



THIRTY-EIGHTH PARLIAMENT

REPORT 18
STANDING COMMITTEE ON ENVIRONMENT AND
PUBLIC AFFAIRS
INQUIRY INTO DEEP SEWERAGE IN THE
COCKBURN AREA

Presented by Hon Brian Ellis MLC (Chair)

December 2009

STANDING COMMITTEE ON ENVIRONMENT AND PUBLIC AFFAIRS

Date first appointed:

17 August 2005

Terms of Reference:

The following is an extract from Schedule 1 of the Legislative Council Standing Orders:

“1. Environment and Public Affairs Committee

1.1 An *Environment and Public Affairs Committee* is established.

1.2 The Committee consists of 5 members.

1.3 The functions of the Committee are to inquire into and report on -

- (a) any public or private policy, practice, scheme, arrangement, or project whose implementation, or intended implementation, within the limits of the State is affecting, or may affect, the environment;
- (b) any bill referred by the House; and
- (c) petitions.

1.4 The Committee, where relevant and appropriate, is to assess the merit of matters or issues arising from an inquiry in accordance with the principles of ecologically sustainable development and the minimisation of harm to the environment.

1.5 The Committee may refer a petition to another committee where the subject matter of the petition is within the competence of that committee.

1.6 In this order **“environment”** has the meaning assigned to it under section 3(1), (2) of the *Environmental Protection Act 1986*.”

Members as at the time of this inquiry:

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Hon Colin Holt MLC

Hon Kate Doust MLC (Deputy Chair)

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Government Response

This Report is subject to Standing Order 337:

After tabling, the Clerk shall send a copy of a report recommending action by, or seeking a response from, the Government to the responsible Minister. The Leader of the Government or the Minister (if a Member of the Council) shall report the Government's response within 4 months.

The four-month period commences on the date of tabling.

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EXECUTIVE SUMMARY, FINDINGS AND RECOMMENDATIONS

EXECUTIVE SUMMARY

- 1 The Standing Committee on Environment and Public Affairs (**the Committee**) is pleased to report its findings and recommendations in relation to its inquiry into Deep Sewerage in the Cockburn area (**inquiry**) to the Legislative Council.
- 2 The Committee initiated the inquiry on 9 September 2009, after considering a petition calling on the Government to release funding to continue and complete the Infill Sewerage Program (**the Program**) in the City of Cockburn.
- 3 The Committee is pleased to report that on 10 November 2009, during the course of the inquiry, Hon Dr Graham Jacobs MLA, Minister for Water, advised that work on the Program in the City of Cockburn, which was deferred indefinitely in May 2009, would begin in approximately two months and residents would have sewerage infill by June 2011.¹
- 4 The Committee is pleased about this development and welcomes the Government's decision to recommence the Program in the City of Cockburn.
- 5 It is important to note, however, that during the course of the inquiry the Committee inquired into deep sewerage concerns beyond the issues affecting suburbs in the City of Cockburn, as authorised by the inquiry's terms of reference.
- 6 The Committee received persuasive evidence on the ongoing and deteriorating condition of properties without deep sewerage in Western Australia and the significant health, environmental and development impacts of deferring the Program.
- 7 This report provides an overview of the reasons for the establishment of the Program, the continual delays and lack of funding for the Program since 2001, the issues in the City of Cockburn (the Committee received this evidence prior to the announcement in November 2009) and the impact and effect of further delays of the Program in other areas in Western Australia.
- 8 The Program, initially established as a ten year program in 1994 to address health and environmental concerns and promote development, is now delayed indefinitely (with the exception of the City of Cockburn areas), some five years after it was initially scheduled to be completed. Deferring the Program causes ongoing problems and disadvantage to thousands of residents in Western Australia and deprives these

¹ Letter from Hon Dr Graham Jacobs MLA, Minister for Water, 11 November 2009, p1, and Hon Dr Graham Jacobs MLA, Minister for Water, Legislative Assembly, *Parliamentary Debates (Hansard)*, 10 November 2009, p8607.

residents of basic infrastructure provided to most residents living in this State and developed countries.

9 The Committee considers that the Government should provide the Water Corporation with funding to recommence the Program in the 2010-11 Budget.

10 The Committee's findings and recommendations are noted below.

FINDINGS AND RECOMMENDATIONS

11 Findings and Recommendations are grouped as they appear in the text at the page number indicated:

Page 7

Finding 1: The Committee finds that the Infill Sewerage Program was established in 1994 as a ten year program to eliminate health and environmental risks posed by septic systems in Perth and country centres and to assist in orderly development and redevelopment of land.

Page 8

Finding 2: The Committee finds that budget cuts to the Infill Sewerage Program since 2001 have resulted in the ten year program being extended to a 25 year program and infill sewerage works in areas being repeatedly delayed.

Page 8

Finding 3: The Committee finds that successive governments have not prioritised the deep sewerage needs of many Western Australian residents by not providing appropriate funding for the Water Corporation to continue the Infill Sewerage Program since 2001.

Page 12

Finding 4: The Committee finds that when the Infill Sewerage Program was deferred in its entirety in May 2009, with no funding over the next four years, 11 167 lots in 46 significant projects in Western Australia were deferred.

Page 12

Finding 5: The Committee finds that, in addition to the \$85 million remaining of the \$800 million initially allocated to the Infill Sewerage Program, the Water Corporation estimates that a further \$129 million is required to complete all project areas in the Infill Sewerage Program.

Page 24

Finding 6: The Committee welcomes the Government's decision in November 2009 to commence the Infill Sewerage Program in the City of Cockburn (in the project areas known as Spearwood 3N, 12P, 16PP and 28A). In November 2009, the Minister for Water advised that works will begin in approximately two months and be completed by June 2011.

Page 24

Recommendation 1: The Committee recommends that the Water Corporation commences and completes the Infill Sewerage Program in the City of Cockburn as soon as possible.

Page 39

Finding 7: The Committee finds that serious health and environmental risks still exist with existing septic systems.

Page 39

Finding 8: The Committee finds that problems arising out of not having deep sewerage are more serious and widespread than initially thought and there is a need for the Government to review the Infill Sewerage Program.

Page 39

Finding 9: The Committee finds that several areas have significantly worse problems arising out of not having deep sewerage than those in parts of Spearwood and Coogee, and the Spearwood areas were one of a number of priorities identified by a Department of Health review in 2006.

Page 49

Finding 10: The Committee finds that the project area known as Ravenswood West Murray 2A should be an Infill Sewerage Program priority area for health, environmental and development reasons. The Water Corporation has estimated that providing deep sewerage to this area will cost \$2.2 million.

Page 49

Recommendation 2: The Committee recommends that the Government funds the Water Corporation to commence work on the Infill Sewerage Program project area known as Ravenswood West Murray 2A in the Shire of Murray as soon as possible or, at the latest, in its 2010-11 Budget.

Page 69

Finding 11: The Committee is concerned that some properties installed small temporary septic systems in the expectation that deep sewerage would be installed in the near future in accordance with advised Water Corporation timelines.

Page 69

Finding 12: The Committee finds that the condition of many properties without deep sewerage is deteriorating and the deferral of the Infill Sewerage Program has significant adverse impacts on these properties.

Page 69

Finding 13: The Committee finds that lack of deep sewerage adversely affects the quality of life of residents not provided with the basic infrastructure needs provided to most Western Australians.

Page 69

Finding 14: The Committee finds that the lack of deep sewerage inhibits development in many areas in Western Australia, including Port Hedland and a number of regional areas.

Page 70

Finding 15: The Committee finds that the completion of the Infill Sewerage Program is of the highest priority.

Page 70

Finding 16: The Committee is not in position to prioritise the exact order in which the remaining Infill Sewerage Program project areas should be completed. Determining priorities involves consideration of a number of factors, including health, environmental and development issues.

Page 72

Finding 17: The Committee finds that in a Water Corporation capital works budget of \$3.5 billion over the forward estimates period (2009-10 to 2012-13), the Minister for Water and Water Corporation did not allocate any of this budget to the Infill Sewerage Program, which would deliver important health, environmental, development and other benefits to Western Australia.

Page 73

Recommendation 3: The Committee recommends the Minister for Water allocates funds to the Water Corporation in the 2010-11 budget to continue the Infill Sewerage Program.

Page 73

Recommendation 4: The Committee recommends that funds appropriated to the Infill Sewerage Program be allocated to a special purpose account for the Infill Sewerage Program or quarantined to the Infill Sewerage Program by some other means.

Page 74

Recommendation 5: The Committee recommends that the Water Corporation reviews the expected completion dates of all project areas in the Infill Sewerage Program and drafts a new priority list of all project areas based on health, environmental and development criteria.

Page 74

Recommendation 6: The Committee recommends that the Water Corporation reviews whether metropolitan and regional residential lots not currently part of the Infill Sewerage Program should be included in the Infill Sewerage Program based on health, environmental and development criteria.

Page 74

Recommendation 7: The Committee recommends that the Minister for Water determines and publishes an estimated budget and schedule for the completion of all project areas in the Infill Sewerage Program.

Page 77

Recommendation 8: The Committee recommends that the Minister for Water seeks Royalties for Regions funding for the Infill Sewerage Program and supports any Royalties for Regions application seeking to provide deep sewerage to regional areas.

Recommendation 9: The Committee recommends that the Water Corporation details the progress of the Infill Sewerage Program in their Annual Reports. The Annual Report should detail:

- 1 project areas completed in the last financial year;**
- 2 project areas commenced or continued in the last financial year;**
- 3 project areas scheduled to commence in the next financial year;**
- 4 any significant delays in the Infill Sewerage Program in the last financial year and the reasons for the delays;**
- 5 project areas where work has not yet commenced and, in relation to each project area, when work is scheduled to commence and the estimated cost of completing the project area;**
- 6 funds expended on the Infill Sewerage Program in the last financial year;**
- 7 the estimated cost of completing the Infill Sewerage Program and funds allocated to complete the Program;**
- 8 matters likely to effect the funding and progress of the Infill Sewerage Program; and**
- 9 any other relevant matter.**

CHAPTER 1

INTRODUCTION

REFERRAL

- 1.1 On 2 June 2009, Hon Lynn MacLaren MLC tabled a petition in the Legislative Council, known to the Standing Committee on Environment and Public Affairs (**the Committee**) as Petition No. 33 - Deep sewerage in the Cockburn area (**Petition No. 33**).² Petition No. 33 was referred to the Committee in undertaking its function to inquire into and report on petitions, as provided by term of reference 1.3(c). The terms of Petition No. 33 are noted at paragraph 3.16 of this report.
- 1.2 On 9 September 2009, the Committee resolved to initiate an inquiry into Deep Sewerage in the Cockburn area (**inquiry**) in response to community concerns raised in Petition No. 33.
- 1.3 At the time of initiating the inquiry, the Committee was also aware of the history of this issue, that the Infill Sewerage Program (**the Program**) had been ‘deferred’ in May 2009, and the considerable level of community concern regarding the deferral of the Program reported in the media and to and by Members of Parliament.
- 1.4 In 2006, the Committee, with a different membership at the time (**the former Committee**), also considered the issue of deep sewerage in the City of Cockburn. The Committee’s activities in relation to this petition, known to the Committee as Petition No. 28 tabled during the Thirty-Seventh Parliament, and the recommendation the former Committee made regarding this petition are detailed at paragraphs 3.10 to 3.14.

TERMS OF REFERENCE

- 1.5 The inquiry’s terms of reference are:

The Committee is to inquire into and report on:

- 1. deep sewerage in the Cockburn area;*
- 2. the funding, priorities and progress of the State’s Infill Sewerage Program;*
- 3. whether there has been any delay in progressing the Infill Sewerage Program, and any issues arising from such delay, including cost, health, social and environmental issues;*

² Hon Lynn MacLaren MLC, Legislative Council, *Parliamentary Debates (Hansard)*, 2 June 2009, p4492.

4. *similar sewerage issues in other areas; and*

5. *any other relevant matter.*³

1.6 While the Committee decided that it would inquire into deep sewerage issues in the City of Cockburn, as the petition related to this area, the Committee was of the view that the terms of reference should be broad enough to enable the Committee to inquire into matters falling under terms of references 2 to 5 noted above, including similar sewerage issues in other areas.

1.7 Consequently, the Committee inquired into these broader issues pursuant to the Committee's broad environmental term of reference 1.3(a) and received evidence relating to progress of the Program and deep sewerage issues in areas around Western Australia.

INQUIRY PROCEDURE

1.8 In September 2009, the Committee advertised the inquiry in *The West Australian*, *Cockburn Gazette* and *Fremantle Herald*. The Committee also issued a Media Release regarding the inquiry. An article about the inquiry appeared in *Cockburn Gazette* on 22 September 2009.⁴

1.9 On 22 September 2009, the Committee wrote to stakeholders inviting them to make a submission. A list of the stakeholders is attached at Appendix 1.

1.10 The Committee received 42 submissions. A list of submissions received is attached at Appendix 2.

1.11 The Committee conducted seven hearings during the course of the inquiry.

1.12 On 14 October 2009, the Committee conducted a hearing with Mr John Cunai, Acting Chair, Spearwood Community Association Inc.⁵

1.13 On 21 October 2009, the Committee conducted a hearing with the following representatives from the Water Corporation:

- Mr Peter Moore, Chief Operating Officer; and
- Mr Charles Kretzmann, Project Director, Planning and Infrastructure.

³ See Hon Brian Ellis MLC, Legislative Council, *Parliamentary Debates (Hansard)*, 22 September 2009, p7320, and Tabled Paper No. 1203, Legislative Council, 22 September 2009.

⁴ 'Council looks into sewerage', *Cockburn Gazette*, 22 September 2009, p2.

⁵ Mr John Cunai, Acting Chair, Spearwood Community Association Inc, was asked to appear as a witness as Ms Mary Jenkins, the Principal Petitioner for Petition No. 33, was not able to attend the hearing.

1.14 On 2 November 2009, the Committee conducted hearings with the following representatives from the:

- Western Australian Local Government Association (**WALGA**):
 - Mr Mark Batty, Executive Manager, Environment and Waste; and
 - Ms Sarah Molloy, Environment Policy Officer.
- Department of Health (**DOH**):
 - Mr James Dodds, Director, Environmental Health;
 - Mr Richard Theobald, Manager, Water Unit; and
 - Ms Julie Phelps, Senior Scientific Officer, Water Unit.
- Department of Environment and Conservation (**DEC**):
 - Mr Murray Carter, Acting Assistant Director, Regional Services; and
 - Mr Paul Brown, Acting Regional Manager, Swan Region.

1.15 On 4 November 2009, the Committee conducted a hearing with Mr Tim Marney, Under Treasurer, Department of Treasury and Finance.

1.16 On 11 November 2009, the Committee conducted a hearing with the following representatives from the Shire of Murray:

- Mr Dean Unsworth, Chief Executive Officer; and
- Mr Glen Lange, Manager, Environmental Health Services.

1.17 Witnesses appearing before the Committee tabled a number of documents. The Committee also requested and received answers to questions on notice and additional documents from witnesses after the hearings.

CHAPTER 2

THE INFILL SEWERAGE PROGRAM

ESTABLISHMENT OF THE PROGRAM

- 2.1 The Program was established by the Court Government in 1994 to provide reticulated sewerage to tens of thousands of developed (but unsewered) residential properties in Perth and country cities and towns.⁶
- 2.2 When the Program was launched, the Water Authority, the entity that then managed this Government program, announced:

The Western Australian Government and the Water Authority have undertaken to spend \$800 million over the next 10 years to eliminate the health and environmental risks posed by septic systems in Perth and country centres and to assist in orderly development and redevelopment of land.⁷

- 2.3 Mr Peter Moore, Chief Operating Officer, Water Corporation, the entity that now manages the Program, provided the following background to the establishment of the Program:

In the post-war era of development in Perth, there were obviously some economic drivers to get housing after the war, and there was not a lot of money around. The sandy soils of Perth lent themselves to septic tanks. In those days, the blocks were 1 000 square metres per acre-blocks. ...

[A horseshoe arc around Perth] was the development period in Perth from the late 1950s to the late 1960s. That was all done with septic tanks. It was only subsequent to that period that the scientific world started to realise that Perth was sitting over a high-quality aquifer and that that intensification without sewerage had the potential to contaminate that aquifer in the future. In 1988, there was a report from a select committee of the Legislative Assembly that looked at effluent disposal and recommended that if the government could afford it, it should remove all those septic tanks. At that stage, there were about 150 000 properties in Western Australia that were not sewerred. ...

⁶ All about infill sewerage and what it means to you, Water Corporation, undated, p2.

⁷ 'Infill sewerage program launched', Factsheet No. 1 - April 1994, Water Authority, p1.

*There was not any particular contamination at that stage identified, but the potential was there, in particular nutrient contamination of the groundwater. That led to, as I say, in the early 1990s to the government developing this infill sewerage program to sewer residential areas.*⁸

- 2.4 The Program was established to sewer residential areas, not large blocks, and was not aimed at industrial or commercial properties.⁹ The Program was directed to provide infill sewerage to some, not all, country locations.¹⁰
- 2.5 The Program's original target was 100 000 sewerage connections,¹¹ 80 000 in metropolitan Perth and 20 000 in country towns. Prior to the launch of the Program, 25 per cent of Perth properties and 40 per cent of country properties used septic tanks. The average in other state capitals was only four per cent.¹²
- 2.6 It is important to note that even if the Program is completed, not all of Perth and not all residential lots in Western Australia will be sewered.¹³
- 2.7 As noted above, in 1994 it was announced that the Program was established to eliminate health and environmental risks caused by septic tanks. A Water Corporation explanation of these risks follows:

Septic tanks are potentially dangerous to health and the environment. In the process of breaking down wastewater from your toilet, laundry, kitchen, shower and bath, a septic tank and its leach drains allow a high volume of nutrient-rich liquid in to the soil.

As this is too much to be taken up by surface plants, it eventually finds its way into our precious groundwater. Not only can this seriously affect human health, but it can also have a serious effect on bird and fish life by contributing to the growth of algae in waterways and wetlands.

Septic tanks can fail at any time.

⁸ Mr Peter Moore, Chief Operating Officer, Water Corporation, *Transcript of Evidence*, 21 October 2009, p4.

⁹ Ibid.

¹⁰ Ibid.

¹¹ The Water Corporation estimated that the total number of properties in the Infill Sewerage Program (deferred and otherwise) is now 101 000 lots: Email from Mr Peter Moore, Chief Operating Officer, Water Corporation, 24 November 2009, p1.

¹² *All about infill sewerage and what it means to you*, Water Corporation, undated, p2.

¹³ Mr Peter Moore, Chief Operating Officer, Water Corporation, *Transcript of Evidence*, 21 October 2009, p4.

*They attract flies and mosquitoes and bore water pumped from areas near septic tanks can cause widespread contamination.*¹⁴

- 2.8 The DOH, who have provided public health advice on the Program since its inception in 1994,¹⁵ gave a positive review of the Program to date but noted that problem areas remain:

*The Infill Sewerage Program has been an extremely successful program with health and environmental benefits. Significant work has been undertaken with the majority of identified areas having already been attended to. However, there are some remaining problem areas, which are still in need of infill sewerage.*¹⁶

- 2.9 Further the DOH, the DEC, WALGA and the Department of Water (DOW) views on the issues arising and caused by septic tanks and the deferment of the Program are noted in Chapter 4 of this report.

Finding 1: The Committee finds that the Infill Sewerage Program was established in 1994 as a ten year program to eliminate health and environmental risks posed by septic systems in Perth and country centres and to assist in orderly development and redevelopment of land.

PROGRAM BUDGET CUTS SINCE 2001

- 2.10 From the program's inception in 1994 to 2000, approximately \$80 million annually was outlaid ensuring that the original program remained on target.¹⁷
- 2.11 In 2001, however, funding was reduced by the State Government because, it is said, of the need to divert funds to 'urgently needed water infrastructure projects'.¹⁸ This

¹⁴ *All about infill sewerage and what it means to you*, Water Corporation, undated, pp2-3. The Water Authority (as it was then known) document *To help save our groundwater 28,000 Septic Tanks Will Have To Die*, undated, also details how septic tanks pollute the environment: Document tabled by Mr Peter Moore during his hearing on 21 October 2009.

¹⁵ Mr James Dodds, Director, Environmental Health, Department of Health, *Transcript of Evidence*, 2 November 2009, p2. Mr Dodds also advised that the Department of Health Water Unit 'provides public health advice to myself and ultimately to the executive director of public health, which is the statutory position for the state in terms of protecting public health. We provide that advice, not only in relation to waste water, but also for the protection of drinking water, ensuring that drinking water is safe'. The Department of Health also administers the *Government Sewerage Policy: Perth Metropolitan Region* and the *Draft Country Sewerage Policy*: Mr James Dodds, Director, Environmental Health, Department of Health, *Transcript of Evidence*, 2 November 2009, p2. The Department of Health also advised that while the Department administer the sewerage policies, they are one of a group of government agencies who apply the policy: Mr Richard Theobald, Manager, Water Unit, Department of Health, *Transcript of Evidence*, 2 November 2009, p2.

¹⁶ Submission No. 42 from Department of Health, 19 October 2009, p2.

¹⁷ Submission No. 39 from Water Corporation, 12 October 2009, p1.

¹⁸ Submission No. 39 from Water Corporation, 12 October 2009, p2.

resulted in the reduction of the annual funding from that point to where, in 2006, the program was reduced to merely \$10 million for that financial year.¹⁹ The Program should have been completed by 2005.

2.12 The Water Corporation advised that the impacts of reducing funding included extending the program into a 25 year program and limiting the program to only one or two significant projects per year.²⁰ The commencement dates for a number of areas on the Program, including areas in the City of Cockburn, were delayed, often a number of times, as a result.

2.13 The Committee is disappointed that the Program was not completed as planned in 2005 due to repeated budget cuts since 2001. During the years of economic 'boom times' (prior to September 2008), the Program was not adequately funded and completed and funds were directed elsewhere.

Finding 2: The Committee finds that budget cuts to the Infill Sewerage Program since 2001 have resulted in the ten year program being extended to a 25 year program and infill sewerage works in areas being repeatedly delayed.

