Consultancy Report for the Environment Protection Authority South Australia

Environmental and Planning Assessment of Winery and Ancillary Development in the Mount Ranges Watershed

Stage 3 – Planning Implications

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This report provides the final Stage 3 Assessment of the planning implications relating to winery and ancillary development within the Mount Lofty Ranges Watershed (MLRW). The Stage 2 Report (Eco Management Services, 2003) provided a risk assessment on the water quality issues. The State Government initiated these reports following the approval of the Mount Lofty Ranges Watershed Plan Amendment Report (MLRW-PAR) in June 2001. This report should be read in conjunction with the Stage 2 report.

This Stage 3 Report has responded to the brief and has involved:

1. A desktop economic overview of wineries in the MLRW.
2. Assessment of environmental factors.
3. Assessment of the planning implications (and issues) facing winery and ancillary development in the MLRW.
4. Consideration of potential regulatory and economic measures as a way of managing further winery development.
5. Recommendations of the most viable planning and other management options.

Part of the evaluation of environmental and planning issues involved analysis of past development applications assessed by the Development Assessment Commission, local government and the Environment Protection Authority (EPA). This process sought to identify the issues (non water quality related) associated with each application, to assess the effectiveness of the statutory regimes and thereby identify / recommend desired additional policy / management requirements.

In addition, research and analysis has been undertaken with respect to the current Development Plan provisions, the Development Act and Regulations, the Environment Protection Act, and winery and related development in general. These findings are considered in the context of the Stage 2 Report, which focussed on water quality risks.

Key findings drawn from these investigations found:

- The wine industry in the Adelaide Hills region, which includes the MLRW, generates significant income (approximately $40 m Gross Farm Value); however the region suffers from low value adding.
- Wineries within the MLRW have high operational and establishment costs relative to other wine districts.
- Small to medium scale wineries are most likely to provide the greatest form of new development in the MLRW.
- Winery and ancillary development (including tourist infrastructure) are legitimate rural related activities that can co-exist within the MLRW providing best practice measures are applied and critical siting factors satisfied.

- Siting factors are the most critical issues facing new winery and ancillary development, specifically:
    - the combination of high rainfall (e.g. 900mm) and steep slopes (greater than 20%) demands high levels of investment, design care and ongoing management;
    - siting relative to a water course and flood plain (affects risk), this may be managed through interception or other management systems to achieve the 1:10,000 year risk;
    - proximity to sensitive uses (e.g. dwellings) for the winery buildings, wastewater treatment facilities, fruit receival areas, solid waste storage and visitor parking;
    - direct access to a sealed arterial or collector road avoiding the use of local roads minimizes community impacts and objections;
- Community concerns (including residents' third party representations, e.g. in relation to odour generated from wastewater disposal and traffic generation etc) will continue to influence policy and individual applications irrespective of which activity is first established.
- Visual impact issues are generally manageable, although conditions of approval may add further costs, e.g. landscaping, increased setbacks or the use/colour of cladding.
- The potential adverse effects from winery development could occur irrespective of scale, as they are affected by factors such as location, design, investment return, and management systems. Therefore it is not feasible to determine the optimal size for wineries that might minimize or avoid the risk of causing environmental harm.
- The Development Plan is arguably the most important policy instrument for new winery proposals because winery development cannot occur without 'development authorisation'. Such authorisation is required to be based on the Development Plan, therefore setting the best possible policy is essential.
- The MLRW has five watershed related zones (in four separate councils) and these zone provisions (within the respective Development Plans) are reasonable and quite detailed. They provide the basis for considering extensions to existing wineries listed within the Development Plans as an exception to the non-complying provisions. All other winery development is currently non-complying. For equitable treatment for all winery development (including existing and new applications) consistent policy is required which could include expanding the non-complying exemption criteria. The following should be considered:
    - setback distance to any water course together with the option to demonstrate that a 1:10,000 year risk is achievable;
    - setback distance to nearest sensitive use, e.g. 200 metres to nearest dwelling;
    - direct access being available to a sealed arterial or collector road;
    - slope of land less than 20% for winery/wastewater infrastructure;
    - seating capacity in dining facilities increased, e.g. up to 75 persons;

- Amendment to the Development Regulations, Schedule 21 requiring wineries with a crush up to 50 tonnes to be referred to the EPA for advisory comment. This would ensure micro/small scale wineries were provided with comment to the planning authority before any decision.
- Amendment to Schedule 10 of the Development Regulations to make the Development Assessment Commission (DAC) the planning authority for winery development within the MLRW.
- Refining public notification categories to provide greater protection from third party appeals for best practice measures, e.g. setback greater than 300 metres to a sensitive use, provides a built-in incentive for new development to achieve best practice. This could occur either by a Zone or Regulation change.
- Environmental Management Plans (including construction management) and training are critical for effective ongoing management to avoid adverse environmental effects (both water quality and non water quality related).
- Non-regulatory measures including best practice advisory guidelines and educational awareness training need to be part of an overall program for all potentially harmful activities within the watershed, i.e. not just winery development.
- Incentive mechanisms should be investigated to accelerate improvement of existing activities that may be causing environmental harm.
- Effective site planning of winery and ancillary development prior to lodgement of an application to achieve best practice.

The **Stage 2 Report** assessed the overall risk with respect to protecting water quality within the MLRW and found that, in general, with best practice measures, those risks were very low or manageable. Human error was noted as a key factor in risk management. This Stage 3 Report finds that the environmental and planning issues are well known and are comprehensively addressed by the current regulatory and policy measures; however further refinements are warranted.

The following **Recommendations** are put forward by this report:

1. The Development Plan should be amended to make winery and/or ancillary development applications exceptions to 'non-complying' in the MLRW if they are appropriately sited, sized and designed according to the best environmental practices drawn from the Stage 2 component of the study.

2. Include a new objective in the Development Plans applying in the MLRW relating to best practice, innovation and sustainable winery development.

3. Review and amend Schedule 21 and 22 of the Development Regulations to require all wineries in the watershed to be referred to the EPA (less than 50 tonnes could be

Schedule 21). Associated tourist related activities need not trigger such referral where a restaurant is not included.

4. Require siting criteria relating to setbacks from watercourses, setbacks to dwellings (or other sensitive uses) and access to designated arterial or collector roads to be included in the non-complying exemption provisions.

5. Require treatment to the satisfaction of the EPA for all wastewater used for irrigation re-use.

6. Consider incentive provisions to encourage a use change where there are environmental offsets or benefits.

7. Include incentives designed to achieve the desired outcomes relating to risk management, amenity and community benefit through the categories of notification. Public notification requirements (categories 2 and 3) could be based on the extent of off-site impact of the proposed development by defining clear criteria to achieve the required outcomes. The criteria may relate (for example) to risk management, amenity and community benefit.

8. Consider the expansion of exemption criteria within the non-complying principles, to embrace measures identified within the Stage 2 Technical Assessment Report able to be included in the Development Plan, e.g. containment/bund protection between potential sources of wastewater or spillage and any watercourse. Refer to Executive Summary for synopsis of measures.

9. Encourage the use of non-regulatory measures, such as environmental management plans (EMPs), for day-to-day management of wineries and ancillary developments in the MLRW.

10. Consider requiring independent audits as part of EPA licence renewal applications.

11. Prepare a Planning Bulletin and/or Advisory Guidelines for applicants, together with a general brochure, to raise awareness of risk management issues and best practice measures associated with wineries and ancillary development and distribute throughout the industry, local government and consultants. Such guidelines need to reinforce the need for site planning prior to lodging an application.

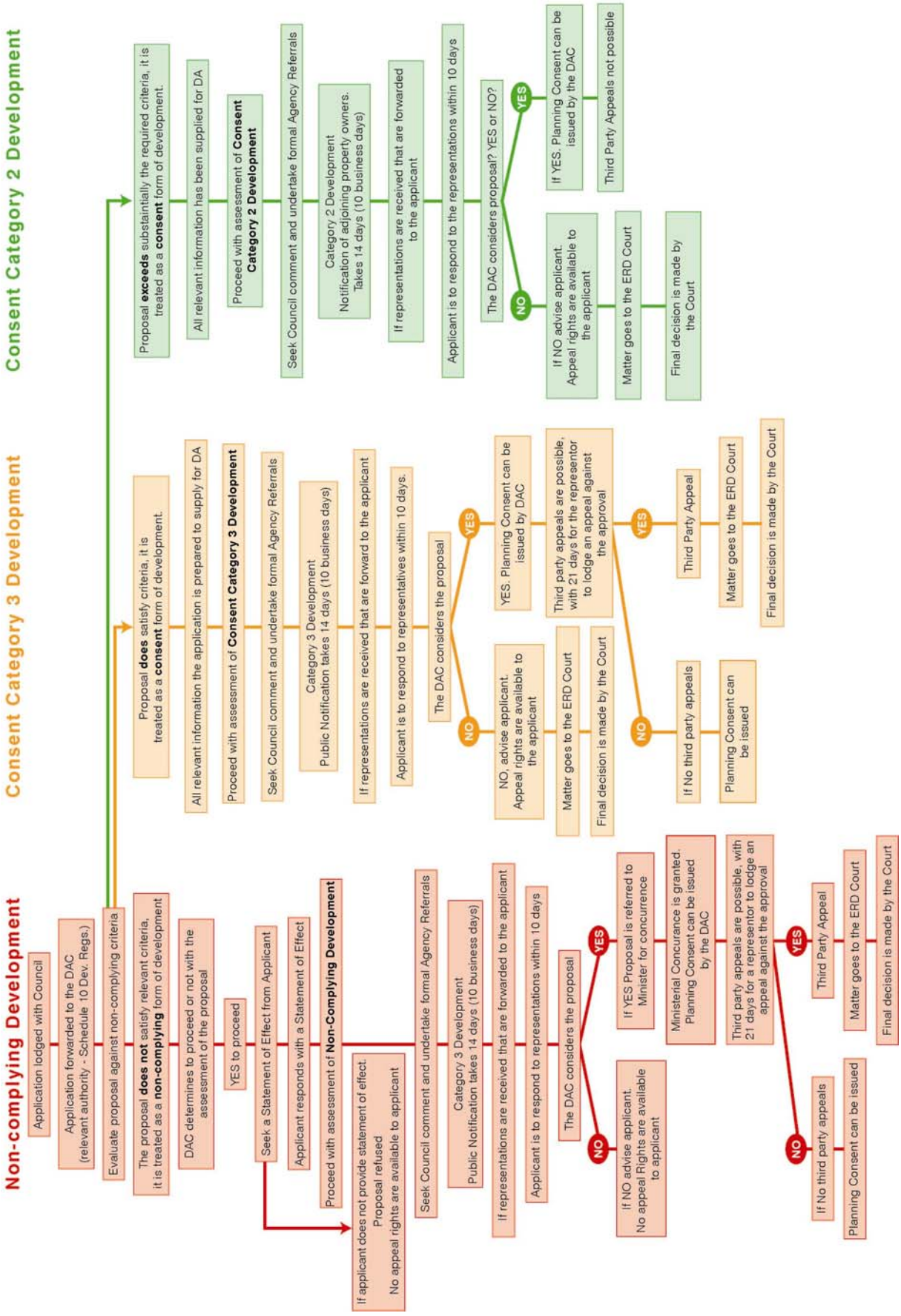
12. Consider facilitating stand alone cellar door sales and restaurant development (that satisfy the same non-complying exemption criteria relating to wastewater etc applicable to winery development) by treating them as merit development.

