

INVERLEIGH STRUCTURE PLAN REVIEW



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1. Executive Summary	4	6. The Vision for Inverleigh	20	Figure 1 - Inverleigh Structure Plan	21
		6.1. Community Vision Responses	21		
2. Introduction	6	6.2. Recommended Vision	21	Figure 2 - Inverleigh Residential Growth Areas	21
2.1. Inverleigh Structure Plan Review	6				
2.2. What is a Structure Plan?	7	7. The Structure Plan	22		
2.3. Who uses a Structure Plan?	7	7.1. Population	23	Appendix A - Aerial Photo	23
2.4. What does a Structure Plan contain?	7	7.2. Old Town Precincts	24		
2.5. What has been done?	7	7.3. Other Precincts	25	Appendix B - Context Plan	25
		7.4. Land Uses	25		
3. Strategic Background	8	7.5. Gateways	25	Appendix C - Site Analysis Plan	25
		7.6. Industry	25		
4. Inverleigh Analysis	10	7.7. Environment / Open Space	26	Appendix D - Literature Review	26
4.1. Location	11	7.8. Flooding	26		
4.2. Context Plan	11	7.9. Infrastructure	26	Appendix E - Stakeholder Consultation	26
4.3. Site Analysis Plan	12	7.10. Transport / Access	27		
4.4. Population Profile	12	7.11. Heritage	27	Appendix F - SWOT Analysis	27
4.5. Performance of existing Structure Plan	13	7.12. Design Principles and Guidelines	27		
4.6. Land Use Planning	14	8. Effluent Disposal Options	30	Appendix G - Land Use Mapping	30
4.7. Literature Review	14	8.1. Background	30		
4.8. Stakeholder Consultation	15	8.2. Options	31	Appendix H - Population Statistics – Inverleigh	31
4.9. SWOT Analysis	15	8.3. Inverleigh’s Alternatives	31		
4.10. Aboriginal Cultural Heritage	15			Appendix I - Sewerage System Options Review	31
5. Emerging Themes and Issues	16	9. Implementation / Future Work	32		
5.1. Traffic and Transport	17	9.2. Roles / Responsibility	33		
5.2. Leigh and Barwon Rivers / Flooding Issues	17	9.3. Funding Opportunities	33		
5.3. Sewerage System Options	17	9.4. Possible Future Strategic Work	34		
5.5. Commercial and Industrial Growth	17	10. Planning Scheme Amendment	36		
5.6. Landscape and Urban Design / Tourism	18	10.1. Amendment Process	36		
5.7. Green Buffers and Town Boundary	18	10.2. Recommended MSS objectives for Inverleigh	37		
5.8. Recreation, Open Space and Market	18	10.3. Proposed Policy and Overlays	38		
5.9. Aboriginal Cultural Heritage	19	11. References	39		

1. EXECUTIVE SUMMARY

The review evaluates the performance of the existing Inverleigh Structure Plan, emerging themes and issues and provides an analysis of current land use patterns. The Structure Plan then focuses on Inverleigh and provides an indication for the future direction and development of Inverleigh.

The Inverleigh community is becoming increasingly diverse. Previously a rural service town, Inverleigh is now attracting lifestyle residents to low density rural residential living and continues to attract passing traffic, particularly freight trucks, for rest stops and refreshments. Inverleigh has an array of natural features including areas of environmental significance, rural landscapes and riversides, as well as areas and sites of historical and cultural significance of both Aboriginal and European heritage. Reflecting the popularity of this area and its proximity to Geelong and its (soon to be improved) connection to Melbourne, Inverleigh is experiencing pressure for increased residential development.

Residential growth is expected for Inverleigh and appropriate planning is required to guide the location of such development. Factors contributing to this growth are the proximity to Geelong and the proposed Geelong bypass road.

Inverleigh is constrained by an extensive floodplain through the old town and surrounds. The propensity for the two rivers to inundate the town during flood conditions threatens the heritage values of the town and restricts the opportunities to further develop land in the 'old town'.

Within the old township, the Hamilton Highway is divided into dual lane roads, with landscaping strips containing grand street trees separating them.

1. EXECUTIVE SUMMARY

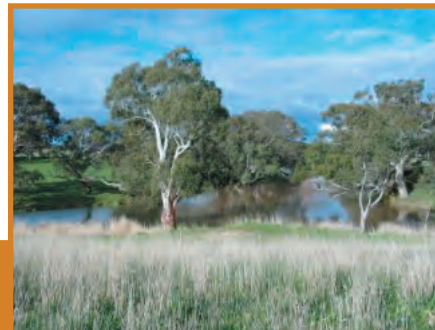
Based on the projected DSE figures almost 200 more people could be expected to live in Inverleigh by the year 2021. However this is likely to be an underestimate as the growth rate is expected to increase with the introduction of the Geelong Bypass Road which will dramatically reduce travel times to the Werribee corridor, central Melbourne and employment areas along the Western Ring Road. This improved accessibility and increased opportunities for local employment as a result of future growth will also stimulate new development in the town.

VISION FOR INVERLEIGH

INVERLEIGH IS A TOWN THAT PROTECTS ITS ENVIRONMENTAL AND HERITAGE



ASSETS AND RURAL APPEAL WHILE PROVIDING NEW RESIDENTIAL OPPORTUNITIES, SERVICES AND FACILITIES IN QUALITY LOW-DENSITY ENVIRONMENTS.



THE STRUCTURE PLAN

The structure plan aims to reflect the community's vision for Inverleigh and cater for expected growth within the town. It highlights areas for future low-density residential growth and outlines several precincts for themed development within the 'old town' of Inverleigh, such as commercial or community uses. Rural industry is recommended to the west of the town and a small area in town for light industrial uses. A sewerage system is recommended for the old township area to cater for increased growth and mitigate environmental pollution. A green link is suggested between the Common and the Barwon River as is expansion of the recreation reserve.

The report concludes with a recommended implementation plan and planning scheme amendment, including suggested wording for the Municipal Strategic Statement.

2. INTRODUCTION

2.1. INVERLEIGH STRUCTURE PLAN REVIEW

The Structure Plan Review for Inverleigh has been undertaken by Connell Wagner Pty Ltd for the Golden Plains Shire Council.

This report includes an explanation of the form, content and purpose of a Structure Plan, a brief description of the processes used to develop a Structure Plan, the background and setting for Inverleigh and general comments appropriate to the area. The review evaluates the performance of the existing Inverleigh Structure Plan, emerging themes and issues and provides an analysis of current land use patterns. The Structure Plan then focuses on Inverleigh and provides, in written and graphic format, an indication for the future direction and development of Inverleigh.



2.2. WHAT IS A STRUCTURE PLAN?

A Structure Plan is a strategic planning document, prepared with input from the local community, that presents a vision and future planning framework for the integrated development of a town or area. Structure plans will guide the major changes to land use, built form and public spaces that together can achieve economic, social and environmental objectives for the town.

The structure planning process should produce both a framework articulating how the town will develop, and the actions needed to realise that framework. These actions are achieved through amendments to the Municipal Strategic Statement (MSS), the planning scheme and local policies.

Structure plans will provide the foundation for changes within a township by defining the preferred direction of future growth and articulating how this change will be managed.

The purpose of the Structure Plan is:

- » To identify preferred land use and development options that recognise the importance of the town.
- » To identify improvements to the visual quality of entrances and thoroughfares in the town.
- » To identify improvements to vehicular and pedestrian traffic routes and linkages.
- » To identify areas of significance (ie. landscape, buildings, historical or cultural features, natural features, focal points, open space networks); and
- » To identify improvements to Inverleigh's functions and to strengthen the role of the town within the regional context.

2.3. WHO USES A STRUCTURE PLAN?

The Structure Plan will be utilised primarily by the Golden Plains Shire Council, the local community and key stakeholders to guide future development and land use within Inverleigh.

The framework will:

- » Strategically plan for future growth and development;
- » Form the basis for future capital works project scheduling in Inverleigh;
- » Provide guidance for future public sector funding applications and the assessment of private sector developments; and
- » Provide future strategic planning directions for the town.

2.4. WHAT DOES A STRUCTURE PLAN CONTAIN?

- » An analysis of existing conditions.
- » A vision for the area.
- » A set of key directions and guidelines directed at achieving the vision.
- » A township framework plan.

This report also presents:

1. Information and analysis used to inform the Structure Plan preparation.
2. An account of emerging themes and issues.
3. A description of the Structure Plan with key features; and
4. An implementation program

2.5. WHAT HAS BEEN DONE?

In preparing the Structure Plan for Inverleigh the following activities have been undertaken:

- » Review of existing plans, policies and strategies relating to the area.
- » Consultation with the community at large and with key stakeholders.
- » Identification of issues and existing boundaries in Inverleigh.
- » Identification of the opportunities and constraints within and external to the township.
- » Analysis of the study area including:
- » Land use patterns, activities, key events and commercial activities.
- » Movement patterns including transport routes, pedestrian and vehicular access and movement.
- » Significant natural, cultural and heritage features.
- » Assessment of strengths, weaknesses, opportunities and threats associated with Inverleigh.
- » A summary of issues impacting on the growth of the town.

3. STRATEGIC BACKGROUND

The Inverleigh community is becoming increasingly diverse. Previously a rural service town, Inverleigh is now attracting lifestyle residents to low density rural residential living and continues to attract passing traffic, particularly freight trucks, for rest stops and refreshments.

Inverleigh has an array of natural features including areas of environmental significance, rural landscapes and riversides, as well as areas and sites of historical and cultural significance of both Aboriginal and European heritage. Reflecting the popularity of this area and its proximity to Geelong and its (soon to be improved) connection to Melbourne, Inverleigh is experiencing pressure for increased residential development.

Increased investment in the area is recognised as making a positive contribution to the long-term economic viability of Inverleigh and providing new employment opportunities. It is essential that any development and investment is undertaken within a defined framework and makes a significant contribution to the built and natural form, as well as the resident and tourist populations of Inverleigh.

A clearly defined structure plan is required to ensure that future development occurs in a way that maintains the very characteristics and values that make the area attractive to residents and visitors alike.

It is recognised that there is potential for further development in Inverleigh, however the questions that need to be asked are:

- » what kind of development and uses are appropriate;
- » where should they be located; and
- » how should they relate to the broader area, the environment and the community that live, work and play in these areas?

3. STRATEGIC BACKGROUND

BUILT FORM AND VISUAL SETTING

Inverleigh is a township that has developed at the junction of two rivers and major east west and north-south road corridors. Arrival at the town boundary from the east is spectacular as the highway "drops" into the river valley from the rural plains that separate Inverleigh from Geelong. The sense of arrival is clearly defined and a welcome experience for new visitors to the township. Arrival from the west is more subtle as the highway adopts a flatter topography. Both approaches are characterised by mature avenues of trees and historic buildings, the most noticeable being the hotel at the eastern end of town. Inverleigh's newer areas are generally located away from the Hamilton Highway and adopt a semi-rural appeal with larger lots and bushland settings. A backdrop of the escarpment that follows the Leigh River frames the "old town".



4. INVERLEIGH ANALYSIS



This analysis takes account of the physical characteristics of Inverleigh and reviews the factors that contribute to the form and shape of the town. Such factors include the location and extent of residential, commercial and rural development; community infrastructure (schools, civic facilities), major and minor transport corridors (Hamilton Highway, railway), access from these corridors and town entry points and recreational spaces.



4. INVERLEIGH ANALYSIS

4.1. LOCATION

For the purpose of this Structure Plan, the study area at Inverleigh is located generally north of the Barwon River, south of Common Road and the golf course, east of Barwon Park Road and to the west of Hopes Plains Road. An aerial photograph, which outlines the study area of Inverleigh, is presented in **Appendix A**. The town is located at the junction of two rivers, the Leigh and the Barwon.

The aerial photograph shows the central township zoned area of the 'old' town with a low-density residential area to the north and partly to the east of the town. South of the town there are some rural zoned properties on small lots and to the west is a large area of subdivided rural lots. The flora and fauna reserve and golf course north of Common Road provide a green edge to the north of the town with mostly cleared rural land surrounding the remainder of the town.

The blue overlays on the photo show the floodway and the floodplain extent for the town, representing the 1:100 year flood event that has the potential to flood most of the 'old' town.

The Hamilton Highway and the Maroona to Geringhap Railway (passenger and freight transport to Adelaide) represent the major transport routes through the town, while the Inverleigh to Winchelsea Road caters for regional traffic.



4.2. CONTEXT PLAN

Inverleigh is located approximately 30km from Geelong and 10km from Bannockburn adjacent to the Hamilton Highway and at the junction of the Leigh River and the Barwon River. It is a rural town that services the nearby rural community

with a general store, service station, craft shop, primary school and hotel. Bannockburn provides more extensive retail and health services for Inverleigh residents. Higher order shopping, services and schooling (secondary/tertiary) are available in Geelong as outlined in the Inverleigh Context Plan at **Appendix B**.

4. INVERLEIGH ANALYSIS

4.3. SITE ANALYSIS PLAN

A Site Analysis Plan for Inverleigh is presented in **Appendix C**. This plan graphically represents the opportunities and constraints, which are relevant to the integration of future development in Inverleigh.

Key features of the site analysis include:

- » Highway location
- » River frontage and floodplain
- » Old town precinct
- » Steep escarpment north of river
- » Junction of Leigh and Barwon Rivers
- » Proximity to Geelong and proposed by-pass
- » "Gateway" location to western district
- » Railway corridor parallel to highway
- » Growth limitations to north (escarpment and Common)
- » Native Hut Creek
- » Proximity to Bannockburn
- » Public Land Parcels

The floodplain is extensive through the old town and surrounds and constrains development in several directions. Other natural features, such as the escarpment to the north and the large Common that houses the Flora and Fauna Reserve and Golf Course, also limit development. The Leigh and Barwon Rivers provide for picturesque walking and fishing activities and a green link through the town.

The eastern and western entrances to the town are reasonably defined but lack interest and the expansion of residential development east of the river and west of the recreation reserve serves to diffuse the definition of these entrances. There are several key intersections in Inverleigh that require attention, including the intersection

of Peel Road, Common Road and the Hamilton Highway, that has been highlighted as a potential traffic black spot.

The commercial / retail businesses in Inverleigh are dispersed along the main highway, though most are found in the eastern part of the town. Community facilities, resources and recreation opportunities are spread throughout the town and cater for a wider rural community. The heritage value of many of the town's buildings adds interest and character to the town and together with the river environment, provides a basis to increase tourism in the area.

4.4. POPULATION PROFILE

Based on the ABS Census Statistics, there has been an increase of 83% (232) in the total number of residents in Inverleigh during the past ten years, with most of the increase occurring between 1996 and 2001. This is depicted in the table below:

Year	Population
1986	227
1991	282
1996	283
2001	515

Source: Towns in Time, 2001

However, as there were changes to the census collection districts after the 1996 census, these figures are somewhat misleading. Prior to the 2001 Census, the Australian Bureau of Statistics (ABS) made significant changes to census collector districts and their boundaries to align them to gazetted suburb boundaries wherever possible.

As outlined in the Revised Inverleigh Structure Plan – Public Discussion Document, March 1985 (Geelong Regional Commission), population statistics for Inverleigh were somewhat unreliable even back then as the Census Collector District (C.C.D) covered little more than the township zoned area. This report suggested that the official Inverleigh population in 1981 of 252 was more likely to be closer to 400+ if the immediate hinterland had been taken into account. Therefore the increase in population since the early 1980s is likely to be closer to approximately 100 people. This is still a substantial increase that partly accounts for the growth of the residential area to the north of the town.

The Golden Plains Shire, through its GIS department, has provided more recent population figures for the entire Inverleigh study area. There are 312 dwellings and based on an average household size of 2.47 people, the population within the study area is approximately 770, over 200 more than the 2001 census figures.

The 2001 population census has noted a 6% decline in the unemployment rate during 1996–2001 (after a steady rise from 1986 to 1996) and a 1% increase in employment participation rate during the same period. It is evident that the retail, property and business and education sectors have experienced a significant rise in the number of employed individuals between 1986 - 2001. The largest growth has been in the construction, health and community sectors. The majority of Inverleigh's residents are employed outside of the township. This is consistent with the growing trend towards rural living commuters in many areas around Victoria, particularly those within proximity to large urban centres.

4. INVERLEIGH ANALYSIS

Further ABS population statistics are available in **Appendix H**. Further current and future population figures and capacity are outlined in **Section 7**.



4.5. PERFORMANCE OF EXISTING STRUCTURE PLAN

The existing Structure Plan outlines suggested growth areas to the west of town along Cemetery Road between the highway and the railway as well as pockets to the north and east of town. The areas to the north and east have, in the most part, been rezoned to low density residential zone (LDRZ) and developed.

The west of town has seen some development but is still within a Rural Zone. The plan recommended that the area west of the sporting ovals and north of the cemetery be developed for residential development, however it recommended the prevention of low density subdivision which may inhibit the 'ultimate residential use of the area'. This area has yet to be rezoned or subdivided and is no longer preferred for township zone densities.

A few areas within the town are highlighted as having residential capacity, however development of these areas has been limited to sites that can contain effluent from septic tanks.

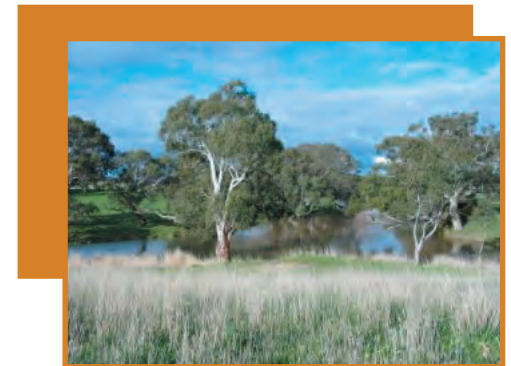
The Plan recommends a pedestrian link over the Leigh River from the area south of Common Road to the town centre. This has been achieved with the construction of the Federation Footbridge.

The rural character of Inverleigh has been maintained as recommended, however the village atmosphere of the town could benefit from further enhancement.

Industrial use and development was proposed for an area south of the highway on the Inverleigh

Winchelsea Road due to its separation from residential areas and flood prone land. This was also recommended in the 1985 Structure Plan. To date, this area has not developed in this way. Commercial development was directed towards the eastern part of town along the Hamilton Highway / High Street. The plan recommended new uses to make use of infill opportunities in this area. While businesses have remained in this area, there has been little growth in commercial development.

The plan also recommended that the formal avenue of trees be reinforced and that open space areas be retained / provided along the Leigh River.



4. INVERLEIGH ANALYSIS

4.6. LAND USE PLANNING

The Golden Plains Planning Scheme provides direction for development through policies and zoning maps. The 'old town' is shown as a Township Zone (TZ) on the current land use zoning maps. This zone allows for a range of uses with and without a permit and is more flexible than the Residential Zone found in urban areas. Uses may include residential, commercial, industrial and community uses.

Outside this Township Zone area there are several Low Density Residential Zones (LDRZ) that restrict development to large residential allotments capable of treating waste water on site. The main area is located north of the town along Common Road and Savage Drive, with a smaller area south of the highway near Peel Road.

Other zones found in the town include the Public Use Zones (PUZ) for education, local government and rail transport uses, Public Park and Recreation Zones (PPRZ) for the recreation reserve, Lawson's Park and Victoria Park and the Public Conservation and Resource Zone (PCRZ). The PCRZ zone covers the Leigh and Barwon River areas and aims to protect and conserve the natural environment and natural processes for their historic, scientific, landscape, habitat or cultural values.

Outside these areas the land is zoned for Rural uses to provide for the sustainable use of land for extensive animal husbandry (including dairying and grazing) and crop raising (including horticulture and timber production).

Planning Scheme Maps are included in **Appendix G**

4.7. LITERATURE REVIEW

A thorough review of background literature and previous studies in Inverleigh was undertaken in the preparation of this document. A summary of the findings is presented in **Appendix D**.

