CITY OF VINCENT

SUSTAINABLE ENVIRONMENT STRATEGY

2011 – 2016

(Adopted at the Ordinary Meeting of Council held on 28 June 2011)

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EXECUTIVE SUMMARY

In carrying out its functions, local government is to use its best endeavours to meet the needs of current and future generations through an integration of environmental protection, social advancement, and economic prosperity.[1]

The City recognises the importance of reducing our impact on the environment, and acknowledges its leadership role in building community awareness and responsibility for the way in which we utilise resources. The City is committed to acting in a sustainable way and promoting sustainability within the City's community.

The concept of sustainability has three aspects – environmental, economic and social – and is defined as *"meeting the needs of current and future generations through an integration of environmental protection, social advancement and economic prosperity"*. This Strategy focuses on environmental protection, but recognises its interconnection with the other elements of sustainability.

A core principle of sustainability is that the long-term future must be considered. Future generations need to be assured of clean air, a good water supply, access to wild areas such as forests and coasts, uncontaminated food and an ecosystem as biodiverse or better than at present in Western Australia.

This Strategy sets out the City's plan for ensuring that the City and the community act in a responsible and environmentally sustainable way, and leave a legacy to be proud of rather than problems to be inherited by future generations. This Strategy updates and replaces the City's previous *Sustainable Environment Plan 2007-2012*.

The City recognises that climate change is one of the most important environmental issues that our global and local society faces today. The climate is changing, and will continue to change, in ways that affect the planning and day-to-day operations of the City. The manifestations of climate change include higher temperatures, lower rainfall patterns, and more frequent or intense weather events such as heatwaves, drought, storms and flash flooding. This Strategy addresses climate change by outlining the actions the City will take to reduce its own greenhouse gas emissions, and to encourage the community to do the same. However, some unavoidable climate change will occur, and the City will plan how it can best adapt to that change through a risk assessment and management process separate to this Strategy.

Understanding that we all have a role to play in reducing our environmental impact is the first step to changing the way we act collectively. The City recognises the important role of the community in changing behaviours to conserve resources and to have a positive rather than negative effect on our local and global environment.

Together, we can all make a difference. The City will continue to encourage our partners, industry, business, community groups and residents to respond collectively to reduce our everyday impacts and secure the future for the generations to come.

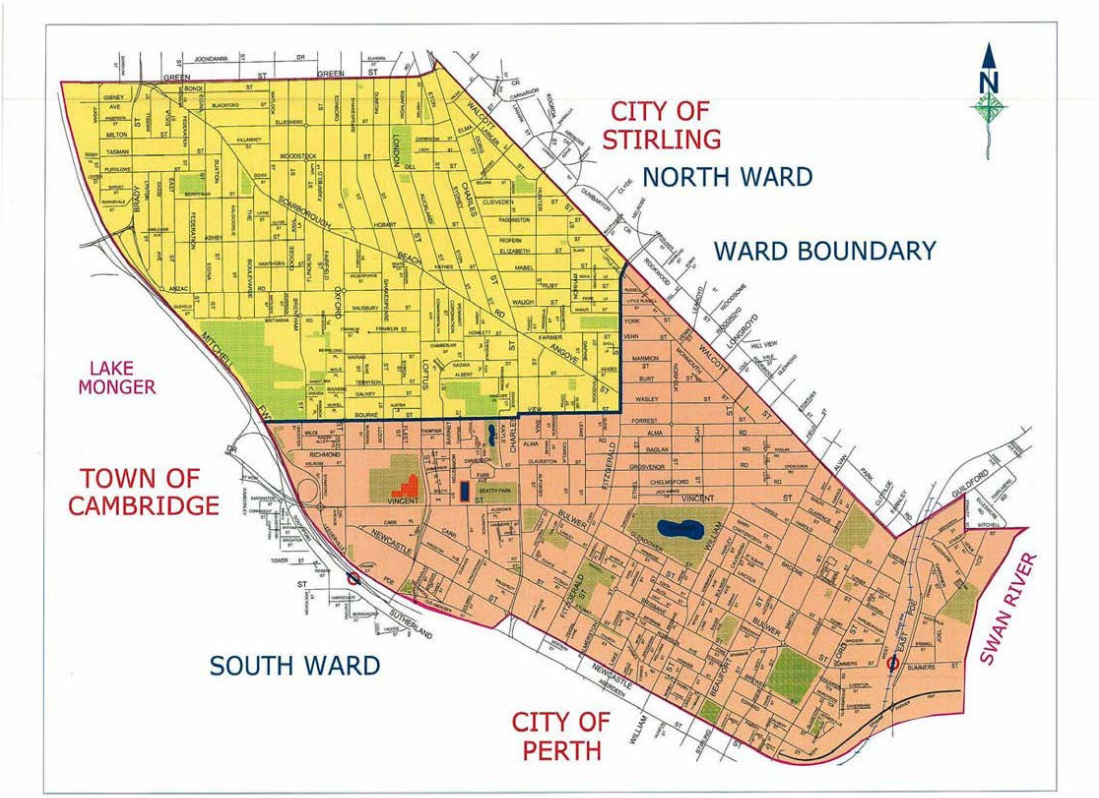
NICK CATANIA
MAYOR

JOHN GIORGI, J.P.
CHIEF EXECUTIVE OFFICER

[1] *Local Government Act 1995* (WA), section 1.3(3).

1. INTRODUCTION

The City of Vincent is located within Perth's inner city area, 3 kilometres north of the Perth GPO, and covers 11.3 square kilometres. The predominant land use within the City is residential, with a number of commercial centres. The City contains 106.5 hectares of parks and gardens, and there are over 10,500 street trees within the City.



The City has a population of approximately 31,209 residents, representing a diversity of cultural and linguistic backgrounds, with 40% born overseas, and with a median age of 35 years.

The inner city location and highly urbanised nature of the City has an impact on which environmental issues are of greatest significance for the City.

The City adopted its first Sustainable Environment Plan in June 2007, as a framework for guiding its environmental projects and initiatives. A review of that Plan has resulted in the development of this Sustainable Environment Strategy. This Strategy updates and replaces the *Sustainable Environment Plan 2007-2012*.

1.1 Scope of the Strategy

The term "environmental sustainability" is used in this Strategy to mean ensuring that human needs are met without compromising the long-term carrying capacity of the environment, or the ability of future generations to meet their own needs.

This Strategy provides a framework to progress the City to an environmentally sustainable future. It outlines the City's broad environmental objectives for the next five years, and sets out the actions that the City will undertake in order to achieve these objectives. The community will play a key role in achieving the objectives of this Strategy, and the City will engage, inspire and motivate the community to be involved.

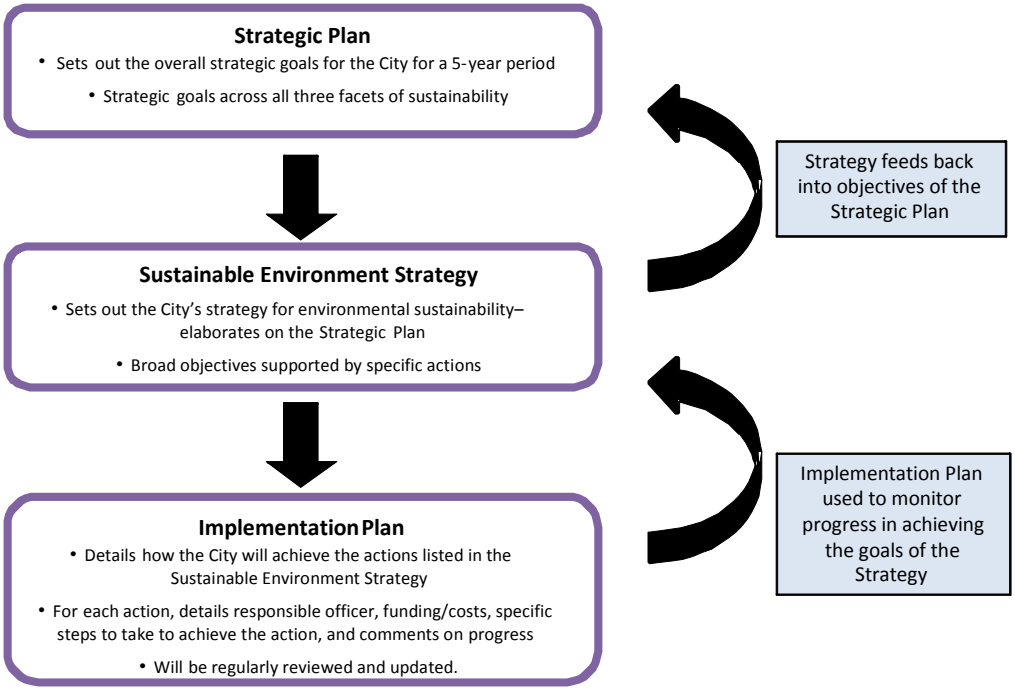
This Strategy is centred on four key environmental areas:

- Improving air quality and reducing greenhouse gas emissions;
- Improving water quality and reducing water consumption;
- Preserving and enhancing biodiversity; and
- Reducing the use of resources and the amount of material entering the waste stream.

This Strategy provides the City and the community with an outline of the actions to be taken to protect and enhance the City's environment over the next five year period. The Strategy will function as a reference tool for the City and the community, to measure progress in achieving the goals set. A supporting Implementation Plan, which will provide a greater level of detail as to how the actions in this Strategy will be achieved, will operate as the working document to effect the Strategy. The Implementation Plan will be regularly reviewed and updated to suit changing priorities and needs and to monitor achievement of the actions in this Strategy.

