

# Report on adequacy of a Drinking Water Supply's Water Safety Plan

Drinking Water Supply  
**Ashurst (ASH001)**

Central North Island Drinking Water Assessment Unit  
**Palmerston North Branch**  
**MidCentral Health**  
**Private Bag 11-036**  
**Palmerston North**

Report Identifier  
**ASH001\_Ashurst\_WSPadequacy\_130916\_v1**

## Executive Summary

On Tuesday 19/7/2016 the July 2016 version of the Ashhurst Water Supply Water Safety Plan (WSP) was received by the Palmerston North branch of the Central North Island Drinking Water Assessment Unit (CNIDWAU). This was an update to the May 2016 versions previously assessed. The WSP was assessed against the requirements of the Health Act 1956 (as amended) using the National Drinking Water Co-ordination Service Scope 3 Procedure: Verifying Adequacy of Water Safety Plans (WSP). The revised WSP has been approved.

The findings of a WSP adequacy assessment are split into two types:

**Non-conformances** - These are areas of the WSP that must be corrected or amended before the plan can be approved. One non-conformance was identified during the assessment of the May 2016 version of the WSP. This has now been cleared and no non-conformances remain.

**Recommendations** - These are areas of the WSP where suggestions for improvement have been made. These changes can wait until the plan is next reviewed and will not affect approval of the plan. Five recommendations were identified during the assessment of the May 2016 version of the WSP. All five recommendations have been addressed, but a further recommendation has been made based on this revised assessment.

Palmerston North City Council is commended for preparing this WSP in-house.

### Description of drinking water supply

The WSP reports that the water source for the Ashhurst water supply is groundwater abstracted from a secure aquifer of good quality with low levels of hydrogen sulphide and ammonia. The bore has been granted secure status under Section 4.5 of the Drinking Water Standards for New Zealand 2005 (Revised 2008) (DWSNZ). In addition to the main supply bore there is a test bore (unsecure) which could be used as an emergency backup supply. This bore is not registered, and there are no records at the Palmerston North branch of the Central North Island Drinking Water Assessment Unit (CNIDWAU) reporting that the bore has ever been used for supply purposes.

The WSP summarises the treatment as chlorination and fluoridation.

The WSP reports additional treatment post-storage: "Water from the reservoirs is filtered through cartridge filters at a facility located at Oxford Street to remove iron and manganese deposits for aesthetic purposes".

The WSP summarises the storages and distribution for the supply, outlining that treated bore water is pumped to two elevated storage reservoirs located on Colyton Road. These storage reservoirs are reported as providing approximately three days storage at average demand. The water supply reticulation comprises 24 km of pipelines, supplying approximately 1075 service connections and is operated as a single pressure zone.

The Ashhurst township has a population of approximately 2,800. The Ashhurst water supply is fully compliant with the DWSNZ.

## **WSP Verification – Adequacy of Risk Assessment Methodology**

The WSP reports that the document “A Framework on How to Prepare and Develop Public Health Risk Management Plans for Drinking-water Supplies” (Ministry of Health 2005) has been used in preparing this plan. The WSP lists the Ministry of Health guides that were used to assist in identifying risks to the water supply.

Complete risk information tables were sent with the WSP in a separate document. The complete tables include:

- Existing Preventative Measures/Monitoring.
- Existing Contingency.
- Monitoring – what to check.
- Signs that Action is Needed.
- Proposed Corrective Actions.

All of the items included in section 6 of the WSP (Summary of Level of Risk) have been included in the full risk information tables.

## **WSP Verification – Adequacy of Risk Assessment and Risk Management**

The WSP identifies the water supply owner as Palmerston North City Council. The management and operation, including the relationship between City Networks and City Enterprises divisions of Palmerston North City Council, are covered in Section 2.2 on page 4 of the WSP. The WSP was prepared in-house by Palmerston North City Council. The preparation was carried out by Dora Luo, Water Asset Engineer, Palmerston North City Council and Mike Monaghan, Treatment Plants Manager, Palmerston North City Council. Shane Allen, Service Level Agreement and Compliance Co-ordinator, Palmerston North City Council was also involved in the WSP and submitted the previous version.

A full narrative description of the Ashhurst Water Supply with map is included as Section 2 of the WSP (pages 3-5). Appendix A shows a schematic of the Ashhurst Water Supply. No omissions from the supply description were identified during the assessment of the WSP.

Barriers to contamination are outlined in Section 4 (page 9) of the WSP. During the assessment we noted that the most important barrier in Ashhurst is the secure groundwater classification for the Ashhurst bore. This gives protozoal and can give bacterial compliance without the need for further barriers. We also noted a reference to chloramines residual. Disinfection from chloramines is not officially recognised under the DWSNZ. Continuous monitoring is being carried out for most barriers as appropriate. This is consistent with the context of the Ashhurst supply as a fully compliant supply.

A detailed risk assessment was provided in a separate document with the WSP. Section 6, Summary of level of risk (pages 13 – 19), covers all elements of supply and aligns with the risk assessment that was provided. The risks have been analysed according to likelihood and consequence tables provided in the WSP. Preventative or control measures are included in the separate risk assessment.

Regular monitoring is covered in Section 8 (page 23) and in the separate risk assessment. This is consistent with the context of the Ashhurst supply as a fully compliant supply.

The WSP includes an improvement schedule as Section 7 (page 21). The Improvement Schedule was checked for consistency with the PNCC Long Term Plan. All the key projects in the WSP were

identified in the Long Term Plan with the consistent time frames. All the improvements are assigned to the Water Asset Engineer to complete.