Key findings include:

- » That the Municipal Strategic Statement (MSS) encourages the maintenance of a clear distinction between urban and rural areas in order to ensure continued agriculture and efficient township development.
- » The MSS promotes sewerage treatment for all towns and aims to prevent unserviced urban development. "It is local policy that: Sewerage treatment should eventually be required for all unserviced townships. Until this infrastructure is supplied, these areas will be restricted to infill development, dependent on the ability of sites to accommodate and treat effluent."
- » The MSS further highlights that "significant scope exists for the consolidation of sites and intensification of development in existing towns without altering the character or quality of these areas"
- » The draft Community Plan 2004 highlights community priorities such as: provision of a community house, activities for youth, retirement accommodation, town planning for future growth, turning lanes on highway, signage reduction, bicycle and walking paths and the development of Victoria Park.
- » The Community Plan showed community support for a future sewerage system.
- » The Town Place Plan promoted the historical characteristics of Inverleigh and recommended a heritage trail, feature lighting and site interpretation.

- » The Town Place Plan also recommended maintenance and improvement of the avenue of trees on High Street, a new river trail walk incorporating historic buildings, street tree planting and an upgrade of the recreation reserve with screen planting
- » The Small Town Effluent Disposal Alternatives Study highlighted that there are already problems with effluent run off on smaller lots in the township.
- » It further highlighted that pressure to develop the township area will increase due to increased demand for 'town services' such as shops, cafes and restaurants.
- » The Study outlined that provision of a sewerage system would be relatively cost effective to construct and would promote development and remove the township as a potential source of pollution in the Leigh River.



4.8. STAKEHOLDER CONSULTATION

A detailed consultation strategy was followed to involve local authorities, agencies and stakeholders in the preparation of the Structure Plan. These consultations were overseen by the Project Steering Committee and involved:

1. Golden Plains Shire officers and councillors.
2. Stakeholder meetings and telephone discussions.
3. A hands-on community based workshop.
4. Weekend Shopfront Liaison at the General Store.
5. Attendance at the School Koala Fair.
6. An Authorities Workshop.

A summary of the information derived from these consultation activities is presented in **Appendix E**.

4.9. SWOT ANALYSIS

To inform the preparation of the Structure Plan, a SWOT Analysis was also undertaken. This assisted in presenting strengths, weaknesses, opportunities and constraints (threats) that apply to Inverleigh as identified by stakeholders.

A copy of the SWOT Analysis is presented in **Appendix F**.

4.10. ABORIGINAL CULTURAL HERITAGE

Approximately 20 Aboriginal sites have been recorded previously in the Inverleigh study area and are registered with Aboriginal Affairs Victoria (AAV). The traditional custodians of these sites are represented by the Wathaurong Aboriginal Co-operative based in Geelong.

A cluster of about eight sites is located on land between Barwon Park Road and Mahers Road. Another cluster (seven sites) is located in the northern corner of the study area between the Leigh River and Common Road. A final cluster of four is located between Faulkner Road and the Hamilton Highway at the eastern end of the study area. One site is located on the banks of the Barwon River.

The site types likely to be represented by this sample are scatters of stone artefacts, scarred trees and mounds. Such sites are protected by the Victorian Archaeological and Aboriginal Relics Preservation Act 1972, which makes it an offence to disturb them without written permission from the relevant Aboriginal community organisation.



5. EMERGING THEMES AND ISSUES

The emerging themes and issues identified to date provide strategic direction for the Inverleigh Structure Plan Review.



5. EMERGING THEMES AND ISSUES

5.1. TRAFFIC AND TRANSPORT

The Hamilton Highway (named High Street locally) is the central thoroughfare in Inverleigh. From the eastern bridge over the Leigh River to the memorial at the corner of Railway St, two-way service roads are located on the north and south of the highway. Landscaped areas containing grand street trees separate the service roads from the highway and provide an open, garden vista to the town.

B-double trucks (semi trailers etc.), smaller trucks and motorists require appropriate parking on both sides of the highway, particularly near the General Store. There is an opportunity to highlight parking areas that can accommodate cars with trailers and caravans to capture more visitors to the town.

The Teesdale Road at the twin bridges is recommended for upgrading to reduce the incidence of floods cutting access at this side of town.

It has been suggested in the longer term, if the density of development is changed north of the Leigh River, that a third road link over the Leigh River may be required. The density of development on the northern side of the Leigh River could only be changed by future consultation and review of the Structure Plan. It has also been suggested to investigate options for additional road access for lots in the south east of the study area, south of Hamilton Highway.

5.2. LEIGH AND BARWON RIVERS / FLOODING ISSUES

These rivers represent an important environmental and recreational asset for the town of Inverleigh. The propensity for these rivers to inundate the town during flood conditions threatens the heritage values of the town and restricts the opportunities to further develop land in the 'old town'.

The residents of Inverleigh have suggested the investigation of funding opportunities to undertake flood mitigation studies for the town.

5.3. SEWERAGE SYSTEM OPTIONS

The Small Towns Effluent Study (see Literature Review) recommends that Inverleigh be sewered within the existing township zone.

The Inverleigh community agrees that sewerage the old town would be beneficial (see Community Plan and Workshop outcomes), however, external funding for such a system would be necessary for residents to partake in the scheme.

It is recommended that Council and Barwon Water work together to identify opportunities to fund the installation of a sewerage system within Inverleigh.

Barwon Water, as a service provider, have indicated they would only investigate a possible sewerage scheme if the risks have been identified and there is demonstrated community support for a scheme (including paying for it). Golden Plains Shire should obtain health and environmental information for Inverleigh such as odour issues

within the township and the bacterial quality of flows in street drains.

5.4. RESIDENTIAL GROWTH

Residential growth is expected for Inverleigh and appropriate planning is required to guide the location of such development. Factors contributing to this growth are the proximity to Geelong and the proposed Geelong bypass road.

The community would prefer to see the town retain its rural character, therefore new residential development should generally be restricted to low density residential zones. These low density zones should be located to the west and to the north of the town and defined green buffer areas should be implemented to further retain the rural character.

5.5. COMMERCIAL AND INDUSTRIAL GROWTH

Commercial growth is not expected to be strong, however, any growth should be directed to the existing High Street locations utilising infill sites and existing heritage buildings where appropriate. Health services should also be encouraged to locate in non-flood areas of the High Street area. A supermarket would be most appropriately located towards the eastern end of the High Street area.

Light industrial businesses could be accommodated in the township to encourage local employment and there is an opportunity to utilise the railway sidings land for such uses as this area is outside the floodplain and is well located for freight movement.

5. EMERGING THEMES AND ISSUES

5.6. LANDSCAPE AND URBAN DESIGN / TOURISM

The avenue of trees on High Street is an important feature of the town. The maintenance and enhancement of this avenue of trees should be guided by an Arborist report. It is recommended that several suggestions from the Town Place Plan be revisited and undertaken.

Such as:

- » The consolidation and reduction of the number of street signs at the approach to, and within, the town;
- » The development of a continuous and attractive looped pedestrian trail along the river and throughout the town; and,
- » The opportunity to highlight the historic value of Inverleigh with plaques and self-guided walk markers etc.



5.7. GREEN BUFFERS AND TOWN BOUNDARY

The Common area housing the Flora and Fauna Reserve and Golf Course should be protected both through planning controls and with visual barriers such as street planting. Links from this area to the 'old town' in the form of green corridors and pedestrian trails are encouraged.

Visual edges to the development of the town should be considered, such as concentrated native planting along Hopes Plains Road, in order to define the boundaries of the town.

Firebreaks must be developed and maintained, particularly along the boundaries of the Golf Course and the Common where those boundaries adjoin private land. These firebreaks need to allow fire truck access and contain no understorey.



5.8. RECREATION, OPEN SPACE AND MARKET

The monthly market is currently located at Victoria Park, which is away from the main thoroughfare and does not attract passing traffic. There is an opportunity to re-locate the market to the highway, either at the eastern end of town in Lawson's Park or opposite the Hotel, or to the west of town in land adjacent to the Football club area.

The community would like to see Victoria Park retained as a public open space area, however some agree that the long term future of the park may be better suited to alternative uses due to its location outside the floodplain.

The recreation precinct requires upgraded facilities for the netball and bowling club areas and the second oval is likely to be required with an increase in local population and interest in the cricket club. Pedestrian access to this precinct is poor. An improvement and extension of the footpaths in this area should be considered, as well as improvements to the entrances to the grounds.

5. EMERGING THEMES AND ISSUES

5.9. ABORIGINAL CULTURAL HERITAGE

For planning purposes, an archaeologist should be engaged to undertake a desktop assessment. This would be a review of the existing site database and all other relevant information. Known sites would be presented on a map and the information used to highlight zones of high or low archaeological sensitivity.

Subsequent archaeological investigation would be field survey of areas proposed for development and include consultation with the Wathaurong Aboriginal Co-operative.



6. THE VISION FOR INVERLEIGH

The community workshop gathered several responses regarding the community's 'Vision for Inverleigh' as outlined here.



6. THE VISION FOR INVERLEIGH

6.1. COMMUNITY VISION RESPONSES

The following list was compiled at the Community workshop and presents the characteristics of Inverleigh that form the basis for a vision:

- » Easy Access
- » Pedestrian safety
- » User-friendly
- » Maintain non-suburban pattern of development
- » Some growth will keep town viable
- » Need to provide for the elderly
- » Housing
- » Services
- » Not suburb
- » Growth to keep town "clicking"
- » Peace and quiet
- » Character
- » Village
- » Country feel

- » Amenity/Ambience
- » Do not want town to die
- » Growth from lower density development
- » "Higher" density in "Old Town"
- » Trees, heritage character, open space, non edged streetscape block sizes (consider needs for different groups eg. Elderly), parks, playgrounds.
- » Look – old buildings, single shops, width of streets
- » Continue to develop river as an Asset, walking tracks, vegetation, environmental corridor between flora & fauna reserve & river, continue to develop & protect flora & fauna reserve.
- » Diverse community – cater for different needs – age groups – interests while retaining character
- » Retain & build on historic feel & base of the town – consult with historical societies, local

- » agencies & state groups, research Aboriginal sites & protect them. Educate public on Aboriginal heritage.
- » Cottage industries (not affecting sight & sound values) work from home for employment opportunities – not big industries (no industrial zone at present)
- » A quiet, rural town that retains its rural atmosphere but allows for growth in an appropriate way.

6.2. RECOMMENDED VISION

The following recommended vision for Inverleigh responds to the town's characteristics and unique form of development:

INVERLEIGH IS A TOWN THAT PROTECTS ITS ENVIRONMENTAL AND HERITAGE ASSETS AND RURAL APPEAL WHILE PROVIDING NEW RESIDENTIAL OPPORTUNITIES, SERVICES AND FACILITIES IN QUALITY LOW-DENSITY ENVIRONMENTS.

7. THE STRUCTURE PLAN

The Structure Plan has been prepared following extensive consultation with the community and stakeholders as well as research into the issues affecting Inverleigh.



7. THE STRUCTURE PLAN

7.1. POPULATION

Population capacity and expected growth has been determined for Inverleigh utilising the following assumptions:

- » Average household size as outlined by Golden Plains Shire = 2.47 people per household
- » Current households determined via Council GIS system = 312 households
- » Projected growth for Shire from DSE figures = 1.7% (2001 – 2006), 1.3% (2006-2016), 1.2% (2016-2021).
- » Preferred densities within proposed LDRZ areas of 1ha and 2ha lots.

DSE PROJECTED GROWTH FIGURES

The expected growth utilising DSE change in population forecasts for the Shire of Golden Plains is as follows:

2004	2006	2011	2016	2021
770	796	850	906	962

Shire growth rate (2001 – 2006) 1.7% per year
 Shire growth rate (2006 – 2016) 1.3% per year
 Shire growth rate (2016 – 2021) 1.2% per year

Therefore almost 200 more people could be expected to live in Inverleigh by the year 2021.

Based on DSE average annual change in households, the number of households expected in Inverleigh over time is:

2004	2006	2011	2016	2021
312	328	364	402	441

Shire growth rate (2001-2006) 2.50% per year
 Shire growth rate (2006-2011) 2.10% per year
 Shire growth rate (2011-2016) 2.00% per year
 Shire growth rate (2016-2021) 1.90% per year

Therefore approximately 130 more households are expected to be part of Inverleigh by the year 2021.

STRUCTURE PLAN GROWTH CAPACITY

Low Density Residential Areas

The areas and population capacity for new low density residential growth outlined on the

Area no:	Area m ² approx*	Lots at 1 Ha 10,000m ²	Efficiency** 90%	Lots at 2 Ha 20,000m ²	Efficiency** 90%
1	1,569,653	157	141		
2	409,053	41	37		
3	1,153,831			58	52
4	213,051			11	10
5	1,999,674	200	180		
6	302,543			15	14
7	595,047			30	27
8	1,757,775			88	79
9	416,111			21	19
	TOTALS		358		200
				TOTAL	558

However, based on DSE growth rate figures calculated above, of approximately 8 or 9 new households each year, the proposed growth areas could cater for over 60 years supply.

The immediate growth areas 1, 2 and 3 could cater for approximately 20 years supply at 11 houses per year.

These growth rates are expected to increase with the introduction of the Geelong By-pass

*NB Approximate figures used, detailed survey required to determine actual area
 ** Efficiency = this allows land for roads and infrastructure etc. to be excluded from calculations

Structure Plan at **Figure 2** are as follows:

At current growth rates for Inverleigh, (based on the average number of houses built over the last five years), of approximately 11 houses per year, the proposed growth areas, including future low density growth, could cater for approximately 51 years' supply.

Road which will dramatically reduce travel times to the Werribee corridor, central Melbourne and employment areas along the Western Ring Road. This improved accessibility and increased opportunities for local employment as a result of future growth will also stimulate new development in the town. Should the expected

7. THE STRUCTURE PLAN

growth rate increase, then the years of supply would decrease accordingly. Regular reviews of the population trend are recommended after the by-pass is developed.

Township Zone Infill Areas

The area included in the township zone also contains some vacant lots, which are outside the floodplain and are therefore available for development. In the future, if Inverleigh is sewered and flood protection measures are implemented, many additional lots could be subdivided providing increased development opportunities within the town. Based on a scan of the aerial photo there appears to be approximately ten existing lots that do not have dwellings on them as yet. Of these, approximately 5 lots are outside the floodplain and are likely to be suitable for development provided adequate area is available for effluent disposal from septic tank systems.

Should a sewerage system and flood mitigation measures be installed in the township and assuming that 1 in 4 lots is further subdivided or developed to accommodate two dwellings (within the next 20 years) approximately 20 extra dwellings could be accommodated in this area. This would increase the population by approximately 50 people.



7.2. OLD TOWN PRECINCTS

Commercial precinct

This area currently contains the Inverleigh Hotel, General Store, Garage, CFA and AgVise plus Public Toilets, Lawsons Park and a large truck parking area.

This part of the Hamilton Highway should be the main focus for the commercial development within the town. It provides a focus for the town and businesses will benefit from co-location effects. Upon growth of the population, a site for a small local supermarket should be encouraged in this precinct.

Community Use Precinct

This area currently contains the Inverleigh Primary School, The Catholic, Presbyterian and Anglican churches, the Community Hall and the RSL. The Police station is at the western end of this precinct and the western end of the 'old town' itself.

This area should be the focus for any future community based development and existing facilities should be well maintained and integrated.

Active Recreation Precinct

This area currently contains a Recreation Reserve housing local Cricket, Football, Netball and Bowls Clubs. The growth of the town may see the need for an expansion of this reserve to incorporate a second oval and accommodation for other sports such as soccer, hockey and badminton.

The structure plan outlines an area west of the current reserve as suitable for the expansion of sporting activities. As this area is currently in the floodplain it is not suitable for residential or commercial development.

Light Industrial Precinct/s

The railway sidings site provides a suitable location for light industry and service businesses. This site is located close to town, is buffered by the railway, school woodlot and recreation reserve and is within the current serviced area of town for water and electricity. It may also take advantage of the railway for shipment of goods, reducing reliance on truck freight. Another option for either light industry or rural industry has been identified on previous structure plans along the Winchelsea Road south of the town.

Open Space / Passive Recreation Nodes

It is important to maintain public open space and passive recreation areas. The Leigh River, Victoria Park East and Lawson's Park provide excellent passive recreation opportunities.

A green bio-link is proposed to ensure a safe passage for wildlife between the Flora and Fauna Reserve and both the Leigh and Barwon Rivers. It is recommended that parts of this green link also incorporate public walking tracks to increase pedestrian linkages within the town.

7.3. OTHER PRECINCTS

Rural Industry Precinct

This area benefits from both highway and railway access and is a large enough site to accommodate new railway sidings to service a regionally significant rural industrial business. This site could accommodate such uses as grain storage, timber processing or local produce packaging or other rural activities related to rural uses and may provide the State Government Department of Industry, Innovation and Regional Development with a large strategic site to market in the wider commercial sphere.

This site should incorporate a vegetation buffer to the Hamilton Highway and Barwon Park Road if developed.

Low Density Residential Development

Several areas are outlined on **Figure 1** for low density residential development. These areas will help to maintain the rural atmosphere of Inverleigh while suitably accommodating demand for residential growth. The staging of these areas must be controlled to ensure appropriate infrastructure provision.

7.4. LAND USES

The areas that have been outlined for future growth have been determined using a number of factors.

The most important factor being the floodplain and floodway areas in which all development should be avoided. Other factors that have

influenced the location of land uses include the river, road and rail corridors and the availability of infrastructure, such as reticulated water and the current septic tank system for sewerage.

The low density residential areas are expected to retain the rural atmosphere of the town and cater for the current demand for such lots. Subdivision in these areas will need to appropriately accommodate modern septic tank systems and should be encouraged to install water saving and water reuse systems when housing is built.

The inclusion of light industry and rural industry areas responds to the need for local employment and increased opportunities for new or expanded services to the area.

7.5. GATEWAYS

The main entrance to town – or the Gateway - from the east will extend from Hopes Plains Road once proposed growth areas are developed. It is recommended that an extension of the formal avenue of trees is made up to Hopes Plain Road. A similar reinforcement of the avenue of trees can be extended west to Gibson Road also. This will improve the definition of the town entry and will reinforce the already strong sense of arrival at the town.

7.6. INDUSTRY

As Inverleigh grows in population there will be demand for more local services and local employment, providing opportunity to lessen the need to commute to work or travel for services. The Structure Plan outlines areas suitable for Light Industry and Rural Industry.

Rural Industry is recommended in two locations. One is between the Hamilton Highway and the Railway to the west of the town. Industry here should be closely aligned to agricultural or forestry needs and be non-polluting. Businesses in this area have the opportunity to include rail sidings on site to cater for freight movement – ie, timber processing, produce packaging and distribution. The second site is on the Winchelsea Road. This site has been identified in previous Structure Plans dating back to the 1970's.

Light Industry is recommended close to the town in an area removed from housing, in non-flood areas at the railway sidings. Businesses in this area should be non-polluting service based industry such as carpentry and joinery, mower repairs etc.



7. THE STRUCTURE PLAN

7.7. ENVIRONMENT / OPEN SPACE

The Leigh and Barwon Rivers provide excellent open space and passive recreation opportunities for Inverleigh residents and visitors. These corridors need to be protected from encroaching development and pollution from storm water and septic seepage. The extensive floodway and floodplain discourage such development, however future measures to protect the township from flooding may reduce the impact of this natural deterrent. In any case, the Environmental Significance Overlay Schedule 2 – Watercourse Protection requirements should be strictly adhered to.

As Inverleigh grows, there will be more demand for active recreational pursuits. Expansion of the recreation reserve is recommended and is shown on the Structure Plan.

The Common Flora and Fauna Reserve and adjacent Golf Course provide an important northern boundary to the development of Inverleigh. Planting buffers should be implemented along the Common Road and area set aside to provide the important green / bio link through the town.

The Green Link or Bio-Link helps to break up the residential areas and provide a link for the transfer of wildlife between the Common, the town and the Leigh and Barwon Rivers.