This Strategy draws on the City's current environmental policies and practices, links with the City's *Strategic Plan 2011-2016* – the overarching guiding document setting out strategic priorities for the City – and sets out concrete actions that the City will take to ensure the continued sustainable development and operation of the City. A list of the City's strategic documents and policies which address environmental sustainability issues is included at Appendix A.

The focus of this Strategy is on the environmental aspects of sustainability. However, the City recognises the interconnected nature of economic, social and environmental sustainability, and the importance of all three aspects to achieve sustainability. The City's Strategic Plan incorporates all three elements of sustainability.



1.2 The Environmental Sustainability Context

In order to effectively plan the City's approach to environmental sustainability and ensure a holistic approach, it is important to be aware of the wider context of environmental issues, on a global, national and state scale, as the state of the environment and its protection extends beyond the local context.

1.2.1 Global Context

The concept of sustainability

The idea of sustainability emerged in global politics in the late 1980s as the United Nations sought to resolve the seemingly irreconcilable conflict between the environment and development. On the one hand, ecologists were warning that economic growth and development was putting pressure on resources and causing serious environmental issues. On the other hand, for those in developing countries, faced with poverty and deprivation, development was essential.

The United Nations World Commission on Environment and Development worked for two years to try to resolve the conflict between the environment and development, and concluded that there ought to be development, but that it must be different – it must be *sustainable* development. The Commission defined the term 'Sustainable Development' as *'Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'*

The United Nations began a long-term project to make the global economy more sustainable. During the United Nations Conference on Environment and Development, held in 1992 in Rio de Janeiro, a detailed global action plan for achieving sustainable development for the 21st century, *Agenda 21*, was adopted.

Agenda 21 recognises the key role that local government plays in promoting sustainability:

> *"Local authorities construct, operate and maintain economic, social and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations, and assist in implementing national and sub-national environmental policies. As the level of governance closest to the people, they play a vital role in educating, mobilising and responding to the public to promote sustainable development."*[2]

Negotiations on an international agreement on climate change also commenced at the Rio Conference (which led to the development of the Kyoto Convention) and agreements on forestry and biodiversity were also initiated.

The global sustainability process continues to evolve and expand. The Division for Sustainable Development, within the UN Department of Economic and Social Affairs, provides leadership and is an authoritative source of expertise within the United Nations system on sustainable development. It promotes sustainable development as the substantive secretariat to the UN Commission on Sustainable Development (CSD) and through technical cooperation and capacity building at international, regional and national levels.

[2] United Nations Sustainable Development – Agenda 21, Chapter 28.1.

Global Environmental Issues

There are many global environmental issues that underpin the need for sustainable development.

The Need for Sustainable Development: Global Environmental Issues[3]

- Nearly 50% of the earth's land surface has been transformed for human activity.
- More than half of the earth's accessible fresh water is now used directly or indirectly.
- More nitrogen is now fixed synthetically than naturally.
- More than half of all mangroves and coastal wetlands have been lost.
- Two-thirds of fisheries have been depleted or are at their exploitable limits.
- Arctic sea ice is now 70% of the 1870 figure and is shrinking rapidly.
- Terrestrial glaciers and permanent snow cover are in retreat around the world.
- In the second half of the 20th century, the human population doubled, grain production tripled, energy use quadrupled and economic activity quintupled. So on average, we became much richer and better fed, as well as doubling our energy use.
- The human population is expected to continue growing to about 1.5 times the present level (about 9 billion before stabilising) while the average consumption of resources is also increasing. So the total demand for resources is likely to double in the next 50 years.
- Forest cover is still being lost at a rate of 10 million hectares per year.

These issues need a global solution; they need to be addressed by collective action on a world scale. However, we need to play our part as a local community to ensure that we are part of the solution rather than exacerbating the problems.

1.2.2 National Context

The Australian Government's Role

The Australian Government has several roles with respect to environmental sustainability, including:

- The facilitation of changes to the way in which new developments, buildings and infrastructure are planned and constructed;
- Support for other levels of government to help them manage their existing assets;
- The regulation of matters of national environmental significance; and
- Support for communities as they adjust to a changing climate and better manage areas of conservation or heritage importance.[4]

The Australian Government has an important role to play in trying to ensure that Australia meets the challenges posed by climate change. The Prime Minister of Australia recently announced that the Federal Government intends to introduce a price on carbon, with effect from July 2012. The two-stage plan for a carbon price mechanism will start with a fixed price period for three to five years before transitioning to an emissions trading scheme.

[3] These are drawn from a paper prepared by Emeritus Professor Ian Lowe: Environmental Protection Authority (2003), Towards Sustainability, Preliminary Position Statement No. 6, Environmental Protection Authority, Perth, Australia, as outlined in *Hope for the Future: The Western Australian State Sustainability Strategy*.

[4] Australian Government, *Our Cities: Building a Productive, Sustainable and Liveable Future.* (Discussion Paper) (2010): http://www.infrastructure.gov.au/infrastructure/mcu/urbanpolicy/index.aspx

State of the Environment 2006

The Federal Government issues a State of the Environment (SoE) Report every five years, with the most recent report being *Australia State of the Environment 2006*, and the next report due for release in December 2011. The 2006 SoE Report is the third independent national stocktake of the Australian environment, and reports on all aspects of the environment through the themes of human settlements, atmosphere, biodiversity, coasts and oceans, inland waters, land, natural and cultural heritage, and the Australian Antarctic Territory.

The SoE Report emphasises the need to better adapt in Australia's urban areas, where a reduction in net individual consumption and waste is required. Australian cities have ecological footprints – a measure of resource consumption and waste production – that are two to three times the global average. Improving the sustainability of our settlements will require greater population densities in our cities and major urban areas than currently is the case, significant increases in building material recycling, the capture and use of stormwater, the recycling of wastewater and biological waste, and improved urban form and urban structures.

The SoE Report suggests that the development and implementation of an Australian Government policy on cities would provide leadership and guidance to the other two levels of government, as well as to developers, producers and consumers so as to achieve a common approach to the creation of sustainable settlements (see discussion regarding the National Urban Policy below).

Council of Australian Governments (COAG) Cities Reforms

In 2005, the House of Representatives Standing Committee on Environment and Heritage conducted an inquiry – *Sustainable Cities* – to report on issues and policies related to the development of sustainable cities to the year 2025. The vision adopted by the Committee was for cities to be *"vibrant and healthy – environmentally, socially and economically"*.

The Committee called for coordinated and concerted action by government, industry and the community. It recommended that the Australian Government assume a leadership role in securing more sustainable outcomes for cities.

Following the House of Representatives Report on Sustainable Cities, and the comments of the 2006 SoE Report regarding the need for sustainable settlements, the Council of Australian Governments (COAG) entered an agreement in December 2009 as to a set of reforms with the objective:

> *"to ensure Australian cities are globally competitive, productive, sustainable, liveable and socially inclusive and are well-placed to meet future challenges and growth."*

As part of the COAG cities reforms, States and Territories have agreed that by January 2012, they will have in place capital city planning systems that are consistent with well-agreed criteria.

Sustainable Population Strategy and National Urban Policy

The Australian Government, with the COAG Reform Council, is working with State and Territory Governments to support improvements in capital city strategic planning, and to share best practice planning approaches.

Sustainable Australia – Sustainable Communities: A Sustainable Population Strategy for Australia was released by the Minister for Sustainability, Environment, Water, Population and Communities on 13 May 2011. This Sustainable Population Strategy outlines the Government's framework for a sustainable Australia, and aims to ensure that future

population change is compatible with the economic, environmental and social wellbeing of Australia. The Strategy recognises that population change is not only about the growth and overall size of our population, it is also about the needs and skills of our population, how we live, and importantly, where we live. It recognises that population change impacts different communities in different ways.

The Strategy's focus is ensuring that we have in place the necessary policy settings and governance arrangements which will deliver improvements in our wellbeing, at the local, regional and national levels into the future. It outlines the Government's commitment to improving the liveability of our urban areas, and building stronger regions.

On 18 May 2011, the Minister for Infrastructure and Transport released *Our Cities, Our Future - A National Urban Policy for a productive, sustainable and liveable future*. This National Urban Policy sets in place the Australian Government's objectives and directions for our cities as we prepare for the decades ahead. It recognises the critical roles that State, Territory and Local Governments, the private sector and individuals play in planning, managing and investing in cities. It also highlights that the Australian Government makes decisions that impact upon urban Australia. This is the first time that an Australian Government has sought to outline its overarching goals for the nation's cities and how it will play a role in making them more productive, sustainable and liveable.

Other Federal documents relating to environmental sustainability

Other Australian Government documents, policies, programs and legislation relevant to environmental sustainability issues include:

- *Environmental Protection and Biodiversity Act 1999*
- Product Stewardship Legislation
- Water for the Future initiative including the National Urban Water and Desalination Plan
- National Waste Policy: Less Waste, More Resources (2009)
- Report of the Prime Minister's Task Group on Energy Efficiency (2010)
- House of Representatives Standing Committee on Environment and Heritage Inquiry into Sustainable Cities Report – Sustainable Cities (2005)
- State of Australian Cities Report (2010)

1.2.3 Western Australian Context

Current state of the environment

The Western Australian Government periodically publishes a *State of the Environment Report*, which is the key mechanism used for reporting on the State's environmental bottom line. The report reviews the progress of WA's economic sectors in the "Towards Sustainability" theme, by reporting on their sustainable management, use, protection and conservation of natural resources. WA State of the Environment (SoE) reports are designed to communicate credible, timely and accessible information about the condition of the environment to decision makers and the community.

The most recent SoE report was released in 2007. Some of WA's current significant environmental issues which are identified as being of high priority (and are indicated to have deteriorated since the previous SoE report in 1998) are listed below.