The following **Figure 1** illustrates how the overall process for applications could be considered. Schedule 10 of the Development Regulations would need to be amended to

make the Development Assessment Commission the planning authority for wineries within the MLRW.

The process builds upon existing processes, and rewards applications that demonstrate best practice with the incentive to be considered as a Category 2 application where third party appeal rights do not apply.

Figure 1. Development Assessment Process (Conceptual)



1. Introduction

1.1 Background

This Stage 3 Report relates to environmental issues and planning implications for winery and ancillary development within the Mt Lofty Ranges Watershed (MLRW). The Stage 2 Technical Assessment Report focussed on the "water quality risk assessment aspects" for such development within the MLRW.

For the purpose of this report ancillary development (to wineries) includes facilities such as cellar door food and wine sales, restaurant facilities, art and craft displays, and similar value added activities ancillary to but not directly related to the production of wine.

Key findings of the Stage 2 Technical Assessment include the following,

- There is very little risk to water quality in reservoirs or down stream uses from winery or ancillary development; which could be further reduced via best practice management.
- Alcohol-based refrigeration brine, untreated winery waste and sewage collection and treatment for ancillary development have potential to impact on water quality and aquatic systems; however the risk with best management practice is very low.
- The primary potential cause of spill events was determined as human error.
- Siting of wineries in relation to the nearest watercourse influences risk and volume of spills reaching watercourses.
- Irrigation re-use of untreated or partially treated wastewater is not considered appropriate for the MLRW.

A full summary of the potential risks is provided within Section 2.2 of this report. For a complete description of the risks and assumptions it is recommended that reference be made to the source document (the Stage 2 Technical Assessment Report). The Stage 2 Report found there was a low risk to water quality from winery related development, and the Stage 3 Report was triggered. This Stage 3 Report is about how to facilitate innovative and sustainable winery and ancillary development whilst addressing the non-water quality risks.

Best management practice measures (for generic wineries) as identified in the Stage 2 Technical Assessment Report, include for example,

- Roofing and housing processing equipment and tanks.
- Secured buildings and infrastructure.
- Containment features, such as bunds, isolation facilities and retention basins.
- Treatment of waste water prior to disposal.
- Independent auditing.
- Environmental management plans.

Whilst water quality risk management assessment has been the primary concern and the driver behind the Stage 2 Technical Assessment Report, it is also important to complete the picture, by addressing environmental and planning factors not related to water quality. Many of these issues, such as visual amenity are subjective and not easily measured; however from a community (and political) viewpoint they are of great importance.

Whilst there are numerous statutory measures and voluntary codes that are relevant, e.g. the Environment Protection Act, one of the most important policy documents relating to controlling new land use proposals is the Development Plan. The current Development Plan policy is based on the ministerial MLRW-PAR authorised in June 2001. This current policy restricts new winery development outside townships other than associated with the existing ten licensees identified by the Development Plan. The policy is included in all the Mount Lofty Ranges Watershed related zones and for the purpose of this report, these Watershed zones are generically referred to as the *MLRW Zone*.

Part of the process leading to the authorisation of the MLRW – PAR was the requirement for a thorough assessment of water quality risks of winery and ancillary development within the MLRW, resulting in the preparation of the Stage 2 Technical Assessment. This Stage 3 Report is the final phase of investigations addressing that requirement.

1.2 Study Approach

This Stage 3 Study, as required by the Brief, has involved the following;

1. A desktop economic overview of wineries in the MLRW.
2. Assessment of non water quality environmental risks.
3. Assessment of the planning implications (and issues) facing wineries and ancillary development in the MLRW.
4. Consideration of potential regulatory measures as a way of managing further winery and ancillary development.
5. Recommendations of the most viable planning and other management options.

Part of the evaluation of non water quality environmental issues involved analysis of past winery and ancillary development applications as assessed by the Development Assessment Commission (as well as local government, EPA and other agencies). This process sought to identify the issues (non water quality related) associated with such applications, to consider the effectiveness of the statutory regimes and thereby identify and recommend any desired additional policy/management requirements.

2. Context

2.1 Basis for Investigations

The MLRW covers nine main catchments (Refer **Map 1** on the following page) and supplies on average 60% of the potable water used by metropolitan Adelaide. Therefore, achieving satisfactory water quality in inputs to the reservoirs is an important management objective. Satisfactory water quality in the ranges is also important for agricultural use, recreation/amenity, in-stream domestic water supply and for the maintenance of aquatic ecosystems.

Agricultural and urban development has increased the potential for surface water contamination by a range of pollutants including pathogens, pesticides, sediment, organic matter, nutrients etc. Concerns with existing water quality led State Cabinet in 1999 to support the implementation of a program over five years aimed at improving and protecting water quality in the MLRW. This included establishing a regional office of the SA Environment Protection Authority (EPA-SA). The program was additional to those already implemented by Catchment Water Management Boards, SA Water and by community groups funded by the National Heritage Trust.

Viticulture has established within the MLRW as a consequence of the quality of the land resource in terms of soils, the cool climate and reliable rainfall. These features are unique and they favour the production of cool climate varieties of wine, particularly Pinot Noir, Sauvignon Blanc and Chardonnay. The Adelaide Hills Region is steadily gaining recognition both nationally and overseas as one of Australia's premier cool climate wine-producing regions.

The high quality of land and unique features provide winemakers with superior fruit and therefore premium wines are characteristic of the region. Most current producers are small scale and at the boutique end of the range; some appear to be lifestyle driven. Boutique wineries producing low volume high quality wine are therefore a prominent feature. The nature of these wineries provides unique small-scale tourism opportunities, which is enhanced by proximity/accessibility to metropolitan Adelaide.

Wineries and related ancillary developments represent a small portion of commercial and industrial activities operating within the MLRW, yet they attract considerable attention from government, the community and tourists. Wineries process fruit (grapes) to make wine, and the process is essentially of an industrial nature. The disposal of the wastewater generated during the process is of particular interest.

Map 1. Mount Lofty Ranges Watershed

Ancillary developments involving cellar door sales or restaurant facilities which may be operated as part of a winery or as stand alone business are also subject to considerable scrutiny, although the nature of these activities are quite different.

This report examines these activities and seeks to identify measures that might be applied to encourage and deliver best practice outcomes for the benefit of all interest groups, including government, the winery industry and the community.

The current MLRW Zone policies make new winery or ancillary development non-complying. Exceptions to this are existing licensees (e.g. listed in Table AdHI/9) proposing to extend or develop ancillary development. A condition of approval (of the MLRW – PAR) by the Minister was for the EPA to conduct a water quality risk study of winery and ancillary development within the MLRW.

2.2 Stage 2 Assessment Findings

The Stage 2 Assessment (completed in February 2003) used three winery development scenarios. The Jenkins (2001) report involved considerable consultation with the wine and grape industry and local councils which enabled the 'best development scenario estimates' for winery and ancillary development within the MLRW to 2012. Two additional 'hypothetical winery development scenarios' were requested by the steering committee, and following consultation with existing winery owner/operators, two more were added to the Surveyed Industry Projection resulting in the following three winery development scenarios:

Scenario 1: **Existing Licensees** (10) all projected to 2,000 tonnes (t) capacity, possible under the current PAR.

Scenario 2: **Surveyed Industry Projection** to 2012 (Jenkins 2001) of a total of approximately 14,500 t.

Scenario 3: **Partial Unlimited Development** which considered additional larger wineries up to 4,000 t capacity at the expense of smaller wineries with an overall total crush of 26,500 t.

Risk profiles for generic wineries of 50 t, 200 t, 500 t, 2,000 t and 4000 t were developed for the assessment of overall risk in the above development scenarios. The study identified areas of risk, which could be improved, and made assumptions about best management practices applied with respect to construction, siting, management and maintenance of new wineries, as follows:

- Processing equipment and storage tanks;
- Buildings;
- Weather and climate;
- Fire (a holistic approach);

- Containment;
- Wastewater treatment;
- Auditing; and
- Management.

The *general findings* of the Water Quality Risk Assessment, with reference to the described scenarios are:

Winery Development

Winery Product or Refrigeration Brine

- The current situation with the existing wineries presents the greatest relative surface water quality risk. Two of the eight constructed wineries exhibited inadequate infrastructure or safeguards against potential water quality risk. With existing wineries, risk levels identified in the Stage 2 report could be reduced by implementing best practice measures, which has since occurred either in full or part.

- For scenarios 1, 2 and 3, total risks are at very low levels (1 in 10,000 years or less) assuming best management practice for new generic wineries and retrofitting of existing wineries.

- The primary potential cause of spill events was determined as human error.

- For spillage from sources that were served by an internal containment system (i.e. loss of product from tanks and fermenters), the frequency of failure was in the order of 1 in 10,000 years or less.

- Storage vessel overflows or ruptures were the most likely event to result in increased potential for off-site spill discharge.

- Incorporating constructed retention basins to contain spills reduced the frequency of failure to less than 1 in 10,000 years for all winery development scenarios.

- Without retention basins, the presence of interception dams (if appropriately sited) could also effectively contain spills.

- Siting of wineries influences risk and the volume of spills reaching watercourses. In this regard, the distance of the primary spill site to the nearest watercourse was found to be the most significant locality factor.

- Risk frequency values reflect the occurrence of a malfunction and/or uncontrolled spill event and not necessarily loss to a watercourse.

Wastewater Treatment and Re-Use

- Irrigation of wastewater poses a relatively high individual risk to water quality (approximately 1 in 100 years). However, the use of receiving-site bunding and/or spill retention basins would reduce potential risks to less than 1 in 10,000 years.