There currently exists an opportunity through amendment C17 to commence development of the Green Link from the Leigh River to Common Road. An equal amount of land on both sides of the property boundaries will be required for the Green Link. It is recommended that this land be zoned for public use once this is undertaken.

Victoria Park is an important area of open space within the township. This location is also a prime development site outside the floodplain. It is recommended that the eastern part of Victoria Park be retained for public open space. However, the western part of the park could be a site for future community based development, to be determined by the community in consultation with the council and state government.

Such community based uses could include maternal and child health centre, religious centre, educational facility, residential or aged care facility.

7.8. FLOODING

Inverleigh has been subject to extensive flooding from the Leigh and Barwon Rivers. This places restrictions on development and threatens the heritage values of the 'old town' area.

The floodway represents the area that moving water travels through during a flood. Land uses appropriate for floodways are restricted to open space and rural/non-urban uses.

The floodplain represents the extent of areas that are inundated in a 1:100 year flood event.

Development in the floodway and floodplain should be discouraged. However, innovative solutions to development in the floodplain could be investigated in the future, provided areas essential for floodway function are not compromised.

Long term protective works are recommended for the historic 'old town' area of Inverleigh to ensure the preservation of important buildings

and structures. An assessment of the impact of these works is required before any commitment is made.

7.9. INFRASTRUCTURE

Water provision in Inverleigh is generally satisfactory although there have been issues with chlorination and use restrictions highlighted by residents. The extension of the water reticulation system to the new growth areas could be partly covered by a development contribution levy.

The existing Structure Plan highlights that development west of Mahers Lane (nee Road) will incur additional water supply costs in terms of booster pumps. While such costs are likely to preclude residential development, a large commercial project for rural industry is likely to be able to absorb such costs.

The residents of Inverleigh have highlighted the difficulties in accessing reliable mobile telephone services, TV reception and adequate Internet access. Should Inverleigh grow as expected and demand increase for these services, it is likely that the relevant carriers will improve their service to the area.

Council could encourage such service improvements through the identification of appropriate sites for mobile phone towers or TV transmission towers and lobbying the carriers to initiate service improvements in the area.

7.10. TRANSPORT / ACCESS

Inverleigh is located on the Hamilton Highway, an important road transport route between Geelong and the western district. Efforts to slow traffic along the stretch of highway at Inverleigh rely on a reduced speed limit and the capacity for local traffic to utilise service lanes on both sides of the highway. Improved, illuminated speed signs are recommended to highlight variable limits during school hours.

Traffic calming should be investigated for the township of Inverleigh to ensure pedestrian, cyclist and motorist safety. Pedestrian crossings could be implemented at the eastern end of town to link the hotel with the general store and Lawson's Park to the Public Toilets. VicRoads should be consulted about any pedestrian crossing initiatives developed. The pedestrian crossing outside the primary school requires upgrading to ensure it is highly visible to traffic.

The Maroona to Gheringhap rail line is the main route to Adelaide from Melbourne and Geelong. When it was first opened in 1913 it included a passenger service as well as goods train.

The lack of public transport in the region isolates young people and those who cannot drive or don't own a car. Investigation into the re-establishment of a passenger service to Geelong should be undertaken, given the growth expected in Inverleigh and other towns along the route. This could cater for secondary school and university students, the elderly and possibly even commuters should the service be regular and reliable.

7.11. HERITAGE

Heritage listed sites should be maintained and protected. Subdivision or further development on these sites should be discouraged.

Once the heritage study for Inverleigh has been completed, the recommended sites should be added to the Heritage Overlay in the Golden Plains Planning Scheme.

It is recommended that the suggestion from the Town Place Plan to highlight the historic value of Inverleigh with plaques and self-guided walk markers be undertaken.

7.12. DESIGN PRINCIPLES AND GUIDELINES

Design guidelines provide a mechanism or management tool to retain, recognise or modify significantly the urban character emerging or that will emerge in each of the areas. It is envisaged that guidelines will be used to set the parameters for appropriate development in the old town area of Inverleigh.

The key objectives for developing these guidelines include:

- » To ensure new development complements the desired character of the town and contributes to its built form and atmosphere;
- » To ensure new development enhances the town centre's role as a community focus and meeting place;
- » To protect and enhance the existing natural environments within and adjacent to the Leigh River, the Barwon River and the Flora and Fauna Reserve;

- » To ensure new development reflects the character and scale of existing developments and natural features within each area;
- » To ensure new development is sensitive and sympathetic to surrounding natural features, landforms and public spaces;
- » To ensure new development reflects the rural and riverside heritage of the area; and
- » To develop buildings, car parking and landscaped areas that offer a high level of amenity and safety to users by external appearance and internal experience;

Environmental frontages to the Leigh River and Barwon River provide significant visual features to the town. In addition to a recognised historical importance, much of Inverleigh's appeal stems from a sense of isolation or separation which is accentuated by picturesque environmental frontages and natural land uses abutting the town.

The Inverleigh area comprises a built environment characterised by a mix of dwelling styles which reflect architectural eras from the early settlement days through to the modern day period. Infill development and dwelling additions have, in recent times, detracted from the clear emergence of an appreciable 'village' theme.

These design elements should be read in conjunction with existing building and planning regulations for siting and design of single dwellings and multi-unit developments.

7. THE STRUCTURE PLAN

EXAMPLE DESIGN GUIDELINES

Element 1 - Density

Objectives

- » To recognise diversity in the character of development within the area;
- » To limit development where environmental site constraints exist;
- » To provide opportunity for new development where sites are under-utilised and not unduly constrained.

Performance Criteria

- » The density of dwellings should reflect the environmental integrity of the area through sensitive and quality design, size of dwellings and impact on adjoining properties and natural topography;
- » Density of new development is to respect the scale and height of surrounding buildings in the town;
- » New subdivision should reinforce existing patterns of subdivision and densities.

Design Techniques

- » Unit development will be discouraged on sites with frontages less than 17 metres;
- » Density of new development must not exceed the site coverage specified in Element 4 - Building Envelopes

Element 2 - Village Character

Objectives

- » To enhance the neighbourhood character of Inverleigh;
- » To ensure new development does not dominate the Inverleigh landscape.
- » To encourage and achieve innovative development which reflects the character and scale of existing development within Inverleigh.
- » To ensure new development respects the scale and height of surrounding buildings.
- » To ensure new development is sensitive to the environmental values of the Leigh River, Barwon River and the Flora and Fauna Reserve.

Performance Criteria

- » New development should be designed to blend into the landscape and avoid dominating the surrounding built environment;
- » Development should be site-responsive and reflect the scale and proportions of surrounding buildings;
- » The mass and form of new buildings should reflect as appropriate the traditional architectural elements of the historic Inverleigh character;
- » Materials and finishes used in new development should be sensitive to the environmental characteristics of the Inverleigh area and adjoining dwellings;
- » The form of new development should reflect local topographical characteristics.

Design Techniques

- » Fencing heights to be a maximum of 1.2 metres along street frontages;
- » Planting of indigenous vegetation to lessen visual bulk of new development;
- » New outbuildings to be constructed of materials and colours to match surrounding dwellings;

7. THE STRUCTURE PLAN

Element 3 - Site Layout and Landscaping

Objectives

- » To provide for appropriate site layouts which are site-responsive to adjoining developments
- » To achieve integrated site layouts which provide for functional and manageable developments;
- » To encourage appropriate landscaping which enhances the amenity of the area;
- » To ensure the provision of adequate open space for each development.

Performance Criteria

- » New development should be designed to complement the local neighbourhood.
- » Site layouts should respond positively and sensitively to adjoining developments through appropriate orientation and setbacks;
- » Access to new developments should not adversely impact on streetscape quality;
- » Site layouts to reflect natural topography to minimise impact of development on adjoining properties

Design Techniques

- » Encourage garages and carports to be setback behind the frontage of existing and proposed dwellings;
- » Fencing heights are to be a maximum of 1.2 metres along street and river frontages.

Element 4 - Building Envelope

Objectives

- » To ensure buildings are adequately setback from sensitive environmental boundaries, street frontages and vegetation
- » To ensure buildings are setback to provide for sufficient and useable private open space areas;
- » To ensure buildings do not dominate properties through overdevelopment of sites and overall bulk;
- » To provide appropriate setbacks which achieve site-responsive design ;

Performance Criteria

- » Building height, length and location should be sufficient so as to not cause a loss of amenity to adjoining properties;
- » Building height and location should respond to the size and location of adjoining private open space areas;
- » Buildings should be of similar height and setback to achieve consistency in the character of the neighbourhood and surrounding streetscape;

Design Techniques

- » Maximum single storey facade to present to street frontages;
- » Setbacks from frontages to be in accordance with building regulations and ResCode;
- » Standard side setbacks to apply to new development in accordance with building regulations and the ResCode.



8. EFFLUENT DISPOSAL OPTIONS

8.1. BACKGROUND

Local Study

In January 2002 and June 2003 a two stage study into small town effluent disposal alternatives was undertaken across 4 rural shires including Golden Plains Shire. The Small Town Effluent Disposal Alternatives Study Stages 1 & 2, 2002 was funded through the Federal Government Centenary of Federation Local Government Incentive Program.

The Small Towns Effluent Disposal Alternatives Study highlighted the opportunities and constraints surrounding future sewerage options in Inverleigh. There are many long and narrow quarter acre lots in the township-zoned area that cannot be more intensely developed as these lots are relatively small in area and are unlikely to effectively treat further effluent runoff. The report identifies that the non-availability of a reticulated sewerage system as the main reason the number of dwellings in the township zone is not greater than it is. It also highlighted that the low-density residential zoned lots are large enough to effectively contain septic effluent.

The report highlights that existing smaller lots within the township zone already present a problem with effluent run-off from septic systems.

It is expected that development of the township zoned area will remain severely constrained without the provision of suitable sewerage management facilities. The report highlights that the pressure to develop the township zoned area will increase due to increased demand for 'town services' such

as shops, cafes and restaurants. Further pressure may also be applied from those seeking smaller, lower cost housing and lower maintenance lots than can be found in the low density areas.

The report outlines that the provision of a sewerage system would be relatively cost effective to construct, would promote development and ensure potential contamination of Leigh River is minimised.

The second stage of the study highlights that within the Inverleigh township **there is a potential for public health issues if a sewerage scheme is not provided.** The prime objectives of the sewerage strategy are to eliminate effluent surface breakthrough and protect watercourses from contamination

The report proposes that a single stage development of a reticulation system within the main built up areas (in the township zone) be undertaken, excluding the area bordering the river and the area west of the school woodlot. The treatment and pumping station would be sized for a fully developed township. The preferred system was outlined to be a modified sewage reticulation system at Inverleigh with lagoon based treatment facility approximately 1.5km north of town. It was suggested that the treated effluent could be used to irrigate the golf course, state forest or agricultural land.

The total cost per lot was estimated to be approximately \$17,500.

Environment Protection Authority

The Environment Protection Authority (EPA) in Victoria has issued a Septic Tanks Code of Practice in 2003. The EPA recommend that the feasibility of

8. EFFLUENT DISPOSAL OPTIONS

providing reticulated sewerage should be seriously considered for the development of individual lots and for subdivision proposals when residential development would result in allotments smaller than 10,000m² (1 hectare). This area should not be seen as a minimum lot size, but as a risk threshold.

The EPA highlight that there are significant risks associated with wastewater management on lots smaller than 10,000m². All lots within the 'old town' of Inverleigh fall into this category.

Inverleigh is faced with further risks due to the extensive floodway and floodplain that covers the township. There is also the possibility that older septic tanks will fail to provide the level of treatment required to comply with the current standards. Failing septic tanks need to be either replaced or upgraded to improve the performance to acceptable levels but this may not be achievable on allotments less than 1000m².

8.2. OPTIONS

There are a number of wastewater processes that may be considered. These include:

- » Domestic On-site Process - effluent is collected, treated and disposed on-site.
- » Domestic Off-site Process - effluent is collected and treated on-site and disposed off-site.
- » Decentralised Off-site Process - effluent is collected and partially treated on-site, then disposed to a common neighbourhood system for further treatment and disposal.
- » Low Cost Sewerage Process - effluent is collected and undergoes primary treatment on-site, then disposed to a centralised

township system for further treatment and disposal.

- » Sewerage Process - effluent is disposed to a centralised township system for treatment and disposal.
- » Pressurised Sewerage System - where a smaller diameter pipe can be utilised with individual household pumps or a vacuum system.

More detail regarding these options can be found in **Appendix I**.

8.3. INVERLEIGH'S ALTERNATIVES

After careful consideration of the situation at Inverleigh, Connell Wagner's wastewater engineer has recommended undertaking the full implementation of a sewerage system as described in the BECA Simons report. That is reticulation, transfer and treatment solution with commercial reuse applications in the vicinity of the treatment plant. The pressurised system outlined should be considered as a solution to local terrain and floodplain issues.

This recommendation is based on the township of Inverleigh growing and developing beyond its current levels.

However, should the township of Inverleigh fail to grow, then the current septic tank system can be retained. This option would require an in depth audit of all the septic systems within the town and the replacement, repair or unblocking of any old or unserviced units that are causing seepage to the river.

If government funding is available for a new sewerage system sometime in the future, it is still

likely to cost in the vicinity of \$800 - \$5,000 per lot, plus the annual cost to maintain and operate the system through increased rate payments over 15 to 20 years.

Council and the community will need to work together to identify genuine commercial interest for reuse water in the vicinity of the treatment plant to give greater impetus for the project to proceed. Disposal of treated effluent through commercial reuse applications is preferred, otherwise Barwon Water would be required to dispose by discharge to inland waterways which would increase the costs due to requiring a higher level of treatment. Barwon Water may alternatively purchase land and establish crop/tree lots for irrigation, however this would also add to the costs of installing the system.

Barwon Water, as a service provider, would only investigate a possible sewerage scheme if the risks have been identified and there is demonstrated community support for a scheme (including paying for it). Golden Plains Shire should obtain health and environmental information for Inverleigh such as odour issues within the township and the bacterial quality of flows in street drains. The bacterial sampling and tests should be carried out in accordance with procedures specified by a NATA accredited laboratory, and should analyse for total and faecal coliforms. Representative locations in the township should be selected, and samples taken at each location on at least three occasions. The date/time of sampling and weather conditions should be recorded for each sample, as well as any other relevant information (eg. recent rainfall).

9. IMPLEMENTATION / FUTURE WORK

The Inverleigh Structure Plan will be implemented through the development of controls incorporated into the Golden Plains Planning Scheme. This will include policy and a regulatory framework.

A regular review of the Inverleigh Structure Plan is recommended because of the unknown growth and development impacts of the completion of the Geelong by-pass and the possible implementation of sewerage and flood control schemes. This review is recommended at five year intervals or sooner if there is a sudden change in circumstances or dramatic and sustained shift in growth rates in the town.

9.1. INITIATIVES

The following initiatives have been identified through the Structure Planning process:

1. Planning Scheme Amendment – implement changes to the MSS and local policy section of the planning scheme.
2. Staging of development in growth areas to be undertaken in logical, orderly sequence.
3. Gateway Treatment – Undertake tree planting along the highway up to Hopes Plain Road and to Gibson Road to improve the entrances to the town.
4. Light Industry – Investigate options for railway sidings to provide land for new light industrial and service businesses.
5. Rural Industry – Liaise with DIIRD regarding opportunities for large site with highway and railway access.
6. Green Link – appropriate tree and bush planting along lot boundaries and roadsides to enable the green link between the Common and Barwon River.
7. Future re-zone of area south of current Township Zone (TZ) up to floodplain extent (as outlined in Structure Plan) from Rural Zone to LDRZ 2ha. Long term re-zone to TZ once town is sewered.
8. Investigate re-zoning of area east of East Street, currently in Township Zone, to Urban / Rural Floodway to discourage any further development in this area adjacent to the Leigh River and within a floodplain.
9. Highlight parking areas that can accommodate cars with trailers and caravans to capture more visitors to the town.
10. Pursue funding options for improved effluent disposal management in Inverleigh.
11. Firebreaks to be developed and maintained, particularly along the boundaries of the Golf Course and the Common where those boundaries adjoin private land. These firebreaks need to allow fire truck access and contain no understorey.
12. A continuous looped walking track would add to visitor and resident amenity and allow access to the Leigh River for all.
13. Upgrade of the netball and bowling club areas and second oval in

9. IMPLEMENTATION / FUTURE WORK

the recreation precinct to be undertaken in conjunction with the increase in local population and interest in the cricket club. An improvement and extension of the footpaths in this area should be considered, as well as improvements to the entrances to the grounds.

14. The pedestrian crossing outside the primary school requires upgrading to ensure it is highly visible to traffic.
15. It is recommended that several suggestions from the Town Place Plan be revisited and undertaken.
Such as:
 - » The consolidation and reduction of the number of street signs at the approach to, and within, the town;
 - » The opportunity to highlight the historic value of Inverleigh with plaques and self-guided walk markers etc.

9.2. ROLES / RESPONSIBILITY

Golden Plains Shire Council will play a major role in implementing the recommendations of the Structure Plan. This would entail policy creation, advocacy and community development as well as identification and application for appropriate funding to undertake highlighted initiatives.

The Inverleigh community has been and should continue to be active participants in the planning process for Inverleigh and their support for initiatives will be required.

Relevant Authorities and Agencies will undertake coordination, funding and development assistance

in relation to appropriate initiatives.

9.3. FUNDING OPPORTUNITIES

- » DSE - Victorian Water Trust – up to \$40,000 available for development of strategic domestic wastewater plans. Future funding is likely to be available to those towns with wastewater plans developed and critical environmental or health issues regarding effluent disposal.
- » Council Capital Works Budget – could be used to implement walking paths and the green link
- » Development Contributions – open space and green link maintenance, infrastructure costs
- » Joint Venture Projects – for under utilised State and Local government land assets
- » State Government Pride of Place - urban design grants program. Grants are available for eligible projects that meet the program's published selection criteria, in the categories of:
 - » Urban design frameworks (UDF)
 - » Urban design advice (UDA)
 - » Design development and capital works recommended in urban design frameworks (DDCW).

Through Pride of Place grants, Council would be assisted to plan strategically, in partnership with their communities, to create vital, sustainable, attractive and safe local activity centres. The program encourages excellence in urban design, builds on local character and heritage, attracts more visitation and investment, and contributes to local pride.

- » Funding is available from the Natural Heritage Trust, through the Envirofund, to help community groups undertake small on-ground projects tackling important local problems. The Envirofund has two main objectives:
 - » to provide the opportunity and means for community groups to undertake small on ground projects tackling important local problems; and
 - » to provide a mechanism through which community groups can move towards effective engagement in broader regional approaches to natural resource managementAll applications need to:
 - » demonstrate clear natural resource management benefits; and/or
 - » identify capacity building outcomes in relation to the applicant's skills and knowledge in natural resource management. Applications close on Friday 18 February 2005.
- » The Regional Flood Mitigation programme assists in the implementation of priority, cost effective flood mitigation works and measures. In 2005-06, the Australian Government will offer \$9.6 m specifically for flood mitigation works and measures in rural, regional and outer metropolitan areas of Australia. Eligible projects include structural works, voluntary purchase of flood prone properties, flood warning systems and community awareness programmes. Applications close on Friday 25 February 2005.
- » The Natural Disaster mitigation programme is aimed at identifying and addressing natural disaster risk priorities across the nation. In 2005-06, the Australian Government will

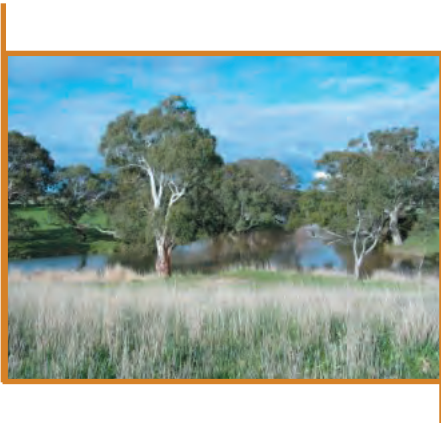
9. IMPLEMENTATION / FUTURE WORK

offer \$9 m for works, measures and related activities that contribute to safer, sustainable communities better able to withstand the effects of floods, storms, cyclones, bushfires and other natural disasters. Applications close on Friday 25 February 2005.

