



Community & Environment Committee

Agenda: *Community & Environment Committee*

Date: *Monday 23 October 2006*

Time: *6.00pm*

Outline of Meeting Protocol & Procedure:

- The Chairperson will call the Meeting to order and ask the Committee/Staff to present apologies or late correspondence.
- The Chairperson will commence the Order of Business as shown in the Index to the Agenda.
- At the beginning of each item the Chairperson will ask whether a member(s) of the public wish to address the Committee.
- If person(s) wish to address the Committee, they are allowed four (4) minutes in which to do so. Please direct comments to the issues at hand.
- If there are persons representing both sides of a matter (eg applicant/objector), the person(s) against the recommendation speak first.
- At the conclusion of the allotted four (4) minutes, the speaker resumes his/her seat and takes no further part in the debate unless specifically called to do so by the Chairperson.
- If there is more than one (1) person wishing to address the Committee from the same side of the debate, the Chairperson will request that where possible a spokesperson be nominated to represent the parties.
- The Chairperson has the discretion whether to continue to accept speakers from the floor.
- After considering any submissions the Committee will debate the matter (if necessary), and arrive at a recommendation (R items which proceed to Full Council) or a resolution (D items for which the Committee has delegated authority).

Delegated Authority (“D” Items):

- Community Services and Programmes.
- Health.
- Liquor Licences.
- Fire Protection Orders.
- Residential Parking Schemes (surveillance and administration).
- Traffic Management (Traffic Committee Recommendations).
- Waverley/Woollahra Process Plant.
- To require such investigations, reports or actions as considered necessary in respect of matters contained within the Business Agendas (and as may be limited by specific Council resolution).
- Confirmation of the Minutes of its Meeting.
- Any other matter falling within the responsibility of the Community and Environment Committee and not restricted by the Local Government Act or required to be a Recommendation to Full Council as listed below.
- Library Services
- Licensing.
- Regulatory.
- Waste Minimisation

Recommendation only to the Full Council (“R” Items):

- Such matters as are specified in Section 377 of the Local Government Act and within the ambit of the Committee considerations.
- Matters which involve broad strategic or policy initiatives within responsibilities of the Committee.
- Matters requiring the expenditure of moneys and in respect of which no Council vote has been made.
- Matters delegated to the Council by the Traffic Authority of NSW.
- Matters not within the specified functions of the Committee, or which are not the subject of a Business Agenda (current or past).
- Matters reserved by individual Councillors, in accordance with any Council policy on "safeguards".
- Parks and Reserve Plans of Management (Strategies, Policies and Objectives)
- Residential Parking Schemes - Provision and Policies

Committee Membership:

7 Councillors

Quorum:

The quorum for a Committee meeting is 4 Councillors.

WOOLLAHRA MUNICIPAL COUNCIL

Notice of Meeting

19 October 2006

To: The Mayor, Councillor Keri Huxley, ex-officio
Councillors Anthony Boskovitz (Chair)
 Tanya Excell (Deputy Chair)
 Claudia Cullen
 Marcus Ehrlich
 Julian Martin
 Andrew Petrie
 Fiona Sinclair King

Dear Councillors

Community & Environment Committee Meeting – 23 October 2006

In accordance with the provisions of the Local Government Act 1993, I request your attendance at a Meeting of the Council's **Community and Environment Committee** to be held in the **Council Chambers, 536 New South Head Road, Double Bay, on Monday 23 October 2006 at 6.00pm.**

Gary James
General Manager

Meeting Agenda

Item	Subject	Pages
1	Leave of Absence and Apologies	
2	Late Correspondence	
3	Declarations of Interest	

Items to be Decided by this Committee using its Delegated Authority

D1	Confirmation of Minutes of Meeting held on 9 October 2006	1
D2	Hire of Lyne Park and Woollahra Ovals 2 & 3 for Women's Australian Golf Open Parking – 219G 195.G	2
D3	Draft Woollahra Pesticide Use Notification Plan – 1192.G	10
D4	Draft Crime Prevention Plan – 79.G	28

Items to be Submitted to the Council for Decision with Recommendations from this Committee

R1	Adoption of Reconciliation Statement – 722.G RS	60
R2	The Crescent, Vaocluse – Drainage and Water Quality Investigation – 445. Drainage. The Crescent, Vaocluse	77

Item No: D1 Delegated to Committee
Subject: **Confirmation of Minutes of Meeting held on 9 October 2006**
Author: Les Windle, Manager - Governance
File No: See Council Minutes
Reason for Report: The Minutes of the Meeting of Monday 9 October 2006 were previously circulated. In accordance with the guidelines for Committees' operations it is now necessary that those Minutes be formally taken as read and confirmed.

Recommendation:

That the Minutes of the Community and Environment Committee Meeting of 9 October 2006 be taken as read and confirmed.

Les Windle
Manager - Governance

Item No: D2 Delegated to Committee
Subject: **Hire of Lyne Park and Woollahra Ovals 2 & 3 for Women's Australian golf Open Parking**
Author: David Sheils - Manager Public Open Space
File No: 219.G, 195.G
Reason for Report: To recommend approval with conditions of a request from IMG to hire Lyne Park and Woollahra Ovals 2 & 3 for car parking during the Women's Australian Golf Open to be held at Royal Sydney Golf Club between 1 - 4 February 2007.

Recommendation:

That IMG, the organisers of the 2007 Women's Australian Open held at the Royal Sydney Golf Course, be permitted to use Lyne Park and Woollahra Ovals 2 and 3, between 1 and 4 February 2007, for parking, subject to the following conditions:

1. Prior to the Event

- a) A hire fee of \$18,400 shall be paid to Council not later than six weeks prior to the event.
- b) The organisers shall be responsible for providing staff to control entry to the carpark and security of vehicles in the carparks at their cost.
- c) A bond of \$20,000 shall be paid to Council, not later than six weeks prior to the event, as security for the restoration of the park at the conclusion of the event. Council will assess each park and may use all or part of the bond to carry out rectification works if necessary.
- d) Details of resident parking arrangements shall be included in the Detailed Traffic Management Plan.
- e) The organisers shall apply for approval from the Woollahra Local Traffic Committee and RTA of a Traffic Management Plan for the whole event. No parking shall be permitted on Lyne Park and Woollahra Oval 2 and 3 until this approval is obtained.
- f) The organisers shall advise all residents of O'Sullivan Road, Elanora Road, Iluka Street and Manion Avenue of the Australian Open's activities and parking arrangements by letter, no later than one week prior to the event.
- g) The organizers, prior to the event, shall provide Council with a copy of a \$10,000,000 public liability policy naming Woollahra Municipal Council and IMG as insured under the policy.

