CITY OF ARMADALE

MINUTES

OF **TECHNICAL SERVICES COMMITTEE** HELD IN THE **COMMITTEE ROOM**, ADMINISTRATION CENTRE, 7 ORCHARD AVENUE, ARMADALE ON **MONDAY, 25 SEPTEMBER 2006**, AT **7.00 PM.**

PRESENT:	Cr J Everts	Chair
	Cr J Knezevich	
	Cr G A Best	
	Cr R Butterfield	
	Cr A Cominelli	
	Cr J Steward	
	Cr L Scidone	from 7.16pm
APOLOGIES:	Cr Hart	leave of absence
OBSERVERS:	Cr H Zelones	until 7.35pm
IN ATTENDANCE:	Mr A Bruce	Executive Director Technical Services
	Mr G Davies	Manager Technical Services
	Mr J Gossmann	Manager Engineering and Design
	Mr J Glassford	Manager Property Services
	Mr D Scriven	Manager Civil Works
	Mr P Lanternier	Manager Parks
	Mr R Van Delft	Snr Environmental Planner
	Ms V Carpenter	Minute Secretary
PUBLIC:	Nil.	

DISCLAIMER

The Disclaimer for protecting Councillors and staff from liability of information and advice given at Committee meetings was not read by the Chairman as no members of the public were present.

DECLARATION OF MEMBER'S INTERESTS

Nil.

QUESTION TIME

Nil.

DEPUTATION

Nil.

CONFIRMATION OF MINUTES

RESOLVED

Minutes of the Technical Services Committee Meeting held on 28 August 2006, were confirmed.

MOVED CR BEST

ITEMS REFERRED FROM INFORMATION BULLETIN – ISSUE NO. 18

The following items were included for information in the "Technical Services" section:

- **Outstanding Matters**
  Report on Outstanding Matters – Technical Services Committee T-1
- **Monthly / Quarterly Departmental Reports**
  Technical Services Directorate Works Programme T-2
- **Minutes from Occasional Advisory Committees**
  Armadale Gosnells Landcare Group Meeting No 105..... T-5
  Swan Catchment Council..... T-54
  Armadale Settlers Common June 2006..... T-58
  Armadale Settlers Common July 2006 ..... T-62
- **Miscellaneous**
  Karragullen Natural Science Expo..... T-66
  Line Marking Streich Avenue..... T-67
  AFMA Fleet Alert..... T-69

Committee noted the information and no further items were raised for discussion and/or further report purposes.

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TECHNICAL SERVICES COMMITTEE

25 SEPTEMBER 2006

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ARMADALE SETTLERS COMMON - PROPOSED VESTING OF RESERVE FOR BUILDINGS

WARD : All

DATE : 25 August 2006
REF : RVD/PL

RESPONSIBLE MANAGER : EDTS

In Brief:

- In June 2005 Council resolved officers investigate with the Western Australian Planning Commission the future use and ownership of the land and facilities around the Field Study Centre and Willow Heights.
- Following liaison with Council officers the Western Australian Planning Commission has written to Council suggesting that a reserve be created and a portion of the road reserve be leased for a peppercorn rental to the City to include the buildings, entrance/ parking area, main garden area, picnic area and water supply bore.
- **Recommend**
  That Council write to the Western Australian Planning Commission advising that it supports the proposed boundaries and lease area.

Tabled Items
Nil.

Officer Interest Declaration
Nil.

Strategic Implications
Improve the quality of life in our residential neighbourhoods by: Optimising the use of community buildings, facilities and reserves.

Progress new and enhanced facilities to meet community needs by: Reviewing usage of community facilities and community needs/ demands.

Legislation Implications
Assessment of legislation indicates that the following regulations apply:
Land Administration Act 1997
Planning and Development Act 2005

Council Policy / Local Law Implications
General assessment has not revealed any applicable Policies/Local Law

Budget / Financial Implications
Nil.

Consultation
Technical Services Directorate

BACKGROUND

In June 2005 Council was presented with information that included the following information relating to the buildings on the Armadale Settlers Common:

(i) Armadale Settlers' Common comprises 376ha made up of about 268ha of reserves vested in the City and 108ha of freehold land owned by the Western Australian Planning Commission. In 1992 the City agreed to lease the Western Australian Planning Commission land for 10 years with an option for a further 10 years conditional on the option being exercised within six months of expiration of the initial term and an updated management plan two months before expiration of the initial term. The renewal option has expired.

(ii) The Western Australian Planning Commission land that forms part of Armadale Settlers' Common includes the Field Study Centre and an associated storage shed, a portable toilet building, the historic Willow Heights building and a barbeque area. Scheme water is not connected to the buildings so users cannot make coffee etc without bringing their own water. In the last twelve months the bookings record indicates the building was used on 13 occasions by only two groups (51 hours total or 1.1% of the hireable time assuming a 12 hour day). An unsurfaced parking area comes off Triton Court. These facilities are all located on Lot Pt 188. It is believed that the absence of scheme water is deterring use of the facility.

(v) The City of Armadale's five and fifteen year plans only make provision for management of Bungendore Park and Armadale Settlers' Common as follows:

(d) The building maintenance budget is $7,500 per annum, with a further $9,500 per annum spent on maintaining the grounds around the building.

(e) The capital works budget indicates $11,000 in the 2008-09 budget to re-line the water tank.

The re-lining of the tank is now in the 2006-07 budget with $11,000 budgeted.

In response to the information in italics above and other information presented to City Strategy Committee the Committee noted the following:

Committee was of the view that matters such as ongoing maintenance costs, operating costs, adequate use of the facilities and the lack of a current lease arrangement were all matters of concern. In relation to these matters it was believed that partnering options should be investigated. That further thought needed to be given to the future use and ownership of the land and facilities around the Field Study Centre and Willow Heights and that it would be prudent for this to occur while negotiations are being held with the Department of Conservation& Land Management. Committee amended part (3) of the officer recommendation to reflect Committee discussion.

Council also resolved *"That officers investigate with the Western Australian Planning Commission the future use and ownership of the land and facilities around the Field Study Centre and Willow Heights."* (CS50/6/05).

The Department for Planning and Infrastructure has commenced managing the Western Australian Planning Commission land.

The *Armadale Settlers Common Strategic Directions* document which was endorsed by Council on 6 February 2006 identified potential works that could be undertaken with respect to the

buildings, shown in the table below. The table includes updated costs and additional information about the costs in italics next to the recommendation where appropriate.