9.4. POSSIBLE FUTURE STRATEGIC WORK

Traffic Circulation and Movement Assessment

A detailed parking and access study of the commercial precinct at the eastern end of Inverleigh is recommended when population exceeds 2000 persons or when a substantial expansion of commercial development is proposed. This study should review circulation, parking and pedestrian safety issues impacted by narrow lane widths, two-way service lanes and extensive heavy vehicle parking.



Traffic calming should be investigated for the township of Inverleigh to ensure pedestrian, cyclist and motorist safety. Pedestrian crossings could be implemented at the eastern end of town to link the hotel with the general store and Lawson's Park to the Public Toilets.

Investigation into the safety of key intersections should be undertaken to determine the need to address accident blackspots and pedestrian safety. This should include investigation into upgrading the Teesdale Road at the twin bridges and the intersection of Peel and Common Road and the Hamilton Highway. Further investigation may be undertaken to determine the feasibility of a third road link from Common Road to the Hamilton Highway and also for additional access for lots in the south east of the study area, south of Hamilton Highway and east of the Leigh River.

Aboriginal Cultural Heritage Study

A survey and report regarding important Aboriginal cultural heritage sites should be undertaken. For planning purposes, an archaeologist should be engaged to undertake a desktop assessment. This would be a review of the existing site database and all other relevant information. Known sites would be presented on a map and the information used to highlight zones of high or low archaeological sensitivity. Subsequent archaeological investigation would be field survey of areas proposed for development and include consultation of the Wathaurong Aboriginal Co-operative.

Appropriate measures should be undertaken to ensure new development does not adversely impact on such sites. A cultural heritage assessment could be a requirement of a Development Plan

Overlay on any sites proposed to be rezoned and developed.

River frontage Master Plan

A master plan should be prepared for the Leigh River and Barwon River to ensure these important riverine environments are appropriately managed. Special attention should be paid to controlling vehicular access, management of weeds and erosion, and reinstatement of riparian environments.

Passenger Rail Service

Investigation into the re-establishment of a passenger service to Geelong should be undertaken, given the growth expected in Inverleigh and other towns along the route.

Suggested policies to be developed

Where appropriate local policies may need to be developed to implement the objectives and strategies of the structure plan through the Local Planning Policy Framework, which may include:

- » Outdoor Signage
- » Advertising Signage
- » Residential Subdivision
- » Vegetation Clearing and Conservation

9. IMPLEMENTATION / FUTURE WORK

Initiative Priorities

Inverleigh Implementation Plan

	Action	Priority	Responsibility	Funding
1	Planning Scheme Amendment	1	GPS	GPS
2	Preferred Staging of Growth	1	GPS	GPS
3	Gateway Treatment	3	GPS	GPS
4	Light Industry	3	GPS	GPS or Private Sector
5	Rural Industry	3	GPS	GPS
6	Green Link	2	GPS	GPS / Landowners / NHT
7	Township Zone Extension	4	GPS	GPS
8	Floodway Zone	4	GPS	GPS
9	Highlight Parking Areas	3	GPS / VicRoads	VicRoads
10	Sewerage Options Funding	2	GPS / CCMA	CCMA/ GPS/ DSE
11	Firebreaks at Golf Course and Common	2	GPS	GPS/ DSE
12	Continuous Walking Track	3	GPS	GPS / Grant / NHT
13	Recreation Facilities	5	GPS	GPS/ Grant
14	School Crossing	3	GPS	Vic Roads
15	Town Place Plan Recommendations	4	GPS	GPS / DSE
*	Cultural Heritage Study	4	GPS	GPS / AAV
*	Traffic Circulation and Movement Study	5	GPS / VicRoads	VicRoads
*	Local Planning Policies	5	GPS	GPS
*	River Frontage Master Plan	5	GPS	DSE / Grant / NHT
*	Passenger Rail Service	5	GPS	DSE / DOI

GPS = Golden Plains Shire, DSE = Department of Sustainability, DOI = Dept of Infrastructure CCMA = Corangamite Catchment Management Authority, BW = Barwon Water, WT = Victorian Water Trust (DSE), AAV = Aboriginal Affairs Victoria, NHT = Natural Heritage Trust - Envirofund.* Possible Future Strategic work

10. PLANNING SCHEME AMENDMENT

10.1. AMENDMENT PROCESS

To ensure the structure plan is implemented, appropriate strategies and policies need to be inserted into the Golden Plains Planning Scheme. This is likely to require an amendment to the Municipal Strategic Statement (MSS). Planning scheme amendments may be undertaken by Council to change the policy framework for making planning decisions, or to change the planning provisions that affect a large area of land of strategic importance.

The process for changing a planning scheme usually involves the following steps:

- » the concept is developed
- » the concept is documented and designed
- » a request is made to amend the planning scheme
- » the request to amend the planning scheme is considered
- » notice is given about the amendment and submissions are invited
- » submissions are considered
- » changes are made to the amendment, the submissions and the amendment are referred to an independent panel for review and report, or the amendment is abandoned
- » the panel's report is considered and a recommendation made to adopt the amendment or abandon it
- » the amendment is submitted to the Minister for consideration and approval
- » the Minister considers the amendment and decides whether to approve it
- » the approval notice is published in the Government Gazette
- » the Minister gives notice of approval of the amendment to Parliament.

10. PLANNING SCHEME AMENDMENT

10.2. RECOMMENDED MSS OBJECTIVES FOR INVERLEIGH

It is recommended that a new Clause of the MSS be created, encompassing strategies and visions for Inverleigh. The Clause should include the new Inverleigh Structure Plan, and the objectives and strategies listed below.

Objective

Define the boundaries of township expansion of Inverleigh while accommodating future population in an environmentally sustainable manner

Strategies

- » Avoid expansion of Inverleigh beyond township growth boundary
- » Promote land supply through infill development if sewerage system installed
- » Support rezoning of areas identified on structure plan for future residential development based on preferred staging

Implementation

- » Assess Planning Scheme Amendment requests and Planning Permit Applications against the Inverleigh Structure Plan, provided on page X.

Objective

To protect and enhance the rural character of Inverleigh through maintenance of view sheds, landmarks and open spaces.

Strategies

- » Ensure development in Inverleigh does not erode the visual amenity of farmland, the Leigh and Barwon Rivers and the Flora and Fauna Reserve.
- » Promote tourism development that is in keeping with the dominant character of the surrounding built and natural environment
- » Ensure development adjacent to the township growth boundary does not impact upon key sightlines of the rural hinterland

Implementation

- » Refer to a Local Policy or the application of Overlays

Objective

To encourage low scale development which respects and enhances the townscape of Inverleigh

Strategies

- » Support new residential development that responds to the local context and positively contributes to the character and identity of the local neighbourhood
- » Discourage buildings which exceed ___ metres above Australian Height Datum at the highest point of the building footprint

Implementation

- » Refer to a Local Policy or the application of Overlays

Objective

To develop a range of housing types in Inverleigh which increase housing diversity and affordability.

Strategies

- » If a sewerage system is installed, promote innovative high quality medium density housing in the Township Zone (TZ) area.
- » Encourage new subdivisions to provide for a variety of lot sizes to cater for differing needs for accommodation within the Inverleigh community
- » Ensure low density residential areas are not further subdivided in the future

Implementation

- » Refer to a Local Policy or the application of Overlays

Objective

To encourage a greater diversity of economic activity in Inverleigh

Strategies

- » Encourage the development of employment generating activities, which reflect the community's vision for the town
- » Encourage and support the development of retailing and services to meet the needs of residents
- » Encourage a diversity of tourist accommodation to cater for a broad range of visitors

Implementation

- » Refer to a Local Policy or the application of Overlays

10. PLANNING SCHEME AMENDMENT

Objective

To encourage commercial development which respects and enhances the existing townscape and streetscape features of the town centre.

Strategies

- » Ensure new commercial development respects and complements the historic character of the town
- » Require new development to provide a detailed landscape plan.

Implementation

- » Refer to a Local Policy or the application of Overlays

Objective

To promote the development of an open space network and green bio-link to promote local biodiversity based on the river corridors and plantings on public and private land.

Strategies

- » Promote the development of a linked public open space system, which is useable, accessible and safe.
- » Require the management of existing and new public open spaces to lead in minimisation of water use and reintroduction of endemic plant species.
- » Encourage the development of wildlife corridors along the rivers and avenues of tree plantings
- » Encourage the plantings of a range of endemic plant species as part of on site landscaping
- » Encourage the design of new subdivisions that will allow for the maintenance of existing remnant vegetation where appropriate.

Implementation

- » Refer to a Local Policy or the application of Overlays

Objective

To ensure the sufficient provision of infrastructure which supports new growth and improves the land, the character and environmental qualities of Inverleigh.

Strategies

- » Promote best practice infrastructure provision for new development
- » Ensure infrastructure provision protects the Leigh and Barwon Rivers environs
- » Ensure that road network development and traffic management gives priority to main roads and contributes to the overall character of Inverleigh
- » Promote the development of recreation, community, commercial and industrial precincts as identified in the Inverleigh Structure Plan.

Implementation

- » Refer to a Local Policy or the application of Overlays

Objective

To provide distinctive entrances into Inverleigh

Strategies

- » Ensure new development at the main entrance and gateways to Inverleigh enhances entry points through positive urban design.

Implementation

- » Refer to a Local Policy or the application of Overlays

After inserting a new Clause into the MSS, the existing Structure Plan for Inverleigh should be removed from Clause 21.03 of the MSS. Furthermore, Clause 21.04 – Objectives and Strategies should be amended to reflect links to the new MSS Clause for Inverleigh.

10.3. PROPOSED POLICY AND OVERLAYS

It is recommended that A Design and Development Overlay (DDO) is prepared for the township and its entry points to help implement some of the Structure Plan objectives. It could give detailed effect to the precincts and locations covered by the structure plan and emphasise consistent built form outcomes. This DDO would cover requirements for building height, colour, materials and scale.

Once the Heritage Study is completed the Heritage Overlay should be amended appropriately to ensure conservation and enhancement of heritage places and elements that contribute to the significance of heritage places. This overlay could also identify and allow uses that may otherwise be prohibited if they will assist with the conservation of the significance of the heritage place.

Local Planning policies could be developed to give effect to the structure plan in guiding the day to day decision making in relation to a specific discretion in a zone or overlay. Such policies could outline how discretion may be exercised, can provide criteria and performance measures and detailed design guidance for assessing planning permit applications. In particular, a local policy on the application of Clause 19.03 (Design and built form) may be appropriate to provide guidance on the design response to be addressed in a site analysis for non-residential development and residential development that is not covered by Clauses 54,55 and 56.

11. REFERENCES

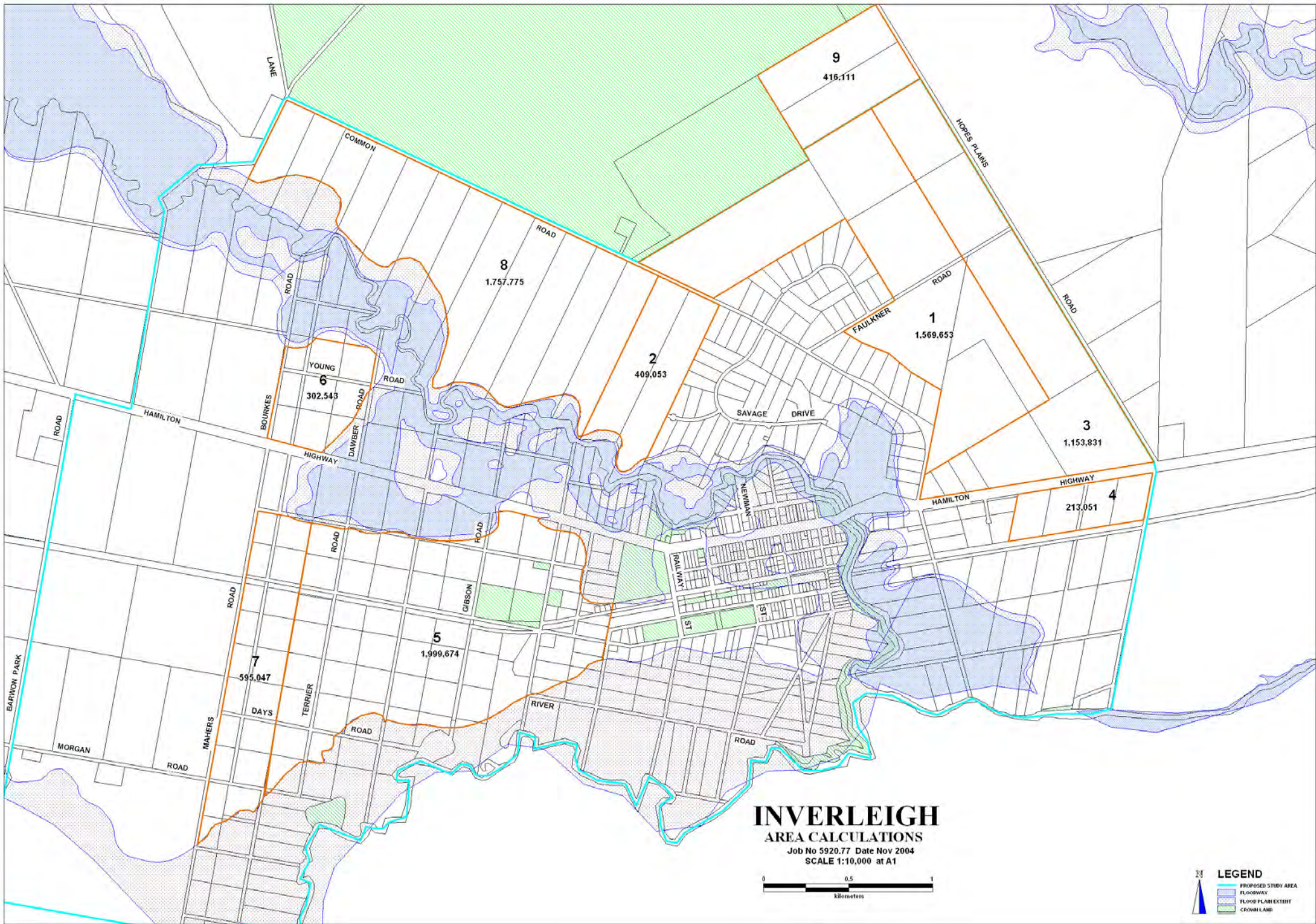
- Draft Floodplain Management Strategy, October 2001 (Corangamite Catchment Management Authority)
- Golden Plains Shire: Town Structure Plans Ch. 5 & 6, plus Appendix D: Inverleigh 1996 (TBA Planners and Planning Australia)
- Inverleigh Community Plan – Final Draft July 2004 (Inverleigh Community Coordinators)
- Inverleigh Town Place Plan, November 2001 (THA Landscape Architects)
- Issues Paper - Wastewater Management - Wye River and Separation Creek - 22 May 2002, Colac Otway Shire
- Planning: a Short Guide, 2001 (Department of Infrastructure)
- Review of the Septic Tank Effluent Disposal Scheme, 2003 (Tonkin Consulting)
- Revised Inverleigh Structure Plan – Public Discussion Document, March 1985 (Geelong Regional Commission)
- Septic Tanks Code of Practice in 2003 (EPA Victoria)
- The Small Town Effluent Disposal Alternatives Study Stages 1 & 2, 2002 by BECA Simons.
- Towns in Time, 2001, www.doi.vic.gov.au/doi/knowyour.nsf
- Water and Rivers Commission – Water Definitions - www.wrc.wa.gov.au/waterdef/f.html

FIGURE 1 INVERLEIGH STRUCTURE PLAN



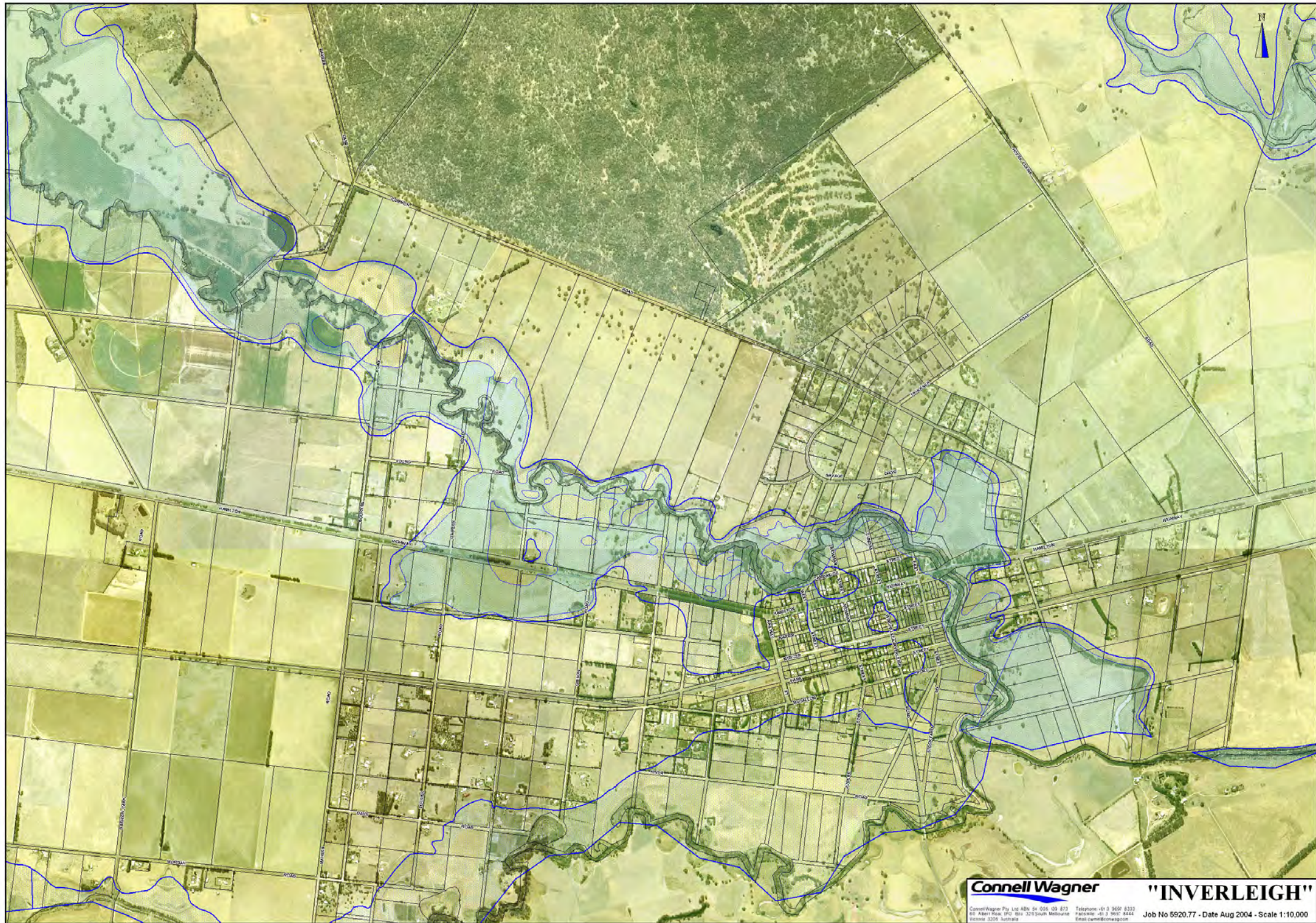
FIGURE 2 INVERLEIGH RESIDENTIAL GROWTH AREAS





APPENDIX A AERIAL PHOTO





Connell Wagner "INVERLEIGH"