Climate change	WA is getting warmer; rainfall is decreasing in the south west; ocean levels are rising. Implications are severe.
Population and consumption	Western Australians have amongst the largest ecological footprints in the world.
Greenhouse gas emissions	WA has amongst the highest emissions per capita in the world. Total emissions are relatively small on a global scale, but increasing rapidly.
Loss or degradation of wetlands	Severe loss of wetlands has occurred on the Swan Coastal Plain and in the Wheatbelt.
Loss or degradation of native vegetation	Improved regulations are now in place, but clearing is still occurring with population growth and economic development.
Introduced animals	Large numbers of introduced animals and threats are present in WA. There has been limited success in preventing incursions and eradication.
Weeds	A large number of weeds are present across WA. Management action is currently inadequate.
Settlement patterns	Growing settlements, particularly in Perth and the coastal South West, are putting more pressure on the environment.
Transport	Western Australians are very dependent on car transport, which has high energy use and emissions.
Energy use	There is an increasing demand for energy, with little evidence of improved energy use efficiency.

The SoE Report notes that while Western Australians enjoy a high standard of living, there is a growing need for a shared understanding that our economic and social wellbeing is strongly linked to the health of the environment. The state of the environment will ultimately impact on our own wellbeing. It is our collective responsibility to look after our environment, and our collective and individual behaviours will determine how well we do this.

State documents relating to environmental sustainability

There are a number of State Government reports and planning documents relating to environmental sustainability. Of particular note is the Western Australian State Government's *Hope for the Future: The Western Australian State Sustainability Strategy*, which was released in September 2003. The purpose of the State Sustainability Strategy is to illustrate how the State Government will respond to the sustainability agenda by adopting a sustainability framework and highlighting actions that will be taken across government to promote sustainability.

Other State Government policies, programs, legislation and documents relevant to environmental sustainability issues include:

- Perth Air Quality Management Plan (2000)
- Western Australian Greenhouse Strategy (2004)
- State Water Plan (2007)
- Healthy Rivers Action Plan (2008)
- Strategic Direction for Waste Management in Western Australia (2004)
- *Contaminated Sites Act 2003*
- *Environmental Protection Act 1986*
- *Waste Avoidance and Resource Recovery Act 2007*

1.2.4 Local Context

City Planning

The City has in place its *Town Planning Scheme No. 1*, which was gazetted on 4 December 1998. The *Town Planning Scheme No. 1* was prepared for the purpose of controlling and guiding development and growth within the City in a responsible manner.

The City is currently reviewing the *Town Planning Scheme No. 1*. To guide the review, the Council has recently adopted in principle a new Local Planning Strategy, which sets out the City's objectives for future planning and development, and provides a broad framework for achieving those objectives. The Local Planning Strategy addresses social, environmental, resource management and economic factors that affect and are in turn affected by land use and development. Strategies within the Local Planning Strategy that are relevant to environmental sustainability include:

- Promoting better use of public transport and applying the principles of Transit Oriented Development in the City (including by providing for medium and high density housing in proximity to train stations and along high frequency bus routes);
- Increasing opportunities for residents, businesses and visitors to use cycling and walking as their preferred means of transport;
- Encouraging sustainable practices that conserve the City's key physical features;
- Ensuring the effective and efficient management of water supplies within the City; and
- Ensuring that the utilities of the City are maintained, and encouraging sustainable development to alleviate demand on such services.

These strategies, and the actions that support them, are synchronous with the objectives and actions set out in this Sustainable Environment Strategy.

A draft Town Planning Scheme No. 2, which is informed by the Local Planning Strategy, has been developed and is anticipated to be gazetted in 2012.

City of Vincent documents

The City seeks to encourage and achieve environmental sustainability through many existing City policies and strategic documents, including the City's overarching *Strategic Plan 2011-2016*, which is discussed further in section 2.1 below.

Under the Town Planning Scheme No. 1 (and under the proposed Town Planning Scheme No. 2), the City can adopt Planning Policies which relate to aspects of development control or other matters relevant to the Town Planning Scheme. These policies comprise the City of Vincent's Planning and Building Policy Manual. Policies relating to matters other than development are contained within the City's more general Policy Manual.

A list of the City's policies and strategic documents that address environmental sustainability is provided at Appendix A, together with brief descriptions of these documents.

2. CURRENT APPROACH TO THE ENVIRONMENT

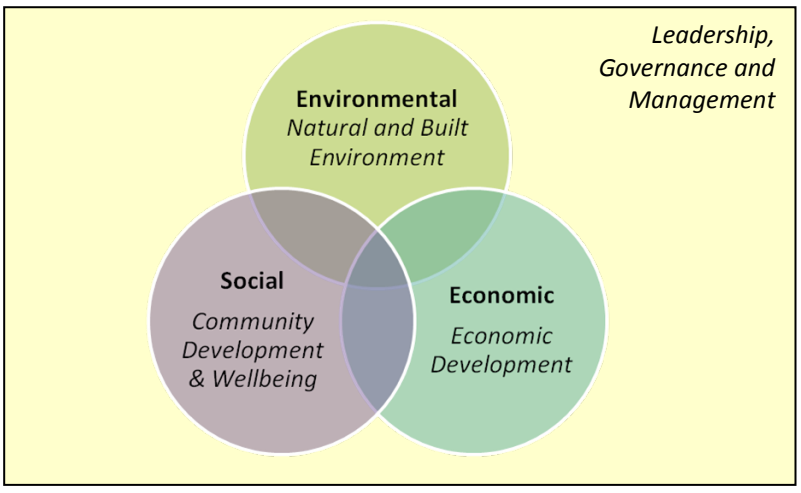
"A sustainable and caring community built with vibrancy and diversity"

2.1 The City of Vincent's *Strategic Plan 2011-2016*

The City of Vincent's Vision, as expressed in its *Strategic Plan 2011-2016*, is of *'a sustainable and caring community built with vibrancy and diversity'.*

The objectives of the Strategic Plan reflect the three aspects of sustainability, plus governance, as illustrated in the diagram below. The overarching objectives of the Strategic Plan are to:

1. Improve and maintain the natural and built environment and infrastructure;
2. Progress economic development with adequate financial resources;
3. Enhance community development and wellbeing; and
4. Provide good strategic decision-making, governance, leadership and professional management; supported by a safe, positive and desirable workplace with knowledge management and technology.



Implementation of this Sustainable Environment Strategy is one of the key actions to be implemented under the City's *Strategic Plan 2011-2016*, and the objectives of this Strategy are also embedded as key actions in the Strategic Plan.

2.2 The City's Sustainability Resources

The City has established a Sustainability Advisory Group (SAG), which is comprised of local community members, Council Members, Executive Management and City Officers. The SAG meets on a regular basis, and its mandate includes providing advice and recommendations to the Council in relation to sustainability and environmental matters, including:

- Climate Change;
- Environmental Issues (including this Sustainable Environment Strategy);
- Sustainable Building Design;
- Energy Efficiency and Renewable Energy;
- Biodiversity;
- Waste Management; and
- Water Sensitive Urban Design.

The SAG provided constructive input into the development of this Strategy, and regularly provides advice on the City's management and planning regarding environmental issues.

Sustainability issues cut across the spectrum of the City's operational areas, and sustainability principles are taken into account and applied by the City's Officers in day-to-day operations. The City recognises the importance of all employees being aware of sustainability issues, and being encouraged to act in a way that promotes environmental sustainability. One of the actions included in this Strategy, listed below as General Action C, is to develop a Sustainability Awareness Program to ensure that all of the City's employees are conscious of, and apply, environmental sustainability principles in their daily work.

In addition, the City employs two Officers whose roles are dedicated to sustainability and environmental issues:

- A **Project Officer – Environment**, within the Technical Services Directorate, whose role includes advising on and implementing project-based environmental initiatives, such as developing a Catchment Management Plan for the City; and

- A **Project Officer – Sustainability**, within the Development Services Directorate, whose role will include facilitating and monitoring the implementation of this Strategy.

The City also has an internal, cross-departmental Sustainability Working Group (SWG), which meets on an ad hoc basis, and played an important role in the development of this Strategy. The SWG will guide and monitor the implementation of this Strategy, and will also ensure regular reporting to the Council on progress in achieving the actions in this Strategy.

3. TOWARD ENVIRONMENTAL SUSTAINABILITY

The overarching objectives of this Strategy are:

1) To ensure that the City acts in an environmentally sustainable manner in all of its operations; and

2) To encourage, empower and support the City's community to live in an environmentally sustainable manner.

This Sustainable Environment Strategy sets out achievable actions for the City to implement on an ongoing basis over the next five years to ultimately achieve these two objectives. The level of priority attached to each action is indicated as follows:

Highest priority – action is crucial and needs to be implemented immediately

Medium priority – action is important, but need not be implemented immediately

Lower priority – action is desirable, but is an ongoing action that can be implemented over the longer term, or after priority has been given to highest and medium priority actions

The actions in this Strategy are organised into five categories: a **General Actions** section, and four **Focus Areas** which have been identified as being the general areas of concern for the City and the City's community. The City has formulated high-level objectives for each of these focus areas, and a list of more specific actions that the City will implement in order to achieve the objectives.

Each category of actions is divided into two sections – firstly, actions that the City will undertake to improve its own operations, and secondly, actions that the City will take to promote community action.

The categories of actions are as follows:

1) **General Actions** – these are broader actions which do not fall within the ambit of one of the four Focus Areas;

2) **Air & Emissions**;

3) **Water Quality & Consumption**;

4) **Greening Vincent**; and

5) **Reduce, Re-use, Recycle**.