Finding 3: The Committee finds that successive governments have not prioritised the deep sewerage needs of many Western Australian residents by not providing appropriate funding for the Water Corporation to continue the Infill Sewerage Program since 2001.

DEFERRAL OF THE PROGRAM

2.14 The entire Program was deferred in May 2009.

2.15 As at 30 June 2009, 89 808 lots had been completed, 62 352 lots in the metropolitan region and 27 466 lots in the regional centres.²¹ Projects underway at the time of deferral were completed. The Water Corporation advised that 11 167 lots were deferred.²²

2.16 The Program was deferred because the Government asked the Water Corporation, in its May 2009 budget, to reduce its capital works program by \$560 million over four

¹⁹ Ibid. Mr Peter Moore, Chief Operating Officer, Water Corporation, outlined other capital works projects that put pressure on funding during his hearing noting the pressure caused by, among other projects, the desalination plants: *Transcript of Evidence*, 21 October 2009, p2.

²⁰ Submission No. 39 from Water Corporation, 12 October 2009, p2.

²¹ Email from Mr Peter Moore, Chief Operating Officer, Water Corporation, 24 November 2009, p1.

²² Ibid. The estimated number of lots against each project area in the table at Appendix 4 add up to 11 167.

financial years.²³ The financial environment was the reason given for the deferral of the Program. The Water Corporation division of the *2009-10 Budget* states:

*Due to current global financial circumstances, the Infill Sewerage Program has been deferred. Considerable progress has been made in delivering this program to date, and the remaining work will be reconsidered once the current financial environment improves.*²⁴

- 2.17 Mr Tim Marney, Under Treasurer, Department of Treasury and Finance, advised the Committee that the Water Corporation has a capital works budget of \$1.1 billion in 2009-10 and that the Program is part of this overall capital works program budget:

*That funding is allocated by the Water Corporation according to its internal priorities, essentially with an overall envelope of capital expenditure of \$1.1 billion. The Water Corporation then assesses its priorities for expenditure and assesses risk across its portfolio of activities and assigns its capital works as it sees most appropriate to address the priority areas within that overall limit of the \$1.1 billion.*²⁵

- 2.18 The Minister for Water advised the Committee that the Water Corporation's spending priorities were determined as follows:

*The Water Corporation's spending priorities were discussed as part of the formulation of the 2009/2010 budget. Projects were approved or deferred on the basis that the highest priority was given to ensuring all West Australians had access to high quality drinking water, and then to the maintenance of existing water and wastewater systems. Projects in support of development and new services (such as infill sewerage projects) were next in priority order. There are many projects that have had to be deferred.*²⁶

- 2.19 The Water Corporation added:

In determining which projects were to be deferred or reprioritised, the Corporation thoroughly reviewed its capital programs for those

²³ *Infill Sewerage Q&A*, Water Corporation, 2009, p1.

²⁴ Government of Western Australia, Department of Finance and Treasury, *2009-10 Budget*, Budget Statements, Budget Paper No. 2, Volume 3, p822.

²⁵ Mr Tim Marney, Under Treasurer, Department of Treasury and Finance, *Transcript of Evidence*, 4 November 2009, p2. The Water Corporation's budget is further commented on in Chapter 6.

²⁶ Letter from Hon Dr Graham Jacobs MLA, Minister for Water, 15 September 2009, p1.

[four] years One direct consequence of this review was the total deferment of the remainder of the Infill Sewerage Program.²⁷

- 2.20 The Water Corporation achieved a capital budget reduction over four years of \$85 million as a result of deferring the entire Program. At the time of deferment, \$85 million of original \$800 million 'allocated' to the Program by the Government in 1994 had not been expended.²⁸ The Water Corporation advised that '*the total program cost to date plus future cost estimates worked to reflect the cost in 1994 dollars ranges between \$814m (Water Corporation cost index) and \$852m (Consumer Price Index)*'.²⁹
- 2.21 The \$85 million in capital expenditure savings were achieved over four years by cutting the project areas in the Program noted in the table attached at Appendix 3. This table records the Program project areas that the Water Corporation says it would have completed in the next four years but for the cuts to their capital works program and the estimated cost of providing infill sewerage to each project area.³⁰
- 2.22 A list of all project areas in the Program (which includes, but is not limited to, the areas noted in Appendix 3) is attached at Appendix 4. This lists 46 significant recognised projects in the Program (and does not include additional projects of low value arising after the main project has finished and usually involving only a single lot).³¹
- 2.23 The table at Appendix 4 notes that the Water Corporation estimates that the total cost of completing all areas in the Program (including the City of Cockburn areas) is \$213 072 833. However, the Water Corporation has since advised that due to an error

²⁷ Submission No. 39 from Water Corporation, 12 October 2009, p3.

²⁸ The \$800 million originally committed has not been '*escalated*': Mr Peter Moore, Chief Operating Officer, Water Corporation, *Transcript of Evidence*, 21 October 2009, p2. That is, the Government committed \$800 million in 1994 dollars. The \$85 million is today's value of the money remaining from the \$800 million.

²⁹ Email from Mr Peter Moore, Chief Operating Officer, Water Corporation, 24 November 2009, p2.

³⁰ Mr Peter Moore, Chief Operating Officer, Water Corporation, *Transcript of Evidence*, 21 October 2009, p11, and email from Mr Peter Moore, Chief Operating Officer, Water Corporation, 30 November 2009, p1.

³¹ Email from Mr Peter Moore, Chief Operating Officer, Water Corporation, 24 November 2009, p1.

on the list, the estimate of \$213 072 833 is incorrect and the correct estimated cost of completing all project areas is \$214 112 821.³²

- 2.24 This \$214 million estimated cost exceeds the \$85 million in funding remaining from the initial \$800 million by approximately \$129 million. That is, if the \$85 million in funds ‘deferred’ over the next four years was provided to the Water Corporation to continue the Program, the Water Corporation estimate that they would still require a further \$129 million to provide infill sewerage to all areas in the Program.
- 2.25 In October 2009, the Water Corporation advised that the decision to defer the program will be reviewed annually and would be reconsidered when the financial environment improved:

*At this stage, the program has been deferred beyond the Corporation’s current five year capital program (until the financial year 2013/2014). This decision will be reviewed annually by the Government as part of its normal budget process.*³³

*[T]he remaining work will be reconsidered once the current financial environment improves.*³⁴

- 2.26 The Committee noted that although the Government and the Water Corporation refer to the Program being ‘deferred’, the reality, in October 2009, was that there were no funds allocated to the Program in the Water Corporation’s capital budget for five years and, therefore, no work would commence on the Program for at least another three years unless additional funds were allocated.³⁵

³² Email from Mr Peter Moore, Chief Operating Officer, Water Corporation, 24 November 2009, p1. The Water Corporation advised that this estimate is subject to a number of qualifications including: the estimate was prepared in late 2008 and March 2009; the estimate represents the cost in dollars of the year the project was scheduled for completion (that is, a project scheduled for 2012 has an estimate in 2012 dollars) and ‘[n]aturally, as the program has been deferred for four years, the estimate figures may become unreliable’; projects more than two years out in the schedule have ‘had preliminary work only as regards cost estimates’; and detailed estimates based upon research site conditions have not been prepared for these areas, which include some of the most challenging projects. The Water Corporation also advised that ‘the estimates are preliminary and often in difficult areas and hence are likely to change and increase as we do more detailed work around a particular project’: Email from Mr Peter Moore, Chief Operating Officer, Water Corporation, 30 November 2009, p1.

³³ Submission No. 39 from Water Corporation, 12 October 2009, p3. The Minister for Water also advised ‘I assure the Committee that the deferral of the Infill Sewerage Program will be examined annually as part of prescribed budget reviews’: Letter from Hon Dr Graham Jacobs MLA, Minister for Water, 15 September 2009, p1.

³⁴ *Infill Sewerage Q&A*, Water Corporation, 2009, p1.

³⁵ Mr Peter Moore, Chief Operating Officer, Water Corporation, *Transcript of Evidence*, 21 October 2009, p8.

- 2.27 The \$85 million of Program money cut from the Water Corporation's budget consisted of a cash flow of \$20 million in 2009-10, \$25.7 million in 2010-11 and \$20 million in the two years thereafter.³⁶
- 2.28 In November 2009, the Minister for Water advised that, notwithstanding the decision to commence the program in the City of Cockburn, any decision on the future of the infill sewerage program '*will be taken in context of the 2010-11 State Budget process*'.³⁷

Finding 4: The Committee finds that when the Infill Sewerage Program was deferred in its entirety in May 2009, with no funding over the next four years, 11 167 lots in 46 significant projects in Western Australia were deferred.

Finding 5: The Committee finds that, in addition to the \$85 million remaining of the \$800 million initially allocated to the Infill Sewerage Program, the Water Corporation estimates that a further \$129 million is required to complete all project areas in the Infill Sewerage Program.

PROGRAM PRIORITIES

- 2.29 The Committee sought information on what were the priority areas in the Program and how the Program areas were prioritised.
- 2.30 The Minister for Water informed the Committee that '*[p]ublic health and environmental protection are the drivers for the Infill Sewerage Program*'.³⁸
- 2.31 The Water Corporation informed the Committee that '*the deferrals, including the works in Spearwood, have always been based on prioritised risk rankings*'.³⁹
- 2.32 The Program project areas noted in Appendix 3 were to be completed in the next four years, before areas noted in Appendix 4 (that are not listed in Appendix 3).⁴⁰
- 2.33 The Water Corporation advised that the expected completion date for each area noted in the table at Appendix 4 '*provides only a rough indication of the order of priority*'

³⁶ Mr Tim Marney, Under Treasurer, Department of Treasury and Finance, *Transcript of Evidence*, 4 November 2009, p5.

³⁷ Letter from Hon Dr Graham Jacobs MLA, Minister for Water, 10 November 2009, p1.

³⁸ Letter from Hon Dr Graham Jacobs MLA, Minister for Water, 15 September 2009, p1.

³⁹ Submission No. 39 from Water Corporation, 12 October 2009, p3.

⁴⁰ Email from Mr Peter Moore, Chief Operating Officer, Water Corporation, 30 November 2009, p1.

of the Program and '[t]he order of the remaining projects (pre-deferral) was determined largely by construction and contracting practicalities'.⁴¹

2.34 The Water Corporation also advised that their document *Procedure for Setting Infill Sewerage Priorities* dated February 1997⁴² is 'broadly used'⁴³ to prioritise areas.

2.35 *Procedure for Setting Infill Sewerage Priorities* states that each region setting its own regional priorities which will involve the Water Corporation working with local authorities to determine the relative need for sewerage of a particular area based on the following three criteria:

- health issues (with a 'suggested' weighting of 3.0);
- environmental issues (with a 'suggested' weighting of 1.5); and
- development and redevelopment issues (with a 'suggested' weighting of 1.0).⁴⁴

2.36 *Procedure for Setting Infill Sewerage Priorities* also notes that the following two factors should be determined at the time of assessment of each area:

- whether the source of a Public Water Supply is or could be affected by the continued use of septic tanks; and
- the ease with which the area concerned can be connected to an existing sewerage system.⁴⁵

2.37 The three criteria noted at paragraph 2.35 are further explained in the document and typical scoring scenarios are provided.

2.38 Under '*Criteria 1 - Health Issues*' the typical scoring scenario of 10 (the highest score that can be awarded) is applied if there is '*documented evidence of septic tank related*

⁴¹ Letter from Mr Peter Moore, Chief Operating Officer, Water Corporation, 12 November 2009, p1.

⁴² The Committee was informed that this version is the only version of this document. These procedures have been in place since the start of the Program: Letter from Mr Peter Moore, Chief Operating Officer, Water Corporation, 12 November 2009, p2.

⁴³ Mr Peter Moore, Chief Operating Officer, Water Corporation, *Transcript of Evidence*, 21 October 2009, p7.

⁴⁴ *Procedure for Setting Infill Sewerage Priorities*, Water Corporation, February 1997, pp2-3. The document notes that debate still exists on the relative importance of the three criteria and details how the three criterion should be scored and what factors to take into account when giving an area the score of 0 to 10 on each criteria: *Procedure for Setting Infill Sewerage Priorities*, Water Corporation, February 1997, pp4-6.

⁴⁵ *Ibid*, p2.

*health problems’ and a score of 9 applies in ‘an area directly over aquifer used for public water supply. Shallow water tabled and permeable soils’.*⁴⁶

- 2.39 Under ‘Criteria 2 - Environmental Issues’ the typical scoring scenario of 10 is applied if there is ‘documented environmental concerns clearly related to effluent disposal from septic tanks’, a score of 9 applies if there are ‘confirmed reports of detrimental environmental effects relating to septic tank effluent’ and a score of 8 applies if there are ‘extensive use of septic tanks in urban areas close to rivers, creeks, lakes or wetlands’.⁴⁷ (It is worth noting at this point that these criteria apply to the situation in the area known as Ravenswood West Murray 2A in the Shire of Murray, see paragraphs 5.5 to 5.21).
- 2.40 Under ‘Criteria 3 - Development and Urban Renewal Issues’ the typical scoring scenario of 10 is applied if ‘documented evidence exists that subdivision or redevelopment proposal in excess of 50 lots have been refused as a result of the lack of reticulated sewer’.⁴⁸ (A number of local governments have complained that the lack of deep sewerage is inhibiting development opportunities: see Chapter 5).
- 2.41 In 2006, a review of the priorities of the Program was conducted after many local governments questioned the health and environment aspects of the deferral of various projects.⁴⁹ The DOH, and in particular the Water Unit of the DOH, provided advice to the Water Corporation on Program priorities based on health considerations.
- 2.42 The DOH conducted a State-wide review of infill sewerage priorities on health grounds in metropolitan areas and regional areas.⁵⁰ The DOH advised of the following findings of the reviews:

In 2006, as a result of many local government and public questions about delays to the Infill Sewerage Program, the DOH conducted a state-wide review of infill sewerage priorities on health grounds. One of the reasons for the DOH state wide review was to provide the Water Corporation with health based advice on priorities, specifically avoiding the risk of championing communities who may have been more vocal or efficient at lobbying.

⁴⁶ Procedure for Setting Infill Sewerage Priorities, Water Corporation, February 1997, p4.

⁴⁷ Ibid, p5.

⁴⁸ Ibid, p6.

⁴⁹ Submission No. 42 from Department of Health, 19 October 2009, p3.

⁵⁰ The results of the review are noted in the Memorandum from Ms Julie Phelps, Department of Health, to Manager, Wastewater Management, Department of Health, ‘Review of Infill Sewerage Priorities on Health Grounds: Metropolitan Areas’, 1 June 2006, and Memorandum from Ms Julie Phelps, Department of Health, to Manager, Wastewater Management, Department of Health, ‘Review of Infill Sewerage Priorities on Health Grounds: Regional Areas’, 24 May 2006, p10. The review of metropolitan areas gave the highest priorities to areas in the Mundijong and Serpentine townsites, Maida Vale (Kalamunda), Forrestdale (Armadale), Swan View (Mundaring), Lesmurdie and Spearwood.

Two reports were prepared, one for the Regional Areas and one for the Metropolitan Area.

Regional areas identified within the State with infill sewerage needs were ranked into two priority health levels.^[51]

- *First priority areas of Donnybrook,^[52] Gingin^[53] and Dwellingup were identified as having a potential to impact upon vulnerable drinking water supply areas.*
- *Second priority areas of Augusta, Boyup Brook,^[54] Bridgetown,^[55] Bruce Rock, Carnamah, Hyden, Manjimup, Meekatharra, Mingenew, Northcliffe, Mount Magnet, Mullewa and Yarloop were identified due to the heavy soils found in the areas which made onsite effluent disposal extremely difficult. (Wiluna and Tambellup were also identified, but it is understood that these two towns have since been sewerred).*

The second priority areas advice list was not further ranked as it was outside of the scope and resources of a desktop study.

The Metropolitan area was separately assessed, with infill sewerage needs based on health grounds being Mundijong and Serpentine town sites, Maida Vale, Forrestdale, Swan View, Lesmurdie^[56] and Spearwood.

It should also be noted that the review had to prioritise state-wide issues down to a short list, and that there are a substantial number of towns that have infill sewerage needs on public health grounds that

⁵¹ The following areas are also referred to in Chapter 5 of this report: Donnybrook, Gingin, Dwellingup, Boyup Brook, Bridgetown, Bruce Rock, Hyden, Manjimup, Meekatharra, Northcliffe, Mount Magnet, Mullewa and Yarloop.

⁵² In October 2009, the Water Corporation advised the Department of Health that four Donnybrook projects have been completed and Donnybrook 1C, which contains large properties not normally considered for infill sewerage, has not been scheduled for construction: Letter from Mr Peter Moore, Chief Operating Officer, Water Corporation, to Mr Richard Theobald, Manager, Water Unit, Department of Health, 16 October 2009, p1.

⁵³ Gingin is not a part of the Infill Sewerage Program: Letter from Mr Peter Moore, Chief Operating Officer, Water Corporation, to Mr Richard Theobald, Manager, Water Unit, Department of Health, 16 October 2009, p1. See paragraphs 5.60 to 5.65 for information on the situation in Gingin.

⁵⁴ Boyup Brook project areas remain on the list of project areas deferred. See paragraphs 5.26 to 5.28 for information on Boyup Brook.

⁵⁵ Bridgetown project areas remain on the list of project areas deferred. See paragraphs 5.29 to 5.32 for information on Bridgetown.

⁵⁶ See paragraphs 5.57 to 5.59 for information on the ongoing issues in the Shire of Kalamunda.

could not be included. The list was not exclusive and under no circumstances should a town's absence from it be taken to mean that the DOH considered that town not to be in need of infill sewerage.⁵⁷

- 2.43 On receipt of the DOH reviews, the Water Corporation made some timing adjustments to the program, including bringing the City of Cockburn areas (Spearwood) forward from 2008-09 to 2007-08.⁵⁸

⁵⁷ Submission No. 42 from Department of Health, 19 October 2009, pp3-4.

⁵⁸ Submission No. 39 from Water Corporation, 12 October 2009, p4.

CHAPTER 3

DEEP SEWERAGE ISSUES IN THE CITY OF COCKBURN

- 3.1 As previously stated, on 9 September 2009, the Committee initiated the inquiry in response to concerns about the lack of deep sewerage in the Cockburn area raised in Petition No. 33.
- 3.2 This inquiry, in part, is also a continuation of the former Committee's work in 2006 when the former Committee considered and recommended action in relation to the issue of deep sewerage in the City of Cockburn.
- 3.3 In May 2009, when the Program was deferred, 763 lots⁵⁹ in the City of Cockburn suburbs of Spearwood, Coogee and Hamilton Hill were deferred. These lots are located in areas known to the Water Corporation as project areas Spearwood 3N, 12P, 16PP and 28A (**the Spearwood areas**).⁶⁰ At the time the Program was deferred, infill sewerage work was set to imminently commence in the Spearwood areas and be completed by June 2010.⁶¹

THE GOVERNMENT ANNOUNCEMENT IN NOVEMBER 2009

- 3.4 In October 2009, after the Committee held public hearings in this inquiry, a number of media articles and news broadcasts reported that the Government had allocated \$15 million to complete the Program in the Spearwood areas.⁶² The Committee sought confirmation of this development from the Minister for Water.
- 3.5 On 10 November 2009, the Minister for Water informed the Committee that '[t]he Water Corporation will call for tenders from Tuesday, 17 November 2009 to begin

⁵⁹ The Water Corporation and Mr John Cunai provided evidence that the Spearwood areas contained 763 lots: See Water Corporation table at Appendix 3 and Mr John Cunai, Acting Chair, Spearwood Community Association Inc, *Transcript of Evidence*, 14 October 2009, p2. Ms Mary Jenkins advised that 756 homes were affected (see paragraph 3.17) but Mr Cunai disagreed with this: Mr John Cunai, Acting Chair, Spearwood Community Association Inc, *Transcript of Evidence*, 14 October 2009, p2.

⁶⁰ Mr John Cunai advised the Committee at hearing that the petition referred to five areas known as Spearwood 3N, 12P, 16AB, 16PP and 28A: Mr John Cunai, Acting Chair, Spearwood Community Association Inc, *Transcript of Evidence*, 14 October 2009, p2. However, Mr Peter Moore, Chief Operating Officer, Water Corporation, advised the Committee at the hearing that project area Spearwood 16AB has been amalgamated into Spearwood 28A: Mr Peter Moore, Chief Operating Officer, Water Corporation, *Transcript of Evidence*, 21 October 2009, p7. Therefore, four Spearwood areas known as Spearwood 3N, 12P, 16PP and 28A were deferred. A few Spearwood areas, including Spearwood 2E, 4E and 27A (completed after the Program was deferred) have been connected to deep sewerage.

⁶¹ 'Spearwood Infill Sewerage Project Update', *Information Sheet*, Water Corporation, February 2009 notes that the areas Spearwood 12P, 16PP, would commence in April 2009 and the areas Spearwood 3N and 16AB and 28A would commence in June 2009. See also paragraphs 3.22 to 3.25 of this report.

⁶² See, for example, 'Barnett backflip on sewerage for south', *The West Australian*, 23 October 2009, p18; F Mason, 'Sewer relief pledge: Government 'finds' \$15m in funding 'backflip'', *Cockburn Gazette*, 27 October 2009, p1.

works on infill sewerage [in the Spearwood areas] ... and as a result, all Spearwood residents will have access to sewerage infill by June 2011'.⁶³

- 3.6 The Minister for Water also released a Media Statement⁶⁴ and made an announcement in Parliament⁶⁵ on 10 November 2009 advising of these developments (which added that works would commence in approximately two months).⁶⁶ A copy the Minister for Water's letter dated 10 November 2009 is attached at Appendix 5.
- 3.7 The Committee welcomes the Government's decision to connect the Spearwood areas to deep sewerage.
- 3.8 Notwithstanding the Minister for Water's announcement in November 2009, this report summarises the Committee's activities in relation to deep sewerage issues in the Spearwood areas since 2006 and evidence received relating to these areas prior to the announcement.
- 3.9 It is important to note that the concerns of the residents in the Spearwood areas about the lack of deep sewerage (noted below) are an ongoing concern for residents of other 'deferred' areas in the Program, and other residents without deep sewerage connection in Western Australia.

