ENERGY & ENVIRONMENT AWARDS

Skills for a greener world

EEA Level 3 End-point Assessment for Water Industry Treatment Process
(Water treatment technician; Wastewater treatment technician)

Supporting Documents

QAN 610/6024/0
ST1291 V1.0 V1.1

Supporting Documents for

EEA Level 3 End-point Assessment for Water Industry Treatment Process Technician

(Water treatment technician; Wastewater treatment technician)

QAN 610/6024/0

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Updates to the supporting documents

Since the first publication of Energy & Environment Awards Water Industry Treatment Process Technician Supporting Documents – Water treatment technician; Wastewater treatment, the following updates have been made.

Version	Date first published	Section updated	Page(s)
v4.0	October 2026	Appendix B: update to Maths and English requirements in line with funding rules	5-8
		Removal of Portfolio Mapping Document and subsequent reordering of appendices.	50 - end
v3.1	October 2025	Missing variation table added	67
v3.0	August 2025	Rebranded	All
v2.0	Sept 2023	Rebranded	All
v1.1	Feb 2023	Updates to Practice Papers	App C
v1.0	Nov 2022	First published	All

Appendix A: Glossary

Amplification – provides more detail on how individual knowledge, skills or behaviours statements should be interpreted. Where the KSB statements, themselves are deemed self-explanatory, no amplification is provided. Assessment may include questions on anything identified in the amplification

Behaviours (as part of KSBs) – specific mindsets, attitudes or approaches identified as part of the apprenticeship standard that must be evidenced during end-point assessment

Elements – are the knowledge, skills and behaviours and what is needed to competently undertake the duties required for an occupational standard

Gateway - the stage of the apprenticeship where the apprentice, employer and training provider determine whether the apprentice is ready to undertake end-point assessment

Guidance – is only provided where it is required to support interpretation of the KSB statements

Knowledge (as part of KSBs) – specific information, technical detail, and 'know-how' identified as part of the apprenticeship standard that must be evidenced during end-point assessment

Pathways – a specialist route within an apprenticeship standard that builds on the occupational competence for a new entrant to the occupation

Skills (as part of KSBs) – the practical application of knowledge identified as part of the apprenticeship standard that must be evidenced during end-point assessment

Standard – An occupational standard is a description of an occupation. It contains occupational profile, and describes KSBs needed for someone to be competent in the occupation's duties. Occupational standards are developed by employers for occupations that meet the Institute for Apprenticeships and Technical Education current occupation criteria

Topic - is a collection of elements grouped into a theme e.g. Health and Safety

Appendix B: Gateway Eligibility Form

(Standard Version: ST1291 version 2.0; Assessment Plan Version: AP01)

Apprentice's name:	Apprentice's job title:	
Apprentice's ULN:		
Name of Employer:	Name of Training provider:	
Employer representatives present:	Training provider representatives present:	
Apprenticeship start date:	Apprenticeship on-programme end date:	
Was the apprentice aged 19 or over at the start of the programme?	Y / N	
Employer Decision for apprentices aged 19 or over only at the start of the programme**:**	We require the apprentice to attempt English and maths before taking the end-point assessment	Y / N
Gateway meeting date:		
Has the apprentice taken any part of the end-point assessment for this apprenticeship standard with any other End Point Assessment Organisation?	Y / N	
If 'Yes' please give details:		

Apprentice's details

Eligibility requirements:

Where applicable, the apprentice must confirm their achievement of the following Note: if maths and/or English have been attempted but not achieved evidence of the attempt should be submitted.

Eligibility requirement	Achieved by the apprentice? Y/N	Evidence (Scans of certificates MUST be included)
Achieved an English qualification in line with the apprenticeship funding rules		
Achieved a mathematics qualification in line with the apprenticeship funding rules		

The apprentice must confirm the following:

Eligibility requirement	Achieved by the apprentice? Y / N	Evidence available in ACE360 Y / N
Compiled and submitted an EPA portfolio that meets the specification requirements, for the professional discussion based on an EPA portfolio		

Gateway Eligibility Declaration

The apprentice, the employer and the training provider must sign this form to confirm that they understand and agree to the following:

1. The apprentice has completed the required on-programme elements of the apprenticeship and is ready for end-point assessment with Energy & Environment Awards.
2. Energy & Environment Awards has been informed about any reasonable adjustment and/or special considerations requests.
3. The apprentice will only submit their own work as part of end-point assessment.
4. All parties agree that end-point assessment evidence may be recorded and stored by Energy & Environment Awards for quality assurance purposes.
5. The apprentice has been on-programme for the minimum duration required, in line with Skills England rules.
6. The apprentice is working at or above the occupational standard as a Water Industry Treatment Process Technician.
7. The apprentice has the evidence required to pass the gateway and is ready to take the EPA.
8. The apprentice has achieved English and maths in line with apprenticeship funding rules.
9. The apprentice has compiled and submitted a competent EPA portfolio, on which the interview will be based.
10. The apprentice, if successful, gives permission for Energy & Environment Awards to request the apprenticeship certificate from the Department of Education who issue the certificate on behalf of the Secretary of State.
11. The apprentice has been directed to Energy & Environment Awards Appeals Policy and Complaints Policy.
12. The employer/training provider has given Energy & Environment Awards at least three months' notice of requesting this EPA for this apprentice.
13. If the Gateway Eligibility Report is not completed in full, meeting all requirements, and submitted to Energy & Environment Awards, the end-point assessment cannot take place.

Signed on behalf of the employer (print name):	Signature:	Date:
Signed on behalf of the training provider (print name):	Signature:	Date:
Apprentice's name (print):	Signature:	Date:
Energy & Environment Awards use only:		
Energy & Environment Awards Sign off:		
Comments/actions:		

Appendix C: Practice Knowledge Tests

Level: 3

Water Industry Treatment Process Technician

Pathway: Water Treatment Process

Paper Code: PRACTICE PAPER

This examination consists of 50 multiple-choice questions.
The Pass mark is 35 correct answers.
A mark of 43 or more is a Distinction.
The duration of this examination is 1 hour 30 minutes.
You are NOT allowed any assistance to complete the answers.
You must use a pencil to complete the answer sheet - pens must NOT be used.
When completed, please leave the examination answer sheet and question paper on the desk.

For this paper the use of a scientific calculator (non-programmable) is permitted.

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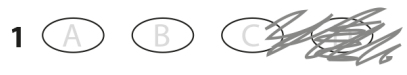
DO NOT partially shade the answer circle
ANSWER COMPLETED INCORRECTLY



DO NOT use ticks or crosses
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DO NOT use circles
ANSWER COMPLETED INCORRECTLY



DO NOT shade over more than one answer circle
ANSWER COMPLETED INCORRECTLY

You may use this page for rough work

Question 1	
Which organisation has powers to require water companies to make the necessary improvements to the quality of tap water?	
Possible answers	
a)	Citizen's Advice Bureau
b)	World Health Organization
c)	Drinking Water Inspectorate (DWI)
d)	Health, Safety Executive (HSE)

Question 2	
Before filling with potable water, bowsers should be flushed and disinfected using:	
Possible answers	
a)	sodium bisulphite
b)	chlorine solution
c)	household bleach
d)	trichlorophenol (TCP)

Question 3	
What report should be sent to the EA (Environment Agency) after every notifiable pollution incident?	
Possible answers	
a)	24 hour report
b)	48 hour report
c)	72 hour report
d)	10 day report

Question 4	
Which of these is **NOT** an objective of a treated water storage point?	
Possible answers	
a)	To blend in well with the local landscape
b)	To provide a reserve supply of water when demand outstrips production
c)	To protect the treated water from contamination
d)	To provide a head of water to the distribution system