Each of these areas is addressed separately below.

3.0 GENERAL ACTIONS

Background

These actions are aimed at achieving the two overarching objectives of this Strategy in a general way, by improving the City's operations and fostering environmental sustainability within the community.

Our own direct use of electricity and water are the most visible and most discussed areas of personal impact on the environment, and these issues are addressed through actions in sections 3.1 and 3.2 below.

However, as noted in the Australian Conservation Foundation's *Consuming Australia* report, the environmental impacts that occur in the production and distribution of the goods and services Australians buy and consume far overshadow our direct household impacts. But while many Australians are increasingly aware of the need to conserve water and reduce energy use, information about the hidden environmental costs of many products and services is much harder to come by. In fact, direct household and personal use accounts for only 30% of Australia's total greenhouse gas emissions, 23% of our total water use, and just 10% of our total eco-footprint. Actions D and L below are intended to respond to this issue by raising awareness and promoting more responsible consumption of resources.

The City recognises that the design, construction, use and demolition of the built environment can have a significant effect on the environment and the sustainable use of resources. Promoting sustainability in the built environment is a high priority for the City, and is addressed specifically through Action K below, as well as through actions falling under each of the four Focus Areas.

OBJECTIVE

Ensure that the City acts in an environmentally sustainable manner in all of its operations

	Action	Priority
A.	Use the adoption of the City's *Sustainable Environment Strategy 2011-2016* to publicise the City's actions, be accountable, and to promote community action.	
B.	Prepare an Environment Strategy Implementation Plan, and regularly report on progress towards achieving actions in the Sustainable Environment Strategy.	
C.	Develop and deliver a Sustainability Awareness Program for City employees.	
D.	Consider green alternatives to ensure that the City Administration's purchases are sustainable, environmentally friendly, and energy-efficient where possible and practicable.	
E.	For all environmental initiatives, consider liaison with relevant government agencies to obtain useful information or to partner on projects.	

F.	Monitor and avail of opportunities for state and federal funding and grants which could fund environmental projects or initiatives.	

OBJECTIVE

Encourage, empower and support the City's community to live in an environmentally sustainable manner

	Action	Priority
G.	Continue, and effectively publicize, the City's Environmental Grants and Awards and Building Design Awards programs.	
H.	Identify and support green initiatives being undertaken by community groups, schools and other government and non-government organisations.	
I.	Participate in, and encourage community participation in, global, national and local events promoting environmental awareness and action.	
J.	Make environmental and sustainability information more readily accessible to the community.	
K.	Encourage the incorporation of sustainable design principles and features in existing and new development within the City as standard practice.	
L.	Promote responsible consumption that has a reduced environmental impact.	

3.1 AIR & EMISSIONS

Background

The atmosphere surrounding the Earth consists of 79% nitrogen and 20% oxygen, with a range of other gases and particles making up the remaining 1%. The atmosphere plays a critical role in regulating global, regional and local climate and is essential to supporting life on Earth. Oxygen is required for life, ozone protects us from harmful solar radiation and historically greenhouse gases have helped maintain a temperature range suitable for life. However, the composition of the atmosphere is changing with increasing human pressures; historical and current levels of greenhouse gas emissions are causing our global climate to change.

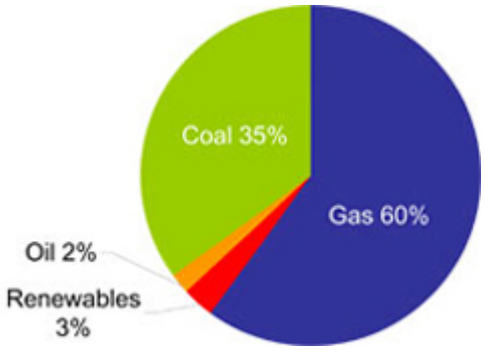
Greenhouse gas emissions

On a per capita basis, WA's greenhouse gas emissions are higher than Australia's and those of other developed countries, including the United States and the United Kingdom.[5] This can be attributed largely to WA's high level of economic output relative to population, and the heavy emphasis of the State's economy on resources, energy development and exports.

The following table[6] provides a breakdown of the contribution to Perth's total greenhouse gas emissions according to the form of consumption:

Food	26.8%	Furniture & appliances	3.1%
Electricity	12.6%	Gas & firewood	2.5%
Construction and renovations	10.2%	Other household operations	2.4%
Transport	10.0%	Books & magazines	2.3%
Clothing & fabrics	3.4%	All other goods & services	26.1%

WA accounts for approximately 13% of Australia's greenhouse gas emissions. Energy generation is the dominant source of greenhouse gas emissions in WA, contributing about half of the state's total emissions. As the graph below shows,[7] WA currently sources 97% of its energy from non-renewable fossil fuels:



[5] Source: Environmental Protection Authority (WA), *State of the Environment Report 2007*.

[6] Based on information provided on the Australian Conservation Foundation website – see http://www.acfonline.org.au/consumptionatlas/ (accessed 7 December 2010)

[7] Source: the Office of Energy (WA), citing the International Energy Outlook 2009 - http://www.energy.wa.gov.au/1/3315/3312/cleaner_energy.pm (accessed 7 December 2010)

Air quality

Atmospheric pollutants can have an adverse effect on human health and the environment, and are derived from both human activity and natural processes. Significant sources from human activity include combustion of fossil fuels and wood, motor vehicles, release of hydrocarbons from oil and gas refining, emissions from industrial processes or intensive agriculture, and particulate matter associated with mining, land clearing and bushfires. Natural sources of pollutants include volcanic eruptions, wind erosion and bushfires.

Due to the unconstrained movement of air, air quality is typically a regional, rather than local issue. Season and weather conditions may also have a significant impact on air quality. The City of Vincent's location immediately adjacent to the Perth CBD results in significant daily through traffic and the associated emissions as commuters from the outer northern suburbs enter and leave the Perth CBD.

Exhaust from motor vehicles is the largest source of carbon monoxide (80%) and oxides of nitrogen (42%) in the Perth metropolitan area, although the levels of pollution are decreasing as technology improves and more motorists own vehicles that emit low levels of pollutants. Motor vehicle emissions are also one of the principal sources of volatile organic compounds in the Perth airshed.

The City's achievements to date

Some of the City's achievements to date in this area are outlined below.

Lighting retrofits and Energy Showcase Rooms

The City completed all five milestones of the International Council for Local Environmental Initiatives (ICLEI) – Local Governments for Sustainability's "Cities for Climate Protection" Campaign (CCP) by the end of 2002. The ICLEI CCP Campaign was the first international initiative that aimed to facilitate local governments reducing emissions through a five milestone process of measurement, commitment, planning, implementing and monitoring.

After completing the ICLEI CCP Campaign, the City continued to take initiatives to reduce energy use and promote energy efficiency within the City's Administration. The City undertook a lighting retrofit of the Administration and Civic Building and the City's Depot to improve the buildings' lighting efficiency. The City also conducted retrofits to develop Energy Showcase Rooms in the Administration and Civic Building and the Depot. The retrofits included the installation of occupation sensor and timing devices to ensure that energy is not unnecessarily expended. These measures have led to a significant reduction in the City's greenhouse gas emissions, and considerable savings in the City's energy bills.

Carbon neutral program

The City has taken measures to progressively reduce the energy used by the City's fleet of vehicles, but recognises that its fleet is still a significant source of greenhouse gas emissions. Therefore the City has joined a carbon neutral program and pays an annual fee to offset the fleet's greenhouse gas emissions by the planting of trees.

Reduction in use of wood heaters in the City

The City has seen a large reduction in the use of wood heaters over the last several years, to the point where wood fire emissions are no longer a significant concern. There appear to be very few wood fires remaining in the City, with only one complaint received over the past two years in relation to smoke from wood fires. This may be at least partly attributable to community workshops run by the City on how to use a wood heater to best reduce emissions, together with a SmartBurn log program, which offered SmartBurn logs (which decrease particle emissions from wood fires by up to 50%) to residents at a greatly subsidised price.

Objectives and actions going forward

The City has set the following objectives and supporting actions for the next five year period:

OBJECTIVES

1. Contribute to a cleaner local and regional air environment by promoting alternative modes of transport than car use to residents and employees within the City.
2. Reduce and offset the use of non-renewable energy in the City's operations, and promote the same to the community.
3. Promote the use of renewable energy sources, and use such sources in the City's operations where possible.

Actions to improve the City Administration's operations:

	Action	Objective	Priority
1.1	Generate a baseline report of the City Administration's consumption of energy to benchmark performance and set targets.	2	
1.2	Monitor the City's energy use and greenhouse gas emissions and generate and implement recommendations to achieve or exceed reduction targets.	2	
1.3	Continue to downsize the City's fleet and monitor developments in more sustainable vehicle technology and its affordability.	2	
1.4	Continue to offset the City's carbon emissions from fleet vehicles.	2	
1.5	Encourage and facilitate City employees' use of alternatives to single-occupant car travel.	1	
1.6	Continue to purchase Green Power as a portion of the City's electricity.	2	
1.7	Continue to investigate and implement the use of alternative lighting technologies, including solar-powered lights and LEDs, in lighting owned by the City.	2, 3	
1.8	Monitor developments in renewable energy technology, and use renewable energy sources in City-owned facilities where possible and practical.	3	

Actions to empower the community:

	Action	Objective	Priority
1.9	Promote cycling as an alternative method of transport within and to the City, including by developing a Vincent Bicycle Strategy.	1, 2	
1.10	Advocate for improved public transport links within and to the City.	1, 2	
1.11	Promote public transport within and to the City, through community education and incentive initiatives.	1, 2	
1.12	Promote the use of electric vehicles, particularly scooters, rather than conventionally-fuelled vehicles.	2	
1.13	Employ a demand management approach to car parking within	1	

	the City to encourage the use of alternative transport modes.		
1.14	Offer guidance and encourage energy efficient design for new developments and retrofitting for existing developments within the City.	2, 3	
1.15	Develop and implement education initiatives to reduce energy use by City residents and businesses.	2	
1.16	Promote the use of renewable energy to businesses and residents within the City.	3	

3.2 WATER QUALITY & CONSUMPTION

Background

"Water is a limited natural resource and a public good fundamental for life and health. The human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realization of other human rights."[8]

Water consumption

The need to conserve and responsibly manage water is an increasingly important issue for Perth local governments and their communities. High water consumption rates within the Perth metropolitan region and significantly reduced rainfall since 1975 have resulted in less runoff into dams, permanent water restrictions, and declining groundwater levels. As climate change progresses, it is predicted that the yield of water from Perth's water catchments may fall even further in the future and wetlands within Perth may dry out.