COMMITTEE RECOMMENDATION IN 2006

- 3.10 The issue of deep sewerage in Cockburn was considered by the former Committee in 2006 and has been a concern to residents in the area for many years.
- 3.11 A petition tabled in the Legislative Council on 2 May 2006, named Petition No. 28 by the former Committee (**Petition No. 28**), raised the issue of infill deep sewerage in Spearwood, Hamilton Hill and Munster (suburbs in the City of Cockburn).⁶⁷ Petition No. 28 stated:

We the undersigned residents of Western Australia support the prioritisation of infill deep sewerage to all residential properties in Spearwood, Hamilton Hill and Munster as the current septic tank systems are collapsing one by one as a result of complete saturation

⁶³ Letter from Hon Dr Graham Jacobs MLA, Minister for Water, 11 November 2009, p1.

⁶⁴ Hon Dr Graham Jacobs MLA, Minister for Water, *Ministerial Media Statement*, 11 November 2009, p1.

⁶⁵ Hon Dr Graham Jacobs MLA, Minister for Water, Legislative Assembly, *Parliamentary Debates (Hansard)*, 10 November 2009, p8607.

⁶⁶ The *Ministerial Media Statement* stated 'actual works would commence within two months': Hon Dr Graham Jacobs MLA, Minister for Water, *Ministerial Media Statement*, 11 November 2009, p1. In Parliament, the Minister for Water stated 'I rise to inform the house that work on the infill sewerage project in Spearwood will commence in approximately two months': Hon Dr Graham Jacobs MLA, Minister for Water, Legislative Assembly, *Parliamentary Debates (Hansard)*, 10 November 2009, p8607.

⁶⁷ Ms Mary Jenkins was the principal petitioner for Petition No. 28 and Petition No. 33.

and there is a danger of possible leakage into the groundwater system.

Your petitioners therefore respectfully request the Legislative Council to recommend that reticulated deep sewerage systems be installed immediately to all remaining residential properties in the suburbs of Spearwood, Hamilton Hill and Munster in order to avert a possible health and environmental disaster in the future.

- 3.12 Submissions and correspondence received in relation to Petition No. 28 advised of old, collapsing septic systems and drainage problems, residents' efforts to address these problems, project funding deferrals and the scheduled sewerage of 591 properties in the Water Corporation areas known as Spearwood 28A (an area which remains unsewered).

- 3.13 The Committee reported on its inquiries into this petition in *Report 6: Overview of Petitions*, where the Committee recommended:

Recommendation 1: That the remaining 600 properties in Spearwood be given a scheduled date for completion as part of the Infill Sewerage programme.⁶⁸

- 3.14 The Government Response to this recommendation, received from the then Hon John Kobelke MLA, Minister for Water, advised that this issue would be dealt with:

An additional \$10 million funding in 2007/08 has resulted in all remaining projects in the Spearwood area being scheduled for completion by the end of 2008/09.⁶⁹

EVIDENCE RECEIVED IN 2009

- 3.15 The deferral of the Program in May 2009 and the anger of residents in the Spearwood areas were widely reported in the media.

- 3.16 As previously noted, on 2 June 2009 Hon Lynn MacLaren MLC tabled Petition No. 33 in the Legislative Council.⁷⁰ The petition stated:

We the undersigned residents of Western Australia support the completion of deep sewerage in Cockburn.

⁶⁸ Legislative Council, Standing Committee on Environment and Public Affairs, Report 6, *Overview of Petitions*, 6 December 2006, p28.

⁶⁹ Hon John Kobelke MLA, Minister for Water, 12 December 2006, p1.

⁷⁰ Hon Lynn MacLaren MLC, Legislative Council, *Parliamentary Debates (Hansard)*, 2 June 2009, p4492. Petition No. 33, tabled on 2 June 2009, contained 20 signatures. A repeat petition containing 209 signatures was also tabled in the Legislative Council on 25 June 2009.

Your petitioners therefore respectfully request the Legislative Council to recommend the funds be made available to complete the deep sewerage program in Cockburn is urgent since it has been an ongoing health hazard for many years.⁷¹

- 3.17 Ms Mary Jenkins, the principal petitioner, submitted the following in support of the petition:

Richard Court's Government realised the importance of completing the deep sewerage program in Perth over a decade ago.

Consecutive State Governments have ignored the health, environment and social crisis septic tanks are continually causing. Some septic systems in Cockburn are up to fifty years old.^[72] The ground is so saturated in many gardens that the Water Board's direction "to dig another leach drain" is no help at all!

The State has a duty of care to provide necessary infrastructure to protect public health and a safe living environment. Cockburn residents living without deep sewerage are no longer safe in their own back gardens! Many gardens have open contaminated holes for years.

At present there are 756 homes^[73] in Cockburn waiting deep sewerage out of an approximate 3,000 in the metropolitan region.

Elderly residents find it difficult to cope. ...

Connection costs have also double (sic) from what it would have cost pensioners ten years ago!

The community is stressed out living in thirds world conditions (sic) in 2009. Residents are angry as they continue to demonstrate at public meetings called by the Spearwood Community Association. The community is disillusioned with their state politicians who continue to ignore basic community infrastructure needs.

What can be more important than this issue? The Spearwood Community Association urges the Government to release funding to

⁷¹ Legislative Council, Tabled Paper No. 826, 2 June 2009. A number of petitions calling on the Government to complete the Spearwood areas of the Infill Sewerage Program were also tabled in the Legislative Assembly: See, for example, Mr Fran Logan MLA, Legislative Assembly, *Parliamentary Debates (Hansard)*, 11 June 2009, p4900.

⁷² Mr John Cunai advised the Committee at hearing when asked about the age of septic tanks in the area, 'I would say the average age of the septic tanks would be about 35 to 40 years old': Mr John Cunai, Acting Chair, Spearwood Community Association Inc, *Transcript of Evidence*, 14 October 2009, p3.

⁷³ Witnesses advised that the City of Cockburn areas contained 763 lots: see paragraph 3.3 and footnote 59.

*continue and complete the infill program in Cockburn as a priority need.*⁷⁴

- 3.18 Mr John Cunai, Spearwood Community Association Inc, expressed the view that this was an issue that should transcend politics:

*There are issues that I feel should transcend politics. Basic human sanitation is one of them. Simply being able to flush the toilet without the fear of effluent backup should be a basic human right. Infill sewerage for this whole state, not only just for Cockburn, should be a priority. Please allow your good judgement to prevail throughout this inquiry, put your political persuasions to the side, and focus on the importance of this—our basic need, sanitation—so that hopefully through this inquiry you can bring forward and reinstate this infill sewerage program ASAP.*⁷⁵

- 3.19 The Committee sought and received a response to the petition from the Minister for Water. In September 2009, the Minister for Water advised that the Spearwood area was the only metropolitan centre remaining as a high priority and assured the Committee that *'the deferral of the Infill Sewerage Program will be examined annually as part of prescribed budget reviews'*.⁷⁶

- 3.20 The DOH submitted in relation to the Spearwood areas:

The City of Cockburn has been identified by the Department of Health (DOH) as having some of the largest remaining sections of the metropolitan region still in need of infill sewerage on health grounds (Spearwood/Coogee).

Some areas of Spearwood/Coogee are experiencing more frequent onsite effluent disposal failure. The cause of the failures appears to be primarily due to age. ...

*The existing onsite effluent disposal systems within the district have been operating satisfactorily for many years; however, they are reaching the end of their functions lives and will require replacement.*⁷⁷

⁷⁴ Letter from Ms Mary Jenkins, 2 July 2009, p1.

⁷⁵ Mr John Cunai, Acting Chair, Spearwood Community Association Inc, *Transcript of Evidence*, 14 October 2009, p1.

⁷⁶ Letter from Hon Dr Graham Jacobs MLA, Minister for Water, 15 September 2009, pp1-2.

⁷⁷ Submission No. 42 from Department of Health, 19 October 2009, p1.

- 3.21 The Committee received a number of submissions from residents in the Spearwood areas complaining about the lack of deep sewerage and the personal, family and social impacts of septic tanks and not having deep sewerage connection.
- 3.22 Submissions also noted the unfairness of the repeated delays in commencing the Program in Spearwood areas⁷⁸ and how it was particularly difficult to accept that in early 2009 the Water Corporation had advised them that Program works were finally set to commence, and then the Program was deferred.
- 3.23 Mr John Cunai, Spearwood Community Association Inc, advised the Committee that in January and February 2009 the Water Corporation mailed out approximately 500 letters informing residents that infill works will commence in June 2009. Mr Cunai advised:

*residents literally had Water Corporation employees knocking on their doors, asking them where they would like their connection points, and whether there was anything in their backyards that would need to be removed prior to gaining access. So everyone was pretty much primed up, waiting for this to go through. This is after a lengthy process through the previous government.*⁷⁹

- 3.24 On this point, the Water Corporation advised the Committee that ‘Spearwood had been one of those areas that had been slipped out progressively since 2001, so there had been some expectation provided to the community back then that if we could get hold of \$80 million a year, it would be done’.⁸⁰
- 3.25 It was evident from the submissions received that residents were deeply disappointed because their expectation that infill sewerage work would commence in the near future was abruptly dashed in May 2009 when the program was deferred.
- 3.26 The Committee received a number of submissions from residents in the Spearwood areas detailing the personal, social and family impact of the decision to defer the Program. A sample of these submissions follows:

*We have been residents in the above area [Spearwood] for 42 years.
When we moved into the area we were told that sewerage would come*

⁷⁸ The Water Corporation advised that Spearwood projects were originally due to be completed between 2006 and 2008: Submission No. 39 from Water Corporation, 12 October 2009, p2.

⁷⁹ Mr John Cunai, Acting Chair, Spearwood Community Association Inc, *Transcript of Evidence*, 14 October 2009, p2.

⁸⁰ Mr Peter Moore, Chief Operating Officer, Water Corporation, *Transcript of Evidence*, 21 October 2009, p3.

*through in 2-3 years. Forty two (42) years later we are still waiting!
... We have had the leach drain collapse on us a total of 8 times.⁸¹*

*My priority concern is health - upgrading the sewerage system will
remove some existing health risks. I am aware that some neighbours
pump out their septic tanks themselves and spray the material on their
gardens. This creates health risks for me and my family and seems
like an unacceptable situation in 2009.⁸²*

*We no longer can have our grandchildren and great grandchildren
visit anymore as it is too dangerous for them to be playing in our yard
as it can, and has, collapsed at any time.⁸³*

*As we are now retired and on a limited pension income we face the
continuing expense of having the tanks pumped at \$800 each time and
the worry and further expense of the drains collapsing.⁸⁴*

*The cost to maintain these tanks and leach drains are now far too
expensive and we have been patching things up because we were
given definite starting dates, first it was October 2008 and then
March 2009 and June 2009... how long do we have to live in these
conditions.⁸⁵*

*As we are getting older it is also harder to maintain our property and
we also find that we get a lot of cockroaches and other insects, more
in summer due to the tanks which are located just out the back door.⁸⁶*

*The soil is so saturated with black nutriated soil that our toilet,
shower and kitchen drains are backed up on a constant basis ... When
we use the toilet or water to wash our hands the water/waste sits there
for a long period of time We are finding our family get togethers
are no longer an option due to the shame of our situation.⁸⁷*

⁸¹ Submission No. 5 from Antonio and Franca Fedele, 30 September 2009, p1.

⁸² Submission No. 27 from Ms Nicola Young, 5 October 2009, p1.

⁸³ Submission No. 4 from Fred and Gwen Lindsay, 25 September 2009, p1.

⁸⁴ Submission No. 19 from M and G Caputi, 13 October 2009, p1.

⁸⁵ Submission No. 13 from Rocco and Elaine Zagari, 12 October 2009, p1.

⁸⁶ Submission No. 21 from Antonio and Angelamaria Valerio, 12 October 2009, p1.

⁸⁷ Submission No. 23 from Antonio and Adeline Cinanni, 11 October 2009, p1.

*I watched as the Port Coogee development some 400 metres away had the drainage put through and past our properties around 2006....
... one day my husband fell through our lawn.⁸⁸*

The deferral of the Infill Sewerage Program has resulted in significant disruption to the proposed provision of integrated community services by the Uniting Church in the Cockburn area. It has also further accentuated the shortage of available land for affordable housing which in turn continues to drive up rental costs.⁸⁹

Finding 6: The Committee welcomes the Government's decision in November 2009 to commence the Infill Sewerage Program in the City of Cockburn (in the project areas known as Spearwood 3N, 12P, 16PP and 28A). In November 2009, the Minister for Water advised that works will begin in approximately two months and be completed by June 2011.

Recommendation 1: The Committee recommends that the Water Corporation commences and completes the Infill Sewerage Program in the City of Cockburn as soon as possible.

⁸⁸ Submission No. 15 from Ms Carolyn Taylor, 12 October 2009, pp1-2.

⁸⁹ Submission No. 34 from Uniting Church in Australia, Synod of Western Australia, dated 16 October 2009, p7.

CHAPTER 4

IMPACTS OF DELAYING THE INFILL SEWERAGE PROGRAM

- 4.1 As provided in the inquiry's terms of reference, the Committee invited and received evidence relating to the effects of deferring the Program in other areas, and deep sewerage issues in areas that are not part of the Program.
- 4.2 The Committee is concerned about the ongoing, deteriorating condition of properties without deep sewerage and the personal and broader health, environmental and development implications of not having deep sewerage connection.
- 4.3 The submissions by residents from the City of Cockburn noted in paragraph 3.26 detail some of the personal, social and family impacts of not having deep sewerage connection and the disadvantages residents without deep sewerage may endure because the State has not provided basic, promised and overdue infrastructure needs.
- 4.4 At the Committee's request, WALGA conducted a survey of local governments on the issue of deep sewerage and impact of septic tanks in their local government area (**WALGA survey**). WALGA received 55 responses to the survey (some responses were provided for multiple Shires where Shires share an Environmental Health Officer).⁹⁰ The findings of the WALGA survey are noted in this Chapter.
- 4.5 As previously noted, the Program was established in 1994. Fifteen years later and a significant number of project areas remain unsewered and no funds are available to sewer any of these areas (except the Spearwood areas). The remaining Program areas have been delayed well beyond the ten years with no commitment of a commencement date in the future. Implementing the remaining project areas is well overdue.
- 4.6 A number of concerns and risks arise out of the deferral of the Program. Concerns in particular areas are noted in Chapter 5.
- 4.7 Broadly, issues arising out of the delay in implementing the Program include:
- health and environmental issues;
 - planning and development issues, including inhibiting residential development;

⁹⁰ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009.

- personal, financial and social impacts, including the cost of installing and maintaining septic systems and leach drains;
- the State's duty to provide residents with basic infrastructure provided to other residents and equity issues.

HEALTH AND ENVIRONMENTAL ISSUES

- 4.8 Deep sewerage is an essential measure to ensure the protection of public health and the environment.
- 4.9 The DOH, the DEC, the DOW and WALGA expressed their concern about the deferral of the Program and explained the significant health and environmental implications and effects of deferring the Program.⁹¹
- 4.10 In June 2009, the DOH wrote to the Water Corporation expressing their concern about the delay in the Program and noted the significant infill needs of a number of areas on the Program:

While I understand the financial directives which have led to the reprioritisation of Water Corporation projects, I am deeply concerned that the Infill Sewerage Program has been put on hold ...

it has previously been noted that there are still a number of areas and towns throughout Western Australia which have significant infill needs on public health ground, as well as other with environmental and development restraints. ...

While it is recognised that the Water Corporation has competing priorities and limited resources at this time, it is requested that consideration be given to continuing the Infill Sewerage Program in some form, in at least areas of higher health concern.⁹²

- 4.11 In September 2009, the DOH again wrote to the Water Corporation seeking clarification of the current status of areas previously raised and commented in that correspondence:

the Department of Health is again being frequently approached by persons affected by the delays. Some of those who were expecting

⁹¹ The health and environmental impacts of deferring the Infill Sewerage Program are often interrelated and are therefore dealt with in the same section of this report.

⁹² Letter from Mr Jim Dodds, Director, Environmental Health Directorate, Department of Health, to Mr Charles Kretzmann, Project Director, Regional Projects, Water Corporation, 24 June 2009, pp1-2. The letter specifically raised issues in the Bridgetown area as noted at paragraphs 5.29 to 5.32 of this report.

*works in their areas in the near future are particularly concerned, and have been seeking DOH comment.*⁹³

- 4.12 The DOH advised the Committee of ongoing, deteriorating conditions in properties without deep sewerage:

Delays have occurred in the program for a number of years.

Local government previously identified by the DOH in the Statewide review [the 2006 DOH review, see paragraphs 2.41 to 2.43] continue to advise that many onsite effluent systems continue to fail, often due to pervious soils and perched winter water tables. Reports have been received indicating that even relatively new systems are failing.

Complaints have been received about effluent surfacing and pooling in backyards and children's play areas, following down roads and via storm drains into local creeks and rivers. Effluent is also still being disposed of onsite in some areas which rely on shallow aquifers for drinking water supplies.

*It should also be noted that a number of local governments have permitted reduced size septic tank and effluent disposal systems in some areas, on a temporary basis; due to Water Corporation schedules indicating that infill sewerage was to have been provided in the near future. The deferral of the Infill Program means that these temporary systems could become semi permanent, be over loaded and fail. Upgrading these systems, permitted as a cost saving temporary measure, will also create unexpected financial costs for householders.*⁹⁴

⁹³ Letter from Mr Richard Theobald, Manager, Water Unit, Department of Health, to Ms Sue Murphy, Chief Executive Officer, Water Corporation, 17 September 2009, p1.

⁹⁴ Submission No. 42 from Department of Health, 19 October 2009, p3. The Department of Health also provided the Committee with a copy of the *Guidelines for allowing reduced wastewater systems*, and advised the Committee that 'while some concern was raised about the impact of delays to the provision of sewerage in areas where reduced size onsite systems were permitted, these installations were only to be allowed on the basis that an area sufficient for an upgrade to a fully sized system would remain unencumbered until sewerage was actually provided ... While it would be a (delayed) expense to the applicant, the retention of unencumbered land means that if onsite effluent disposal systems do fail due to delays to the Infill Sewerage Program or for some other reason, a more effective alternating leach drain/soakwell system could still be installed': Letter from Mr Jim Dodds, Director, Environmental Health Directorate, Department of Health, 5 November 2009, p2.

- 4.13 The DOH also advised that several areas have significantly worse problems than those in parts of Spearwood and Coogee, and the Spearwood areas were ‘one of a number of priorities that were identified [by the DOH] at the time [in 2006]’.⁹⁵
- 4.14 The environmental and health risks of not having deep sewerage are exacerbated by unsafe practices such as the practice of residents pumping sewerage directly onto land. The Committee heard that some residents are resorting to this practice.⁹⁶
- 4.15 It is concerning that the DOH advised of a recent increase in complaints regarding onsite effluent disposal and is of the view that further delays to the Program will exacerbate health, social and environmental issues and, over time, areas not currently experiencing problems will do so:

Onsite effluent disposal systems require larger blocks, particularly in areas of heavy soils, limiting subdivision and the development of a town centre and associated infrastructure. The DoH has also been advised that the lack of infill sewerage has had an adverse impact upon the community’s economic growth and that there are environmental penalties associated with “fly in fly out” operations, associated with regional mining developments.

*The relatively wet winter experienced this year and regular rainfall during September 2009 has resulted in an increased number of complaints regarding onsite effluent disposal failures to the DOH. Further delays to the Infill Sewerage Program will exacerbate health, social and environmental issues. Costs will continue to be incurred by residents, in Cockburn and elsewhere in the State. Areas identified within the State by the Infill Sewerage review will continue to experience problems. Over time, the situation will deteriorate and areas not currently identified will experience similar problems.*⁹⁷

- 4.16 At hearing, Ms Julie Phelps, Senior Scientific Officer, the DOH, noted the growing number of septic systems that are now failing due to conditions:

Despite all the issues about lower rainfall, this year we actually did have a bit more of a wet winter, so a lot of systems that have been borderline for a number of years, all of a sudden the ground is saturated and is not able to take the effluent from the leach drains or soak wells, and so that is then causing systems that previously have just been going along, to fail and for effluent to surface. We have been

⁹⁵ Mr Richard Theobald, Manager, Water Unit, Department of Health, *Transcript of Evidence*, 2 November 2009, p5.

⁹⁶ For example, see Submission No. 9 from Friends of Rivers, Peel Inc, 8 October 2009, p2.

⁹⁷ Submission No. 42 from Department of Health, 19 October 2009, pp3-4.

*receiving complaints from Busselton and from Serpentine-Jarrahdale about those. That is more to do with site conditions rather than the age of the system sometimes, but also it will push an old system over the edge.*⁹⁸

- 4.17 The DOH also advised the Committee of the present and ongoing problems experienced in regional areas and newly developed outer metropolitan areas:

Several areas throughout Western Australia have significantly worse problems than those in parts of Spearwood and Coogee. Heavy, poor draining soils, underlying rock and high water tables have resulted in many households in regional areas of the State having difficulties with onsite effluent disposal. Common problems experienced in regional areas include pooling effluent in backyards, with repeated system failures each winter.

*The DOH is also becoming aware of newly developed outer metropolitan areas where development pressures have led to the creation of large lots that are experiencing difficulties with onsite effluent disposal. These are areas not previously identified by the 2006 DOH review.*⁹⁹

- 4.18 WALGA, after considering the results of the WALGA survey, advised that septic tanks cause the following health issues:

The most serious health concern raised by Local Government is the overflowing of aging and inappropriately designed septic and leach drains systems and the potential for direct contact with humans. Local Government has indicated that there is anecdotal evidence of children becoming sick from coming into contact with sewerage from malfunctioning septic systems. The pooling of raw sewerage provides an opportunity for contact with disease and also provides ideal breeding ground for mosquitoes, which can spread further disease amongst the community.