- Not all sites in the study area would be suitable for discharge of winery wastewater by irrigation or installation of retention basins.

- Treatment of winery wastewater to reduce biological and chemical loadings could significantly reduce the consequence of a spill entering surface waters and allow beneficial reuse of the water resource for irrigation of vineyards, etc.

- A number of wastewater treatment technologies and systems exist for treating wastewater generated by small wineries to enable storage of effluent for subsequent beneficial reuse. The capital and operating costs of these treatment technologies can be prohibitive and even uneconomic. However, the decision to invest in such technology in order to achieve acceptable treated effluent quality must and will be made by the proponents, based on their individual goals and priorities.

- Irrigation re-use of untreated or partially treated winery wastewater is not considered appropriate for the MLRW.

Ancillary Development

As indicated above for the winery scenarios, sewage collection and treatment, without best practice measures, presented a combined risk of greater than 1 in 100 years, thus presenting an unacceptably high frequency of failure. This finding was based on the findings of past reports and industry surveys. The findings related primarily to old septic systems mostly applicable to residential development and where the design capacity had been exceeded. This Stage 3 Report seeks to deal with future risk, which will involve new technology, and together with greater industry awareness, the risk is readily manageable.
It should be noted that the Stage 2 findings were passed to the Industry because they were of community concern. The Stage 2 findings noted that an unknown proportion of these failures would result in leaks and spills involving small volumes (<1 kL) that would be readily absorbed before they reached a surface watercourse. Action has since occurred by the wineries to rectify this issue, although it may still apply to non-winery development.

Ancillary Development Waste Discharges

- Sewage collection and treatment poses the greatest individual risk in terms of ancillary development, and would be least amenable to inclusion of a retention basin.

- Sewage treatment and disposal system related to ancillary developments generally involve smaller volumes (up to 5 kL) and slower rates of release, increasing the

potential for absorption of spills over a given distance and thereby reducing the spill volume residuum potentially reaching a given watercourse.

- High rates of failure of sewage treatment and disposal occur (approximately 1 in 20 years), primarily as a result of overloading, poor maintenance and/or inadequate design.

- Risks could be greatly minimised, and frequency of failure reduced to low levels, if systems that were adequately designed to cater for maximum projected loadings, were properly installed, monitored and subject to regular independent audits and performance checks.

Those unacceptably high risks identified in the Stage 2 Report will need to be lowered and appropriate measures put in place as part of any licensing of winery and ancillary development which is consistent with a 1:10,000 year risk.

2.3 Outline of Cost Implications of Recommended Measures and Viable Scenarios

The cost implications for implementing best practice for existing wineries (and ancillary development), or establishing a new winery using best practice measures, may be significant depending on a wide range of factors such as siting in relation to watercourses or the scale of operation. The following **Table 1** summarises potential costs associated with providing for environmental best practice measures.

These costs could impose an additional financial burden for the MLRW wineries affected by conditions particular to the watershed, including terrain related costs, high land costs and other factors which cause average production costs to be double that of most other wine districts.

The Hudson Howells report (**Appendix A**) stresses that a comprehensive cost benefit assessment is required to properly assist in determining the most viable scenario. The cost estimates for best practice provided by the environmental engineer assumes quantities and costs that may not apply to individual wineries.

As wineries are varied, it is not possible to generalise on the impacts of such costs; however the following table describes the likely winery profile and effects associated with implementing best practice measures in terms of high, medium and low impacts. (It is understood that consultation has not been possible with the steering committee members representing the winery industry to verify the effects or order of costs to the industry.)

Table 1: Cost Estimates for Environmental Best Practice Measures

Winery Processing Capacity (tonnes)	*50*	*200*	*500*	*2,000*	*4,000*	***Totals***	
Est. Retrofit Costs	$54,000	$121,000	$490,000	$1,042,000	$2,568,000		*(Source: Land Energy Pty Ltd)*
No. of Existing Wineries (approved tonnages)	2	2	1	5	0	10	*Source: Stage 2 Executive Summary*
Existing Approved (not actual) Production (tonnes)	100	400	500	10,000	0	11,000	
2012 Scenario (est.)	14	6	5	5		30	*(Source: Jenkins 2001 Report)*
Est. Total Cost - Existing	$108,000	$242,000	$490,000	$5,210,000	$0	$6,050,000	*Assumes all 10 wineries require retrofitting*
Est. Total Cost - 2012 Scenario	$756,000	$726,000	$2,450,000	$5,210,000	$0	$9,142,000	*Assumes all 30 wineries require retrofitting or fit-out*
Est Production Increase – 2012 (tonnes)	600	800	2,000	0	0	3,400	
Est Increase in Wine Production (litres)						2,380,000	*Assumes 700 litres per tonne*
Est Retail Value of Production Increase						$47,600,000	*Assumes $20 per litre (guesstimate)*
Employment Multiplier - Narrow						10.85	*i.e.: 10.85 Jobs for every $1m production increase*
Employment Multiplier - Broad						13.37	
Employment Increase - Narrow						517	*Assumes not replacement crushing*
Employment Increase - Broad						636	*Assumes not replacement crushing*

It should be noted that cost estimates for best practice measures do not take into account the particular circumstances for each winery and therefore assumes a worst case scenario (e.g. a significant amount of infrastructure required and difficult site conditions). In reality, cost impacts could be very modest. In any event, the winery industry is comfortable with the requirements identified with the Stage 2 Report and believes these requirements and associated costs are not an impediment for achieving best practice.

It is further noted that best practice (new) wineries appear to operate successfully even with the extra costs associated with establishment.

As the industry projected trends suggest that small-medium scale wineries (in the context of the SA wine industry) are most likely, the cost implications will require new entrants to have access to significant capital at establishment and for ongoing operations including holding of

inventory. Balanced against these costs is the potential to produce premium quality wine that should attract relatively high prices.

With respect to the winery development scenarios to 2012 (including ancillary developments), the Stage 2 Report drew from the Jenkins (2001) report. That report highlighted the high cost of development of wineries in the MLRW compared with elsewhere.

Boutique and small scale wineries could cost three times that of a similar facility outside the watershed. Consequently, cost of production could be a major deterrent, particularly for entrants at the very small end of the range. However, where significant amounts of capital are available to achieve a 'lifestyle' or idealistic goal, the high cost would not inhibit such development.

Whilst the provision of infrastructure is a significant and potentially critical development in establishing new winery development, the focus of this report is on the environmental and planning implication; therefore the issue of infrastructure costs as a viability issue is of less concern. High infrastructure costs add a further burden to MLRW wineries irrespective of location.

It has not been feasible, due to the financial scope of the economic overview, to determine "viable" scenarios in terms of costs as each development has its unique combination of factors affecting economic return. For the purpose of this Stage 3 study all forms of generic winery and ancillary development have been considered.

3. Socio Economic Considerations

A separate overview report prepared by Hudson Howells updating external conditions facing wineries within the MLRW is included within **Appendix A**. This report suggests that a comprehensive cost / benefit assessment is warranted, given the complexity of the financial and economic issues that need to be addressed. A comprehensive regional economic study has not been undertaken due to budget limitations.

4. Identification of Non-Water Quality Environmental Risks

4.1 Non-Water Quality Environmental Risks

There are numerous environmental risks and effects associated with wineries in the Watershed that do not have a direct impact on water quality yet have the potential to affect the character and values of the region. Many of these risks are addressed by the controls in current Development Plans, such as the Adelaide Hills Council Development Plan. Some of these risks however, are either inadequately covered or need to be addressed elsewhere, for example training or auditing.

For the purpose of this Stage 3 Report, the scale of a winery in the MLRW has been divided into three categories:

- Small scale – 50 – 200 tonnes
- Medium scale – 201 – 2000 tonnes
- Large scale – 2001 – 4000 tonnes

The following list of potential environmental risks/effects associated with winery and ancillary development has been drawn from research and investigations of relevant reports, guidelines and Development Plan provisions. In addition, and to assist with identifying non water quality, environmental and planning issues associated with winery ancillary development, a review of the past development applications in the MLRW that have been assessed by the Development Assessment Commission (DAC) has been undertaken.

Schedule 10 of the Development Regulations prescribe the DAC as the planning authority for applications involving waste disposal and as wineries need to dispose of wastewater over large areas (possibly more than one title), the DAC may become involved. The DAC also has a decision role with respect to non-complying applications. It should be noted that whilst stand-alone cellar door and restaurant applications were not examined, the issues are expected to be similar.

Appendix B contains a summary of four applications considered representative in terms of scale, distribution and range of intended facilities. These applications were lodged and considered prior to the MLRW PAR policies being authorised.

An overview of the key issues that emerged includes the following:

- Small scale winery development was considered to have the highest risk in terms of lack of capacity and resources (perceived or otherwise)
- Not all development proposals presented best practice approaches; generally, those with environmental advice better articulated wastewater management

- The location of winery development and associated infrastructure well away from watercourses, and on gently sloping land was preferred
- Winery development in close proximity to neighbouring dwellings was viewed as having negative or potentially negative effects on residential amenity
- Good quality, high standard road access was vital for effective trouble free management which is relevant for both visitors and ongoing winery operations
- The economic contribution associated with value added activities was not given as much weight as environmental or community values/issues
- Visual issues were generally perceived as very important by the community, however as a subjective issue not fatal to 'development' approval
- The scale of development, terrain and proximity to reservoirs are significant issues given great weight
- Re-use and conversion of existing buildings, including heritage related buildings, was acknowledged as having potentially less impact compared to new development.

Based on these investigations and review of previous development applications, the following analysis of environmental non-water quality risks, response and planning implications that need to be addressed with future winery and ancillary developments has been undertaken. The issues and risks gathered through these investigations have been grouped in the following table under four broad headings comprising: Amenity, Environment, Land use and Access.