The amount of scheme water an average person in Perth uses per year in household use has reduced substantially from 128kL in 2000/01 to 106kL in 2008/09; however, Perth remains one of the highest water-using cities in Australia.[9]

Household water use accounts for about 20% of all the water consumed in WA, with about 52% used inside the home, 44% outside the home, and around 4% lost through plumbing leaks. The below graph gives a more detailed breakdown of the makeup of average household water use in Perth for 2008-09.[10]

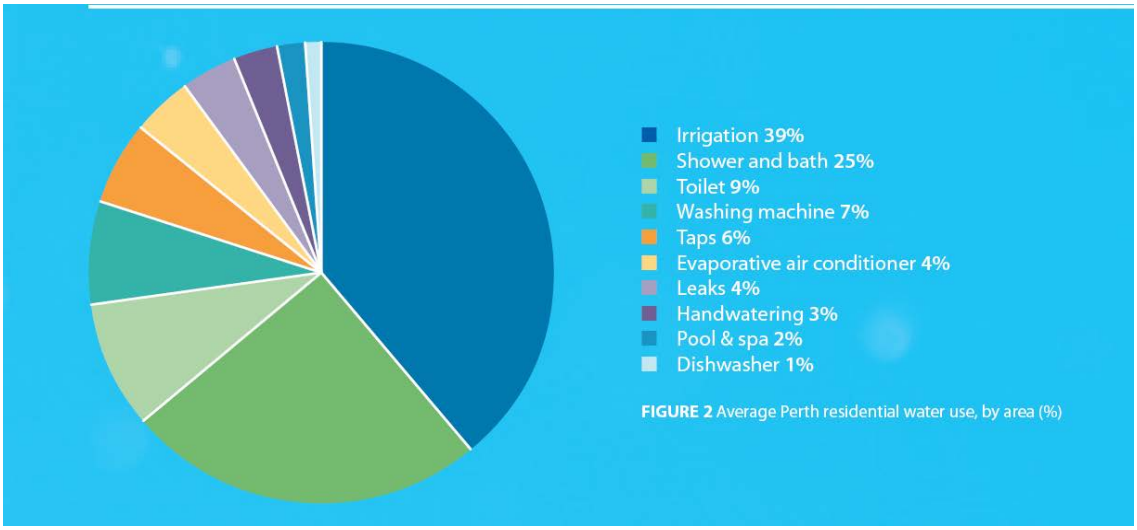


FIGURE 2 Average Perth residential water use, by area (%)

The largest component of water use by the City's Administration is the irrigation of recreational and open space areas. The City has 58 irrigated parks and reserves, of which 83.2 hectares is irrigated, and which use an average of 7,060kL per hectare annually. Traditionally, water for irrigation within the City has been sourced from Perth's superficial aquifer (the Gnangara Mound).

[8] United Nations Committee on Economic, Cultural and Social Rights (2002). General comment No. 15.
[9] Source: Water Corporation (2010) *Perth Residential Water Use Study 2008/09.*
[10] Source: Water Corporation (2010) *Perth Residential Water Use Study 2008/09.*

Water quality

Surface water catchments across the City drain to the Swan River via the Mounts Bay Main Drain, the Claisebrook Main Drain and Walters Brook, impacting on water quality in the Swan River and local lakes and wetlands.

Urbanisation of the catchment in combination with Perth's sandy soils and high groundwater table have resulted in contaminants and excessive nutrients entering the rivers. Stormwater and groundwater carried in drains and tributaries often contain high levels of nutrients (phosphorus and nitrogen), contaminants (heavy metals and hydrocarbons), organic matter, sediment and litter. Pollutants tend to get trapped in Mounts Bay which is poorly flushed by tides or river flow.

With the likely increased incidence of extreme weather events due to climate change, the proper management of storm water is also a significant issue. The City aims to reduce the likelihood of flooding in the City from intense rainfall periods, and to improve the quality of storm water entering the drainage system and ultimately discharging into the Swan River. Currently, high levels of nutrients in the surface and groundwater supplies are contributing to poor water quality in the City's local areas such as Hyde Park and Smith's Lake, and ultimately the Swan River.

Water sensitive urban design

Water sensitive urban design is an approach to the planning and design of urban environments that supports healthy ecosystems, lifestyles and livelihoods through smart management of all our waters. Water sensitive urban design is based on the idea that when land is developed for urban uses, natural hydrologic processes and features should be incorporated wherever possible.

As an older and built-up local government area, the City was not initially designed with water sensitive urban design principles in mind. However, promoting water sensitive urban design in new development, and retrofitting improvements in existing development, is a key means for the City to reduce the likelihood of flooding in the City, and improve the quality of water entering our drainage system and recharging our groundwater sources.

The City's achievements to date

Some of the City's achievements to date in this area are outlined below.

Water Conservation Plan

The City adopted a *Water Conservation Plan* in October 2008. The *Water Conservation Plan* sets out actions to be taken over a 10 year period to reduce the amount of water used in the City's parks and reserves, such as the use of hydrozoning (varying the water allocation depending on the category or zoning of the park or reserve). The City has been implementing actions under the *Water Conservation Plan* to date.

ICLEI Water Campaign

The City has joined the International Council for Local Environmental Initiatives (ICLEI) Water Campaign for local governments and is striving to reduce water consumption by the community and the City's administration. The City has completed the first three (of five) milestones of the Campaign to date.

Mounts Bay Water Quality Improvement Plan

The Claise Brook Catchment Group (with funding from the Swan River Trust) developed a Mounts Bay Catchment Water Quality Improvement Plan (WQIP) in September 2009. The WQIP sets out a number of implementation actions to be carried out by stakeholders, including the City, which are aimed at improving the quality of water entering the Swan River from the Mounts Bay Catchment.

Restoring former wetlands

To improve water quality within Vincent, the City, in partnership with the local community, has restored indigenous vegetation to Smith's Lake. Sedges take up nutrients from the water and filter out pollutants resulting in cleaner water within the Lake. A constructed wetland at Robertson Park acts as a retention basin and filter for stormwater runoff from surrounding streets. In addition, turf areas around water bodies near Hyde Park, Smith's Lake and Banks Reserve are not fertilized to minimise run-off into the drainage and groundwater systems.

Objectives and actions going forward

The City has set the following objectives and supporting actions for the next five year period:

OBJECTIVES

4. Ensure effective and efficient management of water supplies within the City.
5. Protect and improve the quality of surface and groundwater resources within the City.

Actions to improve the City Administration's operations:

	Action	Objective	Priority
2.1	Generate a baseline report of the City Administration's consumption of water to benchmark performance and set targets.	4	
2.2	Monitor the City's water use and generate and implement recommendations to achieve or exceed water reduction targets.	4	
2.3	Review and update the City's *Water Conservation Plan*, and continue to educate staff, to minimise water consumption by City gardens and parklands.	4	
2.4	As part of maintenance, upgrade to more water efficient appliances in City-owned facilities.	4	
2.5	Continue participation in the ICLEI Water Campaign and obtain accreditation as a Waterwise Council.	4, 5	
2.6	Develop and implement a comprehensive Catchment Management Plan for the City to reduce sources of stormwater and groundwater contamination (nutrient and non-nutrient), and to recharge groundwater by increasing stormwater infiltration and retention on site.	5	
2.7	Implement water sensitive urban design and landscaping	4, 5	

	principles and management practices in City-owned streets and properties, where possible.		
2.8	Maintain and improve native vegetation at Smith's Lake, Banks Reserve and Robertson Park wetland to improve water quality.	5	
2.9	As part of the Hyde Park Lakes restoration project, improve water quality and reduce water consumption of the Hyde Park Lakes.	4, 5	
2.10	Continue to participate as an active member of the Mounts Bay Catchment Water Quality Improvement Plan (WQIP) Implementation Committee to achieve the actions of the WQIP.	5	

Actions to empower the community:

	Action	Objective	Priority
2.11	Develop and implement education initiatives to reduce water consumption by City residents and businesses.	4	
2.12	Promote waterwise and river-friendly landscaping and gardening practices within the City.	4	
2.13	Promote the re-use of grey water within the City.	4	
2.14	Encourage the incorporation of water sensitive urban design in developments within the City.	5	
2.15	Promote the reduction of stormwater contamination by the community.	5	

3.3 GREENING VINCENT

Background

Biodiversity conservation

Biological diversity – or biodiversity – is the term given to the variety of life on Earth and the natural patterns it forms – the different plants, animals and micro-organisms, the genes they contain and the ecosystems of which they form a part. The biodiversity we see today is the product of billions of years of evolution, shaped by natural processes and, increasingly, by the influence of humans. It forms the web of life of which we are an integral part and upon which we are so dependent.