*Also of concern in some areas is the leaching of nutrients into drinking water catchments, as is the case in Donnybrook and into waterways used for recreation.*¹⁰⁰

⁹⁸ Ms Julie Phelps, Senior Scientific Officer, Water Unit, Department of Health, *Transcript of Evidence*, 2 November 2009, p7.

⁹⁹ Submission No. 42 from Department of Health, 19 October 2009, p3.

¹⁰⁰ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, pp2-3.

- 4.19 The Committee considers that the water quality should be a high priority concern for the Government. It is important to note that three Government funded Water Quality Improvement Plans have all recommended that the Program continue because it will lead to significant improvements in water quality,¹⁰¹ the reports being *Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System - Phosphorus Management*,¹⁰² *Swan Canning Water Quality Improvement Plan: Draft for Public Comment*,¹⁰³ and *A draft water quality improvement plan for the Vasse Woonerup Wetlands and Geography Bay*.¹⁰⁴
- 4.20 At hearing, Mr Mark Batty, Executive Manager, Environment and Waste, WALGA, tabled the above three reports and noted in relation to the areas addressed in the reports:

*The importance of those systems in terms of the ecological services that they provide to the community of Western Australia is evidenced in the three documents that we have tabled. These documents were developed with funding from the Australian and Western Australian governments and a range of stakeholders under the Howard government's coastal catchments initiative, which sought to identify and resolve areas of concern—I believe 17 areas of concern—for water quality impacts on high-value receiving environments nationally. There are three in Western Australia, and I referred to them earlier. They are along the Swan coastal plain and they are obviously coinciding with, by virtue of being hot spots, high-value areas under high pressure from development—high pressure ecologically. So we would contend that there is a strong public health concern, and that has been raised by other submissions no doubt as well as our own, but there is an equally pressing issue in relation to environmental impact from either the ageing existing septic infrastructure, or indeed a lack of deep sewerage and sewage treatment for industrial areas across the metropolitan area. ...*¹⁰⁵

¹⁰¹ Answers to Questions on Notice, Western Australian Local Government Association, tabled at hearing on 2 November 2009, p4.

¹⁰² Australian Government and Government of Western Australia Environmental Protection Authority, *Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System - Phosphorus Management*, November 2008. The report is quoted at paragraphs 5.13 and 5.14 of this report and is otherwise referred to in paragraphs 5.5 to 5.21, which deal with concerns in the Shire of Murray.

¹⁰³ Australian Government and Government of Western Australia Swan River Trust, *Swan Canning Water Quality Improvement Plan: Draft for Public Comment*, February 2009.

¹⁰⁴ Government of Western Australia, Department of Water, *A draft water quality improvement plan for the Vasse Woonerup Wetlands and Geography Bay*, February 2009.

¹⁰⁵ Mr Mark Batty, Executive Manager Environment and Waste, Western Australian Local Government Association, *Transcript of Evidence*, 2 November 2009, p2.

4.21 The adverse impacts of septic tanks are real and documented. Septics contribute 18 per cent of nitrogen and eight per cent total phosphorous to the Swan-Canning River System and up to 50 per cent total nitrogen and 62 per cent total phosphorous in some sub-catchments.¹⁰⁶ The findings and relevant recommendations of the *Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System - Phosphorus Management* are quoted at paragraphs 5.13 and 5.14.

4.22 The DEC also advised of the importance of the Program to the environment:

[The infill program is] an important initiative by Government to help reduce excess nutrients and bacteria entering the environment from septic systems, either through the groundwater or surface water.

Environmental impacts caused by nutrient and bacteria loss from septic systems or other more traditional sewage disposal systems can be very significant. These two contaminants can degrade the environment and threaten human use, public health, recreational contact and also endanger wildlife and native vegetation. ...

Excessive nutrient enrichment is a recognised threat to the WA environment.

The depth of aerobic and anaerobic conditions near leach lines or tanks can have major influences on how effectively septic systems operate. This can affect nitrogen reduction and bacterial degradation while in turn influencing quantities of nutrients and types of bacteria that can leach or move from the septic system, contaminating local grounds and surface waters, wetlands and other nearby waterbodies.¹⁰⁷

4.23 The DOW provides advice on Program planning from a water resource and waterway management perspective and collect, manage and evaluate groundwater and waterways data that assists in planning and identifying priority areas for infill sewerage.¹⁰⁸ The DOW further explained that septic tanks significantly contribute to poor ground water quality, described which estuaries have ‘significant issues’ and the potential impacts of septic tanks on potable water supply in Western Australia:

Nutrients from septic tanks are a significant contributor to poor groundwater quality in many of the high water table areas and surface water quality in rivers and estuaries in the State. Estuaries

¹⁰⁶ Answers to Questions on Notice tabled by the Western Australian Local Government Association at hearing, 2 November 2009, p2.

¹⁰⁷ Submission No. 41 from Department of Environment and Conservation, 29 October 2009, p1.

¹⁰⁸ Letter from Mr Kim Taylor, Director General, Department of Water, 13 November 2009, p1.

with significant issues include the Swan Canning, Peel Harvey, Leschenault, Vasse Wonnerup and Hardy Inlet. These observations are based on water quality measurements as well as detailed modelling using Water Corporation sewerage coverage data.

Human health issues also occur from time to time in waterways from high faecal coliforms (sic) counts - emanating from septic tanks. Seepage from septic tanks can contribute to algal blooms and fish kills in rivers and estuaries and have potential to impact on potable water supply for people who self supply from groundwater. However, installation of sewerage does not lead to an immediate recover of water quality. It can require many years for nutrient levels to reduce significantly.¹⁰⁹

- 4.24 The DOW expressed the following view on what are infill sewerage priority areas:

Priority urban areas for infill sewerage are those in close proximity to water way or areas with a high water table and poor drainage on the Swan Coastal Plain. In some cases infill sewerage per se cannot be implemented due to ground conditions, funding priorities or cost. In these cases Alternative Treatment Units (ATU's) should be considered for areas that need to be moved from septic systems, for example, Molloy Island near Augusta and Little River catchment near Denmark.¹¹⁰

- 4.25 WALGA, after considering the results of the WALGA survey, also noted further indirect impacts of septic systems on the environment:

Local Government has also highlighted other indirect impacts of septic systems. Excess native vegetation clearing is often needed in new lots to accommodate large septic and leach drain systems. The lack of deep sewerage is also preventing sustainable higher density development which has less of an environmental impact than low density. Particularly in regional and peri-urban areas, this leads to sprawl expansion when higher density options are preferred.¹¹¹

PLANNING AND DEVELOPMENT ISSUES

- 4.26 A number of local governments submitted to the Committee that the lack of deep sewerage was inhibiting development opportunities in their area (see, for example, the

¹⁰⁹ Letter from Mr Kim Taylor, Director General, Department of Water, 13 November 2009, p3.

¹¹⁰ Ibid, p2.

¹¹¹ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, p3.

Town of Port Hedland at paragraphs 5.46 to 5.49). A number of local governments, particularly regional local governments, also noted this as an issue in the WALGA survey responses.

- 4.27 Thirty six of the 55 respondents to the WALGA survey stated that there had been instances where development has been stalled or become unfeasible because of the lack of deep sewerage.¹¹²
- 4.28 WALGA, after considering the results of the WALGA survey, outlined a number of important implications of inhibiting development, including increased property costs in regional areas:

Because of the subdivision and development limitation for unsewered areas, regional centres and peri-urban townsites have been unable to grow to their full potential. Even within the metropolitan area, infill development has been blockaded due to the lack of reticulated sewerage and continuous deferral of the Infill Sewerage Program. This causes many issues for regional towns and out-metro centres which are denied economic opportunities that would come with growth and sustainable development.

It has long been acknowledged that higher density development is the way forward for Western Australians to cater for its increasing population. Higher density brings with it more social interaction, services and opportunities for community. Many of these regions wish to expand their town centres and are being prevented because there is either no deep sewerage available or it is only available to limited areas.

This issue is increasing property costs in the country. The extra costs of installing large septic tank and leach drains systems often makes development unviable or too costly for homebuyers. Development costs in regional areas can also increase considerably if developers wish to install alternative sewerage treatment systems or provide connections to existing deep sewerage in the area.

Provision of community facilities like child care centres, school and aged care homes are being affected because of the lack of deep sewerage. In some cases, aged care facilities have been granted an exemption but overall these high density facilities are discouraged in

¹¹² Ibid, p6.

*areas without deep sewerage. The implication this has on the communities affected is widespread.*¹¹³

- 4.29 WALGA advised that the WALGA survey responses included the following comments from local governments on the development impact of not having deep sewerage:

The Infill Sewerage Program ... will make development easier for large lot owners (Luke Ertzen, Planning and Development Manager, City of Geraldton-Greenough) ...

A Royalties for Regions type scheme to assist with headworks/servicing costs for sewer and power would assist to keep land prices reasonable in country towns and encourage development. (Michelle Stewart, Manager Planning and Environmental Services, Shire of Katanning)...

Because Hyden was told by the State Government it was to be done. Then stopped the program. (sic) Help us out - the Residential Development was State funded. They got the land sale funds and have now walked away from the problem that has been created. (Peter Webster, CEO, Shire of Kondinin) ...

*Developments in small rural townsites are being held up by lack of sewerage, comments from local estate agents and phone enquiries to the shire show that there is demand if land was available at Bolgart. (Harry Hawkins, CEO, Shire of Victoria Plains).*¹¹⁴

PERSONAL, FINANCIAL AND SOCIAL IMPACTS

- 4.30 The impacts of not having deep sewerage connection go beyond important health, environmental and development matters, as noted in a number of submissions from residents in the Spearwood areas.
- 4.31 WALGA, after considering the results of the WALGA survey, informed the Committee that:

The major financial impacts of the deferral of the Infill Sewerage Program are the ongoing maintenance and replacement costs for residents. Aging systems located are regularly overflowing in areas with high water tables in both metropolitan and regional areas. Areas which feature heavy clay soils are particularly problematic because

¹¹³ Ibid, pp3-4.

¹¹⁴ Ibid, p7.

*septic systems are unsuitable due to the lack of infiltration and often overflow in winter. In some cases, small septic systems were allowed to be installed because of future planning for deep sewerage, which has now been deferred in many areas. Its deferral has meant that these systems need regular pumping out because they have inadequate capacity.*¹¹⁵...

*Another financial implication for residents, Local Government and developers is the limitation on subdivision due to the lack of a reticulated sewerage scheme.*¹¹⁶

- 4.32 Residents bear the costs of maintaining their septic tanks. Pumping a septic tank can cost \$800. This cost is in addition to the initial capital cost of the septic tank and leach drains and any property costs associated with collapsing leach drains.¹¹⁷
- 4.33 The property owner must pay these costs while often saving money to pay for a future connection to the deep sewerage connection point. (This involves a licensed plumber providing a pipe connection between the house and the Water Corporation's sewer connection point). The cost of connection normally varies between \$500 and \$2 000.¹¹⁸

THE WALGA SURVEY OF LOCAL GOVERNMENTS

- 4.34 As noted above, WALGA received 55 local government responses (some provided for multiple Shires) to their survey on deep sewerage issues.
- 4.35 WALGA advised of the level of local government concern about sewerage issues:

*This issue is one that concerns the majority of our members who would like to see the State Government take more leadership on the issue.*¹¹⁹

¹¹⁵ Ibid, p2.

¹¹⁶ Ibid.

¹¹⁷ Mr Cunai advised that if residents were to 'replace tanks and leach drains, it will cost in the vicinity of \$14 000': Mr John Cunai, Acting Chair, Spearwood Community Association Inc, *Transcript of Evidence*, 14 October 2009, p3.

¹¹⁸ Mr Peter Moore, Chief Operating Officer, Water Corporation, *Transcript of Evidence*, 21 October 2009, p6. Mr Moore also notes that property owners then have to decommission their septic tanks at their own cost and also advised that 'Our connection rates for infill are around 90 or 95 per cent': Mr Peter Moore, Chief Operating Officer, Water Corporation, *Transcript of Evidence*, 21 October 2009, p6.

¹¹⁹ Letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, p1.

4.36 The WALGA survey found that of the 55 respondents:

- 54 respondents stated that they currently have areas in their municipality which do not have access to deep sewerage;
- 42 respondents stated that industrial areas are also affected;
- 47 respondents stated that there are financial, health, social or environmental issues which have resulted from the use of septic tanks;
- 36 respondents stated that there had been instances where development has been stalled or become unfeasible because of the lack of deep sewerage;
- 49 respondents stated that the Infill Sewerage Program should be made a higher priority;
- 36 respondents stated that their Council has lobbied the Water Corporation or the State Government to have deep sewerage services provided to their area; and
- 35 respondents stated residents have raised concerns with the deferral of the Program. Responses, for example, stated that the Council received regular complaints from residents about ailing septic systems at their homes (Shire of Bruce Rock), Shoalwater residents were contacting the Council over the delay (City of Rockingham) and a public meeting was held in Hyden about the matter (Shire of Kondinin).¹²⁰

4.37 WALGA summarised the results of the survey and the local governments concerns about infill sewerage as follows:

Most Councils expressed concern over the deferral of the Infill Sewerage Program and indicated that it should be a higher priority for the State Government. The impacts of septic tanks and leach drain systems are widespread and are causing serious health, environmental, financial and social impacts both within the metropolitan and regional areas.

The main issues being faced in these communities is the overflow of sewerage from failing or aging septic systems. This is particularly problematic in areas with heavy clay soils and high water tables.

Local Government has also highlighted the impact of the lack of deep sewerage is having on growth. The Government Sewerage Policy

¹²⁰ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, pp4-5.

*states that lots less than 2000m² must have deep sewerage or an alternative approved system. This has limited the potential sustainable development that can occur in the peri-urban and regional centres of the State. Development has either been stalled or proceeded with considerable additional costs because of the lack of deep sewerage in many areas.*¹²¹

4.38 WALGA recommended the following:

Following the results of this survey, the Association recommends the following:

1. *Immediate recommencement of the Infill Sewerage Program in priority areas;*
2. *A review of the priority listing in line with Department of Health recommendations;*
3. *Funding allocated through avenue (sic) such as Royalties for Regions to provide unsewered and partially sewerred regional towns with reticulated sewage to allow for sustainable development and growth.*¹²²

THE STATE'S DUTY TO PROVIDE BASIC INFRASTRUCTURE AND EQUITY ISSUES

4.39 The WALGA survey highlighted the fact that at a time when the State has provided many properties with infill sewerage, a number of Western Australians are still waiting for the State to provide this basic infrastructure need.

4.40 WALGA questioned how, in the twenty-first century, important infill sewerage programs that can address public health and environmental health are not completed:

We find it incongruous that in the twenty-first century, investment is being deferred on an issue that is of such importance to both the public health and the environmental health of the community of Western Australia, when the development of deep sewerage was a nineteenth-century solution for health and, later, environmental impacts. The documents we have tabled in relation to water quality quite clearly outline the concerns of a range of stakeholders—including commonwealth government and state government stakeholders who have participated in the program—that there is an ongoing environmental issue due to the failure to complete the infill

¹²¹ Ibid, p1.

¹²² Ibid.

*sewerage program. We contend that, in terms of completion, it needs to include industrial areas also.*¹²³

- 4.41 WALGA advised that the situation in Cockburn highlighted the need for the immediate expansion of the Program across the metropolitan area and what they called an ‘*abuse of power*’ in not providing infill sewerage services to the community:

Perth residents have a right to deep sewerage services. The lack of willingness by the Water Corporation to provide these services is an abuse of the power they currently have as the sole sewerage treatment provider in the metropolitan area.

Given that public health and environmental protection is a State responsibility, the Infill Sewerage Program is essential to protecting public health and the environment. The Association recommends more money be allocated to this program ...

The deferral of the Infill Sewerage Program is disappointing and shows a lack of priority by the State Government to address water quality issues....

*It is unfortunate that the Water Corporation has reallocated funds from the Infill Sewerage Program to fund billion dollar desalination plants. The security of our drinking water sources is important for Western Australia, but equally important is the protection of our ground and surface water systems, the ecosystems which they support and above all the public health and wellbeing of the community.*¹²⁴

- 4.42 Some evidence noted that the impacts of not having deep sewerage connection in their area was as bad, or worse, than those suffered in the Spearwood areas.
- 4.43 The DOH noted that several areas have significantly worse problems than those in parts of Spearwood and Coogee (see paragraphs 4.13 and 4.17). The DOH reviews conducted in 2006 found that, based on health grounds, a number of country areas (particularly regional areas) scored higher scores than the Spearwood areas.
- 4.44 The Shire of Manjimup is of the view that the Spearwood areas have nowhere near the problems that Northcliffe and the other towns/settlements identified by the Department of Health review have (see paragraphs 5.66 to 5.68).

¹²³ Mr Mark Batty, Executive Manager Environment and Waste, Western Australian Local Government Association, *Transcript of Evidence*, 2 November 2009, p3.

¹²⁴ Submission No. 17 from Western Australian Local Government Association, 13 October 2009, pp1-2.

4.45 WALGA advised that in their WALGA survey response the Shire of Waroona raised an issue with how the Program was ranked. *‘The ranking has never changed in this program in 20 years and Cockburn should not be elevated over other priority areas’.*¹²⁵

Finding 7: The Committee finds that serious health and environmental risks still exist with existing septic systems.

Finding 8: The Committee finds that problems arising out of not having deep sewerage are more serious and widespread than initially thought and there is a need for the Government to review the Infill Sewerage Program.

Finding 9: The Committee finds that several areas have significantly worse problems arising out of not having deep sewerage than those in parts of Spearwood and Coogee, and the Spearwood areas were one of a number of priorities identified by a Department of Health review in 2006.

¹²⁵ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, p6.

CHAPTER 5

DEEP SEWERAGE ISSUES IN WESTERN AUSTRALIA

- 5.1 This Chapter summarises deep sewerage issues in areas throughout Western Australia.
- 5.2 A number of local governments provided submissions to the Committee outlining the impacts of not having deep sewerage in their Shire. Further Shire views were provided by WALGA in their summary of the WALGA survey results.
- 5.3 It is worth repeating that 47 of the 55 respondents to the WALGA survey noted that there were financial, health, social or environmental issues caused by septic tanks and 36 respondents stated that development had been stalled because of a lack of deep sewerage. The WALGA survey highlighted the real and negative impact septic tanks and the absence of deep sewerage has around Western Australia.
- 5.4 The evidence provided by local governments, individually and in their totality is persuasive evidence of the need to recommence the Program as soon as possible.

SHIRE OF MURRAY

- 5.5 The Water Corporation area known as Ravenswood West Murray 2A is part of the Program as noted on the table attached at Appendix 3 of this report. When the Program was deferred in May 2009, areas on this table were to be completed in the next four years. Appendix 3 notes that the estimated cost of completing the 53 lots¹²⁶ in this area is \$2.2 million.¹²⁷
- 5.6 The Shire of Murray advised of the significant health and environmental impacts caused by septic tanks in no less than 60 unsewered residential properties in Murray Bend (Ravenswood West Murray 2A). These properties are located 50 to 220 meters from the Murray River.¹²⁸

Effluent is basically going into the river. It is killing the river and it is causing significant health risks to humans. ... There is coffee rock in the area, which means it is clay and it cannot go anywhere. Sewage is filling up in the backyard, coming out through the toilets; the toilets are going green and the effluent is travelling into the river. We want

¹²⁶ The Shire of Murray, however, advised that there are 58 lots in Ravenswood West Murray 2A: Letter from Mr Dean Unsworth, Chief Executive Officer, Shire of Murray, 13 November 2009, p2.

¹²⁷ The Water Corporation confirmed that the estimated cost of completing Ravenswood West Murray 2A was \$2.2 million as noted in Appendix 3 and the \$160 012 noted against this area in Appendix 4 is incorrect: Email from Mr Peter Moore, Chief Operating Officer, Water Corporation, 24 November 2009, p1.

¹²⁸ Submission No. 26 from Shire of Murray, 15 October 2009, p1.

*the Water Corporation to put this issue back on the table because it is a major concern to our community ...*¹²⁹

This area is not far from under three kilometres from the Ravenswood Hotel, which is a very prominent focal point for recreational activities of a boating nature and passive water contact. There is a canoeing facility there as well. It is also prone almost yearly to a variety of algal blooms, cappuccino scums, blue-green algal blooms and, in fact, in this particular area, the shire has a health warning advice on the river for people to avoid contact with the water 365 days of the year, essentially, so that when they do so, they do so at their own risk. It is a very water-based community. There are a lot of young children there and, of course, some of the issues the parents have raised with us are that boys will be boys and young kids will be kids and they will contact the water despite requests from their parents to the contrary. It is a big issue in that area. The Department of Water undertakes a variety of weekly or monthly monitoring there into the state of the water. The shire also undertakes monthly microbiological sampling in this area. In conjunction with the Department of Health it has undertaken sanitary surveys of the area as well. There are probably up to 10 years' data in relation to those sorts of activities held by the Department of Health.

The Chairman: Has the monitoring shown any diseases et cetera?

*Mr Lange: Yes, there are elevated levels of micro-organism and e coli and those sorts of faecally based bacteria.*¹³⁰

- 5.7 The Shire noted that due to the high costs of emptying septic systems every few months, some residents are allowing their systems to overflow and/or are pumping raw sewerage onto areas of open land. This constitutes a significant risk to public health and a grave risk to the environment of the Murray River and Peel waterways generally.¹³¹
- 5.8 Residents have been advised for many years of the impending roll-out of the infill sewer. Infill sewerage works were about to begin around the time the Program was deferred. The area 'was identified as a priority area for urgent action in 2006'.¹³² In

¹²⁹ Mr Dean Unsworth, Chief Executive Officer, Shire of Murray, *Transcript of Evidence*, 11 November 2009, p2.

¹³⁰ Mr Glen Lange, Manager, Environmental Health Services, Shire of Murray, *Transcript of Evidence*, 11 November 2009, p3.

¹³¹ Submission No. 26 from Shire of Murray, 15 October 2009, p1.

¹³² Mr Dean Unsworth, Chief Executive Officer, Shire of Murray, *Transcript of Evidence*, 11 November 2009, p2.