No	Recommendation	Priority	Estimated Cost	Key Performance Indicator
12.1	Provide potable water to Field Study Centre and Willow Height *(cost is for a water treatment system, not scheme water connection).*	1	$10,420	Level of use for Field Study Centre increases annually.
13.2	Provide disabled access to Field Study Centre and toilet facilities to AS1428.	2	$12,000	Increased annual use of Field Study Centre.
13.3	Provide sewerage infrastructure to Field Study Centre and Willow Heights.	2	$15,000	Increased annual use of Field Study Centre.
13.7	Construct an additional electric BBQ at the Field Study Complex.	5	$6,500	Barbeque installed.

1. Estimated costs have been updated from that published in the Strategic Directions document.

Officers have discussed the future use of the buildings with officers of the Department for Planning and Infrastructure and the Department of Environment and Conservation (formerly Department of Conservation and Land Management) and neither body expressed any interest in partnering arrangements.

Instead it has been suggested that the buildings and associated parking area and picnic area should be located on a separate reserve vested in Council, as indicated in Details of proposal below. A detailed description of the boundary and the rationale for the proposed reserve boundaries and proposed lease area follows in the Analysis section of this report.

DETAILS OF PROPOSAL

The Western Australian Planning Commission has written to the City as follows:

I would like to thank you for meeting on site to discuss the boundaries and management plan for the Settlers Common.

After consultation with the Branch, the Commission recommends the alignment to be set for the Common as per attached, allowing for the road widening requirements of Albany Highway, access to the site via the existing driveway and a management boundary along the creek line.

A separate lot would be created for the road requirements, which would be leased to the Council.

Could you please advise if the Council agree to the boundaries for the creation of the Reserve and also to lease the road widening requirement at a peppercorn rental until such time as it is required for the widening of Albany Highway.

ANALYSIS

Description of proposed boundaries and their rationale

The proposed boundary for the area proposed to be vested in the City of Armadale is setback from the main driveway entry of Triton Cr in order that the City may in future landscape the entry, and travels in a direct line to an old strainer post directly above the Field Study Centre. This boundary does intersect areas that were formerly landscaped. The boundary then runs alongside the eastern most path of a network of paths that enclose an area formerly used for gardening and runs down to the watercourse. The boundary is then shown as a straight line that generally follows the watercourse. It is intended that the watercourse be utilised as the boundary for management purposes. Given that the barbeque area is located not far from the watercourse, the use of the southern (City of Armadale) side may differ from the northern side.

The proposed area to be leased at a peppercorn rent contains a bore that supplies water to the buildings, and has an existing fence along the western boundary. It is an irregular shaped parcel of land about 30m wide and 100m long that is useable for recreation and unlikely to be managed adequately if left to Main Roads Western Australia.

Water tank

The steel water tank which is to be relined in order that potable water is available to the Field Centre and the Willow Heights building is outside of the proposed reserve boundary.

It is considered that at this stage it is acceptable to leave it on the Western Australian Planning Commission land as is.

When improvements to the water supply are made it would be a better option to set up a new tank and pumping system at the building. Both Property and Parks would jointly assess the building needs and any other water requirements for around the building to define a suitable set of options for Council's consideration.

OPTIONS

1. Council could write to the Western Australian Planning Commission advising that it supports the proposed boundaries and lease area.

2. Council could decide that it does not want responsibility for the buildings and advise the Western Australian Planning Commission accordingly. The lease which was current when Willow Heights was moved to the Armadale Settlers Common in October 1997 does not address improvements to the land, and it appears that the Field Study Centre had already been built when the lease was agreed. If this option is chosen the situation with respect to Willow Heights is unclear, but the Field Study Centre would become the Commission's building and it could do whatever it wished with the building.

CONCLUSION

There has been no interest in shared use or management of the buildings by state government agencies. Although the buildings are currently poorly utilised it is believed that they would be much better utilised when potable water is available and would then represent an asset worth the City maintaining for the community. If this view is accepted, then the proposal by the Western Australian Planning Commission is sound. On this basis, Option 1 is recommended.

T81/09/06 **RECOMMEND**

That Council write to the Western Australian Planning Commission advising that it supports the proposed boundaries and lease area

MOVED Cr Best
MOTION CARRIED (6/0)

DRAFT POLICY ENG 14 - LANDSCAPING AND MANAGEMENT PRACTICE

WARD	All
That	15 August 2006
REF	RVD/CG
RESPONSIBLE MANAGER	EDTS

In Brief:-

- In response to the most strongly supported action item in the *State of the Environment Report 2005* two complementary policies - a draft Council Policy ENG 14 - Landscaping and its associated Management Practice and draft Local Planning Policy PLN 2.9 - Landscaping have been prepared. Draft policy PLN 2.9 was presented to the Development Services Committee on 12 September 2006.
- **Recommend**
  1. That Council resolve to advertise draft policy ENG 14 - Landscaping Policy and its associated Management Practice for a period of 28 days, concurrently with Local Planning Policy PLN 2.9.
  2. That if no adverse comment is received the policy be deemed adopted by Council and Council be advised through the Information Bulletin and if adverse comments are received draft Policy ENG 14 be referred to the Technical Services Committee for further consideration.

Tabled Items
Nil.

Officer Interest Declaration
Nil.

Strategic Implications

Enhance the City's Environmental Management Strategy and ensure the long-term sustainability of the City by implementing programmed environmental management actions.

City of Armadale's vision is to be "A place combining city living with a beautiful bushland setting" and "Clean, green and prosperous".

Legislation Implications
Nil.

Council Policy / Local Law Implications
Nil.

Budget / Financial Implications
Nil.

Consultation

- Staff consultation includes Manager Parks, Coordinator Parks, Manager Planning, Senior Records Officer, Subdivision Engineer.

INTRODUCTION AND BACKGROUND

There is increasing pressure for local government to ensure landscaping practices are modified to prevent worsening water quality in our streams and rivers and to reverse biodiversity loss. Preventing degradation of our streams and rivers by landscaping with local plants can provide benefits including water conservation, reduced fertiliser use, and the promotion of local character and sense of place.

Key drivers that are moving local governments towards landscaping policies that focus on local plants include:

- The *Local Government Natural Resource Management Policy Manual* prepared by the Eastern Metropolitan Regional Council for the Swan River Trust was recently amended to include policy and guidelines in regard to landscaping with local plants. The *Local Government Natural Resource Management Policy Manual* includes a policy for local governments to adopt and detailed information concerning the design and maintenance of landscapes created using local native plants. Most of the policy guidance and information is relevant to this proposed policy.

