PALMERSTON NORTH CITY COUNCIL

AGENDA

COMMUNITY DEVELOPMENT COMMITTEE MEETING

PART I

DATE: Monday 16 June 2014
TIME: 3.00pm
PLACE: Council Chamber, First Floor
Civic Administration Building
32 The Square
PALMERSTON NORTH

MEMBERSHIP:
Councillors
Vaughan Dennison (Chairperson) Billy Meehan
Rachel Bowen Annette Nixon
Adrian Broad (Deputy Chairperson) Aleisha Rutherford
Lew Findlay Grant Smith
Duncan McCann Tangi Utikere

Mayo Jono Naylor

MANAGEMENT TEAM:
Chief Executive – Paddy Clifford
Chief Financial Officer – Grant Elliott
General Manager, City Enterprises – Ray McIndoe
General Manager, City Future – Sheryl Bryant
General Manager, City Networks – Ray Swadel
General Manager, Customer Services – Peter Eathorne
General Manager, Libraries & Community Services – Anthony Lewis

COMMITTEE ADMINISTRATOR: Penny Odell
Telephone (06) 356 8199 extn 8333
Facsimile (06) 355 4115
Email penny.odell@pncc.govt.nz

NEXT MEETING DATE: 11 August 2014
CLOSING DATE FOR REPORTS: 28 July 2014

Display Points for Items Associated with the Agenda
The Civic Administration Building, The Square,
City Library, Ashhurst Library and Linton Library
TALKING TO YOUR COUNCIL

You want to talk to “The Council” We Want to Hear You!

This leaflet will help you find the simplest way to get your matter of concern heard by the people best able to handle it and act on it. The general guidelines are as follows:

1. **Talking to a Councillor**

   Instead of approaching the Council, you may wish to speak to a Councillor. To contact a Councillor please contact the Council’s Customer Service Centre, telephone 356 8199.

2. **Writing to Your Council**

   Write a letter to the Governance and Support Team Leader explaining your concern. While keeping as complete as you can, try and keep it brief. The Governance and Support Team Leader will pass your letter to the Council Committee responsible for the matter you’re concerned about. It may be possible for a staff member to deal with your concern, but if not your letter will go to the Council Committee. Usually, you will be advised of the meeting and invited to hear your concern discussed. Normally you would join the discussion only if the Chairperson agrees. You will be advised of the Committee’s decision, **which may take more than one meeting if additional information is needed, or if involvement of the full Council is required.**

3. **Talking to a Council Committee (Deputation)**

   Assuming you know which committee, start at least 7 days before the Committee’s scheduled meeting with a letter to the Governance and Support Team Leader requesting that your deputation be heard, and outlining your concerns. The 7 days is needed because, assuming the Committee Chairperson agrees to hear your deputation (this should not be taken for granted), you will need time to be briefed on how deputations are received by Council Committees, and how to organise your material. When making a deputation, you and a supporting speaker can speak for five minutes each. Again, **it may take more than one meeting before any decision arising from your deputation is made.** If you do not know which committee to address then contact the Governance and Support Team Leader.

4. **Talking to a Council Committee (Public Comment)**

   Most committees or sub-committees allow public comment at the start of their meetings. Public comment can be made on items appearing on the agenda for the particular meeting concerned or, if time permits, on any other matter. You can address the meeting for up to three minutes although this time can be extended at the discretion of the Chairperson. You may address a meeting once only, regardless of whether or not you wish to comment on more than one item or matter.

   If you wish to talk to a Council Committee, the most effective way, generally speaking, is to make a deputation. The Committee is more likely to fully debate a deputation because notice of the deputation is included on the meeting agenda. Speaking times are also more generous.

5. **Presenting a Petition**

   A petition to the Council is a written request from a group of people, all of whom sign it. Usually the petition concerns a single item. No petition should exceed 500 words, and any petition with disrespectful content may be rejected out of hand. The petition should be addressed to the Governance and Support Team Leader, who will forward it to the appropriate Council Committee.
PALMERSTON NORTH CITY COUNCIL

COMMUNITY DEVELOPMENT COMMITTEE

16 June 2014

ORDER OF BUSINESS

Apologies:

1. Notification of Additional Items

Pursuant to Sections 46A(7) and 46A(7A) of the Local Government Official Information and Meetings Act 1987, to receive the Chairperson’s explanation that specified item(s), which do not appear on the Agenda of this meeting and/or the meeting to be held with the public excluded, will be discussed.

Any additions in accordance with Section 46A(7) must be approved by resolution with an explanation as to why they cannot be delayed until a future meeting.

Any additions in accordance with Section 46A(7A) may be received or referred to a subsequent meeting for further discussion. No resolution, decision or recommendation can be made in respect of a minor item.

2. Public Comment

To receive comments from members of the public on matters specified on this Agenda or, if time permits, on other Committee matters.

(NOTE: If the Committee wishes to consider or discuss any issue raised that is not specified on the Agenda, other than to receive the comment made or refer it to the Chief Executive, then a resolution will need to be made in accordance with clause 1 above.)

3. Presentation – Sort it Expo and Workshops

At the request of the Chairperson, organisers of the Sort It Expo and Workshops will provide an update on their event.

4. Presentation – Community Arts Council

At the request of the Chairperson, representatives of the Community Arts Council will provide an on their organisation.
5. **Deputation – Sport Manawatu**

To consider:

(i) A deputation from Sport Manawatu who will speak to the committee regarding a “Legends of Sport” project. (Attached)

(ii) A memorandum, dated 6 June 2014 and entitled “Legends of Sport Plaques in The Square” from the Leisure Assets Planner, Jeff Baker. (Attached)

6. **Deputation – Natural Burial Cemetery**

To consider:

(i) A deputation from Craig O’Leary and other residents of River Road and surrounding areas, who will speak to the committee regarding Natural Burial Cemetery. (Attached)

(ii) A memorandum, dated 10 June 2014 and entitled “Natural Burial Cemetery Deputation” from the Parks and Property Manager, John Brenkley. (Attached)

7. **Confirmation of Minutes**

To confirm as a correct record the minutes of the ordinary meeting of 14 April 2014 [Part I Public]. (Attached)

8. **Update on Bunnythorpe Community Centre**

Report, dated 29 April 2014, by the City Safety Co-ordinator, Alane Nilsen. (Attached)

9. **Palmerston North Local Approved Products Policy**

To consider:

(i) A Notice of Motion, dated 6 June 2014, from Councillor Vaughan Dennison. (Attached)

(ii) A memorandum, dated 29 May 2014 from the Policy Analyst, Julie Macdonald. (Attached)

10. **The Arena Manawatu Review**

Report, dated 30 May 2014, by the Head of Strategy and Policy, Neil Miller. (Attached)
11. **Committee Work Schedule**

   Committee Work Schedule, dated April 2014. (Attached)

12. **Exclusion of Public**

   That the public be excluded from the following parts of the proceedings of this meeting, namely Agenda item ..... The general subject of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under Section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

<table>
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<tr>
<th>General subject of each matter to be considered</th>
<th>Reason for passing this resolution in relation to each matter</th>
<th>Ground(s) under section 48(1) for the passing of this resolution</th>
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This resolution is made in reliance on Section 48(1)(a) of the Local Government Official Information and Meetings Act 1987 and the particular interest or interests protected by Section 6 or Section 7 of that Act which would be prejudiced by the holding of the whole or the relevant part of the proceedings of the meeting in public are as follows:

* Also that *(names/s of person/s)* be permitted to remain after the public has been excluded, because of his/her particular knowledge of *(subject)*. This knowledge, which will be of assistance in relation to the matter to be discussed, is relevant to that matter because *(give reason).*

* Delete if inapplicable.

* * * * *
DECISION MAKING PRINCIPLES

These decision making principles were adopted by the Council on November 2012 to guide Council’s decision making.

They show how the Council will take account of Social and Cultural, Environmental and Economic Sustainability, along with Financial Responsibility and Community Views, when it makes decisions. These reflect the Council’s 10 Year Plan Goals of the Local Government Act.

They are consistent with, but do not replace, the provisions of sections 76-81 of the Local Government Act.

When Council makes decisions it will take into account current and future;

**Social and Cultural Sustainability** – the proposed decision should be assessed for its impact (positive and negative) on the social and cultural wellbeing of the City and the surrounding area. Social and cultural impact includes, but is not limited to, the current and future impacts on:

i. the resilience of groups and communities (their ability to help themselves)
ii. leisure opportunities
iii. the city’s easy lifestyle
iv. levels of safety
v. housing
vi. health
vii. recognition of cultural diversity
viii. achievement of the Council’s 10 Year Plan and its social and leisure policies.

**Environmental Sustainability** – the proposed decision should be assessed for its impact (positive and negative) on the environmental well-being of the City and the surrounding area. Environmental impact includes, but is not limited to, the current and future impacts on:

i. water and waterways, soil, air and biodiversity
ii. active transport
iii. waste minimisation
iv. sustainable asset management
v. climate change
vi. use of land
vii. the look and feel of the urban and rural landscape
viii. the relationship of Maori to their land and taonga
ix. achievement of the Council’s 10 Year Plan and environmental policies.
Economic Sustainability – the proposed decision should be assessed for its impact (positive and negative) on the economic wellbeing of the City and the surrounding area. Economic impact includes, but is not limited to, the current and future impacts on:

i. the number of businesses and jobs in the City (especially in the priority sectors of health and social care, education, defence, logistics, research, retailing and business services)
ii. income levels of people and households
iii. the image of the City
iv. achievement of the Council’s 10 Year Plan and its economic policies.