RISK	RESPONSE	IMPLICATIONS
Amenity		
• Noise, vibration effects from winery operations & vehicles	• Separation buffers between sensitive land uses and winery • Use best practice systems – enclose operations & establish screen walls/mounds between land uses • Appropriate surface for car park to minimise noise impact and the need for ongoing management • Apply EPA Industrial Noise Policy as part of assessment process	• The current noise controls in the Watershed (Primarily Production) Zone, principle 61(e) is an effective measure, which, combined with the EPA noise policy, provides adequate coverage. No additional provision required. • Potential need for effective policy/condition of approval for surface treatment
• Odour – primarily caused by waste water lagoon systems but also	• Separation buffers between sensitive uses and wastewater systems	• Current Development Plan provisions adequate (300metres); however operating to avoid odour

RISK	RESPONSE	IMPLICATIONS
relates to stored solid wastes and fermenting grapes	• Incorporate best practice systems – enclose waste • Operate within an Environmental Management Plan framework	generation is largely a management issue. Consider public notification category designation as discussed in Section 5
• Dust and other emissions causing nuisance or environmental health/harm	• Sealed or other appropriate surfaces for access roads, parking and vehicle movement areas • Use of dust suppression measures and filters • Enclose winery processing areas to minimise emissions • Operating wastewater spray equipment when suitable weather conditions apply – particularly wind/temperature	• Planning approval conditions in Development Plan adequate (day to day management a non planning policy issue).
• Nature of built form – e.g.. out of scale developments, obtrusive buildings, scale, colours, glare, signage, fencing	• Design, materials and landscaping responsive to local environmental conditions and setting. • Buildings should be well setback from roads • Use of appropriate professional, technical and experienced advisers •	• Substantial relevant Development Plan provisions apply to all these issues. • Key issue is to ensure the design/landscape message is embraced by the industry. • A Planning Bulletin together with advisory guidelines and raising awareness through industry government and local government is required. • Encourage detailed site planning prior to lodgement.
• Heritage and landscape conservation	• Protect European and Aboriginal heritage values • Appropriate re-use of existing heritage	• Substantial relevant Development Plan provisions apply to all these issues. • Key issue is to ensure the design and landscape

RISK	RESPONSE	IMPLICATIONS
	buildings • New buildings should be in scale with the surrounding environment • Retention of vegetation and use of native vegetation in developments through the creation, re-establishment and reinforcement of native vegetation corridors or stands of native vegetation.	message is embraced by the industry. • A Planning Bulletin together with advisory guidelines and raising awareness with industry, government and local government is required.
• Continuous winery operations	• Noise level must comply with the guidelines of the EPA. • Night time activities involving lights, noise generation and heavy vehicle movement minimised where effects likely to extend beyond site. • Enclose operations in buildings, establish vegetated buffers, screen walls, mounds between land uses	• Siting and operational management arrangements to be addressed with conditions at approval stage. • The Development Plan contains noise criteria to be considered at the planning approval stage
Environmental Factors		
• Proximity to watercourse and location within floodplain	• Setbacks for both wineries and wastewater treatment systems depending on scale, slope and interception measures. • Avoid siting in floodplain by locating above the 1 in 100 year flood event	• Development Plan includes a 50 metre setback to watercourses as an advisory principle only – could be included as an absolute non-complying exemption criterion further investigation needed. • Could significantly limit site options and will require

RISK	RESPONSE	IMPLICATIONS
		reasonable survey and detail to be provided.
• Proximity to sensitive uses	• Separation from sensitive uses; if this cannot be achieved it could be fatal to success. (refer section 4.2 for further detail)	• Development Plan has existing principle requiring 300 metre separation; this could be included as a non-complying exemption criteria.
• Sleep slope	• Avoid sites where slope triggers need for major earthworks and expensive stormwater systems that require constant maintenance. (refer section 4.2 for further detail)	• Current Development Plan principle 61(f)(i) refers to desired maximum slope of 20% which is considered appropriate.
• Stormwater management	• Properly designed, constructed and managed system ensuring separation from wastewater and avoiding discharge into watercourse.	• Development Plan provisions adequate.
• Wastewater and solid waste management • Chemical storage/ use/ disposal	• All waste managed and chemicals stored/used in accordance with risk adverse measures to minimise pollution related effects. The use of an Environmental Management Plan (EMP) as a structured advisory guide would be beneficial. • Stormwater management should include water re-use practices where appropriate and subject to the above point (EMP). • Minimise the amount of solid waste stored through the reuse of	• Whilst the Development Act enables conditions to apply to any approval, the majority of actual day-to-day operations and management are not related to the planning conditions. Therefore alternative educational and advisory measures are required. • The voluntary development and use of Environmental Management Plans or similar documents, and/or training is desirable as the requirement for an EMP would not be enforceable. • Conditions of approval seeking to manage high-risk issues should only apply as a back-

RISK	RESPONSE	IMPLICATIONS
	mulched or composted fresh marc on vineyards. Ensure separation from sensitive land uses can be achieved.	up measure. It is preferable to refuse, delete offending components, or modify the proposal than to rely on conditions to achieve the fundamentals that separation can deliver.
• Vegetation protection • Fire Management	• Native vegetation protected from development , treatment facilities sited well clear of vegetation. • Exemption for clearance of native vegetation for fire safety an issue that must be dealt with at the application/assessment stage; therefore clear documentation of potential effects required.	• Adequately managed by Development Plan and Native Vegetation Act. • Clearance of 'significant trees' can be managed. • Sufficient and accurate information provided at application stage, for example suitable scale recent aerial photography or detailed survey of vegetation.
• Construction Management	• Construction management plan determined prior to civil and construction works, or alternatively demonstration of how construction works are managed to avoid adverse impact. • Wineries should have suitable access that can handle construction traffic.	• Consider including a general principle in council-wide provisions relating to construction management. • Also an education/awareness issue with the construction sector and the winery industry.
Land Use		
• Proximity to urban development and conflicting land uses	• Provide a separation buffer, preferably with low impact activities separating sensitive uses. • Screening with effective	• The Development Plan specifies a 300 metre separation principle. This could be increased to say 500 metres from a township boundary i.e. where a large

RISK	RESPONSE	IMPLICATIONS
	landscaping together with low impact activities e.g.. grazing	resident population exits. • Create landscape buffer at approval stage if necessary.
• Loss of productive land	• Use land that is least productive for agricultural purposes	• A region-wide issue not directly related to the watershed protection but still needs to be considered – Development Plan provisions adequate.
• Sustainable use of resources • Infrastructure provision/ demand	• Minimise energy consumption and water use. Maximise re-use. • Ensure system capacity can service the extra demand without adversely affecting other infrastructure uses.	• Council-wide provisions could be strengthened but not a critical issue since industry continuously seeks to minimise costs. This is a design/operational issue rather than a fundamental planning requirement.
Access		
• Connection to road network	• Convenient connection to road network where the standard of design suits winery related vehicle movement. • The impact on the road network should not adversely affect the character and the amenity of the region.	• Current Development Plan provisions are adequate • Liaise with local government to ensure links to preferred freight transport routes are used.
• Safety to and from the site	• Satisfies the Australian Standard with respect to the sight lines and junction layout.	• Current Development Plan provisions are adequate.
• Capacity/suitability of local road access • Vehicle movement and on-site parking/circulation • Disturbance to	• Use roads with sufficient design capacity so that additional traffic does not adversely affect road safety or amenity for residential properties adjacent that road.	• Whilst general Development Plan provisions apply, the issue of access road capacity could be greatly strengthened by including criteria for non-complying development in exemption.

RISK	RESPONSE	IMPLICATIONS
neighbours	• Ensure parking areas are located well away from sensitive uses, and constructed to minimise impact on surrounding uses. • Compliance with Australian Standards with design.	• Siting assessment and condition of approval to ensure disturbance is minimised, including hours of operation to manage late night departures. • Parking location and hours of use covered by Development Plan.

Drawn from the above there are a number of potential policy refinements (and management arrangements) that are worthy of consideration. It is clear however that the majority of issues likely to occur with any new winery and ancillary related development are already addressed by current policy.

A discussion of the benefits or otherwise of these changes occurs within Section 5 Planning Policy Implications.

4.2 Siting Aspects – Further Comment

The siting of wineries is the most important issue when assessing potential effects. Adequately addressing this aspect is fundamental to minimising potential impacts of winery and ancillary development, including the extent of ongoing management.

Whilst the siting of wastewater disposal areas is perhaps the most critical factor, effective siting is relevant to a wide range of environmental and planning issues, including visual amenity, noise impacts, stormwater management and operational efficiency.

Identifying an appropriate site for a winery related development involves a number of criteria including:

- *Slope of Land* - The greater the slope of the land the greater the risks associated with construction management, servicing, storage, parking, stormwater management, and erosion (additional to water quality issues).

- *Siting in Relation to Watercourses* - It is clearly desirable to site wineries and wastewater disposal areas away from watercourses (and flood plains), particularly those identified on the 1:50,000 government standard maps, the definition adopted within the Development Plan. This avoids or minimises the need for subsequent add-on management measures. A suitable distance from a watercourse should be

reviewed based on the level of risk associated with the development in terms of the other siting fundamentals such as slope, soil type, ease of detention/interception, and scale of operation. For example, if a winery is developed on a steep slope, the potential of risk to the watercourse and its ecological system is increased unless effective interception measures are in place. It is noted that the Stage 2 Report recommends that only treated wastewater should be disposed by irrigation and preferably based on an acceptable Irrigation Management Plan which addresses all site factors.

- *Rainfall* - Winery developments situated within areas of high rainfall, in particular >900mm per annum, are at greater risk resulting from the added problem of stormwater, erosion and waste management to name a few.

- *Road Access* – The provision of access from an arterial or collector road, providing safe sight conditions, is clearly preferred to access from unsurfaced local roads. It is not desirable to site wineries accessed by rural roads where the design standard is insufficient to cope with the volume of traffic likely to be generated. Further, the effect of increased traffic for local residents fronting a local road where the current traffic volume is low has the potential to generate considerable local objection.

- *Sensitive Land Uses* – Winery development, including infrastructure such as wastewater lagoons and solid waste storage, should be located a suitable distance away from sensitive uses to minimise noise, odour and visual effects. The EPA Separation Guidelines and the Adelaide Hills Council Development Plan include 300m –1000m separation distances. The separation/buffer distances should be based on the severity of the potential risks associated with the activity as well as the environmental context and conditions that apply to the site and locality. The distance should be greater where there is a concentration of dwellings.

- *Scale of Development* – The larger the winery in terms of crush capacity and storage, the greater the effect in actual and potential terms. The increased building footprint and storage capacity translates directly to physical scale, the size of bunding, the amount of traffic generated, the volume of wastewater produced, etc. With separation distance from sensitive uses and watercourses maximised and best practice measures applied, scale is not necessarily seen as a major issue, other than where steep slopes occur requiring substantial cut and fill and subsequent management attention on stormwater/wastewater systems. Whilst the impacts of small-scale winery development should in theory be less than medium to large scale development, the comprehensive management regimes and infrastructure/systems of larger wineries may lead to the reverse being true.

If the location of the winery satisfies the above basics, risk would be minimised or significantly reduced. In summary, the potential environmental effects are similar to many rural processing industries with pollution potential, as identified in *The State of the Health of*

the Mount Lofty Ranges Catchments from a Water Quality Perspective report (EPA, 2000), and are reasonably well addressed within the current regulatory regime.