Connell Wagner Pty Ltd ABN 54 006 09 873 Telephone +61 3 9607 8233
 60 Albert Road, VIC 3207 South Melbourne Fax +61 3 9607 8444
 GPO Box 3208 Australia Email connell@connellwagner.com.au Job No 5920.77 - Date Aug 2004 - Scale 1:10,000

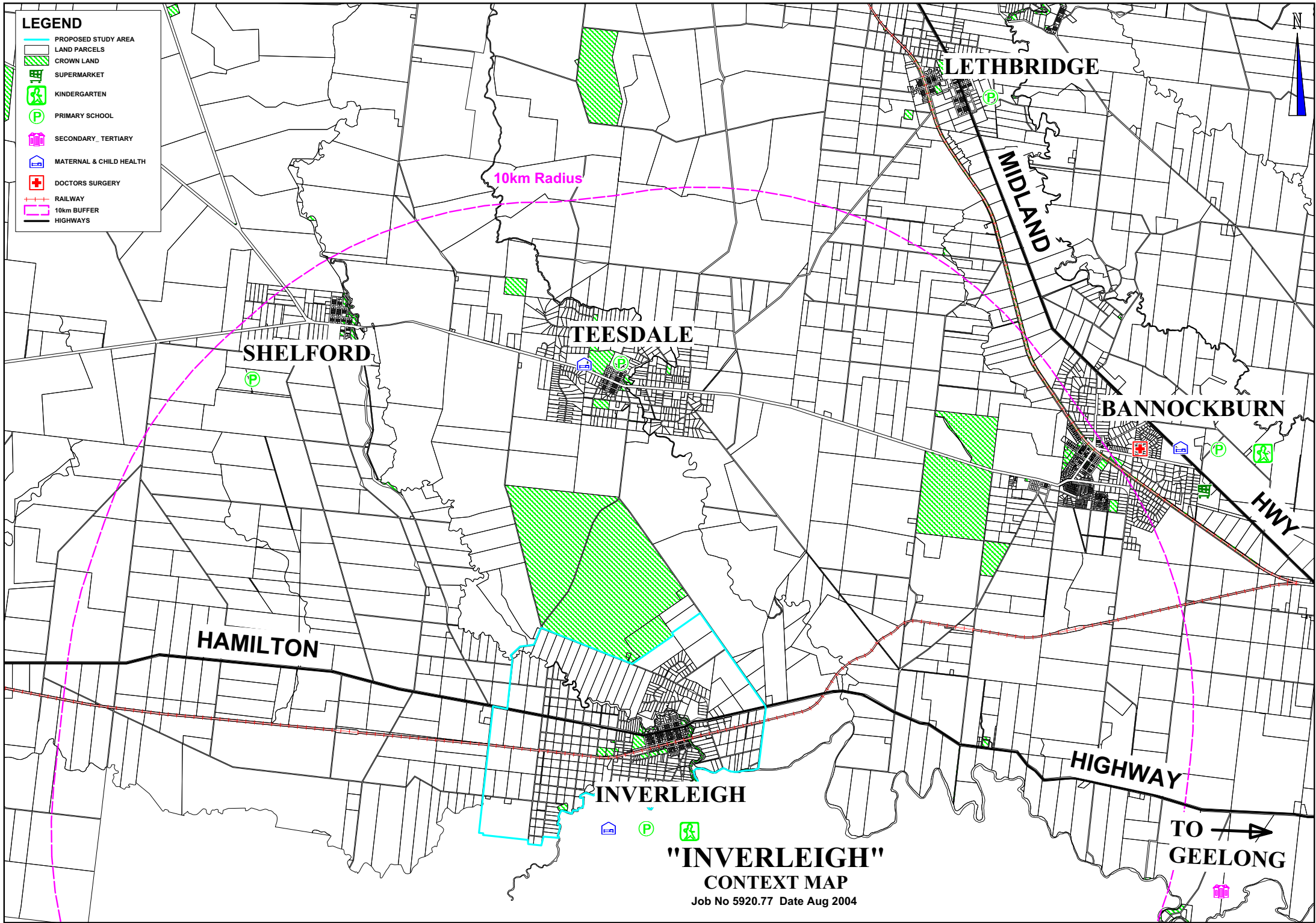
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APPENDIX B CONTEXT PLAN



LEGEND

- PROPOSED STUDY AREA
- LAND PARCELS
- CROWN LAND
- SUPERMARKET
- KINDERGARTEN
- PRIMARY SCHOOL
- SECONDARY, TERTIARY
- MATERNAL & CHILD HEALTH
- DOCTORS SURGERY
- RAILWAY
- 10km BUFFER
- HIGHWAYS



**"INVERLEIGH"
CONTEXT MAP**

Job No 5920.77 Date Aug 2004

APPENDIX C SITE ANALYSIS PLAN



APPENDIX D

LITERATURE REVIEW

A thorough review of background literature and previous studies in Inverleigh, identified by the Golden Plains Shire, was undertaken in the preparation of this document. Key stakeholders and relevant authorities were also interviewed as part of the background research for the project.

Items in bold lettering are Connell Wagner emphasis and particularly relevant to the current study.

1.1 GOLDEN PLAINS SHIRE: TOWN STRUCTURE PLANS 1996 CH. 5 & 6, PLUS APPENDIX D: INVERLEIGH (TBA PLANNERS AND PLANNING AUSTRALIA)

This report represents the current structure plans for the towns within Golden Plains Shire. Inverleigh's structure plan is found in the appendix to the report.

Objectives for all towns in Shire:

- » Provide for low density residential development
- » Minimise immediate and future servicing cost
- » Stage development to ensure continuing productive use of land
- » Protect the natural and cultural features of towns
- » Ensure growth does not impact on agricultural land
- » Maintain the rural character of towns
- » Enhance the main gateways and approaches to town
- » Promote opportunities for new services and facilities to reinforce the role and identity of each town

Opportunities for all towns in Shire:

- » Proximity to Geelong provides opportunity for moderate residential development
- » Tourism opportunity, particularly for day trips and as the 'gateway' to the western district
- » Attractive to young families and the semi-retired
- » There is capacity within the township zone for further subdivision and dwelling construction
- » Town has a relatively compact form that could allow for efficient provision of infrastructure services

Constraints identified in Inverleigh:

- » Constrained by extensive floodlands with a minimum acceptable level for development of 62m AHD (AHD = Australian Height Datum, this comment highlights the floodway restrictions)
- » Consolidation and re-subdivision difficult in properties south of the railway
- » No reticulated sewerage system
- » Inverleigh west has no reticulated water

Strategic Issues in Inverleigh:

- » Maintain town's rural character
- » Flood prone areas costly to service
- » Growth Options – west along Cemetery Road, pockets along Common Road and Peel Road
- » Development west of Mahers Lane above 70m will incur water booster pump costs
- » Consolidate and resubdivide west of the town



Future Planning Strategy for Inverleigh:

- » Demand for low density residential allotments over township-residential sites
- » Most appropriate area for growth is immediately west of the sporting ovals, north of the cemetery
- » Maintain low density residential development to the north in a defined node
- » Provide for industrial use along Inverleigh-Winchelsea Road
- » New commercial uses should make use of infill opportunities on High Street (Hamilton Hwy)
- » Open Space contributions for all subdivision along the river

1.2 REVISED INVERLEIGH STRUCTURE PLAN 1985 – PUBLIC DISCUSSION DOCUMENT, MARCH 1985 (GEELONG REGIONAL COMMISSION)

- » Inverleigh has a committed rural setting
- » Is well served with shops, school, recreation ground, churches and other community buildings
- » Attraction of town to young families and semi-retired persons
- » Rural setting sought by homebuilders
- » Should retain attractive semi-rural character
- » Possibly establish appropriate rural-related service industries to offer local employment
- » Minimum acceptable level for development is 62m AHD
- » Maximum level for water supply with satisfactory pressures is 70 metres
- » Existing water supply has capacity to serve

- 130 equivalent houses and is already fully committed (100 houses plus 30 vacant lots)
- » Additional works required to serve any additional development over 130 houses or above 70 metres
- » Sewer designs have been completed for existing developed area of the town
- » Cost of extending water service may inhibit development

- » Population statistics somewhat unreliable as the Census Collector District (C.C.D) covers little more than the township zoned area. So official Inverleigh population in 1981 of 252, is more likely to be closer to 400+
- » Growth in population was located in rural residential hinterland rather than township
- » Owners of rural residential zoned land west of township have no plans to subdivide. Could provide up to 15 additional sites though water supply expensive
- » Supply of rural residential allotments estimated to be 22 - 27 years

- » 1978 Structure Plan proposal for residential growth south of railway now considered inappropriate due to separation from existing township, difficult access to Hwy, difficult to resubdivide efficiently
- » 1985 Revised Structure Plan Zoning of additional urban land unnecessary
- » Township growth appropriate to west of town, but zoning kept as farming until demand requires extension of township zone
- » Rural Residential growth is appropriate north of the Leigh River extending to Common Road
- » Industrial proposed south of Township fronting to Inverleigh-Winchelsea Road – Major industrial concerns and incorporate saleyards

- » Restrict commercial to existing Hwy location, encourage use of infill sites for new enterprises

1.3 INVERLEIGH COMMUNITY PLAN 2004 – FINAL DRAFT JULY 2004

Priorities for the Inverleigh Community

1. Community House - identify requirements, location and funding
2. Recreation for Youth – sporting activities (BMX, skateboarding, badminton) and passive activities
3. Retirement Units – Lions Club and St Paul's Anglican Church on church land
4. Town Planning – residential, industrial, retail – provide for future growth
5. Turnoffs on Hamilton Hwy to Bannockburn – implement turning lanes
6. Signage reduction/consolidation – reduce number of signs on highway
7. Footbridge over Leigh River adjacent to Road Bridge
8. Extension of Riverside Bike and Walking Paths – locations, funding
9. Fire Protection – reduce fire risk, displan requirements
10. Flora and Fauna Management – public land, control noxious weeds

Other issues:

- » Public transport – community transport program
- » Specialist community health services – Council developing a plan
- » Fundraising assistance
- » Community Events
- » Upgrade Sporting Complex – lighting, second

APPENDIX D

- » oval, tree planting
- » Victoria Park - development of open space area – dog obedience classes, horse riding, Sunday markets
- » Over Intensive Farming impact on rivers
- » Ecotourism – Inverleigh should be included in any tourism mapping for the Shire
- » Street Lighting – needs to be upgraded
- » Footpath provision
- » Public toilets – new ones built, safety barriers
- » Water Supply – considered poor, requires upgrading, have regard to future growth
- » Sewerage – potentially costly but should be included in any future planning
- » Road sealing and maintenance – increase numbers of sealed roads
- » Service Roads on Main Street – review one-way option, turnoff to shopping centre
- » Rail Crossing Lights – should be installed
- » Ford across Leigh River for horse traffic
- » Kindergarten and Health Care – increased growth will require these services
- » Library services – in Inverleigh with Internet access
- » School buses – need to reduce time taken to get to secondary school
- » Geelong Bypass – impact of new road to be included in planning as may increase economic activity
- » Town Place Plan – to be implemented
- » Historic Sites – preservation
- » Caravan Park – consider development for future growth of Inverleigh
- » Police Station – continue planning for a police station as the community grows
- » Telecommunications – considered poor, issues with mobile phone and internet coverage

1.4 INVERLEIGH TOWN PLACE PLAN NOVEMBER 2001 (THA LANDSCAPE ARCHITECTS)

This plan was prepared to guide the landscape development of public land in Inverleigh.

- » Inverleigh has been a rural community around a former soldier settlement program that has transformed to a commuter base for Geelong and Melbourne workers.
- » Pro active Progress Association has worked to reclaim the Leigh River from Gorse infestation
- » Main street is picturesque with heritage value

Inverleigh residents believe that the town's appeal includes:

- » Still has rural character and is small, quiet and well serviced
- » Aesthetically pleasing, river junction creates difference, a strength
- » Good fishing and camping opportunities
- » Active community – events Anzac Day, Good Friday Appeal
- » Potential for moderate residential development due to proximity to Geelong
- » Attractive to young families, retirees and commuters

Not so appealing:

- » Flooding – extensive flooding with many streets subject to inundation
- » River divides old and new part of town
- » Too many signs along eastern entry
- » Railway is a barrier to south, stockpile is an eyesore
- » Public toilets in wrong spot

- » Need better play equipment

Opportunities

- » Compactness of town, major facilities in close proximity
- » Impressive entry, Cypress trees
- » River location, recreational enjoyment – fishing, swimming, walking, formalise connection with town and river
- » Viewing points could be created along river as part of walking/driving network
- » Old abandoned orchard between town and river – heritage species of fruit trees / festival attract tourists
- » Temporary campground near river
- » Recreation reserve – could be more focus for community

Constraints

- » Flooding – restricts opportunities for permanent walking paths along banks of river
- » Steepness of river banks limits walking opportunities for a range of people
- » Toilet block relocation difficult due to cost

Town Place Plan Objectives

- » Maintain / enhance Main Street trees – replacement planting
- » Promote historical characteristics – heritage trail, feature lighting, site interpretation
- » Add playground and picnic shelter in Lawson's Park
- » New river trails for looped walk incl. historic buildings
- » Street tree planting, reduce signs, upgrade recreation reserve with screen planting
- » Treatment for cypress avenue – safety concerns



1.5 SMALL TOWN EFFLUENT DISPOSAL ALTERNATIVES STUDY 2002 STAGES 1 & 2, 2002 (BECA SIMONS)

In January 2002 a study into small town effluent disposal alternatives was undertaken across 4 rural shires. It was funded through the Federal Government Centenary of Federation Local Government Incentive Program.

Stage 1

Inverleigh

- » The Public Conservation and Resource Zone (PCRZ) zoning between Leigh River and rear of lots fronting the north side of the highway is erroneous and is available for development if the appropriate planning scheme amendment occurs. The report recommends it be Low Density Rural Zone (LDRZ) if developed
- » The township zone (TZ) area contains about 140 dwellings with a further 50 lots (75% developed) in the low density living areas around the town
- » Inverleigh is an attractive township that will continue to attract residents due to proximity to Geelong and Bannockburn
- » The LDRZ lots are large enough to contain septic effluent
- » Absence of sewerage in the township has resulted in dispersed development of ½ acre lots
- » Smaller lots could not contain effluent run off
- » There is already a problem with existing smaller lots
- » Development should be focused in the area to

the north of the railway

Opportunities

- » Use effluent disposal strategy to achieve township consolidation objectives
- » Railway and Leigh River corridor can be used as conduits to collect and pipe effluent run-off
- » Minimise future problems in the area between Leigh River and the lots along the north side of the Highway by requiring lot consolidation

Constraints

- » The Leigh creek corridor
- » Flood prone land, most of the Township Zone (TZ) zone is affected

Issues

- » Increased development of the TZ area will be severely constrained without the provision of suitable sewerage facilities.
- » Pressure to develop TZ area will increase due to increased demand for 'town services' such as shops, cafes, restaurants
- » Smaller lots in TZ area could attract lower income families

Options

- » Sewer options for TZ area – standard and modified sewerage, septic tank effluent collection system
- » Provision of a sewerage system would be relatively cost effective to construct and would promote development and ensure potential contamination of Leigh River is minimised
- » Location for sewage treatment facilities likely to be east or west of town on elevated plains
- » Potential for some effluent re-use on Recreation reserve

The water authority rarely recovers the actual capital and operating costs of sewerage systems. Communities are suspicious of sewerage systems promoted by water authorities. Barwon Water concerned that provision to town centre will cause demands for surrounding areas to be sewered also.

Stage 2

Inverleigh

- » Typical lot size in the TZ area approaching 0.5 acre.
- » Town is supplied with potable drinking water and discharges all waste water to septic tanks
- » Potential for public health issues if sewerage scheme not provided
- » Prime objectives of sewerage strategy are to eliminate effluent surface breakthrough and protect watercourses from contamination
- » Recommended to reduce future development close to the river and to discourage further subdivision of the LDRZ area north of the river

Proposal

- » Single stage development of reticulation system in township zone (TZ) excluding area bordering the river and the area west of the school woodlot.
- » Treatment and pumping station would be sized for a fully developed township

Options

- » Conventional sewerage reticulation system - treatment lagoons and irrigation disposal at Inverleigh
- » Modified sewerage reticulation system - pump to and dispose of in Bannockburn
- » Septic tank effluent overflow collection

APPENDIX D

system

Preferred

Modified sewage reticulation system at Inverleigh – treatment 1.5km north of town. Could be used to irrigate the golf course, state forest, airstrip or agricultural land.

Total Cost per Lot - \$17,500

Barwon Water must resolve how costs will be treated and timeframes prior to entering discussion of the issues with the community.

1.6 GOLDEN PLAINS SHIRE STAGE ONE HERITAGE STUDY 2003-4 PROGRESS REPORT – MILESTONE 3 – 2004 (LORRAINE HUDDLE)

All places in Inverleigh on existing heritage registers or lists have been entered into the Golden Plains Shire Heritage Database. This study is a work in progress.

All potentially significant places in Inverleigh have been photographed and mapped. Approximately 83 places have been listed for Inverleigh with a majority along the Hamilton Hwy / High Street.

1.7 GOLDEN PLAINS PLANNING SCHEME

Municipal Strategic Statement (MSS)

"21.02 KEY ISSUES AFFECTING THE SHIRE'S LAND USE PLANNING AND

DEVELOPMENT

The major issues relate to:

Managing residential growth; Enhancing economic growth; Maintaining and encouraging viable agricultural industries; Protecting and enhancing the natural and built environment."

"Council seeks to focus residential development within the boundaries of these townships. There is pressure for subdivision and development outside these townships. Lack of reticulated sewerage systems and, in some places, poor soil conditions for disposal of septic tank effluent, provide constraints to development."

"There is currently a limited range of employment opportunities within the Shire. It does not have large economic and service industries, and many of its residents derive their income from employment outside the Shire."

"There has been a growth of intensive agriculture, particularly in the wine and specialist livestock industries."

"Timber production is an important industry in the Shire. Production at this stage comes mainly from pine plantations, but there is a growing demand for land for hardwood plantations. Any expansion of plantations will be on to land which is already cleared and which is currently used for grazing or cropping."

21.04-1 MANAGING RESIDENTIAL GROWTH

"Over time the Golden Plains Shire's towns will become more urbanised."

"Significant scope exists for the consolidation of sites and intensification of development in existing towns without altering the character or quality of these areas."

Objectives

"To prevent unserviced urban development; To reduce environmental impacts caused by existing unserviced urban development"

"Inverleigh, Linton, Meredith, Rokewood and Smythesdale to serve the residential and commercial needs of their surrounding districts."

21.04-2 ECONOMIC GROWTH

"Inverleigh, Linton, Meredith and Smythesdale perform important local shopping and business roles."

"A number of industrial sites throughout the Shire established to provide for land for industrial use and development remain vacant. This reveals that: -

- » a significant proportion of small scale industrial uses are located within town areas either on individual sites or as part of a residential land use largely due to historic reasons and operator preference;
- » existing industrial zoned land is in inappropriate or located in non-preferred areas."

Strategies

"Inverleigh, Linton, Meredith, Rokewood and Smythesdale will be promoted as district commercial and retail centres serving the commercial needs of their surrounding area."

"Prepare structure plans for the planned development of the commercial and retail areas in the following areas: Inverleigh, Linton, Meredith and Smythesdale for highway commercial services."

"These strategies will be implemented by applying:



Business 1 Zone to commercial precincts;
Industrial 1 Zone to existing industrial precincts”

1.1.1 Local Policies

22.06 URBAN GROWTH BOUNDARIES

“The maintenance of a clear distinction between urban and rural areas is essential to continued agriculture and efficient township development as identified in the MSS.”

“Objectives

To provide a high quality urban environment and encourage the consolidation of existing township areas by maximising development opportunities within these areas.

To accommodate people within the main township areas that have reticulated infrastructure, such as water, future sewerage and stormwater drainage.