August 2008, the Shire was advised that the infill sewerage plans for Ravenswood West Murray 2A had been completed and the project would commence in March 2009 and be completed by December 2009.¹³³ On 29 October 2008, the Water Corporation (through Worley Parsons) advised ‘*on behalf of the Water Corporation we are seeking your approval to locate the pump station in the road reserve at this location*’.¹³⁴ According to the Water Corporation table of all Program projects at Appendix 4, Ravenswood West Murray 2A would have been the first area to be completed if the Program was not deferred.

- 5.9 The Shire advised of the high level of community concern and stress about this issue. The public concern is such that on the Monday before the hearing with the Committee the Shire held a meeting at very short notice which was attended by half the affected residents.¹³⁵ The Shire advised:

*The residents have been very patient because they had the knowledge that infill sewerage was coming. Now it is not coming, they are very concerned and becoming vocal. They are concerned about themselves and their children—not only the risk to humans but the significant risk to the river and the estuary. It is a real health concern.*¹³⁶

- 5.10 Mr Glen Lange from the Shire advised that half sized systems were approved because the infill work was imminent and now these may fail:

*the rug was pulled. Everything had been geared up to that [works commencing]; residents have held off; the shire was approving half-size systems because sewer was so imminent. In a sense, the groundwork had been laid for this to occur and now we are probably in for some dire consequences when those new systems that were approved at half the size begin to fail as well.*¹³⁷

- 5.11 The Shire noted that dysfunctional septic systems have an effect on the Murray River and broader wetlands of the Peel Region, many of which are internationally recognised Ramsar wetlands.¹³⁸

- 5.12 It is important to note that there is documented evidence that septic tanks are affecting the environment in this area. As noted in paragraph 2.39 of this report, the Water

¹³³ Letter from Mr Dean Unsworth, Chief Executive Officer, Shire of Murray, 13 November, p2.

¹³⁴ Ibid.

¹³⁵ Ibid, p4.

¹³⁶ Mr Dean Unsworth, Chief Executive Officer, Shire of Murray, *Transcript of Evidence*, 11 November 2009, p2.

¹³⁷ Mr Glen Lange, Manager, Environmental Health Services, Shire of Murray, *Transcript of Evidence*, 11 November 2009, p5.

¹³⁸ Submission No. 26 from Shire of Murray, 15 October 2009, p2.

Corporation's *Procedure for Setting Infill Sewerage Priorities*, under 'Criteria 2 - Environmental Issues', gives a score of 10 (the highest score) were there is 'documented environmental concerns clearly related to effluent disposal from septic tanks'.¹³⁹

- 5.13 The *Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System – Phosphorous Management* (November 2008) reported on the impact of septic tanks in this area.¹⁴⁰ This Government report stated:

The poor health of the Murray River has been identified locally as a significant environmental concern and the impact of nutrients and bacteria leaching from conventional septic systems has been identified as a key-contributing factor. Unsewered areas seem to have a big impact (17 per cent of winter load) and septic tanks have been identified as one of the primary sources of phosphorus of urban phosphorus export.

*Zammit et al., (2006) demonstrated that full connection to the infill sewerage should bring a reduction of 22 percent of the total loading to the estuary. The Murray catchment showed the greatest predicted reduction of 27 percent.*¹⁴¹ ...

*Expediting the infill program for connection and ensuring all current homes are connected to a reticulated sewerage system where available or septic tanks replaced with alternative onsite systems will have a significant positive impact on the health of the rivers and estuary.*¹⁴²

- 5.14 The *Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System – Phosphorous Management* recommended the following:

- *Enforce full connection of all existing homes to reticulated sewerage within two years of sewerage system passing the property.*
- *Expedite current infill program in the Peel coastal catchment, in particular sensitive areas adjacent to waterways and wetlands.*

¹³⁹ *Procedure for Setting Infill Sewerage Priorities*, Water Corporation, February 1997, p5.

¹⁴⁰ Australian Government and Government of Western Australia Environmental Protection Authority, *Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System - Phosphorus Management*, November 2008.

¹⁴¹ *Ibid*, p35.

¹⁴² *Ibid*, p36.

- *Bring forward plans to infill Peel coastal catchment suburbs outside of current program.*¹⁴³

5.15 The Friends of Rivers, Peel Inc also referred to the above report in their submission to the Committee and further submitted:

- During winter, with high rainfall events and high river levels, the septic systems in Murray Bend back up. Due to the cost of pumping out a septic tank (approximately \$1 000), residents have purchased their own pumping systems and pump their septic tanks and leach drains onto their back yards and surrounding vacant land.
- We estimate that 1 090 kilograms of nitrogen and 270 kilograms of phosphorous per annum leach into the Murray River. *‘Scientific evidence suggests that the section of the Murray River near Murray Bend is not capable of supporting marine life due to contaminants in the river bed’.*¹⁴⁴
- Governments spend significant money trying to halt the ongoing degradation of the Ramsar listed Peel-Harvey Estuary, but another government department cuts back on a project that can have a major impact on the environment and public health.
- Despite the overwhelming evidence that supports the compulsory connection to the sewerage system when it is available, the Water Corporation and ministers do not enforce connection.¹⁴⁵

5.16 The DOW confirmed the poor state of the Murray River, that septic tanks contribute to this and are of the view that Ravenswood West Murray 2A should be a Program priority when funds are available:

*evidence supports claims that the poor health of the Murray River system has been contributed to by phosphorus export from septic tanks*¹⁴⁶ ...

This stretch of the Murray River is of very poor water quality hazard from a contact recreation viewpoint. Organic and faecal material from both the agricultural catchment (sic) is a major contributor to the poor water quality in the Murray River - especially in the

¹⁴³ Ibid, p43.

¹⁴⁴ Submission No. 9 from Friends of Rivers, Peel Inc, 8 October 2009, p2.

¹⁴⁵ Submission No. 9 from Friends of Rivers, Peel Inc, 8 October 2009.

¹⁴⁶ Letter from Mr Kim Taylor, Director General, Department of Water, 13 November 2009, p3.

Ravenswood area. However, septic tanks are considered to contribute to the poor water quality. ...

[The DOW] supports Murray 2A being a priority for infill sewerage, due to the poor water quality conditions when funding is available. Over time deep sewerage would assist in addressing a significant environmental issue as well as addressing current human health risks.¹⁴⁷

5.17 The DOW advised that they had modelled the contributions of nutrient pollution from septic tanks to the Peel-Harvey, Swan-Canning, Leschenault and Vasse-Wonnerup Estuaries and Geographe Bay, and in *'all cases the contributions are significant and in part contribute to eutrophication and algal blooms in the waterways or rivers that discharge to these estuaries'*.¹⁴⁸

5.18 WALGA recommended that more money be allocated to this program for metropolitan areas, with priority given to the Peel region (because of the presence of Ramsar listed wetlands) and all suburbs adjacent to wetlands or drinking water catchments. During the hearing, WALGA added:

It is very close to the river there ... it wraps around the bend of the river, so the proximity of the river to this whole area is a major concern. The septic systems are old; people have not replaced them because they were promised that the infill sewerage program was going to come to their area. The nutrients are leaching pretty much directly into the river, so it would be a high priority area in that respect.¹⁴⁹

5.19 The DOH advised that its understanding of the situation in Ravenswood West Murray 2A was:

we are aware of [Ravenswood West Murray 2A] ... and there are a number of similar places where they have very poor soils that are subject to inundation. In this particular instance, Murray Bend is in exactly that situation. They have had failures of their systems.¹⁵⁰

¹⁴⁷ Ibid, p4.

¹⁴⁸ Ibid, p2.

¹⁴⁹ Ms Sarah Malloy, Environmental Policy Officer, Western Australian Local Government Association, *Transcript of Evidence*, 2 November 2009, p6.

¹⁵⁰ Mr Richard Theobald, Manager, Water Unit, Department of Health, *Transcript of Evidence*, 2 November 2009, p7.

5.20 The DEC supported this area being a high priority area on environmental grounds:

DEC supports a targeted program that would identify remaining unsewered areas that are near environmental assets vulnerable to septic systems. This applies to inputs into both surface and groundwater environments. ...

areas along the Serpentine and Murray Rivers and areas near wetlands in the Beeliar Region, including Forrestdale Lake, should remain as high priority areas.¹⁵¹

5.21 Further to the health and environmental concerns, the lack of deep sewerage has residential development implications in the area. The Shire advised at that the area is estimated to be one of the fastest growing local governments in Australia and 1 000 houses could be accommodated in the area:

This area is planned for growth, so that 50 to 200 [houses] in the future could be something like 1 000 ... You will see from the map that the Shire of Murray is estimated to be one of the fastest growing local governments in the nation by about 2014. Last year it grew at six per cent and will probably grow at more than that. We are Mandurah waiting to happen, so we are trying to get ahead of the game. We have learnt a lot from places like Mandurah, so we want this to be addressed as soon as possible. ...¹⁵²

Hon Col Holt: If the 60 houses were not sewerred and you built another 1 000, there would be no deep sewerage connection opportunity, would there?

Mr Unsworth: No.

Hon Col Holt: Those 1 000 houses would use septic tanks.

Mr Unsworth: Potentially, they would, yes, and that would be catastrophic. Obviously, that would be part of the planning. But the Planning Commission has already stated that that is future urban, and there is significant pressure on that area. We have a new highway through there. It is close to Mandurah and close to the city. For infrastructure that we feel should be already there I do not think we should be hampered in our growth potential.

¹⁵¹ Submission No. 41 from Department of Environment and Conservation, 29 October 2009, p2.

¹⁵² Mr Dean Unsworth, Chief Executive Officer, Shire of Murray, *Transcript of Evidence*, 11 November 2009, p3.

Hon Col Holt: It is already zoned urban anyway.

*Mr Unsworth: Yes. ...*¹⁵³

we are extremely frustrated with the Department of Planning at the moment. ... We have affordable land; we have developers knocking on our doors pleading for us to push the case that they have money to put towards infrastructure. Housing affordability is an issue. We believe we can supply land at very good prices close to amenities. We have infrastructure there; we have the Perth-Bunbury highway developed and we have Pinjarra Road, which is a four-lane highway; and we have industrial land ready to go. We have to produce jobs. We can produce significant industrial land that will serve not only the Peel but Perth. All we want is for the state government to look at this land objectively and open discussions with us and the development industry to realise that there is great land available now. The 2031 [WAPC] strategy says that this land is not to be identified until at least 2031. We have grave concerns.

Hon Lynn MacLaren: Clearly, there would be significant environmental impacts if we were to increase the population right now with your existing sewerage problems. Have you looked at what is necessary for you to get that land up to the point where the infrastructure is available?

*Mr Unsworth: The studies have been done. The Department of Water is doing water studies that are due for release mid-2010. Even so, the document is saying that this land will not be available until at least 2031. We want that to be brought forward. Certainly, the studies need to happen but we should not tell the investors that they will not be able to develop until at least 2031. We are losing significant opportunities here for not only the Shire of Murray but for the state. We need to find affordable land, and Murray has an abundance of it. Yes, the studies should happen but 2031 is too far away.*¹⁵⁴

The Chairman: Are there any other deep sewerage problems in Murray or is it particularly the 2A area?

Mr Lange: There is another area that is in fact closer to the river. Some of the houses in this area are at 25 metres from the river's edge. That is at the southern end of Paterson Road, almost literally a

¹⁵³ Ibid, p7.

¹⁵⁴ Ibid, p8.

*stone's throw from the CBD of Pinjarra. There are 15 houses in that area. The major current industrial and oldest industrial area in Pinjarra adjacent to LandCorp's new industrial area is currently unsewered, and it has more than 57 light industrial businesses, once again located smack bang in the middle of some significant agricultural drains. They are all on septic tanks as well.*¹⁵⁵

Finding 10: The Committee finds that the project area known as Ravenswood West Murray 2A should be an Infill Sewerage Program priority area for health, environmental and development reasons. The Water Corporation has estimated that providing deep sewerage to this area will cost \$2.2 million.

Recommendation 2: The Committee recommends that the Government funds the Water Corporation to commence work on the Infill Sewerage Program project area known as Ravenswood West Murray 2A in the Shire of Murray as soon as possible or, at the latest, in its 2010-11 Budget.

CITY OF ROCKINGHAM

5.22 The Water Corporation area known as Rockingham 25B is noted as an area that is part of the Program on the table attached at Appendix 3 of this report. Prior to May 2009, this area was to be completed in the next four years. The table at Appendix 3 notes that Rockingham 25B has 183 lots and would cost an estimated \$2.7 million to infill sewer.

5.23 On 18 August 2009, a petition tabled in the Legislative Assembly sought the reversal of the State Government's decision to cease the Infill Sewerage Program in the Rockingham 25B precinct in Shoalwater.¹⁵⁶ The petition stated (in part):

The decision is unfair to many Shoalwater residents who were anticipating the completion of the programme. It also has implications for the future health of Lake Richmond.

5.24 The City of Rockingham advised the Committee that:

- The City of Rockingham has approximately four percent of residential properties that are unsewered.

¹⁵⁵ Mr Glen Lange, Manager, Environmental Health Services, Shire of Murray, *Transcript of Evidence*, 11 November 2009, p9.

¹⁵⁶ Mr Mark McGowan MLA, Legislative Assembly, *Parliamentary Debates (Hansard)*, 18 August 2009, p6050. The deferral of the Infill Sewerage Program has also been received some press coverage: I Tomlinson, 'Sewerage shambles', *Sound Telegraph*, 4 November 2009, p5. The article noted that some septic tanks are about 45 years old.

- The City considers that the East Rockingham industrial area (Dixon Road) and Shoalwater area south of Lake Richmond should be of the highest priority for deep sewerage.
- The greatest concern from the City's perspective is an area located in Shoalwater which abuts the southern edge of Lake Richmond. Lake Richmond is classified as an Environmental Protection Policy (EPA) Wetland under the *Environmental Protection (Swan Coastal Plans) Policy* of the EPA, which provides the greatest level of protection under the policy. Lake Richmond has an endangered ecological community of thrombolites (living fossils) and is a habitat for a large variety of lizards, snakes, frogs and birdlife, among other flora and fauna. The City has adopted a Management Plan which includes assessment of water quality due to concerns that resident septic tank and leach drain systems may be leaching effluent into Lake Richmond. The City is aware of growing resident concerns regarding the environmental impact of leach drains on Lake Richmond.
- The unavailability of sewer in Singleton, Golden Bay and parts of Shoalwater is an impediment to infill development under the City's *Town Planning Scheme No. 2*.
- Most of the East Rockingham light industrial area north of Dixon Road is unsewered. The solution to completely removing detergents and hydrocarbons from the groundwater and achieving zero parts per million discharge to the environment is to connect industrial properties to deep sewerage.¹⁵⁷

5.25 When the Committee asked the DEC if the Shoalwater area that abuts the southern edge of Lake Richmond should be a priority based on environmental grounds, the DEC advised:

*Perhaps. We understand that determining priority areas based on environmental concerns can be a complex process that the Water Corporation and the Department of Water (DoW) would have to undertake, or, have undertaken already. However, given the sensitive and unique environment in Lake Richmond with its thrombolite community, we believe it could be a high priority. However, this would need to be based on an understanding of groundwater movement in the area and presence of septic plume actually moving into Lake Richmond or Shoalwater Bay. It is our understanding that the groundwater south of Lake Richmond does not move into or under the Lake itself. This has yet to be verified by the DoW.*¹⁵⁸

¹⁵⁷ Submission No. 40 from City of Rockingham, 28 October 2009.

¹⁵⁸ Answer to Question on Notice, Department of Environment and Conversation, 10 November 2009, p1.

SHIRE OF BOYUP BROOK

- 5.26 The Water Corporation areas known as Boyup Brook 1A and 2A are noted as areas on the Program on the table attached at Appendix 3. These areas were to be completed in the next four years, before the Program was deferred in May 2009. The table at Appendix 3 notes that Boyup Brook 1A and 2A have 375 lots which would cost an estimated \$9.5 million to infill sewer.
- 5.27 In 2006, the DOH review of regional areas concluded that Boyup Brook was one of the second priority areas for infill sewerage on health grounds.¹⁵⁹
- 5.28 The Shire of Boyup Brook advised the Committee:
- Providing a sewerage scheme for the Boyup Brook town site should be a priority and not suffer further delay. The construction of a town sewerage scheme has been re-scheduled on a number of occasions and, more lately, the *Country Infill Sewerage Program* has been suspended.
 - The town of Boyup Brook is experiencing environmental, economic and health problems caused by a failing leach drain system that services residences and businesses in the town. There has been overflow into the street from business septic systems, and runoff into rivers and water catchments caused by the inability of the soil surrounding existing drains to cope with the leaching of waste. The clay soils around the town are not conducive to the continued use of septic systems.¹⁶⁰

SHIRE OF BRIDGETOWN-GREENBUSHES

- 5.29 The Water Corporation areas known as Bridgetown 1E Part 2 and Bridgetown 1F are also noted as areas on the Program on the table attached at Appendix 3. These areas were to be completed in four years prior to Program being deferred in May 2009. The table at Appendix 3 notes that Bridgetown 1E Part 2 and Bridgetown 1F have 626 lots which would cost an estimated \$6.0 million to infill sewer.
- 5.30 Bridgetown was raised by the DOH when they wrote to the Water Corporation in June 2009 to register their concern about the deferral of the Program. The letter stated:

One of the already schedule but now deferred projects in the list referred to in your correspondence is in Bridgetown, which was specially identified as a priority in the Regional Areas review [the 2006 review]. Bridgetown has a history of failing on site effluent

¹⁵⁹ Memorandum from Ms Julie Phelps, Department of Health, to Manager, Wastewater Management, Department of Health, 'Review of Infill Sewerage Priorities on Health Grounds: Regional Areas', 24 May 2006, p10.

¹⁶⁰ Submission No. 16 from Shire of Boyup Brook, 13 October 2009.

*disposal systems. It has heavy clay soils with heavy gravel and subsoil drainage is difficult. The slop of the land and heavy soils is causing seepage and stormwater problems with onsite effluent disposal systems. Some areas are also in proximity to the Blackwood River.*¹⁶¹

5.31 The DEC advised that the soils around the area are loam and clay based and added:

*Bridgetown is located in very close proximity to the Blackwood River with a number of tributaries, around and through the town, which feed into the river. The relatively high rainfall experienced in Bridgetown combined with the steep slopes around the town mean that the potential for runoff of any contaminants into the stream and river systems is quite high.*¹⁶²

5.32 The Shire of Bridgetown-Greenbushes explained their concerns about the lack of infill sewerage in Program areas and other areas:

- A large proportion of Bridgetown's residential area and some commercial/industrial area are still unsewered which, given Bridgetown's particular heavy clay and gravel soils, is highly undesirable. Subsoil drainage is particularly difficult.
- Infill sewerage work was scheduled to commence in Bridgetown in March 2007 (Bridgetown 1E-Part 2) followed by the revised larger area (Bridgetown 1F) scheduled to occur in December 2008. One to two year delays were then advised.
- Based on a written undertaking from the Water Corporation in December 2008, that infill sewerage works were provisionally programmed to commence construction during 2009/10, new developments on lots within Bridgetown 1F were granted concessions on the size of the wastewater system required to be installed. The approved single leach drains will be compromised by the delays resulting from the decision to defer the infill program. If these works are postponed for more than a few years there will be a need to review the concession granted for wastewater systems on areas identified for infill sewer.
- Progress on infill sewerage with the Bridgetown-Greenbushes Shire is essential for the future development in the unsewered residential and

¹⁶¹ Letter from Mr Jim Dodds, Director, Environmental Health Directorate, Department of Health, to Mr Charles Kretzmann, Project Director, Regional Projects, Water Corporation, 24 June 2009, p2.

¹⁶² Answers to Questions on Notice, Department of Environment and Conversation, 2 November 2009, p4.

commercial/industrial areas for sustainability and community health reasons.¹⁶³

SHIRE OF HARVEY

5.33 The Water Corporation areas known as Harvey 5D is noted as an area on the Program on the table attached at Appendix 3. Areas on this table were to be completed in the next four years prior to the Program being deferred in May 2009. The table at Appendix 3 notes that Harvey 5D has nine lots that would cost an estimated \$500 000 to infill sewer.

5.34 The Shire of Harvey noted the following areas of concern:¹⁶⁴

- Clifton Park was included in the Infill Sewerage Program and provided with reticulated sewerage in 2006. However, the following three premises were not included - Australind Tourist Caravan Park (comprising of 14 motel units, 3 ablution blocks, 119 caravan sites and a private dwelling), the Garden Palace Chinese Restaurant and the Collie Bridge Tavern.
- The three premises were not included because the Infill Sewerage Program included commercial, industrial areas only where the proposed reticulated sewer (for residential areas) passes the property. The Council is perplexed why the three properties were not attended to given their close proximity to the sewer line (400 to 450 metres). Potential public health and environmental risks could have been abated by a 400 to 500 metre extension to the sewerage main. The properties now rely on onsite effluent disposal, being septic tank and fully inverted leach drains. Despite continued maintenance and modifications of these systems all premises have, and continue to experience, disposal system failures. Effluent ponds within the caravan park from the Chinese restaurant, effluent breaks out at the rear of the caravan park, and there are reports of illegal practices.

CITY OF BUNBURY

5.35 Project areas Bunbury 21M, 32H, 21N, 24D, 47C, 29F, 39A, 46A, 52A are noted as areas on the Program on the table at Appendix 3. These areas were scheduled to be completed within four years when the Program was deferred in May 2009. This table notes that the 1 111 lots would cost an estimated \$19.4 million to infill sewer. Further Bunbury project areas are noted in the total list of Program areas at Appendix 4.

5.36 In the WALGA survey, the City of Bunbury advised of the following financial, health, environmental and development impacts of septic tanks in the City of Bunbury:

¹⁶³ Submission No. 6 from Shire of Bridgetown-Greenbushes, 1 October 2009.

¹⁶⁴ Submission No. 16 from Shire of Harvey, 16 October 2009.

Smaller systems were approved on basis of deep sewer connection, therefore require ongoing monitoring and maintenance.