Question 5	
The pH of water going into a distribution system is normally:	
Possible answers	
a)	at least pH 9.0, so it forms a protective scale on pipes
b)	no more than pH 6.5, so that pipes don't scale up
c)	7.3-7.3, so that it is not corrosive but slightly scale-forming
d)	irrelevant. Distribution pH is not an important factor

Question 6	
What is an alkali?	
Possible answers	
a)	It is a chemical that will release H+ ions into the solution
b)	It has a base that is soluble in water
c)	It has a pH less than 7
d)	It is a proton donor

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Water is:	
Possible answers	
a)	an element
b)	a solution
c)	an ion
d)	a molecule

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Possible answers	
a)	Chlorine
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d)	Flourine

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How is energy performance measured on-site?	
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c)	Checking incoming meters weekly
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Which ONE of the following is a benefit gained by using effective energy performance monitoring methods?	
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c)	Demonstrates green awareness
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The Control of Substances Hazardous to Health (COSHH) Regulations 2002 require:	
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a)	employers to store all substances away from employees who do not use them within the workplace
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c)	employees to use the least amount possible of a hazardous chemical
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Under the Control of Substances Hazardous to Health Regulations 2002, a Material Safety Data Sheet (MSDS) will state:	
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a)	the information on handling, storage and emergency measures in case of an accident
b)	the quantity of chemical being delivered
c)	a description of how the chemical is manufactured
d)	the time and date of when the chemical was manufactured

Question 16	
Vehicles carrying dangerous goods must display two rectangular plates conforming to ADR regulation 5.3.2.2.1. What colour are these plates?	
Possible answers	
a)	Orange
b)	Red
c)	Blue
d)	White

Question 17	
Before accepting a bulk chemical delivery on-site, an employee should always:	
Possible answers	
a)	locate a respirator
b)	locate the bulk tank to receive the delivery so vehicle movements are minimised
c)	clean the area of the delivery in case of spillages
d)	test that the emergency shower and eye wash station are working correctly

Question 18	
Chemicals must only be:	
Possible answers	
a)	stored indoors
b)	stored in a secured locked area
c)	delivered between Monday - Friday
d)	used by people who have been trained in their correct use

Question 19	
Which of the following must employees comply with?	
Possible answers	
a)	Use equipment in accordance with training and instruction
b)	Report anyone who's late for work
c)	Never share tools and equipment
d)	Keep a copy of all Health and Safety information provided to them

Question 20	
An employee must carry out a work activity which involves a substance that can be hazardous to health. What should they do?	
Possible answers	
a)	Carry on with the work regardless
b)	Carry out the work, providing they have been suitably trained and have the necessary information from the COSHH assessment
c)	Carry out the work using his/her own initiative to decide the sensible safety precautions
d)	Refuse to carry out the work

Question 21	
A risk is caused by:	
Possible answers	
a)	being under pressure at work
b)	a hazard in the work place
c)	the technician's attitude to work
d)	A lack of Health and Safety information

Question 22	
Level of risk is calculated by:	
Possible answers	
a)	Number of elements of the tasks + Number of people involved in the task
b)	Number of tasks x Time of day using the 24hr clock
c)	Consequence x Likelihood
d)	Consequence x The cost of the job

Question 23	
According to the Health and Safety Executive (HSE), all workers must take care of their own Health and Safety as well as:	
Possible answers	
a)	take charge of first-aid arrangements
b)	provide the necessary protection such as boots or gloves
c)	have a duty of are for those who may be affected by their actions
d)	work with a safety representative to ensure everyone is protected from harm in the workplace

Question 24		
According to COSHH, what does this symbol tell a technician about a substance?		
Possible answers		
a)	The substance is hazardous to marine life and the wider environment	
b)	The substance is toxic and can damage even in low quantities	
c)	The substance is corrosive and may cause tissue damage	
d)	The substance could cause external skin irritation and other health related issues	

Question 25	
PPE equipment must be:	
Possible answers	
a)	worn at all times
b)	stored to prevent damage when not in use
c)	replaced every three to five years
d)	cleaned before use

Question 26	
Which ONE of the following is the most common cause of workplace injury?	
Possible answers	
a)	Falling from height
b)	Attacks by animals
c)	Manual handling injuries
d)	Electric shocks

Question 27	
When does a material containing asbestos become dangerous?	
Possible answers	
a)	When it is disturbed
b)	When it gets wet
c)	When it is exposed to daylight
d)	When it gets dirty

Question 28	
A technician is considered to be working at height when:	
Possible answers	
a)	Going up or down stairs
b)	Working on open gridding flooring above channels
c)	Working on a raised plinth
d)	With no precautions in place, you could fall a distance liable to cause personal injury

Question 29	
What should an employee do if they suspect someone at work was under the influence of drugs or alcohol?	
Possible answers	
a)	Ask them to stop working and report them to a manager
b)	Ask them to stop working and allow them to sleep it off
c)	Ask them to drive home and contact their GP
d)	Allow them to do light duties as long as they are safe

Question 30	
During extreme winter weather a technician is asked to drive a 4x4 vehicle and they have never driven one before. What should they do?	
Possible answers	
a)	Take the vehicle but drive very carefully
b)	Only take the vehicle if the snow and ice is passable
c)	Ask for someone to show them the controls before they take the vehicle
d)	Refuse to take the vehicle until they have received adequate training

Question 31	
When entering a confined space, a technician must:	
Possible answers	
a)	follow A Safe System of Works (SSOW)
b)	inform their manager
c)	be in a group of 3 or more
d)	have a mobile phone available with a good signal strength

Question 32	
Which ONE of the following incidents needs to be reported under RIDDOR (The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations)?	
Possible answers	
a)	When more than one individual sustained a minor injury in the incident
b)	When the incident was a dangerous occurrence, but no one was injured
c)	When the incident has happened before on several occasions
d)	When the incident involved a contractor or a member of the public

Question 33	
If an emergency happened on-site how best should an employee respond?	
Possible answers	
a)	Watch on from a distance
b)	Ignore it and continue working
c)	Assist if able to do so safely and report it to management / emergency service
d)	Lock the site down so no one can gain entry

Question 34	
Under DSEAR regulations a space classified as Zone 1 is a place which an explosive atmosphere is likely to occur:	
Possible answers	
a)	occasionally
b)	for a short period only
c)	never
d)	continuously or a long period or frequently

Question 35	
During a chemical delivery on-site, the drainage grid within the bunded delivery area should:	
Possible answers	
a)	be uncovered to allow any spillages to flow freely down the drain to the outflow
b)	be covered with rags and sandbags to contain any spillages within the bunded area
c)	be covered with a proprietary ‘bung’ to contain any spillages within the bunded area
d)	have its cover removed to allow any spillages to flow freely away

Question 36	
Which ONE of the following documents needs to be used when hazardous waste is transported from a site?	
Possible answers	
a)	Waste transport note
b)	Consignee note
c)	Waste delivery note
d)	Waste consignment note

Question 37	
Which ONE of the following is **NOT** required to be included in a site drainage plan?	
Possible answers	
a)	Where the drains are
b)	The types of drains
c)	What size and material the drain is made of
d)	Where they discharge into, for example, a watercourse

Question 38	
Which organisation is responsible for identifying potential hazards to workers, in businesses, and developing best practices to reduce or eliminate those hazards?	
Possible answers	
a)	Environment Agency (EA)
b)	Health, Safety Executive (HSE)
c)	Department for Environment, Food and Rural Affairs (Defra)
d)	Water Services Regulation Authority (OFWAT)

Question 39	
Which ONE of the following statements can be used to describe one of the key principles of sustainable development?	
Possible answers	
a)	Balancing the needs of the present without compromising the needs of future generations
b)	Prioritising the needs of future generations over our own
c)	Prioritising our current needs over that of future generations
d)	Prioritising environmental performance now over future profit