Financial Sustainability – the proposed decision should be assessed for its impact (positive and negative) on the financial wellbeing of City ratepayers and the Council. Financial impact should be based on lifetime costs and includes, but is not limited to, the current and future impacts on:

i. rates and ratepayers’ ability to pay them,
ii. Council’s debt
iii. Council’s funding and financial policies
iv. Council’s capability to meet other current and future needs
v. The potential for alternative funding sources and partnerships with other organisations should also be considered.

Community Views – the proposed decision should be assessed for its fit with community views. Community views include the views of:

i. interested and affected people and organisations
ii. the average “person in the street”.
Chair of Community Development Committee  
Palmerston North City Council  

29 May 2014  

Dear Councillor Dennison:  

Sport Manawatu would like to submit a deputation to the Community Development Committee on Monday, 16 June.  

We are requesting the council to support and endorse Sport Manawatu’s ‘Legends of Sport’ project, designed to recognise the achievements of some of our iconic Manawatu citizens.  

Since the last deputation, we have reflected long and hard on the advice of councillors and have developed a new proposal. The new proposal is understated, classical in style, and aims to give these iconic citizens the recognition that they deserve.  

We value the relationship with Palmerston North City Council, the advice of the councillors, and we look forward to present our deputation to the committee.  

Please find attached a document outlining our plans for ‘Legends of Sport’ recognition which we are requesting council’s approval to proceed with stage one.  

Yours sincerely,  

Trevor Shailer  
Chief Executive Officer  
Sport Manawatu
Esmee Rowden (2013)
Jean Whitehead (2012)
Sam Strahan (2011)
Sir Patrick Higgins ONZM (2011)
Charlie Waugh (2010)
John Callesen (2010)
Sharon Sims MNZM (2010)
Catherine Vautier OBE (2009)
Chris Amon MBE (2009)
Ian Ferguson MBE (2009)
Jack Finlay (2009)
Ian Colquhoun QSM (2008)
Max Vertongen (2008)
William "Bill" Broughton (2008)
Betty Steffensen OBE (2007)
Bruce Turner (2007)
Phil Skoglund OBE (2007)
The Manawatu Legends of Sport was established in 2007 to acknowledge and honour the region’s greatest sporting achievers and those who have dedicated many years of service to sport; all of whom have had a significant impact on our sporting heritage and the Manawatu community. As at May 2014 there were 17 inductees to the Legends of Sport.

Other than gracing the walls of the Sport Manawatu meeting room and links on the Sport Manawatu website, the Legends of Sport have never had a public home. To properly recognise these iconic sports people, a mechanism or ability to tell their stories to many more residents and visitors to our region is needed.

After careful selection and much debate the working group that administers the Legends of Sport have suggested a permanent site within The Square for a ‘cast Bronze’ plaques display. Tasteful designed, the plaques will be classical, built to last and subtle, ensuring their installation is in keeping with The Square’s overall status. The suggested site is on The Square’s western carpark concrete wall (on the City Library side) and is small in overall space, with individual inductee plaques only 210 x 100mm in size, ensuring there is many years of future space.

This permanent site will acknowledge and recognise who is inducted into the Legends of Sport, but to tell their individual stories with images and video/TV clips, a Touchscreen kiosk is also planned. This stage two, will be housed in Te Manawa, near the NZ Rugby Museum and will help attract residents and visitors to this city facility. A second and third kiosk could also be sited in Feilding (at the MDC Chambers or town centre) and another at Sport Manawatu. Finally stage three could be a Legends of Sport wall in the new ‘Sports House’ (not unlike the NZ Millennium Institute example) where a mix of display and touchscreens could be accessible to all.
STAGE ONE

Permanent ‘Cast Bronze’ plaques in the Square

Example of plaque and inductee’s Style of Plaque Before
STAGE ONE: Wall Measurements

Wall with plaque placement

Plaque measurements

Scale 1:20
STAGE TWO

Touchscreen Kiosks sited

- Te Manawa
- MDC / Feilding
- Sport Manawatu
STAGE THREE

Legends Wall in new Sports House.

- Legends Panels
- Centralised Touchscreens
- Accessible to ALL

Example of Kiosk in use

Other Sport Hall of Fame Exhibitions
Recommendation(s) to Council

1. That this memorandum is received as background information in relation to the Sport Manawatu deputation to install 'Legends of Sport' plaques in The Square.

2. If there is support to advance the Sport Manawatu deputation request that this be considered further with regard to Council’s strategic context and be subject to formal consultation with key stakeholders, including Rangitane and the RSA.

Issue

A deputation is to be received from Trevor Shailer, CEO of Sport Manawatu, in connection with a proposal to install a series of cast bronze plaques at the southern end of the western concrete wall facing the carpark in The Square. Each plaque would include the name, sport and date of induction of that person into the ‘Manawatu Legends of Sport’. An interpretation plaque and title sign are also proposed.

The purpose of this memorandum is to explain background information including a similar proposal that was considered by the Community Well-Being Committee in February 2012, the strategic context, and it also highlights key differences with the new proposal.

It is noted that the documents provided by Sport Manawatu with the deputation give detailed information about the Manawatu Legends of Sport and provide plans of the plaques.

Background

During 2011 officers formed part of a team put together by Sport Manawatu to introduce a package of measures to better recognise Manawatu Legends of Sport who are inducted at the annual Sportsperson of the Year Awards.
One part of the package was to install a series of stainless steel plaques along the eastern concrete wall facing the carpark in The Square. Each 400mm high x 270mm wide plaque was to feature ‘cut out’ details of the respective ‘Legend’ with LED backlighting to provide a glowing effect at night. They were planned to extend along the full length of the wall, with 15 installed initially and others added as new ‘Legends’ were inducted over the years.

The Square was selected to gain very high public exposure of the ‘Legends’ and their achievements. Other location options were considered including Te Manawa, along Cuba Street to Arena Manawatu, the River Pathway and at the individual sporting venues. However, these were not favoured due to concerns about them not having the same high profile along with the other site-specific reasons.

The Community Well-Being Committee received a report on 7 February 2012 recommending that permission be granted for the installation of the plaques, which was lost 8 votes to 4. This was confirmed at the full Council meeting 29 February 2012.

The minute from the Committee meeting explains:

‘During consideration of the report concern was raised if The Square was an appropriate place for plaques to be located. It was also noted that Palmerston North had a number of people that have achieved in areas other than sport’.

Turning to the revised 2014 proposal, it is noted the key differences are:

- The plaques are proposed to be sited on the opposite (western) side of the carpark and individually located on the southern most section of concrete wall;
- The plaques are to be of a traditional design made from cast bronze and a relatively small size at 100mm high x 220mm wide;
- No lighting of the plaques is proposed.

In considering the updated proposal it is necessary to have regard to Council’s strategic context. To this end the Urban Design Strategy, Arts Strategy and City Centre Framework are identified as the key documents in this case. A summary observation is that the Urban Design Strategy seeks achieving a coherency in design in the ‘Public Realm’ and this is supported in the move to a traditional bronze plaque. However, in the Arts Strategy under Driver Two ‘Enhancing the look and feel of the City’ there is a concern whether this may be a missed opportunity to use public art to better recognise the ‘Legends’ potentially at other sporting venues or one centralised venue. Turning to the specific location, bearing in mind previous comments expressed by some elected members in 2012, there remains a ‘relevance/connection’ issue of having Legends of Sport in The Square where it has been historically reserved for Rangitane cultural expression and those who died serving the country. It may therefore be prudent to reconsider alternative locations which may also avoid the precedent concerns that were previously raised around other groups wanting plaques in The Square as well.

It is unknown whether any formal consultation has been undertaken with Rangitane or the RSA with regard to the revised design and new proposed location of the plaques. It is recommended that input from these parties is sought given their importance in matters concerning The Square, if the proposal is to be given further consideration.

Conclusion

A proposal for the installation Legends of Sport plaques extending along the eastern concrete wall of the carpark in The Square was not supported by Council in February 2012 and a recommendation to proceed was lost 8 votes to 4. The elected members who did not support the original proposal raised concerns about whether The Square was the appropriate place for them and noted there are other City residents who have achieved in areas other than sport.

The 2014 proposal moves to a series of relatively small, traditional, and non-illuminated cast bronze plaques located on the southern most section of the western concrete wall of the carpark.
It is important that the broader strategic context is carefully considered in the decision making process. It is recommended if there is support to advance the proposal, that formal consultation is undertaken with Rangitane and the RSA prior to any final decision being made.

Jeff Baker  
City Networks
May 26, 2014
River Road
Ashhurst

To: The Community Development Committee

Chairperson: Vaughan Dennison
Deputy Chairperson: Adrian Broad
Mayor: Jono Naylor
Councillors: Rachel Bowen, Lew Findlay, Duncan McCann, Billy Meehan, Annette Nixon, Aleisha Rutherford, Grant Smith and Tangi Utikere

We are writing to you about Palmerston North City Council’s proposed site for a Natural Burial Cemetery at McCraes Bush, River Road, Ashhurst.

As residents of River Rd and the surrounding area we are deeply concerned about this proposal. This is outlined as the following points:

- McCraes Bush Reserve site is situated on a ‘flood prone area’ as per plan change 15D: Flood Hazards - ‘Shaping our City’
- High water table
- River Road residents draw water off bores / wells for home and stock use which are within the vicinity of the proposed natural burial site.
- Lack of facilities: No parking or turnaround area, River Rd is a narrow, metal/dirt road, it’s a poorly fenced area, has no amenities, is a long way to travel from PN city.
- Is next to a stream which flows into the Pohangina River.
- Iwi is opposed to this site.
- Natural burial cemeteries in New Zealand are all within existing cemeteries.
- Walkways next to the site are well used by the public who walk their dogs ‘off-lead’.

We believe that the PNCC have been looking for a natural burial site for 3-5 years, while we are not opposed to the concept of natural burial it is the site at McCraes Bush we are
opposed to. We understand this proposal is yet to go to council for further consideration, however we believe the information attached will show that this site does not warrant further consideration.

