



UNIT CODE	NAT10913009
UNIT TITLE	Conduct a scope of works to remediate a water-damaged home
APPLICATION	<p>This unit describes the skills and knowledge required to conduct a scope of works to remediate a water-damaged building. It requires knowledge of building science, thermal bridging, psychrometrics, moisture sources, an understanding of Class, Categories and Conditions, risk management, Hierarchy of Control, personal protective equipment, porosity of materials and contents, and the principles that underpin mould remediation.</p> <p>It requires the skills to conduct a visual inspection for visible mould and signs of moisture, undertake destructive testing to locate hidden sources of moisture and fungal particulate, use of technical equipment to quantify moisture-laden materials and conduct air, surface, dust and bulk sampling, analyse laboratory results and compare to relevant exposure standards, and the skills to conduct pre and post verification testing to confirm the effectiveness of remediation.</p> <p>No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.</p>
COMPETENCY FIELD	050999 Environmental Studies, nec
PREREQUISITE	NAT10913005 Conduct an assessment of a water-damaged home
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 scope of works	<p>1.1 Define the scope and objectives of the assessment taking into consideration the history of moisture ingress</p> <p>1.2 Identify sources of moisture that support microbial growth</p> <p>1.3 Research exposure standards relating to mould</p> <p>1.4 Identify accredited laboratories to analyse samples</p> <p>1.5 Apply knowledge of workplace health and safety to identify potential risky environments</p> <p>1.6 Assign timing, schedule and responsibilities for the assessment</p>



<p>2. Select appropriate assessment tools and equipment</p>	<p>2.1 Select equipment to conduct the scope of works</p> <p>2.2 Check calibration certificates and expiry dates</p> <p>2.3 Test assessment tools and modify as required</p> <p>2.4 Calibrate equipment as per manufacturer's instructions</p> <p>2.5 Select appropriate personal protective equipment</p>
<p>3. Undertake pre-remediation testing</p>	<p>3.1 Conduct a visual inspection of the site for sources of moisture and evidence of moisture ingress, condensation and visible mould</p> <p>3.2 Conduct an olfactory inspection of the site for damp, musty odours</p> <p>3.3 Determine air pathways by which moisture and fungal particulate may spread through the built structure</p> <p>3.4 Use equipment and the Moisture Mapping tool to locate and quantify moisture-laden materials that support microbial growth</p> <p>3.5 Develop a sampling plan to establish the boundary of fungal particulate spread</p> <p>3.6 Conduct air, surface and/or bulk sampling</p> <p>3.7 Sample HVAC systems for fungal particulate</p> <p>3.8 Establish the Condition of moisture-laden materials</p> <p>3.9 Document and retain records of information, data and findings</p> <p>3.10 Prepare the chain of custody documentation and send samples to the laboratory</p>
<p>4. Undertake destructive testing in areas suspected to contain hidden moisture and/or fungal particulate</p>	<p>4.1 Identify area(s) suspected to contain hidden moisture and/or fungal particulate</p> <p>4.2 Assess risk prior to conducting destructive testing</p> <p>4.3 Select appropriate tools to conduct destructive testing</p> <p>4.4 Select appropriate personal protective equipment</p> <p>4.5 Undertake destructive testing to access hidden area</p> <p>4.6 Conduct moisture mapping and/or sampling (air, surface, bulk)</p>



	<p>4.7 Document and retain records of information, data and findings</p> <p>4.8 Prepare the chain of custody documentation and send samples to the laboratory</p>
5. Analyse results	<p>5.1 Analyse laboratory results and findings</p> <p>5.2 Compare data results and findings with the relevant exposure standards to assess risk to client and consequences of findings</p>
6. Make recommendations to remediate the building	<p>6.1. Identify the goals of mould remediation</p> <p>6.2 Provide recommendations to mitigate and/or control moisture and address moisture-laden materials</p> <p>6.3 Identify materials and contents that need to be replaced and/or discarded</p> <p>6.4 Identify materials and contents that need to be cleaned</p> <p>6.5 Provide recommendations to remove fungal particulate from the built structure</p> <p>6.6 Provide recommendations to remediate contents</p> <p>6.7 Identify key personnel required to remediate a water-damaged building and its contents</p>
7. Undertake post-remediation verification in remediated areas	<p>7.1 Identify the goals of post-remediation verification</p> <p>7.2 Confirm sources of moisture have been identified and controlled</p> <p>7.3 Undertake a visual inspection to confirm remediated areas have been cleaned</p> <p>7.4 Conduct the 'white glove test' for cleanliness in remediated areas</p> <p>7.5 Retest areas to ensure moisture-laden materials in remediated areas have been adequately dried and/or removed</p> <p>7.6 Retest areas to confirm fungal particulate in the remediated area is within 'normal' range (Condition 1)</p>
8. Report the outcomes of the scope of assessment	<p>8.1 Document assessment findings and recommendations in a professional report</p> <p>8.2 Present objective evidence with clear and concise references from authoritative sources</p>



