



Template for Evidence(s) UI GreenMetric Questionnaire

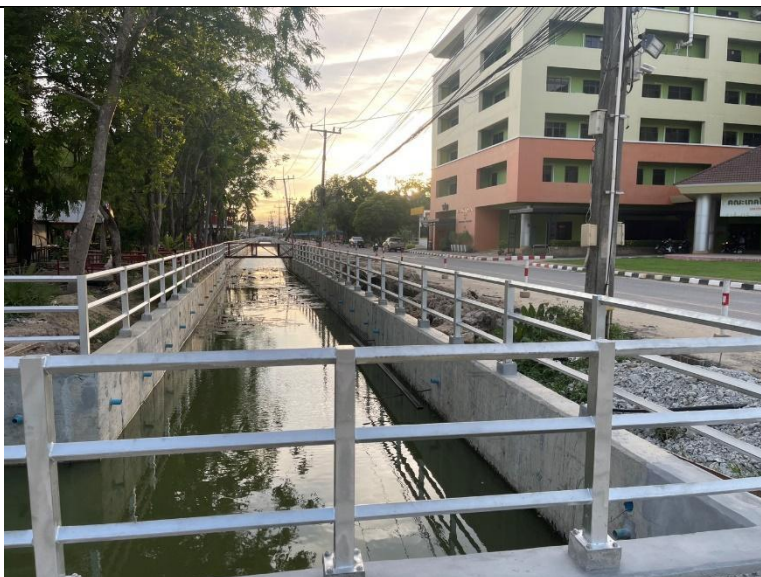
University : Songkhla Rajabhat University
Country : Thailand
Web Address : www.skru.ac.th

[4] Water (WR)

[4.6] Water pollution control in campus area (WR.6)



The point of water quality sampling and monitoring at Songkhla Rajabhat University



Open canal monitoring at Songkhla Rajabhat University



monitoring wastewater treatment plant at Songkhla Rajabhat University



Wastewater treatment system installed in the Faculty of Science and Technology building, which contains teaching and research laboratories.



A wastewater conditioning and disinfection tank used to adjust and disinfect treated wastewater before discharge into public waterways.



The university has appointed environmental engineering personnel to conduct regular inspection, monitoring, and follow-up of the wastewater treatment system to ensure proper operation and effective pollution control.

Description:

Songkhla Rajabhat University implements water pollution control measures across two campus areas: the Main Campus in Songkhla Province and the Satun Campus in Satun Province. The Main Campus covers an official area of 752,085.2 square meters, while the Satun Campus covers 543,740 square meters. The combined campus area is therefore 1,286,185.2 square meters. The two campuses represent different environmental and land-use contexts: the Main Campus is located in a more urbanized academic setting with dense buildings, roads, dormitories, laboratories, food-service areas, and internal drainage systems, while the Satun Campus is located in a semi-rural and high-rainfall landscape with extensive vegetated areas, open permeable surfaces, retention ponds, and drainage corridors.

The university's water pollution control approach is based on an integrated campus water management system that combines source control, wastewater treatment, ecological water quality improvement, retention pond management, drainage maintenance, and water quality monitoring. The program aims to prevent untreated wastewater and polluted runoff from entering public drainage systems, natural waterways, or surrounding environments. It also supports sustainable water use by improving the quality of water retained within campus ponds, canals, and drainage systems before reuse or discharge.



Potential water pollution sources within both campuses include domestic wastewater from toilets and restrooms, greywater from hand-washing and cleaning activities, wastewater from student dormitories, wastewater from cafeterias and food-service areas, laboratory wastewater, stormwater runoff from roads and parking areas, sediment from open soil surfaces, organic debris from green areas, and nutrient accumulation in ponds or canals. Therefore, the university manages water pollution through both engineering-based and nature-based measures.

At the Main Campus, photographic evidence shows campus water bodies and canal-like retention areas with aquatic plants, as well as aeration control equipment used to operate aerator units. These facilities support water quality improvement by increasing dissolved oxygen, reducing anaerobic conditions, supporting biological degradation of organic matter, and improving ecological conditions in campus water bodies. Aquatic plants provide additional natural polishing functions through nutrient uptake, shading, habitat creation, and sediment stabilization.

At the Satun Campus, large retention ponds and smaller stormwater storage areas function as sedimentation, detention, and runoff-control systems. These ponds reduce the transport of suspended solids and pollutants from developed areas before water is discharged downstream. The extensive vegetated areas and permeable surfaces surrounding the campus further support runoff filtration, erosion reduction, infiltration, and natural water purification.

Overall, the university's water pollution control system demonstrates a combined strategy of prevention, treatment, retention, monitoring, and ecological restoration. This approach helps protect public health, reduce pollutant loads, maintain campus water quality, support biodiversity, and strengthen the resilience of the university to heavy rainfall and climate-related water risks.

Policy

Songkhla Rajabhat University implements water pollution control under its Green University policy, emphasizing efficient water use, wastewater treatment before discharge, and the reuse of treated water for appropriate non-potable purposes. The university aims to prevent untreated wastewater and polluted runoff from entering public drainage systems and surrounding water bodies.

The policy covers pollution prevention at the source, wastewater treatment from buildings, restrooms, dormitories, cafeterias, laboratories, roads, parking areas, and campus drainage systems. It also promotes the maintenance of retention ponds, drainage channels, aeration systems, aquatic plants, and green buffer areas to support water quality improvement.