Changing environmental issues in unsewered industrial areas with poorly designed and maintained wash down areas.

Number of residential developments in the South Bunbury areas unable to subdivide due to the limitations of existing effluent ponds.¹⁶⁵

SHIRE OF ESPERANCE

5.37 Program project areas Esperance 17A and 18A are noted as areas on the Program on the table at Appendix 3. These areas were scheduled to be completed within four years when the Program was deferred in May 2009. This table notes that the 283 lots would cost an estimated \$5.3 million to infill sewer. Further areas, Esperance 18B, 19A, 20A and 21A are noted in the total list of Program areas at Appendix 4.

5.38 In the WALGA survey, the Shire of Esperance advised of the following impacts of septic tanks in their area:

Increased pumping activity. Decreased efficiency of systems with an increased risk of nutrient/eutrophication potential.¹⁶⁶

QUINNS ROCK

5.39 While the Committee did not receive a submission regarding Quinns Rock, statements in Parliament and media reports have noted concerns about the deferral of the Program in this area.

5.40 The Water Corporation areas known as Quinns 4E, 8A and 9A are noted as areas on the Program on the table at Appendix 3. They were scheduled to be completed within four years when the Program was deferred in May 2009. This table notes that the 622 lots would cost an estimated \$8.7 million to infill sewer.

5.41 There have been a number of media reports regarding these areas. After the announcement to recommence works in the Spearwood areas, Mr John Quigley MLA was reported as having said that Mindarie had been ‘ripped of’ by the plan and the Government’s decision to cut the Program would cause ‘massive environmental problems in Quinns Rocks’.¹⁶⁷ It has been reported that some residents who relied on

¹⁶⁵ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, p13.

¹⁶⁶ Ibid, p15.

¹⁶⁷ ‘Anger over sewerage delay’, *North Coast Times Community*, 17 November 2009, p5. See also Mr John Quigley MLA, Legislative Assembly, *Parliamentary Debates (Hansard)*, 17 November 2009, p9145.

septic tanks were promised sewerage connection by 2011 and that work would definitely start next year.¹⁶⁸

TOWN OF CAMBRIDGE

5.42 Program project areas City Beach 2A and 4A are noted as areas on the Program on the table at Appendix 3. These areas were scheduled to be completed within four years when the Program was deferred in May 2009. This table notes that the 337 lots would cost an estimated \$7 million to infill sewer. Further, City Beach 2B is noted in the total list of Program areas at Appendix 4.

5.43 In the WALGA survey, the Town of Cambridge advised of the following impacts of septic tanks in the Town of Cambridge:

*Septics over 40 years old (Maintenance). Limits redevelopment potential. Close proximity to ocean.*¹⁶⁹

CITY OF GERALDTON-GREENOUGH

5.44 Program project areas South Geraldton SG3, Geraldton G7 and Greenough GR2B are noted as areas on the Program on the table at Appendix 3. These areas were scheduled to be completed within four years when the Program was deferred in May 2009. This table notes that the 872 lots would cost an estimated \$12.6 million to infill sewer. Further, South Geraldton SG9B and Geraldton: Spalding S2 are noted in the total list of Program areas at Appendix 4.

5.45 In the WALGA survey, the City of Geraldton-Greenough advised of the following health, environmental and development impacts of septic tanks in their area:

*Risks associated with septic in areas of poor absorption in soil and high groundwater level. Waggrakine residents unable to subdivide. Infill developments have also been unable to proceed because no sewer is available.*¹⁷⁰

TOWN OF PORT HEDLAND

5.46 The Water Corporation areas known as Port Hedland 9B and 10A are noted as Program areas on the table at Appendix 4. This table notes that the estimated 228 lots in this area will cost an estimated \$7.5 million to infill sewer. These areas are *not*

¹⁶⁸ Mr John Quigley MLA, Legislative Assembly, *Parliamentary Debates (Hansard)*, 17 November 2009, pp9145.

¹⁶⁹ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, p13.

¹⁷⁰ *Ibid*, p15.

listed as areas that were to be completed in the next four years (see Appendix 3), prior to the Program being deferred in May 2009.

5.47 The Town of Port Hedland considers that the Port Hedland areas should be reinstated as a matter of extreme urgency, and advised that the lack of infill sewerage significantly impedes development in the area. The Town advised:

- A request that the Committee inquire into the re-instatement of Port Hedland 9B and 10A as a matter of extreme urgency.
- The deferral of the Program severely restricts the Council's ability to permit increased residential density within areas of Port Hedland which may otherwise be well suited to such development. Port Hedland is undergoing unprecedented demand for housing and is anticipating this demand to increase as development projects related to the resource sector and port expansion come on line. The Town has a need to rezone some residential land and supports that stated vision of Hon Colin Barnett MLA, Premier, for the Town to become a Pilbara City.
- The failure to proceed with the Program at a time when there is demand for land and housing is a critical concern and has become a fatal flaw for many proposed businesses. The delay makes this a social issue which impacts on the availability of normal services.
- Port Hedland has large areas of land which cannot be developed to maximise the potential housing yield for the simple reason that sewer is not currently available. Executing the original infill plan will provide benefit beyond the town to state development as it will allow more timely port and industrial development by reducing the constraints on the availability of suitable land on which housing can be constructed.¹⁷¹

5.48 On 20 August 2009, Mr Tom Stephens MLA tabled a petition in the Legislative Assembly containing 166 signatures. The petition expressed residents '*anger and outrage with the decision ... to cancel the in-fill sewerage program for Port Hedland, known as 9B and 10A*'.¹⁷² The petition added:

The infill area is in urgent need for priority completion by Watercorp:

- *To prepare the areas for further residential homes and units to be built in this area;*

¹⁷¹ Submission No. 33 from Town of Port Hedland, 16 October 2009.

¹⁷² Mr Tom Stephens MLA, Legislative Assembly, *Parliamentary Debates (Hansard)*, 20 August 2009, p6286.

- *To ensure that the proposed hotel and tourist development in this area can proceed;*
- *To make it possible to have removed the septic tanks in this area that are a source of pollution and pose a health risk as a result of the increased population pressure on these residential blocks.*

*Noting that funds were allocated by the previous Labor Government for work to have commenced in the 2008/2009 financial year, we ask the Legislative Assembly to call upon the Barnett Liberal-National State Government to honour the commitments made by the previous state Labor government and reinstate the funds to complete the Port Hedland infill sewerage program as a matter of great urgency.*¹⁷³

- 5.49 WALGA also advised of the following response from the Town of Port Hedland to the WALGA survey ‘[w]ith development being refused due to no deep sewer there are many angry residents’.¹⁷⁴

TOWN OF KWINANA

- 5.50 The Water Corporation area known as Kwinana 14A is noted as an area that is part of the Program on the list attached at Appendix 4 of this report. This notes that the estimated 104 lots in this area will cost \$2.0 million to complete.
- 5.51 Despite evidence that residents were advised that this area would commence in 2007-08, this area is *not* listed as an area that was to be completed over four years (see Appendix 3) before the Program was deferred in May 2009.
- 5.52 WALGA advised at hearing that the situation in Kwinana demonstrated that the issues in Spearwood can be found across a broader geographic area.¹⁷⁵
- 5.53 The Town of Kwinana advised that there has been a delay in completing the Program in Calista (Kwinana 14A) and the Water Corporation advised in January 2006 that this work would commence during 2007/2008.¹⁷⁶
- 5.54 Mrs Mary Paton, as Calista resident, provided a Water Corporation letter dated 2003 that stated that works in the unsewered areas in her vicinity were provisionally

¹⁷³ Ibid.

¹⁷⁴ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, p6.

¹⁷⁵ Mr Mark Batty, Executive Manager Environment and Waste, Western Australian Local Government Association, *Transcript of Evidence*, 2 November 2009, p5.

¹⁷⁶ Submission No. 37 from Town of Kwinana, 16 October 2009.

scheduled for construction of a sewerage facility in 2006-07. Mrs Paton is still waiting for deep sewerage and living with the consequences of an old septic tank and soak wells. Mrs Paton advised the Committee:

- I am now in my eighties. My late husband and I brought land in Calista in 1967. Our septic system is nearly 42 years old. The soak wells are now falling in. It is dangerous to walk around the backyard. The back door has to be locked if I have children visiting.
- In around 1990, the Homeswest units build behind my back fence were deep seweraged. In 2001/2002, the infill program stopped at another street in Calista. In 2006, I understand that funds available for Kwinana were redirected to the City of Cockburn.
- I cannot afford to renew the existing system as well as connect to the deep sewerage.¹⁷⁷

5.55 The Town of Kwinana submitted:

- Deep sewerage will provide improved long term environmental protection against Cockburn Catchment groundwater pollution impacting on the Cockburn Sound from poor management of liquid waste effluent including unauthorised discharges.
- There has been a lack of Water Corporation forward planning and effective consultation, and ineffective communication, on the Program for Medina Oval Reserve Lot 24571. At this oval, a single connection point positioned inappropriately at an unreasonably high level relevant to facilities has resulted in the inability to gravity drain the effluent. To do this now requires expensive hydrogeological assessment and sanitary engineering design. It could cost in the vicinity of \$50 000 to connect all community and sporting facilities and premises at the oval. The Council should not have to bear this cost.
- The Naval Base industrial precinct consisting of relatively smaller industrial lots should be provided with reticulated deep sewerage to protect public health and the environment from pollution, and Cockburn Sound from long term nitrogen and other industrial pollution. Deep sewerage would substantially remove the huge constraint to industrial development, where processing and manufacturing may require the use of higher than normal volumes of water or other liquids. These industries cannot be approved in the precinct due to inadequate waste water disposal systems.

¹⁷⁷ Submission No. 7 from Mrs Mary Paton, 2 October 2009, p1.

- To provide a dual water supply system to the Latitude 32 project area (an industrial precinct) and the Flinders Precinct would be an expensive exercise and, at this stage, would not be an economic proposition. Wastewater treatment plants could be made available for treatment and used within the redevelopment areas as a dual water source for industry and non potable purposes. This will provide long term environmental, economic and social benefits to all aspects of the community and industry, including the State government and its agencies.¹⁷⁸

5.56 The Town of Kwinana also advised, in the WALGA survey:

*To maximise the economic growth in urban and industrial precinct deep sewer is a significant advantage. To protect the standards of public health and environmental protection industrial sewers would be a significant advantage to limit the insidious pollution that occurs with industry where inadequate disposal is provided by deep sewer.*¹⁷⁹

*Development work in Calista has not proceeded due to the inability of the land owner to provide for increased density with the septic systems permitted in area. Naval base Kwinana Beach industrial developments have also been refused.*¹⁸⁰

SHIRE OF KALAMUNDA

5.57 The Shire of Kalamunda complained about deep sewerage not being provided to parts of their Shire. The DOH review of metropolitan areas in 2006 concluded that Lesmurdie (as well as other areas) was a priority area. The 2006 review stated in relation to Lesmurdie:

*Score 13.^[181] This area has ~ 1000 lots with heavy soil, rock, some clay and gravel. The systems are often >30 years old and are failing. Lot sizes range from 1000-2000m² (some down to 800m²) and it is hilly in parts. There are many creeks and there has been seepage from leach drains into these.*¹⁸²

¹⁷⁸ Submission No. 37 from Town of Kwinana, 16 October 2009.

¹⁷⁹ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, p7.

¹⁸⁰ Ibid, p17.

¹⁸¹ The Department of Health review in 2006 awarded Spearwood a lower score of 9.

¹⁸² Memorandum from Ms Julie Phelps, Department of Health, to Manager, Wastewater Management, Department of Health, 'Review of Infill Sewerage Priorities on Health Grounds: Metropolitan Areas', 1 June 2006, p6.

5.58 The Shire of Kalamunda submitted the following:¹⁸³

- Deep sewer is not available to the suburbs of Lesmurdie, Walliston, Gooseberry Hill and a portion of Kalamunda. The following number of dwellings are located within each suburb; Lesmurdie - 2737; Walliston - 321, Gooseberry Hill - 1276 and Kalamunda - 2422 (approximately 300 of these are connected to sewer).
- In the 1970s wastewater disposal in the hills consisted of two septic tanks and a single leach drain. Many of these systems are still in place and approaching the end of their useful life. A number of leach drains have failed, resulting in an unacceptable health risk to residents.
- The focus of the *Swan Canning Water Quality Improvement Plan* is to reduce nitrogen and phosphorus in the Swan Canning river system. Suburbs in the Shire contribute to excess nitrogen levels in watercourses. In order for the Shire to facilitate best practice local compliance with the Swan River Trust directives, it is recommended that these suburbs are adequately assessed to ensure that their potential for deep sewerage is recognised or deemed unfeasible. Should the suburbs not be found to be acceptable for deep sewage, then it is recommended that the DOH be requested to consider amending their legislation to require the use of Aerobic Treatment Units or other 'environmentally friendly' approved systems in the unsewered portions of the suburbs rather than septic tanks and leach drains.
- There is a severe shortage of accommodation available for aged residents, many of whom leave the Shire to find suitable accommodation. A sewer would permit the construction of additional aged accommodation to meet the needs of residents who have resided within the hills most their life and can no longer maintain a large house and garden. Also, a number of schools are limited from developing because they are not sewered. A local primary school recently received a Ministerial exemption to be allowed to proceed with development that conflicted with the *Government Sewerage Policy*. Further, planning approvals for child care centres in Lesmurdie were not approved because of this policy, and because a sewer was not available.

5.59 The DOW advised the Committee that in their view '*selected areas within the Shire of Kalamunda should be a priority when funding is available because septic tanks do contribute to nutrient levels in streams*'.¹⁸⁴ The DOW added in relation to this area:

¹⁸³ Submission No. 35 from Shire of Kalamunda, 16 October 2009.

¹⁸⁴ Letter from Mr Kim Taylor, Director General, Department of Water, 3 November 2009, p4.

[DOW] is aware of the environmental concerns about river health issues contributed to by the lack of deep sewerage in the Shire of Kalamunda suburbs of Lesmurdie, Walliston, Gooseberry Hill and Kalamunda. The Swan Canning Water Quality Improvement Plan aims to reduce nitrogen and phosphorous levels in the Swan Canning system by identifying management opportunities in tributary streams. The four suburbs mentioned are all located in subcatchments that eventually discharge into the Swan or Canning rivers.¹⁸⁵

SHIRE OF GINGIN

5.60 Gingin is not part of the Program.¹⁸⁶

5.61 The Shire of Gingin outlined their concerns as follows:

- All residential dwellings in the Shire of Gingin are serviced by septic tank disposal systems utilising leach drains in heavy clay soils. There are concerns that ongoing development activity, coupled with the advancing age of the effluent disposal infrastructure, will result in significant increases of leachate entering in the Gingin Brook (which flows into the Moore River), with visible increases in algae populations already evident. The Central Coast Region *Regional Pollution Reduction and Management Strategy* (1999) recognised the problem of effluent seepage into Gingin Brook and noted the necessity of the town being listed as a priority town site for sewerage under the DOH's *Draft Country Sewerage Policy*. Approximately 130 new lots being developed for release will have the potential to contribute to leachate seepage through the town site and into the Gingin Brook.
- In Lancelin, significant areas still require the installation of a reticulated sewer. Guilderton is listed as a priority town site for sewerage in the *Draft Country Sewerage Policy*. Approximately 481 dwellings, in the town located adjacent to Moore River, are serviced by septic tanks, with most using single leach drains or soakwells. There are major concerns that ongoing infill subdivision and proposed expansion of the town, with advancing age of the effluent disposal infrastructure, will result in significant increases in leachate entering the Moore River.
- The urgency of reticulated sewerage in Gingin, Guilderton and Lancelin is now at a critical stage. The Shire urges the Government to establish these towns as a priority area for infill sewerage.¹⁸⁷

¹⁸⁵ Ibid.

¹⁸⁶ Letter from Mr Peter Moore, Chief Operating Officer, Water Corporation, to Mr Richard Theobald, Manager, Water Unit, Department of Health, 16 October 2009, p1.

5.62 In 2006, the DOH review of regional areas concluded that Gingin was one of only three first priority areas which were identified as having a potential to impact upon vulnerable drinking water supply areas. The review summarised in relation to Gingin ‘*Gingin: 320 dwellings Scored 24 (one of two water supply bores may be vulnerable)*’.¹⁸⁸

5.63 However, the Water Corporation advised the DOH in 2009 that:

*Gingin was a concern due to shallow bores with a potential for contamination. These bores have been decommissioned and the town is now supplied from the deep (Leederville) aquifer ... no infill works are scheduled in the Town-site.*¹⁸⁹

5.64 The DOH also advised the Committee regarding Gingin:

Mr Dodds: One of our key questions, particularly in non-metropolitan areas, was whether there was a water supply at risk if this continued to go on. That was obviously a key issue for us in terms of the transmission of disease. That was a significant consideration around Gingin, but the Water Corporation indicated to us that their bore fields are significantly separated from the town.

*Ms Phelps: One of the reasons that Gingin was discussed is that there are lot sizes that are less than 2 000 square metres, the area does have impermeable soils in part, it is older than 20 years and there have been reports of system failures. When we had to do the rankings and make priorities, a town not being nominated as a priority does not mean that there was not recognition of problems in that area. We had to do some form of shortlist and the country shortlist was close to 18 to 20 towns anyway. We had to go through and look at what the issues were.*¹⁹⁰

5.65 The DOW is of the view that ‘*selected areas*’ in the Shire of Gingin should be a priority because ‘*septic tanks do impact on Gingin Brook and the Moore River Estuary*. However, the DoW recognises that there are also other factors affecting

¹⁸⁷ Submission No. 31 from Shire of Gingin, 16 October 2009.

¹⁸⁸ Memorandum from Ms Julie Phelps, Department of Health, to Manager, Wastewater Management, Department of Health, ‘Review of Infill Sewerage Priorities on Health Grounds: Regional Areas’, 24 May 2006, p5.

¹⁸⁹ Letter from Mr Peter Moore, Chief Operating Officer, Water Corporation, to Mr Richard Theobald, Manager, Water Unit, Department of Health, 16 October 2009, p1.

¹⁹⁰ Mr James Dodds, Director, Environmental Health, Department of Health, and Ms Julie Phelps, Senior Scientific Officer, Water Unit, Department of Health, *Transcript of Evidence, Transcript of Evidence*, 2 November 2009, p5.

priorities'.¹⁹¹ The DOW advised that another area of concern is the new development planned for the Ellenbrook corridor, including Muchea and Bullsbrook.

SHIRE OF MANJIMUP

5.66 The Shire of Manjimup advised of the significant difficulties caused by the lack of infill sewerage that they are attempting to deal with in Northcliffe. Northcliffe is not part of the Program.

5.67 In 2006, the DOH review of regional areas concluded that Northcliffe was one of the second priority areas for infill sewerage on health grounds.¹⁹²

5.68 The Shire of Manjimup submitted that the problems they experience with septic systems are greater than those encountered in the City of Cockburn. The Shire noted that they may have to fund further infrastructure due to the public health urgency at Northcliffe. The Shire's submission advised the following:

- The Shire has experienced significant delays in the infill sewerage program, which impacts on public health, environment and economic development.
- The City of Cockburn has nowhere near the problems that Northcliffe and the other towns/settlements identified by the DOH as having an immediate priority need for reticulated sewerage on the basis of public health. In the City of Cockburn, it appears that the age of the onsite wastewater systems could be a predominant contributor to the issue. Onsite wastewater systems generally exceeding fifteen years in age have regularly been observed to overflow if they have not been adequately maintained. It appears as though the problems in the City of Cockburn are potentially not insurmountable.
- In Northcliffe, a town of approximately seventy residential lots (and other properties), no reticulate sewerage exists. As many as 70 per cent of all wastewater systems in Northcliffe malfunction. Constructing fully functional inverted waste systems only occurs in the minority of cases due to site conditions (heavy clay, high groundwater table, rainfall, and small lot sizes). The DOH report three years ago reported that Northcliffe was one of only eighteen areas in Western Australia identified requiring the immediate provision of reticulated sewerage due to public health priorities. Many communities such as Northcliffe are an immediate public health priority for deep sewerage and these should be considered during the inquiry. As a result of a DOH (in consultation with Water Corporation) report Manjimup and

¹⁹¹ Letter from Mr Kim Taylor, Director General, Department of Water, 3 November 2009, p3.

¹⁹² Memorandum from Ms Julie Phelps, Department of Health, to Manager, Wastewater Management, Department of Health, 'Review of Infill Sewerage Priorities on Health Grounds: Regional Areas', 24 May 2006, p10.

Pemberton were reprioritised under the Program culminating in works being recently completed. However, Northcliffe did not qualify under the Program as it does not have an existing sewerage treatment plant. Other towns and settlements are in the same position. The mechanism for providing sewerage to these smaller towns and settlements was the *Small Country Towns Sewerage Program*, which was abandoned by the State early in 2008.

- Without any foreseeable solution into the situation in Northcliffe, the Shire is attempting to address this issue by obtaining recent funding (\$50 000) for a prefeasibility study into an alternative reticulated wastewater and reuse system through Royalties for Regions infrastructure funding.
- While the Shire is strongly opposed to taking on additional infrastructure services, historically the responsibility of the State, the public health urgency presented by the situation in Northcliffe has necessitated this action. This could ultimately lead to a pilot project that could be a model for small towns and settlements. It is expected that, if the project is established, the Water Corporation will assume some responsibility.
- There is concern that, if the Program is reinstated in the future, the loss of contractor knowledge due to delays will be considerable and will significantly add to future constructions costs, quality and completion times.¹⁹³

SHIRE OF BUSSELTON

5.69 In the WALGA survey, the Shire of Busselton advised of the following financial, health, environmental and development impacts of septic tanks in their area:

Limits redevelopment in industrial area and certain uses and also limits redevelopment in residential areas.

High nutrient concentrations in the Vasse River and Toby Inlet which lead to algal blooms, fish deaths, odours and health hazards for human contact.

Subdivision refused in developments resulting in less than 100m² lots.¹⁹⁴

¹⁹³ Submission No. 32 from Shire of Manjimup, 20 October 2009.