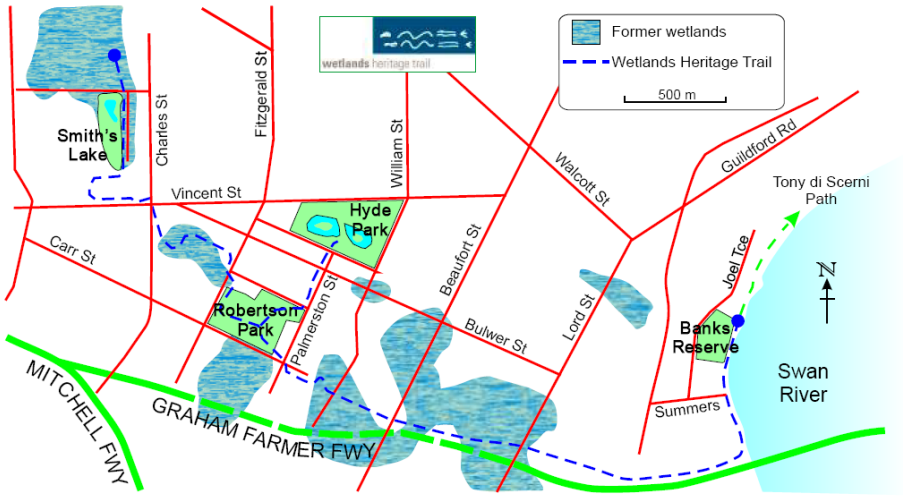
The City of Vincent is highly urbanised, containing only minor pockets of relatively quality indigenous vegetation and habitat. However, the City has a number of significant parklands and recreational areas that are valued by both the City's community and the general public of the wider Perth area. Along with Smith's Lake and the Banks Reserve foreshore, Hyde Park is used as a feeding and breeding site for a variety of birds and is also home to a number of other fauna, including tortoises and various freshwater crustaceans.

The City recognises that there is an opportunity to re-establish, conserve and enhance biodiversity within the City. An important aspect is to create faunal corridors, or vegetated linkages, allowing the movement of birds and other fauna between native habitat areas. The vegetation of street verges with native plants and trees, and encouragement of residents to use native species in their gardens are important ways in which these linkages can be established.

Remnant and restored wetlands

Previously, an extensive belt of shallow, freshwater wetlands ran north from the Swan River to Lake Monger along the Swan Coastal Plain. European settlement led to many of the wetland areas being drained, filled or cleared. These former wetlands are known archaeologically, historically and ethnographically to have been of great importance to Aboriginal people in pre-European times, and continue to be of importance today. The Nyungar people are recorded as using many of the lake resources including frogs, root tubers, freshwater turtles, fish, gilgies and waterfowl up until the 1940s. The wetlands within the City continue to hold special significance to the Aboriginal community.

Many of these lakes formed a natural interconnected drainage system which found its way into the Swan River at East Perth through Claise Brook. Former lakes and swamps within the City of Vincent include Lake Henderson (parts of which are now Robertson Park and Dorrien Gardens), Third Swamp (now Hyde Park) and Smith's Lake, as illustrated in the following figure.



Former and current wetlands in the City of Vincent

The majority of parks and reserves in the City were designed in the European style, with open grass, scattered trees (many being exotic, non-native species) and very little mid or lower storey planting. However, the City recognises the importance of enhancing native fauna habitat by re-establishing native flora and fauna and restoring the sites of former wetlands to a similar habitat to the days of pre-European settlement.

The City's achievements to date

Some of the City's achievements to date in this area are outlined below.

Restored wetlands

In recent years, the City converted Smith's Lake from a concrete and lawn-edged lake back to a more natural setting, with fringing vegetation of entirely local species of plants. This provides habitat for frogs and invertebrates and nesting sites for water birds, as well as reducing the nutrient inflow to the lake. The City has also recently created a new seasonal wetland on the south-east corner of Robertson Park, featuring a lake called Little Boojoormelup.

The City has worked to restore native vegetation in Banks Reserve, to enhance the habitat and to prevent erosion of the river bank. The City is considering adapting a creek that runs through Banks Reserve into the Swan River by planting native species with nutrient-stripping abilities along the creek, enabling the creek to act as a water treatment swale.

The City has also established the Wetlands Heritage Trail, an initiative to encourage reflection on the natural and social history of the area. The trail is 7km of pedestrian and cycle path linking many of the City's parks and points of interest while following the existing and former wetlands. Much of the trail echoes the Claise Brook drain that still flows underneath the City, taking water down to the Swan River. The end point of the trail is Banks Reserve and the Swan River.

Hyde Park lakes restoration project

Hyde Park is also situated in a former wetland area, and the City is currently undertaking a major project to restore water quality and habitat to the park. The restoration will provide a secure habitat for the waterbirds and aquatic animals while lowering water use which will be achieved through natural systems that improve water quality.

Local plant sales

The City, in conjunction with the Claise Brook Catchment Group, holds two Western Australian Plant Sales a year. These sales commenced in 2005 and are proving more popular with residents each year. The sales are held during the cooler autumn and winter months to take advantage of the winter rain, so that when spring arrives the new plant stock has been watered in, and the plants are well established and ready for the summer season. The City also provides local plant stalls at its summer street festivals.

All the plants are sold at less than wholesale prices to Vincent residents, to encourage residents to purchase local and other varied native plant species. Flowering plants, shrubs and groundcovers are all offered for sale. The aim of these plant sales is to encourage residents to plant attractive waterwise native plants, and to increase biodiversity within residents' own gardens.

Native plants not only save water – they also require minimal fertilizer, which reduces the amount of nutrients entering our waterways. The Western Australian plant stock sold is ideally suited to our poor sandy soils and offer a great alternative to the traditional "English style gardens" which require large volumes of water and nutrients to sustain them. Residents are becoming more aware of our drying climate and are adopting native plant species, as there is a wide selection to choose from that are well suited to any garden.

In the absence of a specialist native plant retailer in the City, the City's Local Plant Sales ensure that suitable species are made available to ratepayers. Expert advice by the City's staff is important to the success of this initiative.

Objectives and actions going forward

The City has set the following objectives and supporting actions for the next five year period:

OBJECTIVES

6. Re-establish, conserve and enhance floral and faunal biodiversity, native vegetation, green spaces and green linkages within the City.

Actions to improve the City Administration's operations:

	Action	Objective	Priority
3.1	Continue to replant areas of City-owned land with local plant and tree species to increase food and habitat areas, including native fringing vegetation as faunal habitat areas.	6	
3.2	Continue to establish Greenways by vegetating road reserves, expanding the street tree program, and enhancing other habitat corridors as opportunities arise.	6	
3.3	Review and update the City's *Parks and Reserves Strategy*, with increased focus on biodiversity.	6	
3.4	Identify cultural ties between the indigenous flora/fauna and the local indigenous people, with a view to establishing indigenous cultural gardens.	6	
3.5	Continue the City's Annual Weed Spraying Program for Parks and Reserves and continue to monitor noxious weeds including "Declared Plants".	6	

Actions to empower the community:

	Action	Objective	Priority
3.6	Investigate and facilitate opportunities for community gardens to be established within the City.	6	
3.7	Promote the use of local plants within the City, through initiatives such as Local Plant Sales.	6	
3.8	Promote faunal protection and habitat enhancement within the City.	6	
3.9	Continue to ensure that information and signage incorporates information relating to the history, function and ecology of wetlands, as appropriate.	6	
3.10	Update and review the City's Significant Trees Inventory and Policy, and promote the protection of trees during planning and construction phases.	6	
3.11	Require the retention of existing trees on street verges, and encourage the retention of vegetation and trees on private lots.	6	
3.12	Involve the City's community in establishing baseline data on biodiversity within the City.	6	

3.4 REDUCE, RE-USE, RECYCLE

Background

"From the perspective of pollution, the problem is a question of what waste is.
From the perspective of resource productivity, it is a question of what waste could become.
As a pollutant, waste demands controls.
As an embodiment of accumulated energy and materials, it invites an alternative."[11]

Increased consumption results in greater waste both directly from disposal, and indirectly from production processes. As the State's population grows, generation of waste will increase unless major achievements are made in the areas of waste minimisation and resource recovery.

Western Australians generate about 5 million tonnes of solid waste per year. About 20% is recycled or composted. Most solid waste generated in WA ends up in landfill sites. Poor waste management practices at landfill sites can lead to land contamination and pollution of surface and groundwater resources. Landfill sites also generate methane, a major greenhouse gas, and litter problems.

Construction and demolition waste represents more than half of the waste that is sent to landfill in Western Australia. Approximately 1.5 million tonnes of construction and demolition waste is disposed each year in Perth. This waste is generated during the construction of new subdivisions and buildings and the demolition of older buildings. In 2005, solid landfill comprised 25% municipal waste, 21% commercial and industrial waste, and 55% construction and demolition waste.

Significant amounts of embodied energy are associated with common building materials. Embodied energy is the energy consumed by all of the processes associated with the production of a building, from the mining and processing of natural resources to manufacturing, transport and product delivery. In addition to using large amounts of energy, the production of new construction materials such as cement (a key component of concrete) can also result in significant carbon dioxide (CO_2) emissions. CO_2 is a byproduct of a chemical conversion process used in the production of cement, in which limestone is converted to lime. The production of one tonne of cement results in the release of approximately 0.8 tonnes of CO_2. Besides water, concrete is the most commonly used material on earth.

The re-use of building materials can save up to 95% of embodied energy that would otherwise be wasted, and the recycling of concrete can avoid the unnecessary production of large amounts of CO_2. In addition, the retention of heritage (and other) buildings that are capable of reasonable adaptation and re-use can have a significant impact on reducing demolition waste.