2. During the Event

- a) The organisers shall be responsible for the provision of security, and for the installation of fencing around the carpark and its removal after the event, at their cost. The area of fencing is to be determined by Council staff prior to the event.
- b) The organisers shall ensure cars are removed from Woollahra Ovals 2 & 3 by 9:00pm and from Lyne Park by 10:30pm nightly.
- c) In the event of excessive rain, the General Manager may direct that the park not be used for carparking if, in his opinion, excessive damage will result.

- d) No marketing, sales or promotions of any kind shall be undertaken within the Park during the period of use.
- e) Only vehicles under 3 tonnes and under 6 metres in length will be permitted to access and park in the park;

3. *Following the Event*

- a) Lyne Park and Woollahra Ovals 2 & 3 shall be fully restored not later than two weeks following the event. Restoration works include vertidrain, sand topdressing, fertilising and returfing. The organizers, IMG, shall fund the full cost of these works;

Background:

The Royal Australian Golf Club (the Club) is hosting next year's Women's Australian Golf Open, 1 – 4 February 2007. IMG are the tournament organisers on behalf of Golf Australia and the Club. The Club is also be hosting this year's Australian Open 16 – 19 November 2006.

During previous large golfing events hosted at Royal Sydney Golf Club, Council has permitted Lyne Park and Woollahra Ovals 2 and 3 to be used for parking. The Community and Environment Committee, at its meeting of 13 June 2006, agreed to permit parking on Lyne Park and Woollahra Ovals 2 and 3 for the November event, subject to a number of conditions. A copy of the report is contained in the Annexure. Dangar Sportsground, which is managed by Cranbrook School, has also been used for parking. The use of these venues, for parking, assists in reducing the parking demand on surrounding streets and the impact that street parking would have on the adjoining residents.

The Women's Australian Open is the largest women's golfing event in the Australian golfing calendar. Whilst the number of spectators is not expected to reach the estimated 40,000 for the forthcoming Australian Open in November, large crowds are still anticipated.

Visitation trends from Australian Open tournaments indicate that there is a graded increase in visitor attendance over the four days with Sunday, when the final round is played, being the most popular, with up to 8,000-10,000 people in attendance.

IMG have prepared a Traffic Management Plan for the Australian Open event in November, which was approved by Council's Local Traffic Committee in September 2006. IMG and our traffic engineers have agreed to review traffic management associated with the November event and amend the traffic management plan for the February event, as considered necessary. The traffic management plan will then be submitted to Council's Local Traffic Committee for approval.

Proposal:

As with previous Australian Open tournaments held at the Club, the event organisers have sought Council's assistance in providing Woollahra Ovals 2 and 3 for public carparking and Lyne Park for members' carparking. The organisers have also sought approval from Cranbrook School to allow public carparking on Dangar Sportsground and some sections of the former bowling club for local street residents. At the time of drafting this report, Cranbrook School was still considering the request.

On previous occasions, tournament organisers have charged a fee for the use of the park carparks to assist in managing and securing the carparking. This year, IMG have indicated that a fee of \$7 will be charged.

A small amount of parking will be provided within the Royal Sydney Golf Course for sponsors and the media, however, it is limited considering the majority of the course is being used to host the tournament.

In considering the request to use the sportsgrounds for parking, Council can either:

1. support the proposal with conditions to safeguard the sportsgrounds and surrounding residents, or
2. refuse the use of the grounds.

A discussion on potential impacts and issues is provided. These are restricted to issues relating to the use of the sportsgrounds for parking. Other issues, relating to traffic management, will be dealt with separately by Council's Local Traffic Committee.

Potential impacts / issues

The parks

Following the completion of each winter season (Sept – Oct), we undertake scheduled renovation works on our sportsgrounds. As part of these works, we aerate the ground using specialist machinery, top dress the fields, fertilise and, where necessary, reurf worn areas. Much of this work is aimed at de-compacting the ground to facilitate improved drainage and grass root growth in readiness for summer sports and ensure good turf cover for the next winter season.

The use of the sportsgrounds for carparking compacts the sports surface and necessitates the need to once again de-compact the ground. Therefore, aeration works will be required following any use of the sportsgrounds for carparking (see Condition 3a under Recommendations).

Our fees in the 2006-07 Budget for carparking on sportsgrounds are \$2,300 per park, per day. Therefore, the following fees will apply in this case.

Lyne Park (\$2,300) + Woollahra Ovals 2 and 3 (\$2,300) x 4 days = **\$18,400**. (see Condition 1a under Recommendations)

With regard to the permissibility of using the parks, the Lyne Park Plan of Management (2003) permits parking on the grassed areas during events and the Woollahra Park Plan of Management (2001) does not preclude the use of the park for parking purposes.

Any use of the parks for parking must be managed by carpark controllers to ensure effective traffic flow off the surrounding streets, and the protection of the parks (see Condition 1b under Recommendations).

To protect Council's interest, it is our normal practice to obtain a bond to cover costs associated with the restoration of the parks at the conclusion of an event. Under these circumstances, we will require a bond of \$20,000 (see Condition 1c under Recommendations).

The park users

Woollahra Ovals 2 and 3 would normally be used by Cranbrook School and Colleagues Cricket Club during the period of the event. Cranbrook School have indicated that they are seeking to reschedule their sporting events conducted at Dangar Sportsground and Woollahra Ovals 2 and 3 to reduce potential traffic and parking conflicts during the event. Colleagues Cricket Club have also indicated they will schedule games around the event.

Kambala School normally uses Lyne Park for touch football at the time of the tournament. Alternative sporting venues may be made available to the School should Lyne Park be used for parking.

All pedestrian pathways, the playground and park furniture in Lyne Park will be accessible to park users. Therefore, there would be no major impact to existing seasonal or casual park users.

The neighbours

Event organisers have undertaken that they will allow adjacent residents to use the sportsground carparking at no cost in the same manner as proposed for the November event (see Condition 1d under Recommendations).

The use of Woollahra Ovals 2 and 3 would be restricted to a 9:00pm closing time, which is the current time limit for the sportsground training and associated lighting. The use of Lyne Park will have no negative impact on nearby residents. A 10:30pm time limit is recommended for the cessation of parking at Lyne Park (see Condition 2a under Recommendations).

Conclusion:

The Royal Sydney Golf Club has hosted large scale golfing events in 1988, 1994 and 1999 and another planned in November this year and, on all these occasions, Council has permitted the Club to use the parks requested in an effort to minimise the impact of excessive numbers of vehicles and visitors to the event on local residents and the Municipality as a whole.

