounting data, the total volume of water consumption across all University buildings for 2025 was 33,462 m³.

The estimated value of specific water consumption for the base year is 2.583 m³ per registered user per year.

The number of registered users for 2025 was 12,957 people, including: students - 11,436, teaching staff - 921, administrative and managerial and other personnel - 530.

8. The planned values of the target indicator for the period of implementation of the Program are presented in Table 1.

Table 1. Planned values of specific water consumption for 2026–2030

Year	Specific water consumption, m³/person per year	Planned reduction compared to the previous year
2025 (base)	2,583	—
2026	2,557	not less than 1%
2027	2,531	not less than 1%
2028	2,506	not less than 1%
2029	2,481	not less than 1%
2030	2,456	not less than 1%

9. The following indicators are established to monitor the implementation of the Program.

Table 2. Indicators for monitoring the implementation of the Program

No.	Indicator	Unit of measurement / evaluation order
1	Total water consumption	m³ per year, according to accounting data and water meters
2	Specific water consumption	m³ per registered user per year
3	Change in specific water consumption	%, compared to the previous year
4	Facilities with active water metering	share of objects, %
5	Leaks identified and eliminated	quantity, units
6	Water-saving equipment	number of installed devices, units

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7	Information events on rational use of water	quantity, units per year, starting in 2027

10. Methodology for calculating target indicators.

Specific water consumption is calculated using the formula:

UV = V / N, Where:

- UV — specific water consumption, m³/person per year;
- V — total volume of water consumption for the reporting year, m³;
- N is the number of registered categories of University users, people.

The planned value of specific water consumption for each subsequent year is determined by the formula:

UVpl = UVpred × 0.99, Where:

- UVpl — planned specific water consumption;
- UVpred is the previous year's indicator;
- 0.99 is the annual reduction coefficient of 1%.

The percentage change in specific water consumption is determined by the formula:

C = (UVpred − UVfact) / UVpred × 100%, Where:

- C is the percentage reduction in specific water consumption;
- UVpred is the previous year's indicator;
- UVfact is the actual indicator of the reporting year.

To calculate specific water consumption, the total number of students and employees of the University is taken into account, including faculty, administrative and managerial staff, and other categories of employees.

In this case, the number of individual categories of employees included in the total number of University personnel is not re-counted.

The number of users is determined as of December 31 of the reporting year based on official information from the relevant structural divisions of the University.

Specific water consumption is calculated by dividing the total annual volume of water consumed by the University's facilities by the total number of users recorded.

Comparability of indicators is ensured by the use of a unified calculation method, the same procedure for determining the number of users and taking into account changes in the number of facilities in operation, their operating mode and the nature of water consumption.

If these conditions change significantly, the Department of Infrastructure and Operations analyzes the causes of the deviations and their impact on water consumption indicators. If necessary, proposals are prepared to adjust the Program's planned indicators in accordance with the established procedure.

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The underlying factual data for 2025 will be retained unless errors are discovered or revised official data is received.

When the specified changes occur, the Department of Infrastructure and Operations conducts an analysis of their impact on water consumption indicators and, if necessary, prepares proposals for adjusting the planned indicators of the Program in accordance with the established procedure.

The number of leaks identified and repaired is determined based on records in technical inspection logs, troubleshooting logs, and repair requests.

The quantity of installed water-saving equipment is determined on the basis of documents on the work performed and the purchase of equipment.

11. The sources of data for monitoring indicators are:

1. Accounting information on actual volumes of water consumption.
2. Water meter readings.
3. Information on the number of students and administrative and management personnel, teaching staff.
4. Approved schedule of planned preventive maintenance (PPM).
5. Technical inspection and troubleshooting logs, repair requests.
6. Documents on the purchase and installation of plumbing equipment.

12. Collection and provision of information on the actual volume of water consumption is carried out by the University’s accounting department within the limits of its competence.

Information on the number of students and administrative and management personnel and teaching staff is provided by the relevant structural divisions of the University.

The Department of Infrastructure and Operations collects and summarizes technical information, analyzes water consumption dynamics, monitors the implementation of measures, and evaluates the achievement of the Program's target indicators.

The analysis of indicators is carried out annually based on the results of the reporting year, taking into account changes in the number of users and operating conditions of the University’s facilities.