The City endeavours to make the residential community and business owners aware of the opportunities that exist to reduce, reuse and recycle solid waste and, in its own operations, to achieve best practice in solid waste management.

The City's residents produce, on average, a total of 14,000 tonnes of waste per year (approximately 870kg per household), with roughly 2,000 tonnes being diverted from landfill through either recycling or green waste collections.

[11] From *Zero Waste* by Robin Murray, Published in 2002 by Greenpeace Environmental Trust

The City's achievements to date

Some of the City's achievements to date in this area are outlined below.

Improved recycling service

The City introduced an improved Kerbside Recycling Service in September 2008, introducing a 240L mobile recycling bin, and the City's recycling participation rate has increased as a result. With this yellow lid recycling service the City now diverts around 4,500 tonnes of waste from landfill – which is twice as much as that diverted under the previous black crate recycling system.

An improved recycling service has resulted in the following benefits:

- Increased tonnages diverted from landfill;
- Increased participation;
- Decrease in putrescible waste tonnages;
- Saving in disposal costs which compensates for the increased recycling costs;
- Recovery/reuse of finite resources which would otherwise have gone to landfill;
- Less energy required to reprocess recycled materials, resulting in lower greenhouse gas emissions and less water required, in the case of paper reprocessing; and
- Prolonged landfill life, saving transport costs, time and the cost of finding a new landfill site (away from the Coastal Plain).

Other waste disposal programs

In recent years, the City has run programs through its facilities and through schools to encourage community members to deposit specific types of waste into collection bins provided by the City, to divert these materials from landfill and allow them to be recycled safely. These special collections include:

- Batteries;
- Old mobile phones; and
- Compact fluorescent light bulbs.

The City has also held annual hazardous waste and e-waste collection days to allow residents to safely dispose of hazardous waste.

In addition, the City regularly runs worm farm workshops, and offers worm farms and compost bins at a subsidised rate for residents. This assists in diverting residents' green waste from landfill.

Strategic Waste Minimisation Plan

The City adopted its *Strategic Waste Minimisation Plan 2008 – 2013*, in March 2009. With the financial and statutory support of the Federal and State Governments and through its membership of the Mindarie Regional Council, the Strategic Waste Minimisation Plan will enable the City of Vincent to engage with its community to:

- Minimise the direct and indirect environmental impacts of waste and promote its minimization over the next five years;
- Minimise waste in a sustainable manner; and
- Increase community awareness of the impact of waste issues on the environment.

Objectives and actions going forward

The City has set the following objectives and supporting actions for the next five year period:

OBJECTIVES

7. Reduce the use of resources and production of waste within the City in partnership with business, residents and visitors, including through the re-use and recycling of materials.
8. Create, promote and facilitate better and more efficient management of waste within the City.
9. Reduce the use of toxic and hazardous materials within the City and facilitate the proper disposal of such materials.

Actions to improve the City Administration's operations:

	Action	Objective	Priority
4.1	Generate a baseline report of the City Administration's production of waste to benchmark performance and set targets.	7	
4.2	Monitor the City's waste production and generate and implement recommendations to achieve or exceed waste reduction targets.	7	
4.3	Continue to monitor the City's solid waste management and recycling, and annually review and update the City's *Strategic Waste Minimisation Plan 2008-2013*.	7, 8	
4.4	Investigate and implement ways to increase the use of technology to minimise paper use in the City's operations.	7	
4.5	Review, update and maintain the City's Toxic Materials Register, and identify less toxic alternatives for use in the City's operations where possible and practical.	9	

Actions to empower the community:

	Action	Objective	Priority
4.6	Undertake community waste education programs aimed at reducing the City's total waste stream and reducing dumped waste and litter.	7	
4.7	Develop a waste management guide for developments in the City.	7, 8	
4.8	Encourage and promote the re-use and adaptation of existing buildings within the City where possible, and encourage and promote the retention, re-use and recycling of building materials and construction waste.	7	
4.9	Encourage the use of locally sourced, recycled, recyclable and rapidly renewable materials in the construction of new developments.	7	
4.10	Investigate establishing further public recycling bins at strategic locations within the City.	7, 8	

4. IMPLEMENTATION

4.1 Monitoring, evaluation and review

The City's Strategic Planning Officers, with advice from the Sustainability Advisory Group (SAG) and the Sustainability Working Group (SWG), are responsible for overseeing the implementation of this Strategy. To facilitate implementation, the Strategic Planning Officers will prepare an Implementation Plan, which will identify for each action:

- Indicators which will signify achievement of the action;
- The City's Officers who will be responsible for achieving the action;
- Budgetary considerations; and
- A target date for completion, taking into account the priority of the action.

Progress reports on the implementation of the Strategy will be prepared and presented to the Council at least twice yearly.

It is essential that the Council, with advice from the SAG, ensures the ongoing relevance and effectiveness of its environmental sustainability program. The *Local Government Act 1995* requires that the City's Plan for the Future, which includes the City's Strategic Plan, must be reviewed every two years. It is intended that:

- ongoing review of this Sustainable Environment Strategy will be undertaken at the same time as future reviews of the Strategic Plan to ensure currency and consistency; and
- the Implementation Plan will be reviewed annually.

4.2 Promoting action

It is important to recognise that the City cannot effect environmental action in isolation. The City needs to work with its residents, businesses, industry, community groups, stakeholders, and with other levels of government in order to achieve the objectives of this Strategy.

If the City is to promote change in the community, it must lead by example. Council Members must be cognisant of the need to act sustainably, and must play an active role in guiding the City's environmental sustainability agenda. The City must ensure that its Officers are fully aware of environmental impacts, initiatives and technologies within their field of operation, and must ensure that the City is acting in an environmentally sustainable manner in all of its operations.

This Strategy recognises that providing information to the local community about environmental initiatives is an important tool in developing a culture of sustainability within the City. Effective dialogue and information sharing not only connects the community with the City's activities; it also promotes a shared sense of responsibility and community cohesiveness, and helps everyone to understand what all of our responsibilities are.

5. REFERENCES

Australian Conservation Foundation (2007). *Consuming Australia: Main Findings*. Available at: http://www.acfonline.org.au/uploads/res/res_atlas_main_findings.pdf

Australian Conservation Foundation website – http://www.acfonline.org.au/default.asp

Australian Government (2011). *National Urban Policy Discussion Paper.* Available at: http://www.infrastructure.gov.au/infrastructure/mcu/urbanpolicy/index.aspx

Australian Government (2011). *Sustainable Australia – Sustainable Communities: A Sustainable Population Strategy for Australia*. Available at: http://www.environment.gov.au/sustainability/population/index.html

Australian Government (2011). *Our Cities, Our Future - A National Urban Policy for a productive, sustainable and liveable future.* Available at: http://www.infrastructure.gov.au/infrastructure/mcu/urbanpolicy/index.aspx

Australian Government (2010). *National Waste Less Policy: Less Waste, More Resources*. Available at: http://www.environment.gov.au/wastepolicy/index.html

Australian Government (2010). *Report of the Prime Minister's Task Group on Energy Efficiency*. Available at: http://www.climatechange.gov.au/~/media/submissions/pm-taskforce/report-prime-minister-task-group-energy-efficiency.pdf

Australian Government (2010). *State of Australian Cities Report*. Available at: http://www.infrastructure.gov.au/infrastructure/mcu/soac.aspx

Australian Government (2006). *State of the Environment Report 2006*. Accessed from: http://www.environment.gov.au/soe/2006/index.html

Australian Government (2010). *Water for the Future Initiative.* Available at: http://www.environment.gov.au/water/australia/index.html

Commonwealth of Australia Law website - http://www.comlaw.gov.au/

Government of Western Australia (2003). *Hope for the Future: The Western Australian State Sustainability Strategy*. Available at: http://www.dec.wa.gov.au/content/view/3523/2066/

Government of Western Australia (2010). *State of the Environment Report Western Australia 2007.* Accessed from: http://www.soe.wa.gov.au

Government of Western Australia (2007). *State Water Plan.* Available at: http://www.water.wa.gov.au/Our+water+future/Water+resource+management/default.aspx

Government of Western Australia (2004). *Strategic Direction for Waste Management in Western Australia.* Available at: http://www.zerowastewa.com.au/documents/sd.pdf

Government of Western Australia (2004). *Western Australian Greenhouse Strategy*. Available at: http://www.dec.wa.gov.au/component/option,com_docman/Itemid,/gid,1691/task,doc_details/

Office of Energy (WA) website - http://www.energy.wa.gov.au/

Parliament of Australia (2005). *House of Representatives Standing Committee on Environment and Heritage Inquiry Into Sustainable Cities Report: Sustainable Cities*. Available at: http://www.aph.gov.au/house/committee/environ/cities/report.htm

State Law Publisher (WA) website - http://www.slp.wa.gov.au/Index.html

Swan River Trust (2008). *Healthy Rivers Action Plan.* Available at: http://www.swanrivertrust.wa.gov.au/science/program/Documents/healthy_rivers_action_plan.pdf

United Nations Committee on Economic, Cultural and Social Rights (2002). General comment No. 15. The right to water (articles 11 and 12 of the International Covenant on Economic, Social and Cultural Rights). Twenty-ninth Session, Geneva E/C. 12/2002/11.