- The *City of Armadale State of the Environment Report 2005* included as an action *"promote local plants in Council and industrial landscaping to increase local biodiversity and reduce nutrient and water use"*. This action was the most strongly supported action in each focus group session held during the State of the Environment Report preparation process.

- The *Urban Water Management Strategy for the Southern River/ Forrestdale/ Brookdale/ Wungong District Structure Plan* area identified the need for *"the use of 30% native plantings instead of exotic species in residential garden beds and POS garden areas"* to achieve pre-development nutrient export levels sought by the Environmental Protection Authority.

- The City has signed the *Southern River Memorandum of Understanding* in which the City commits to work with state agencies and ensure its own decision-making minimises nutrient export from the Southern River/ Forrestdale/ Brookdale/ Wungong District Structure Plan area. In so doing, formal environmental impact assessment for urban development in this area has been avoided.

- Initiatives have been taken by both developers and local governments to set landscaping themes focussed on local native plants in industrial estates such as at Forrestfield and at Kalgoorlie.

- The City of Armadale Strategic Plan identifies a vision that the City is *"a place combining city living with a beautiful bushland setting"* and a City that is *"Clean, green and prosperous"*. Roleystone epitomises the City's vision of bushland and city living.

- Local Friends Groups, particularly in the Roleystone area, have lobbied for some time for Council to amend its policies to increase the use of local species in landscaping.

A draft City of Armadale Policy and Management Practice for landscaping, and complementary Local Planning Policy focussing on specific areas of the City has been prepared with the intent to respond to these and other drivers. This Council item considers the draft City of Armadale Landscaping Policy and associated Management Practice.

DETAILS OF PROPOSAL

The policy objectives proposed to meet the above drivers are:

1. Meet or exceed the recommended the *Urban Water Management Strategy* target of the use of 30% native plantings in public open space in the *Southern River/ Forrestdale/ Brookdale/ Wungong District Structure Plan* area as part of an overall effort to reduce nutrient export to rivers, whilst providing a planting theme that permits diversity.
2. Establish a common landscaping theme for industrial areas using local plants and plants from drier coastal sandplain areas of Western Australia; and
3. Maintain Roleystone's bushland setting and sense of place by using local bushland species in landscaping.

The associated draft Management Practice addresses a number of matters including administration and responsibility for implementation of the policy.

It is proposed to advertise this draft policy concurrently with the draft Local Planning Policy PLN 2.9. The draft Local Planning Policy PLN 2.9 is required to be advertised for 28 days and was presented to the Development Services Committee on 12 September 2006.

The rationale behind the application of the policy to specific areas of the City, the scope of plants to be used in each policy area, the scope of the policy and need for advertising are considered below.

ANALYSIS

Application of policy to specific areas of the City

The rationale for choosing each area follows.

Southern River/ Forrestdale/ Brookdale/ Wungong District Structure Plan area

The *Urban Water Management Strategy for the Southern River/ Forrestdale/ Brookdale and Wungong Structure Plan* (the Urban Water Management Strategy) published by the Water and Rivers Commission identified the need to use locally native species in landscaping in order to achieve appropriate levels of nutrients (particularly phosphorous), in waterways and wetlands of the region.

The Urban Water Management Strategy identified the need for "*the use of 30% native plantings instead of exotic species in residential garden beds and POS garden areas*" to achieve pre-development nutrient export levels sought by the Environmental Protection Authority. This policy seeks to ensure landscaping achieves or exceeds that target. It is important to exceed the 30% target in public open space because achieving the 30% in residential garden beds is likely to be difficult.

This policy helps the City fulfil its responsibilities under the Southern River Memorandum of Understanding which was signed by the City in 2005.

Areas zoned General Industry and Industrial Business

This policy seeks to ensure that park landscaping in industrial areas complements that which under draft Local Planning Policy PLN 2.9 would be put in by developers. Several industrial estates (e.g. Forrestfield and the Kalgoorlie industrial area) have adopted local plants as a theme.

Areas in the suburb of Roleystone not zoned Rural Living or General Rural

Roleystone has many Friends Groups and individuals that would strongly support retention of native vegetation in the suburb. The bushland setting provides a sense of place to many and epitomises the City's vision of a place combining city living with a beautiful bushland setting. The use of local native species in landscaping promoted by this policy for Roleystone would further enhance this sense of place and civic pride. The public comment phase provides the opportunity to test the level of support (or otherwise) from residents in Roleystone.

Scope of plants able to be used

This policy seeks to strike a balance between the need for significant change to our landscaping practices to prevent worsening water quality in our streams and rivers and the desire of landscape specialists to utilise a wide range of plants with different water and fertiliser requirements in landscaping.

It has been decided to recommend that for the Southern River/ Forrestdale/ Brookdale/ Wungong District Structure Plan area and General Industry and Industrial Business zones, plants from the Swan Coastal Plain and Geraldton Sandplain should be able to be utilised. This approach takes into account climate change whilst still meeting the policy objectives.

As shown by the table below, even allowing for species that occur in both the Swan Coastal Plain and Geraldton Sandplain regions, a large palette of plants can be utilised to create different but similarly themed landscapes all of which require minimal fertilizing and watering.

	No of species	
Form	**Swan Coastal Plain**	**Geraldton Sandplain**
Shrub	1,472	1,973
Grass/ Rush like	260	234
Tree	151	226
TOTAL	1,883	2,433

With reduced rainfall and increased temperature as a result of climate change there is expected to be (and already is some evidence of) movement of flora and fauna southwards. It is expected that plants from the Geraldton Sandplains will be local enough not to present weedy features.

However, in Roleystone the emphasis is on maintaining a sense of place, so it has been recommended that only local plants be utilised in landscaping wherever practically possible.

Need for advertising

Council is not required to advertise draft policy ENG 14, but is required to advertise the associated Local Planning Policy PLN 2.9. Draft policy ENG 14 applies to land managed by Council, whilst draft Local Planning Policy PLN 2.9 is intended to apply to private property developments.

In the new urban developments of North Forrestdale it is common practice for developers to develop land managed by Council (i.e. the public open space) and as the policies are complementary, it is recommended that both policies be advertised concurrently.

Scope of policy - street trees

The draft policy ENG 14 - Landscaping Policy and its associated Management Practice do not address street trees. Street tree selection is also not addressed in draft Local Planning Policy PLN 2.9.

City of Armadale policy *ENG 6 Streetscape Management – Street Tree Removals and Replacements, Trees in Streets, Ways and Reserves* addresses the management of street trees but not species selection.

