



Fire & Rescue Services ITO

## Assessor Assessment Guide Unit Standard 3310 Check hydrants and water supplies (Level 2, Credit 3, Version 3)

In order to achieve competency in this unit standard a candidate must display an understanding of the knowledge components by completing an oral or written assessment and practically demonstrate the performances required to check hydrants and water supplies, locate hydrants, carry out inspections, and conduct flow tests including recording and reporting of results and faults.

This assessment must be by practical on-site demonstration of the equipment involved.

The assessor may elect to question candidates during completion of the practical assessment to ensure theoretical knowledge can be applied during practice. This technique also provides the assessor with reinforcement that knowledge has been retained.

Where a candidate is being assessed on the basis of a RCC process, evidence must be produced that indicates a candidate has successfully located and used hydrants, carried out inspections, conducted flow tests and recorded and reported results.

**Assessors may use this guide to record evidence of a candidates overall performance but should be aware that this may not, on its own be an adequate record for moderation purposes without appropriate notes or appendices. Notes should include a summary of the process used and a statement about the quality of the candidate's performance.**

**ASSESSORS SHOULD ALWAYS REVIEW THE REQUIREMENTS CONTAINED IN THE UNIT STANDARD DOCUMENT PRIOR TO CONDUCTING ASSESSMENTS**

**For this unit the following resources are available from FRSITO to assist Learners, Instructors and Assessors:**

- Assessor Assessment Guide
- Learner Assessment Guide

The references for this unit standard are: Fire Service Act 1975 and subsequent amendments; National Commander's Instructions; NZ Fire Service Code of Practice for Fire Fighting Water Supplies. These references are available from the NZFS, PO Box 2133, Wellington.

### Assessors General Notes:

Check practice notes to ensure any additional criteria are considered.

[http://www.frsito.org.nz/assessors/resources/Practice\\_notes.html](http://www.frsito.org.nz/assessors/resources/Practice_notes.html)

Assessor Name	_____	Assessor No.	_____
Candidate Name	_____	NZQA No.	_____
Date of Assessment	_____	Final Result	_____

**Level Descriptor**

Level	Process	Employing	Responsibility
2	<b>Carrying out processes that:</b> <ul style="list-style-type: none"> <li>• Are moderate in range</li> <li>• Are established and familiar</li> <li>• Offer a clear choice of routine responses</li> </ul>	<b>Employing:</b> <ul style="list-style-type: none"> <li>• Basic operational knowledge</li> <li>• Readily available information</li> <li>• Known solutions to familiar problems</li> <li>• Little generation of new ideas</li> </ul>	<b>Applied:</b> <ul style="list-style-type: none"> <li>• In directed activity</li> <li>• Under general supervision and quality control</li> <li>• With some responsibility for the quantity and quality</li> <li>• With possible responsibility for guiding others</li> </ul>

	Information or actions that may provide support for competency	
General	<b>Has the candidate:</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Satisfactorily completed a pre course self test?</li> <li><input type="checkbox"/> Satisfactorily completed an oral or written on course or post knowledge assessment?</li> <li><input type="checkbox"/> Attend a course covering the Unit Standard subject matter?</li> <li><input type="checkbox"/> Provided proof of experience through records?</li> <li><input type="checkbox"/> Practically demonstrated on the job?</li> <li><input type="checkbox"/> Other (please list)?</li> </ul> <hr/> <hr/>	Assessor Notes:

Element and PC	Evidence Typical answer/product/performance expected from the learner/candidate(s)	Judgement Statement (A statement that defines the standard to be achieved)	Result C/NYC
<b>1</b>	<b>Demonstrate knowledge of requirements relating to the checking of hydrants and water supplies.</b>		
1.1	<p>Candidate must explain requirements for inspection of hydrants and water supplies defined in the Fire Service Act 1975.</p> <p><b>Consider the following:</b>  <u>Section 29</u>                      Access to land and buildings for pre-planning purposes  <u>Section 30(2)</u>                      Check adequacy (volume, pressure)                      Reporting to Territorial Authorities  <u>Sections 38 / 39</u>                      Application beyond Urban Fire District</p> <p><b>Did the candidate:</b></p> <p><input type="checkbox"/> Explain requirement for checks, testing, reporting?</p> <p><b>Assessor notes:</b></p>	<b>Key sections of Act identified and explained.</b>	
1.2	<p>Candidate must explain requirements for inspection of hydrants and water supplies.</p> <p><b>Range:</b></p> <p><input type="checkbox"/> New Zealand Fire Service Code of Practice for Fire Fighting Water Supplies  <input type="checkbox"/> New Zealand Fire Service SOPs</p> <p><b>Consider the following:</b>                      As defined in Section 7 &amp; Appendix D of NZ Fire Service Code of Practice for Fire Fighting Water Supplies, and in NZ Fire Service SOPs. The candidate should explain purpose of testing, responsibility for testing, notifications/reporting, requirements for hydrant inspections, types and frequency of tests flow rates (referring to COP for risk given by assessor)</p> <p><b>Did the candidate:</b></p> <p><input type="checkbox"/> Explain requirements?</p> <p><b>Assessor notes:</b></p>	<b>Requirements explained.</b>	

Element and PC	Evidence Typical answer/product/performance expected from the learner/candidate(s)	Judgement Statement (A statement that defines the standard to be achieved)	Result C/NYC
1.3	Candidate must describe the equipment and techniques used when conducting:  <b>Range:</b> <input type="checkbox"/> flow tests <input type="checkbox"/> comprehensive flow tests  <b>Did the candidate:</b>  <input type="checkbox"/> Describe equipment requirements? <input type="checkbox"/> Describe methods of testing?  <b>Assessor notes:</b>	<b>Clear understanding of flow testing and comprehensive flow testing demonstrated.</b>	