5. List and description of program activities

13. The Program is implemented through a set of organizational, technical, and informational measures aimed at the rational use of water resources, reducing water losses, and increasing the efficiency of the University’s water supply and wastewater disposal systems.

These activities are carried out primarily by the University's own staff, utilizing existing human and material resources. Activities requiring the purchase of equipment, spare parts, and consumables are implemented within the University's approved budget.

14. The list of activities, implementation deadlines, expected results, responsible structural units, necessary resources, funding sources and supporting documents are presented in Table 3.

Table 3. Action plan for the implementation of the Water Resources Conservation Program for 2026–2030

No.	Event	Implementation period	Expected result (performance indicator)	Responsible department	Necessary resources and sources of funding	Supporting document

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1	Analysis of actual water consumption by facilities, determination of baseline indicators	Q4 2026	Basic water consumption indicators for 2025 have been determined. One analytical report has been prepared.	Department of Infrastructure and Operations (DIiE), Accounting - Data Provision	University workforce resources. Without additional funding	Accounting information, analytical report
2	Inspection of water supply and sanitation systems, identification of losses	IV quarter of 2026, then according to the approved maintenance schedule	Completion of scheduled technical inspections. Indicator: percentage of completed inspections compared to planned ones, %	DIiE	In-house engineering and technical staff, plumbers, and available tools. As part of the University's ongoing operations.	Approved maintenance schedule, technical inspection log
3	Phased modernization of plumbing equipment and installation of water-saving devices	2026–2030, as needed and funding available	Replacement of worn-out plumbing fixtures and installation of water-saving devices. Indicator: number of installed devices.	DIiE	In-house specialists, equipment, spare parts, and consumables. Within the University's approved budget.	Applications, documents on the purchase of equipment, certificates of completion of work, if available
4	Technical inspections of utility networks, elimination of identified leaks	Constantly, in accordance with the maintenance schedule and incoming applications	Timely detection and elimination of faults. Indicator: number of leaks detected and eliminated.	DIiE	In-house engineers and plumbers, tools, and consumables. Within the University's current operating limits and approved budget.	Technical inspection and troubleshooting log, repair requests
5	Taking meter readings and analyzing consumption dynamics	Monthly	Ensuring regular water consumption metering. The benchmark is 12 monthly records for a full calendar year.	DIiE, accounting - within the scope of competence	University workforce resources. Without additional funding	Meter readings, accounting information
6	Posting information materials on rational water use	Annually, starting in 2027	Posting at least 1 informational material per year	DIiE together with the department responsible for information support	Electronic information resources of the University. Without additional funding	Informational materials, links to publications or screenshots
7	Assessment of climate and operational risks for water supply systems	2027, then as needed	The main risks associated with water supply system operation and measures to mitigate them have been identified. Indicator 1: Risk assessment in 2027	DIiE	In-house engineering and technical staff. No additional funding required.	Analytical report on the results of risk assessment

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8	Analysis of the Program implementation and preparation of internal reporting	Annually	Evaluation of implementation of activities and achievement of target indicators. Indicator: 1 annual report	DIiE	University workforce resources. Without additional funding	Annual Report on the Implementation of the Program
9	Adjustment of activities based on monitoring results	As needed	Preparation of proposals for adjusting the Program when deviations from established indicators are identified	DIiE	In-house labor force. No additional funding required.	Memos, proposals for adjustments, approved changes, if any

15. Technical inspections of water supply and wastewater disposal systems, troubleshooting, leak repairs, and routine maintenance are performed by the Department of Infrastructure and Operations' engineering and technical staff in accordance with the approved scheduled preventive maintenance (SPM) schedule. The results of technical inspections, identified faults, and information on their resolution are recorded in technical inspection logs, troubleshooting logs, and repair requests.

16. The implementation of measures related to the modernization of plumbing equipment and the acquisition of water-saving devices is carried out as necessary, taking into account the technical condition of the equipment and the availability of financial resources in the approved budget of the University.

17. Monitoring of the implementation of measures is carried out by the Department of Infrastructure and Operations on the basis of technical documentation, accounting information and other supporting materials.
The monitoring results are used for an annual assessment of the implementation of the Program and the preparation of proposals for its improvement.