A good guide is the Selection of Street Trees for Central Business Districts adopted by Council in June 2004 (TS61/06/04). Although addressing specifically trees in central business districts many of the principles apply to distributor and residential streets as well.

Street tree species selection has not been included as there are no locally native or sandplain tree species that have been proven to be suitable for use as street trees when longevity and maintenance factors are taken into account. Locally native or sandplain tree species that have been grown commercially to date have generally not proven suitable.

OPTIONS

1. Council could resolve to advertise draft policy ENG14 - Landscaping and its associated Management Practice concurrently with the Local Planning Policy PLN 2.9.

2. Council could resolve not to initiate a draft Policy and Management Practice in respect to landscaping.

3. Council could resolve to adopt draft policy ENG 14 Landscaping and its associated Management Practice without advertising.

CONCLUSION

This policy arises out of a *State of the Environment Report 2005* action that received the strongest level of support, and responds to increasing pressure for local government to ensure its landscaping practices are modified to prevent worsening water quality in our streams and rivers and to reverse biodiversity loss.

The policy is a positive step in the right direction and targets specific geographically defined areas of the City in which the policy will apply and be most effective.

Therefore Option 1 is recommended.

T82/09/06 RECOMMEND

1. That Council resolve to advertise draft policy ENG 14 - Landscaping Policy and its associated Management Practice for a period of 28 days, concurrently with Local Planning Policy PLN 2.9. and receive a further report through the Technical Services Committee

MOVED Cr Stewart
MOTION CARRIED (6/0)

PROPOSED POLICY ENG 15 ARTIFICIAL WATERBODIES

WARD : ALL

DATE : 5 September 2006

REF : RVD/ GP/ AH/ PS/ BS

RESPONSIBLE MANAGER : EDTS

In Brief:

- Local governments across Perth have experienced significant problems associated with poor design, poor water quality inputs and inadequate management and maintenance in artificial waterbodies leading to significant problems such as midge and mosquito problems, algal blooms toxic to wildlife, and foul odours at artificial wetlands.
- A proposed Policy ENG 15 has been prepared that provides a framework to assess the need for the waterbody, waterbody design and the ongoing financial and management implications. A related Local Planning Policy PLN 2.9 has been prepared to address approval requirements for artificial waterbodies.
- **Recommend**
  That Council advertise Policy ENG 15 Artificial waterbodies concurrently with Local Planning Policy PLN 2.9 and that Council adopt the associated Mosquito and Midge risk assessment and Water Quality Monitoring documents.

Tabled Items
Nil.

Officer Interest Declaration
Nil.

Strategic Implications
Developing our City "balance the needs of development with sustainable economic, social and environmental objectives".

Legislation Implications
Assessment of legislation indicates that the following regulations apply:
Planning and Development Act 2005.

Council Policy / Local Law Implications
Assessment of Policy/Local Law indicates that the following are applicable:
ENG 13 Asset Management Vision
Proposed policy ENG 14 Landscaping
Southern River Memorandum of Understanding
Proposed Local Planning Policy PLN 2.9 Landscaping

Budget / Financial Implications

The policy seeks to prevent major/ costly ongoing management problems and significant asset replacement costs falling on the City as a result of the construction of artificial waterbodies in the City's public open space.

Consultation

Development Services Directorate

INTRODUCTION AND BACKGROUND

There has been a significant evolution in thinking and best practice in respect to artificial waterbodies, particularly with respect to those which are part of the stormwater system. In the 1990's the use of wet detention basins or artificial wetlands which hold water all year round were favoured as a technique to improve stormwater quality. However, it has become evident that in an urban setting such waterbodies suffer significant water quality problems that result in algal blooms toxic to wildlife, foul odours (particularly during summer) and midge and mosquito problems that result in the need for Councils to implement costly ongoing management measures. The Department of Water now recommend in-stream stormwater treatment and do not recommend the use of wet detention basins or artificial wetlands for stormwater water quality management.

In contemporary urban development artificial waterbodies have become a major focal point and marketing/ sales feature. Development of public open space with a high standard of landscape design and display, along with a water feature, is now considered by the development industry as a highly desirable feature of land development.

A number of local governments, including Cockburn, Gosnells, Mandurah and Wanneroo have experienced a range of major and minor problems with artificial waterbodies including:

- Vandalism, such as puncture of liners;
- Accumulations of unsightly rubbish such as shopping trolleys which require staff to wade into the waterbody to retrieve them;
- Poor water quality from factors unable to be adequately controlled by the local government, particularly people feeding bread to waterbirds. A loaf of bread has enough phosphorus to trigger an algal bloom in an average swimming pool, so even with good water quality entering the waterbody, nutrient levels can quickly reach levels that favour midge and algal blooms;
- Dead waterbirds during summer if conditions are favourable for botulism bacteria. Bread provides ideal conditions for botulism bacteria;
- Midge swarms from poor water quality. Midge are favoured by algal blooms arising from high nutrient levels;
- Algal blooms toxic to pets. Toxic blue-green algae become dominant if nitrogen is limited;
- Foul odours from poor design that allows stratification and then turnover of the stratified waters. Under stratified conditions low oxygen levels favour bacteria that generate hydrogen sulphide (rotten egg gas) and nutrients that are normally bound to sediment are released. When mixing of the stratified layers eventually occurs, the hydrogen sulphide smell is prevalent and algal blooms follow as nutrient rich water meets sunlight;
- Poor design leading to the lakes being breeding sites for mosquitoes, resulting in the need for ongoing mosquito treatment, and the potential for disease spread;
- Turbulence from irrigation filler, suction pumps and fountain pumps scouring the sand off the liner, exposing parts of it to ultra violet light and premature degradation;

- Gas build up under liners causing them to balloon up (in one case to over three metres high!) when drained for maintenance even with 300mm of soil over the liner.

These problems occur in a context where residents have high expectations about what an artificial waterbody should provide in terms of water levels, water quality and bird life, and residents are often quick to complain.

The City of Gosnells recently updated its policy on Artificial waterbodies and sections of this agenda item have been copied (with permission) directly from the City of Gosnells Agenda of 22 August 2006.

A proposed Local Planning Policy PLN 2.9 Landscaping was presented to the Development Services Committee meeting of 12 September 2006 that addressed the approval requirements for artificial waterbodies and identified that in general artificial waterbodies should only be provided in parks that serve a regional recreation function.