To maximise the use of infrastructure.

To ensure greater use of community services and facilities.

To improve service delivery to urban centres.

To lessen conflict in rural areas between agriculture and non-agricultural land uses.

To establish an urban edge to all settlements based on current zonings. This edge is designed to ensure that the direction of development is known to all residents and will facilitate certainty for development in urban areas and agricultural uses in rural areas.”

“Policy

It is local policy that:

Sewerage treatment should eventually be required for all unserviced townships. Until this infrastructure is supplied, these areas will be restricted to infill development, dependent on the ability of sites to accommodate and treat effluent.”

22.07 LOT SIZES AND MEDIUM DENSITY HOUSING

“Objectives

To provide for a variety of lot sizes to meet the requirements of all age groups, household types, different lifestyles and to provide housing choice. To accommodate medium density development adjacent to community services and facilities and proximity to commercial centres.”

22.10 LOW DENSITY RESIDENTIAL DEVELOPMENT POLICY

“Objectives

To maintain a high standard of quality low density residential areas across the Shire that reflects the rural character and aspirations of its community. To ensure new lots in the Low Density Residential zoned areas are of sufficient size to accommodate on site effluent disposal in accordance with the provisions of the Septic Tank Code of Practice and are compatible with existing lot patterns and rural characteristics of the area.”

1.1.2 Zones and Overlays

Refer to **Appendix E** for the appropriate Golden Plains planning scheme maps.

32.05 TOWNSHIP ZONE

“To provide for residential development and a range of commercial, industrial and other uses in small towns. To encourage residential development that respects the neighbourhood character.”

32.03 LOW DENSITY RESIDENTIAL ZONE

“To provide for low-density residential development on lots which, in the absence of reticulated sewerage, can treat and retain all wastewater.”

33.01 INDUSTRIAL 1 ZONE

“To provide for manufacturing industry, the storage and distribution of goods and associated uses in a manner which does not affect the safety and amenity of local communities.”

34.01 BUSINESS 1 ZONE

“To encourage the intensive development of business centres for retailing and other complementary commercial, entertainment and community uses.”

35.01 RURAL ZONE

“To provide for the sustainable use of land for extensive animal husbandry (including dairying and grazing) and Crop raising (including Horticulture and Timber production).”

36.01 PUBLIC USE ZONE

“To recognise public land use for public utility and community services and facilities. To provide for associated uses that are consistent with the intent of the public land reservation or purpose.”

PUZ2 Education

PUZ4 Transport

PUZ5 Cemetery/Crematorium

PUZ6 Local Government

PUZ7 Other public use

36.02 PUBLIC PARK AND RECREATION ZONE

“To recognise areas for public recreation and open space.

To protect and conserve areas of significance where appropriate.

To provide for commercial uses where appropriate.”

36.03 PUBLIC CONSERVATION AND RESOURCE ZONE

“To protect and conserve the natural environment

APPENDIX D

and natural processes for their historic, scientific, landscape, habitat or cultural values.

To provide facilities which assist in public education and interpretation of the natural environment with minimal degradation of the natural environment or natural processes.

To provide for appropriate resource based uses."

36.04 ROAD ZONE

"To identify significant existing roads.

To identify land which has been acquired for a significant proposed road."

42.01 ENVIRONMENTAL SIGNIFICANCE OVERLAY

"To ensure that development is compatible with identified environmental values.

Any application to develop land may be referred for comment to:

- the Department of Natural Resources and Environment; and
- the relevant water board or water supply authority."

SCHEDULE 2 TO THE ENVIRONMENTAL SIGNIFICANCE OVERLAY WATERCOURSE PROTECTION

"To maintain the quality and quantity of water within the watercourse."

43.01 HERITAGE OVERLAY

"To conserve and enhance heritage places of natural or cultural significance.

To conserve and enhance those elements which contribute to the significance of heritage places.

To ensure that development does not adversely affect the significance of heritage places.

To conserve specifically identified heritage places by allowing a use that would otherwise be prohibited if this will demonstrably assist with the conservation of the significance of the heritage

place."

HO7 - State School No. 330, Hamilton Highway, Inverleigh

HO8 - Prefabricated Iron Cottage, off Weatherboard Road, Inverleigh

HO21 - Inverleigh Hotel, High Street, Inverleigh

HO22 - Presbyterian Church, High Street, Inverleigh

HO50 - Pauls (Anglican) Church, Hamilton Highway, Inverleigh

HO51 - Presbyterian Church, Hamilton Highway, Inverleigh

HO52 - Methodist Church, Hamilton Highway, Inverleigh

HO53 - Lawsons (former Horseshoe Inn) High Street, Inverleigh

[Not all these places are mapped on the planning scheme]

44.02 SALINITY MANAGEMENT OVERLAY

"To identify areas subject to saline ground water discharge or high ground water recharge.

To facilitate the stabilisation of areas affected by salinity.

To encourage revegetation of areas which contribute to salinity.

To encourage development to be undertaken in a manner which brings about a reduction in salinity recharge.

To ensure development is compatible with site capability and the retention of vegetation, and complies with the objectives of any salinity management plan for the area.

To prevent damage to buildings and infrastructure from saline discharge and high watertable."

44.04 LAND SUBJECT TO INUNDATION OVERLAY

"To identify land in a flood storage or flood

fringe area affected by the 1 in 100 year flood or any other area determined by the floodplain management authority.

To ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, is compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity."



APPENDIX E

STAKEHOLDER CONSULTATION

AUTHORITY CONSULTATION

Barwon Water
Corangamite Catchment Management Authority (CCMA)
VicRoads
Elders
Golden Plains Tourism
VicTrack
Australian Rail Track Corporation (ARTC)
Pacific National
Environment Protection Authority
Department of Sustainability and Environment
Powercor
Authority Consultation Workshop

COMMUNITY CONSULTATION

Community Workshop Outcomes
Community Shopfront Liaison Outcomes
Koala Fair Community Liaison Outcomes
Questionnaire Responses
Submissions to Draft Structure Plan

1. INTRODUCTION

A detailed consultation strategy has been developed to involve local authorities, agencies and stakeholders in the preparation of the Structure Plan. These consultations will involve:

1. Golden Plains Shire officers and Councillors.
2. Stakeholder meetings and telephone discussions.
3. A community based workshop in the form of a Charette.
4. Two 'shopfront' community liaison sessions.
5. Questionnaires.
6. An Authority Workshop.



2. AUTHORITY CONSULTATION

2.1 Barwon Water

20/08/04 Telephone Conversation between Mike Sest of Connell Wagner (CW) and Peter Williams – Sewerage Planning Engineer at Barwon Water.

- » Barwon Water have no plans to implement sewerage scheme at Inverleigh. They have not received a request from residents nor any environmental / health justifications to implement a scheme.
- » No government funding currently available which means the cost would be approximately \$15k per lot. Barwon Water has, however, recently implemented a sewerage scheme at Birregurra for \$11k per lot.
- » Barwon Water would require Golden Plains Shire to initiate investigation – as part of strategic plan for the township – in order to move forward.
- » Barwon Water would encourage Golden Plains Shire to source government funding in order to make the costs approximately \$1k per lot so that it is more affordable and closer to what people are prepared to pay.
- » Bannockburn has approximately 2000 people in town and their sewerage treatment plant has capacity for approximately 3000 people. However, Bannockburn population is increasing very quickly, as it is closer to Geelong than Inverleigh and future augmentation will be required. If a transfer line from Inverleigh preferred, then further augmentation of the sewerage treatment plant would be required.
- » Barwon Water feels 15km (the distance from Inverleigh to Bannockburn) could be too far for a transfer line as the flow volume, of approximately 300 people, is likely to become

too septic over this distance.

- » Would be better off to develop a lagoon based sewerage treatment plant near Inverleigh and identify commercial re-use opportunity (such as farm irrigation) and/or irrigation tree lot.
- » Barwon Water could become involved in investigating options further if Golden Plains Shire put a submission in to Barwon Water.

19/10/04

- » Peter Williams recommended inviting Glyn Kirtley and Alex Wilks to workshop and provide draft report at least a week prior.

10/11/04 Authority Workshop held at Inverleigh Community Hall

- » Andrew Wells attended for Barwon Water and tabled a memo from Peter Williams

Comments in memo included:

- » Minimum lot size acceptable to Shire health officer for septic tank use is 1000m² (1/4 acre).
- » Barwon Water has no current plans to sewer Inverleigh as has not been advised of public health or environmental concerns
- » Drivers to initiate investigation of a new sewerage scheme need to come from Shire in accordance with procedural guidelines of DSE. Reasons should be based on a defined need to upgrade the present system for public health or environmental reasons or to provide for planned development. There would also need to be demonstrated strong support for a scheme by the local community, including willingness to pay.
- » This would require a report prepared by the Shire on the reasons for upgrading, options considered and presented to

public meeting.

- » Recently (2002) Colac Otway Shire followed this procedure for Birregurra. Barwon Water require it to be fully funded and that it could not defer owner contributions by funding some of the works in the interim. This is likely to be the case in Inverleigh
- » There is likely to be another round of New Town Sewerage Scheme through DSE which may provide funding contributions for new schemes. However, these will be dependant on the level of public health and environmental impacts in each town.

Comments during the workshop included:

- » Reiteration that Barwon Water has no current plans to sewer the town and this would only be considered if there is an environmental need shown
- » Option for Package Treatment Plant at each household instead of old septic tank. It requires less space but more maintenance.
- » Commercial re-use is possible and encouraged. However, it is unlikely to help reduce the main costs of the project. There is not much that can be done to reduce the initial costs as the upfront cost of infrastructure is the biggest cost.
- » There is the opportunity to avoid pumping stations. Pressurised sewer systems are being investigated where each house pumps the system. Barwon Water is developing a policy for this option. The operational costs, however, are high. Might be an option to place the holding tank at Victoria Park.
- » Water Supply – reticulation could be extended west of town to approximately Mahers Lane.

APPENDIX E

17/12/04 Email from Strategic Planning Department to Council – Peter, via Andrew Wells

The public health and environmental risks are a matter for the Golden Plains Shire to investigate, as well as the condition and effectiveness of the existing septic tank systems. Barwon Water is a service provider, and would only investigate a possible sewerage scheme if the risks have been identified and there is demonstrated community support for a scheme (including paying for it). Control of flooding risks are also the responsibility of the Shire. Barwon Water has not had any formal contact from the Golden Plains Shire regarding sewerage of Inverleigh, and would need a formal request prior to proceeding with an investigation.

In the case of Birregurra, the Colac Otway Shire prepared a report on the situation there, and the options to alleviate the problem of septic tank effluent seeping into the street drains. The Shire then arranged for a public meeting (which was well attended), at which the Shire's Community Health Manager presented the findings of the report. I spoke on the option for a conventional sewerage system, and the people at the meeting voted on a motion to request Barwon Water to investigate a scheme. Following a formal request from the Shire, we undertook the investigation last year (at Barwon Water's cost). Our consultant's report was referred to the Shire, and was then made public. The cost of the scheme would be about \$11,000 per residential allotment, with no subsidy from Barwon Water. There are ongoing discussions about how to pay for it, and I will be attending another meeting with the Shire's Community Health Manager next week.

With regard to the health and environmental

information that should be obtained by the Golden Plains Shire for Inverleigh, this would be odour issues within the township and the bacterial quality of flows in street drains. The bacterial sampling and tests should be carried out in accordance with procedures specified by a NATA accredited laboratory, and should analyse for total and faecal coliforms. Representative locations in the township should be selected, and samples taken at each location on at least three occasions. The date/time of sampling and weather conditions should be recorded for each sample, as well as any other relevant information (eg. recent rainfall).

A pressure sewer system may be appropriate if there are flooding problems in the township. However, it is unlikely to be cheaper than conventional sewerage reticulation, due to the cost of the individual grinder pumps and storage tanks. There could be an option for households to retain their septic tanks, with the effluent collected by a small diameter pipe system and pumped to a treatment facility. However, the septic tanks would still need to be maintained by individual property owners, there would need to be an irrigation system to recycle/ dispose of the treated effluent.

At this stage, Barwon Water has no documented basis for agreeing to investigate a sewerage scheme for Inverleigh. Barwon Water may pay for a consultant's report (as it did for Birregurra), but the authority's position is that it would not subsidise the design and construction of a scheme. Also, we require evidence of strong community support, as we will not force a scheme on a community.

2.2 Corangamite Catchment Management Authority (CCMA)

20/08/04 Telephone conversation between Natalie Mitchell (CW) and Tony Jones of CCMA.

- » Tony has recently reviewed the 100 yr flood level and has confirmed actual flood levels now - up to 1 metre in town centre. The difference to council map data is minimal.
- » Tony does not believe flood mitigation measures are a viable option for the town
- » The Barwon River floodplain is an important natural storage area
- » The town has a flood warning system

10/11/04 Authority Workshop held at Inverleigh Community Hall

Tony Jones attended and made the following comments:

- » he had in mind to do a flood study in the future and this could look at options for mitigating flood in township area.
- » It was noted that there are blue-green algae outbreaks every summer in the Leigh and Barwon Rivers. This could be caused by Inverleigh septic seepage, road runoff or from as far off as Ballarat.
- » Levees may not be appropriate in Inverleigh.
- » A Flood warning system is in place and was updated 3 years ago – 24 hours notice peak flood warning. The Bureau of Meteorology monitor the system and notify the SES. The Water depth in flood plain is approximately 0.5m with channel areas of floodway approximately 1m.
- » There may be Commonwealth Funding Scheme for mitigation.
- » You can build on the floodplain if house 300mm above ground level – all applications are forwarded to Tony for approval. The EPA



- use 1:25 year flood levels (as opposed to 1:100).
- » Need Performance Indicators for planning approvals in flood plains – ie. a garage does not need referral to CCMA.
- » Tony Jones has recent experience with Surf Coast Shire local floodplain policy development.

2.3 VicRoads

20/08/04 Telephone conversation between Natalie Mitchell (CW) and Vince Panarro – Program Development South Western Region

- » A Highway Corridor Study has been done.
- » It outlines monitoring of intersection safety performance and bypass issues.
- » Vince indicated that the Peel Road/Common Road intersection will be monitored as a possible blackspot.
- » Rest areas, truck stops to be promoted along Highway.
- » Vince suggested further discussions be had with the strategic planning group of VicRoads – Ian Karutz.

5/11/04 Email from Ian Karutz to Natalie Mitchell with response to draft plan

Comments were as follows:

5.1 Traffic and Transport, 1st para, 2nd sentence, Suggest

- ' - - at the corner of Railway Street, the two lane highway is provided by service roads on both sides. The service roads are separated from the highway by landscaped areas containing grand trees.'

7.9 Transport/Access, 2nd para, 2nd sentence, Pedestrian Crossing, Comment

VicRoads should be consulted about any pedestrian crossing initiatives that Council may develop.

7.9 Transport/Access, 2nd para, 3rd sentence, School Crossing, Comment

It is understood that:

the school crossing has a part time school speed zone which reduces highway speeds from 60km/hr to 40 km/hr during periods of operation; the crossing is also supported by a school crossing supervisor.

VicRoads will include this crossing on a list of candidate sites to be considered for improved signage through the use of variable electronic speed signs.

2.4 Elders

20/08/04 Telephone call between Natalie Mitchell (CW) and Ross Spitty (in the absence of Colin Beele in Geelong Office).

- » Saleyards owned by Elders and used once or twice a year.
- » Ross indicated there are no plans for the sale of the land and expects it will continue to be used as saleyards once or twice a year.

2.5 Golden Plains Tourism

20/08/04 Telephone conversation between Natalie Mitchell (CW) with Tim Wouters – Vice President of Golden Plains Tourism and Proprietor of Whistlers Café

- » Whistlers café on High Street Inverleigh sells crafts etc and acts as an Information Centre.
- » The Golden Plains Tourism group produce a tourist directory map highlighting picnic areas etc and works with Council to promote tourism

in the area.

- » Would like to be involved in the project and kept informed.

22/08/04 Personal communication with Tim Wouters

- » Tim agreed to have a set of questionnaires available in his store for interested persons to make comments on the structure plan review.

2.6 VicTrack

22/10/04 Telephone conversation between Natalie Mitchell (CW) and Neville Boon of VicTrack.

- » Standard Gauge line from Melbourne to Adelaide.
- » ARTC run passenger and freight line main overland route to Adelaide.
- » Is willing to attend workshop and provide feedback to report.

9/11/04 Email/Fax from Neville Boon to Natalie Mitchell with response to draft plan Neville forwarded a map of VicTrack land holdings in Inverleigh.

Neville outlined that the areas shaded on the plan are presently vacant and would be available for lease/development (Lots 15 - 19). Neville noted that some of this area is nominated as a potential commercial/industrial zone in the draft plan.

Neville recommended contacting ARTC or Pacific National on the potential for reopening the area to rail freight services and/or passenger services you should continue consultation with ARTC and possibly Pacific National.

APPENDIX E

2.7 Australian Rail Track Corporation (ARTC)

- 22/10/04 Telephone conversation between Natalie Mitchell (CW) and Andrew Cole – Asset Manager
- » ARTC may see a need to extend the passing loop at Inverleigh
 - » ARTC Objective is have more and longer trains for more carrying capacity
 - » There have been proposals to improve or enhance the current sidings at Inverleigh
 - » Pacific National have two roles 1. Freight Australia – Intra-state movement and 2. Main interstate rail carrier
 - » There may be an opportunity for a grain handling facility in the vicinity of Inverleigh. The new way for grain is for large receival grain handling depots with large storage facilities.
 - » Is willing to respond to draft report and possibly attend workshop if have other site visits in the area.
 - » Recommends contacting Pacific National – Garry Molloy.

2.8 Pacific National

- 28/10/04 Telephone conversation between Natalie Mitchell (CW) and Garry Molloy of Pacific National.
- » Garry thought that the sidings may be part of the Pacific National lease but they are not of much use to them.
 - » He recommended I speak to Brian McNaught in the Network and Access Division.

28/10/04 Telephone conversation between Natalie Mitchell (CW) and Brian McNaught of Pacific National.

- » Brian indicated that Inverleigh's sidings and all the infrastructure are leased by ARTC. This is an exception to the norm as Pacific National usually have the lease.
- » Pacific National have no interest in infrastructure at this location.

2.9 Environment Protection Authority

- 20/10/04 Telephone conversation between Natalie Mitchell and Alan at Geelong office
- » Adequate buffers should be maintained for chicken sheds in vicinity of town
 - » Recommends I speak to Charles Carabott regarding involvement in project.

Several phone calls have been made and correspondence forwarded to the EPA, however we have yet to receive any feedback regarding the Inverleigh Structure Plan Review other than the initial comment regarding chicken sheds.

2.10 Department of Sustainability and Environment

- 10/11/04 Authority Workshop held at Inverleigh Community Hall
Geoff Forbes attended for South West Region Planning Department
- » Raised the issue of increased pressure for development and how to direct unit development. Also how to control the appearance of units.
 - » Design Guidelines were suggested for this purpose and a DDO over the old town area.
 - » Felt that the green link was a good idea for the town.
 - » Indicated he would check the ownership of road reserves that are currently used for

farming.

2.11 Powercor

- 10/11/04 Phone conversation between Natalie Mitchell (CW) and Ron from Powercor.
- » Called to say David Holroyd no longer able to attend workshop
 - » Inverleigh is currently fed with electricity from Winchelsea
 - » Long term works aim to connect the town with a second feeder from Geelong.
 - » Industrial uses or a water treatment plant can be accommodated, however the costs and timeframe depend on the proposed facility.

2.12 Authority Consultation Workshop

A workshop was held and all relevant authorities and community groups were invited. Only three invitees attended representing Barwon Water, Corangamite Catchment Management Authority and DSE – South West Region.

Their comments can be found under the corresponding authority headings.