We would like to acknowledge the following organisations for their help with our research: Tasman District Council, New Plymouth City Council, Wanganui City Council, Wellington City Council, Kapiti Coast District Council, Taranaki Public Health Protection Unit, Mid Central Public Health Unit, Tanenuiarangi Manawatu Inc and Horizons Regional Council.

Yours sincerely

Craig and Cherie O’Leary, Rob and Adele Kirk, Bruce and Adrienne Kirk, Stuart Bolton and Raewyn Smith, Bronwyn and Cleve Hepburn, Simon and Anna Ainsworth, Tony and Sharon Langridge, Arnold Povey, Carl and Tracey Newton, Craig Murdoch and Priscilla Eru.
Guide for attachments


3. Site Plan.


5. Test Dig May 23 Findings.

6. Corpse 1 m cover.

7. Historic Water Table Depth 1.6 m.

8. Coarse Wet Slits.

THE IMPACT OF CEMETERIES ON THE ENVIRONMENT AND PUBLIC HEALTH

AN INTRODUCTORY BRIEFING

Prepared by:
Ahmet S. Üçisik & Philip Rushbrook
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EUR/HFA target 23
ABSTRACT

Most existing cemeteries were sited without thought being given to potential risks to the local environment or local community. The impact of degradation products from seepage waters from cemeteries has only been studied by a few researchers. This review considers the current state of knowledge on the fate of decomposition products from human corpses as they pass through the soil and into groundwater.

This report is intended to provide an introductory briefing on the state of knowledge regarding water pollution from cemeteries and the mechanisms operating to ameliorate the pollution potential. Some suggestions are provided on the siting and design of future burial sites. The findings of research by other workers in Australia, Brazil and Europe are also summarized.

Keywords

MORTUARY PRACTICE
SOIL POLLUTANTS
WATER POLLUTION
ENVIRONMENTAL HEALTH
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Introduction

The WHO Nancy Project Office has undertaken a short review of the current state of knowledge regarding the presence, or absence, of soil and groundwater contamination from cemeteries. This was due to an interest to identify more information on their environmental and health impact. There is little published information on whether cemeteries should be regarded as potential sources of pollutants. Few examples of groundwater or surface-water pollution from cemeteries have been found in the scientific literature references in the past. Consequently, this literature review was undertaken by the WHO Nancy Project Office to gather together more information on the subject.

Most existing cemeteries were sited without thinking about potential risks to the local environment or local community. Commonly, they are constructed close to settlements because of religious and culture circumstances. However, religious and sociological reasons for cemetery siting are outside of the scope of this project. This report concentrates on the geological and hydrological properties of burial sites. Often, these have not been investigated.

This review considered first, the mechanisms of decay of the human corpse, and second, the fate of the products of decomposition, both chemically and microorganically in the surrounding strata and groundwaters.

During putrification of the human corpse, there is a seepage of decay products into percolating water. This seepage contains bacteria, viruses and organic and inorganic chemical decomposition products. If the cemetery is located in a porous soil type, such as sand or gravel, movement of seepage can be rapid and mix easily with the groundwater beneath the site. This could conceivably be a cause of local epidemics from waterborne diseases where the groundwater is used as a water source. Typical microorganisms known to be responsible for waterborne diseases and present in seepage include micrococcaceae, streptococci, bacillus and entrobacteria.

Another important factor that should be considered before using aquifers beneath cemeteries as water sources, especially shallow aquifers, is the distance from cemeteries to water abstraction points. The quantity of decay products from buried people and wood, fabrics and plastics used in coffins is directly influenced by the age and number of the human corpses decaying in the cemetery at any one time. Ideally, coffins should be made of materials that decompose rapidly and do not release persistent chemical by-products into the environment.

Today, sufficient land area for cemeteries is difficult to find in populated areas, and in the near future areas sufficient space for cemeteries may not be found at all in cities in most parts of the world. For instance, in Australia about 1.34 million adults (>15 years) will die in the next 10 years. If just 40% of these are interred and 75% of them occupy new graves of an average size 1.1 m by 2.4 m; then 106 ha of land will be consumed. These new cemeteries ought to be constructed to bury the expected number of corpses, but land availability is uncertain.

In England, out of 10 000 planning applications between 1989 and 1997, a total of 104 (equal to only 1% of planning applications) were for burial grounds and cemeteries. Given the need for an increase in the number of burial sites in many countries, there is a need to identify more precisely if, or in what way, cemeteries have any harmful impacts on the environment and
public health. One approach would be to establish a set of basic design criteria for the siting and construction of new cemeteries. In addition, more careful consideration has to be given to finding the most suitable soil types in which to bury human remains so as to minimize the effect of seepage on the environment and public health.

No reports have been found in the literature of epidemics or widespread disease outbreaks which were unequivocally the result of seepage from cemeteries. However, doubt and concern persist due to the paucity of sufficient and clear scientific data.

Microbiology of the human corpse

The microorganisms isolated from general tissues in human corpses are similar to those isolated from unfit meat carcasses or from the lymph nodes of humans and animals. Ninety percent of the organisms found in human tissues are strict anaerobes (bacteria spp. and gram positive non-spore-laying anaerobes – bifidobacteria, etc.) with lower numbers of Lactobacillus, Streptococcus spp. (mostly Enterococcia) and Enterobacteriaceae (about 10% in all). In addition to these, small numbers of Clostridia spp., Bacillus spp., yeasts, Staphylococcus spp. and pseudomonas aeruginosa can be found (1). Table 1 presents a list of the important bacteria in a healthy human intestine.

Tissues are known to remain relatively free of microorganisms during the first 24 hours after death unless the invading pathogen was of a type not previously encountered by the host. There is evidence that bacteria may penetrate the intestinal walls during the process of death and become distributed throughout the tissues in the blood stream. However, organisms distributed through the blood stream may be prevented from multiplying and may be destroyed by the antimicrobial defences of the body. These defences are not completely inactivated until up to 48 hours after death (2).

The redox potential (Eh) of tissues falls rapidly after death so that by the time antimicrobial activity has been lost the Eh is low enough to prevent obligate aerobic organisms, such as micrococi, pseuaidomonads and acinetobacters, from thriving except very close to the surface (2). Anaerobic microorganisms begin to replace the aerobic organisms within a few hours of death and, provided the prevailing temperature exceeds 5 °C, they will start to multiply. Although the intestine harbours a large variety of microorganisms, only relatively few groups have been implicated as major colonisers of human corpses during putrification (i.e. during the first few days after death); these are Clostridium spp., Streptococci and Enterobacteria.

Anatomy of the human body

Seepage waters from the cemeteries occur as a result of the putrification of human corpses. The seepage may mix with groundwater and may become a potential risk for the environment if the pollutants are not ameliorated before coming into contact with a host community. Before considering whether or not seepage is a potential pollution source, it is useful to first review the substances that are found in the human body.

The human body of a 70 kg adult male contains approximately: 16 000 g carbon, 1800 g nitrogen, 1100 g calcium, 500 g phosphorous, 140 g sulfur, 140 g potassium, 100 g sodium, 95 g chlorine, 19 g magnesium, 4.2 g iron, and water 70–74% by weight. The elemental composition of females is between two thirds and three quarters of that for males (3).
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<th>Other species isolated from the intestine</th>
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<td>Enterobacter (Aerobacter) aerogenes</td>
<td>Proteus mirabilis</td>
</tr>
<tr>
<td>Proteus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacteroidaceae</td>
<td>Bacteroides fragilis</td>
<td>B. clostridiiformis. B. putredinis</td>
</tr>
<tr>
<td>Bacteroides</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fusabacteriaceae</td>
<td>Fusobacterium moriiterum</td>
<td>F. necrogenes. F. fusiforme</td>
</tr>
<tr>
<td>Neisseriaceae</td>
<td>Neisseria catarrhalis</td>
<td></td>
</tr>
<tr>
<td>Neisseria</td>
<td>Veillonella parvula</td>
<td></td>
</tr>
<tr>
<td>Veillonella</td>
<td>V. alcalescens</td>
<td></td>
</tr>
<tr>
<td>Micrococcaceae</td>
<td>Staphylococcus albus</td>
<td>Peptococcus asaccharolyticus</td>
</tr>
<tr>
<td>Staphylococcus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acidaminococcaceae</td>
<td>Sarcina centrliculi</td>
<td>Acidaminococcus fermentans</td>
</tr>
<tr>
<td>Sarcina</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peptococcaceae</td>
<td>Streptococcus faecalis</td>
<td>Strept. sangius</td>
</tr>
<tr>
<td>Streptococcus</td>
<td></td>
<td>Strept. viridans (mitior)</td>
</tr>
<tr>
<td>Lactobacillaceae</td>
<td>Lactobacillus brevis</td>
<td>Strept. faecium</td>
</tr>
<tr>
<td>Lactobacillus</td>
<td>Lactobacillus acidophilus</td>
<td>L. casei</td>
</tr>
<tr>
<td>L. catenaformae. L. fermentum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptotrichiaceae</td>
<td>Leptotrichia buccalis</td>
<td></td>
</tr>
<tr>
<td>Bifidobacteriaceae</td>
<td>Bifidobacterium adolecentis</td>
<td>Bifidobacterium (Actinomyces</td>
</tr>
<tr>
<td>B.</td>
<td>Bifidobacterium longum</td>
<td>Bif. breve. Bif. cornutum</td>
</tr>
<tr>
<td>Bifidobacterium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ruminococcaceae</td>
<td>Ruminococcus bromil</td>
<td>Peptostreptococcus intermedius</td>
</tr>
<tr>
<td>Peptostreptococcus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propionobacteriaceae</td>
<td>Propionobacterium (Corynebacterium) acnes</td>
<td>Prop. granulosum</td>
</tr>
<tr>
<td>Propionobacterium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eubacterium</td>
<td>Eubacterium (Bacteroides)</td>
<td>Eubacterium contortum</td>
</tr>
<tr>
<td>Aerofaciens (biforme)</td>
<td>Eu. cylindroides. Eu. lentum</td>
<td>Eu. limpidum. Eu. rectale</td>
</tr>
<tr>
<td>Eu. tortuosum. Eu. ventriosum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corynebacteriaceae</td>
<td>Corynebacterium (pseudo- diphtheriticum (hojmanni)</td>
<td>C. xerosis. C. ulcerans</td>
</tr>
<tr>
<td>Corynebacterium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacillaceae</td>
<td>Bacillus cereus. B. subtilis</td>
<td>Clostridium cadaveris</td>
</tr>
<tr>
<td>Bacillus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clostridium</td>
<td>Clostridium perfringens (weichii)</td>
<td>Cl. maenemonatum. Cl. ramosum</td>
</tr>
<tr>
<td>Clostridum paraputrifucum</td>
<td>Cl. certium. Cl. bifermentans</td>
<td>Cl. sporogones. Cl. indolis</td>
</tr>
<tr>
<td>Bacillaceae</td>
<td></td>
<td>Cl. sphenoides. Cl. felisineum</td>
</tr>
<tr>
<td>Bacillus</td>
<td></td>
<td>Cl. difficile. Cl. eroticum</td>
</tr>
</tbody>
</table>