The proposed policy ENG 15 Artificial Waterbodies embodies on the draft *Chironomid Midge and Mosquito Risk Assessment Guide for Constructed Waterbodies* and the City of Gosnells Guidance Notes for Water Quality Monitoring in Artificial Waterbodies documents.

DISCUSSION

Need for artificial waterbodies

In response to the problems associated with artificial waterbodies, officers from a number of Councils have come to or appear to be coming to the conclusion that artificial waterbodies should not be built unless *required* for irrigation purposes.

However, the need for an artificial waterbody for irrigation purposes is significantly influenced by the type of landscaping used and whether or not a "third pipe" system is being proposed in the estate.

Landscaping practices such as those promoted in proposed Policy *ENG 14 Landscaping* can significantly reduce the water requirements and therefore the need for an artificial waterbody. With a reduced water need, water tanks can also present a viable groundwater treatment option. It is recommended that the Policy ENG 15 Artificial waterbodies require that low water use landscaping options and the use of tanks be investigated as an alternative to providing an artificial waterbody for irrigation in the first instance.

A "third pipe" system provides irrigation water for private gardens from local groundwater resources, and is being promoted by the Southern River Memorandum of Understanding Steering Committee (also referred to in some documents and hereafter as the Southern River MOU Group) as a way to achieve the agreed water conservation target of no potable (drinking) water use outside the home. At this stage there are unresolved issues concerning which organisation could become responsible for the construction, management and operation of third pipe systems. Notwithstanding this unresolved matter, it is recommended that if an artificial waterbody is needed to support a third pipe system then the operation, management and replacement of the artificial waterbody should be the responsibility of the organisation operating the third pipe system.

Artificial waterbodies are sometimes also used as temporary storage areas for large flood events. It is recommended that stormwater input be only by overland flow from swales or "dry" compensating areas in extreme rainfall events greater than the 1 in 1 Annual Recurrence Interval (ARI). Swale treatment of stormwater represents current best practice as detailed in the Department of Water's (DoW) "*Decision Process for Stormwater*

Management in WA". DoW advises that more than 90% of rainfall events are not greater than 1 in 1 ARI events. Water quality in more extreme rainfall events, directed by overland flow to the waterbody, is of a generally high standard due to increased water volume and dilution of pollutants. Alienation of POS from recreational usage is minimal, and only during and immediately following extreme rainfall events.

DoW's position in regard to stormwater design is that artificial waterbodies can be part of "major" flood event storage but are not to be included as part of the Water Sensitive Urban Design (WSUD) or "minor" drainage system.

Waterbody design

Design elements may contribute to the number of nuisance midge and mosquitoes arising from an artificial waterbody. This aspect of waterbody management has been the subject of significant discussion and research by the Midge Research Group of Western Australia (MRGWA) which includes representatives from the Cities of Gosnells, Cockburn, Canning and Stirling, as well as the Department of Health and Murdoch University.

The MRGWA released for comment in January 2006 its draft *Chironomid Midge and Mosquito Risk Assessment Guide for Constructed Waterbodies*. The draft *Chironomid Midge and Mosquito Risk Assessment Guide for Constructed Waterbodies* provides, through an assessment matrix, an empirical method for evaluating existing or proposed artificial waterbodies with regard to potential midge or mosquito risk. Design elements that may contribute to the number of nuisance midge and mosquitoes have been identified and assigned various risk ratings.

A City of Gosnells agenda item of 22 August 2006 notes that a preliminary review of submissions suggests that most comments are of a minor nature and involve changes to the supporting information only, leaving the matrix used in the document to assess chironomid midge and mosquito risk unchanged.

The MRGWA recommends that all future artificial waterbodies achieve a score using the risk ratings of between 11 and 21, which should achieve a waterbody unlikely to produce midge or mosquitoes in sufficient numbers as to create a nuisance, pose a health risk or require significant monitoring and maintenance to address mosquito and midge problems.

The assessment matrix and information notes provided in the draft *Chironomid Midge and Mosquito Risk Assessment Guide for Constructed Waterbodies* provide guidance with regard to waterbody and landscape design to enable a high-scoring (undesirable) waterbody design to be amended by the proponent to improve the score and achieve the City's objective of good waterbody design with minimal health and nuisance potential, and reduced monitoring and maintenance requirements.

This draft document has the support of officers from the City's Parks, and Planning departments and the Manager Technical Services. It is considered that the risk assessment guide provides clear guidelines for proponents in the development of more sustainable artificial waterbodies.

The draft *Chironomid Midge and Mosquito Risk Assessment Guide for Constructed Waterbodies* is embodied in the proposed Policy ENG 15 Artificial Waterbodies. It is recommended that Council adopt the draft *Chironomid Midge and Mosquito Risk Assessment Guide for Constructed Waterbodies* as a means to evaluate the design of artificial waterbodies.

Importantly, Policy ENG 15 Artificial waterbodies recommends that the waterbody be lined with HDPE, PVC or similar membrane to achieve a "closed system" to minimise pollutant inputs and that the waterbody be constructed so that it is able to be drained and re-filled if required. A closed system is needed to enable maximum control over contaminant input. Some artificial waterbodies have suffered poor water quality as a result from contaminated groundwater.

The proposed "closed system" concept is consistent with the DoW's policy and guidelines on stormwater management as published in the Department's "*Decision Process for Stormwater Management in WA*".

DoW guidelines provide that artificial waterbodies, if created, should be designed (sized) around their aesthetic and irrigation storage function. One of the ways in which algal blooms can be prevented in artificial waterbodies is to continually remove water for irrigation thus removing algal cells, whilst adding bore water that has no algal cells. If a complete turnover of water is achieved within four to seven days, then algal cell counts should remain below critical levels. It is recommended that artificial waterbodies should be sized to ensure a complete turnover of water in the lake within six days during summer.

Waterbody maintenance period and water quality monitoring

Water quality has a direct relationship with aquatic ecosystem health, particularly influencing algal blooms, which are often the precursor of midge outbreaks.

Existing subdivisional artificial water features tend to be designed as a component of the stormwater drainage system, receiving input from residential roads and properties.

First flush stormwater is known to transport materials including animal faeces, fertilisers from lawns and gardens, oil from road surfaces, chemicals from gardens and industry, and other pollutants from the catchment that feed into the waterbody. These materials accumulate in the sediment of artificial waterbodies and, over time, concentrations increase from sub critical to more problematic levels, which can affect water quality, animal health, or ecological health of the waterbody.

Stormwater also transports weed seeds that result in increased maintenance requirements for the waterbody.