Question 40	
According to the UK's Waste Hierarchy, what should be prioritised before recycling?	
Possible answers	
a)	Re-use
b)	Recovery
c)	Disposal
d)	Salvage

Question 41	
Which regulatory act, makes provision for the improved control of pollution to the air, water and land, by regulating the management of waste and the control of emissions?	
Possible answers	
a)	The Environmental Protection Act 1990
b)	The Environment Agency Act 1990
c)	The Control of Pollutions Act 1991
d)	The Waste Disposal Act 1991

Question 42	
Non-compliance with the Water Supply (Water Quality) Regulations can lead to:	
Possible answers	
a)	high remedial costs in addition to fines
b)	only fines
c)	only remedial costs
d)	no additional cost

Question 43	
Without water, the average human can only live for three:	
Possible answers	
a)	minutes
b)	hours
c)	days
d)	months

Question 44	
Which organisation is responsible for conservation and ecology in England?	
Possible answers	
a)	Drinking Water Inspectorate (DWI)
b)	The Environment Agency
c)	Consumer Council for Water (CCWater)
d)	Water Services Regulation Authority (OFWAT)

Question 45	
Which body would investigate, and handle complaints made against licensed water suppliers or companies?	
Possible answers	
a)	Health, Safety Executive (HSE)
b)	Drinking Water Inspectorate (DWI)
c)	Consumer Council for Water (CCWater)
d)	HM Revenue and Customs

Question 46	
Which of the following may lead to dangerous bacteria getting into the water supply?	
Possible answers	
a)	Not storing fuel in robust, properly sized bund
b)	Not storing chemicals in secure, properly labelled containers
c)	Eating in an excavation without hand washing facilities
d)	Using the same equipment at water and wastewater sites

Question 47	
A key security requirement for water storage sites is:	
Possible answers	
a)	having regular staff patrols
b)	having regular police controls
c)	asking nearby customers to keep an eye on it
d)	having reliable hatch alarms linked to an automatic monitoring and reporting system

Question 48	
A planned shutdown needs:	
Possible answers	
a)	a detailed action plan
b)	the agreement of the DWI
c)	the agreement of OFWAT
d)	a detailed site survey

Question 49	
Which ONE of the following statements is NOT true about chlorine in a distribution system?	
Possible answers	
a)	It decays over time
b)	It kills bacteria
c)	It minimises bacteriological regrowth
d)	It is not legally required if the water source is good enough quality

Question 50	
Which organisation ensures companies are licensed to deliver water and sewerage services in England and Wales, and is responsible for the legal framework under which they operate?	
Possible answers	
a)	Water Services Regulation Authority (OFWAT)
b)	Citizen's Advice Bureau
c)	Drinking Water Inspectorate (DWI)
d)	Consumer Council for Water (CCWater)

End of Questions

Answers

Question	Answer	Question	Answer	Question	Answer
1	C	18	D	35	C
2	B	19	A	36	D
3	C	20	B	37	C
4	A	21	B	38	B
5	C	22	C	39	A
6	B	23	C	40	A
7	D	24	B	41	A
8	B	25	B	42	A
9	B	26	C	43	C
10	C	27	A	44	B
11	C	28	D	45	C
12	D	29	A	46	D
13	A	30	D	47	D
14	B	31	A	48	A
15	A	32	B	49	D
16	A	33	C	50	A
17	D	34	A		

Level: 3

Water Industry Treatment Process Technician

Pathway: Wastewater Treatment Process

Paper Code: PRACTICE PAPER

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Question 2	
Which of the following are indicators that the crude sewage arriving at the works is septic?	
Possible answers	
a)	Low solids and ammonia levels
b)	Black in appearance with a rotten eggs smell
c)	Pale in appearance with an earthy odour
d)	Cloudy appearance with rotten eggs odour

Question 3	
Detention tanks are typically used to:	
Possible answers	
a)	provide storage for excess sewage when flows are high
b)	provide storage for sewage during a drought
c)	ensure that pumps have something to pump when they first start
d)	provide a head of pressure

Question 4	
Which ONE of the following statements most closely describes what happens at a sewage treatment plant?	
Possible answers	
a)	The sewage is treated by breaking down the polluting matter using biological processes
b)	The sewage is treated by a combination of physical, biological and chemical processes
c)	The sewage is treated using chemical processes
d)	The sewage is treated by physical processes

Question 5	
Activated sludge in sewage treatment is:	
Possible answers	
a)	A flocculant microbial mass produced when sewage is continuously aerated
b)	The sludge settled out from the primary settlement of crude sewage
c)	The sludge that is removed from a digester
d)	The sludge that is settled out in the humus tanks following percolating filters

Question 6	
What is an alkali?	
Possible answers	
a)	It is a chemical that will release H+ ions into the solution
b)	It has a base that is soluble in water
c)	It has a pH less than 7
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Question 7	
Water is:	
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a)	an element
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An employee must carry out a work activity which involves a substance that can be hazardous to health. What should they do?	
Possible answers	
a)	Carry on with the work regardless
b)	Carry out the work, providing they have been suitably trained and have the necessary information from the COSHH assessment
c)	Carry out the work using his/her own initiative to decide the sensible safety precautions
d)	Refuse to carry out the work

Question 21	
A risk is caused by:	
Possible answers	
a)	being under pressure at work
b)	a hazard in the work place
c)	the technician's attitude to work
d)	A lack of Health and Safety information

Question 22	
Level of risk is calculated by:	
Possible answers	
a)	Number of elements of the tasks + Number of people involved in the task
b)	Number of tasks x (Time of day using the 24hr clock
c)	Consequence x Likelihood
d)	Consequence x Cost of the job

Question 23	
According to the Health and Safety Executive (HSE), all workers must take care of their own Health and Safety as well as:	
Possible answers	
a)	take charge of first-aid arrangements
b)	provide the necessary protection such as boots or gloves
c)	have a duty of are for those who may be affected by their actions
d)	work with a safety representative to ensure everyone is protected from harm in the workplace

Question 24		
According to COSHH, what does this symbol tell a technician about a substance?		
Possible answers		
a)	The substance is hazardous to the environment	
b)	The substance is toxic	
c)	The substance is corrosive	
d)	The substance is an irritant	

Question 25	
PPE equipment must be:	
Possible answers	
a)	worn at all times
b)	stored to prevent damage when not in use
c)	replaced every three to five years
d)	cleaned before use

Question 26	
Which ONE of the following is the most common cause of workplace injury?	
Possible answers	
a)	Falling from height
b)	Attacks by animals
c)	Manual handling injuries
d)	Electric shocks

Question 27	
When does a material containing asbestos become dangerous?	
Possible answers	
a)	When it is disturbed
b)	When it gets wet
c)	When it is exposed to daylight
d)	When it gets dirty

Question 28	
A technician is considered to be working at heights when:	
Possible answers	
a)	Going up or down stairs
b)	Working on open gridding flooring above channels
c)	Working on a raised plinth
d)	With no precautions in place, you could fall a distance liable to cause personal injury

Question 29	
What should an employee do if they suspect someone at work was under the influence of drugs or alcohol?	
Possible answers	
a)	Ask them to stop working and report them to a manager
b)	Ask them to stop working and allow them to sleep it off
c)	Ask them to drive home and contact their GP
d)	Allow them to do light duties as long as they are safe

Question 30	
During extreme winter weather a technician is asked to drive a 4x4 vehicle and they have never driven one before. What should they do?	
Possible answers	
a)	Take the vehicle but drive very carefully
b)	Only take the vehicle if the snow and ice is passable
c)	Ask for someone to show them the controls before they take the vehicle
d)	Refuse to take the vehicle until they have received adequate training

Question 31	
When entering a confined space, a technician must:	
Possible answers	
a)	follow a Safe System of Works (SSOW)
b)	inform their manager
c)	be in a group of 3 or more
d)	have a mobile phone available with a good signal strength