Source: Corry, 1978 (2).
Survival and retention of bacteria and viruses

In order to identify the environmental impacts of cemeteries, information is needed on the survival of bacteria and viruses and the fate of the decay products from human corpses in soils and groundwater.

Both survival and retention are dependent on the type of the soil in which a cemetery is sited, the type of microorganisms present, the prevailing ground temperature and rainfall. Microorganism die-off rates increase approximately two times faster with every 10 °C rise in temperature between 5 °C to 30 °C (4). Consequently, the survival of the microorganisms is prolonged considerably at lower temperatures. Several organisms in the soil are known to survive better in a pH range of 6–7, and die off more quickly under more acidic soil conditions.

Where soil pH is above 7, the fraction of bacteria and viruses retained by the soil decreases markedly. Furthermore, an increase in cation concentration of the seepage water from cemeteries increases the retention capacity of the soil for bacteria and viruses (4).

Adsorption is the major factor controlling virus retention. Most polioviruses are held in the soil layer. Viruses may move through some soils to the groundwater with the help of rainfall and downward seepage flow. Polioviruses may move considerable distances through sandy forest soils and gravels, although it has been shown that trees intercept a portion of the rainfall (5). Survival of the poliovirus was monitored in the soil at 4 °C and 20 °C for 84 days during which time its capacity to migrate was unchanged. Many soils which have a small pore size, such as clay, have a high adsorption capacity for viruses (6).

The ionic strength of seepage water influences bacterial attachment through its effect on charge density and electrostatic repulsion. The presence of organic and iron oxide coatings also increases retention of bacteria on the surfaces of sand grains (7). These organic and iron oxide coatings could break down during the putrification of the human corpses.

Other soil properties such as particle size, clay content, cation exchange capacity and moisture influence retention, but the relative extent to which they do this requires further research. Climatic factors such as rainfall also influence retention. They increase the mobilization of bacteria and viruses from tissues retained on soil particles, and facilitate their transportation to groundwater. Important factors affecting the survival of viruses in soil are given in Table 2.

Table 2. Factors affecting the survival of viruses in soil

<table>
<thead>
<tr>
<th>Factor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>One of the most detrimental factors</td>
</tr>
<tr>
<td>Desiccation</td>
<td>Increased virus reduction in drying soils</td>
</tr>
<tr>
<td>Soil pH</td>
<td>May indirectly affect the survival of viruses by controlling their adsorption on to soils</td>
</tr>
<tr>
<td>Cations</td>
<td>Certain cations have a thermal stabilizing effect on viruses; may also indirectly influence virus survival by controlling their adsorption to soils</td>
</tr>
<tr>
<td>Soil texture</td>
<td>Clay minerals and humid substances increase water retention by soils and thus have an impact on viruses subjected to desiccation</td>
</tr>
<tr>
<td>Biological factors</td>
<td>No clear trend with regard to effect of soil microflora on viruses</td>
</tr>
</tbody>
</table>

Movement of bacteria and viruses through soils

Soils play a major role in the movement of bacteria and viruses. From laboratory work, it has been found that most of the microorganisms, such as polioviruses, are filtered out on or near the soil surface. Most polioviruses are held within the first 5 cm depth below the surface of loamy sandy soil (6).

Whilst soil adsorbs most of the pathogens, adsorption decreases with increasing water velocity. Polioviruses applied to effluents may move considerable distances through sandy soils after rainfall. The adsorption pattern indicates that most viruses are adsorbed near the surface but the remainder may move much greater distances (6), and studies have found that virus adsorption is also affected by the strength of the negative charge on the virus particle. Lance et al (6) have added that viruses with a net negative charge below a certain level were immediately adsorbed, while viruses with a stronger negative charge moved farther away.

Infective viruses have been isolated directly from vegetable crops (8). Therefore, plants could possibly be used to remove some viruses and bacteria from the soil. Also, the movement of bacteria and viruses is restricted physically by the root system of plants. Planting of trees and border plants should be encouraged around cemeteries to help decrease the movement off-site of bacteria and viruses in seepage water and rain water.

Groundwater composition in the vicinity of the cemeteries

During the progress of decomposition within human corpses, the products of decomposition are released. The principal mechanism for the transport of decomposition products is percolating water entering the groundwater. Many of the decomposition products are identical to those present naturally in the environment. In addition, ammonia gas and carbon dioxide are also formed as decay products from human corpses. Another important point is the presence of wood, fabrics and plastics, which come from coffins. Little is known about the composition of their products of degradation.

Studies by Schraps reported high concentrations of bacteria, ammonium and nitrate ions in a contamination plume which rapidly diminished with distance from graves in Germany. On the other hand, van Haaren measured a very saline (2300 µS/cm) plume of chloride, sulfate and bicarbonate ions beneath graves in Holland. No information was given on the soil types in these studies. Also, recent studies by Dent (9) at the Botany Cemetery in Australia provided an opportunity to assess groundwater conditions near recent interments. The results showed a definite increase in electrical conductivity (or salinity) close to recent graves. Elevated chloride, nitrate, nitrite, ammonium, orthophosphate, iron, sodium, potassium and magnesium ions were found beneath the cemetery. In his study, he also found that the groundwater samples downstream of the cemetery and at control sites had very similar compositions. The groundwater was found to be suitable for irrigation purposes as specified in Australian water quality criteria. Three cemeteries at Woronora, The Necropolis and Guildford in Australia were also examined for their pollution potential (3). In addition, recent work was conducted on groundwater samples beneath the Cheltenham Cemetery (Australia). The results from these investigations showed no significant presence of pathogens, with the exception of Pseudomonas aeruginosa, a pathogenic bacterium, which is responsible for waterborne diseases. The key analyses investigated are given in a combined table (Table 3).
Table 3. Typical parameters of groundwaters beneath cemeteries

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Botany cemetery</th>
<th>Cheltenham cemetery</th>
<th>Worona cemetery</th>
<th>Necropolis cemetery</th>
<th>Guildford cemetery</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BG</td>
<td>CBG</td>
<td>NRIR</td>
<td>NBB</td>
<td>IB</td>
</tr>
<tr>
<td>Hg</td>
<td>0</td>
<td>&lt;0.005</td>
<td>0.008</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Ni</td>
<td>0</td>
<td>&lt;0.005</td>
<td>0</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Pb</td>
<td>0</td>
<td>&lt;0.005</td>
<td>0</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Zn</td>
<td>0.692</td>
<td>0.17</td>
<td>0.103</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>HCO3</td>
<td>7.2</td>
<td>11</td>
<td>0</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>CO3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>NO3-N</td>
<td>14</td>
<td>6.05</td>
<td>6.16</td>
<td>0–0.6</td>
<td>0–11.4</td>
</tr>
<tr>
<td>NO2-N</td>
<td>0.01</td>
<td>0</td>
<td>0.07</td>
<td>0–0.34</td>
<td>0–0.01</td>
</tr>
<tr>
<td>PO4</td>
<td>0.1</td>
<td>0.9</td>
<td>3.4</td>
<td>0–7</td>
<td>0–6.2</td>
</tr>
<tr>
<td>SO4</td>
<td>24.2</td>
<td>15</td>
<td>57</td>
<td>22–255</td>
<td>52.5–179</td>
</tr>
<tr>
<td>NH3-N</td>
<td>0</td>
<td>0.13</td>
<td>1.24</td>
<td>0.01–0.59</td>
<td>0–0.53</td>
</tr>
<tr>
<td>F</td>
<td>–</td>
<td>&lt;0.5</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>TKN</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>0.16–0.81</td>
<td>&lt;0.05–0.61</td>
</tr>
<tr>
<td>TOC</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>1.6–28</td>
<td>1.3–21.2</td>
</tr>
<tr>
<td>BOD</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>&lt;2–15</td>
<td>&lt;2–16</td>
</tr>
<tr>
<td>CO2</td>
<td>–</td>
<td>–</td>
<td>210–325</td>
<td>135–220</td>
<td>–</td>
</tr>
<tr>
<td>Total coliforms</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>0–2000</td>
<td>0–17</td>
</tr>
<tr>
<td>Faecal coliforms</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>0–1</td>
<td>0</td>
</tr>
<tr>
<td>Faecal streptococci</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>0–1</td>
<td>0</td>
</tr>
<tr>
<td>Pseudomonas aeruginosa</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>0–1</td>
<td>0–40</td>
</tr>
</tbody>
</table>

BG: background groundwater away from cemetery
CBG: background groundwater within cemetery
NRIR: groundwater within cemetery, Recently Interred Remains Study Area
NBB: near boundary bores, near the boundary but within cemetery grounds
IB: internal bores within the cemetery
ISW: internal seepage wells
CSW: comparative seepage well
BDB: bores down-gradient at boundary

Sources: Table 1 (3), Table 1 (9), Table 1 (11).