The protection of the sportsgrounds can be secured by a number of conditions, as outlined in the Recommendations and in keeping with the conditions imposed for the Australian Open in November. Impacts associated with parking demand and potential conflict with resident parking during the event can also mitigated with conditions.

It is, therefore, recommended that Council support the use of Lyne Park and Woollahra Ovals 2 and 3 under the conditions outlined in Recommendations.

David Sheils
Manager Public Open Space

Warwick Hatton
Director Technical Services

Annexures:

Community and Environment Committee Report dated 13 June 2006.

Item No: D3 Delegated to Committee
Subject: **Draft Woollahra Pesticide Use Notification Plan**
Author: Bruce Rann, Manager - Parks and Street Trees
Phillip Julian, Technical Officer - Parks and Street Trees
File No: 1192.G
Reason for Report: To advise Council on recent amendments to the Pesticides Regulation 1995 and exhibition of the Draft Woollahra Pesticide Use Notification Plan

Recommendations:

- A. That Council note that the Draft Pesticide Use Notification Plan has been placed on public exhibition for a period of 28 days during the months of October and November to allow time for the finalisation and gazettal of the Plan prior to 1 February 2007
- B. That following the period of public exhibition, a further report be submitted to the Committee outlining the consideration given to any public submissions and the presentation of the final Draft Woollahra Pesticide Use Notification Plan

Background:

The Environment Protection Agency (EPA) and the Department of Environment and Conservation (DEC) have amended the Pesticide Regulation (relating to the Pesticide Act 1995) to require that all Local Governments and Open Space Managers produce a Pesticide Use Notification Plan by February 2007. If a Plan is not in place by that date, penalties will apply to unauthorised use of pesticides.

The EPA and DEC are generally satisfied with the way Local Governments and Open Space Managers are using pesticides, however they believe that residents and visitors should have appropriate notification of pesticide use in public open space, so they can choose to avoid the open space venue during pesticide application if they desire.

Woollahra Parks staff are aware of the issues associated with pesticide use and have been working for a number of years on practices and procedures which minimise the volume, frequency and toxicity of pesticides used. We always apply pesticides under controlled conditions and use the lowest volume and toxicity chemicals possible.

However, the EPA and DEC use the word pesticide in its broadest sense, and ask that notification plans cover insecticides, termiticides, rodenticides, herbicides, fungicides, plant growth regulators and any other chemicals which may kill, harm or hinder the target organism. Therefore, the Notification Plan must encompass every possible use for pesticides within public open space areas, whether the Council is likely to use these or not.

We already have pesticide notification procedures in place, such as signage in local areas, and advertisements in the local paper. The changes to the Pesticide Regulation will formalise our current practices but not necessitate any significant changes.

Most Woollahra Parks employees hold tertiary qualifications in horticulture which encompass theoretical and practical competencies in the understanding and application of pesticides. In all instances where any unqualified staff are working with or near pesticides, those staff are trained by qualified consultants in the understanding and application of pesticide use to an equivalent competency of the TAFE qualification mentioned. All relevant outdoor staff working with pesticides hold a current 'ChemCert' certificate, and follow the WorkCover Code of Practice for Chemical Use.

By having qualified staff and keeping abreast of advances in horticultural science, we have been able to minimise the use of pesticides by improvements in plant cultural techniques as well as by employing many of the principles of Integrated Pest Management (IPM). To this end, Council has virtually stopped the spraying of insecticides in park, garden and roadside situations throughout the municipality. However, along with other peak horticultural organisations such as Royal Botanic Gardens and National Parks and Wildlife Service, Woollahra Council does employ pesticides (in the broad sense of the term) in a number of situations, as set out below:

Discussion of types of chemicals and their uses:

a. Plant Growth Regulators (PGR)

There are a number of sites across the municipality where PGR's are used. The main use of PGR's is to retard the growth of grasses on extremely steep slopes. This practice minimises the amount of time specialist trained horticultural staff have to spend working on steep slopes in harnesses. This minimises our exposure to potential risks associated with this kind of work.

b. Termaticides

Council employs specialist qualified contractors to inject termaticides into park and street trees identified as having termite colonies. This practice minimises the risk of trees becoming hollow and brittle as well as minimising the risk of termites spreading to adjacent houses. As this technique injects the pesticide deep into the tree there is very little risk of exposure to the public or staff.

c. Broad Spectrum Herbicides

Council uses "Roundup BiActive™", a new generation, low toxic, amphibian friendly form of Glyphosate to control noxious and environmental weeds in certain situations. Glyphosate is used as a spray by staff and contractors to control: weeds which affect residents such as asthma weed, noxious weeds which must be controlled under the Noxious Weed Act, and weeds which rapidly propagate in large quantities. Glyphosate is also the chemical most often used by bush regenerators in 'cut and paint' control programs for exotic invaders in Woollahra's natural areas.

d. Selective Herbicides

Safety, aesthetics and playability in most sporting codes requires a well-knit, uniform and even surface for sports fields. Woollahra Municipal Council uses herbicides such as 'Spearhead™' to remove broadleaf weeds from its high profile sports surfaces. Bush regeneration sites are often in close proximity to residential turf lawns. Selective herbicides such as 'Fusilade™' can effectively retard the invasion of natural bushland by exotic turf species.

e. Insecticides

Woollahra Municipal Council has virtually eliminated the use of insecticides in horticultural operations. The main use of insecticides is for dealing with dangerous insects such as wasps in high use areas such as verges in front of shopping centres. We have also dealt with turf destroying insects such as army worm with insecticides a couple of times over the last few years.

f. Alternatives

The alternative weed control method of steam spraying has been trialled by Woollahra Municipal Council Park staff however it was found to be:

- Less effective than herbicides because it only affects the above ground parts of the plant, leaving the root system to re-sprout.
- A very short lived result due to persistent roots further increasing potential costs.
- Difficult to use in natural areas due to the size and mobility of the steam compressors.
- Approximately twice as expensive as herbicides such as Glyphosate per application

Woollahra staff will continue to investigate and trial new technologies for pest control as they become available.

Notification Arrangements:

The notification arrangements outlined in the plan were based on our assessment of the common user groups known to use an area, the level of public use of the area, and the type of chemical used. Notification will generally be provided to the community through the use of advertisements in the local newspaper and detailed signs placed at the location where the pesticide is applied. However, additional notification arrangements will exist for sites that are considered to be sensitive places (such as hospitals, schools, and childcare centres) and when a broad scale pesticide application program is initiated (such as the quarterly herbicide treatment of weeds within the suburbs of Paddington and Woollahra).

Conclusion:

It is important to ensure an appropriate level of notification is provided to the public when pesticides are applied to open space areas. It is also important to maintain a high level of operational efficiency to enable the most effective management of these areas.