6. Timeframe for the implementation of the Program

18. The Program will be implemented from 2026 to 2030. Activities will be carried out in stages, taking into account the technical condition of the University's facilities, available human, material, technical, and financial resources, as well as the results of water consumption monitoring. Amendments to the Program will be made in accordance with the procedure established by the University's internal documents.

19. Resource and financial support for the Program.

The implementation of the main activities of the Program is carried out primarily by the University’s employees within the framework of their job responsibilities.
To carry out the activities, available human and material resources are used, including engineering and technical workers, plumbers, equipment, tools and technical documentation.

Scheduled technical inspections, water consumption monitoring, performance analysis, and internal reporting are part of the ongoing activities of the University's structural divisions and do not require separate funding. The purchase of spare parts, consumables, plumbing, and water-saving equipment is funded by the University within the approved budget, taking into account operational needs.

20. Main risks of the Program implementation and measures to mitigate them.

During the implementation of the Program, technical, financial and organizational risks may arise that could affect the achievement of the established target indicators.
The main risks and measures to prevent or reduce them are presented in Table 4.

Table 4. Main risks of the Program implementation and measures to mitigate them

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No.	Potential risk	Measures to prevent or reduce
1	The occurrence of water leaks due to wear and tear of utility networks and plumbing equipment	Conducting technical inspections in accordance with the approved maintenance schedule, timely identification and elimination of faults
2	Insufficient financial resources for equipment modernization	Phased implementation of measures taking into account the technical condition of the equipment and the approved budget of the University
3	Increase in water consumption due to the growth in the number of students and employees	Regular monitoring of water consumption, analysis of the causes of deviations, assessment of specific water consumption under comparable conditions
4	Malfunction of water meters or lack of reliable data	Monitoring the technical condition of metering devices, timely organization of their inspection and replacement if necessary, reconciliation of data with accounting records
5	Failure to promptly resolve identified faults	Registration of faults and repair requests, monitoring of work completion deadlines, prioritization of emergency response
6	Emergencies and interruptions in water supply	Conducting preventive technical inspections, timely maintenance of engineering systems, prompt response to emergency situations

21. The Department of Infrastructure and Operations is responsible for organizing measures to prevent and reduce technical and operational risks within the limits of its competence.

The assessment of emerging risks is carried out during technical inspections, monitoring of water consumption and analysis of the results of the Program implementation.

If circumstances are identified that impede the achievement of target indicators, the Department of Infrastructure and Operations prepares proposals for adjusting the relevant activities of the Program.

7. Management, control and responsibility

22. General management of the implementation of the Program is carried out by the management of the University.

Coordination of activities related to the operation of utility networks, technical maintenance of water supply and sanitation systems, and metering and monitoring of water consumption is assigned to the Department of Infrastructure and Operations (hereinafter referred to as DIIO) within the limits of its competence.

23. Monitoring of the implementation of the Program includes:

- control of the actual volume of water consumption;
- analysis of water consumption dynamics and achievement of target indicators;
- control over the implementation of the Program activities;
- analysis of the results of technical inspections and elimination of identified faults;
- identifying the causes of deviations from planned indicators;
- preparation of proposals to improve the efficiency of water resource use.

24.Collection of information for monitoring is carried out in the following order:

Table 5. Procedure for monitoring and reporting on the implementation of the Program

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No.	Responsible department	Information provided	Who is it provided to?	Timing and frequency	Form of submission
1	Accounting	Information on the actual volume of water consumption	DIiE	Annually, until January 31	Electronic information
2	Departments responsible for the registration of students and employees	Information on the number of students and administrative and management personnel	DIiE	Annually, until January 31	Electronic information
3	DIiE	Results of technical inspections, identified faults and completed repairs	To the Director of DIiE	According to the scheduled maintenance and as the work progresses	Technical inspection logs, repair requests
4	DIiE	Analysis of water consumption, assessment of the implementation of measures and achievement of target indicators	To the Supervising Head of the University	Every year, before March 1	Annual report (analytical report)
5	DIiE	Proposals for adjusting the Program activities	To the authorized management of the University	As needed	Memorandum, proposals for changes to the Program

25. The assessment of the implementation of the Program is carried out by the Department of Infrastructure and Operations based on actual water consumption indicators, the results of technical monitoring and the implementation of planned activities.