Water Corporation (2010). *Perth Residential Water Use Study 2008-09*. Available at: http://www.thinking50.com.au/

APPENDIX A: City of Vincent policies and strategic documents relating to environmental sustainability

Document	Summary	Timing
Policies		
City Policy No. 1.2.3 relating to Purchasing	Part 3 of the *Guidelines and Policy Procedure* for the Policy: • Defines "Sustainable Procurement" as the procurement of goods and services that have less environmental and social impacts than competing products and services; • States the City's commitment to sustainable procurement; and • Sets out the practical matters that should be considered to ensure that the City's purchases are sustainable.	Adopted 27 February 2007 Next review – February 2012
City Policy No. 1.2.9 relating to the Purchase of Paper Products	The Policy states: *"That suppliers or tenderers who produce a product that does not include the use of chlorine bleach and/or uses recycled paper fibres, providing that these "environmentally friendly" products are of the quality, performance and price specified by the City, shall be given preference over other suppliers."*	Adopted 23 June 1997 Next review – April 2013
City Policy 1.2.10 relating to Commercial Dealings – Native Forest Woodchips	The Policy states: *"That the City:* *1. as far as practicable, will have no new direct commercial dealings with any company or its subsidiary if that company or any of its subsidiaries undertakes the logging of old growth forests, or the production of native forest woodchips that is not done in an ecologically sustainable manner; and* *2. will have regard to the principles of ecologically sustainable development in carrying out its responsibilities as a purchaser of goods and services."*	Adopted 24 May 1999 Next review – February 2015
City Policy No. 2.1.1 relating to Maintenance – Native Vegetated Areas of Open Space	The objective of the Policy is: *"To develop and maintain areas of public open space that have predominantly native vegetation in an attractive and sustainable manner."*	Adopted 26 May 1997 Next review – May 2013
City Policy No. 2.1.2 relating to Street Trees	In the Policy, the City recognises the significant contribution made by street trees to both the aesthetic and environment aspects of existing streetscapes within the City, and notes that it wishes to avoid the unnecessary removal of street trees. The Policy also provides that the City will pursue legal action against any person who wilfully interferes, removes, prunes or damages a street tree,	Adopted 22 May 1997 Next review – May 2012

Document	Summary	Timing
	without the prior approval of the City.	
City Policy No. 2.2.4 relating to Verge Treatments, Plantings and Beautification	The Policy provides that: *"The City will encourage and assist where practicable owners/occupiers to maintain street verges in a way that retains and enhances the streetscape, whilst minimising water usage."* The Guidelines, Specifications and Procedures for the Policy note that the City encourages the use of waterwise plants for planting the verges, and discourages turfing of the verges.	Adopted 14 August 2007 Next review – May 2013
City Policy No. 2.2.11 relating to Waste Management	The Policy under which the City provides a service for the collection of designated recyclable materials from households, multi residential units and commercial properties who require such a service as part of the City's commitment to protecting the environment. The Policy also provides for the City to provide two green waste bulk collections to all residential properties per year.	Adopted 22 September 1997 Next review – May 2013
City Policy No. 2.2.12 relating to Asset Management	The Guidelines and Policy Procedure for the Policy notes that the City is committed to managing infrastructure assets in a systematic and sustainable manner. The Guidelines and Policy Procedure also set out the following principle: *"Renew before New* *Adopt a principle of "Renew before New" of City owned assets, with an emphasis on integrating services while maintaining/ upgrading/replacing existing assets rather than adding new assets to the City's inventory, unless cost benefit analysis justifies otherwise."*	Adopted 10 March 2009 Next review – March 2014
City Policy No. 3.2.1 relating to Residential Design Elements	All residential development is required to comply with the Residential Design Elements Policy (RDE Policy). The RDE Policy sets out broad Performance Criteria, which must be met, and Acceptable Development Criteria, which illustrate one way of satisfying the Performance Criteria. The RDE Policy includes Performance Criteria relating to landscaping, and relating to energy-efficient design.	Last amended 14 April 2009
City Policy No. 3.5.10 relating to Sustainable Design	The City is keen to encourage sustainable building design, and has adopted a Sustainable Design Policy, which has the following objectives: 1. To demonstrate the City's commitment to environmental, economic, and social stewardship, and to contribute to the City's goals of protecting, conserving, and enhancing the City's and the State's environmental resources.	Adopted 22 March 2011

Document	Summary	Timing
	2. To encourage the retention of existing buildings capable of reasonable adaptation and re-use. 3. To encourage the incorporation of sustainable design principles and features in existing and new development in the City of Vincent as standard practice. 4. To set out the City's expectations of the sustainability outcomes to be achieved by homeowners, developers and builders in new building and renovation projects. The Policy also notes that as part of its endeavour to encourage sustainable design, the City makes available for people who are considering building a new home or undertaking renovations, a Sustainable Residential Design Checklist, which outlines some key considerations that should be discussed with a builder and/or designer at an early stage, to ensure that the home is constructed in a sustainable way.	
City Policy 4.1.16 relating to Vehicle Management	The objectives of the policy include promotion of an environment that: • reduces fleet costs; • satisfies operational requirements; • optimises the use of a vehicle through car sharing/pooling; and • gives consideration to the environmental sustainability impact of vehicle use. Clause 5 of the Policy provides: *"The Australian Government provides a Green Vehicle Guide which provides information on fuel consumption and the air pollution standard to which vehicles have been certified. The Greenhouse Rating takes into account the amount of carbon in various fuel types and is considered the most appropriate measure. Where possible, a rating of at least 4 stars is specified for fuel efficiency and greenhouse gas emissions and at least 3 stars for air pollution".*	Adopted 10 June 2008 Next review September 2015
City Policy 4.1.21 relating to Environmental Grants and Awards	This Policy establishes a procedure whereby the City offers environmental grants to: • community groups/non-profit organisations, to assist them in developing and implementing initiatives which involve the local community to raise awareness in matters relating to the local environment; and • to schools within and outside the City, to assist the school to implement an environmental project or initiative.	Adopted 12 June 2007 Next review June 2012

Document	Summary	Timing
	The policy also provides that schools and individual members of the community who have developed/implemented one or more measurable environmental initiatives may qualify for an Environmental Award offered by the City.	
Strategies and Plans		
Local Bicycle Network Plan Review	In 1997, the City commissioned a *Local Bicycle Network Plan* to be prepared. The aim of this project was to identify a number of low cost improvements which would encourage cycling within the City of Vincent. Public consultation was undertaken as part of the project. The City initiated a review of the original 1997 *Local Bicycle Network Plan* during 2002, and Bikesafe Bicycle Planning Consultants undertook the review in mid-2003. The main aims of the review were to: • Detail improvements to a number of Local Bicycle Routes that were identified in the 1997 plan but not developed in detail. • Incorporate any changes needed to the local bicycle network resulting from more recent changes to the road network, particular the construction of the Graham Farmer Freeway and associated works. • Convert the bicycle network map into a GIS (Geographical Information System) format which will permit ongoing management of bicycle network issues in conjunction with overall management of road and path infrastructure.	Final Report – April 2004 Funds have been allocated in the City's Draft 2011-12 Budget for an entirely new Bicycle Plan which would review the infrastructure and would also consider how to promote cycling more broadly. Community consultation will be undertaken as part of this process.
Local Planning Strategy	The Local Planning Strategy (LPS) is the principal document outlining and communicating the future land use planning of the City of Vincent. The LPS provides the long term direction to assist future decision making in response to population growth and change. The LPS responds to the long term strategic direction of the State Government, as well as responding to and planning for local needs such as employment, community and recreation facilities, housing, transport and tourism. One of the objectives of the LPS is to co-ordinate and ensure that development is undertaken in an efficient, sustainable and responsible manner that integrates consideration of economic, social and environmental goals. The LPS sets a blueprint for how this will be achieved.	Adopted in principle 21 December 2010; under peer review at present
Strategic Plan 2011-2016	The City's Strategic Plan sets the strategic direction of the City over a five year period. The Strategic Plan sets out strategies across four key areas, which correspond to the three aspects of sustainability, plus governance:	Adopted 14 June 2011

Document	Summary	Timing
	• Natural and Built Environment; • Economic Development; • Community Development and Wellbeing; and • Leadership, Governance and Management. The Strategic Plan also includes some specific actions aimed at promoting the City's environmental sustainability.	
Strategic Waste Minimisation Plan 2008-2013	The goals stated in the Strategic Waste Minimisation Plan (SWMP) are that, with the financial and statutory support of Federal and State Governments and through its membership of the Mindarie Regional Council, the City of Vincent will engage with its community to: • Minimise the direct and indirect environmental impacts of waste and promote its minimisation over the next five years; • Minimise waste in a sustainable manner; and • Increase community awareness of the impact of waste issues on the environment. The SWMP sets out recommended actions that the City will take over a five year period to meet these goals.	Adopted 24 March 2009
Town Planning Scheme No. 1	The City's *Town Planning Scheme No. 1* was prepared for the purpose of controlling and guiding development and growth in a responsible manner. The Scheme is intended to initiate, accommodate and respond to change. The City has prepared a draft Town Planning Scheme No. 2 to replace the current *Town Planning Scheme No. 1*, and which is in the process of being peer reviewed.	Gazetted 4 December 1998
Vincent Habitat Project Report	In an effort to address native fauna habitat issues within the City of Vincent, the Council, in association with the Claise Brook Catchment Group, initiated a study into improving the habitat for birds and other native fauna in the parks and reserves within the City. The recommendations in this report focus on enhancing existing habitat nodes and on capitalising on these by creating strategic links using targeted street plantings.	Council resolved 12 April 2005 to implement supported recommendations
Water Conservation Plan	The goal of the *Water Conservation Plan* is to maintain turf/garden areas within the City of Vincent at a standard acceptable to the community and sporting clubs, by applying groundwater efficiently and effectively in complying with the Department of Water's licensed allocation. The Plan sets out a number of groundwater conservation objectives for a ten-year period.	Adopted October 2008