Further, the Stage 2 Report identified human error as the primary potential cause for spill events. Human error applies to virtually all activities and is not unique to the wine industry. Appropriate training to provide response skills, knowledge, and awareness of the down stream effects and impacts on neighbours and the wider community, is essential. This is particularly important within the environmentally sensitive MLRW.

4.3 Summary of Findings

The demand for further winery development including expansion of wineries in the rural areas of the Mount Lofty Ranges Watershed is likely. However there are risks which, if not addressed, may threaten viability.

Jenkins (2002 Report) and Hudson (Appendix B) looked at the industry and economic trends facing wineries in the MLRW. This work suggests that small to medium scale wineries are most likely to be developed in the future.

Small-scale wineries (as defined in section 4.1 of this report) contain inherent risks to the environment where effective management regimes are not in place. These risks also apply to medium and large scale developments, however these wineries generally have systems or access to management regimes that minimise the risks.

The impact of large scale wineries on environmental and planning related issues is likely to be greater than that of small to medium scale wineries, e.g. built-form visibility, traffic, and wastewater generation.

Where best practice interception and other measures are proven, it may be possible to demonstrate that a particular site can achieve the desired risk criteria, 1:10,000 year. Without this type of careful attention to infrastructure, wineries should not be located within areas of high rainfall with steep slopes nor where they are in close proximity to a watercourse, as the cumulative risk is greatest.

Medium and large scale wineries should ensure that separation distance from sensitive land uses achieves the minimum EPA guidelines and be connected to a road network that will support the intensity of the development to minimise impact on the surrounding environment.

Many of the implications for environmental risks and issues are management related (e.g. noise complaints resulting from poorly maintained exhaust mufflers or odour complaints from stored solid waste). Fundamental planning issues can be addressed during the assessment and approval phase. Most planning matters are effectively addressed in the current Development Plan, however siting issues could benefit from additional clarification and refinement.

5. Planning Policy Implications

5.1 Introduction

Whilst the implications for policy and related changes are numerous, most relate to further refinement to existing policy controls in the Development Plan, particularly the MLRW Zone provisions. A number of implications relate to the Development Regulations, others could be addressed by advisory guidelines and training/education, whilst some are suggestions for consideration. Before discussing these findings a brief discussion of the Development Plan is warranted.

5.2 The Role of the Development Plan

All 'development' requires approval as required by Section 32 of the Development Act, 1993. Assessment of development, including wineries, is required to be based on the Development Plan content, hence the focus on provisions within the Development Plan. Without planning approval, "development", as defined by the Act cannot be undertaken.

The policy within the Development Plan(s) in the MLRW is substantial, containing over 70 objectives and principles within the various MLRW Zones, not including the policy areas. It was undertaken on a watershed-wide basis by way of a Ministerial Plan Amendment Report. The Adelaide Hills Council Development Plan has over 500 objectives and principles with more than half relevant to winery development, either directly or indirectly.

The Development Plan is a fundamental policy mechanism that provides the primary policy filter for winery related development. It is appropriate that potential environmental effects be addressed through the Development Plan, as well as other regulatory and voluntary measures including the Environment Protection Act, the Water Resources Act and the Native Vegetation Act.

5.3 Suggested Policy / Regulations Refinements

Non-Complying Development

The Development Plan may prescribe certain development as a non-complying development absolutely or conditionally. The Development Plan outside townships in the MLRW Zones has designated that all winery development is non- complying other than extension to a winery (that is specifically listed in the relevant Development Plan Tables) where such development satisfies a set of specified criteria.

This provides effective and absolute control with no rights of appeal unless the listed winery can fully satisfy all the criteria at the first hurdle. Assuming the winery development can meet the exemption criteria, the proposal would typically require full public notification (Category 3) and be tested against all the relevant Development Plan provisions before a decision is made. Such decision may include conditions, and third party appeals may be triggered.

If the initial criteria are not satisfied, the application faces the difficult process associated with non-complying development; it can result in refusal at the outset. Separate planning authority (the Minister) concurrence of the decision is required and there are no rights of appeal except for third parties.

The philosophy of strong control over development in the watershed is essential however similar development (e.g. wineries) should receive equitable treatment. By retaining the non- complying exemption criteria – further refined as discussed below – the bar is set such that only the best proposals are considered 'on merit' once they clear that hurdle. (Currently only the 10 listed wineries have potential to be considered on merit). All winery development should be similarly treated within a tight policy regime to ensure that only best practice proposals with low risk that are sustainable have potential to succeed.

The benefits of this approach include strong consistent controls and only proposals that clearly demonstrate best practice are assessed.

Schedule 10, 21 and Schedule 22

As wineries located within the MLRW are potentially significant activities where strict assessment and ongoing management regimes are necessary, it is highly desirable for a consistent Watershed wide approach to occur. The DAC is the planning authority for assessing stand alone waste water treatment systems state-wide along with land division within the MLRW.

It is appropriate for consistency and the strategic importance in managing impacts within the Watershed that the DAC be responsible for assessing winery development. Accordingly, Schedule 10 of the Development Regulations could be amended to achieve this outcome.

Pursuant to the Act and Regulations, many winery developments require referral to the EPA (Schedules 21 5(8) and 22 6(11). All Schedule 21 advice is advisory whilst Schedule 22 referral provides the EPA with the power of direction, including refusal and imposition of conditions.

Winery development within the MLRW crushing more than 50 tonnes per annum requires referral (Schedule 22) to the EPA, which can invoke the power of 'direction'. Given the environmental and planning sensitivity within the MLRW, it is clearly appropriate to require all winery development (including less than 50 tonne crush) to be referred to the EPA. To maintain a difference for wineries below the 50 tonne crush threshold, a Schedule 21 referral could be applied where advisory comment is sought from the EPA.

Given the current Development Plan requirements for non-complying exemptions, notably principle 62 exemption for wineries (f) where winery waste water management can be demonstrated to the satisfaction of the EPA, this concept for all wineries to be referred is considered as neither discriminatory nor excessive, rather a more equitable industry-wide criteria. The benefits include effective environmental assessment over smaller scale wineries, and consideration even if the planning policy changes.

Public Notification (Categories of Development)

The Development Act and Regulations establish the basis for and prescribe the circumstance where categories of notification apply to development.

- Category 1 requires no notification
- Category 2 requires that affected/adjacent owners be notified of that application and for a right to submit a representation to the planning authority (can be heard at the discretion of the planning authority) but with no rights of appeal.
- Category 3 requires full public notification (and notice to affected owners), full rights of representation, ability to appear at the hearing, and appeal against the decision.

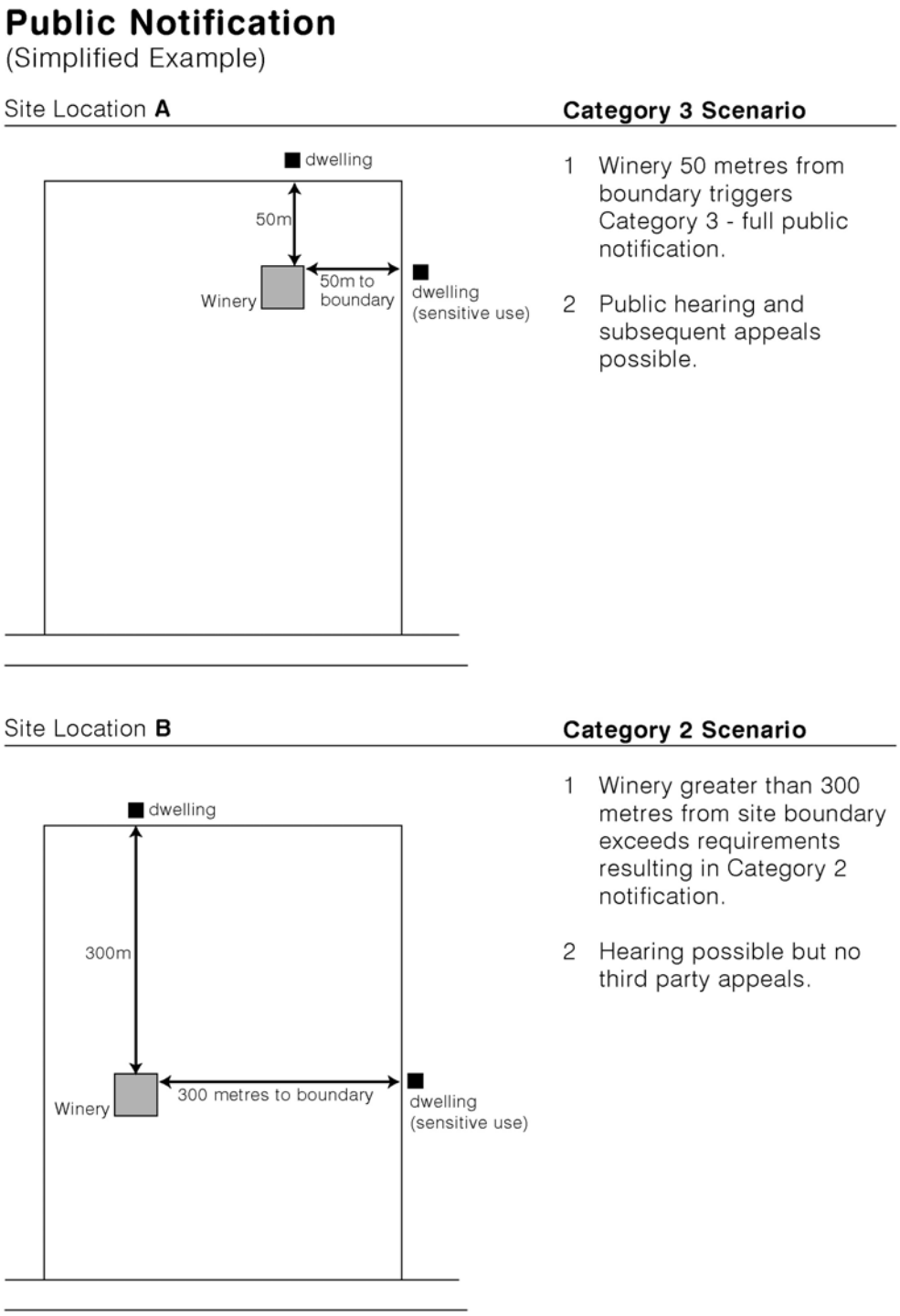
The Development Regulations also enable Council Development Plans to further expand the list or conditions applying to Category 1 or Category 2 development. It is now common to see substantial criteria being assigned to Category 1 and 2 developments for specific zones. Designation as Category 2 compared with Category 3 provides for protection against third party appeals and is an effective incentive for applicants.