The Draft Woollahra Pesticide Use Notification Plan conforms to all requirements of the amended regulation and provides for the most effective management of public open space areas and service to the community.

Bruce Rann
Manager Parks and Street Trees
Phillip Julian
Technical Officer – Parks and Street Trees

Warwick Hatton
Director – Technical Services

ANNEXURE:

1. Draft Woollahra Pesticide Use Notification Plan
2. Department of Environment and Conservation, Fact Sheet 41: New law for notifying the community when public authorities use pesticides in public places.

Item No: D4 Delegated to Council
Subject: **DRAFT CRIME PREVENTION PLAN**
Author: Louise Simon, Community Development Officer
File No: 79.G CPP
Reason for Report: The attached draft Crime Prevention Plan has been developed to address crime within the Municipality. Furthermore it aims to provide Council with strategies to prevent crime from occurring.

Recommendation:

- A. That Council approve the release of the draft Crime Prevention Plan for a public exhibition period of 28 days.
- B. That a further report be presented back to Council in consideration of submissions received during the public exhibition period.

Introduction:

This report is in relation to the draft Crime Prevention Plan. (Annexure 1) The draft Crime Prevention Plan has been developed to reduce the public's fear of crime and actual crime from occurring. It aims to provide Council with a framework to implement strategies to prevent crime so that public and private spaces are safe, attractive and well cared for to encourage the prevention of criminal activity.

The draft Plan has been developed to address the following:

- 1. Make Woollahra a safe place in which to live, work and visit.
- 2. Identify priorities for strategic action to decrease crime, fear of crime and to reduce anti-social behaviour.
- 3. Raise awareness of home and community safety measures through promotion and availability of information.

Background:

Council has a long commitment to community safety and crime prevention, commencing in 1988 with the establishment of the Community Consultative Committee. This commitment is demonstrated through the current Community Safety Committee, where issues regarding crime and safety are discussed on a monthly basis.

Following extensive consultation Council adopted a Community Safety Plan in June 2004. This Plan was then put forward to the Attorney General's department for endorsement and compact funding. However, endorsement was not granted at this time and, as a result, funding was not forthcoming. The Attorney General's department requested a document that was crime preventative rather than safety focused.

Based on the comments received from the Attorney General's Department the Community Safety Plan was amended and further consultation undertaken. It has now been significantly modified to reflect crime preventative strategies rather than broader community safety issues and the document has been renamed the Woollahra Crime Prevention Plan.

The 2006-2009 Management Plan requires the Crime Prevention Plan to be to be completed to improve community safety in Woollahra.

Proposal:

It is proposed that Council approves the placement of the draft Crime Prevention Plan on public exhibition for 28 days. Following this exhibition period a report will be presented back to Council for final consideration and adoption.

The adopted Crime Prevention Plan will then be submitted to the Attorney General's Department for endorsement. Once endorsed, Council is eligible to apply for compact funding to cover expenses associated with the strategies and actions detailed in the plan.

Consultation:

Consultation on the development of the draft Crime Prevention Plan has been conducted through informal and formal processes including discussions with other Council's Community Safety Officers and Woollahra Council Staff. The Community Safety Committee, Youth Safety Network, Rose Bay Police, Eastern Suburbs Domestic Violence Network, Residents and Business Owners were among groups that were consulted to create the draft Crime Prevention Plan.

These consultations were combined with statistics obtained from the Bureau of Crime Statistics and Research and Rose Bay Local Area Command Statistics.

Once the Action Plan was created to reflect consultations and statistics the Community Safety Committee surveyed the Action Plan and ranked the crimes in order of priority. Based on this a three year time line has been established to implement the projects in priority order.

Options:

Council could decide not to adopt the draft Crime Prevention Plan; however Council may be seen as not being proactive in preventing criminal activity within the area.

Identification of Income & Expenditure:

Once this plan is adopted by Council and then endorsed by the Attorney General's Department, Council will be able to apply for compact funding up to the amount of \$50,000. This funding should cover the implementation of the entire Plan, with the only impact on Councils' budget being staff time.

Conclusion:

The draft Crime Prevention Plan has been developed to reduce the public's fear of crime and actual crime from occurring. It aims to provide Council with a framework to implement strategies to prevent crime so that public and private spaces are safe, attractive and well cared for to encourage the prevention of criminal activity. A public exhibition period prior to the adoption of the Plan provides the opportunity for the general community to comment on the actions and strategies, ensuring that they reflect community needs.

Louise Simon
Community Development Officer

Kylie Walshe
Director, Community Services

ANNEXURES:

Annexure 1: draft Crime Prevention Plan

Item No: R1 Recommendation to Council
Subject: **ADOPTION OF RECONCILIATION STATEMENT**
Author: Jo Jansyn, Cultural Development Coordinator
Louise Simon, Community Development Officer
File No: 722.G RS
Reason for Report: Presentation of submissions received following the public exhibition period and recommending amendments to the draft Reconciliation Statement.

Recommendation:

- A. That Council adopt the draft Reconciliation Statement with the amendments as recommended.
- B. That Council endorses the implementation of the Reconciliation Action Plan.

Background:

At the Community and Environment Committee meeting on 14 August 2006 (Annexure 1), the Committee resolved:

- A. *That Council approve the release of the draft Reconciliation Statement for a public exhibition period of 28 days.*
- B. *That a further report be presented back to Council in consideration of submissions received during the public exhibition period. This further report is to incorporate a Reconciliation Action Plan.*

Following this resolution the draft document was released for public exhibition for 28 days.

Proposal:

It is recommended that Council adopt the draft Reconciliation Statement with minor amendments in line with the submissions received from community consultation. Furthermore, it is recommended that Council endorse the Reconciliation Action Plan.

Consultation:

In an attempt to ensure as many residents and stakeholders had the opportunity to comment on the draft Reconciliation Statement, a number of communication methods were used, including:

- Notification was placed in the Wentworth Courier, Mayoral Column during the exhibition period.
- The draft document and an invitation to comment on the document was placed on Council's website.
- The draft document and invitations to comment were posted to a range of members of Council committees that included community representatives, such as the Community Safety Committee.
- The draft documents and invitations to comment were posted to resident and community groups.

- The draft documents and invitations to comment were posted to a range of stakeholders that Council regularly consults and communicates with, such as schools, religious organisations, social groups, local Members of Parliament and sporting clubs.
- The draft documents and invitations to comment were posted/emailed to a range of stakeholders including the Eastern Suburbs Organisation for Reconciling Australia (ESORA), La Perouse Local Aboriginal Land Council (La Perouse LALC) and the Eastern Region Local Government Aboriginal and Torres Strait Islander Forum.