Three cemeteries in Brazil, at Vila Formosa, Vila Nova Cachoeirinha and Areia Branca, were studied by another research team (12). Each cemetery exhibited geological and geophysical differences. The Vila Formasa basin is composed of tertiary sediments where the alternation of soil layers of varying thickness and grain size is frequent. In Vila Nova Cachoeirina, the basin is derived from granite alteration where clay-rich layers are predominant. Areia Branca is composed of quaternary sandy, marine sediments with high porosity and permeability. At each place, the groundwaters beneath the cemeteries were examined for their bacterial contamination. No coliphages (viruses that are parasitic to bacteria of the coliform group) were detected in the groundwaters. This is probably due to the fact that viruses are more readily fixed to soil particles than the bacteria and, consequently, fewer are carried into the groundwater flowing beneath the.
cemeteries. However, *Streptococci*, sulfide-reducing bacteria and *Clostridia* were found in the majority of samples collected by the researchers. No faecal coliforms were found in the samples and the work showed that the presence of *streptococci* and sulfide-reducing bacteria were more indicative when evaluating the quality of groundwater.

**Geological properties of the cemeteries**

The cemeteries reported on in the published literature and considered in this report have different types of geology. A review of their characteristics may provide an indication of the more suitable soil types to retain and ameliorate the degradation products in seepage from cemeteries. Table 4 lists the geological properties of the soils beneath several cemeteries.

<table>
<thead>
<tr>
<th>Cemetery</th>
<th>Geology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botany (Sydney/Australia)</td>
<td>Botany Sands</td>
</tr>
<tr>
<td>Worona (Sydney/Australia)</td>
<td>Hawkesbury Sandstone (sand clays and minor clayey sands, often lateritised, overlain by a quartz sandstone)</td>
</tr>
<tr>
<td>The Necropolis (Melbourne/Australia)</td>
<td>Fyansford Formation Brighton Group (densely unconsolidated silty sands)</td>
</tr>
<tr>
<td>Guildford (Perth/Australia)</td>
<td>Bassendean Sand (unconsolidated shallow marine deposits of clayey and silty sands and fine sands)</td>
</tr>
<tr>
<td>Areia Branca (Santos/Brazil)</td>
<td>Quaternary sandy, marine sediments with high porosity and permeability</td>
</tr>
<tr>
<td>Vila Formosa (Sao Paulo/Brazil)</td>
<td>Tertiary sediments (assumed: porous)</td>
</tr>
<tr>
<td>Vila Nova Cachoeirinha (Sao Paulo/Brazil)</td>
<td>Granite alteration where clay-rich layers are predominant</td>
</tr>
</tbody>
</table>

An unsaturated soil layer has been found in past studies to be the most important line of defence against the transport of degradation products into aquifers. It acts as both a filter and an adsorbent. It can also reduce the concentrations of some microorganisms and decomposition compounds that occur during the putrification of human corpses. It is postulated that the most useful soil type to maximize retention of degradation products is a clay-sand mix of low porosity, and a small to fine grain texture.

The size of the bacteria, the pore size distribution of the soil and the interaction between the bacteria and the solid phase should be taken into account to select the soil. The pore size distribution of the soil is an important factor for increasing the surface area for adsorption and also for the removal of bacteria. Therefore, a soil should have strong adsorbance characteristics to remove degradation products from seepage water and so minimize the impact of cemeteries on their local groundwater. Also, the size of the pores of the soil affects the efficiency of filtration. Soil-water content is another factor for removing microorganisms. The capacity of a soil to remove organisms increases with a decrease in soil-water content (4). Therefore, measurements need to be made to find the most beneficial soil-water contents when sites for new cemeteries are being considered. Research is needed to determine the optimum values.

An unsaturated zone beneath a cemetery increases the opportunity for attenuation of the seepage during putrification of human corpses. The unsaturated zone is where faecal pollutants are degraded to innocuous compounds. Therefore, a maximization of the residence time in the unsaturated zone is a key factor affecting the effective removal of bacteria and viruses (12).
Cemeteries can be regarded as special kinds of landfills, in that a limited range of organic matter is covered by soil fill (3). Therefore, it is useful to examine the fate of leachate from waste landfills as a potential analogue to leachate from cemeteries. Two landfills were considered in studies by Lewin and co-workers in the United Kingdom (13). One of the landfills has a thick (>50m) unsaturated zone (Burntstump) and the other has a thin (<20m) unsaturated zone (Gorsethorpe). Leachate was passed through the shallow unsaturated zone, which produced only limited attenuation at Gorsethorpe before entering the groundwater. However, the deep unsaturated zone at Burntstump allowed the establishment of conditions conducive to methanogenesis and achieved a progressive and significant reduction in the organic strength of the leachate front. No firm evidence of groundwater pollution by leachate was recorded at Burntstump, either immediately beneath the landfill area or in the direction of groundwater flow. This study demonstrated that the unsaturated zone is one of the most important factors to protect the environment. This study supported earlier predictions, as described, for example, in Mather (14). Most of the biodegradation of organic components occurs within the unsaturated zone, and a thicker zone increases the opportunities for attenuation of leachates.

The back-fill soil around a coffin is another factor that plays a role on the impact of degradation products in seepage water. The part of the soil between coffin and the ground surface is usually less compact. It allows some air to enter. Human corpses aerobically decompose quickly when aeration is provided. However, rainfall can also more easily enter the soil by this route and provide a means for microorganisms within the corpse to escape.

**Hydrogeological properties of the cemeteries**

The base of all burial pits at cemeteries should be above the highest natural water table to minimize seepage directly into the aquifer during putrification of human corpses. Cemeteries could also be planted with deep-rooting trees that consume large volumes of groundwater and seepage water passing through the unsaturated zone. Also, the water level beneath cemeteries will be decreased by trees and so further help to contain seepage within the environs of a cemetery.

Most viruses are adsorbed through the depth of the soil and some, such as polioviruses, are held near the soil surface (6). After rainfall, these retained viruses may escape from the soil and move into groundwater if the permeability of the soil is high enough.

Another important point is the difference in elevation between a cemetery and the surrounding area. A cemetery should not be located in the lowest part of an area where the rainwater runoff collects and the infiltrated water comes into contact with interred remains. This, ultimately, would permit more decomposition products to be carried into the groundwater.

**Conclusions**

In cemeteries, human corpses may cause groundwater pollution not because of any specific toxicity they possess, but by increasing the concentrations of naturally occurring organic and inorganic substances to a level sufficient to render groundwaters unusable or unpotable. Viruses are fixed to soil particles more easily than bacteria and they are not carried into groundwaters in large numbers (2). Nevertheless, pathogenic organisms are largely retained at or near the soil surface (4). Because of these features, the risk of pollution would seem to be greatest for users of wells, which access a shallow water-bearing stratum.
Through the action of infiltrating rainfall, adsorbed pathogenic organisms can escape from the soil particles, mix with the groundwaters beneath the cemeteries and migrate considerable distances. This process is easier in some particular soil textures, such as sand and gravel, because their pore sizes are not small enough to filter and adsorb the microorganisms efficiently. The planting around cemeteries of trees and plants with extensive root systems can also reduce microbial populations. These trees absorb water and seepage to isolate some infective microorganisms from the soil. This also helps to reduce the quantity of the seepage water that mixes with the groundwater.

The thickness of the unsaturated zone in the soil is an important factor in determining the impact of cemeteries on the environment. Most of the biodegradation occurs in this zone and it is the most important line of defence against cemetery-derived pollution polluting underlying aquifers. Therefore, the maximization of the residence time and the thickness of this layer is a desirable factor for the removal and elimination of bacteria and viruses (12).

The age, size and state of decomposition at burial of human corpses, and also the materials used in coffins, are important factors that affect the characteristics of seepage water during putrification (3). The impact on groundwaters from the degradation of coffins and burial clothes is not known. Standards should be set for the types of material from which coffins are made to minimize their effects on the environment. Ideally, coffins and human corpses should decay rapidly and the products of decomposition become adsorbed or oxidised quickly. Access of air and moisture can facilitate this situation.

Studies by Schraps reported high concentrations of bacteria, ammonium and nitrate ions in a contamination plume which rapidly diminished with distance from graves in Germany. On the other hand, van Haaren measured a very saline (2300µS/cm) plume of chloride, sulfate and bicarbonate ions beneath graves in Holland. The studies by Dent (9) for Botany Cemetery in Australia, where an opportunity was available to assess groundwater conditions near recent interments, showed a definite increase in electrical conductivity (or salinity) close to recent graves, and elevated concentrations of chloride, nitrate, nitrite, ammonium, orthophosphate, iron, sodium, potassium, and magnesium ions beneath the cemetery. The studies found that salinity and chloride concentrations rapidly diminished with distance from graves.

Conceptually, cemeteries can be regarded as special kinds of landfills. Therefore, it is useful to examine the fate of leachate from waste landfills as a potential analogue to seepage from cemeteries. Research carried out by Gray and his group has shown that “the concentration of the highly soluble chloride ions which is extremely high in leachates from domestic refuse directly below a landfill, drops drastically in water samples taken a short distance away and at 100 m to 200 m falls to almost background levels” (15).