New waterbodies designed to meet the criteria described under "Waterbody design" above may however still experience problems particularly if:

- turnover is not as high as predicted;
- stratification occurs during low wind periods; or
- waterbirds are regularly fed.

These waterbodies must be monitored for water quality for at least the first five years of ecosystem establishment to ensure any necessary corrective action is taken. Monitoring should include bore water input to the waterbody, if that is identified through water quality analysis as an issue. The need for further monitoring will be determined by water quality monitoring results. It is expected that well-designed systems will not require significant monitoring beyond the five year "settling in" period.

Historically, a subdivision with a water feature as part of its public open space would be maintained by the developer for a period of two to three years from its practical completion date. However, the Cities of Swan and Mandurah now put a five year minimum maintenance period on lakes by the developer because of the ongoing problems experienced with artificial waterbodies. The City of Wanneroo specifies that the developer is responsible for the 'whole

of life' costs of the artificial waterbody. It is expected that five years will provide enough time for problems to be identified and rectified before handover. It is recommended that the City of Armadale also adopt a five year minimum maintenance period.

Most often, problems with waterbodies are identified through the presence of symptoms, such as algal growth, foul odours, slicks, waterbird deaths, mosquitoes and midge. The reactive management response, often an urgent imperative, generally attempts to address the symptom.

It is, though, possible to anticipate and avoid or address such problems through early warning signs. This is the crux of a well-designed water quality monitoring programme, which enables an understanding of the conditions and processes occurring in a waterbody. From a consequently well-informed position, the waterbody manager is able to identify problems at an early stage and forecast the waterbody's response to climatic and environmental changes.

Good water quality monitoring measures a range of physiochemical parameters from samples taken periodically, and compares them with guidelines established by the Australia New Zealand Environment and Conservation Council (ANZECC). These guidelines set standard levels of chemical pollutants for waterways and have been specifically developed for geographic regions including south western Australia.

The ANZECC guidelines provide trigger values, beyond which action should be taken, for the various parameters for drinking water, water for aquatic ecosystems, recreational use and aesthetics, and primary industries. The trigger values proposed for use in evaluating water quality data from artificial waterbodies use a composite of values established for recreational/aesthetic and aquatic ecosystems.

The City of Gosnells has been prescribing water quality monitoring and reporting through POS Management Plans prepared by developers in meeting the requirements its previous policy on Artificial waterbodies. Unfortunately, the City of Gosnells experience is that most developers are either not undertaking monitoring at all, let alone reporting, or are providing "lip service" to the Management Plan through some alternative form of monitoring that does not provide useful or timely information. As a result, the majority of new artificial waterbodies in the City of Gosnells come into that City's asset management portfolio as unknown quantities, with little information available to understand what type of management liability is being accepted.

The City of Gosnells has developed the "City of Gosnells Guidance Notes for Water Quality Monitoring in Artificial Waterbodies" to address this issue. A Management Plan that incorporates the "City of Gosnells Guidance Notes for Water Quality Monitoring in Artificial Waterbodies" will provide the City of Armadale with a significantly enhanced opportunity to evaluate waterbody health, and strict reporting requirements that will help to address current monitoring and reporting shortcomings during the developer's two to three year maintenance period.

Bond requirements

To ensure that developers meet water quality reporting requirements, and other aspects of the waterbody and POS Management Plan, the proposed Policy ENG 15 Artificial waterbodies provides for the retention by the City of a bond of $84,000. The bond amount is based on the difference in cost over five years between turf and an artificial waterbody. It is recommended that the bond be held for longer periods if the artificial waterbody does not perform resulting in the need for Council to draw on the bond.

Strategic Asset Management Issues

The City of Armadale conducted a recent study to compare the whole of life costs of a similar sized portion of turf public open space against an equivalent sized lake. Asset costs and lives for the comparison were sourced from both the City's Parks department and also from the landscape developers of the Arion subdivision, EPCAD.

The turfed area of public open space was assumed to be 2,500 m^2 in size, was reticulated by bore and featured no other assets. The lined lake also had a surface area of 2,500 m^2, featured one timber bridge, was bounded by a limestone wall and serviced by a bore and aerator system. The City then proceeded to calculate the whole of life costs for these two scenarios. Whole of life costs allow for the ongoing maintenance of all assets as well as factors in the annual portion of the cost for replacing assets at the end of their life.

The results showed that the turf area would cost approximately $11,600 per annum and the lake around $16,800 per annum. In this scenario the cost difference is $5,200 per annum. In other words installing a lined lake instead of turf results in an annual cost increase of approximately 45%.

However, whole of life costs could significantly change if major remediation work is required. The study assumed that the lake continues to function in a proper way and that there would be no failure of the lake liner (e.g. when turbulence from irrigation filler, suction pumps and fountain pumps scours the sand off the liner, exposing parts of it to ultra violet light and premature degradation), significant damage through vandalism of the waterbody or its surrounds (e.g. graffiti on walls), environmental/management issues. Other local governments have encountered high replacement costs when equipment fails that is no longer manufactured. Costs can quickly escalate when problems such as these happen.

Where artificial lined lakes have been designed well and continue to operate effectively, they can be come a focal point for the community. From an Asset Management perspective, if a lake has to be installed it must offer genuine benefits and be designed to reduce long term maintenance risks. Ideally the lake should also be no larger than that required for the irrigation purposes and it should be designed so that aeration is not required.

The City must also determine in future whether artificial lakes in public open space areas are an appropriate optimal use of such land and whether it sufficiently benefits the community. The presence of an artificial waterbody can hinder many forms of recreational activity (e.g. throwing a ball or frisbee etc.) and present public safety concerns.

Proposed Local Planning Policy PLN 2.9 Landscaping and advertising

Proposed Local Planning Policy PLN 2.9 Landscaping was presented to the September 2006 meeting of the Development Services Committee. The policy formalises Council's position on the implementation of the *Planning and Development Act 2005* in respect to artificial waterbodies and proposes that approval either through the subdivision or planning approval process should be required.

The benefits of having open water bodies in some parks are recognised and Local Planning Policy PLN 2.9 Landscaping identifies that artificial waterbodies are appropriate in parks that serve a regional recreation function.

Under Town Planning Scheme No. 4, Local Planning Policies are required to be advertised for a period of 28 days. As the proposed Policy ENG 15 Artificial waterbodies is directly linked to Local Planning Policy PLN 2.9 it is recommended that both policies be advertised concurrently.