By specifying criteria that must be met as the basis for Category 2 development, with the default to Category 3 if not satisfied, there is an incentive to seek the higher standard, as no third party appeals would apply.

By way of an example, if the 300 metre separation principle in the MLRW Zone was a requirement to enable Category 2 notification, and, an application sought only a 50 metre separation, that (50 metre) separation would trigger full public notification (Category 3) with the potential for subsequent third party appeal rights against the application. The following **Figure 2** illustrates this concept in a simplified form.

This is an important mechanism that rewards compliance and provides greater public say where a lesser standard is proposed. Refining the criteria specified for public notification categories in the Development Regulations could also occur as an alternative to amending the Development Plan.

Figure 2. Category of Development (Concept)



Potential Policy Changes Arising from the Above Analysis

There is potential to further refine the non-complying exemption criteria, preferably applicable to all winery development, as well as additions to the Public Notification Categories as discussed above. Before doing so, the following observations are provided.

- Water management is probably the most important challenge facing society.
- Community participation in planning and decision making is likely to increase.
- Environmental management demands will increase.

Suggested amendments to the MLRW Zone include expanding the non-complying exemption criteria applicable to winery development. This would effectively enable development satisfying these criteria to be considered as merit development. Possible additional criteria include:

- Setback distances to watercourses, e.g. a specific measurable distance (to be determined) in relation to any watercourse as a basic criteria, with the option of purpose designed interception systems or similar that can demonstrate the level of risk (e.g. frequency of possible spills reaching a watercourse not exceeding 1:10,000 years) using the risk rating methodology used in the Stage 2 Report. This is similar to the current non-complying exemption criteria for wineries, requiring EPA satisfaction of the wastewater management system.
- Wastewater used for irrigation re-use should be treated to the satisfaction of the EPA.
- Consider including the 20% slope principle which currently applies as an exemption criterion for agricultural industries but not winery development.
- Setback distances to nearest sensitive use, e.g. 200 metres to the nearest dwelling (the greater 300 metre separation could qualify such development for Category 2 notification).
- Access being provided direct to a designated arterial or collector road.
- Consider increasing the dining seat limit to 75 persons to better reflect the research undertaken by Tourism SA regarding likely facilities within the Adelaide Hills.

Refining and adding to the MLRW Zone-wide principles should be considered including policies relating to environmental management/construction management and improving consistency within the provisions for various land uses (e.g. Principle 4 of the Adelaide Hills Council Watershed (Primary Production) Zone refers to a 25 metre setback from watercourses for development, whilst Principle 54 prescribes a setback of 50 metres or 100 metres for winery waste water tanks depending on the order of the watercourse).

Such setback distances need to be consistent with the findings of the Stage 2 Report, as there are a number of inconsistencies. Further work is needed by State Government-EPA to determine, within the context of potential changes to the Development Plan, how these distances should be applied.

Where relevant the assumptions for best practice generic wineries specified in the Stage 2 report (section 12.2), could be added to the Development Plan provisions. It is recognised that some of these fall outside the role of the Development Act, for example training.

It is further noted that a detached dwelling would be a 'merit' development in the MLRW Zone. It may be appropriate to review the public notification category (e.g. Category 2 for new dwellings within 300 metres of an existing winery). In this way, winery and residential development would be treated equitably and minimise the risk to existing wineries (having achieved the best practice) of encroachment by new development.

5.4 Additional Non-Regulatory Planning Related Issues

In addition to the above, the following issues are also worthy of consideration.

Environmental Management Plans – Licensing

The Stage 2 Technical Assessment Report raised the issue of Environmental Management Plans (EMPs). Such an approach is strongly supported and emerging as a trend throughout industry, and the public sector, particularly for construction of infrastructure, e.g. roads, transmission lines, waste management, airports and industry. This could be on a voluntary basis with incentives provided for embracing an EMP. A site plan embracing best practice measures should be a requirement as part of the pre-lodgement process and any final site plan could be included in the EMP.

Whilst acknowledging licensing as separate and independent to planning, approval via EPA licence could readily draw upon EMP elements. This need not constrain the EPA in any way given that licences need to be adaptive to the changing circumstances and practices at licensed premises over time. The EMP should address most of the requirements of a licence in any event. (The EMP should also address construction management.)

An EMP should be structured to respond to day to day operational management which occurs after planning approvals have been implemented. Ongoing management becomes the primary issue once the development has been constructed. By undertaking the preparation of an EMP (a non statutory requirement) benefits should accrue. Whilst these may be difficult to specify, it is worthwhile further investigating whether incentives to achieve best practice can be developed.

The management requirements specified within the EPA licence could possibly be linked to an EMP. Independent auditing and monitoring could assist with managing day-to-day activities against licence conditions and could be part of the licence renewal process.

Advisory Guides, Brochures and Education

There is a clear need to provide appropriate technical guidance for winery and related development, to assist applicants, the planning authorities and professional advisors. There is a great deal of technical knowledge known by industry, government, research institutes and the private sector. However, a practical guide on the planning approval process, illustrated with best practice examples and specifying the extent of detail to be submitted with an application, would benefit the industry and relevant stakeholders.

Raising the awareness level for the industry with regard to process requirements should clarify the way forward as well as identify the key issues, risks and community representation rights. There are many lessons to be learnt from past applications that should be shared with the industry. Better informed, the frustrations experienced to date would at least be known at the outset. The planning authority also has a responsibility to ensure that the requirements for applications are satisfied with sufficient and appropriate information at the outset. A more stringent and rigorous approach would effectively prevent poor development progressing through the assessment process.
The Stage 2 Report identified human error as a key risk. Training and education has the potential to reduce error simply through knowledge and increased awareness.

Incentives

The concept of incentives needs to be considered, as this is fundamental to how democratic economies are driven. Fundamentally, some reward should be able to be accessed for contributing to a demonstrably improved environmental outcome.

As planning controls only apply to “development”, existing poor environmental conditions/practices may continue. The potential for an owner to benefit by bringing about change, including through tradeoffs, has potential to improve conditions quicker than might otherwise occur. This concept has been recognised in urban areas, e.g. Adelaide City plot ratio bonus for public access, or tax incentives for re-afforestation.

The opportunity for an applicant to offer environmental off-sets (e.g. removing a polluting or environmental harmful activity, providing wastewater treatment system upgrade, entering a heritage agreement, riparian restoration or environmental enhancement) in exchange for gaining some form of development incentive (e.g. protection from third party appeals through Category 2 notification) should be investigated.

There are many possibilities, using the principle of incentives for environmental improvements within the watershed to be accelerated. Benefits or rewards should only accrue to the applicant willing to invest in creating an improved environmental outcome.

5.5 Comment on Associated Ancillary / Tourist Development

The South Australian Tourism Plan 2003-2008 is an expression of State policy on tourism, and states, as a key objective, the enrichment of the wine and food experience. Objective 1.1 and related Strategy 4 seek to "value add" to the wine experience through the provision of accommodation, dining, meeting facilities and relevant merchandising at wineries and cellar doors. Further, the Discussion Paper on Sustainable Tourism Development in Regional South Australia dated November 2002, also addresses wine-based tourism infrastructure, which raises the issue of the need for quality tourism infrastructure.

The primary function of the watershed, coupled with the significant attributes of the Mount Lofty Ranges and its proximity to the metropolitan area, inevitably creates the dilemma between the key State objectives relating to water quality, and tourism as an economic driver. The strong link established between wineries and tourism will continue; however it is how this translates to on ground activity and investment that matters.

The sensitivity of development within the watershed is well recognised and protection of water quality is a fundamental requirement when considering any new development. At the same time, it is apparent that the greatest potential source of pollution is generated from established agricultural related activities, which are not affected by planning controls (only applies to "development" as defined by the Development Act). The argument put forward by the SATC in support of tourist facilities, subject to readily applied management measures, is compelling.

The economic and social benefits that flow from such value adding are well known, as is the need to ensure quality environmental responsive/sustainable development. However, the constraints imposed on tourist infrastructure appear overly cautious when considered within the wider context of existing agricultural and development within the watershed.

Ancillary and stand alone tourist development should still be subject to assessment against environmental and planning criteria such as visual amenity, access, waste management and the like; however tourist development cannot be readily compared with industrial development which is how it is currently treated.

Finally, the current limit on seating capacity (50) is not consistent with Tourism SA research that suggests 75 seats as viable and likely. This should not be an issue since the non-complying exemption criteria ensures EPA control over the onsite wastewater management system.

A further issue that highlights inconsistent policy is development within defined townships. Even though located within the actual catchment of the watershed, urban areas are subject to less scrutiny than outside of towns. Tourist development within towns (but still within the watershed) is currently treated differently to similar development outside towns, which is inconsistent.

It follows that should winery development pass through the assessment process, so should tourist development. In particular, it is suggested that where associated with an approved winery, tourist infrastructure should be treated as a Category 2 development, being an extension to an activity that already satisfies the environmental/planning assessment.

5.6 Summary of Findings

This report confirms that winery related development within the MLRW is appropriate, subject to controls tailored to the watershed. The environmental and planning effects are well known. Existing planning policies are reasonable in their level of control, but improvements and/or additional controls and refinement is warranted. There are however no planning or environmental noise, odour or waste impediments to winery and ancillary developments being allowed to proceed in the MLRW, subject to locational, size and management restrictions.

An objective for the MLRW embracing best practice, innovation and sustainability could be included specifically for winery development or for all development. Further, there is a need to embrace non-regulatory measures such as training, environmental management plans and advisory guidelines.

The scale of winery development, together with siting factors such as slope, setback from watercourses and sensitive uses, is critical when determining the suitability of development. These issues are manageable. Suitable exemption criteria need to be embedded within the Development Plan (non-complying provisions) to both facilitate appropriate development and ensure effective control.

Small to medium scale winery development is most likely within the MLRW. This raises the question of suitable management and access to capital. It is not appropriate to discriminate with respect to the scale of winery development, therefore all winery development should be treated the same, through effective standards applying across the spectrum of all winery development.

Non-regulatory measures are considered worthy of support where the outcome results in reduced environmental risk through training and on-going management. In particular, getting the fundamentals right at the site planning stage, prior to lodgement, with accurate site information and proposal details should be an industry goal.

The use of policy, regulatory management, voluntary codes and/or economic measures as a way of facilitating best practice winery and ancillary development within the MLRW needs to be undertaken in a cautious and consultative manner. Dramatic change is not considered essential, however the analysis within this report suggests that continued refinement is required.

