

# Wastewater Treatment Technician

## Unit WWTTC03 Wastewater Flow and Hydraulics

This training specification has been developed from the water process technician standard. The specification details the **minimum** training specification, as agreed by industry employers, to deliver the skills and knowledge required to carry out wastewater flow and hydraulics work in the water sector.

The specification details the critical requirement of the activity to carry out the work outlined and does not preclude employers from adding to the skills and knowledge detailed by the specification in their own training programmes.

All work must be carried out to approved procedures and practices and in accordance with statutory health, safety and environmental requirements.

### What does this specification look like?

Wastewater treatment technicians need to be able to:

- WWC1 Understand the nature of wastewater flows, the reasons for wastewater flow separation and storm treatment
- WWC2 Understand how flows received at the wastewater treatment works are managed to maintain the treatment process and meet any regulatory requirements, and identify the equipment used on site
- WWC3 Carry out routine maintenance on flow controls and monitoring equipment and control the process based on the results to ensure that wastewater quality standards are maintained

### What do I need to take this module?

Candidates to be **assessed** as competent in this area should have successfully completed the modules shown below or have evidence demonstrating an equivalent level of competence.

1. SHEA water or equivalent
2. Process control systems

## Performance Criteria

To achieve this unit, you will need to be able to:

### General Requirements

- P1. Identify the work area to be accessed using company documentation, systems and work instructions
- P2. Select, inspect and wear required PPE in line with company procedures
- P3. Carry out a site specific risk assessment of the work area, identifying the hazards and the control measures required
- P4. Maintain accurate and up to date records
- P5. Report information and data to the designated person

### Task Specific – Wastewater Flow and Hydraulics

- P6. Identify and retrieve current data and documentation governing wastewater quality standards applicable to your work, including company and legislation information
- P7. Monitor, interrogate, analyse and evaluate information systems e.g. SCADA / HMI to prove compliance with wastewater flow standard
- P8. Take flow measurements from the correct locations to monitor works performance
- P9. Carry out the required maintenance on flow assets, including:
  - a) Flow separation assets
  - b) Flow monitoring devices
- P10. Maintain the required level of wastewater flow, making adjustments where required
- P11. Keep and maintain accurate and up to date records
- P12. Report information and data to the designated person including a non-compliance scenario

## Knowledge and Understanding

To achieve this unit, you will need to know and understand:

### General Requirements

- K1. The principles of Health, Safety and Environmental legislation in relation to working with wastewater
- K2. The organisation's safety rules, policies and procedures relating to working with wastewater
- K3. The hazards associated with working with wastewater and the correct way to respond to them
- K4. How to select, inspect and use PPE when working with wastewater

- K5. How to carry out a site specific risk assessment and identify workplace hazards
- K6. How to respond in the event of an emergency situation in the workplace environment
- K7. How to leave the work area in a safe and secure condition
- K8. The company recording and reporting process

### Task Specific – Wastewater Flow and Hydraulics

- K9. The associated health and safety hazards and risks with flow separation and storm treatment systems, their operation and maintenance taking into account any systems of work and operating procedures
- K10. The nature of wastewater flows received at a wastewater treatment works
- K11. The design of flow separation and storm treatment systems, assets and ancillary equipment associated with these
- K12. The assets required and their purpose in maintaining a stable treatment process
- K13. The impacts unstable flows can have on wastewater treatment processes
- K14. Current legislation and permits relating to wastewater flow and be able to correctly interpret the conditions of permits
- K15. The regulatory requirements relating to flow
- K16. How to use flow data to maintain and optimise treatment processes
- K17. The various influences on wastewater flows
- K18. How the design specification for the treatment process relates to wastewater flow standards
- K19. Alarms, action levels, authorisation levels and consequences associated with the process
- K20. How to interrogate the information system e.g. SCADA / HMI to evaluate trend data differentiating normal operational cycles from developing fault conditions or emerging risks
- K21. The importance of recording flow measurement from the correct locations, using approved techniques
- K22. The consequences of inaccurate flow measurement, recording and reporting
- K23. Data collection, recording, reporting and maintenance requirements

### How will it be assessed?

To achieve this unit, you will need to be able to provide evidence of the performance criteria and the knowledge and understanding requirements listed above.

Assessment types:

1. External assessment – an external accrediting body will assess against a national minimum standard
2. Internal assessment process – a company led on-going assessment against requirements
3. End-point assessment – see assessment plan for further details here (will be Energy & Utility Skills defined)

### What type of evidence will be expected?

To achieve this unit, you will need to be able to provide evidence of the performance criteria and the knowledge and understanding requirements listed above.

Evidence types:

1. On-going local assessments
  - a) Assessment plan, review, feedback, standard assessment sheets
2. Knowledge based learning
  - a) Classroom, exams, assignments, Q&A sessions, e-learning modules
3. Evidence portfolios
  - a) Learning logs, photos, observation sheets

### Assessment types and process