In conclusion, aquifer pollution can vary greatly according to the geological strata and cemetery layout and management. Surface drains will intercept most surface runoff water entering a site from outside before any serious contamination takes place. The pollution potential from cemeteries is present, but in a well managed cemetery with suitable soil conditions and drainage arrangements, the risk is probably slight. The draft conditions given below could be used to site and design a future well managed cemetery (1):

1. Human or animal remains must not be buried within 250* metres of any well, borehole or spring from which a potable water supply is drawn.
2. The place of interment should be at least 30 metres away from any other spring or watercourse and at least 10 metres from any field drain.

3. All burial pits on the site must maintain a minimum of one metre of subsoil below the bottom of the burial pit (i.e. the base of the burial must be at least one metre above solid rock).

4. The base of all burial pits on the site must maintain a minimum of one metre clearance above the highest natural water table. (Any variability in the water table should be taken into account.)

5. Burial excavations should be backfilled as soon as the remains are interred, providing a minimum of one metre soil cover at the surface.

* This distance may be greater if the site has a steep hydrogeological gradient or the velocity of groundwater flow within an aquifer is rapid.

Suggested topics for future research

1. What are the safe distances between aquifers and cemeteries in various geological and hydrogeological situations?

2. What is the fate of materials used in coffins and burial clothes? Propose suitable materials which minimize their potential effects on groundwaters.

3. Why and how do most of the microorganisms, produced during the putrification process, not appear in the groundwaters beneath cemeteries?

4. Have there been any recorded disease outbreaks or epidemics caused by microorganisms seeping from cemeteries? What is the epidemiological evidence for population groups living near cemeteries?

5. What should be the desirable minimum thickness of the unsaturated zone beneath cemeteries?

6. Collect together existing regulations on cemetery siting and design from different countries and prepare, with the latest scientific findings, a set of common practices.

References


World Health Organisation Cemeteries Health Summary

1. Human or animal remains must not be buried within 250* metres of any well, borehole or spring from which a potable water supply is drawn.

2. The place of interment should be at least 30 metres away from any other spring or watercourse and at least 10 metres from any field drain.

3. All burial pits on the site must maintain a minimum of one metre of subsoil below the bottom of the burial pit (i.e. the base of the burial must be at least one metre above solid rock).

4. The base of all burial pits on the site must maintain a minimum of one metre clearance above the highest natural water table. (Any variability in the water table should be taken into account.)

5. Burial excavations should be backfilled as soon as the remains are interred, providing a minimum of one metre soil cover at the surface.

* This distance may be greater if the site has a steep hydrogeological gradient or the velocity of groundwater flow within an aquifer is rapid.
30m from low stream flow

30m from high water flow

250m from Langridge well

250m from A.B. & A.L. Kirk Well

72m from R.B. & A.R. Kirk house

250m from A.B. & A.L. Kirk Well
Meeting at PNCC

Reported by Rob Kirk

4.00pm Friday May 23

Present

John Brinkley, Brian Way, Craig O’Leary, Bruce Kirk, Rob Kirk

Apologies

Paul Horton

For the most part John spoke for the council

At the start John spoke from his report showing maps and a letter from Paul Horton. We reported the Iwi position and we pointed out that they were misinterpreting the letter if they though Maori were now happy with the site.

Rob covered off his disappointment with the process so far and that a visit would have been a far more appropriate rather than a phone call as their initial contact.

Craig gave a brief account of his contact with the other local bodies and then outlined the differences between their proposal and that of the others, the main point being that in NZ all natural burial sites are within a cemetery.

Craig then introduced the World Health Organisation guidelines for cemeteries. * see below

Rob spoke to point 1. as 52 River Rd draws water from a well (for human consumption) that is inside the 250m buffer that the WHO state as a ‘must not’. Pointing out that the Langford’s well is only 170m from the proposed site. Due to the geology of the site even 300m may not be safe according to the WHO.

Craig spoke to point 2 and showed him the waterway 30 m margin map he had drawn up. This was accepted and the point that the water way constituted a stream was not disputed. Bruce added his understanding of the geology from firsthand experience and his conversations with Horizons

Point 3 was disputed but we endeavoured to explain the importance of subsoil below the corpse to restrict the flow of virus and bacterium to water ways as we believed that they misunderstood the guideline on their first reading.

By point 4 we were struggling to hold the meeting to order however John did show some agreement with the concept of a variable water table.

What we discovered from John, is that the report will be published by June 6 and that it will be put to council on the 12th.

John conceded that the only terms of reference was ‘Natural Cemetery Ltd .com’. He had spent some time talking with the Wellington Makara cemetery. Clearly Craig and Cherie’s research have greatly super ceded that of the “working group”.

* see below
It was put to Brian and John that a quick read of the WHO guidelines will put to bed the River Rd site as a natural cemetery. That this could be done by Tuesday and Rob would happily receive a phone call from John saying that River Rd site and soils could not support a safe cemetery.

The meeting closed at 4.50 with Craig offering John and Brian a bottle of River Rd well water....free of cemetery bacterium.

*World Health Organisation Burial guidelines

1. Human or animal remains must not be buried within 250* metres of any well, borehole or spring from which a potable water supply is drawn.

2. The place of interment should be at least 30 metres away from any other spring or watercourse and at least 10 metres from any field drain.

3. All burial pits on the site must maintain a minimum of one metre of subsoil below the bottom of the burial pit (i.e. the base of the burial must be at least one metre above solid rock).

4. The base of all burial pits on the site must maintain a minimum of one metre clearance above the highest natural water table. (Any variability in the water table should be taken into account.)

5. Burial excavations should be backfilled as soon as the remains are interred, providing a minimum of one metre soil cover at the surface.

* This distance may be greater if the site has a steep hydrogeological gradient or the velocity of groundwater flow within an aquifer is rapid.
NATURAL BURIAL CEMETERIES IN NZ

• Makara Cemetery (Wgtn): clay soil problem at Makara is overcome by removing clay and replacing with soil compost mix.

• Wanganui Cemetery: pumice soil problem is overcome by removing pumice soil and replacing with a soil/compost mix and worms.

• Kelvin Grove Cemetery: Has clay soils. John Brenkley says K.G. has 50+ years of burial capacity. New Plymouth District Council stated that a natural burial ground be placed at the back of the cemetery and take your conventional cemetery to it so as not to ‘clog’ up your available space. Another entrance could be created so visitors do not have to go past headstones.

• Tasman and New Plymouth District Councils used WHO Guidelines as a baseline and reference when planning their natural cemeteries.

• The thought of McCraes Bush being extended with native trees is a good one; and the local community would be happy to assist in planting it up.

• Once the McCraes Bush site is full, there is no room for expansion at that site.

• Economic factors play a role – Kapiti Coast Price List would suggest that natural burials cost a bit more than conventional burials. This of course is passed onto the ‘dead’ consumer.
Recommendation(s) to Council

That the concerns raised by the deputation in relation to establishing a Natural Burial Cemetery at McCraes Bush, River Road, Ashhurst be noted and further investigated using independent technical experts, before reporting back to the Committee.

Issue

A deputation is being presented to the Community Development Committee meeting on 16 June, regarding the selection of land adjacent to McCraes Bush on River Road in Ashhurst as a possible natural burial cemetery site. The deputation consists of information gathered by local property owners opposing the site as a natural burial cemetery.

Council Officers had intended to also report to the 16 June 2014 meeting of the Committee on selection of the McCraes Bush site as the preferred natural burial cemetery. In response to concerns from members of the deputation, Officers met with them on Friday 23rd May to better understand their issues. Those discussions have raised a number of issues that Officers wish to seek further independent advice on before presenting a report to the Committee.

Background

Annual Plan submissions, LTP submissions and various delegations to Council over the last 5 years have resulted in a Council decision to provide a Natural Burial option to the people of Palmerston North. A preliminary process of investigation of potential sites, all on Council owned property, was carried out. This was followed with discussions about sites with Natural Burials Ltd (for guidance on setting up a natural burial cemetery), local Iwi (for opinions on suitability of sites), Sports Turf Institute (for soil analysis testing), Horizons (for flood zone information) and Public Health Services at MidCentral Health (for broad parameters of establishing a natural burial cemetery). The McCraes Bush site on River Road in Ashhurst is currently the preferred site for Palmerston North’s Natural Burial Cemetery.

To date the investigations have been at a relatively high level, but considered adequate to identify a preferred site and recommend proceeding into a designation process, including public consultation and hearing of any submissions.
The residents of River Road are opposed to the site being used as a natural burial cemetery and have done some investigation of their own which is the essence of the deputation to the Committee. In order to be able to respond to the information put forward by the deputation members, Council needs to carry out further investigations of its own through independent technical specialists. Officers now intend to report to the Committee in August 2014.

**Conclusion**

From the investigations undertaken to date, the McCraes Bush site on River Road in Ashhurst is considered to be the preferred site for Palmerston North’s Natural Burial Cemetery. More detailed technical investigation will be undertaken to address the concerns raised in the deputation.

John Brenkley  
**City Networks**
Members Present: Councillor Vaughan Dennison (in the Chair), and Councillors Rachel Bowen, Adrian Broad, Lew Findlay, Duncan McCann, Billy Meehan, Annette Nixon, Aleisha Rutherford and Grant Smith.

Apologies: Councillors Jim Jefferies (for early departure) and Chris Teo-Sherrell.

In Attendance: Councillors Susan Baty, Leonie Hapeta and Jim Jefferies.

Councillor Ross Linklater entered the meeting at 3.05pm at the conclusion of clause 18. He was not present for clause 17 and 18.

Councillor Tangi Utikere entered the meeting at 3.05pm at the conclusion of clause 18. He was not present for clause 17 and 18.

Councillor Jim Jefferies left the meeting at 4.03pm during consideration of clause 22. He was not present for clauses 22, 23, 24 and 25.