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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:	<p>Evaluate the various sources of written information on dampness and mould in the scientific literature.</p> <p>Follow instructions and technical drawings presented in equipment and instruction manuals.</p> <p>Read text which includes specialised vocabulary to gather information and create questions to be answered.</p> <p>Understand text which includes symbols and embedded technical information in relation to laboratory reports.</p>
Writing skills to:	<p>Use a variety of words and grammatical structures to achieve precise meaning in client questionnaire, checklist and report.</p> <p>Address the context, purpose and audience when generating text.</p> <p>Include glossary to explain technical terms.</p>
Oral communication skills to:	<p>Listen in order to take notes about key points from a spoken conversation within the context of discussions with a client.</p> <p>Determine customer requirements through open-ended questioning, active listening, paraphrasing and summarising.</p>
Numeracy skills to:	<p>Organise mathematical information to use a psychrometric chart, and analyse laboratory findings as an aid to solving a problem.</p> <p>Use and apply knowledge about probability to the context of conducting a mould assessment.</p>
Learning skills to:	<p>Research relevant background and professional information in order to determine the appropriateness of the information for the context of a mould assessment.</p>
Problem-solving skills to:	<p>The skills to identify sources of moisture unique to the site, gather data, establish a sampling plan, conduct destructive sampling and identify key personnel required to solve complex problems.</p>
Self-management skills to:	<p>Use simple organising methods to manage reference material.</p>



Technology skills to:	<p>Use software capabilities to insert references.</p> <p>Use software and the internet to store and access information and project documentation.</p>
UNIT MAPPING INFORMATION	No equivalent unit.
TITLE	Assessment Requirements for NAT10913009 Conduct a scope of works to remediate a water-damaged home
PERFORMANCE EVIDENCE	<p>The learner must show evidence of the ability to complete tasks outlined in 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:</p> <ul style="list-style-type: none"> • Used communication and questioning skills to identify the history of moisture ingress • Identified sources of moisture and moisture-laden materials unique to the site • Identified visible mould and damp, musty odours using the 'NIOSH Dampness and Mould Assessment Form' • Used testing equipment to locate and quantify moisture-laden materials, and conduct air, surface and bulk sampling • Tested HVAC systems • Conducted destructive sampling of various materials to access hidden areas • Developed a sampling plan to establish the boundary of fungal particulate spread • Calibrated and demonstrated correct use of equipment • Established the 'Condition' of a material • Conducted the white glove test • Analysed laboratory results and compared results with relevant exposure standards • Identified key personnel required to remediate a water-damaged building • Produced a client report containing assessment findings and recommendations



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| | <ul style="list-style-type: none">• Used computer software |
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KNOWLEDGE EVIDENCE

The learner must be able to demonstrate essential knowledge required to effectively do the tasks outlined in the elements and performance criteria of this unit, and manage the tasks and contingencies in the context of variable building sites and client needs. This includes knowledge of:

- Sources of moisture (liquid water and water vapour) that support microbial growth
- Exposure standards relating to mould
- Principles that underpin psychrometry
- Principles that underpin risk management
- Principles that underpin mould remediation as outlined by the IICRC S520
- Knowledge of containment, use of air scrubbers and negative air machines in preventing fungal particulate spread
- Categories, Classes and Conditions
- Significance of the type and number of fungi, and the presence of spores and hyphae within the context of analysing laboratory results
- Chain of Custody form documentation
- Workplace health and safety to identify potential risk environments
- Assessment tools include NIOSH Dampness and Mould Assessment form and the Moisture Mapping tool
- Testing equipment to conduct a moisture assessment such as an indoor air quality meter, thermal imaging camera, borescope, moisture meter, camera, carpet aw etc
- Testing equipment to conduct a mould assessment, including:
 - air sampling (biopump, Air-o-Cells, Via Cells)
 - surface sampling (tape lift, biotapes and ATP meter)
 - bulk sampling
- Testing equipment to conduct destructive testing
- Personal protective equipment relevant to water-damaged homes
- Open and closed drying systems
- HVAC specialist, hydrologists, mould remediators, plumbers and companies specialising in drainage and/or moisture ingress affecting the built environment
- Companies specialising in laundering contents affected by mould



	<ul style="list-style-type: none">• Accredited laboratories to analyse biotoxins
ASSESSMENT CONDITIONS	<p>Both practical skills and knowledge must be assessed. Skills must be demonstrated in a simulated environment or a real-life working environment. Learners must have access to all relevant equipment and resources required to assess a water-damaged building.</p> <p>Assessment methods must include:</p> <ul style="list-style-type: none">• knowledge questions/quiz• written professional report documenting the approach to remediate a water-damaged home <p>Assessor Requirements</p> <p>Assessors must:</p> <ul style="list-style-type: none">• have a minimum of two years' experience working as a Building Biologist and/or IICRC certified mould remediator.