26. If deviations from established target indicators are identified, the Department of Infrastructure and Operations conducts an analysis of the causes and, if necessary, prepares proposals for adjusting the Program. The decision to make changes is made by the authorized University management in accordance with the established procedure.

8. Expected results and contribution to achieving the SDGs

27. The implementation of the Water Resources Conservation Program for 2026–2030 will result in increased efficiency in the use of water resources, a reduction in water losses, improved maintenance of utility systems, and the creation of a water consumption monitoring system.

28. The expected results of the Program implementation and the indicators of their achievement are presented in Table 6.

Table 6. Expected results of the implementation of the Program for 2026–2030

No.	Expected result	Measurable indicator	Planned value	Supporting document
1	Improving water use efficiency and reducing specific water consumption	Specific water consumption, m³ per registered user per year	Annual reduction of at least 1%; by 2030 – to 2,456 m³ per person per year	Accounting information, calculation of the indicator
2	Reducing water loss through timely detection and elimination of leaks	Number of leaks detected and eliminated, units	Accounting for all registered cases and eliminating identified leaks within the limits of technical feasibility	Technical inspection and troubleshooting logs, repair requests

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3	Expanding the use of water-saving equipment	Number of installed water-saving devices, units.	Phased installation and replacement of equipment in 2026–2030, taking into account technical necessity and funding	Equipment purchase documents, certificates of completion
4	Improving the system of accounting, monitoring and data analysis	Frequency of water consumption accounting	Monthly accounting - 12 entries for a full calendar year	Meter readings, accounting information
5	Raising environmental awareness among students and employees	The number of information materials on rational use of water	At least 1 material annually starting from 2027	Informational materials, links to publications or screenshots
6	Generation of verifiable data for internal and external reporting	Number of annual reports on the implementation of the Program	At least 1 report annually	Annual report (analytical report)
7	Improving the sustainability of water supply systems	Number of operational and climate risk assessments conducted	At least 1 assessment in 2027, then as needed	Analytical report on risk assessment

29. The main quantitative result of the implementation of the Program is a reduction in the estimated specific water consumption by at least 1% annually compared to the previous year under comparable conditions.

With a baseline estimated value of 2.583 m³ per registered user in 2025, the planned value by 2030 is no more than 2.456 m³ per registered user per year, which corresponds to a decrease of approximately 4.9% relative to the baseline year.

The calculation is based on available data on water consumption and the number of user categories included. If the composition of the categories included changes, comparability of the indicators must be ensured by applying a uniform calculation methodology.

30. The implementation of the Programme contributes to the achievement of the following United Nations Sustainable Development Goals:

SDG 6 "Clean Water and Sanitation":

- **Problem 6.4**— increasing the efficiency of water use by reducing specific water consumption, monitoring actual water consumption and introducing water-saving technologies;
- **Problem 6.3**— assistance in maintaining the proper condition of water supply and sanitation systems through technical inspections, timely troubleshooting and leak prevention.

SDG 12 “Responsible Consumption and Production”:

- **Problem 12.2**— rational use of water resources through consumption control and increased efficiency of operation of engineering systems;
- **Problem 12.8**— raising awareness among students and employees about the need for careful use of water through information materials.

SDG 13 "Climate Action":

- **Problem 13.1**— promoting the resilience of water supply systems by assessing climate and operational risks and developing measures to mitigate them.

31. The achievement of the expected results of the Program is assessed annually by the Department of Infrastructure and Operations based on actual water consumption indicators, the results of technical inspections, and the implementation of planned activities.

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Approval sheet

No.	Job title	Full name	Date of approval	Signature
1	Vice-Rector for Strategic Development and International Cooperation	Mysaev A.O.		
2	Director of the Department of Infrastructure and Operations	Orazbaev S.E.		
3	Head of the Legal Support Department	Tukbekova M.E.		
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5	Head of Strategic Development Department	Tashetova A.B.		

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Change log sheet

Item No.	Sheet (page) numbers				Total sheets	The number of the section, subsection, or program item to which the changes relate	Signature of the person who made the changes	Date of change
	Changed	Replaced	New	Cancelled				

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Familiarization sheet

Item No.	Job title	Full name	Date of approval	Signature

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