Question 32	
Which ONE of the following incidents needs to be reported under RIDDOR (The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations)?	
Possible answers	
a)	When more than one individual sustained a minor injury in the incident
b)	When the incident was a dangerous occurrence, but no one was injured
c)	When the incident has happened before on several occasions
d)	When the incident involved a contractor or a member of the public

Question 33	
If an emergency happened on-site how best should an employee respond?	
Possible answers	
a)	Watch on from a distance
b)	Ignore it and continue working
c)	Assist if able to do so safely and report it to management / emergency service
d)	Lock the site down so no one can gain entry

Question 34	
Under DSEAR regulations a space classified as Zone 1 is a place which an explosive atmosphere is likely to occur:	
Possible answers	
a)	occasionally
b)	for a short period only
c)	never
d)	continuously or a long period or frequently

Question 35	
During a chemical delivery on-site, the drainage grid within the bunded delivery area should:	
Possible answers	
a)	be uncovered to allow any spillages to flow freely down the drain to the outflow
b)	be covered with rags and sandbags to contain any spillages within the bunded area
c)	be covered with a proprietary ‘bung’ to contain any spillages within the bunded area
d)	have its cover removed to allow any spillages to flow freely away

Question 36	
Which ONE of the following documents needs to be used when hazardous waste is transported from a site?	
Possible answers	
a)	Waste transport note
b)	Consignee note
c)	Waste delivery note
d)	Waste consignment note

Question 37	
Which ONE of the following is **NOT** required to be included in a site drainage plan?	
Possible answers	
a)	Where the drains are
b)	The types of drains
c)	What size and material the drain is made of
d)	Where they discharge into, for example, a watercourse

Question 38	
Which organisation is responsible for identifying potential hazards to workers, in businesses, and developing best practices to reduce or eliminate those hazards?	
Possible answers	
a)	Environment Agency (EA)
b)	Health, Safety Executive (HSE)
c)	Department for Environment, Food and Rural Affairs (Defra)
d)	Water Services Regulation Authority (OFWAT)

Question 39	
Which ONE of the following statements can be used to describe one of the key principles of sustainable development?	
Possible answers	
a)	Balancing the needs of the present without compromising the needs of future generations
b)	Prioritising the needs of future generations over our own
c)	Prioritising our current needs over that of future generations
d)	Prioritising environmental performance now over future profit

Question 40	
According to the UK's Waste Hierarchy, what should be prioritised before recycling?	
Possible answers	
a)	Re-use
b)	Recovery
c)	Disposal
d)	Salvage

Question 41	
Which regulatory act, makes provision for the improved control of pollution to the air, water and land, by regulating the management of waste and the control of emissions?	
Possible answers	
a)	The Environmental Protection Act 1990
b)	The Environment Agency Act 1990
c)	The Control of Pollutions Act 1991
d)	The Waste Disposal Act 1991

Question 42	
Which of the following components of an effluent is the most toxic to aquatic life?	
Possible answers	
a)	Ammonia
b)	Suspended solids
c)	Phosphate
d)	Nitrate

Question 43	
What does BOD stand for?	
Possible answers	
a)	Biological Oxygen Demand
b)	Biochemical Oxygen Demand
c)	Biological Oxygen Demise
d)	Biochemical Oxygen Demise

Question 44	
Which ONE of the following organisations is responsible for conservation and ecology in England?	
Possible answers	
a)	Drinking Water Inspectorate (DWI)
b)	The Environment Agency
c)	Consumer Council for Water (CCWater)
d)	Water Services Regulation Authority (OFWAT)

Question 45	
Which body would investigate, and handle complaints made against licensed water suppliers or companies?	
Possible answers	
a)	Health, Safety Executive (HSE)
b)	Drinking Water Inspectorate (DWI)
c)	Consumer Council for Water (CCWater)
d)	HM Revenue and Customs

Question 46	
A pumping station has 3 centrifugal pumps on a duty/assist/assist basis. Which ONE of the following actions will maximise its performance?	
Possible answers	
a)	Extending the timing of planned preventative maintenance
b)	A narrow band on pumping station start/stop levels
c)	Air/gas locking of pump and associated pipework
d)	Installation of high efficiency pump drives

Question 47	
Which of the following are examples of a non-powered screen on a Combined Sewer Overflow (CSO)?	
Possible answers	
a)	Auger (Rotamat)
b)	Band (Longwood)
c)	Haigh Screen
d)	Static

Question 48	
A centrifugal pump has worn internal parts caused by grit, sand and silt in the flow. Which one of the following is a likely early indicator?	
Possible answers	
a)	Increasing noise levels
b)	A drop in the closed valve head
c)	Increasing vibration levels
d)	A drop in the flow capacity of the pump

Question 49	
Cavitation usually happens at the pump impeller vane inlet edges where the local pressure drops to vapour pressure and the wastewater starts to boil (locally) forming bubbles of steam. When these cavities implode, damage can be caused to the pump internal parts. What does this look like?	
Possible answers	
a)	Shiny patches on the impeller vane surfaces
b)	Chunks missing from the impeller vane inlet edges
c)	Small, sharp-edged pits in the impeller vane surfaces
d)	No visible effects

Question 50	
Which organisation ensures companies are licensed to deliver water and sewerage services in England and Wales, and is responsible for the legal framework under which they operate?	
Possible answers	
a)	Water Services Regulation Authority (OFWAT)
b)	Citizen's Advice Bureau
c)	Drinking Water Inspectorate (DWI)
d)	Consumer Council for Water (CCWater)

End of Questions

Answers

Question	Answer	Question	Answer	Question	Answer
1	C	18	D	35	C
2	B	19	A	36	D
3	A	20	B	37	C
4	B	21	B	38	B
5	A	22	C	39	A
6	B	23	C	40	A
7	D	24	B	41	A
8	B	25	B	42	A
9	B	26	C	43	B
10	C	27	A	44	B
11	C	28	D	45	C
12	D	29	A	46	D
13	A	30	D	47	D
14	B	31	A	48	D
15	A	32	B	49	C
16	A	33	C	50	A
17	D	34	A		

Appendix D: Level 3 Water Industry Treatment Process Technician Observation with Questions Planning and Approval Form

Instructions

The practical observation must be designed to meet the requirements of the WINT standard and appropriate pathway (water treatment process/water process).

- The apprentice is assessed in their workplace. The apprentice completes their day-to-day duties under normal working conditions. This allows the apprentice to demonstrate the KSBs through naturally occurring evidence. Simulation is not permitted during the observation
- The observation with questions must take six hours. The observation may be split into discrete sections held on the same working day
- Equipment and resources needed for the assessment must be in good and safe working condition

The activities should be designed to assess a broad range of the knowledge, skills and behaviours developed over the period of the apprenticeship. However, as a minimum the practical observation must cover the activities and KSBs listed in the Planning Form below.

Task variations: If you have more than one apprentice being assessed, use the 'Practical Task variations' section of the form to indicate what the task variations that will be put in place so that apprentices are not asked to complete identical tasks.

Level 3 Water Industry Treatment Process Technician

Practical Observation Planning Form

Employer name and site address:	
Training provider (if applicable)	
Standard	**Water Industry Treatment Process Technician**
Pathways: (Select a pathway)	**Water Treatment Process ☐** **Wastewater Treatment Process ☐**
Level	**3**
Location of practical	
Summary of activity: Please provide a brief summary of the overall task/s to be completed during the assessment period	
Contact details of employer/training provider representative overseeing the setup of the competency test (documents and site)	**Full name**: **Email:** **Contact number:**
Date submitted to Energy & Environment Awards	

Estimated total duration of practical task(s) must be 6 hours

Please state time for the practical task(s): _____

Practical Observation Checklist

This checklist will assist the employer and/or training provider with planning the activity. **Please confirm all required elements are covered:**

The water or wastewater activities that the apprentice will undertake MUST cover the following:
☐ Maintaining site security
☐ Maintaining site standards and safety including completing a risk assessment
☐ Ensuring vital safety equipment is maintained and available for use
☐ Communicating verbally
☐ Completing documentation
☐ Managing water or wastewater treatment processes and process standards
☐ Sampling and analysis

All pathways

Please use the spaces below to provide a summary of the planned practical observation activities for each criterion.