The university's water pollution control system contributes to SDG 3: Good Health and Well-being; SDG 4: Quality Education; SDG 6: Clean Water and Sanitation; SDG 7: Affordable and Clean Energy; SDG 9: Industry, Innovation and Infrastructure; SDG 11: Sustainable Cities and Communities; SDG 12: Responsible Consumption and Production; SDG 13: Climate Action; SDG 14: Life Below Water; SDG 15: Life on Land; and SDG 17: Partnerships for the Goals.

Both the Main Campus in Songkhla and the Satun Campus apply this policy through wastewater treatment, grease control, laboratory wastewater management, stormwater retention, drainage maintenance, and regular water quality monitoring. The policy supports environmental protection, public health, sustainable campus management, and compliance with UI GreenMetric WR.6.

Wastewater Treatment

Songkhla Rajabhat University applies a multi-barrier wastewater treatment and pollution control system. The system combines building-level wastewater treatment, source control, ecological treatment, retention pond management, aeration, aquatic plant polishing, sedimentation, grease control, laboratory wastewater management, and drainage maintenance.



Campus	Treatment Process	Description	Expected Environmental Outcome
Songkhla Main Campus	Source control	Pollutants are controlled at their origin, including restrooms, cafeterias, laboratories, roads, and public service areas	Reduces pollutant load before wastewater enters the drainage system
	Building-level wastewater treatment	Domestic wastewater from buildings and dormitories is treated through septic tanks or wastewater treatment units	Reduces BOD, COD, suspended solids, and sanitary contamination
	Grease control	Cafeteria wastewater passes through grease traps before entering drains	Reduces oil, grease, odor, pipe blockage, and organic pollution
	Laboratory wastewater segregation	Laboratory liquid waste is separated from general wastewater and managed according to safety procedures	Prevents chemical contamination of drainage and water bodies
	Ecological pond treatment	Campus ponds and canals use retention, aquatic plants, and aeration to improve water quality	Increases DO, reduces odor, supports biological treatment, and enhances aquatic ecosystem function
	Drainage outlet monitoring	Key discharge points are monitored before water leaves campus	Ensures treated or controlled water does not negatively affect public drainage or surrounding ecosystems
Satun Campus	Building-level wastewater treatment	Wastewater from classroom, office, restroom, and dormitory areas is treated before discharge	Controls domestic wastewater and reduces sanitary pollution
	Retention pond treatment	Large pond and smaller retention areas receive runoff and allow sedimentation and natural treatment	Reduces sediment, turbidity, peak runoff, and pollutant transport
	Vegetated buffer filtration	Vegetated areas around ponds and drainage paths filter runoff before it enters water bodies	Reduces erosion, sediment, and nutrient transport
	Rainy-season runoff control	Drainage routes and pond inlets/outlets are	Prevents flooding, stagnant water, and



Campus	Treatment Process	Description	Expected Environmental Outcome
		inspected especially during rainy season	uncontrolled polluted runoff
Both Campuses	Monitoring and corrective action	Water quality results are evaluated and used to improve treatment, drainage, and maintenance	Supports continuous improvement and compliance with WR.6

Guideline standard

The water pollution control program of Songkhla Rajabhat University should be implemented with reference to relevant national wastewater discharge standards, particularly standards for wastewater discharged from certain types and sizes of buildings. These standards are applicable to wastewater from educational institutions, dormitories, restaurants or cafeterias, government office buildings, public service buildings, and other campus-related facilities.

Monitoring and Evaluation

The university should compare wastewater quality with applicable national effluent standards. For campus water bodies that are not direct effluent outlets, results should be used to evaluate ecological condition and pollution risk. Monitoring should be conducted at least twice per year, and preferably every semester or every quarter. High-risk points, such as cafeteria grease traps and laboratory wastewater points, should be inspected more frequently.

Monitoring Location	Parameters	Recommended Frequency
Main Campus treated-water pond / canal	pH, DO, BOD, COD, TSS, turbidity, TN, TP	Every semester or quarterly
Aerated pond / ecological water body	pH, DO, BOD, COD, turbidity	Every semester or quarterly
Cafeteria grease trap outlet	pH, BOD, COD, TSS, Oil and Grease	Monthly visual inspection; quarterly laboratory test
Laboratory wastewater point	pH, COD, selected chemical indicators	Every semester or after major laboratory activity
Dormitory wastewater outlet	pH, BOD, COD, TSS, coliform	Every semester
Satun Campus large retention pond	pH, DO, BOD, COD, TSS, turbidity, TN, TP	Quarterly, especially before and after rainy season
Pond inlet / outlet	TSS, turbidity, Oil and Grease, BOD, COD	During rainy season and after heavy rainfall
Final campus drainage outlet	pH, DO, BOD, COD, TSS, Oil and Grease	Quarterly or rainy-season monitoring

Songkhla Rajabhat University has fully implemented its policy and programs for water pollution control across both the Songkhla Campus and Satun Campus. The university applies an integrated approach that combines pollution prevention at source, wastewater treatment, grease control, laboratory wastewater segregation, retention pond management, drainage maintenance, aquatic-plant polishing, aeration, and water-quality monitoring.