(NOTE: Voting was determined by way of electronic vote.)

17-14 Apologies

The COMMITTEE RECEIVED the apologies.

(NOTE: Clause 17-14 above was carried 13 votes to 0 the voting being as follows:

For: The Mayor (Jono Naylor) and Councillors Susan Baty, Rachel Bowen, Adrian Broad, Vaughan Dennison, Lew Findlay, Leonie Hapeta, Jim Jefferies, Duncan McCann, Billy Meehan, Annette Nixon, Aleisha Rutherford and Grant Smith.)
18-14 Notification of Additional Items

(Update on Palmerston North Lagoon)

Elected members requested an update on the state of Palmerston North lagoon. The Chief Executive advised that consultants had been engaged to investigate what was happening at the Lagoon and what options were available to remedy any problems. The expected timeframe for the consultant’s report was approximately one month and this would then be brought to the appropriate Committee meeting.

Pursuant to Section 46A(7A) of the Local Government Official Information and Meetings Act 1987 and in accordance with the Chairperson’s advice that the item was a minor matter, the COMMITTEE RECEIVED the minor item for information.

(NOTE: Clause 18-14 above was carried, 13 votes to 0, the voting being as follows:
For: The Mayor (Jono Naylor) and Councillors Susan Baty, Rachel Bowen, Adrian Broad, Vaughan Dennison, Lew Findlay, Leonie Hapeta, Jim Jefferies, Duncan McCann, Billy Meehan, Annette Nixon, Aleisha Rutherford and Grant Smith.)

Councillor Ross Linklater entered the meeting at 3.05pm
Councillor Tangi Utikere entered the meeting at 3.05pm

19-14 Public Comment

Public comment was received from Mr Charles Turner regarding the advertising of Council meetings.

(NOTE: Clause 19-14 above was carried 15 votes to 0, the voting being as follows:
For: The Mayor (Jono Naylor) and Councillors Susan Baty, Rachel Bowen, Adrian Broad, Vaughan Dennison, Lew Findlay, Leonie Hapeta, Jim Jefferies, Ross Linklater Duncan McCann, Billy Meehan, Annette Nixon, Aleisha Rutherford, Grant Smith and Tangi Utikere.)
20-14 Presentation - Volunteer Resource Centre

Representing Volunteer Resource Centre, Ms Norelle Ward gave a presentation on the work undertaken by the Centre.

In her presentation she explained that the Centre operated similar to a recruitment agency for volunteers and for the past year had been based at Community House. The Centre currently employed a Manager, Community Liaison Officer and two part time employees.

There were currently 55 members from within the region, 612 volunteers on the database and 116 active roles. High Schools in the area were also involved as volunteers and the Community Liaison Officer was supporting them.

The Centre also worked with other groups, such as Community Services Council in joint training and business engagement opportunities.

There was a Volunteer Awards application process currently open, closing on 7 May 2014 that was aimed at individuals. National Volunteer week was 15-21 June 2014 and the winners would be presented with their awards during this week.

The COMMITTEE RECEIVED the presentation for information.

(NOTE: Clause 20-14 above was carried 15 votes to 0 the voting being as follows:

For: The Mayor (Jono Naylor) and Councillors Susan Baty, Rachel Bowen, Adrian Broad, Vaughan Dennison, Lew Findlay, Leonie Hapeta, Jim Jefferies, Ross Linklater, Duncan McCann, Billy Meehan, Annette Nixon, Aleisha Rutherford, Grant Smith and Tangi Utikere.)

21-14 Presentation - Youth Network

Representing the Youth Network, Mrs Trissel Eriksen from Youth One Stop Shop, Tania Gareet from Idea Services and Kenna MacKay from the Public Health gave a presentation on the work undertaken by the Service.

The Youth Network received funding of $40,000 over three years to provide co-ordination, collaboration and communication within the youth sector. The Network employed a co-ordinator for 15 hours per week and worked alongside a number of organisations.
Two main goals of the network were collaboration and engagement with youth. There was new engagement from different areas including: disability sector, Department of Corrections and school counsellors. The Youth Network provided Palmerston North City Council with a partner in the youth sector.

The Youth Network was involved in a number of meetings, events and training. They had over 260 individuals on their database and this number was growing.

They were involved with the Safe City Angel in collaboration with Safety Advisory Board and ACC. The Safe City Angel worked on Friday and Saturday nights alongside SafeCity Hosts to reduce alcohol related harm, with a particular focus on young girls. This was a relatively new project but so far had very positive feedback.

An Action Plan had been completed and was available on their website. The vision was that “The Youth Sector in Palmerston North works together to empower young people”.

The COMMITTEE RECEIVED the presentation for information.

(NOTE: Clause 21-14 above was carried 14 votes to 0, with 1 abstention, the voting being as follows:

For: The Mayor (Jono Naylor) and Councillors Susan Baty, Rachel Bowen, Adrian Broad, Vaughan Dennison, Lew Findlay, Leonie Hapeta, Jim Jefferies, Ross Linklater, Duncan McCann, Billy Meehan, Annette Nixon, Grant Smith and Tangi Utikere.

Abstained: Councillor Aleisha Rutherford.)

22-14 Presentation - Youth Council

Representing Palmerston North Youth Council, Miss Stephanie Hunt and Mr Deon Knox gave a presentation regarding the Youth Council.

The Youth Council was made up of youth aged between 13 and 24. Membership was established through an application process and the Council endeavour to make the group as diverse as possible.

They run a lot of events based around health and well-being and participation in the community. Recently a series
of fun days have been held in the Youth Space to engage individuals to get involved in various activities.

The Council run a number of surveys on various topics, the most recent being on psychoactive substances, which was presented as part of the submission on the Local Approved Products Policy.

The Youth Council had a $10,000 grant for events and $5,000 for operations with the funds coming from Palmerston North City Council. Also an annual fund of five $1,000 scholarships was available to apply for, with various categories available.

Councillor Jim Jefferies left the meeting at 4.03pm

(NOTE: Clause 22-14 above was carried 14 votes to 0, the voting being as follows:

For: The Mayor (Jono Naylor) and Councillors Susan Baty, Rachel Bowen, Adrian Broad, Vaughan Dennison, Lew Findlay, Leonie Hapeta, Ross Linklater, Duncan McCann, Billy Meehan, Annette Nixon, Aleisha Rutherford, Grant Smith and Tangi Utikere.)

23-14 Confirmation of Minutes

The COMMITTEE RESOLVED that the minutes of the ordinary meeting held on 17 March 2014 and extraordinary meeting held on 31 March 2014 [Part I Public] be confirmed as correct records.

(NOTES: (i) Councillor Duncan McCann noted his apologies for the above meeting had been forwarded but not formally received.

(ii) Clause 23-14 above was carried 14 votes to 0 the voting being as follows:

For: The Mayor (Jono Naylor) and Councillors Susan Baty, Rachel Bowen, Adrian Broad, Vaughan Dennison, Lew Findlay, Leonie Hapeta, Ross Linklater, Duncan McCann, Billy Meehan, Annette Nixon, Aleisha Rutherford, Grant Smith and Tangi Utikere.)
24-14  Palmerston North Local Approved Products Policy

(Report, dated 4 April 2014, by the Policy Analyst)

During consideration of the above item it was decided that further legal advice was required before recommendations could be made on the content of the Local Approval Products Policy.

The COMMITTEE RESOLVED that the matter regarding Palmerston North Local Approved Products Policy lie on the table pending Palmerston North City Council obtaining further legal advice.

(NOTE: Clause 24-14 inclusive above was carried 11 votes to 3, the voting being as follows:

For: The Mayor (Jono Naylor) and Councillors Susan Baty, Rachel Bowen, Adrian Broad, Vaughan Dennison, Leonie Hapeta, Ross Linklater, Annette Nixon, Aleisha Rutherford, Grant Smith and Tangi Utikere.

Against: Councillors Lew Findlay, Billy Meehan and Duncan McCann.)

25-14  Committee Work Schedule

(Work Schedule, dated April 2014)

Members made the following amendments to the Committee Work Schedule:

(i) Item 1 report dated be changed to June 2014.

(ii) Item 2 report date be changed to May 2014.

(iii) Item 3 report date be changed to June 2014.

(iv) Item 5 report date be changed to September 2014.

(v) Item 6 report date be changed to May 2014.

(vi) Item 7 report date be changed to June 2014.

(vii) That a new item “Legends of Sport” be added to be reported back to the Committee in May 2014.

The COMMITTEE RECEIVED its Work Schedule, dated April 2014, as amended.
NOTE: Clause 25-14 above was carried 14 votes to 0 the voting being as follows:

For: The Mayor (Jono Naylor) and Councillors Susan Baty, Rachel Bowen, Adrian Broad, Vaughan Dennison, Lew Findlay, Leonie Hapeta, Ross Linklater, Duncan McCann, Billy Meehan, Annette Nixon, Aleisha Rutherford, Grant Smith and Tangi Utikere.)

The public part of the meeting finished at 4.19pm

CONFIRMED THIS 12th DAY OF APRIL 2014

CHAIRPERSON
TO                Chairperson and Committee Members  
                Community Development Committee  

DATE OF MEETING  12 May 2014  

FROM              City Safety Coordinator  

DATE              29 April 2014  

SUBJECT           UPDATE ON BUNNYTHORPE COMMUNITY CENTRE  

Recommendation(s) to Committee  

That the update on the community centre of Bunnythorpe be received  

Issue  

The Community Development Committee, at its 10 February 2014 meeting, recommended:  

“That Council explore all options and costs of providing Bunnythorpe with a Community Facility and report back to the Committee by May 2014.”  

Background  

The Bunnythorpe Community Committee have decided that they will not seek a feasibility study from Palmerston North City Council as this will compromise their ability to apply for funding from NZ Lotteries for the building of the Community Hall.  