OPTIONS

1. Council could advertise the proposed Policy ENG 15 Artificial waterbodies concurrently with Local Planning Policy PLN 2.9 and adopt the associated documents (i.e. the *City of Gosnells Guidance Notes for Water Quality Monitoring in Artificial Waterbodies* and the *draft Chironomid Midge and Mosquito Risk Assessment Guide for Constructed Waterbodies)*

2. Council could modify the proposed Policy ENG 15 Artificial waterbodies, and adopt the associated documents, and adopt the policy without advertising.

3. Council could decide not to advertise or adopt the proposed Policy ENG 15 Artificial waterbodies.

CONCLUSION

The City of Armadale is able to benefit significantly from the experience gained by other local governments with regard to artificial wetlands.

Without the guidance provided by the policy it is expected that a significant number of artificial wetlands would be developed in the City, particularly within the North Forrestdale area, with ongoing costly management and maintenance problems that would also detract from the attractiveness of living in the area. Accordingly Option 1 is recommended.

Cr Scidone joined the meeting at this juncture – 7.16pm.

T83/09/06 RECOMMEND

1. **That Council resolve to advertise draft policy ENG 15 - Artificial Waterbodies and its associated Management Practice for a period of 28 days, concurrently with Local Planning Policy PLN 2.9 and receive a further report through the Technical Services Committee.**

2. **That Council adopt:**

   a) **the City of Gosnells Guidance Notes for Water Quality Monitoring in Artificial Waterbodies; and**

   b) **the draft Chironomid Midge and Mosquito Risk Assessment Guide for Constructed Waterbodies as an appropriate assessment tool to assess chironomid midge and mosquito risk.**

MOVED Cr Stewart
MOTION CARRIED (7/0)

TENDER NO. 22/06 – CONSTRUCTION OF CONCRETE FOOTPATHS

WARD	All
FILE REF	TEN/22/06
DATE	25 September 2006
REF	JC
RESPONSIBLE MANAGER	MCW

In Brief:
- Tender No. 22/06 was recently called for the Construction of Concrete Footpaths.
- Three tenders were received by the specified closing time.
- The submitted tender from Grayson's Concrete Services is considered to be the most advantageous to Council.
- **Recommend**
  That with Tender No. 22/06 – Construction of Concrete Footpaths, Council accepts the tender from Grayson's Concrete Services for the period 1 November 2006 to 30 June 2007 in accordance with their submitted tender and Council's contract documentation.

Tabled Items
Tender documents; tenders received.

Officer Interest Declaration
Nil.

Strategic Implications
Corporate Services
To achieve maximum community benefit from effective use of resources (staff, finances and information technology).

Legislation Implications
Assessment of legislation indicates that the following regulations apply:
Local Government Act (Functions and General) Regulations 1996 s3.57 (11)(2)(f)

Council Policy/Local Law Implications
Assessment of Policy/Local Law indicates that the following are applicable:
Policy ENG 5 – Tendering and Purchasing

Budget/Financial Implications
$584,300 included in current Civil Works Capital Expense Budget.

Consultation
As per the 5 year footpath program.

BACKGROUND

The City contracts out the construction of insitu concrete footpaths as it is a specialised operation for which the City does not have the appropriate resources to effectively undertake the task. The City's current footpath construction program requires a specialised contractor who can cope with the large volume of concrete work, in order to continue with the improvements to the footpath network within the City. Tenders were called for the Construction of Concrete Footpaths for an eight month period up until 30 June 2007. The tender was advertised in the West Australian newspaper on Saturday 12 August 2006 and closed at 2.00pm on Thursday 31 August 2006.

The 2006/07 footpath program includes the construction of 15 new paths with a budget of $358,500, 3 new cycle paths with a budget of $104,200 and 9 existing path replacements with a budget of $121,600. A tender to conform to the Local Government Act and Council's Purchasing Policy is therefore required as the value of the supplied service will exceed $50,000 per annum.

Existing Contract Information

Essential details of the existing contract are as follows:

Table 1 – Existing Contract Information

Existing Contractor	**Grayson's Concrete Services**
Contract Type	Lump sum
Contract Duration	6 months
Commencement Date	1 December 2005
Expiry Date	31 May 2006
Extension Permitted	No
Annual Budget	$445,717
Total Contract Cost	$418,898
Rise And Fall Clause Included	No

DETAILS OF PROPOSAL

The tender involves the construction of insitu concrete footpaths within the City.

New Contract Information

Essential details of the new contract are as follows:

Table 2 – New Contract Information

Contract Type	Schedule of Rates
Contract Duration	8 months
Commencement Date	1 November 2006
Expiry Date	30 June 2007
Extension Permitted	No
Rise and Fall Included	No

Selection Criteria

The selection criteria and weighting for the evaluation of the tender are as follows:

Table 3 – Selection Criteria

Item	Description of Selection Criteria	Weighting
1	Capability/competence of Tenderer to perform the work required	20%
2	Experience of Tenderer in supplying similar goods or completing similar projects	20%
3	References from past and present clients	20%
4	Tendered Price/s	40%
	TOTAL	**100%**

Tenders Received

Tenderers were received from Grayson's Concrete Services, Westside Concrete Contractors and Mooni Abdullah. Details of the schedule of rates for the tenders received are as follows:

Table 4 – Tenders Received

Item	Description	Unit	Current Rate	Grayson's Concrete	Westside Concrete	M Abdullah	Increase
1	Construct 100mm thick concrete path	m²	$26.40	$29.70	$36.19	$39.60	12.5%
2	Construct kerb ramps at other locations	Each	$200.00	$330.00	$450.00	$238.00	65.0%
3	Construct Residential vehicle crossover 100mm thick	m²	$28.60	$29.70	$38.00	$39.60	3.4%
4	Construct Commercial vehicle crossover 150mm thick	m²	N/A	$44.00	$48.00	$48.40	N/A
5	Extra over for one layer F63 mesh	m²	N/A	$11.00	$7.90	$9.90	N/A
6	Extra over for concrete colour (oxide)	m²	N/A	$6.60	$8.90	$10.00	N/A

TENDER EVALUATION

Grayson's Concrete Services and Westside Concrete Contractors have carried out similar concrete footpath works for other Councils in the Perth Metro area over the past few years. They have also shown that they are capable of undertaking large concreting projects. Mooni Abdullah has been assessed according to their submitted documentation and it appears that they are only equipped to undertake small to medium projects.

The results of the tender evaluation after the application of the selection criteria have shown that the tender from Grayson's Concrete Services is the most advantageous to Council.