The current regulatory and policy regime that has evolved over decades, embraces the precautionary 'catch all' approach. The need to balance 'controls', 'incentives' and 'non-statutory' measures, and to generate a culture of best practice management within the industry is critical. Equally, the assessment process demands consistency in evaluation. With a spirit of collaboration and endeavour, desired outcomes can be readily achieved, as opposed to the simple application of blanket control measures.

The following recommendations summarise the suggested policy, regulatory and advisory changes that have been drawn form these investigations.

6. Recommendations

1. The Development Plan should be amended to make winery and/or ancillary development applications exceptions to 'non-complying' in the MLRW if they are appropriately sited, sized and designed according to the best environmental practices drawn from the Stage 2 component of the study.

2. Include a new objective in the Development Plans applying in the MLRW Zone relating to best practice, innovation and sustainable winery development.

3. Review and amend Schedule 10 to make the DAC the planning authority and for Schedule 21 and 22 of the Development Regulations to require all wineries in the watershed to be referred to the EPA (less than 50 tonnes could be Schedule 21). Associated tourist related activities need not trigger such referral where a restaurant is not included.

4. Require siting criteria relating to setbacks from watercourses, setbacks to dwellings (or other sensitive uses) and access to designated arterial or collector roads to be included in the non-complying exemption provisions.

5. Require treatment to the satisfaction of the EPA for all wastewater used for irrigation re-use.

6. Consider incentive provisions to encourage a use change where there are environmental offsets or benefits.

7. Include incentives designed to achieve the desired outcomes relating to risk management, amenity and community benefit through the categories of notification. Public notification requirements (categories 2 and 3) could be based on the extent of off-site impact of the proposed development by defining clear criteria to achieve the required outcomes. The criteria may relate (for example) to risk management, amenity and community benefit.

8. Consider the expansion of exemption criteria within the non-complying principles, to embrace measures identified within the Stage 2 Technical Assessment Report able to be included in the Development Plan (e.g. containment/bund protection between potential sources of wastewater or spillage and any watercourse). Refer to Executive Summary for synopsis of measures.

9. Encourage the use of non-regulatory measures, such as environmental management plans (EMPs), for day-to-day management of wineries and ancillary developments in the MLRW.

10. Consider requiring independent audits as part of EPA licence renewal applications.

11. Prepare a Planning Bulletin and/or Advisory Guidelines for applicants, together with a general brochure, to raise awareness of risk management issues and best practice measures associated with wineries and ancillary development and distribute throughout the industry, local government and consultants. Such guidelines need to reinforce the need for site planning prior to lodging an application.

12. Consider facilitating stand alone cellar door sales and restaurant development (that satisfy the same non-complying exemption criteria relating to wastewater etc applicable to winery development) by treating them as merit development.

With these in mind, should the State Government consider Development Plan changes to allow new wineries in the MLRW Zone, it needs to consider how best to achieve best practice sustainable development delivering the highest possible environmental outcomes.

7. References

Eco Management Services Pty Ltd (2003) Water quality risk assessment of winery and ancillary development in the Mount Lofty Ranges Watershed. Stage 2 – Technical Assessment. Prepared for the Environment Protection Authority of South Australia. 137pp.

EPA (2000) The State of Health of the Mount Lofty Ranges Catchments from a water quality perspective. Environment Protection Authority of South Australia, 28pp.

Jenkins, R. (2001) Adelaide Hills Watershed – Winery Demand and Infrastructure Study. (Infrastructure SA) 13pp.

Appendix A

Socio Economic Considerations

PHIL HUDSON'S REPORT - SOCIO-ECONOMIC CONSIDERATIONS

An update of external conditions facing wineries in the water supply catchment area of the Adelaide Hills as part of the report on non water quality environmental risks. It provides an update on external factors, identifies the potential financial and economic impact of growth scenarios and retrofitting costs, and provides recommendations for further analysis.

It is stressed that the estimated economic impacts contained in this chapter have been included for the information of the client and were not included in the project's terms of reference. However, the financial and economic issues being dealt with in this project are complex and warrant the undertaking of a comprehensive cost/benefit assessment to fully inform decision makers. One key outcome identified is the threat to the emerging producer with high debt when faced with retro fitting costs to overcome environmental risks.

The following organisations were consulted as part of this investigation:

- Adelaide Hills Regional Development;
- Adelaide Hills Council;
- Mount Barker Council;
- SA Wine and Brandy;
- Adelaide University.

Major External Factors

The Adelaide Hills Region and Industry Development

The region's proximity to the city, natural beauty, abundant culture and heritage make it a prime tourist destination for local, interstate and overseas visitors. This tourism activity generates a growing proportion of the prosperity in the region through retailing, wine and gourmet festivals and tourist accommodation facilities.

A major issue to be considered in for future industry development in the Adelaide Hills is that the structure and performance of the Adelaide Hills economy, and food and wine sector specifically, do not reflect the South Australian or metropolitan Adelaide experience. The Adelaide Hills economic structure is different. It has a far greater concentration of primary production activity and very low levels of value added manufacturing generally and food processing specifically. This is a clear indication that a major portion of Adelaide Hills produce is exported out of the region for value added processing elsewhere. It also highlights the future potential opportunity to generate growth in the food and wine value adding sector in the Adelaide Hills region.

It is important to recognise the role that Adelaide Hills Regional Development (AHRD) plays in planning for future industry development in the region. AHRD recognises the importance to the regional economy of primary industries, wine and food and has a major strategy to develop primary industries, wine and food which will be achieved through the following initiatives contained in its Strategic Plan:

Work with the wine industry to support the development of Adelaide Hills Wine Region Inc, build market profile and strengthen links to the food and tourism industries including:

- *Employment of an administrative officer and establishment of an office.*
- *Development and promotion of the Adelaide Hills Wine Show as a premier regional show.*
- *Development of the Hills Harvest Festival as a premier regional event.*
- *Development of a regional marketing plan and an initial marketing drive.*
- *Publication of an introductory guide to the Adelaide Hills region.*
- *Establishment of a liaison with the National Wine Centre, including a permanent regional display.*
- *Implementation of a wine media visitation program in conjunction with Adelaide Hills Tourism Marketing.*
- *Development of cellar door facilities and wine and food tourism in conjunction with the food industry and Adelaide Hills Tourism Marketing.*
- *Development of a viable website providing information about the region and incorporating a membership bulletin board.*
- *Negotiation of a presence in visitor information centres, especially the Mount Lofty Summit Visitor Information Centre.*
- *Design and implementation of a comprehensive research program addressing environmental best practice issues.*
- *Possible establishment of a 4-hectare vineyard to generate a sustainable income stream for Adelaide Hills Wine Region Inc.*

The value and strategic importance of value adding in the wine sector is clearly evident in AHRD's plans.

While it is acknowledged that major limitations exist for wine and other industry development in the non-urban watershed areas of the Adelaide Hills, evidence suggests that the region is quickly running out of suitable industrial land in urban areas to take advantage of the region's outstanding wine, food, and tourism strengths and value adding opportunities associated with global markets.

Wine and food sector participants outside of urban areas will have greater potential to expand if suitable land and buildings can be provided at sites in appropriately zoned urban centres.

Failure to provide such facilities will eventually see an acceleration of companies leaving the region to accommodate future business development, thereby limiting the capacity of the Adelaide Hills region to develop its wine and food processing capabilities.

The consequences will be a continuing incubation of small and micro wineries without substantial realisation of value adding and accompanying employment potential.

Current Industry Situation

Phylloxera Board data (SA Utilisation and Pricing Survey 2002) – 'Adelaide Hills Vintage Overview' have been sourced to update wine industry statistics for the Adelaide Hills region. The following key issues are noted from the Survey:

- Due to unfavourable weather conditions, for most growers, 2002 was a disastrous tonnage season, but not so bad for winemakers.

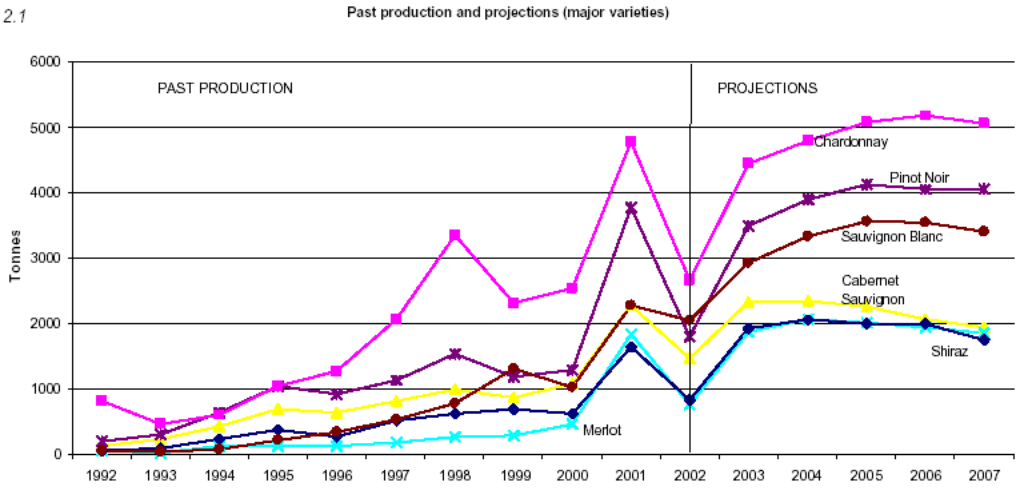
- Tonnage dropped by 42% from 18,920 in 2001 to 11,057 in 2002.

- The 5 year forecast for the region is for a slight increase (on 2001) to 20,000 tonnes with supply exceeding demand for red varieties and white varieties being in balance by 2007.

- There was a 16% increase in white varieties planted in 2001 (201 hectares).

The following chart from the Survey depicts past production trends and future projections.