They have also decided not to apply for funds to complete a study as they have some available funds set aside for the full project that they can use to commission a feasibility study from an independent contractor.  

The Bunnythorpe Community Committee has decided to call for quotes from three contractors and will chose the most appropriate one.  

They are currently formulating a letter to go to contractors outlining the extent of the feasibility study; this will include the costs for the build as well as canvassing residents in the wider area as to where the respondent see and identify the Bunnythorpe community to be. This information will also form a part of the communities intention to seek “Village” status and to define that area.  

The Community have decided that they want to own the building and the land as a community and are making enquiries into this with other Communities operating under the same system. They have been advised that PNCC has a community which own their own facility and for which PNCC make contributions towards to assist with the cost of upkeep.
After the feasibility study has been completed the Committee than intend to apply to NZ Lotteries for funds to complete the building project with the intention that this application will be made in the next round of applications due toward the end of the year (date not certain as this is at work)

Palmerston North City Council have agreed to look at the letter drafted for sending to contractors for the feasibility study quote and Peter leach has been approached by the City Safety Officer to this end. We are waiting for this letter to proceed.

Palmerston North City Council has scanned documents and maps and sent them back electronically to members of the committee to facilitate their project work.

**Conclusion**

Palmerston North City Council will continue to assist if required, however note that this is a Bunnythrope Community Committee project.

Alane Nilsen, City Safety Coordinator
Library & Community Services
6 June 2014

To the Chief Executive
Palmerston North City Council
PALMERSTON NORTH

NOTICE OF MOTION

I advise that, in accordance with Standing Order 3.10.1, I, Councillor Vaughan Dennison, hereby GIVE NOTICE OF MOTION that I will move at the next Community Development Committee meeting on 16 June 2014 the following motion:

“That the report entitled Palmerston North Local Approved Products Policy be uplifted from the table.”

AND I further give notice that in compliance with Standing Order 3.10.2 the reasons for the Notice of Motion include

– To enable the report that was left to lie on the table to now be uplifted and the matter considered.

Councillor Vaughan Dennison
MEMORANDUM TO COMMITTEE/COUNCIL

TO Chairperson and Committee Members
Community Development Committee

DATE OF MEETING 16 June 2014

FROM Julie Macdonald

DATE 29 May 2014

SUBJECT PALMERSTON NORTH LOCAL APPROVED PRODUCTS POLICY

Recommendations to Council

1.1. The Palmerston North Local Approved Products Policy (LAPP) included in Appendix One of this Memorandum, incorporating the following amendments, be adopted:

1.1.1. The Policy guideline 1.1 b) in the Draft LAPP is deleted.

1.1.2. The Policy guideline 1.2 a) in the Draft LAPP is amended as follows: ‘Retail premises from which approved products may be sold are not permitted within 75 metres of another retail premise from which approved products may be sold.’

1.1.3. The Policy guideline 1.3 a) in the Draft LAPP is amended as follows: ‘Retail premises from which approved products may be sold are not permitted within 50 metres of any sensitive site existing at the time the licence application is made’.

1.1.4. The Policy guideline 1.3 b) is amended to include ‘public transport terminal, public park and sports field, and public playground’.

1.1.5. The Policy guideline 1.3 b) is amended to include ‘pharmacy’.

1.1.6. The Policy guideline 1.3 b) is amended to remove ‘hostels and long term accommodation providers (over 15 beds)’ and this term is replaced with ‘hostel or other supported accommodation’.

1.1.7. The Policy guideline 1.3 b) is amended to include ‘any other organisation providing social services for vulnerable people’ (the word ‘social’ added to the definition).

1.1.8. The Policy is amended by removal of the word ‘Draft’ in the title and adding the date the Policy was adopted.
1.2. The Council continue to work with the Public Health Unit and other interested organisations to develop mechanisms to measure the ongoing impact of the sale of psychoactive products in Palmerston North.

1.3. The Council work with the Synthetic Cannabis Taskforce to reach a recommendation about opening hours to be submitted to the Regulatory Authority as part of the regulations process.

1.4. The Council forward the summary of its consultation process to the Psychoactive Substances Regulatory Authority and continue to contribute to the processes being undertaken by the Authority to develop regulations.

Issue

In April 2014 the Draft Palmerston North Local Approved Products Policy was recommended for adoption by the Council. At that time it was agreed that the report should lie on the table pending legal advice. John Annabell has now provided advice on the Draft LAPP and this is attached as Appendix Two.

Background

The report to the April 2014 Community Development Committee summarised the special consultative procedure undertaken to reach the recommended LAPP. The Committee report, consultation material and other material are attached as Appendix Three.

Conclusion

The Draft LAPP has been amended to take into account the legal advice provided by John Annabell. The recommendations above replace the recommendations made to the Committee at the meeting on 14 April 2014.

Julie Macdonald
City Future
Appendix One:

Draft Palmerston North Local Approved Products Policy
Draft Palmerston North
Local Approved Products Policy

Purpose

The purpose of the Local Approved Products Policy is to determine a clear framework to guide the decisions made by the Psychoactive Substances Regulatory Authority about licence applications for premises to sell approved products in Palmerston North. This policy is made under the provisions of Section 66 of the Psychoactive Substances Act 2013 and was adopted by the Council on 30 June 2014.

Introduction and Background

The Psychoactive Substances Act ('the Act') came into force on July 18 2013. The purpose of the Act is to “regulate the availability of psychoactive substances in New Zealand to protect the health of, and minimise harm to, individuals who use psychoactive substances”. The Psychoactive Substances Regulatory Authority ('the Authority'), part of the Ministry of Health, is responsible for ensuring psychoactive substances meet prescribed safety standards before they are distributed in New Zealand. The Authority is also responsible for licensing importers, researchers, manufacturers, wholesalers and retailers.

Concern has been expressed by the public health sector about the effects of the sale of psychoactive substances within the Palmerston North community. While the Act has resulted in a general decrease in points of sale throughout the City, there is also public concern about the impact of psychoactive substances, both on those who use them and on sensitive communities within the City.

The Act enables territorial local authorities to develop their own Local Approved Products Policy (LAPP), but does not require them to do so. Territorial local authorities choosing to develop a LAPP must do so in accordance with the special consultative procedure in section 83 of the Local Government Act 2002. LAPPs can provide policy on the location of premises from which approved products may be sold by reference to:

- broad areas in a district;
- proximity to other premises from which approved products may be sold;
- proximity to premises or facilities of a particular kind or kinds within the district.

The Act does not provide for a territorial authority to have a LAPP that prohibits the sale of psychoactive products within the district.

In September 2013 the Palmerston North City Council resolved to develop a local policy.

Policy objectives

The Council’s objectives in developing this policy are:
• to provide guidance to the Psychoactive Substances Regulatory Authority as it considers licence applications for retail premises in Palmerston North;
• to protect the health of, and minimise harm to, individuals who use psychoactive substances and the wider community; and
• to continue to seek safe and practical solutions to problems associated with the regulation of psychoactive substances through advocacy to central government.

Scope

This policy applies to any application for a new licence, or renewal of an existing licence, to sell approved products from retail premises. This policy is additional to any requirements or obligations imposed by the Palmerston North City District Plan.

Strategic alignment

This policy supports the Palmerston North City Council vision:

Palmerston North is recognised as a vibrant, caring, innovative, and sustainable city.

This policy is also supportive of the following City Goal:

Palmerston North is a socially sustainable city where people want to live because of its safe and easy lifestyle and its many social, cultural and recreational opportunities.

Policy guidelines

The following guidelines are to inform the decisions of the Psychoactive Substances Regulatory Authority.

1.1. The location of premises by reference to broad areas in a district.

   a) The location of premises from which approved products may be sold is restricted to the area within the inner ‘ring road’ (the area contained within (and inclusive of) Walding/Grey Streets; Princess Street; Ferguson Street and Pitt/Bourke Streets). This area is illustrated in Map 1.

   b) In addition to 1.1 (a) premises from which approved products may be sold are not allowed on the following streets: The Square, Fitzherbert Avenue, Church Street, Main Street, George Street, Coleman Place, Broadway Avenue, Rangitikei Street from The Square to Queen Street, Cuba Street, King Street, Queen Street, and Princess Street from Grey Street to Main Street (also illustrated in Map 1).

1.2. Location of retail premises in relation to other premises from which approved products may be sold.

   a) Retail premises from which approved products may be sold are not permitted within 50-75 metres of another retail premise from which approved products may be sold.
b) For the purposes of 1.2 (a) the separation distance is measured from the legal property boundary of the premise.

1.3. Proximity to premises or facilities of a particular kind or kinds within the district.

a) Retail premises from which approved products may be sold are not permitted within 50 metres of any sensitive site existing at the time the licence application is made.

b) For the purposes of 1.3 (a) sensitive sites are any public library, public museum, public art gallery, public transport terminal, public park and sports field, and public playground, community centre, education provider, premise occupied by a social welfare agency such as Work and Income, Child, Youth and Family or similar, place of worship, medical centre, pharmacy, the Palmerston North District Court, hostel or other supported accommodation, or any other organisation providing social services for vulnerable people from its premise. Map 2 illustrates the potential impact of such a buffer, but includes an indicative rather than exhaustive mapping of sensitive sites as defined here.

c) For the purposes of 1.3 (a) the separation distance is measured from the legal property boundary of the premise.

Advocacy

a) The Council will advocate to the Authority for the provision of regulations which limit the opening hours of retail premises from which approved products may be sold.

b) The Council will continue to advocate to the Authority for the development of regulations for psychoactive substances which promote the health of people in Palmerston North.

Review

This policy will be reviewed every five years as required by the Act, or at the request of the Council, or in response to changed statutory requirements.