Anticipated Annual Cost

Expected to be more than $50,000.

Tender Rankings

The tender rankings resulting from the application of the selection criteria are as follows:

Table 5 – Tender Ranking

Tenderer	Ranking
Graysons Concrete Services	1
Westside Concrete Contractors	2
Mooni Abdullah	3

CONCLUSION

Grayson's Concrete Services currently has the contract for the Construction of Concrete Footpaths for the City and has provided an efficient and professional service over the past year.

Grayson's Concrete Services has achieved the highest tender ranking, Westside Concrete Contractors second and Mooni Abdullah third.

It is recommended that the tender be awarded to Grayson's Concrete Services.

T84/09/06 RECOMMEND

That with Tender No. 22/06 – Construction of Concrete footpaths, Council accepts the tender from Grayson's Concrete Services for the period 1 November 2006 to 30 June 2007, in accordance with their submitted tender and Council's contract documentation.

MOVED Cr Butterfield
MOTION CARRIED (7/0)

TREE PRUNING IN HABITAT AREAS

Cr Butterfield referred the matter of the various techniques of tree pruning in habitat areas and in habitat trees be referred to the Technical Services Committee.

The recent pruning of trees in Rushton Park, Kelmscott prompted a number of complaints and has generated much discussion amongst locals. Whilst recognising the need to remove some material from trees to ensure the public's safety, concerns were raised about the removal of important hollow nesting branches. Also of concern is the removal of a considerable amount of live material as an unintended consequence of trying to get to small dead branches with a large cherry picker bucket.

In order to achieve the removal of dangerous material from trees in known habitat areas and nesting sites, (whilst preserving as much of the tree as possible,) it is desirable that a more sensitive pruning technique be employed.

Cr Butterfield recommends that the tree pruning tender be split to enable a more specialised treatment of habitat trees and areas within the city.

Cr Butterfield began the discussion regarding tree pruning in habitat areas by showing some photos of trees immediately around the car park off Orlando Street, Kelmscott at the former Kelmscott pool site.

The City's Manager Parks responded and informed the Committee that this particular pruning had been done with his express approval and carried out under his direction.

The Manager Parks acknowledged there is always an opportunity for ongoing performance improvement, sometimes this is at a cost. Furthermore, he advised that when the City's Tree Pruning Tender is next reviewed a further 'Schedule of Rates' part would be added to enable a more specialised treatment of specific trees.

The City's Parks department currently have a risk assessment matrix for a wide range of Park issues including tree management, it is a process of hazard prioritisation. It is a systematic and structured proforma which outlines the risk and risk mitigation, e.g. trees over children's playgrounds; picnic areas as is the case at Rushton Park; risks associated with the holding of events within Public Open Space such as the Kelmscott Show; events held within Minnawarra Park and trees over spectator areas at sporting venues etc. Risk is generally considered to be a function of likelihood, consequence and exposure. Risk is subjective and not all risk can be eliminated.

It helps the City fulfil its moral responsibility to protect employees, community and environment. It reduces exposure to civil or criminal liability in the event of an incident.

"You get the level of safety that you demonstrate that you want".

Whilst Cr Butterfield felt that small branches looked harmless, the Manager Parks explained that they could inflict severe damage if falling from a height and as such the City has a <u>duty of care</u> to protect members of the public particularly when the City invited public activity in parks. Furthermore, the City's Manager Parks has a professional responsibility to manage the City's Parks assets. Given the upgrading that has gone on in Rushton Park, we have now changed this environment.

He pointed out that nearby nature reserves and natural bushland settings were not pruned and generally left in their natural state except in the case where nature trails had been formalised. These require appropriate management.

Cr Butterfield suggested that the City's current tree contractor may not be carrying out safe work practices and that she understood that the City of Gosnells had a more environmentally sensitive tree contractor.

The Manager Parks advised that the City's current tree contractor had all the necessary public liability, professional indemnity insurance and trained staff and as such has the complying tender with the City of Armadale.

It was confirmed that the City of Gosnells do not use a more environmentally sensitive tree contractor, in fact the City of Gosnells use a number of tree contractors including the one used by the City of Armadale and advised he was an excellent contractor.

Cr Butterfield advised she had many concerns raised by members of the community over this matter. The Manager Parks advised he had only received one letter regarding this matter which has been replied to in similar terms to his comments to Committee. He reiterated he would be pleased to discuss any concerns raised by the community to explain the technical, arboricultural and liability issues so that they are aware of Council's position.

In summary, the use of the site has now changed, dead and diseased wood was removed and many hollow branches remain in a 'safe' condition. Parks staff continue to be pro-active in its research and investigation into 'environmental best practice' in dealing with issues such as this whilst balancing the need for community 'safety'.

T85/09/06 Recommend

That the City's tree pruning practices, to protect habitat trees where public liability issues require pruning be further reinforced by including a section on habitat trees in the tree management contract.

MOVED Cr Butterfield
MOTION CARRIED (7/0)

SIGN FORREST ROAD

Cr Munn reports that the matter of the size of the sign which reads "left lane turns left" west of the Forrest Road railway crossing be referred to the Technical Services Committee.

Approaching the railway crossing going towards Armadale, there a sign which asks motorists; if using the left lane, to turn left only. It is situated close to the junction with Railway Avenue. Because of the junction and the small size of the sign and the visual clutter in the background, the sign is hard to see. Many motorists cross the railway lane in the left lane, find they are in the incorrect lane and force themselves into the right lane, often at the very last moment. Apart from the angst this causes, there have been a number of bumps and scrapes.

Cr Munn recommends that the "left lane turns left" sign on Forrest Road be replaced with larger sign placed a bit higher; which will not impede pedestrians.

The Executive Director Technical Services will investigate and implement the best way to remove the existing conflict which occurs at the location. This will require involvement with both Main Roads WA and PTA as road marking and the railway crossing must be taken into consideration. In addition the construction of the planned roundabout at the Green Avenue/Abbey Road intersection may also have an impact on traffic movements.

EXECUTIVE DIRECTOR TECHNICAL SERVICES' REPORT

The Executive Director reported briefly on the following matters:

- The inspection fee for the footpath/verge bond has been implemented;
- An application to receive a potential grant from Main Roads WA for work on Railway Avenue is being made; and
- Railway Avenue will be closed between Westfield Rd and Centre Rd for 2 weeks to allow for road works to be done in the quickest time possible by working on all days for extended hours.

COUNCILLORS' ITEMS

Nil.

MEETING CLOSED 8.22 PM.