¹⁹⁴ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, p13.

SHIRE OF BRUCE ROCK

- 5.70 Program project area Bruce Rock 1A is noted in the total list of project areas in the table at Appendix 4. The 2006 review by the DOH noted that Bruce Rock was a 'second priority' area.
- 5.71 In the WALGA survey, the Shire of Bruce Rock advised of the following financial, health, environmental and development impacts of septic tanks in this Shire:

Considerable financial loss in recent years. Council has been unable to accommodate any form of density above that of R10. This major constraint is reflected in the new Town Planning Scheme No 3 which is now with WAPC.¹⁹⁵ Three town lots are currently 'quarantined' to soak up overflow nutrient from surrounding septic tanks. These would otherwise be prime housing lots.

Serious health risks all year as there is exposed sewerage in numerous yards, posing a serious and unacceptable risk to young children coming into contact with effluent laden with disease and provides ideal breeding sites for mosquitoes.

Three housing lots are quarantined to soak up effluent cause (sic) from seepage due to shallow soils overlying sheet rock.

The Town of Bruce Rock has run out of house lots. A new subdivision is proposed however because there is no sewer its approval is not guaranteed.¹⁹⁶

SHIRE OF DONNYBROOK-BALINGUP

- 5.72 In the WALGA survey, the Shire of Donnybrook-Balingup advised of the following financial, health, environmental and development impacts of septic tanks in their area:

Impacts on drinking water supply will become more acute as land use and development intensifies. Contamination of water supply from Donnybrook Water Reserve. Development Scheme amendments within Balingup townsite have been refused by WAPC based upon the availability of reticulated sewerage infrastructure. Sustainable urban development in Shire's Townsite Expansion Strategy 2009 is dependent on reticulated sewerage.¹⁹⁷

¹⁹⁵ Western Australian Planning Commission.

¹⁹⁶ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, p12.

¹⁹⁷ Ibid, p14.

5.73 WALGA advised that the Shire of Donnybrook-Balingup also responded:

*The sustainable development of Western Australia through infill development and consolidation of existing townsites is being jeopardised by the lack of government funding for sewerage infrastructure. The current prioritisation of the infill sewerage program is undermining intensification of urban areas and poses a significant health risk to regional communities. The Shire of Donnybrook-Balingup is a prime example of the need for infill sewerage in order to reduce the public health risk associated with contamination of the drinking water supply. The Program requires urgent prioritisation from the State Government.*¹⁹⁸

SHIRE OF BODDINGTON

5.74 Program project area Boddington 1G is on the total list of project areas in the table at Appendix 4.

5.75 In the WALGA survey, the Shire of Boddington advised of the following financial, social, and development impacts of septic tanks in their area:

*Unable to subdivide land. Leach drains require to be fully inverted ... Changing of town zonings from R10 to R20, not permitted because of lack of deep sewerage.*¹⁹⁹

SHIRE OF CUNDERIN

5.76 In the WALGA survey, the Shire of Cunderin advised of the following health and development impacts of septic tanks in their area:

*Poor site contamination ... A number of proposed developments have not proceeded as the costs have made projects unfeasible. Buyers will not pay same prices in the country as in the city, yet development costs are higher in the country.*²⁰⁰

SHIRE OF KONDININ

5.77 In the WALGA survey, the Shire of Kondinin noted that Hyden and Kondinin were their priority areas and advised of the following financial, health and development impacts of septic tanks in their area:

¹⁹⁸ Ibid, p8.

¹⁹⁹ Ibid, p12.

²⁰⁰ Ibid, p14.

*Septics need to be pumped out regularly. Septic overflow onto street. Hyden residential area set at 2000m² because there is no sewer.*²⁰¹

SHIRE OF PLANTAGENET

- 5.78 The Shire of Plantagenet noted septic tank issues in Mount Barker. The Water Corporation area Mt Barber 5C is on the total list of Program areas at Appendix 4.
- 5.79 In the WALGA survey, the Shire of Plantagenet noted the following health, environmental and development impacts of septic tanks in this Shire:

*Failing septic systems on numerous properties causing health hazard and pollution of environment. Some commercial developments have been relocated to larger lots to accommodate onsite wastewater disposal.*²⁰²

SHIRE OF VICTORIA PLAINS

- 5.80 The Shire of Victoria Plains considers the Bolgart townsite a priority.
- 5.81 In the WALGA survey, the Shire of Victoria Plains advised of the following financial and development impacts of septic tanks:

*Proposed residential subdivision could not go ahead as minimum lot size of 200m² was required due to lack of deep sewerage. Proposed Landcorp subdivision in Nicholas Street, Bolgart, was put on the backburner because of lack of sewerage meant minimum 2000m size lots.*²⁰³

SHIRE OF YORK

- 5.82 In the WALGA survey, the Shire of York advised of the following health, social and development impacts of septic tanks:

Leaking and overflowing septic systems, with evidence of children being directly affected with vomiting and diarrhoea. Limited DHW^[204] opportunity to create more public housing. North-West residential precinct – [development] not viable without deep sewerage. York Estates – no further subdivision approved despite zoning in place. Any infill development is not viable, even close to the town, therefore

²⁰¹ Ibid, p16.

²⁰² Ibid.

²⁰³ Ibid, p21.

²⁰⁴ DHW refers to the Department of Housing and Works (as it was known as prior to December 2008).

*new areas have to be developed instead of sustainably developing the townsite.*²⁰⁵

SHIRES OF MEEKATHARA, MOUNT MAGNET AND YALGOO

- 5.83 In the WALGA survey, the Shire of Meekathara, Shire of Mount Magnet, Shire of Wiluna and Shire of Yalgoo all advised of the following financial, health, environmental, social and development impacts of septic tanks in their Shires:

*Density limitations cost of servicing septic tanks and cost of ATU's^[206] and servicing. Construction of septic tanks and leach drains well over \$11,000 per property. Overflowing from failed leach drains causing enteric diseases. Mosquitoes result from abuse of IOs^[207] and tan lids. Odours. Lack of upgrading of older systems in State housing escalates problems. State housing has been affected in many areas. Where 2 or 3 dwelling units would be put on a 1000m² block, only 1 dwelling is permitted, unless an alternative system has been provided. Lack of sewerage results in people not wanting to buy property as it is very expensive. Minimum requirements are 1500 and 1200 septic tanks with 2 x 12 metres of leach drain. Blasting often needed to establish trenches.*²⁰⁸

SHIRE OF MULLEWA

- 5.84 In the WALGA survey, the Shire of Mullewa advised of the following financial, health, environmental, social and development impacts of septic tanks in this area:

*The capital cost of repairing the system is beyond rate payer capabilities. Existing (part sewerage) disposal system is in need of urgent upgrade with provisions [to the] other half of the town to be connect[ed]. The existing Lagoon system is close to a contributory system of the Greenough River posing risks to the environment during flooding. Due to inferior quality of the system, no residential growth can take place in Mullewa. Rejection of any future development due to lack of sewer facilities.*²⁰⁹

²⁰⁵ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, p22.

²⁰⁶ Aerobic Treatment Units.

²⁰⁷ Inspection openings (on sewerage infrastructure).

²⁰⁸ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, pp18, 21, 22.

²⁰⁹ Ibid, p19.

CITY OF ARMADALE

- 5.85 Program project areas Westfield 6K, 6M and 12A are on the total list of project areas in the table at Appendix 4.
- 5.86 In the WALGA survey, the City of Armadale advised of the following financial, health, environmental and social impacts of septic tanks in their area:

Development potential of land is compromised. Financial burden on developers as they investigate and implement on-site effluent disposal systems. Residents unable to develop land to the potential that the Town Planning Scheme allows. Septic systems have been failing in areas with high groundwater and it can only be presumed that effluent is entering the groundwater and having other negative impacts. Issues with promoting/establishing sustainable development, high density development is being stalled due to the lack of deep sewerage. Need for an aged/retirement home but this type of development is not possible as high density limits potential for on-site effluent disposal. More room is required for on-site systems therefore leads to the increased clearing of native vegetation.²¹⁰

Finding 11: The Committee is concerned that some properties installed small temporary septic systems in the expectation that deep sewerage would be installed in the near future in accordance with advised Water Corporation timelines.

Finding 12: The Committee finds that the condition of many properties without deep sewerage is deteriorating and the deferral of the Infill Sewerage Program has significant adverse impacts on these properties.

Finding 13: The Committee finds that lack of deep sewerage adversely affects the quality of life of residents not provided with the basic infrastructure needs provided to most Western Australians.

Finding 14: The Committee finds that the lack of deep sewerage inhibits development in many areas in Western Australia, including Port Hedland and a number of regional areas.

²¹⁰ Ibid, p11.

Finding 15: The Committee finds that the completion of the Infill Sewerage Program is of the highest priority.

Finding 16: The Committee is not in position to prioritise the exact order in which the remaining Infill Sewerage Program project areas should be completed. Determining priorities involves consideration of a number of factors, including health, environmental and development issues.

CHAPTER 6

THE FUTURE OF THE INFILL SEWERAGE PROGRAM

- 6.1 The stated reason for the deferral of the Program was budgetary considerations (see paragraph 2.16).
- 6.2 The Water Corporation's 2009-10 capital works program budget is \$1.1 billion,²¹¹ and their capital works budget over the forward estimates period (the four years from 2009-10 to 2012-13) is \$3.5 billion.²¹²
- 6.3 The Committee is disappointed that none of the \$3.5 billion capital works program over four years was allocated to the Program, which would deliver important health, environmental, development and other benefits to Western Australia.
- 6.4 The *2009-10 Budget* highlighted the Water Corporation's significant infrastructure investment when it stated:

The Corporation will spend more than \$3.5 billion over the forward estimates period on essential projects across the State underlining the Corporation's importance as a major provider of infrastructure, employment and growth in Western Australia.

*The 2009-10 program of works will deliver \$300 million of investment to continue the development and upgrading of water and wastewater projects in regional Western Australia alongside \$800 million in projects for metropolitan Perth.*²¹³

- 6.5 Mr Peter Moore, Chief Operating Officer, Water Corporation, referred to the Water Corporation's capital works budget and the pressure the desalination plant placed on this budget during the hearing:

Our capital program has 2 000-odd projects in it at any one time and some are very large, like the desal project—nearly \$1 billion—which

²¹¹ The Water Corporation's 'Asset Investment Program' (capital works program) estimated expenditure in 2009-10 of \$1,132,056,000: Government of Western Australia, Department of Finance and Treasury, *2009-10 Budget*, Budget Statements, Budget Paper No. 2, Volume 3, p822. See also Mr Tim Marney, Under Treasurer, Department of Treasury and Finance, *Transcript of Evidence*, 4 November 2009, p2.

²¹² The Water Corporation's 'Asset Investment Program' estimated expenditure in 2009-10 is \$1 132 056 000 and estimated expenditure in the forward estimate years 2010-11 to 2012-13 is \$805 614 000, \$684 359 000 and \$907 774 000 respectively, a total of \$3 529 803 000 (approximately \$3.5 billion): Government of Western Australia, Department of Finance and Treasury, *2009-10 Budget*, Budget Statements, Budget Paper No. 2, Volume 3, p822.

²¹³ Government of Western Australia, Department of Finance and Treasury, *2009-10 Budget*, Budget Statements, Budget Paper No. 2, Volume 3, p821.

*takes a big chunk out of what you are working with, but then trying to juggle around the priorities and the risks associated with all the others, and they do change over time; things change that put you in a different position.*²¹⁴

- 6.6 The 2009-10 Budget records that \$867 million of the Water Corporation's capital works budget over the three years 2009-10 to 2011-12 is allocated to the Southern Seawater Desalination Plant.²¹⁵ The 2009-10 Budget also notes that the following programs, among others, are part of the capital program budget: Alkimos Wastewater Scheme, Beenyup Wastewater Treatment Plant Amplifications, Woodman Point Odour Control and Picton Water Treatment Plant.²¹⁶
- 6.7 The budget process for the financial year 2010-2011 commenced in late October 2009.²¹⁷ It is at the discretion of Government whether to restart the Program. The Government could, if it wished, provide funding for other Program areas immediately²¹⁸ (prior to the next budget being announced), as was done for the Spearwood areas.
- 6.8 The Minister for Water advised the Legislative Assembly on 10 November 2009, when announcing that the Program will recommence in the Spearwood areas, *'I must stress that any decisions on the future infill sewerage projects will be taken in context of the 2010-11 state budget process'*.²¹⁹

Finding 17: The Committee finds that in a Water Corporation capital works budget of \$3.5 billion over the forward estimates period (2009-10 to 2012-13), the Minister for Water and Water Corporation did not allocate any of this budget to the Infill Sewerage Program, which would deliver important health, environmental, development and other benefits to Western Australia.

²¹⁴ Mr Peter Moore, Chief Operating Officer, Water Corporation, *Transcript of Evidence*, 21 October 2009, p12.

²¹⁵ The 2009-10 Budget records that \$471 191 000 is estimated to be expended on the Southern Seawater Desalination Plant in 2009-10, \$322 792 000 in 2010-11 and \$73 106 000 in 2011-12: *2009-10 Budget*, Budget Statements, Budget Paper No. 2, Volume 3, p822.

²¹⁶ *2009-10 Budget*, Budget Statements, Budget Paper No. 2, Volume 3, p822.

²¹⁷ Mr Tim Marney, Under Treasurer, Department of Treasury and Finance, *Transcript of Evidence*, 4 November 2009, p4. Mr Marney stated that the budget process started *'last week'*.

²¹⁸ Mr Tim Marney, Under Treasurer, Department of Treasury and Finance, *Transcript of Evidence*, 4 November 2009, p6.

²¹⁹ Hon Dr Graham Jacobs MLA, Minister for Water, Legislative Assembly, *Parliamentary Debates (Hansard)*, 10 November 2009, p8607.

Recommendation 3: The Committee recommends the Minister for Water allocates funds to the Water Corporation in the 2010-11 budget to continue the Infill Sewerage Program.

- 6.9 The Committee is of the view that funds allocated to the Program should not be diverted to other projects.
- 6.10 Treasurer's Instruction 806 notes that a special purpose account may be created where specific purpose money is allocated to a statutory authority. Treasurer's Instruction 806 states:

specific purpose money is money that the accountable authorities obliged to spend in accordance with the conditions or restrictions specified by the donor or contributor ...

Where the donor or contributor imposes a legal and/or specific requirement that money be held in a separate account or where an appropriation is made to a special purpose account for a specific purpose, the money shall be credited to a Treasurer's special purpose account or an agency special purpose account in accordance with section 10(a) or 16(1)(d) of the [Financial Management] Act [2006] respectively.²²⁰

Recommendation 4: The Committee recommends that funds appropriated to the Infill Sewerage Program be allocated to a special purpose account for the Infill Sewerage Program or quarantined to the Infill Sewerage Program by some other means.

- 6.11 It appeared to the Committee that there was no clear priority list for the Program, and no funding or budgetary plan for the completion of all Program project areas.
- 6.12 Evidence received noted that many parties had been advised of a number of commencement dates for deep sewerage work in their area and there was some concern about why other areas were being attended to before their area. While it is understandable that it may not be possible to comply with an exact commencement date due to some unforeseen circumstances, a list of estimated commencement dates (for example, an estimated month of commencement) and a priority order for all projects areas is, in the Committee's view, required.

²²⁰ Treasurer's Instruction 806, 26 June 2009, p2: see Government of Western Australia, Department of Treasury and Finance, *Financial Administration Bookcase*, 17 November 2009, accessible at www.dtf.wa.gov.au/cms/content.aspx?id=551&linkidentifier=id&itemid=551 (viewed on 3 December 2009).

- 6.13 The lack of certainty and continual delays frustrates residents and impedes local governments' ability to plan and encourage development in their area. A considered and published priority list would create some certainty and avoid queue jumping.
- 6.14 A total review and priority list of Program project areas will also enable the Government to establish a budgetary schedule to complete the Program.
- 6.15 As noted in Chapter 5, the Committee also received evidence of residential, industrial and commercial properties not included in the Program that required, but were not scheduled to have, deep sewerage connection.

Recommendation 5: The Committee recommends that the Water Corporation reviews the expected completion dates of all project areas in the Infill Sewerage Program and drafts a new priority list of all project areas based on health, environmental and development criteria.

Recommendation 6: The Committee recommends that the Water Corporation reviews whether metropolitan and regional residential lots not currently part of the Infill Sewerage Program should be included in the Infill Sewerage Program based on health, environmental and development criteria.

Recommendation 7: The Committee recommends that the Minister for Water determines and publishes an estimated budget and schedule for the completion of all project areas in the Infill Sewerage Program.

- 6.16 As noted at paragraph 4.38 of this report, WALGA recommended that funding be allocated to the Program through avenues such as the Royalties for Regions to provide unsewered and partially sewer regional towns with reticulated sewage to allow for sustainable development and growth.²²¹
- 6.17 The Shire of Manjimup noted that they were attempting to address the impacts of septic tanks in Northcliffe (an area which is not part of the Program) through Royalties for Regions infrastructure funding.
- 6.18 The Shire of Katanning also suggested in the WALGA survey that:

a Royalties for Regions type scheme to assist with headworks/servicing costs for sewer and power would assist to keep

²²¹ Attachment to letter from Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association, 27 November 2009, p1.

*land prices reasonable in country towns and encourage development.*²²²

6.19 Royalties for Regions funds are being distributed through three funds: the Country Local Government Fund, the Regional Community Services Fund and the Regional Infrastructure and Headworks Fund (including the Regional Grants Scheme).²²³

6.20 Obtaining Royalties for Regions funds for deep sewerage works in regional areas, that are part of the Infill Sewerage Program or otherwise (including industrial and commercial lots), seems particularly appropriate given that *'the three funds support strong and vibrant regional communities by:*

- *improving infrastructure and headworks*
- *establishing across government strategic and community service projects*
- *providing a range of contestable grant opportunities, and*
- *building capacity in local communities.*²²⁴

6.21 While it is for the Minister for Water, Water Corporation and local governments to determine how to access Royalty for Regions funds in particular circumstances, it is worth noting the purpose of each fund:

- The Country Local Government Fund *'enables money to be provided direct to country local government for them to provide and renew infrastructure'*.²²⁵

*[The Fund] supports additional expenditure by councils on planned infrastructure needs and can be used for building and infrastructure including road, bridges, drainage, parks, footpaths and cycle ways, airports and sewerage [the Committee's emphasis]. Money from the fund cannot be used for non-infrastructure items such as buying plant and equipment, employing staff, engaging consultants or retiring debt.*²²⁶

²²² Ibid, p6 quoting Ms Michelle Stewart, Manager, Planning and Environmental Services, Shire of Katanning.

²²³ Government of Western Australia, Department of Regional Development and Lands, *Royalties for Regions: Putting it back into your community*, p1: www.royaltiesforregions.wa.gov.au (viewed on 7 December 2009).

²²⁴ Ibid, p2.

²²⁵ Ibid.

²²⁶ Ibid.

- The Regional Community Services Fund *'is designed to improve the access to services in the regions. It supports services that have shown they are effective in enhancing the quality of life for residents in regional areas and in providing better access to government services and infrastructure'*.²²⁷
- The Regional Infrastructure and Headworks Fund *'supports large-scale, strategic regional infrastructure and headworks projects that are acknowledged as being of strategic importance to Western Australia'*.²²⁸

The Regional Grants Scheme, a funding program under the Regional Infrastructure and Headworks Fund, *'is for community, public and private organisations to improve and development infrastructure and services in the regions'*.²²⁹

[The Scheme] *provides new opportunities for local communities to improve and develop infrastructure and services in regional Western Australia. The scheme is especially aimed at projects that will help attract investment and increase job opportunities, or help to improve the quality of life in the regions. ...*

The State's nine Regional Development Commissions will administer the scheme locally based on the following broad objectives:

- *Increase capacity for local strategic planning and decision-making.*
- *Retain and build the benefits of regional communities.*
- *Promote relevant and accessible local services.*
- *Assist communities to plan for a sustainable economic and social future.*
- *Enable communities to expand social and economic opportunities.*
- *Assist regional communities to prospect through increased employment opportunities, business and industry development opportunities, and improved local services.*²³⁰

²²⁷ Ibid.

²²⁸ Ibid, p3.

²²⁹ Ibid.

²³⁰ Government of Western Australia, Department of Local Government and Regional Development (as it was then known), *Royalties for Regions - A State Government initiative to benefit regional Western Australia: Regional Grants Scheme*, p2: accessible at www.royaltiesforregions.wa.gov.au (viewed on 7 December 2009).

Recommendation 8: The Committee recommends that the Minister for Water seeks Royalties for Regions funding for the Infill Sewerage Program and supports any Royalties for Regions application seeking to provide deep sewerage to regional areas.

6.22 The Committee considers that publishing details of the progress of the Program (or lack of progress) on an annual basis will provide appropriate transparency and update residents and local governments who continue to await infill sewerage in their areas. There has been a lack of available information and lack of transparency in the progress of the Program.

Recommendation 9: The Committee recommends that the Water Corporation details the progress of the Infill Sewerage Program in their Annual Reports. The Annual Report should detail:

- 1 project areas completed in the last financial year;**
- 2 project areas commenced or continued in the last financial year;**
- 3 project areas scheduled to commence in the next financial year;**
- 4 any significant delays in the Infill Sewerage Program in the last financial year and the reasons for the delays;**
- 5 project areas where work has not yet commenced and, in relation to each project area, when work is scheduled to commence and the estimated cost of completing the project area;**
- 6 funds expended on the Infill Sewerage Program in the last financial year;**
- 7 the estimated cost of completing the Infill Sewerage Program and funds allocated to complete the Program;**
- 8 matters likely to effect the funding and progress of the Infill Sewerage Program; and**
- 9 any other relevant matter.**

CHAPTER 7

OTHER MATTERS

7.1 The Committee also received submissions that suggested reviewing the way the State provides sewerage services in Western Australia.