Work Preparation	Covered on activity
Explain how the apprentice will meet: **S22**: Read and interpret written information. For example, work instructions, and service level agreements	☐

Work Environment	Covered on activity
Explain how the apprentice will meet: **S13**: Apply site standards for housekeeping	☐
Explain how the apprentice will meet: **S14:** Conduct risk assessments: identify and document risks and hazards in the workplace. Apply control measures	☐
Explain how the apprentice will meet: **S15**: Comply with health and safety regulations and safe working practices and procedures	☐
Explain how the apprentice will meet: **S16**: Follow site security procedures	☐

Work Environment	Covered on activity
Explain how the apprentice will meet: **B1**: Prioritise and promote public health, workplace health and safety, and security	☐

Safety Equipment	Covered on activity
Explain how the apprentice will meet: **S11**: Inspect and check safety equipment: identify and take action	☐

Communication	Covered on activity
Explain how the apprentice will meet: **K21**: Communication techniques: verbal, written and electronic. Adapting style to audience	☐
Explain how the apprentice will meet: **S26**: Communicate verbally and in writing. For example, with colleagues, stakeholders, or others. Use water industry terminology where appropriate	☐

Communication	Covered on activity
Explain how the apprentice will meet: **B3**: Apply a professional approach	☐

Documentation	Covered on activity
Explain how the apprentice will meet: **K19**: Documentation requirements for example maintenance records, asset check records	☐
Explain how the apprentice will meet: **S23**: Complete work records	☐

Water treatment process technician

Please use the spaces below to provide a summary of the planned practical observation activities for each criterion.

Water treatment and process standards	Covered on activity
Explain how the apprentice will meet: **K9:** Process control systems. Types of equipment used for process control operations and the functions they perform, set-points, and alarm values	☐
Explain how the apprentice will meet: **K10**: Operational and quality procedures. Escalation procedures. What they are and how to use them	☐
Explain how the apprentice will meet: **K30**: Treatment processes: abstraction, clarification, coagulation, disinfection, and filtration. Water works design flows - impact of flow change on treatment process. Hydraulics principles. Objectives, parameters, variables, optimal performance measures (quality, cost, and waste) and the consequences of sub-optimal performance.	☐

Water treatment and process standards	Covered on activity
Explain how the apprentice will meet: **S1**: Comply with water industry regulations and procedures	☐
Explain how the apprentice will meet: **S9**: Interrogate and interpret electronic control systems. For example, HMI or SCADA	☐
Explain how the apprentice will meet: **S10**: Use data monitoring and control systems to monitor and control equipment	☐
Explain how the apprentice will meet: **S30**: Monitor and control water chemical dosing procedures	☐

Water treatment and process standards	Covered on activity
Explain how the apprentice will meet: **S31**: Operate water process control equipment and instrumentation	☐
Explain how the apprentice will meet: **S34**: Monitor and control water treatment processes and performance	☐
Explain how the apprentice will meet: **S35**: Monitor and control the effectiveness of disinfection	☐
Explain how the apprentice will meet: **B4**: Take ownership for work and responsibility for the quality of work and impact on others	☐

Water sampling and analysis	Covered on activity
Explain how the apprentice will meet: **K28**: Water quality monitoring, sampling, and testing requirements and techniques. Equipment, resources, and materials used. Sampling points	☐
Explain how the apprentice will meet: **S32**: Take water samples	☐
Explain how the apprentice will meet: **S33**: Analyse and interpret on-site laboratory data and check against water process parameters	☐

Practical Task Variations	
Describe how you can vary this task/s to ensure that the assessment does not become predictable. **Variation 1:** **Variation 2:** **Variation 3:**	
Specific requirements (for example: authorisations/access arrangements/PPE):	

Remember:

- The specific detail of the tasks to be undertaken should be **kept confidential from the apprentices**

Practical Task: Include relevant photographs to illustrate task(s)

Energy & Environment Awards Office use only

Date received	
Date signed off	

Wastewater treatment process technician

Please use the spaces below to provide a summary of the planned practical observation activities for each criterion.

Wastewater treatment and process standards	Covered on activity
Explain how the apprentice will meet: **K9:** Process control systems. Types of equipment used for process control operations and the functions they perform, set-points, and alarm values	☐
Explain how the apprentice will meet: **K10**: Operational and quality procedures. Escalation procedures. What they are and how to use them	☐
Explain how the apprentice will meet: **K34**: Treatment processes: preliminary treatment, primary treatment, secondary treatment, tertiary treatment, sludge treatment, and odour management. Wastewater works design flows - impact of flow change on treatment process	☐

Wastewater treatment and process standards	Covered on activity
Explain how the apprentice will meet: **S1**: Comply with wastewater industry regulations and procedures	☐
Explain how the apprentice will meet: **S9**: Interrogate and interpret electronic control systems. For example, HMI or SCADA	☐
Explain how the apprentice will meet: **S10**: Use data monitoring and control systems to monitor and control equipment	☐
Explain how the apprentice will meet: **S40**: Operate wastewater process control equipment and instrumentation	☐

Wastewater treatment and process standards	Covered on activity
Explain how the apprentice will meet: **S43**: Monitor and maintain grit removal and screening assets	☐
Explain how the apprentice will meet: **S44**: Monitor and control the performance of sedimentation, biological and chemical treatment operations	☐
Explain how the apprentice will meet: **S45**: Monitor and control wastewater treatment processes and performance	☐
Explain how the apprentice will meet: **B4**: Take ownership for work and responsibility for the quality of work and impact on others	☐

Wastewater monitoring and sampling and analysis	Covered on activity
Explain how the apprentice will meet: **K35**: Wastewater compliance and performance monitoring requirements: wastewater quality standards, sampling, analysis, and reporting	☐
Explain how the apprentice will meet: **S41**: Take wastewater samples	☐
Explain how the apprentice will meet: **S42**: Analyse and interpret on-site testing data and monitoring equipment data and check against wastewater process parameters	☐

Risks of working in wastewater	Covered on activity
K38: Risks of working on wastewater treatment site – personal hygiene risks and requirements	☐

Risks of working in wastewater	Covered on activity
Explain how the apprentice will meet: **S47**: Follow wastewater hygiene personal procedures	☐

Practical Task Variations	
Describe how you can vary this task/s to ensure that the assessment does not become predictable. **Variation 1:** **Variation 2:** **Variation 3:**	
Specific requirements (for example: authorisations/access arrangements/PPE):	

Remember:

- The specific detail of the tasks to be undertaken should be **kept confidential from the apprentices**

Practical Task: Include relevant photographs to illustrate task(s)

Energy & Environment Awards Office use only

Date received	
Date signed off	

Appendix E: Practice Observation with Questions Template

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Name of Apprentice	
Location(s) of Practice Observation	
Name of Assessor	
Date of Practice Observation	
Start Time	
End Time	
Assessor additional comments	

	Grade
Please indicate the apprentice's practice observation grade (F/P/D):	

Please Note:

To achieve a Pass, the Apprentice must achieve all the pass descriptors.

To achieve a Distinction, the Apprentice must achieve all the pass descriptors plus all the distinction descriptors.

Fail: the apprentice does not demonstrate the pass descriptors.