A total of twenty one (21) submissions were received over the 28 day exhibition. These were submitted by members of ESORA, Cranbrook School, La Perouse LALC, Peter Garret MP, Waverley Council and local community organisations and individuals. Overall, the submissions strongly support the draft document, with one comment concerning the lack of reference to other cultural groups in the area, which has recently been addressed separately through the adoption of a Community Cultural Relations Statement.

Each submission has been summarised in Annexure 2 and is available for full viewing on request. The amendments, which have come as a result of the public exhibition period, are included in the revised draft Reconciliation Statement (Annexure 4). The draft Reconciliation Statement prior to amendments has been attached as Annexure 3.

Identification of Income & Expenditure:

The adoption of the draft Reconciliation Statement will have no impact on income or expenditure. The Reconciliation Action Plan indicates some areas where funding is required for projects however these activities are currently within Council's adopted Management Plan 2006 – 2009.

The adoption of the Reconciliation Statement and endorsement of the Reconciliation Action Plan will not further impact on staff time as these activities are currently in line with Council's adopted Management Plan 2006 -2009.

Conclusion:

The Reconciliation Statement has been developed to acknowledge Aboriginal and Torres Strait Islander heritage and cultural contribution. It aims to provide Council with a framework for any future development of projects or activities in line with identified needs and issues.

Jo Jansyn
Cultural Development Coordinator

Louise Simon
Community Development Officer

Kylie Walshe
Director – Community Services

ANNEXURES:

Annexure 1: Report to Community and Environment Committee on 14 August 2006
Annexure 2: Summary of submissions received during exhibition period
Annexure 3: Amended draft Reconciliation Statement
Annexure 4: Reconciliation Action Plan

Item No: R2 Recommendation to Council
Subject: **THE cRESCENT, VAUCLUSE – drainage and WATER QUALITY INVESTIGATION**
Author: Jamie Howieson – Project Manager Environmental Works
File No: 445. Drainage. The Crescent, Vauclose
Reason for Report: To report and recommend a project to Council that will address local flooding and treat stormwater in The Crescent, Vauclose.

Recommendation:

- A. That Council support a combined drainage upgrade and environmental stormwater treatment project to address local flooding and treat stormwater that discharges into Parsley Bay.
- B. That the upgrade of the GPT in Hopetoun Avenue, that is currently not allocated, is placed on a forward program and considered as part of a combined Environmental & Infrastructure Levy Application in 2007.
- C. That a summary of these investigations, the proposed strategy and minuted adoptions and/or comments resulting from this Community & Environment Committee meeting of 23 October 2006, be provided to the next Floodplain Management Community Reference Group (FPMCRG).

Background:

The residential properties fronting the low side of The Crescent and Hopetoun Avenue, Vauclose, and properties adjacent to the drainage reserve between Hopetoun Avenue and Village High Road, have a history of flooding due to significant surface flows down Hopetoun Avenue and from other Vauclose sub-catchments where the existing drainage system is inadequate. In response to residents' correspondence, a preliminary drainage study of the Vauclose Stormwater Catchment was undertaken by Council in 2000. The results of the preliminary drainage study, including the recommendation that a consultant be engaged to provide more detailed analysis, were adopted by Council in October 2000.

The catchment required extensive investigation to determine the causes of flooding problems, assess various drainage strategies and recommend an overall drainage strategy to Council. The extent of the investigation required is illustrated in the Catchment Layout Plan included as Annexure 1. Water and environmental engineers, Webb McKeown and Associates Pty Ltd, were engaged to prepare a comprehensive catchment-based drainage investigation. They completed The Crescent, Vauclose - Drainage Investigation in 2004. The Drainage Investigation identified the need to consider anticipated environmental impacts of the recommended drainage strategy. Webb McKeown and Associates were, subsequently, engaged to prepare a Water Quality Investigation to address environmental impacts, primarily water quality issues.

Drainage Investigation

The flooding of properties fronting The Crescent, Vauclose, is predominantly caused by significant stormwater run-off travelling down Hopetoun Avenue and from Vauclose sub-catchments. The drainage catchment comprises 38.4 Ha (refer to Catchment Layout Plan - Annexure 1) and extends to New South Head Road.

Objectives of the Drainage Investigation were to:

- identify the existing flooding problems throughout the drainage catchment by assessing the adequacy and capacity of the existing drainage network and quantify overland flows for various frequencies of storm events including the 1 in 100 year ARI storm event, and
- develop a drainage strategy to either solve or minimise the flooding problems within the catchment by assessing all available drainage options.

Description of Flooding Problems

The Crescent is situated at the bottom of the drainage catchment and experiences a significant amount of overland flows along the roadway, which has limited capacity to cope with the level of flows. An analysis of the hydraulic capacity (conveyance) of the roadway cross-section showed a significant reduction in flow capacity near the critical location in The Crescent, ie adjacent to property No.s 10 & 12. This sizeable reduction (from 1.2m³/s to 0.3-0.4m³/s) in the ability of the road to convey water indicates that property No.s 10 & 12 could experience flooding from overland flows along The Crescent for storm events even less than 1 in 5 years.

In the past, two houses in The Crescent and several yards have flooded. Responses to questionnaires, which were distributed to 31 properties in the study area, indicated that a number of properties in the Crescent, Hopetoun Avenue and Village High Road were affected by flooding during the storms of 1999. The drainage investigation supports this claim, identifying potential flooding as an issue to properties on the low side of Hopetoun Avenue, where overland flows could enter properties via their driveways, which have inadequate flood protection.

The causes of overland flow and potential flooding issues are not localised to The Crescent, Vacluse. Results from the DRAINS model, completed as part of the drainage investigation, indicate that a large proportion of overland flows experienced at The Crescent actually originate from problems further up the catchment (capacity limitations of the existing drainage system), in Hopetoun Avenue and Village High Road.

Scenario: 1 in 5 year ARI event:

In a 1 in 5 year ARI event, it is estimated that about 8.5m³/s overland flows would be arriving at The Crescent, Vacluse. Of this 8.5m³/s, only 1.0m³/s is conveyed by the road, meaning the remaining 7.5m³/s is uncontrolled flows, which will overtop the kerb and flow down driveways and potentially into private properties. Property No.10 has the lowest driveway, which means the majority, approximately 60%, of flows would flow down this driveway. It is estimated that the flow depth at the entrance to this driveway, during a 1 in 5 year storm event, would be approximately 0.75m. When the floodwaters travel further into the properties, the water will disperse, reducing the flood depth, however, it would likely remain at or above 0.30m.