7.2 The DOW's submission to the Committee stated:

*The DoW encourages the infill program to investigate technologies that allow for connection to future water reuse/recycling schemes and greenfield systems. The development of an integrated sewerage network within the City of Cockburn provides a potential opportunity for the reuse of treated wastewater for non-drinking water uses such as irrigation for public open space. The installation of compatible infrastructure at this stage may reduce the need for costly upgrades when recycling schemes and technology become available in the future.*²³¹

7.3 Dr Stewart Dallas, Associate Director, Environmental Technology Centre, and Dr Martin Anda, Chair of Environmental Engineering, Murdoch University, submitted:

We wish to make a submission for the Standing Committee that serious consideration be given to decentralised wastewater collection, treatment and reuse options for the areas currently being considered for deep sewerage. The benefits of decentralised schemes include:

- *significantly reduced capital costs due to reduced excavation and pipe sizes (for example each house septic tank is decommissioned and a grinder pump pit installed in its place pumping via shallow narrow bore sewer to local wastewater treatment plant (WWTP) – the Victorian Government has taken this approach for its country town upgrade program);*
- *the potential to reuse treated wastewater for local irrigation of ovals, public open space etc (Sydney Water has taken this approach in areas where significant quantities of irrigation water are required and a sewer main is passing nearby onto which sewer mining WWTP is attached to generate the recycled water);*

²³¹ Submission No. 24 from Department of Water, 13 October 2009, p1

- *significantly reduced energy consumption and greenhouse gas emissions (for example, half the energy of seawater desalination is used in a sewer mining MBR plant^[232] to generate recycled water for local irrigation;*
- *the ability for safe, high quality treated water (meeting all the National Guidelines, Class A+) to be reliably and readily achievable with current technologies such as membrane reactor treatment plants MBR. The recycled water can then be returned to the houses and public open space (in the same trench as the shallow sewer) via ‘third pipe’ (dual reticulation) for irrigation. This is the approach now taken for all new subdivisions in parts of Brisbane, Sydney and Melbourne.²³³*

7.4 The submission from Murdoch University noted further interstate examples utilising ‘advanced waste water treatments systems’.²³⁴ A copy of the submission is attached at Appendix 6.

7.5 While the Committee did not have the opportunity to investigate these issues, it is the Committee’s view that it is important that the Government and the Water Corporation investigate alternative ways to provide sewerage services in Western Australia.

7.6 The Committee commends its report to the House.



Hon Brian Ellis MLC
Chairman

18 December 2009

²³² Membrane biological reactor plant (a wastewater treatment process).

²³³ Submission No. 29 from Dr Stewart Dallas, Associate Director, Environmental Technology Centre, and Dr Martin Anda, Chair of Environmental Engineering, Murdoch University, 16 October 2009, p1.

²³⁴ Ibid.

APPENDIX 1
LIST OF STAKEHOLDERS INVITED TO MAKE A
SUBMISSION

APPENDIX 1

LIST OF STAKEHOLDERS INVITED TO MAKE A SUBMISSION

- 1 Hon Dr Graham Jacobs MLA, Minister for Water
- 2 Ms Sue Murphy, Chief Executive Officer, Water Corporation
- 3 Mr Kim Taylor, Director General, Department of Water
- 4 Dr Peter Flett, Director General, Department of Health
- 5 Mr Keiran McNamara, Director General, Department of Environment and Conservation
- 6 Dr Paul Vogel, Chairman, Environmental Protection Authority
- 7 Mr Tim Marney, Under Treasurer, Department of Treasury and Finance
- 8 Ms Ricky Burges, Chief Executive Officer, Western Australian Local Government Association
- 9 Mayor Logan K Howlett, City of Cockburn
- 10 Mayor Russell Aubrey, City of Melville
- 11 Mayor Barry Sammels, City of Rockingham
- 12 Mayor Peter Tagliaferri, City of Fremantle
- 13 Mayor Carol Adams, Town of Kwinana
- 14 Ms Mary Jenkins, Secretary, Spearwood Community Association Inc
- 15 Mr John Cunai, Acting Chair, Spearwood Community Association Inc
- 16 Tony and Franca Fedele, City of Cockburn residents
- 17 Heather and Richard Smith, Town of Rockingham residents

APPENDIX 2
LIST OF SUBMISSIONS

APPENDIX 2

LIST OF SUBMISSIONS

No.	Submitter	Date
1	Ms Mary Jenkins	7 July 2009
2	Hon Lynn MacLaren MLC	17 July 2009
3	Ms Patricia Elizabeth Mincherton	22 September 2009
4	Fred and Gwen Lindsay	25 September 2009
5	Antonio and Franca Fedele	30 September 2009
6	RD Weston, Manager, Health and Building Assets, Shire of Bridgetown-Greenbushes	1 October 2009
7	Mrs Mary Paton	2 October 2009
8	Mr John Cipriano	5 October 2009
9	Mr Colin Elton, Chairperson, Friends of Rivers, Peel Inc	8 October 2009
10	Ms Mary Van Nieuwburg	7 October 2009
11	Lorraine and Leonard Askevold	6 October 2009
12	S J Philpott	12 October 2009
13	Rocco and Elaine Zagari	12 October 2009
14	Charles Lammers	12 October 2009
15	Ms Carolyn Taylor	12 October 2009
16	Mr Alan Lamb, Chief Executive Officer, Shire of Boyup Brook	13 October 2009
17	Ms Ricky Burges, Chief Executive Officer, Western Local Government Association (WALGA)	13 October 2009
18	Mrs Shirley Allan	4 October 2009
19	M and G Caputi	13 October 2009
20	Mr John Cunai, Acting Chair, Spearwood Community Association Inc	13 October 2009
21	Antonio and Angelamaria Valerio	12 October 2009
22	Private submission	13 October 2009
23	Antonio and Adeline Cinanni	11 October 2009

24	Mr John Ruprecht, Acting Director General, Department of Water	13 October 2009
25	Antonio and Rita Pontillo	12 October 2009
26	Mr Dean Unsworth, Chief Executive Officer, Shire of Murray	15 October 2009
27	Ms Nicola Young	5 October 2009
28	Mr Scott Dandridge, Principal Environmental Health Officer, Shire of Harvey	16 October 2009
29	Dr Stewart Dallas, Associate Director, Environmental Technology Centre, and Dr Martin Anda, Chair of Environmental Engineering, Murdoch University	16 October 2009
30	Mr Nick Jones, Manager Environmental Health, City of Cockburn	16 October 2009
31	W L Harris, Principal Environmental Health Officer, Shire of Gingin	16 October 2009
32	Mr Andrew Campbell, Director, Statutory Services, Shire of Manjimup	20 October 2009
33	Mr Darryal Eastwell, Manager Environmental Health Services, Town of Port Hedland	16 October 2009
34	Uniting Church in Australia Synod of Western Australia	16 October 2009
35	Mr Kevin O'Connor, Director Community Development, Shire of Kalamunda	16 October 2009
36	Mr Matthew Piggott, Coordinator Environmental Health and Building Services, City of Fremantle	16 October 2009
37	Mr Peter McKenzie, Manager, Environmental Health Services, Town of Kwinana	15 October 2009
38	Mr Joe O'Keefe	19 October 2009
39	Ms Sue Murphy, Chief Executive Officer, Water Corporation	12 October 2009
40	Mr Andrew Hammond, Chief Executive Officer, City of Rockingham	28 October 2009
41	Mr Keiran McNamara, Director General, Department of Environment and Conservation	29 October 2009
42	Dr Peter Flett, Director General, Department of Health	19 October 2009

APPENDIX 3
INFILL SEWERAGE PROGRAM PROJECT AREAS
DEFERRED TO ACHIEVE WATER CORPORATION
CAPITAL WORKS SAVINGS OF \$85 MILLION
OVER FOUR YEARS

APPENDIX 3

INFILL SEWERAGE PROGRAM PROJECT AREAS DEFERRED TO ACHIEVE WATER CORPORATION CAPITAL WORKS SAVINGS OF \$85 MILLION OVER FOUR YEARS

Proposed Capital Expenditure reductions over 4 years - Infill Sewerage Program

Title	Local Authority	Lots	Additional Lots following Infill Program 1.17 factor	Estimated Cost Overall \$M
Boyup Brook 1A & 2A, PS, PM & WWTP	BOYUP BROOK	375	64	\$ 9.5
Bridgetown 1E Part 2	BRIDGETOWN/GREENBUSHES	67	11	\$ 1.9
Bridgetown 1F (PT BT03 & PT BT04)	BRIDGETOWN/GREENBUSHES	259	44	\$ 4.1
sub-Total BRIDGETOWN/GREENBUSHES		326	55	\$ 6.0
Esperance 17A & 18A	ESPERANCE	283	48	\$ 5.3
Bunbury 21M & 32H (BU11)	BUNBURY	94	16	\$ 1.7
Bunbury 21N, 24D & 47C (BU17 & BU21)	BUNBURY	423	72	\$ 6.5
Bunbury 29F, 39A, 46A, 52A, PS & PM	BUNBURY	594	101	\$ 9.7
Sub-Total BUNBURY		1111	189	\$ 17.8
Dawesville 1B & PS, 2B, 4A & PS, 5A & PS	MANDURAH	410	70	\$ 8.4
Mandurah: Falcon 2C (FA04)	MANDURAH	613	104	\$ 11.0
Sub-Total MANDURAH		1023	174	\$ 19.4
Harvey 5D (HV03 & HV04)	HARVEY	9	2	\$ 0.5
Ravenswood West Murray 2A PS & PM (RV02)	MURRAY	53	9	\$ 2.2
Waroona 1H (WR04 & WR05)	WAROONA	182	31	\$ 3.6
Sub-Total HARVEY/MURRAY/WAROONA		244	41	\$ 6.3
City Beach 2B	CAMBRIDGE	156	27	\$ 3.2
City Beach 4A, PS & PM	CAMBRIDGE	181	31	\$ 3.8
Sub-Total CAMBRIDGE		337	57	\$ 7.0
Quinns 4E	WANNEROO	352	60	\$ 3.2
Quinns 8A, PS & PM	WANNEROO	196	33	\$ 3.3
Quinns 9A, PS & PM	WANNEROO	74	13	\$ 2.2
Sub-Total WANNEROO		622	106	\$ 8.7
Rockingham 25B	ROCKINGHAM	183	31	\$ 2.7
Spearwood 28A, PS & PM and 3N	COCKBURN	591	100	\$ 10.0
Spearwood 12P and 16PP	COCKBURN	172	29	\$ 3.1
Sub-Total COCKBURN/ROCKINGHAM		946	161	\$ 15.8
Geraldton South Geraldton SG3 - Stage 1	GERALDTON-GREENOUGH	281	48	\$ 2.5
Geraldton: G7, PS & PM	GERALDTON-GREENOUGH	167	28	\$ 2.4
Greenough GR2B, PS&PM(WAS SG12): Stg 1	GERALDTON-GREENOUGH	424	72	\$ 7.7
Sub-Total GERALDTON-GREENOUGH		872	148	\$ 12.6
Total		6139	1044	\$ 108.4
Definition, Design & Preliminary Costs Incurred to Date				\$ 23.4
Capital Budget Reduction				\$ 85.0

APPENDIX 4
TOTAL INFILL SEWERAGE PROGRAM PROJECT AREAS

APPENDIX 4

TOTAL INFILL SEWERAGE PROGRAM PROJECT AREAS

TOTAL INFILL SEWERAGE PROGRAM (ALL PROJECTS)

May-09

Project Area	Estimated No. of lots	Start of Project Investigations	Estimated	Estimated Total Cost in the year of completion (W/P Price Index)
			Finish of Construction Contract	
CS00622 Esperance 18B, 19A, 20A & 21A	408	19-Apr-02 A	17-Dec-13	3,650,000
CS00780 Esperance 17A & 18A	283	19-Apr-02 A	29-Nov-12	5,249,923
CS00576 Albany Bayonet Head 7A, PS & PM	101	13-Aug-98 A	28-Jun-13	1,513,863
CS00802 Ravenswood West Murray 2A PS & PM (RV02)	53	20-Feb-06 A	21-Jan-11	160,012
CS00566 Mt Barker 5C	116	19-Apr-02 A	7-Dec-11	2,558,784
CS00785 Harvey 5D (HV03 & HV04)	9	02-Jan-98 A	5-Nov-11	477,794
CS01067 Bridgetown 1E Part 2	67	19-Apr-02 A	6-Nov-11	1,865,965
CS01318 Collie 23D & 25B	87	30-Mar-07 A	22-Sep-13	1,914,031
CS00589 Boddington 1G	93	20-Oct-98 A	7-Oct-11	2,129,393
CS00355 Westfield 6K	279	20-Oct-98 A	19-Jul-15	5,400,000
CS01115 Bunbury 13B, 18E, 39G & 44B(BU22, 23, 26)	169	08-Jan-07 A	7-Oct-11	2,685,875
CS00772 Bunbury 21M & 32H (BU11)	94	19-Apr-02 A	16-Oct-11	1,650,142
CS00393 Westfield 12A, PS & PM	115	20-Oct-98 A	12-Jun-14	2,700,000
CS00510 Mandurah 23Q: Riverside (MH02)	139	13-Aug-98 A	15-May-16	2,800,000
CS00532 Boyup Brook 1A & 2A, PS, PM & WWTP	375	21-Oct-98 A	4-Jan-13	9,517,670
CS00545 Bridgetown 1F (PT BT03 & PT BT04)	259	23-Sep-98 A	10-Jun-12	4,115,003
CS00648 Geraldton South Geraldton SG3 - Stage 1	172	20-Oct-98 A	4-Mar-11	2,495,749
CS00710 PT HEDLAND 9B & 10A (AREA EAST OF ACTON)	228	27-Feb-96 A	29-Jun-13	7,527,936
CS00753 City Beach 2A, PS & PM	339	05-Feb-99 A	5-Jun-15	8,700,000
CS00754 City Beach 4A, PS & PM	181	05-Feb-99 A	5-Jul-17	3,800,000
CS00755 DAWESVILLE 1B & PS, 2B, 4A & PS, 5A & PS	410	09-Oct-00 A	7-Jul-13	8,440,755
CS00766 Spearwood 28A, PS & PM and 3N	591	07-May-00 A	17-Jun-12	9,750,000
CS00798 QUINNS 4E	352	12-Feb-99 A	18-Sep-11	3,216,000
CS00799 Quinns 8A, PS & PM	196	26-Feb-99 A	25-Feb-12	3,300,000
CS00800 Quinns 9A, PS & PM	74	26-Feb-99 A	7-Apr-12	2,200,000
CS00804 Waroona 1H (WR04 & WR05)	182	02-Mar-99 A	23-May-12	3,588,387
CS01119 Australind 1Q	294	08-May-03 A	18-Feb-12	5,742,562
CS01120 Australind 4P & 9A PS & PM	198	08-May-03 A	22-Oct-11	4,627,141
CS01123 Bunbury 21N, 24D & 47C (BU17 & BU21)	423	04-May-05 A	21-Sep-12	6,448,358
CS01124 Bunbury 29F, 39A, 46A, 52A, PS & PM	594	08-May-03 A	19-Jan-13	13,325,281
CS00655 GREENOUGH GR2B,PS&PM(WAS SG12): STG 1	424	20-Oct-98 A	8-Aug-12	7,669,854
CS01125 Dawesville 6A, 6B, 7A, 8A, PS's, PM's	334	08-May-03 A	1-Jul-15	8,100,000
CS00795 Geraldton: South Geraldton SG9B	281	29-Sep-00 A	19-Oct-13	5,198,682
CS01126 Mandurah: Falcon 2C (FA04)	613	21-Sep-04 A	13-Jan-13	9,870,000
CS00774 City Beach 2B	156	08-Feb-99 A	13-Feb-16	3,200,000
CS00403 Kwinana 14A, PS & PM	104	19-Apr-02 A	16-May-13	2,000,000
CS00412 Rockingham 25B	183	19-Apr-02 A	27-Jun-12	2,700,000
CS00918 Spearwood 12P&16PP	172	22-Jun-00 A	16-Mar-11	3,105,083
CS00419 Westfield 6M	25	20-Oct-98 A	27-May-12	300,000
CS00639 Geraldton: Spalding S2	378	20-Oct-98 A	18-Feb-15	6,152,060
CS00615 Bruce Rock 1A, PS, PM & WWTP	462	20-Oct-98 A	12-Mar-14	8,325,499
CS00649 GERALDTON SOUTH GERALDTON SG3 - STAGE 2	488	20-Oct-98 A	27-Oct-16	8,118,323
CS00659 GERALDTON: G7, PS & PM	167	20-Oct-98 A	15-Apr-17	2,357,521
CS01064 Australind 4Q & 5E (AS06 & AS08)	141	08-May-03 A	11-Feb-12	3,372,754
CS01118 Denmark 6A PS & PM, 7A PS & PM	127	08-May-03 A	26-Dec-12	4,263,242
CS00756 DENMARK 1G, 2B 4G & 5A, PS & PM	231	27-Oct-00 A	25-Sep-13	6,789,191
Total Program Costs (All Projects)				213,072,833

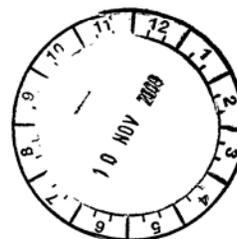
APPENDIX 5
LETTER FROM HON DR GRAHAM JACOBS MLA,
MINISTER FOR WATER, DATED 10 NOVEMBER 2009

APPENDIX 5
LETTER FROM HON DR GRAHAM JACOBS MLA,
MINISTER FOR WATER, DATED 10 NOVEMBER 2009



Minister for Water; Mental Health

Your ref: 0911102.let.001.gj.d.doc
Our ref: 37-04909/3



Hon Brian Ellis MLC
Chair
Standing Committee on Environment and Public Affairs
Parliament House
PERTH WA 6000

Dear Chair

RESPONSE FOR INQUIRY INTO DEEP SEWERAGE IN THE COCKBURN AREA

Thank you for your letter requesting information regarding the Infill Sewerage Program, and in particular in relation to Spearwood 12P, 16PP, 28, and 3N.

I write to advise that I have recently received communication from the Deputy Premier and Health Minister drawing my attention to a confidential report prepared for the previous Labor Health Minister in 2006, which detailed serious concerns from both a health and environmental perspective in Spearwood.

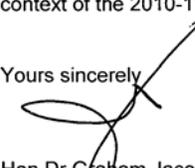
In the letter the Minister also indicated that these health issues have now worsened.

Due to the concerns raised by the report, and as a result of ongoing discussions with the Water Corporation, I can now advise that the State Government will now proceed with the program to build infill sewerage in Spearwood.

The Water Corporation will call tenders from Tuesday, November 17, 2009 to begin works on infill sewerage at Spearwood and as a result, all Spearwood residents will have access to sewerage infill by June 2011.

I must stress that any decisions on future infill sewerage projects will be taken in context of the 2010-11 State Budget process.

Yours sincerely


Hon Dr Graham Jacobs MLA
MINISTER FOR WATER; MENTAL HEALTH

PUBLIC

10 NOV 2009

Level 12, Dumas House, 2 Havelock Street, West Perth Western Australia 6005
Telephone: +61 8 9213 6900 Facsimile: +61 8 9213 6901 Email: Minister.Jacobs@dpc.wa.gov.au

APPENDIX 6
SUBMISSION FROM MURDOCH UNIVERSITY
DATED 16 OCTOBER 2009

APPENDIX 6
SUBMISSION FROM MURDOCH UNIVERSITY
DATED 16 OCTOBER 2009



16-10-09:13:39 ;

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+61 8 9321 3203

PUBLIC

29



ENVIRONMENTAL TECHNOLOGY CENTRE

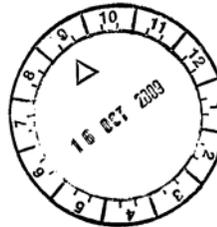


**MURDOCH
UNIVERSITY**
PERTH, WESTERN AUSTRALIA

Standing Committee on Environment
and Public Affairs

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Attn: Linda Omar

16 October, 2009



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Re: Deep Sewerage in the Cockburn Area, Western Australia

We wish to make a submission to the Standing Committee that serious consideration be given to decentralised wastewater collection, treatment and reuse options, for the areas currently being considered for deep sewerage. The benefits of decentralised schemes include:

- significantly reduced capital costs compared to deep sewer due to reduced excavation and pipe sizes (for example each house septic tank is decommissioned and a grinder pump pit installed in its place pumping via shallow narrow bore sewer to local wastewater treatment plant (WWTP) – the Victorian Government has taken this approach for its country town upgrade program);
- the potential to reuse treated wastewater for local irrigation of ovals, public open space etc (Sydney Water has taken this approach in areas where significant quantities of irrigation water are required and a sewer main is passing nearby onto which sewer mining WWTP is attached to generate the recycled water);
- significantly reduced energy consumption and greenhouse gas emissions (for example, half the energy of seawater desalination is used in a sewer mining MBR plant to generate recycled water for local irrigation);
- the ability for safe, high quality treated water (meeting all the National Guidelines, Class A+) to be reliably and readily achievable with current technologies such as membrane bioreactor treatment plants MBR. The recycled water can then be returned to the houses and public open space (in the same trench as the shallow sewer) via 'third pipe' (dual reticulation) for irrigation. This is the approach now taken for all new subdivisions in parts of Brisbane, Sydney and Melbourne.

In our experience decentralised wastewater systems could be readily installed in the Cockburn area with cost savings in the order of 50% over conventional deep sewerage in addition to providing a far more innovative and sustainable solution when compared to ocean outfall. We are able to provide information to substantiate the benefits described here, and examples of successful decentralised systems nationally and internationally should you wish. There are several relevant examples interstate, utilising advanced waste water treatment systems and we have listed several of these below for your perusal:

- CH2 building in Melbourne at:
<http://www.melbourne.vic.gov.au/info.cfm?top=171&pa=4112&pa2=4091&pg=4077#water>
- 60L building in Melbourne: <http://www.60lgreenbuilding.com/sewagewater.pdf>

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- Port 1010 building in Melbourne: <http://www.gbca.org.au/news/port-1010-at-digital-harbour-achieves-5-star-green-star/1288.htm>
- Currumbin Ecovillage QLD at: <http://www.innoflowtechnologies.com/pages/165>

Yours sincerely



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