Important points

The following activities **should** be observed:

- [ ] Maintaining site security
- [ ] Maintaining site standards and safety including completing a risk assessment
- [ ] Ensuring vital safety equipment is maintained and available for use
- [ ] Communicating verbally
- [ ] Completing documentation
- [ ] Managing water or wastewater treatment processes and process standards
- [ ] Sampling and analysis

The assessor must ask questions about KSBs that were not observed to gather assessment evidence. These questions are in addition to the set number of questions for the observation and should be kept to a minimum.

Work preparation

To achieve a PASS the apprentice must demonstrate ALL the following pass descriptors	P	To achieve a DISTINCTION the apprentice must achieve ALL the pass descriptors and all of the following distinction descriptors
Reads and interprets written information. For example, work instructions, and service level agreements. (S22)	☐	
Questions *Develop some open ended questions*		
Comments: (what was observed)		**Summary of response to question(s):**
		Audio recording reference/timeline

S22: Read and interpret written information. For example, work instructions, and service level agreements.

Work environment

To achieve a PASS the apprentice must demonstrate ALL the following pass descriptors	P	To achieve a DISTINCTION the apprentice must achieve ALL the pass descriptors and all of the following distinction descriptors	D
Identifies and documents risks and hazards and applies control measures in-line with company procedures. (S14) Prioritises and promotes public health, workplace health and safety, and security by complying with health and safety regulations, safe working practices and procedures, following site security procedures and applying site standards for housekeeping to ensure the working environment is safe for themselves and others. (S13, S15, S16, B1)	☐ ☐	Justifies how control measures have the potential to minimise risks. (S14)	☐
Questions *Develop some open ended questions*			
Comments: (what was observed)		**Summary of response to question(s):**	
		Audio recording reference/timeline	

S13: Apply site standards for housekeeping.

S14: Conduct risk assessments: identify and document risks and hazards in the workplace. Apply control measures.
S15: Comply with health and safety regulations and safe working practices and procedures.
S16: Follow site security procedures.
B1: Prioritise and promote public health, workplace health and safety, and security.

Safety equipment

To achieve a PASS the apprentice must demonstrate ALL the following pass descriptors	P	To achieve a DISTINCTION the apprentice must achieve ALL the pass descriptors and all of the following distinction descriptors
Inspects and checks safety equipment against requirements, identifying and acting in line with procedures where there are issues. (S11)	☐	
Questions *Develop some open ended questions*		
Comments: (what was observed)		**Summary of response to question(s):**
		Audio recording reference/timeline

S11: Inspect and check safety equipment: identify and take action.

Communication

To achieve a PASS the apprentice must demonstrate ALL the following pass descriptors	P	To achieve a DISTINCTION the apprentice must achieve ALL the pass descriptors and all of the following distinction descriptors
Applies a professional approach using verbal, written and electronic communication techniques suitable for the context, adapting style and use of terminology to suit the audience. Uses sector and industry terminology correctly. (K21, S26, B3)	☐ ☐	
Questions *Develop some open ended questions*		
Comments: (what was observed)		**Summary of response to question(s):**
		Audio recording reference/timeline

K21: Communication techniques: verbal, written and electronic. Adapting style to audience.
S26: Communicate verbally and in writing. For example, with colleagues, stakeholders, or others. Use water industry terminology where appropriate.
B3: Apply a professional approach**.**

Documentation

To achieve a PASS the apprentice must demonstrate ALL the following pass descriptors	P	To achieve a DISTINCTION the apprentice must achieve ALL the pass descriptors and all of the following distinction descriptors	D
Completes work records required for tasks in full and correctly. (K19, S23)	☐	Explains the importance of data gathering and flow of documentation for wider use across the business. For example, performance commitments (outcome delivery incentives). (K19)	☐
Questions *Develop some open ended questions*			
Comments: (what was observed)		**Summary of response to question(s):**	
		Audio recording reference/timeline	

K19: Documentation requirements for example maintenance records, asset check records.
S23: Complete work records

(Water treatment process technician) Water treatment and process standards

To achieve a PASS the apprentice must demonstrate ALL the following pass descriptors	P	To achieve a DISTINCTION the apprentice must achieve ALL the pass descriptors and all of the following distinction descriptors	D
Takes responsibility to complete processes within limits of authority in compliance with industry regulations and company operational and quality procedures, escalating issues outside of limits of authority. (K10, S1, B4)	☐	Evaluates data from electronic control systems to mitigate against potential issues. (S9)	☐
Interrogates and interprets electronic control systems correctly. (S9)	☐	Analyses water treatment processes and performance approach in terms of optimisation. (K30)	☐
Monitors and controls water chemical dosing in line with company procedures. (S30)	☐		
Operates water process control equipment and instrumentation in line with company's or manufacturer's instructions. (K9, S31)	☐		
Uses data monitoring and control systems to monitor and control water treatment processes and performance within company tolerances, responding in line with company procedures. (K30, S10, S34).	☐		

To achieve a PASS the apprentice must demonstrate ALL the following pass descriptors	P	To achieve a DISTINCTION the apprentice must achieve ALL the pass descriptors and all of the following distinction descriptors	D
Monitors and controls the effectiveness of disinfection following procedures to achieve performance in line with water supply regulations. (S35)	☐		
Questions *Develop some open ended questions*			
Comments: (what was observed)		**Summary of response to question(s):**	
		Audio recording reference/timeline	

K9: Process control systems. Types of equipment used for process control operations and the functions they perform, set-points, and alarm values.
K10: Operational and quality procedures. Escalation procedures. What they are and how to use them.
K30: Treatment processes: abstraction, clarification, coagulation, disinfection, and filtration. Water works design flows - impact of flow change on treatment process. Hydraulics principles. Objectives, parameters, variables, optimal performance measures (quality, cost, and waste) and the consequences of sub-optimal performance. Waste stream processes.
S1: Comply with (water or waste waste) industry regulations and procedures.
S9: Interrogate and interpret electronic control systems. For example, HMI or SCADA.
S10: Use data monitoring and control systems to monitor and control equipment.
S30: Monitor and control water chemical dosing procedures.
S31: Operate water process control equipment and instrumentation.
S34: Monitor and control water treatment processes and performance.
S35: Monitor and control the effectiveness of disinfection.
B4: Take ownership for work and responsibility for the quality of work and impact on others.

(Water treatment process technician) Water sampling and analysis

To achieve a PASS the apprentice must demonstrate ALL the following pass descriptors	P	To achieve a DISTINCTION the apprentice must achieve ALL the pass descriptors and all of the following distinction descriptors	D
Takes representative water samples in line with company procedures. Analyses and interprets on-site laboratory data and water quality monitoring instrumentation accurately, checking against water process parameters and taking action in line with company procedures for example recording, escalation, validation. (K28, S32, S33)	☐	Explains the importance of completing water sampling correctly and the impact of deviating samples. (K28)	☐
Questions *Develop some open ended questions*			
Comments: (what was observed)		**Summary of response to question(s):**	
		Audio recording reference/timeline	

K28: Water quality monitoring, sampling, and testing requirements and techniques. Equipment, resources, and materials used. Sampling points.
S32: Take water samples.
S33: Analyse and interpret on-site laboratory data and check against water process parameters.