Element and PC	Evidence Typical answer/product/performance expected from the learner/candidate(s)	Judgement Statement (A statement that defines the standard to be achieved)	Result C/NYC
<b>2</b>	<b>Locate hydrants and carry out inspections.</b>		
2.1	Candidate must demonstrate the use of water reticulation maps to identify the location of at least two hydrants for testing and then locate them on the street using hydrant markings.  <b>Range:</b> <input type="checkbox"/> locate hydrants using water maps <input type="checkbox"/> street locations  <b>Did the candidate:</b>  <input type="checkbox"/> Locate hydrants using maps and street markings?  <b>Assessor notes:</b>	<b>Two hydrants located.</b>	
2.2	Candidate must identify/explain different types of hydrants from markings and map data relevant to own district.  <b>Consider the following:</b> <ul style="list-style-type: none"> <li>• screw-down</li> <li>• ball type</li> <li>• column</li> <li>• key (indexed) hydrants</li> <li>• private</li> </ul> <b>Did the candidate:</b>  <input type="checkbox"/> Identify / explain different types of hydrants?  <b>Assessor notes:</b>	<b>Types of hydrant explained.</b>	

Element and PC	Evidence Typical answer/product/performance expected from the learner/candidate(s)	Judgement Statement (A statement that defines the standard to be achieved)	Result C/NYC
2.3	<p>Candidate must demonstrate a hydrant inspection and identify any faults that require further action.</p> <p><b>Consider the following:</b></p> <ul style="list-style-type: none"> <li>• Condition of hydrant assembly, pit, and surrounds.</li> <li>• All required markings present and correct.</li> <li>• Hydrant accessible for the fitting of standpipe</li> <li>• Hydrant cannot be located but indicated by road markings.</li> <li>• Hydrant box overgrown by weeds.</li> <li>• Hydrant box proud of surrounding road surface.</li> <li>• Hydrant box filled with mud/debris.</li> <li>• Leak occurring around spindle.</li> <li>• Leak occurring from hydrant outlet.</li> <li>• Lid missing.</li> <li>• Stiff spindle operation.</li> <li>• No marking on kerb.</li> <li>• Faint road marking.</li> <li>• Hydrant position likely to be obscured by parked cars.</li> </ul> <p><b>Did the candidate:</b></p> <p><input type="checkbox"/> Identify all faults present?</p> <p><b>Assessor notes:</b></p>	<p><b>Two hydrants inspected.</b></p> <p><b>All faults identified (if any).</b></p>	

Element and PC	Evidence Typical answer/product/performance expected from the learner/candidate(s)	Judgement Statement (A statement that defines the standard to be achieved)	Result C/NYC
<b>3</b>	<b>Carry out flow tests and complete reports.</b>		
3.1	<p>As part of a crew the candidate must demonstrate how to conduct flow and pressure tests.</p> <p><b>Candidate must demonstrate:</b></p> <ul style="list-style-type: none"> <li>• Consideration of safety (PPE, shipping and physical operating techniques)</li> <li>• Hydrant box cleared</li> <li>• Hydrant adequately flushed prior to test</li> <li>• Test apparatus fitted securely</li> <li>• Slow opening and closure of hydrants</li> <li>• Good testing technique is demonstrated, e.g. pressure gauge on supply side at one hydrant distance from flow gauge (where possible)</li> <li>• Extra caution applied when operating standpipes at maximum flow</li> <li>• Static pressures are recorded (awareness of pressure fluctuation from flushing is apparent)</li> <li>• Running pressures and flows are recorded (testing apparatus used correctly)</li> <li>• All apparatus is re-instated and hydrant left appropriately</li> <li>• Test results and defects recorded and processed</li> </ul> <p><b>Did the candidate:</b></p> <p><input type="checkbox"/> Conduct flow and pressure tests to SOPs?</p> <p><b>Assessor notes:</b></p>	<b>Flow and pressure tests conducted on two hydrants.</b>	
3.2	<p>Candidate must use test results and conversion tables to calculate output capacity and residual pressure for the main.</p> <p><b>Range:</b></p> <p><input type="checkbox"/> quantified terms</p> <p><input type="checkbox"/> use of conversion tables</p> <p><b>Did the candidate:</b></p> <p><input type="checkbox"/> Correctly calculate mains capacity?</p> <p><input type="checkbox"/> Correctly calculate residual pressure?</p> <p><b>Assessor notes:</b></p>	<b>Flow capacity and residual pressure are calculated for both hydrants.</b>	

<b>Element and PC</b>	<b>Evidence</b> <b>Typical answer/product/performance expected from the learner/candidate(s)</b>	<b>Judgement Statement</b> <b>(A statement that defines the standard to be achieved)</b>	<b>Result</b> <b>C/NYC</b>
<b>3.3</b>	Candidate must record hydrant faults and the results of flow tests as required by organisation.  <b>Range:</b> <input type="checkbox"/> mains capacity <input type="checkbox"/> mains flow <input type="checkbox"/> appropriate notifications  <b>Did the candidate:</b>  <input type="checkbox"/> Record and report flow and capacity results? <input type="checkbox"/> Record and report faults?  <b>Assessor notes:</b>	<b>Recording and reporting completed.</b>	