UNIT CODE	**NAT10913003**
UNIT TITLE	**Conduct a drinking water assessment**
APPLICATION	This unit applies to building biologists or individuals who, as part of their occupation or work role, undertake a drinking water quality assessment. It requires knowledge of drinking water pollutants contained in tap, tank, bore/well and bottled water such as microorganisms, inorganic and organic pollutants, radioactive nuclides, disinfectants and their by-products, as well as those arising from the water supply network and storage vessels. It requires knowledge of the adverse health effects arising from ingesting drinking water pollutants and an understanding of water filtration systems, including their advantages and limitations. No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.
COMPETENCY FIELD	050999 Environmental Studies, nec
ELEMENTS	**PERFORMANCE CRITERIA**
Elements describe the essential outcomes of the unit	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Plan to conduct a drinking water quality assessment	1.1 Define the scope and objectives of the assessment taking into consideration the client's concerns about their drinking water and budget 1.2 Research pollutants in drinking water 1.3 Research the adverse health effects arising from ingesting pollutants in drinking water 1.4 Research exposure standards relating to drinking water quality 1.5 Check reliability and validity of information, data and exposure standards using authoritative sources 1.6 Assign timing, schedule and responsibilities for the assessment

2. Undertake a drinking water quality assessment	2.1 Identify the client's source of drinking water 2.2 Identify potential hazards in the client's water supply network 2.3 Identify potential drinking water pollutants arising from the domestic pipes and faucets unique to the site
3. Make recommendations to remove pollutants from drinking water	3.1 Research the types of water filtration systems available, their benefits and limitations 3.2 Identify the appropriate water filtration system taking into consideration the pollutants it removes and the client's needs and budget 3.3 Identify key personnel required to assist in implementing the solutions
4. Report the outcomes of the drinking water assessment	4.1 Document assessment findings and recommendations in a professional report 4.2 Present objective evidence with clear and concise reference from authoritative sources

FOUNDATION SKILLS

Foundation skills essential to performance in this unit, but not explicit in the performance criteria are listed here, along with a brief context statement.

Skill	Description
Reading skills to:	Evaluate the potential relevance of various sources of written information based on the author's standing in the field. Read text which includes specialised vocabulary to gather information and create questions to be answered. Understand text which includes symbols and embedded technical information in relation to drinking water quality measurements.
Writing skills to:	Produce, edit and proofread documents to ensure clarity of meaning, accuracy and consistency of information Address the context, purpose and audience when generating text

	Integrate information and ideas from a range of sources, e.g. Acts and Regulations, Australian Drinking Water Guidelines, learning materials, research, videos. Relay/report researched information using clear and direct language appropriate to the reader/audience Validate findings where appropriate
Oral communication skills to:	Participate effectively in spoken interactions with various stakeholders, using strategies to seek information, confirm, clarify, make constructive suggestions and recommendations. Understand oral text and vocabulary used in videos, YouTube clips, lectures, and workshops. Use a range of strategies when presenting an opinion and presenting options.
Numeracy skills to:	Extract and evaluate mathematical information embedded in a range of texts, regulations and standards, including fractions, percentages, ratio, rates, proportions, positive and negative numbers, maps and plans. Represent mathematical information in a form useful to the client. Use estimation to check appropriate accuracy. Use formal written mathematical language. Calculates compares and interprets probabilities.
Learning skills to:	Pose questions, use web search queries to identify relevant information sources on the internet. Evaluate the logic and reliability of information from a variety of sources. Understands there are different ways of interpreting information. Seek information from a number of sources including water distributors, government agencies and water filtration companies
Problem-solving skills to:	Research hazards unique to the site. Use problem-solving processes to provide solutions that incorporate the client's needs.

Self-management skills to:	Manage reference information and data to evaluate results.
Technology skills to:	Follows instructions for using technology. Use software and the internet to store and access information and project documentation.

UNIT MAPPING INFORMATION

Code and Title Current Version	Code and Title Previous Version	Comments
NAT10913003 Conduct a drinking water assessment	BLDBIO603 Conduct a drinking water assessment	Equivalent unit

TITLE	**Assessment Requirements for** **NAT10913003 Conduct a drinking water assessment**
PERFORMANCE EVIDENCE	The learner must show evidence of the ability to complete tasks outlined in the elements and performance criteria of this unit, and manage tasks and contingencies in the context of the role of a Building Biology Consultant. There must be demonstrated evidence that the learner has completed the following tasks: • Identified the client's concerns with their drinking water supply and budget • Identified the client's source of drinking water • Identified drinking water pollutants unique to the site • Researched adverse health effects arising from ingesting drinking water pollutants • Researched types of water filtration systems available • Used computer software • Completed a client report incorporating assessment findings, adverse health effects and recommendations
KNOWLEDGE EVIDENCE	The learner must be able to demonstrate essential knowledge required to effectively do the task outlined in elements and performance criteria of this unit, and manage the task and contingencies in the context of the work role. This includes knowledge of: • Sources of drinking water pollutants associated with tap, tank, bore/well and bottled water

	• Exposure standards relating to drinking water quality
	• Analysing information from a range of authoritative sources including government, non-government, industry associations and YouTube videos relevant to the field of study.
	• Water utility companies that supply drinking water to homes
	• Pollutants that affect drinking water quality, such as:
	  • organic and inorganic contaminants
	  • microorganisms and biotoxins
	  • particulates
	  • radioactive nuclides
	  • disinfectants and their by-products
	  • hormone-disrupting chemicals.
	• Water treatment processes including filtration, flocculation and disinfection
	• Adverse health effects arising from ingestion of drinking water pollutants
	• Water supply network which encompasses both the mains and domestic reticulation systems
	• Storage vessels that may adversely affect drinking water quality
	• Tank water materials and roof catchment types that may adversely impact drinking water quality
	• Types of domestic water filtration systems available in Australia, their advantages, limitations and cost
	• Suppliers of water filters
	• Key personnel to implement solutions (water filter companies, licensed plumber)
	• Computer and software used to access the internet and produce the report

ASSESSMENT CONDITIONS	Both practical skills and knowledge must be assessed. Skills must be demonstrated in a simulated environment or a real-life working environment, such as a client's home. Assessment methods must include: • knowledge questions/quiz

	• professional written report • photographic evidence taken of the home **Assessor Requirements** Assessors must: • have a minimum of two years' experience working as a Building Biologist.