In the previous version of the WSP the phrase “ongoing” was used in the time frames for the improvement schedule. These statements have now been replaced with statements like “From 2016” and “From 2017”. We can verify whether the implementation of these improvements has started, but it remains impossible to assess whether these entries in the Improvement Schedule of the WSP is being fully implemented in its current form. It is also hard for Council to demonstrate they have implemented this plan. If the improvement is part of a multi-year program it may be possible to cross-reference the WSP to the Long Term Plan and Annual Plan.

**Recommendation 1:** Consider whether the time frame for improvements 2, 6 and 7 can be further improved so Council can demonstrate implementation of the WSP.

Section 7 of the WSP advises that “Improvements are prioritised from high to low according to the existing risk level, and from low to high on cost.” A cost estimate and a statement of benefit are provided for each of the improvements in Section 7, the Improvement Schedule.

Contingency Plans are provided in Section 9 of the WSP. These are split into Contingency Plans for Events that Affect the groundwater Source, Events that Affect treatment, Events that Affect Stored Water, Events that Affect the Distribution network, and Events related to operation and monitoring.

Section 1 states that the WSP will be briefly reviewed and updated annually, and comprehensively reviewed and updated every five years or when there is a significant change. Section 10 of the WSP (page 31) has a series of dot points that covers the instructions for the review of the WSP. In addition the WSP is also to be updated as a result of post event debriefs (page 29).The year for the comprehensive review of the WSP is identified as 2021.

The WSP includes a short section (section 11) headed “Water Safety Plan Progress Reporting”. This provides for an annual report to be submitted to the Drinking Water Assessor regarding the implementation of the WSP. This was inserted to clear a recommendation in the previous assessment report. The Central North Island Drinking Water Assessment Unit will be pleased to receive annual reports regarding the implementation of the WSP. We note that the original text around this recommendation was that “appropriate reports should be provided to Council demonstrating progress against the time frames of the WSP.” Palmerston North City Council has a duty under Section 69Z of the Health Act 1956. As a result Council should be preparing an internal report so that the Chief Executive or appropriate senior manager can be satisfied that Council has fulfilled their legal obligations under the Health Act 1956.

**Recommendation 2:** Council to consider additional internal reporting on progress against measures in the WSP.

The WSP identifies a test bore (unsecure) which could be used as an emergency backup supply. If this is going to be used as a drinking water source the bore should be registered and some monitoring carried out to establish the quality of the source and appropriate treatment. A registration form for the supply will be forwarded with this report.

## Decision

The WSP for Ashhurst (ASH001) has been approved.

Under the Health Act, this supply falls into the category of a minor drinking water supply. The Act requires that the WSP be prepared by 1 July 2014 and then allows an additional 12 months to obtain approval (Section 69Z(8)).

It is expected that the water supplier begin to implement this WSP within one month. Please be aware that if significant changes are made to either the processes used to treat water or to the raw water source, the WSP must be revised and re-submitted for approval by a drinking water assessor.

These results relate only to Ashhurst Bore (G00110)

These results relate only to Ashhurst water treatment plant (TP00158).


These results relate only to Ashhurst township (ASH001AS) distribution zone.

Information in this report may be provided to the Ministry of Health at their request. With the exception of the Ministry of Health, this report shall not be reproduced without the approval of the Central North Island Drinking Water Assessment Unit and Palmerston North City Council.

## Attachments


Nil

Completed **16/9/2016**



Peter Wood  
Drinking Water Assessor  
Central North Island Drinking Water Assessment Unit, Palmerston North Branch

## Assessment Report Information

<b>Report identifier</b>	ASH001_Ashhurst_WSPadequacy_130916_v1
<b>Drinking Water Assessment Unit (Inspection Body)</b>	Central North Island Drinking Water Assessment Unit Palmerston North Branch MidCentral Health Private Bag 11-036 Palmerston North Phone 06 350 9110
<b>Drinking Water Assessor</b>	Peter Wood
<b>Assessment Date</b>	13/9/2016 – 16/9/2016
<b>Description of assessment work</b>	Assessment of adequacy of Water Safety Plan for Ashhurst (ASH001): Ashhurst Bore (G00110); Ashhurst water treatment plant (TP00158); Ashhurst township (ASH001AS) distribution zone.
<b>Equipment Used</b>	Water Information New Zealand WINZ 7 was used to review compliance data.
<b>Water Supply Owner / Person Responsible</b>	Palmerston North City Council Dora Luo, Water Asset Engineer
<b>Assessment method</b>	Standard assessment as per Scope Procedure 3 Standard specified in Health Act 1956
<b>Documents and Information</b>	Drinking Water Standards for New Zealand 2005 (Revised 2008) Ashhurst Water Supply Water Safety Plan, May 2016 Palmerston North City Council 10 Year Plan 2015-25 Palmerston North City Council Water Supply Asset Management Plan 2014 National Drinking Water Co-ordination Service Scope 3 Procedure: Verifying Adequacy of Water Safety Plans (WSP) – 1 September 2014.
<b>Site of Assessment</b>	Palmerston North Public Health Unit MidCentral Health
<b>Omissions from proposed assessment</b>	Nil
<b>Sub-contracted work</b>	Nil
<b>Document checked by:</b>	Louise Allen Drinking Water Assessor Trainee Date: 16/09/2016
<b>Release of report authorised by:</b>	Peter Wood Drinking Water Assessor IANZ Accredited Drinking Water Assessor   Signature: Date: <b>22/9/2016</b>

If you do not agree with the findings of this report a written appeal must be lodged with the Technical Manager, *Peter Wood, PO Box 11036, Palmerston North 4440*, within 2 months of receipt of this report. The Technical Manager will arrange for a review to be undertaken using the Ministry of Health appeals procedure.