(Wastewater treatment process technician) Wastewater treatment and process standards

To achieve a PASS the apprentice must demonstrate ALL the following pass descriptors	P	To achieve a DISTINCTION the apprentice must achieve ALL the pass descriptors and all of the following distinction descriptors	D
Takes responsibility to complete processes within limits of authority in compliance with industry regulations and company operational and quality procedures, escalating issues outside of limits of authority. (K10, S1, B4)	☐	Evaluates data from electronic control systems to mitigate against potential issues. (S9)	☐
Interrogates and interprets electronic control systems accurately. (S9)	☐	Analyses wastewater treatment processes and performance in terms of optimisation. (S45)	☐
Operates wastewater process control equipment and instrumentation in line with company's or manufacturer's instructions. (K9, S40)	☐		
Monitors and maintains grit removal and screening assets in line with company policies (permits). (S43)	☐		
Monitors and controls in the performance of sedimentation, biological and chemical treatment operations line with company procedures. (K34, S44)	☐		
Uses data monitoring and control systems to monitor and control wastewater treatment processes and	☐		

To achieve a PASS the apprentice must demonstrate ALL the following pass descriptors	P	To achieve a DISTINCTION the apprentice must achieve ALL the pass descriptors and all of the following distinction descriptors	D
performance within company tolerances, responding in line with company procedures. (S10, S45)			
Questions *Develop some open ended questions*			
Comments: (what was observed)		**Summary of response to question(s):**	
		Audio recording reference/timeline	

K9: Process control systems. Types of equipment used for process control operations and the functions they perform, set-points, and alarm values.
K10: Operational and quality procedures. Escalation procedures. What they are and how to use them.
K34: Treatment processes: preliminary treatment, primary treatment, secondary treatment, tertiary treatment, sludge treatment, and odour management. Wastewater works design flows - impact of flow change on treatment process.
S1: Comply with (water or waste waste) industry regulations and procedures.
S9: Interrogate and interpret electronic control systems. For example, HMI or SCADA.
S10: Use data monitoring and control systems to monitor and control equipment.
S40: Operate wastewater process control equipment and instrumentation.
S43: Monitor and maintain grit removal and screening assets.
S44: Monitor and control the performance of sedimentation, biological and chemical treatment operations.
S45: Monitor and control wastewater treatment processes and performance.
B4: Take ownership for work and responsibility for the quality of work and impact on others

(Wastewater treatment process technician) Wastewater monitoring and sampling and analysis

To achieve a PASS the apprentice must demonstrate ALL the following pass descriptors	P	To achieve a DISTINCTION the apprentice must achieve ALL the pass descriptors and all of the following distinction descriptors	D
Takes representative wastewater samples in line with company procedures. Analyses and interprets on-site testing equipment data and monitoring equipment correctly, checking against wastewater process parameters and taking action in line with company procedures for example recording, escalation, validation. (K35, S41, S42)	☐	Explains the importance of completing wastewater sampling correctly and the impact of deviating samples. (K35)	☐
Questions *Develop some open ended questions*			
Comments: (what was observed)		**Summary of response to question(s):**	
		Audio recording reference/timeline	

K35: Wastewater compliance and performance monitoring requirements: wastewater quality standards, sampling, analysis, and reporting.
S41: Take wastewater samples.
S42: Analyse and interpret on-site testing data and monitoring equipment data and check against wastewater process parameters.
.

(Wastewater treatment process technician) Risks of working in wastewater

<table>
<tr><th>To achieve a PASS the apprentice must demonstrate ALL the following pass descriptors</th><th>P</th><th colspan="2">To achieve a DISTINCTION the apprentice must achieve ALL the pass descriptors and all of the following distinction descriptors</th></tr>
<tr><td>Follows wastewater hygiene personal company procedures for example, correct use of personal protective equipment. (K38, S47)</td><td>☐</td><td colspan="2"></td></tr>
<tr><td colspan="4">Questions Develop some open ended questions</td></tr>
<tr><td rowspan="2">Comments: (what was observed)</td><td colspan="3">Summary of response to question(s):</td></tr>
<tr><td>Audio recording reference/timeline</td><td></td></tr>
</table>

K38: Option 2. Wastewater treatment process technician. Risks of working on wastewater treatment site – personal hygiene risks and requirements.
S47: Follow wastewater hygiene personal procedures. .

Appendix F: Practice Interview Template

Name of Apprentice	
Location(s) of Practice Interview	
Name of Assessor	
Date of Practice Interview	
Start Time	
End Time	
Assessor additional comments	

	Grade
Please indicate the apprentice's practice observation grade (F/P/D):	

Please Note:

To achieve a Pass, the Apprentice must achieve all the pass descriptors.

To achieve a Distinction, the Apprentice must achieve all the pass descriptors plus all the distinction descriptors.

Fail: the apprentice does not demonstrate the pass descriptors.

(Core) Working in the water industry

Pass Apprentices must achieve ALL the following pass descriptors			Achieved	Distinction Apprentice must achieve ALL the pass descriptors and ALL of the following distinction descriptors	
Explains their role, identifying how they work with different teams and functions involved in operations. (K2, S21) Explains business operation considerations. (K3)			☐ ☐		
Questions *Develop some open ended questions*					
Timeline reference:		Portfolio reference:			
Comments					

K2: Technician's role. Limits of autonomy. Different teams and functions involved in operations: how they work together.
K3: Business operation considerations: how activities may impact customers, financial constraints, ethical business practices. Customer Experience Measure (CMEX). Regulatory and legislative performance measures.
S21: Identify and escalate issues.

(Core) Environmental and sustainability

Pass Apprentices must achieve ALL the following pass descriptors	Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors	Achieved
Describes how they comply with environmental and sustainability regulations and procedures and apply the principles of sustainable development in line with regulations and company procedures. (S18, S19) Describes how they prioritise and promote the environment and sustainability in the workplace. (B2)	☐ ☐	Evaluates the actual or potential value of a specific sustainable development approach. (S19)	☐
Questions *Develop some open ended questions*		**Questions** *Develop some open ended questions*	

Timeline reference:		Portfolio reference:		Timeline reference:		Portfolio reference:	

Comments

S18: Comply with environmental and sustainability regulations and requirements. For example, safe disposal of waste, re-cycling or re-use of materials, and efficient use of resources.
S19: Apply principles of sustainable development. For example, in choice of materials.
B2: Prioritise and promote the environment and sustainability.

(Core) Asset and equipment maintenance

Pass Apprentices must achieve ALL the following pass descriptors	Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors	Achieved
Describes how they inspect and check assets in line with manufacturer's or company's procedures, identifying action required to address immediate issues. (K6, S3, S6) Describes how they monitor first line maintenance of process control equipment and instrumentation in line with manufacturer's or company's requirements. (K6, S3, S6) Describes how they follow procedures to safely remove assets for routine maintenance and recommission. (S4) Describes how they carry out validation or instrument checks of online equipment in line with manufacturer's or company's requirements, identifying action to resolve issues. (S5)	☐ ☐ ☐ ☐	Explains how they have identified action for future planned preventative maintenance, based on evidence, to reduce or potentially reduce risk of future failure. (K6, S6)	☐
Questions *Develop some open ended questions*		**Questions** *Develop some open ended questions*	

Pass Apprentices must achieve ALL the following pass descriptors				Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors				Achieved
Timeline reference:		Portfolio reference:			Timeline reference:		Portfolio reference:		
Comments									

K6: Planned preventative maintenance of monitoring equipment requirements. Asset health check requirements.
S3: Inspect (planned) and check assets (reactive) and identify action.
S4: Follow procedures to remove assets for routine maintenance and recommission.
S5: Carry out validation or instrument checks of online equipment and identify action.
S6: Monitor first line maintenance of process control equipment and instrumentation.
.

(Core) Improvement and optimisation

Pass Apprentices must achieve ALL the following pass descriptors				Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors				Achieved
Describes how they consider, identify, and promote areas for treatment process and asset optimisation improvement for example, in relation to quality, cost, time, safety, and impact. (K13, S8)				☐	Evaluates the actual or potential value of a specific optimisation improvement suggestion. (K13, S8)				☐
Questions *Develop some open ended questions*					**Questions** *Develop some open ended questions*				
Timeline reference:		Portfolio reference:			Timeline reference:		Portfolio reference:		
Comments									

K13: Optimisation in the treatment process: what it means and how it can be achieved.
S8: Consider, identify, and promote areas for improvement for example, in relation to quality, cost, time, safety, and impact.