Scenario: 1 in 100 year ARI event:

In a 1 in 100 year ARI event, it is estimated that about 17.5m³/s overland flows would be arriving at The Crescent, Vacluse. It is difficult to estimate the depth of flows for this type of event, however, the majority of driveways to properties on the lower side of The Crescent, property No.s 2 - 14 inclusive, would be unable to handle the massive overland flows travelling along the road. These properties would therefore be susceptible to high-level flooding via overland flows overtopping the kerb and entering their properties via their driveways. The maximum flow depth occurring near property No.s 10 & 12 during a 1 in 100 year ARI event would be more than 1.0m.

Drainage Management Strategy

The drainage management strategy proposed by Webb McKeown in the Drainage Investigation is a multiple-solution approach which addresses the local flooding issue. Given the quantity of overland flows arriving at The Crescent, during both major and minor storm events, it would be difficult to deal with all the flows through localised solutions at The Crescent. Hence, a series of drainage solutions to substantially upgrade the existing piped drainage system (major works) within the broader catchment have been identified and assessed. Some simpler localised measures (minor works) to improve the drainage system have also been investigated.

These drainage solutions (categorised as numbered major and minor works for clarity), *together*, form the complete drainage management strategy, as proposed by Webb McKeown & Associates. A summary of the drainage solutions investigated, major and minor works, is provided below.

Table 1 - Proposed Drainage Solutions

Solution No.	Proposed Drainage Solutions	Location
1	Includes upgrading the existing drainage system (V2A & V3) and providing additional collection pits.	The Crescent
2	Includes upgrading the existing drainage system(V5) and providing additional collection drainage pits.	Village High Rd to Hopetoun Ave
3 3.1 3.2 3.3	Includes; <ul style="list-style-type: none"> • providing flow diversion in Hopetoun Avenue to divert flows into Parsley Bay, • upgrading the pipeline in the drainage reserve to a 900 mm pipe with additional drainage collection pits in Village High Road, and • upgrading the drainage system in Village High Road. 	Village High Rd & Hopetoun Ave
4	Includes upgrading drainage line across Hopetoun Ave and further downstream and provide additional drainage collection pits in Hopetoun Ave.	Intersection of Village High Rd & Olphert Ave, across Hopetoun Ave to Parsley Bay
5	Minor drainage improvement works	Various locations

More detail regarding each of the abovelisted drainage solutions is included as Annexure 2 - Summary of Drainage Solutions.

In addition to the above major drainage options, the Drainage Investigation identifies more than \$131,000 worth of minor drainage improvement works, such as upgrading driveways, changing road camber and flow baffles to improve the drainage problems by improving the conveyance of flows and diverting flood waters away from properties. Proposed minor works have been marked on an aerial photograph and included as Annexure 3 to this report.

As outlined above, the complete drainage management strategy consists of a number of solutions both local to The Crescent and throughout the broader catchment. Due to funding limitations, the proposed drainage strategy has been considered for implementation in stages. To determine the priority of the solutions and how the work should be staged, comparisons to the existing situation,

at the primary location, ie property No.s 10 & 12 The Crescent, were drawn. The following table outlines these comparisons.

Table 2 – Comparison of drainage solutions and anticipated flow depths

Storm Events ARI	Flow depths at driveway entrance to No.s 10 & 12, The Crescent, Vacluse				
	Existing	Solution no.1	Solution no.2	Solution no.3	Solution no.4
1 in 5 year	0.75m	0.45m	0.45	0.20m	0.5
1 in 100 year	>1.20m	>1.20m (unchanged)	>1.20m (unchanged)	0.50m	>1.20m (unchanged)
Comments	Flow depths significant, likely to cause severe damage to property	Flow depths significant, likely to cause severe damage to property	Flow depths significant, likely to cause damage to property	Flow depths significantly reduced yet still capable of causing severe damage	Flow depths significant, likely to cause severe damage to property

It is clear that Solution No.3 provides the best reduction in overland flows and resulting flood levels to properties - a reduction of 0.55m for a 1 in 5 year storm event. Assuming then, that Solution No.3 is the highest solution, comparisons are also drawn for a combined solution approach, a combination of solution No.s 3 + 1, 3 + 2 and 3 + 2 + 1.

Table 2A – Comparison of *combined* drainage solutions and anticipated flow depths

Storm Events ARI	Flow depths at driveway entrance to No.s 10 & 12, The Crescent, Vacluse			
	Existing	Solution No.3+1	Solution No.3+2	Solution No.3+2+1
1 in 5 year	0.75m	0.00m	0.00m	0.00m
1 in 100 year	>1.20m	0.15m	0.15m	0.00m
Comments	Flow depths significant, likely to cause severe damage to property	1 in 5 year event flood risk eliminated. 1 in 100 year event flow depth minimised, but still capable of causing property damage	1 in 5 year event flood risk eliminated. 1 in 100 year event flow depth minimised, but still capable of causing property damage	Flood risk eliminated. Flow depths minimised.

Summary of Recommended Drainage Infrastructure Works Stages

As there is not enough funding available to implement the entire drainage strategy i.e. Solution No.s 1-3 + minor works simultaneously, it is recommended that the project be implemented in the following stages. As above, Solution no.3 is the priority.

Stage 1A:

Includes implementation of priority drainage Solution No.'s 3.1 and 3.2

Stage 1B

Includes implementation of priority drainage Solution No. 3.3.

Stage 2:

Includes implementation of priority drainage Solution No. 1.

Stage 3:

Includes implementation of priority drainage Solution no. 2 and all minor works.

It is recommended that Stages 1A and 1B are implemented simultaneously to enable a potential cost saving of \$20,000 to be made, refer Identification of Income & Expenditure for detail.

Drainage solution No. 4 is not included in the proposed work stages as this solution was provided as an alternative to the more effective solution No.3. If solution No.3 is implemented, then the benefits of solution No.4 are only localised, with no additional reduction in overflows attained at The Crescent.

Drainage Investigation Conclusion

Drainage solutions 3, 2 and 1 are needed to achieve elimination of all flooding. Drainage solutions 3.1, 3.2 and 3.3 should be carried out as the initial stages, with some cost saving if carried out simultaneously and solutions 2 and 3 should be carried out in that order as funds can be made available.

Water Quality Investigation

The opportunity should be taken to consider water quality improvement projects in conjunction with the drainage works to;

- 1) minimise environmental impacts of the drainage works, and
- 2) remove pollutants from water flowing to the harbour.

For these reasons, a water quality investigation was undertaken.

Webb McKeown and Associates were engaged to complete a Water Quality Investigation to consider the environmental impacts of the proposed drainage solutions and Water Sensitive Urban Design (WSUD) principles and to ensure an environmentally acceptable outcome. Council has obtained a grant of \$125,000 from the Department of Natural Resources (DNR) Estuary Management Program to carry out stormwater treatment works associated with the necessary drainage upgrade works to reduce local flooding at The Crescent, Vaucluse.