3. COMMUNITY CONSULTATION

3.1 Community Workshop Outcomes

The Community Workshop held on 22nd August at the Inverleigh Hall was undertaken in a modified charette process. After an introduction the participants moved into five groups with a different theme in order to identify issues, suggest solutions and develop a vision for Inverleigh. Some of the groups undertook a walkabout the town and when the groups reconvened the issues were shared and discussed and the way forward outlined. Below are the results of each group's discussions as written up on large posters on the day.

TOWN GROWTH GROUP

VISION

- » Not suburb
- » Growth to keep town "clicking"
- » Peace and quiet
- » Character
- Village
- Country feel
- » Amenity/Ambience
- » Do not want town to die
- » Growth from lower density development
- » "Higher" density in "Old Town"

TOWN GROWTH (Residential & Commercial)

1. POSITIVES	2. NEGATIVES
ambience – country feel	lack of services eg: doctor
space	flooding
environment	lack of sewerage?
Green corridors	Highway
Potential to expand	Rivers/topog. Limit growth
Proximity/access to Geelong	Pollution/noise
Ring Road	Visual impact of railway
Access to Ballarat/ Colac	Lack of town water to certain areas
Rural backdrop	Traffic
Size of blocks	Public transport
Choice of block size (in town vs. outer)	No facilities for aged
No sewerage = positive	No secondary school
Affordability	
Available land for planned strategic growth	
Heritage	
Sense of community - families - aging pop./ retirement	

1. When Do You Feel You Are Home?
2. Inverleigh Population?
 - » Capacity to double on existing
 - » Will grow by 50% in 10 years
 - » Green corridor – use river or town buffer
 - » Light industry?
 - » Native Hut Creek – natural boundary to Eastern growth
 - » North - Powerline
- Common
 - » South - Flood plain
 - » West - Hamiltons Hill
 - » Subdivision to "soften" road layout @ limit straight road regular lots

VICTORIA PARK

- » Relocate to land in 100 year floodplain
- » Relocate to sports complex

COMMERCIAL

- » Focus on existing "Old Town"
- » Hamilton Highway location
- » Supermarket - not essential
- issue for aged access

NEED:

- » Needs analysis
- » Health services
- » Motel
- » Caravan park/Designated camping area

APPENDIX E

COMMUNITY & SPORTING FACILITIES GROUP

VISION

- » Charming rural town
- » Small and quiet
- » Some growth will keep town viable
- » Need to provide for the elderly
 - Housing
- » Services

OPPORTUNITIES

- Upgrade facilities at Sports Reserve
- Upgrade second oval/park for cricket
- Tennis Club – long term re-location
- School expansion – road reserve/tennis land
- Market at Lawsons Park or opposite pub
- Victoria Park – future development – use funds to upgrade community assets
- Bicycle Tracks/horse trails
- Walk track – complete along river

1. POSITIVES	2. NEGATIVES
Community Hall <ul style="list-style-type: none"> - lots of groups, dances, reiki, parties - great since upgrade 	Public toilets – pub, recreational reserve
General Store <ul style="list-style-type: none"> - central meeting place 	Market <ul style="list-style-type: none"> - needs upgrading - no passing traffic - only for locals
Market – helps to keep open space	Bowls <ul style="list-style-type: none"> - not enough people/funds - green quality hard to maintain
New Netball courts & lighting	Scouts – Bannockburn
CFA – good response times	Sports Function Room – need enlarging & improvement
Pub <ul style="list-style-type: none"> - lots of activities - Good Friday Appeal 	Police <ul style="list-style-type: none"> - often away - backup takes too long
Lots of local groups <ul style="list-style-type: none"> - crafts - sewing - Red Cross <ul style="list-style-type: none"> - disaster plan - bushfire response - fund raising - catering group 	Drainage Issues
Police – resident	SES – Bannockburn
Tennis Club – recently upgraded	Bicycle/pedestrian/horse safety
Cricket/Football & junior teams strong	Aging population not catered for
Victoria Park <ul style="list-style-type: none"> - donkey association - horse & cart - dog obedience 	Teenagers not catered for
Golf Club	Pedestrian access to sporting reserve & rest of town



INFRASTRUCTURE GROUP

- Causes for Flooding
- Falling trees
- Earth embankments slumping into waterways
- Building roads inappropriately
Do not take into free flow
- Better monitoring failures or blockages

VISION – 20 YEAR

WATER

- » Provide water supply (retic'n) to areas of town (elevated west side).
- » Higher level of service – std retic ws – same as city (no restricted use).
- » Installation of compressor/pump and transfer lines
- » Continue with tanks in conjunction with retic'n
- » Water supply quality OK – some issues with chlorination.

FLOODING

- » Look to prevent Hamilton Highway from 1% flood
- » Structural flood mitigation (eg. Earth berms) to restrict flood waters with flood zone (from Bourkes Rd).
- » Flood mitigation idea – look for opportunities upstream to 'hold' floodwater volume in areas that are not critical – farmland
- » away from houses
- » Investigate 'choke' effect of bridges within town - can these be altered to improve flow – through and stop back-up.
- Hamilton Highway Bridge
- small bridge (Pearce's Bridge)

SEWER

- » If retic'n system is installed would like to see the waste water put to re-use.
- » Retic'n system for main section of town (denser sections of town) - cost effective
- » Treatment plant away from river and not upwind (ie not south or west)
- » Follow up with effected residents to confirm acceptance of retic'n system
- » Keen to identify external funding (Commonwealth/State) - do not want hardship on residents
- » Consider septic overflow collection option – but need to study further – probable not preferred (is this a 'bandaid' solution)
- » If Government funding (1st Preference) wasn't possible – consider paying over extended period (20 year) as add-on cost to rates.

TELECOMMUNICATIONS

- » Provide broadband service
- » Improve digital service
- » Improve TV reception

POWER SUPPLY

- » Seen some improvement, but would like to see continued improvement to increase reliability – in some locations, power loss is high each week.

GAS SUPPLY

- » Investigate possibility of linking town gas ret'n to Alcoa main (~15km away)
- » Not necessarily a key issue

STORMWATER

- » Would like to see more regular maintenance to remove silted blockages etc, otherwise seems OK.

NATURAL GAS

- » Lack of firewood for heating is becoming critical!!
1. Power supply OK for current population – but feel that it may need enhancement if population increases. Otherwise most infrastructure (particularly services) need some improvement.
 2. Roads
 - some sections of road (common road) need speed limits investigated.
 - Junction Hamilton Highway/Common Road is poor - need turning lane
 - Cemetery Road – look at dual carriageway, rather than single, because it has become busy after recent development
 - Clear tree branches away from speed limit sign (enter town from east)
 - Subdivisions roads (particularly out west side) are still dirt – would like to see made sealed
 - Bannockburn turn (Harvey Road) - would like a turning lane.
 3. See sewer notes – not really aware if there is a health problem – if it's determined by effluent.
 4. Suggest a survey with 'Town' people to ascertain with greater confidence regarding issues with current septic tank system.
 5. Study/Investigation needed to show that environmental issues exist (eg. Contamination of Leigh R) - then very keen to see some works to address.
 6. Consider increasing density at lots if sewer

APPENDIX E

retic'n installed, but do not want to lose 'Country Village' and spaciousness feel that town has. Need some planning controls to ensure development is sensitive to and maintains the current ambience of the town. Eg. Proposed retirement village at Dundas St/Hamilton Hwy is seen as an appropriate development.

7. OTHER ISSUES

Street Lighting

- Improve lux levels in main street
- Some residential sts (eg. Railway Street) are very dark – causes might be lack of maintenance on existing, but would like some investigation.
- Feel lighting in vicinity of train line needs improving.

Tree Maintenance

- Impact on vehicle sight lines (eg. On Highway, opposite Post Office)

Road

- Rough road (potholes) adjacent to public toilets.

Established/Mature Trees

- Any infrastructure redevelopment should be cognisant of maintaining/preserving mature trees ie. Do not compromise Inverleigh's established trees.
- Instigate a programme/strategy for planting new trees that become eventual replacements for existing mature trees as they die off.

Railway Crossings

- At all railway crossings improve street lighting

- Some of the busier streets in the main part of town, consider installation of warning lights/improving crossing safety.

ROADS & TRAFFIC GROUP

VISION

- Easy Access
- Pedestrian safety
- User-friendly
- Maintain non-suburban pattern of development

Hamilton Highway/Common Road Intersection/ Harvey Road - Re-design? - Re-align?

Ring Road Problems

- » Increased traffic generally
- » Winchlesea Road in Stage 3 – short term with trucks turning east on Highway

Service Roads

- » intersection difficulties with cross streets
- » one way? two way? Benefits/problems with each flow pattern. Priorities Ö or ×
- » Trees – visibility, replacement, obstructions

Traffic Issues

- » 20-30%+ in 10 years, 50%+ in 20 years
- » Speeds now OK. Police presence helps
- » Flood events – delays cut-off 24-48hrs

Flooding

- » New crossing to north needed (Phillips Road?)
- » Teasdale Road twin bridges flood early, need upgrade\
- » Bridge approach ramps cause problem

Pedestrians

- » no footpaths, no dedicated pedestrian links
- » Link centres of activity
- » Pedestrians/horses don't mix

General

- development to west will put pressure on Highway
- Improve bus service
- Better bus stops
 - safer
- Common road stop on highway dangerous
 - Stop west of bridge?
- Long trains block 2 crossings. Emergency?
- Railway siding – future use? Remember possibility
- Relate to industrial deviation. Increased truck traffic?
- Private Road – GPC needs to purchase
- 3 intersections with Highway requiring treatment – Winchlesea Road, Railway Street, Common Road
- Closure of public laneways by adjoining residents has stopped access to River.
- Leasing, maintenance issues.
- Service road parallel to Highway from Common Road east to Hopes Plains Road
 - when development occurs
- Hopes Plains Road – Faulkner Road – Common Road to avoid Common
 - Road/Highway intersection
- Common Road important in fire events



ENVIRONMENT & HERITAGE GROUP

VISION

Retain Rural Atmosphere

- » Trees, heritage character, open space, non edged street scape block sizes (consider needs for different groups eg. Elderly), parks, playgrounds.
- » Look – old buildings, single shops, width of streets
- » Continue to develop river as an Asset
- » Walking tracks, vegetation, environmental corridor between flora & fauna reserve & river
- » Continue to develop & protect flora & fauna reserve
- » Diverse community – cater for different needs – age groups – interests while retaining character
- » Retain & building on Historic feel & base of the town – consult with historical societies, local agencies & state groups
- » Research Aboriginal sites & protect them. Educate public on Aboriginal heritage.
- » Cottage industries (not affecting sight & sound values) work from home for employment opportunities – not big industries (no industrial zone at present)
- » Internet & telephone services – needed if people to work from home

- » Protect & retain nature of old part of town – new growth to the west & north
- » Extend network of walking tracks – to shops, school, bus stops, environmental spots eg. River.
- » Safety for children – retain service roads, walking tracks. Toilets – at present service travellers, relocate to Lawsons Park for residents & travellers.
- » Community feeling – build sense of belonging & ownership.

ASSETS & STRENGTHS

River & Walking access (swing bridge, tracks, access)

Concerns over river flow, illegal removal of water

River Track – entry at Bells Bridge & elsewhere a mess – consolidate tracks

Common Fauna & Flora Reserve

Unique flora

National Value

Aboriginal sites

Also kangaroos – where they move, traffic etc.

Outside study area but important to us. Need to consider impact of growth to North of the town on F&F Reserve.

Main Road vista

Beautiful and special

Value of large trees

Highway and service roads – good going both ways – allows residents good access

without problems to flow of Hamilton Highway.

Need to cater for trucks, caravans passing through etc.

Need to consider brings in outsiders spending money but need to think of increase in traffic, plan for parking.

Country feel – not too many manicured edges.

Change in demographic & block sizes over last 25 years – ¼ acre blocks, commuter influx, some change to fee in “old” township. Less rural and a bit more suburban.

VALUE – RURAL ATMOSPHERE even in the township.

Heritage values – if more shops separate rather than complex

Block sizes – should there be a limit? No less than 1/4 acre.

SEPTIC

Need to consider viability when blocks are smaller.

Seepage to the river?

Treatment level – septic v sewerage

CAMPING IN INVERLEIGH

Environmental impact – rubbish – toilets – fires

Location – don't want to see it

If on river area – spoil vista, atmosphere

Don't want a caravan park.

Consider informal sites (as now?)

Weeds – serrated tussock – DSE for rural

Need to inform new & potential residents

Continuing education program

APPENDIX E

Railway tracks
Victoria Park

RETAIN VICTORIA PARK

School – Arboretum – beside sporting complex

- wood lot plantation – cnr McCallum Road & Railway Street

Be aware

SEWERAGE

TVE

Protect water quality

Consider vegetation damage & street scape damage

Sewerage treatment & works – where?

Issues involved

Which way?

TREES

Maintain trees & vegetation, streets, rivers and protect

Plant more

Avenue of Honour – plan for the future and Main Street trees so we maintain our town feel.

Do an arbor report to look at the situation, replacements – look at function, look, longevity

VALUE – trees in streetscapes and all around the town

Concerns re growth

River health

Trees

Expectations of new residents – education for reality of rural town atmosphere

Happy with basic services & community building activities

Don't want to be too overdeveloped – only ½

hour from everything

VALUE – space and open feel

Rubbish – processes in place through Shire

Teesdale Tip – Future sites? NOT IN

INVERLEIGH

REVIEW NOTES – at end of workshop

» recreation facilities for elderly, provide opportunities

» linkage of power supplies

» blockage trains on 2 crossings

» street light cnr Common Road & Hamilton Highway

3.2 Community Shopfront Liaison Outcomes

Connell Wagner and Council staff attended a shop-front stall at Inverleigh on Saturday morning, 4th September 2004. The purpose of the session was to give the broader community an opportunity to consult and learn about the project following the community workshop two weeks earlier.

Plans of the study area, outcomes from the workshop and a questionnaire were available at the stall. More than twenty questionnaires were distributed and ten people stopped to discuss the project. These people represented a good cross-section of the residential opportunities available in Inverleigh, including residents from town blocks, rural residential and broad-acre farming.

Key comments received included:

» Low density growth to the west of town was generally supported by all

» Rural use to the north of the highway, west of the town was supported

» Victoria Park should remain and not be relocated/converted to residential

» Traffic on Napier street is an issue when sporting events are on

» Eastern growth should be limited to land west of Hopes Plain Road

» Protection of the old town with a system of levee banks should be investigated

» Industrial uses should be on the Winchelsea Road, retaining rail sidings for activities associated with rail/freight use.

3.3 Koala Fair Community Liaison Outcomes
Connell Wagner and Council staff as well as Progress Association members attended a stall at the Inverleigh Primary School Koala Fair on Sunday 10th October 2004. The purpose of this session was to garner responses to the initial draft of the revised Structure Plan for Inverleigh and to update the broader community on the progress of the project to date.

Previous Structure Plans, a Site Analysis Plan, an Aerial Photo Plan and the draft Structure Plan were displayed at the stall and background reports were also available. Questionnaires were distributed and many people stopped to inspect the plans and provide valuable feedback about the plan and Inverleigh in general.

The key comments received included:

» Keep the rural uses close to the town and help to retain the rural atmosphere.

» Concern about potential pollution from light industrial areas close to the river.

» Industry should be located as far as possible from river and floodzone areas.

» Suggestion to move the industry to south of the highway at the western edge of town.

» Concern with smaller lot sizes, or lots becoming smaller over time.

» Area south of the highway to the west –



the future LDRZ, would be more suited to remaining broadacre farming.

- » Truck parking opposite the general store is the best and roomiest available from Mortlake to Geelong. This area should be left as it is or made larger. There should absolutely not be a concrete traffic island installed to separate the parking from the highway.
- » Investigate private water main at Barwon Park Road. This water main could be directed to tanks with pipes running down the hill back towards town and provide for future water needs in LDRZ areas.
- » Strong growth boundaries required along Hopes Plains Road and Mahers Road.

3.4 Questionnaire Responses

First Stage

A questionnaire was prepared for the first stage of the community consultation. This was distributed at the community meeting, the general store, the craft store, the garage, the shopfront liaison session and the koala fair.

Only one completed questionnaire was returned to Connell Wagner. The general response was a preference for no changes to be implemented at all to Inverleigh.

Second Stage – Effluent Disposal Questionnaire

A questionnaire was prepared to determine community support for a sewerage system in Inverleigh. This was made available at the Community Information Session where the draft plan and report were presented and also at the General Store and online at the Council website.

Only 29 completed questionnaires were returned, of which the majority of responses were not supportive of a sewerage system at this time, particularly if it required payment by landowners.

This limited response was not a representative sample of residents in Inverleigh township.

3.5 Submissions to Draft Structure Plan

Two written submissions were received regarding the Draft Structure Plan.

1 – St Paul’s Anglican Church

The Secretary to the Vestry indicated that part of the church land on the north side of Cambridge St and west of Newman Street should be outlined as ‘Old Town’ residential zoned land on the structure plan.

2 - McCann Family

The McCann Family outlined their recommendations for the staging of development in Inverleigh. They also recommended a vegetation buffer along the Hamilton Highway for the Rural Industry area and wanted the cemetery to be notated on the structure plan. They highlighted that residential township density growth could occur in the area east of the cemetery.

APPENDIX F SWOT ANALYSIS

To inform the preparation of the Structure Plan, a SWOT Analysis has been prepared. This assists in presenting strengths, weaknesses, opportunities and constraints (threats) that apply to Inverleigh as identified by stakeholders.