(Core) Responding to alarms

Pass Apprentices must achieve ALL the following pass descriptors			Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors	
Describes how they follow alarm intervention procedures and resolve alarm issues for example, nuisance alarms. (S2)			☐		
Questions *Develop some open ended questions*					
Timeline reference:		Portfolio reference:			
Comments					

S2: Follow alarm intervention procedures. Resolve alarm issues.

.

(Core) Resolving faults

Pass Apprentices must achieve ALL the following pass descriptors			Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors	
Describes how they apply fault- finding and problem-solving techniques, identifying the root cause of issues and resolving faults in line with procedures. (K15, S7)			☐		
Questions *Develop some open ended questions*					
Timeline reference:		Portfolio reference:			
Comments					

K15: Fault finding and problem-solving techniques: root cause analysis and diagnostics.
S7: Identify issues. Apply fault-finding and problem-solving techniques: identify root cause. Resolve faults.

(Core) Responding to incidents

Pass Apprentices must achieve ALL the following pass descriptors	Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors	Achieved
Describes how they identify control measures to mitigate potential issues and instigate incident escalation procedures. (S12) Describes how they follow procedures for a given incident or emergency situation. (K11, S17) Describes how they conduct and assess the impact of activity and apply control measures. (S20)	☐ ☐ ☐		
Questions *Develop some open ended questions*			
Timeline reference:		Portfolio reference:	
Comments			

K11: Different types of incidents and emergency situations (internal and external): pollution, loss of process, security, weather, and accidents: their potential impact. Incident management and procedures.
S12: Identify and instigate incident escalation procedures.
S17: Follow procedures for emergency situations.
S20: Conduct and assess impact of activity for example, environmental, cost, reputation, safety, and health. Apply control measures.

(Core) Team working

Pass Apprentices must achieve ALL the following pass descriptors	Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors	Achieved
Describes how they plan and organise work and resources using appropriate techniques and respond and adapt to meet work demands. (K20, S25, B6) Describes how they liaise, negotiate, and handle conflict in individual and or group environments to achieve desired outcomes. (S27) Describes how they support others to meet the team's work goals using team working techniques and taking account of equality, diversity and inclusion. (K22, K23, B5) Describes CPD they have undertaken and future plans for CPD, explaining how they keep up to date with industry and individual development. Explains what the impact of their CPD has been and how it has benefited others and the business. (B7)	☐ ☐ ☐ ☐	Describes how they achieve efficiencies in the use of time or resources. (K20, S25)	☐
Questions *Develop some open ended questions*		**Questions** *Develop some open ended questions*	

Pass Apprentices must achieve ALL the following pass descriptors				Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors				Achieved
Timeline reference:		Portfolio reference:			Timeline reference:		Portfolio reference:		
Comments									

K20: Planning, prioritising, work scheduling, and time management techniques.
K22: Team working and culture. How to work as part of a team, the importance of establishing and meeting the requirements of different roles. Negotiation and conflict management techniques.
K23: Equality, diversity, and inclusion in the workplace.
S25: Plan tasks. Identify and organise resources to complete work tasks.
S27: Liaise with, negotiate with, and handle conflict in individual or group environments.
B5: Team-focus to meet work goals: support others.
B6: Respond and adapt to work demands.
B7: Committed to continued professional development to maintain and enhance competence in own area of practice.

(Core) Information technology

Pass Apprentices must achieve ALL the following pass descriptors	Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors	
Describes how they use information technology for different purposes (email, word processing, spreadsheets, presentation, remote working platforms, work and asset management systems). Explains measures they take to comply with general data protection regulations (GDPR) and cyber security and why it is important. (K18, S24)	☐ ☐		
Questions *Develop some open ended questions*			
Timeline reference:		Portfolio reference:	
Comments			

K18: Information and digital technology: email, word processing, spreadsheets, presentation, remote working platforms, work and asset management systems. General Data Protection Regulation (GDPR). Cyber security.

S24: Use information technology. Follow cyber security procedures. Comply with GDPR.

(Water treatment process technician) Water catchment and abstraction

Pass Apprentices must achieve ALL the following pass descriptors	Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors	
Describes how they select raw water source or blend of sources, managing and protecting catchment in line with licences, parameters, other users, and procedures. (K29, S28)	☐		
Explains the impact of breach of catchment management permits on the business. (K29, S28)	☐		
Describes how they monitor and control water abstraction in line with procedures. (S29)	☐		
Questions *Develop some open ended questions*			
Timeline reference:		Portfolio reference:	
Comments			

K29: Raw water and catchment management permitting and protection.
S28: Select raw water source or blend of sources.
S29: Monitor and control water abstraction.

(Water treatment process technician) Waste streams management

Pass Apprentices must achieve ALL the following pass descriptors				Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors	
Describes how they monitor and control waste stream processes and performance to achieve compliance. (S36)				☐		
Questions *Develop some open ended questions*						
Timeline reference:		Portfolio reference:				
Comments						

S36: Monitor and control waste stream processes and performance.

(Water treatment process technician) Shut down, isolation and recommission of water process streams

Pass Apprentices must achieve ALL the following pass descriptors				Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors				Achieved
Describes how they apply procedures to shut-down, isolate, and re-commission water process streams in line with procedures and impact on asset optimisation and performance. (K8, K14, S37)				☐	Explains how the process needs to be adapted during shutdown to maintain compliance and control risk. (K8)				☐
Questions *Develop some open ended questions*					**Questions** *Develop some open ended questions*				
Timeline reference:		Portfolio reference:			Timeline reference:		Portfolio reference:		
Comments									

K8: Isolation, shutdown, and recommissioning of process streams requirements and procedures.
K14: Asset optimisation and performance: quality, cost, time, safety, and impact.
S37: Apply procedures to shut-down, isolate, and re-commission water process streams.

(Wastewater treatment process technician) Pumping operations

Pass Apprentices must achieve ALL the following pass descriptors				Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors	
Describes how they control internal pumping operations to meet operational requirements. (S39)				☐		
Questions *Develop some open ended questions*						
Timeline reference:		Portfolio reference:				
Comments						

S39: Control internal pumping station operations.

(Wastewater treatment process technician) Wastewater flows

Pass Apprentices must achieve ALL the following pass descriptors			Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors	
Describes how they monitor and control incoming wastewater flows in line with permits and parameters. Explains the impact of breach of permits on the business. (K40, S38)			☐ ☐		
Questions *Develop some open ended questions*					
Timeline reference:		Portfolio reference:			
Comments					

K40: Purpose, application, and impact of wastewater flows: volumes, permits, catchment area consent, and impact of weather conditions.

S38: Monitor and control incoming flows.

.

(Wastewater treatment process technician) Shut down, isolation and recommission of wastewater process streams

Pass Apprentices must achieve ALL the following pass descriptors				Achieved	Distinction Apprentices must achieve ALL the pass descriptors and ALL of the following distinction descriptors				Achieved
Describes how they apply procedures to shut-down, isolate, and re-commission wastewater process streams in line with procedures and impact on asset optimisation and performance. (K8, K14, S46)				☐	Explains how the process needs to be adapted during shutdown to maintain compliance and control risk. (K8)				☐
Questions *Develop some open ended questions*					**Questions** Develop some open ended questions				
Timeline reference:		Portfolio reference:			Timeline reference:		Portfolio reference:		
Comments									

K8: Isolation, shutdown, and recommissioning of process streams requirements and procedures.

K14: Asset optimisation and performance: quality, cost, time, safety, and impact.

S46: Apply procedures to shut-down, isolate, and re-commission wastewater process streams.

Additional follow up questions	Apprentice Response			
	Timeline reference:		Portfolio reference:	
	Timeline reference:		Portfolio reference:	
	Timeline reference:		Portfolio reference:	

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