The Water Quality Investigation included an evaluation of litter baskets, Hydrocon and Atlantis sand filter system technologies, small planter-box or street tree bioretention systems and energy dissipaters for reducing flow velocities and scour potential. The investigation could be applied to sites across the catchment or to sites specific to the lower priority drainage works stages, if it was decided to implement further stages in the future.

After a detailed hydraulic review and preliminary cost estimates, the Atlantis Water Technology drainage cells, which were outlined as the possible treatment solution in the original grant application to DNR, were not considered a viable option in this particular application. The main contributing factors for ruling out the use of this technology were that the catchment is relatively steep, with bedrock close to the surface. DNR have approved our request to change the scope of the original project accordingly, re-allocating grant monies instead to Water Quality Option 1 - Bioretention system at Hopetoun Avenue.

Within the context of a *whole of catchment* approach, the major works options outlined in the Water Quality Investigation focused on environmental impacts of the recommended priority drainage Solutions No.s 1 and 3, as these locations provided the greatest opportunity in terms of land area and best addressed the imminent Drainage Work Stages 1A, 1B and 2.

The Water Quality Investigation recommended a number of major and minor stormwater treatment options utilising a variety of technologies which, when combined with the drainage upgrade works, would adequately treat the new, increased stormwater flows. In summary, the recommended Major Works options in the Water Quality Investigation include the following:

Table 3 - Summary of Water Quality Options

Option	Solution Description	Drainage Work Stage addressed	Location	Cost
1	Bio-retention system	Stage 1	Hopetoun Ave	\$120,000
2	Gross Pollutant Trap	Stage 1	Village High Rd	\$130,000
3	Upgrade existing Gross Pollutant Trap – Hopetoun Ave	Stage 1	Hopetoun Ave	\$160,000
4	Bio-retention system	Stage 2	The Crescent	\$210,000
5	Energy dissipater at outlet	Stage 1	End of drainage upgrade line – Hopetoun Ave	\$50,000

Minor Works were also recommended, which included shallow bioretention systems at two key locations, and a general recommendation that similar systems and/or sand filter or drainage cell technologies be considered for use at other capital works sites across the catchment.

Water Quality Option 1 - Bioretention System at Hopetoun Ave

A bioretention system uses plantings in a conditioned planting soil/sand bed to treat and manage stormwater runoff. The proposed system at Hopetoun Avenue is designed to treat overland flows and road run-off. Bioretention systems are most effective in removing medium to fine sediments and attached pollutants such as nutrients, oils, grease and metals. In addition to providing a reduction in peak flows, the bioretention system is located off-line and therefore, will provide additional drainage system capacity. Failure of the system due to clogging will not affect the capacity of the drainage system.



Photograph 1
Typical roadside bioretention system with grass buffer strip

Water Quality Option 2 - Gross Pollutant Trap, Village High Road

This option involves provision of an additional pollutant filtration device at Village High Road to provide additional treatment to piped flows arriving at the outlet of line V6. Pollutant filtration devices provide a high level of efficiency in the removal of coarse sediment and gross pollutants or litter, such as bottles, cans, plastic bags, organics etc.

Water Quality Option 3 - Upgrade existing Ecosol Unit at Hopetoun Avenue

This option involves replacement of the existing GPT with a new unit capable of providing greater treatment to increased flows, resulting from Stage 3 drainage upgrade work, arriving at line V6 outlet. As per Option 2, gross pollutant traps provide a high level of efficiency in the removal of coarse sediment and gross pollutants or litter, such as bottles, cans, plastic bags, organics etc.

Water Quality Option 4 – Bioretention System at The Crescent

Similar to Option 1, but addressing localised overland flows and run-off from The Crescent. Bioretention systems are most effective in removing medium to fine sediments and attached pollutants such as nutrients, oils, grease and metals. In addition to providing a reduction in peak flows, the bioretention system is located off-line and, therefore, will provide additional drainage system capacity. Failure of the system due to clogging will not affect the capacity of the drainage system.

Option 5 - Energy Dissipater

Energy dissipation was identified in both investigations as an essential component of the proposed drainage infrastructure works. As part of priority drainage Solution No.3, energy dissipation would replace the need for additional expensive micro tunneling to provide additional pipeline to overcome the impact of increased discharges at the outlet. Energy dissipation will reduce sediment levels in the bay by eliminating the potential for uncontrolled flows to scour material from the banks and transport it downstream into the bay.



Photograph 2
Typical energy dissipater
structure

The energy dissipater proposed at the top of Parsley Bay Reserve, between property No.s 86 & 88 Hopetoun Avenue, will reduce flow velocities and scour potential of increased flows. There are a variety of types of energy dissipaters, the most appropriate type will be selected and designed during the detail design stage of the project.

Water Quality Investigation Recommendations

The Water Quality Investigation, in summary, recognised the need to address potential environmental, namely, water quality, impacts of the proposed drainage management solutions, particularly the priority Stage 1A and 1B works. It is recommended that Water Quality Investigation Options 1, 3 and 5, which address environmental impacts specific to Stage 1A and 1B drainage works, be included in the scope of works for a combined project, as outlined in the following proposal.

Proposal:

In response to the recommendations of both the Drainage and subsequent Water Quality Investigations prepared by Webb McKeown & Associates, it is recommended that Council support a project that addresses the local flooding issues at The Crescent and improves the water quality of the stormwater that flows into Parsley Bay as part of the project scope of works.

The project components selected for inclusion as part of the proposed combined project were outlined as key priorities in both the Drainage & Water Quality Investigations and will have a major impact on both the receiving waters of Parsley Bay and local properties experiencing flooding. Taking into consideration the recommendations from each report, the priority rating for each drainage solution and available project budgets, the following combined drainage infrastructure and environmental works project is recommended. Annexure 4 provides an aerial plan showing the recommended combined stormwater drainage upgrade and water quality treatment project with the following components.