Strengths

- » Leigh River environment
- » General Store / Post Office in town
- » Proximity to Geelong
- » Quiet, rural character
- » Local Progress Association
- » Historical buildings» Transport routes – Railway and Major Highway
- » Avenue of Honour
- » Sporting complex and clubs
- » 3 functioning churches
- » Primary School and Kindergarten

Weaknesses

- » Flooding risk
- » Town not sewered
- » Few services
- » Few activities for young people
- » Cluttered signs at entrance to town
- » Market does not attract passing traffic
- » Lack of elderly housing opportunities
- » Lack of public transport opportunities

Opportunities

- » Sewer the town and consolidate township
- » Low Density Residential demand
- » Flood mitigation measures
- » Tourism \$\$ - Historical and Environmental
- » Increased community / health services
- » Improve traffic flow, parking options
- » Increased retail precinct, eateries etc.
- » Upgrade sporting complex – second oval, lighting, club rooms & toilets for bowling / netball area.
- » Rationalise recreation locations
- » Market could be moved to Highway location
- » Victoria Park outside flood zone – opportunity for future alternate uses with an open space compromise
- » Railway sidings opportunity to locate Industry
- » Enhance linkages around river and the town
- » Rationalise three dual lane carriageways in main street
- » Geelong by-pass may provide increased demand for residential growth and provide increased visitor numbers

Threats

- » Flooding of houses and historical buildings
- » Flood cuts off Hamilton Highway
- » Septic tank seepage may pollute river systems
- » There has been evidence of septage in drains
- » Highway trees dropping branches
- » Truck drivers stop less often (or completely) at Inverleigh
- » Freight train blocking two road crossings dangerous in emergency
- » Highway trees could deteriorate if not properly maintained

APPENDIX G LAND USE MAPPING



GOLDEN PLAINS PLANNING SCHEME - LOCAL PROVISION

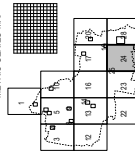


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Overlays
Environmental Significance
Overlay - Schedule 2



INDEX TO ADJOINING
METRIC SERIES MAP



Amendment C8
Printed: 12/20/03



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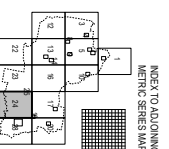
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Overlay
Land Subject to Inundation

Amendment C18
Phase 1 22/2003



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GOLDEN PLAINS PLANNING SCHEME - LOCAL PROVISION



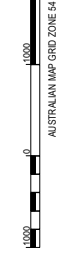
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Overlay
Salinity Management Overlay



Amendment C8
Printed: 12/20/2003

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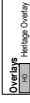


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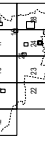


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INDEX TO ADDITIONAL METRIC SERIES MAP



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Overlay
Land Subject to Inundation

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Amendment C8
Phase 1 22/2003



INDEX TO ADJOINING
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LAND SUBJECT TO INUNDATION OVERLAY

MAP NO 21LSIO

GOLDEN PLAINS PLANNING SCHEME - LOCAL PROVISION



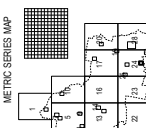
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Overlays
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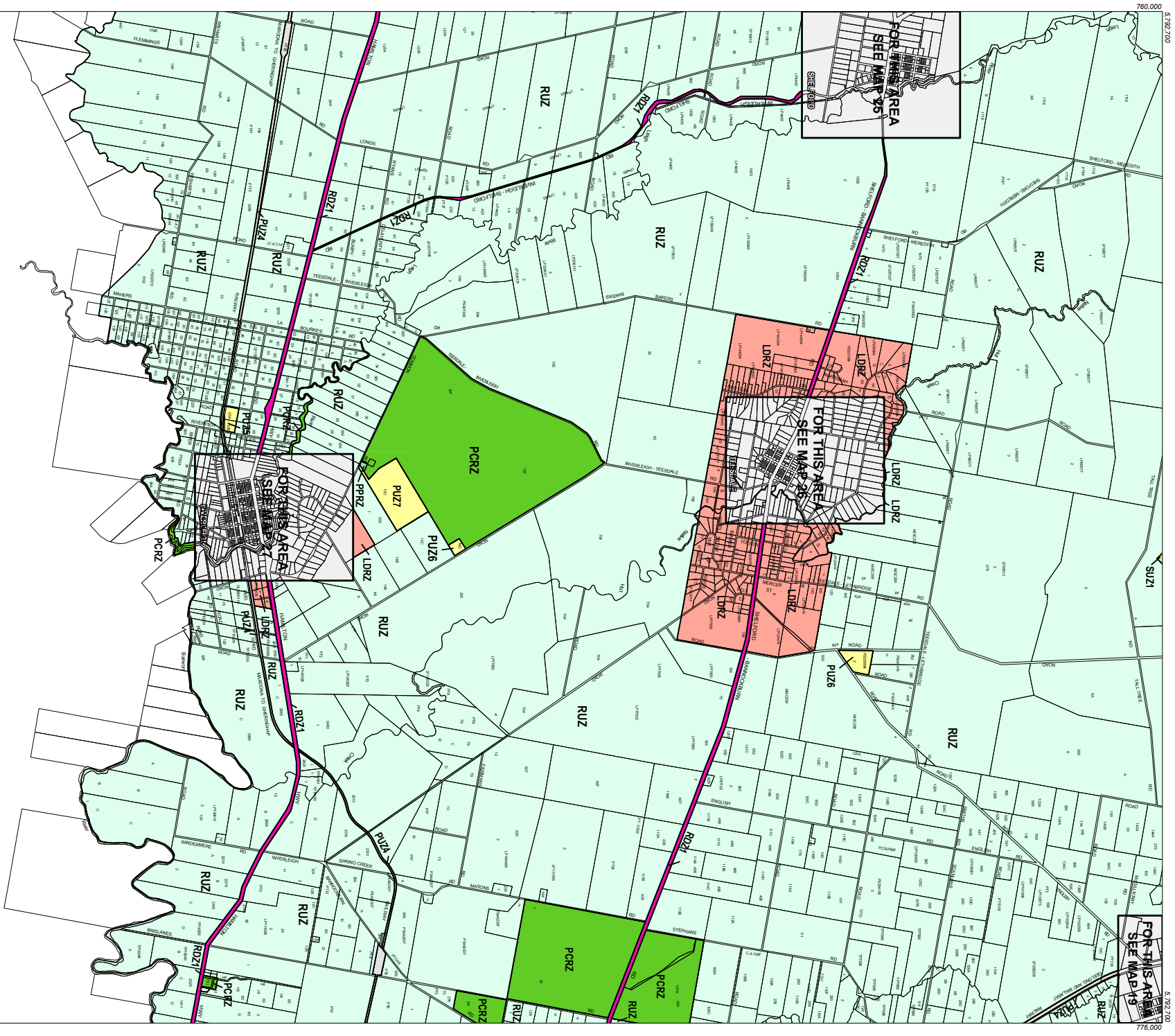
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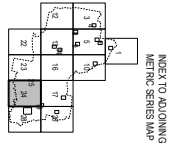
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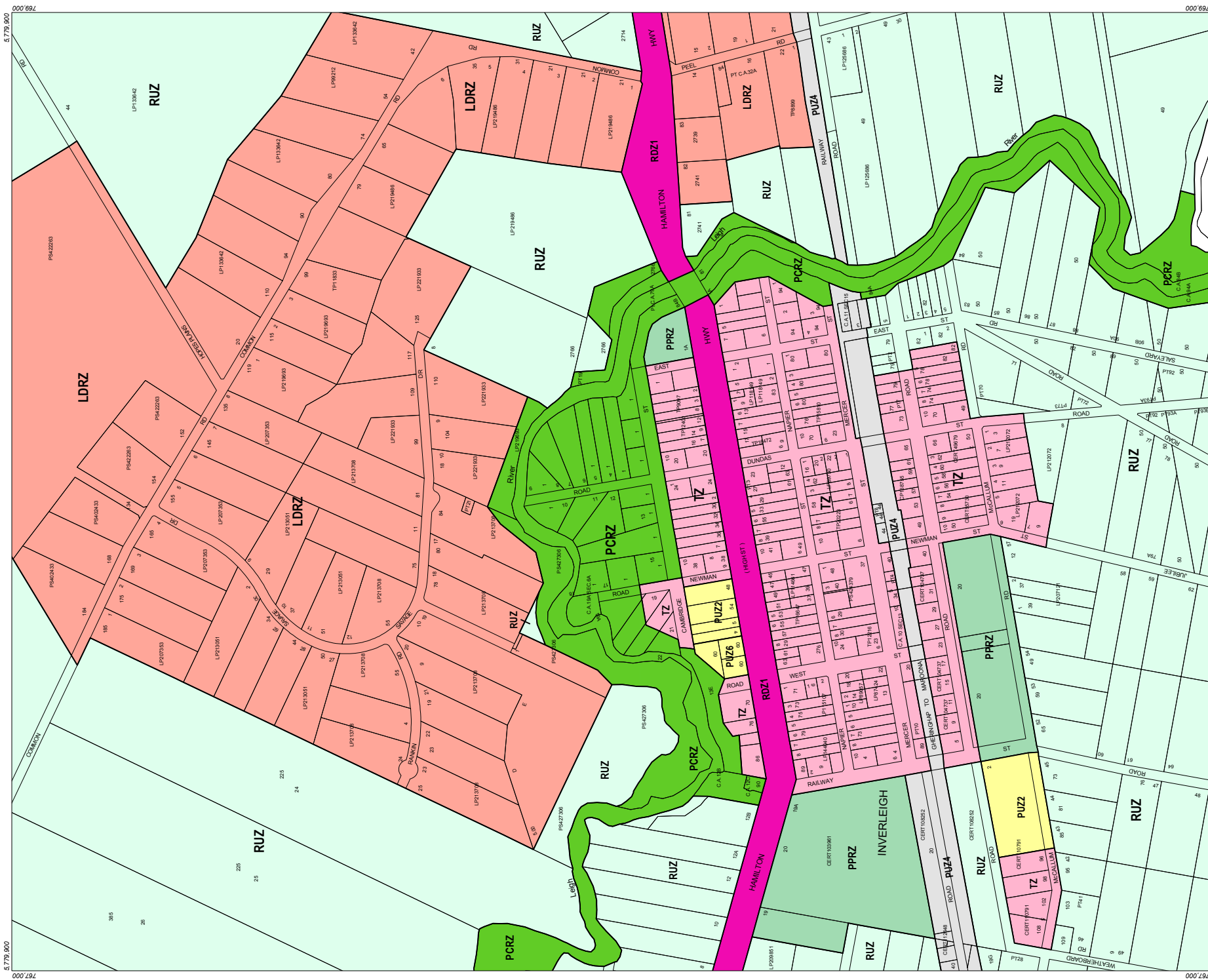
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ZONES

MAP No 24

GOLDEN PLAINS PLANNING SCHEME - LOCAL PROVISION



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AUSTRALIAN MAP GRID ZONE 54

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Public Land

- Public Conservation Area
- Public Park And Recreation Zone
- Public Use Zone - Education
- Public Use Zone - Government
- Public Use Zone - Transport
- Road Zone Category 1

Residential

- Low Density Residential Zone
- Medium Density Residential Zone

Rural

- Rural Zone



ZONES

MAP No 27

APPENDIX H

POPULATION STATISTICS – INVERLEIGH

1.1 CURRENT LABOUR FORCE STATISTICS

The tables below provide a snapshot of the existing labour force for Inverleigh. The 2001 population census has noted a 6% decline in the unemployment rate during 1996–2001 (after a steady rise from 1986 to 1996) and a 1% increase in employment participation rate during the same period (see below).

Year	Population employed	Participation Rate %	Population unemployed	Unemployment Rate %
1986	86	51.8	7	6.7
1991	129	63.3	12	8.3
1996	98	60	19	16.3
2001	206	61	28	11.9

(Note: Labour Force applies to persons aged 15 years and over and excludes overseas visitors)
Source: Towns in Time, 2001

The following table provides a breakdown of the number of people in Inverleigh employed in existing labour industries from 1991- 2001. It is evident that the retail, property and business and education have experienced a significant rise in the number of employed individuals. The largest growth has been in the construction, health and community sectors.

Industry of Employment	YEAR			
	1986	1991	1996	2001
Agriculture, Forestry and Fishing	7	7	13	18
Mining				3
Manufacturing	17	25	19	24
Electricity, Gas and Water Supply	3	4		7
Construction	5	8	7	24
Wholesale Trade	6	7	6	10
Retail Trade	10	22	13	31
Accommodation, Cafes, Restaurants	6	11	3	3
Transport and Storage	3	4	3	3
Communication				3
Finance and Insurance	4	4	3	3
Property and Business Services	3	6	5	13
Government Admin and Defence	5	7		3
Education	6	5	5	14
Health and Community Services	3	11	13	29
Cultural and Recreational Services			3	
Personal and other Services	5	7	5	10

Source: Towns in Time, 2001



1.2 SHIRE POPULATION FIGURES

Golden Plains Shire Building Department records for Inverleigh indicated the following:

Year	No. of houses constructed in Inverleigh
1997	3
1998	4
1999	13
2000	10
2001	5
2002	15
2003	12

Council GIS System indicates that there are currently 312 dwellings in the Study Area of the Inverleigh Structure Plan Review. The Shire has an average household Size of 2.47 persons. This gives us a population of 770 persons.

APPENDIX I

SEWERAGE SYSTEM OPTIONS REVIEW

1.1 OPTIONS

There are a number of wastewater processes that may be considered. These include:

- » Domestic On-site Process - effluent is collected, treated and disposed on-site.
- » Domestic Off-site Process - effluent is collected and treated on-site and disposed off-site.
- » Decentralised Off-site Process - effluent is collected and partially treated on-site, then disposed to a common neighbourhood system for further treatment and disposal.
- » Low Cost Sewerage Process - effluent is collected and undergoes primary treatment on-site, then disposed to a centralised township system for further treatment and disposal.
- » Sewerage Process - effluent is disposed to a centralised township system for treatment and disposal.
- » Pressurised Sewerage System – where a smaller diameter pipe can be utilised with individual household pumps or a vacuum system.

Wastewater treatment options include septic tanks, aerated wastewater treatment systems (AWTS), intermittent sand filters and composting toilets, on-site evapotranspiration systems for using treated wastewater, and partial on-site pump out systems and common effluent systems.

Note that application of AWTS is generally only applicable to permanent or regularly used residences, as these facilities require relatively constant operation to sustain the biological media. The AWTS system treats the sewage and disinfects the effluent for disposal to irrigation or absorption/transpiration fields. There are a number of AWTS units that are permitted to discharge off-site provided they comply with the State Environment

Protection Authority (SEPP) – Waters of Victoria.

It is possible that a reduction in costs for upgrading sewerage management systems in smaller townships that have existing on-site wastewater disposal units may be achieved by incorporating these units within the overall system. One option may be to retain structurally sound septic tanks, sandfilters or AWTS's and discharge the overflow effluent to a common gravity fed sewer drain. This treatment on-site would reduce the effluent volume at the the point of final treatment. Alternatively, the septic tanks could serve to provide some primary treatment by removing gross solids only, and all effluent flow discharges at the outlet to the sewer drain.

South Australia has a program called the Septic Tank Effluent Disposal Scheme or STEDS and it provides approximately 10% of all public wastewater services. STEDS comprise a network of gravity drains connected to the outlet of individual septic tanks, which convey all of the effluent to a common treatment and disposal facility that is owned, operated and managed by the local Council.

A review of the program found that STEDS is the most cost-effective technology currently available. There are cost advantages associated with STEDS compared to conventional sewerage due to the provision and maintenance of the septic tank being undertaken by the householder, which allows for less costly pipe and treatment systems for effluent disposal. It has significant environmental and public health benefits, compared to the system of using septic tanks alone as the collection of effluent through STEDS provides an opportunity for communities to reuse water, benefiting the environment via water conservation and protection of water resources.



From an economic perspective there is a net benefit of STEDS over on-site systems. There are many non-financial benefits to STEDS that result in the overall economic benefit (eg through increased development, public health and water use outcomes). At current pricing levels, the sector as a whole does not recover accounting or economic costs, and may only cover cash costs by a small margin (eg current average charge is \$178 per year, ranging from less than \$50 to \$360). The economic break-even for the sector is significantly higher than the average metropolitan sewerage rate (\$353.60 per year), which is the key benchmark currently used by the sector.

The other option to consider is a transfer pipeline to Bannockburn. This is likely to prove too costly and wastewater travelling through the pipeline would become too septic (a condition produced by the presence of anaerobic bacteria. Severe septic conditions are revealed by black, odorous water with little or no dissolved oxygen present) over the long distance. This is due to algal blooms (heavy growth of algae in a body of water as a result of high nutrient concentrations) developing over the long distance of the pipe consuming the dissolved oxygen and releasing toxins.

An alternative approach to collecting and conveying wastewater is by the installation of a pressurised transfer system. The main elements of a pressurised system include pressure pipe, pumps and automated interface valves. Pressure in the system can be either positive, through the installation of a series of small pumps and automated valves along the route of the transfer pipeline, or negative through the provision of a central suction pump (vacuum systems). Transfer of wastewater to a storage point or treatment plant is achieved though pressure developed

within the pipes, rather than allowing gravity to drain flow to an ejection pump well (or treatment plant) as for conventional wastewater reticulation systems.

For a positive pressure system a single pump with a grinder facility is located in a small well (or existing septic tank) at each lot in a sewer scheme. Each pump injects flow into a pressurised pipe network reticulation system. The pumps are linked to a common control system and operate on a trigger system so that only a certain number of pumps can operate at one time. Once the maximum number of pumps per line are operating, the next pump that attempts to start will trigger out and then delay for a defined time (eg 2 minutes) and then it will start up again. If another pump in the system has not shut down in that time it will trigger out again and the process repeats until the pump eventually has the opportunity to discharge.

Because pressure systems normally require a lot of mechanical components the capital and annual running costs (power consumption) can be high and consequently conventional systems are normally more cost effective.

However the main advantages with a pressurised system are:

- » Small diameter sewer pipe can be utilised (typically around 32 to 110 mm polyethylene pipe)
- » Pipes can be installed at a shallow depth. Because pressurised systems do not require gravity to transfer wastewater the pipes can be installed at around 0.6 to 1.5 m below surface level, compared to conventional systems where trenching can reach depths of around 3 to 4 m or greater
- » Pressure within the pipe limits infiltration from ground water and/or unofficial stormwater

connections

- » Self-cleansing nature of a pressurised system may help to reduce maintenance
- » Capacity to transfer wastewater uphill allows flexibility in the design

Consequently pressurised systems start to become viable for small to medium size towns where:

- » The level of underground rock is high and or high ground water levels are encountered making deep trenching difficult.
- » Areas of high environmental significance require excavation to be minimised to, say, reduce impact on mature trees
- » Terrain is highly undulating
- » Saline groundwater infiltration is to be avoided as downstream applications of treated effluent includes salt intolerant crop irrigation.

For a typical small town the indicative cost for the installation of a pressurised system to collect and transfer wastewater (not including treatment and disposal) would amount to around \$15,000 per lot. However the specific conditions in any town can contribute to significant variations in this estimate and a more detailed engineering assessment would be recommended if this option is to be considered further.

Encouraging water usage reduction through AAA rated appliances, education programs and native gardens could help to reduce the threat of seepage in the town, at least in the short term. However, this will not allow the increased development possible in the town.

APPENDIX I

1.2 INDICATIVE COSTS

An example of the indicative costs of various options for domestic wastewater treatment is shown here.

It must be stressed that these are indicative prices and are provided primarily for comparison purposes. Further investigation would be required before budget estimates could be prepared.

Some systems are likely to need a financial program to spread the upfront capital costs across the life of the system. This will need to be researched in further detail once a short list of systems has been determined.

Annual Financial Costs for Wastewater Treatment Processes

Wastewater Treatment Process	Capital Cost	Installation Cost	O&M cost per year (a)	Water Samples per Year (b)	25 Year Cost
Septic Tank	\$800	\$500	\$100		\$3,800
Absorption / Transpiration fields	\$800	\$4,000	\$0		\$4,800
Irrigation - Surface	\$1,000	\$2,000	\$200	\$146	\$11,650
Irrigation - Sub-surface	\$1,000	\$2,000	\$200		\$8,000
Sand Filter On Site disposal (b)	\$2,000	\$7,000	\$300	\$146	\$20,150
Sand Filter Off Site disposal (b)	\$2,000	\$7,000	\$300	\$584	\$31,100
Composting Toilet	\$3,000	\$500	\$400		\$13,500
AWTS On-site disposal (b)	\$5,000	\$3,000	\$500	\$146	\$24,150
AWTS Off-site disposal (b)	\$5,000	\$3,000	\$500	\$584	\$35,100
Holding tank & pump	\$3,000	\$500	\$200		\$8,500
Water efficiency retrofit	\$500 (c)	\$300			\$800
Pumpout, truck to sewerage plant and treatment	\$200	\$500	\$5,400 (d)		\$137,500
Water efficiency retrofit, upgraded septic tank, pump into decentralised sewerage system	\$12,000 (f)	\$3,000 (f)	\$500		\$27,500
Upgraded septic tank, pump into sewerage plant drain (e)	\$14,000 (f)	\$3,000 (f)	\$500		\$29,500
Installation of a sewerage system (e)	\$17,500	\$3,000 (f)	\$500		\$32,500
Pressurised System	\$15,000	\$3,000 (f)	\$500		\$30,000

(a) Operating and maintenance costs can include a number of factors including:

- the costing of time required for household maintenance. The property owner may need or wish to contract in these maintenance tasks;
- service of AWTS and sand filter by an experienced person;
- replacement of parts over the lifetime of the unit (does not include full replacement);
- desludging of septic tank every 3 years; and
- an indicative cost of pumping out and treating effluent at a Sewerage Plant.

(b) The EPA sets out the frequency and testing requirements of wastewater.

(c) Does not include the cost of a front loading washing machine. This cost needs to be added to the total.

(d) This cost is for 1/3 of a year. For longer or full time occupancy the figure will be around 2 -3 times higher.

(e) To ensure that sufficient water is available for the operation and maintenance of this system, a water reticulation system may need to be installed. This would have a significant impact on additional infrastructure and cost.

(f) Includes the capital cost of the main system, as well as, the cost of connecting to the main system and upgrades that may be required in the current plumbing of the dwelling.

(After: Issues Paper - Wastewater Management - Wye River and Separation Creek - 22 May 2002, Colac Otway Shire)