Table 3 - Combined Drainage Upgrade and Environmental Stormwater Treatment Project

Project Component Description	Source Investigation	Estimated Cost	Funding Source
Flow diversion structure at Village High Rd & Hopetoun Ave	Drainage Management Solution No.3.1 - Flow Diversion Structure Only, Stage 1A	\$60,000	2005/06 EWP
Upgrade existing drainage line between Hopetoun Ave & Village High Rd	Drainage Management Solution No.3.2 Upgrade V6, Stage 1A	\$250,000	2005/06 EWP
Upgrade existing drainage in Village High Rd	Drainage Management Solution No.3.3, Stage 1B	\$180,000	2006/07 EWP
Bio-retention system at Hopetoun Ave	Water Quality Investigation Option 1	\$120,000	2005/06 EWP DIPNR Grant
Energy dissipator at outlet in Hopetoun Ave	Drainage Investigation & Water Quality Investigation - Option 5	\$50,000	2005/06 EWP (Under Community Water Grant application)
<u>Upgrade GPT in Hopetoun Ave</u>	Water Quality Investigation Option 3	\$140,000	Not allocated

In summary;

Sub-Total allocated Drainage works: **\$490,000**

Sub-Total allocated Water Quality works: \$170,000 (*including up to \$125,000 funding provided by DNR Estuary Management Grant for water quality works*)

Total combined project: **\$660,000**

The combined project recommended above incorporates the highest priority solutions and options from each investigation only. It is further recommended that remaining drainage work stages and water quality options be considered for future implementation, as outlined below.

Options:

Both the Drainage and Water Quality Investigations outline a number of prioritised management solutions and options to allow for staged project implementation as budget becomes available. The proposed project incorporates the highest priority solutions and options from both the Drainage Investigation Report and the Water Quality Report.

The remaining drainage works stages (Stages 2 and 3) are recommended to be placed on a forward Environmental & Infrastructure Works Program to be implemented as funds become available, if the maximum effect of the drainage management strategy developed is to be achieved.

The remaining water quality options (Options 2 & 4) may form part of future Environmental & Infrastructure Works Programs but their feasibility would need to be reassessed following completion and evaluation of the combined priority project. Opportunities for inclusion of water quality minor works should be considered as part of all future drainage infrastructure works.

The recommended proposal and staging of works outlined in this report are required because of the lack of funding available to implement the entire drainage strategy and essential water quality components simultaneously. The proposal is, therefore, based on the best value for money to reduce the flooding impacts in The Crescent over the short term for the lowest capital cost, i.e to suit available funding, while introducing a new component to treat the increased stormwater flows that will result from the drainage upgrade works.

Consultation:

Consultation commenced with residents of The Crescent and Hopetoun Avenue in 2004. Questionnaires prepared by Webb, McKeown & Associates were posted out in March 2004 and responses were received by Council during the period April-June 2004. These questionnaires focussed on flooding and drainage related information about residents' individual properties and within the local area, and encouraged comments and input from residents to help ascertain performance of the existing drainage system and identify problem areas.

At the ELCRG meeting in October 2005, an update on Local Flooding, Critical Pits and Overland Flow Program, former Section 8.6 of the Environmental Works Program (EWP), was provided. This update included funding discussions relating to the stormwater management options outlined in the Drainage Investigation, which were in excess of the allocated project budgets. The group supported a reallocation of funds to The Crescent drainage improvement works.

The most recent consultation was through a presentation by Ben Noble of Webb, McKeown and Associates to the ELCRG, summarising the outcomes of the Drainage Investigation, how it generated the subsequent Water Quality Investigation and its recommendations for stormwater treatment. The group was very supportive of the concepts put forward.

It is recommended that a summary of these investigations and of the proposed strategy be provided to the next meeting of the Floodplain Management Community Reference Group (FPMCRG). The project has not been previously considered by this committee because it has been underway since 2003, being identified in the first year of the Environmental Works Program, long before the FPMCRG was setup.

Identification of Income & Expenditure:

A budget of \$100,000 was allocated in the original approved Environmental Works Program (EWP) towards upgrading the drainage works in The Crescent, Vacluse, to address local flooding. In response to the consultant's investigation and recommendations for the drainage management solutions, the budget was reviewed and increased in 2004 in consultation with the Environmental Levy Community Reference Group (ELCRG).

A funding allocation of \$366,899 was rolled over into the 2005/06 EWP. A grant of \$125,000, from The Department of Natural Resources (DNR), Estuary Management Program for Stormwater Treatment Solution associated with the Drainage Upgrade Works, was also accepted in November 2005. An additional \$191,407 was allocated to the project from the Environmental Works reserve when considering revotes for 2006/07 to allow sufficient budget for the full recommended project to proceed.

The available project budget allocation in the 2006/07 EWP is summarised as follows:

1. 2006/07 EWP	\$540,000
2. DNR Grant	<u>\$125,000</u>
Total Budget	\$665,000

Proposed Project \$660,000

Water Quality Option 3 - Upgrade existing Ecosol Unit at Hopetoun Avenue, that is currently not allocated, is proposed to be placed on a forward program and form part of a combined Environmental & Infrastructure Levy application in 2007.

An application for the cost of the Energy Dissipater has been submitted under the second round of the Australian Government's Community Water Grants.

There are opportunities for possible project cost savings. A \$20,000 cost saving may be possible by proceeding with drainage work stages 1A and 1B (drainage Solution No.s 3.1, 3.2 and 3.3) simultaneously, a reduction from \$510K to \$490K. It is recommended that the project be staged to take advantage of this \$20,000 saving and, as such, it has been factored into the project budget outlined above.

A potential \$110,000 cost saving, through a reduction in the scope of works required for Stage 2 works (Solution no.1), could be achieved by proceeding with the complete drainage strategy, i.e. all drainage work stages 1A, 1B, 2 & 3 simultaneously, however, budget limitations preclude this potential saving.

At this stage, there is no budget available to allocate to the remaining drainage works stages (Stages 2 & 3) or the remaining water quality options (Options 2 & 4). These will be considered in preparing future budget proposals.

Conclusion:

The flooding problems reported in The Crescent, Vacluse, have been listed as a priority in the EWP. The solution to reduce flooding in The Crescent is now well documented through the Drainage Investigation, recommended drainage management solutions and overall drainage strategy. The strategy is a multiple solution approach for implementation locally and within the broader catchment, to carry out capital works drainage improvements to reduce flooding in The Crescent. When drainage improvement works are implemented, it is critical that resulting environmental impacts, namely water quality issues, are also addressed as part of the project scope of works.

Using the management solutions and options recommended in both the Drainage & Water Quality Investigations, a combined priority project has been recommended to meet the objectives of reducing local flooding and improving stormwater quality at the lowest possible capital cost. It is recommended that Council support the recommended project. The next stage is to carry out the detailed design and technical specification to allow tenders to be called. It is proposed that invitations to quote for consultant services to carry out the detailed design, write the specification and prepare tender documentation for the combined drainage and water quality project, incorporating the components listed in Table 3, be extended to suitable consultants.

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ANNEXURES:

1. Catchment Layout Plan showing Drainage Solution Locations
2. Summary of Drainage Solutions
3. Diagram of Proposed Minor Drainage Works
4. Combined Drainage Infrastructure & Water Quality Project Proposal