Figure 2.1

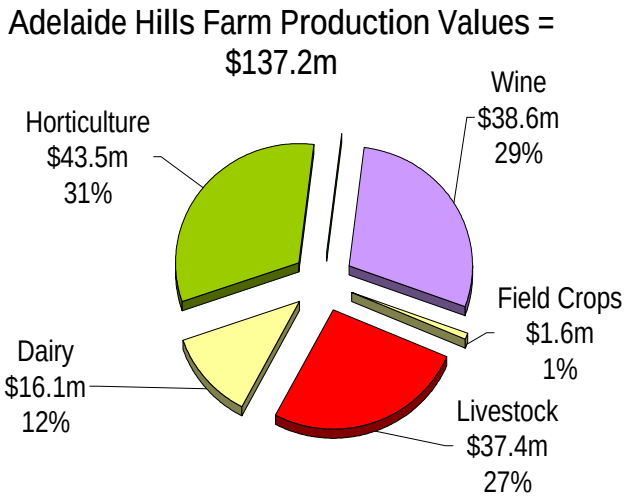


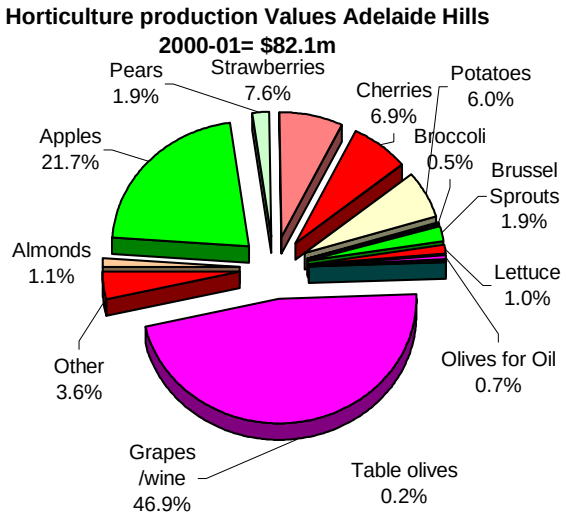
Source: Phylloxera Board data (SA Utilisation and Pricing Survey 2002) – 'Adelaide Hills Vintage Overview'

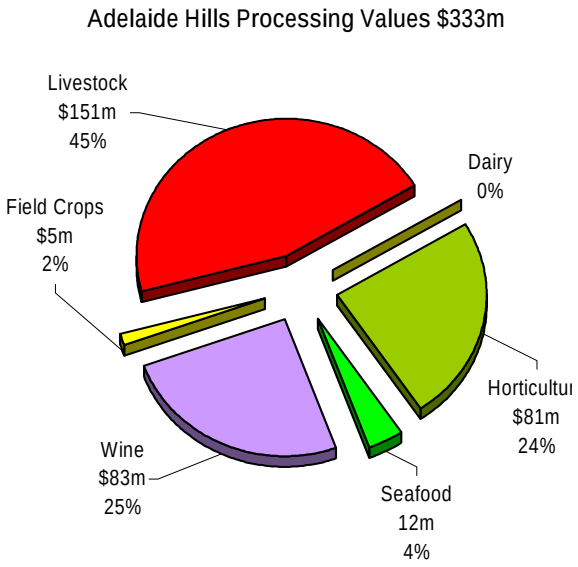
The following charts, sourced from the December 2001 PIRSA Scorecard Summary for the Adelaide Hills, depict the position and relative significance of the wine sector in relation to other food industries in the region. The charts show how each industry has contributed to the region's gross agri-food value along the value chain.

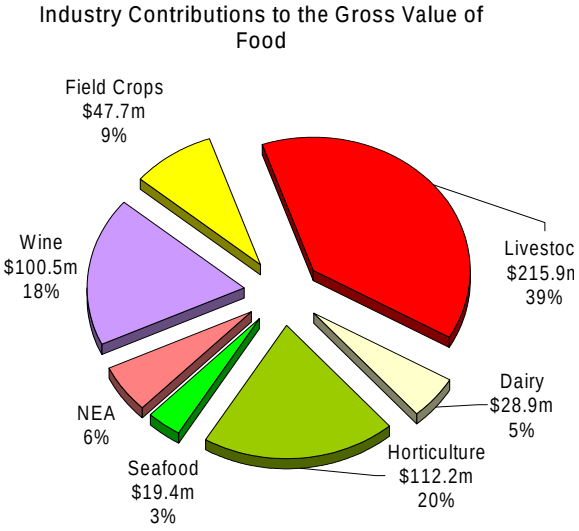
2001 PIRSA Scorecard Summary

	Gross Farm Value (food) ($ million)	Gross Farm total inc non food	Commodity Exports ($ million)	Commodity Imports ($ million)	Food Processing Value ($ million)	Processed Exports ($ million)	Processed Imports ($ million)	Retail & Food Service ($ million)	Net Food Revenue ($ million)	Gross Food Revenue ($ million)
Field Crops	1.0	1.6	1.0	0.0	5.0	0.0	16.9	46.7	30.8	47.7
Livestock	35.8	37.4	24.7	40.0	150.9	149.7	4.7	41.5	171.1	215.9
Dairy	16.1	16.1	16.1	0.0	0.0	0.0	7.3	12.8	21.7	28.9
Horticulture	43.5	43.5	2.2	16.2	80.9	74.6	11.3	35.4	84.7	112.2
Seafood	0.2	0.2	0.0	3.1	12.4	11.9	5.4	7.6	11.0	19.4
NEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.4	33.4	33.4
Food Total	96.7	98.8	44.0	59.3	249.3	236.1	45.6	177.4	352.7	457.6
Wine	38.6	38.6	8.2	0.0	83.2	77.5	0.4	14.8	100.1	100.5
Food and Wine	135.3	137.4	52.2	59.3	332.5	313.6	46.0	192.2	452.8	558.1


Adelaide Hills Farm Production Values = $137.2m
Wine $38.6m 29%
Horticulture $43.5m 31%
Field Crops $1.6m 1%
Dairy $16.1m 12%
Livestock $37.4m 27%


Horticulture production Values Adelaide Hills
2000-01= $82.1m
Pears 1.9%
Strawberries 7.6%
Cherries 6.9%
Potatoes 6.0%
Apples 21.7%
Broccoli 0.5%
Brussel Sprouts 1.9%
Almonds 1.1%
Lettuce 1.0%
Other 3.6%
Olives for Oil 0.7%
Grapes /wine 46.9%
Table olives 0.2%





Grapes for wine production in Adelaide Hills are valued at $38.6m (29%) of total agri-food production.

Key Industry Issues

The following key issues were identified during consultation:

- Contracting overseas economies, increasing competition, particularly from Chile, means pressure on export sales, which absorb well over half of Adelaide Hills wine - some labels do not even market in the region, they sell so much overseas.

- The ongoing shake-out in the industry, which is seeing production and marketing increasingly dominated by big players - only Petaluma in the region is linked into a major group (Lion Nathan) - and distribution channels are controlled tightly by major supermarket chains - heavy discounting is happening at present, which is putting a great deal of pressure on labels and growers.

- South Australia's water restrictions are likely to impact on growers and wineries.

- Pressure for environmental accreditation, particularly in Europe, will impact on export requirements.

- Increasingly difficult to find skilled labour at traditional rates, and the wine industry is passing on the pressure it is feeling to other horticultural industries such as apple and pears, which in turn are finding it even more difficult.

- Land and labour costs are much higher in the Adelaide Hills than in other parts of the State - up to 50% for labour, because of the terrain, requiring much more labour intensity, and reduced options for use of machinery.

- Regional wineries are unable to achieve optimum economies of scale due to planning restrictions and the boutique nature of regional production.

- Scale and bulk, proximity to dwellings, character and amenity, access, water, native vegetation, noise and odour are some of the many challenges facing current winery proposals.

Financial and Economic Impact Assessment

The scope of this project has only allowed for very general comments to be made regarding the impacts of growth scenarios based on information to be supplied on the costs of winery retrofitting. Land Energy Pty Ltd provided enclosing, bunding and spill retention financial information for a range of winery sizes, see Appendix A.

Financial Impacts

Wineries are varied and it is not possible to generalise on the impacts of the costs of winery retrofitting. A distinctive financial feature of the winemaking industry is long inventory holding periods of up to 3 years (and even longer) for some products.

This means a large and, in many cases the largest, demand on capital is for inventory. The opportunity cost of insufficient funds to carry inventory is very high and estimated at about 50% as estimated by dividing gross margin per case by the per case cost of 'trade blend', which is wine in its bulk form ('trade blend' excludes bottle and packing cost as this cost is incurred at the final production stage and is closely synchronised with sales revenue).

The following table describes the likely winery profile and retrofitting effects associated with high, medium and low impacts:

Impact	Profile	Effects
Highest impact	Emerging producer, high debt, low recourse to capital, high growth opportunities, need for fully enclosed retention bund.	Sales growth opportunities missed, locked into an uneconomic sales level, employment growth lost, negative cash flow, possible closure
Medium Impact	Low recourse to capital, growth opportunities, need for covered retention bund.	Some growth opportunities missed, some employment growth lost, lower possibly negative cash flow.
Lowest impact	Established winery, low debt, access to new capital, low sales growth environment, open bund is suitable	Reduced cash flow

Wineries have a diversity of operating modes ranging from boutique small scale wineries heavily reliant on cellar door sales, direct marketing and limited national distribution, to larger wineries with the above but stronger national distribution networks and some export activity, through to large-medium wineries with the above and a significant percentage of sales overseas (e.g.: Petaluma). Any of these may be associated with attached vineyards and winery tourism facilities.

There is no single financial set of performance ratios that will apply to every winery in respect of the opportunity cost of capital. The capital impact on each winery must be considered based on individual circumstances. From the profile above, however, one indication is that wineries with the best prospects for sales and employment growth, small emerging wineries, would expect to be most affected.

Using the 2,000 tonne winery bunding system costs as an example, the accounting cost of the bunding system amortised over a 40 year life infers a relatively modest cost of 6.8 cents/ litre ($1m/40 years plus interest cost @ 7% divided by 2,000 tonnes X 700 litres/tonne) compared to bulk wine prices of about $1.00 to $4.00 / litre. However the immediate impact could be as high as $500,000 in lost pre tax profitability (per inventory cycle) if the bunding outlay diverts capital from the ability to fund inventory.

One possible effect to avoid the cost of bunding by some wineries would be to shift some or all of their crushing to another winery with bunds in place or not required. They would pay for this 3rd party crushing on a contract basis permanently or temporarily until they could fund their own bunding. This may increase their costs as the contract crushing would be priced with a profit margin and there would be transport cost involved.

Economic Impacts

1998 Input Output Tables for the Mount Lofty Ranges (developed by the South Australian Centre for Economic Studies) have been sourced as a methodology for assessing potential economic impacts of scenarios on the regional economy, including all multiplier impacts. The following information on the wine sector has been extracted from the SACES report on the tables:

> *"For the wine industry these multipliers suggest that (in 1998) for every $1000 of final demand (e.g. exports) by the Mt Lofty wine industry would support .0044 jobs directly in the industry in the region. .0068 jobs would be created in direct suppliers to the wine industry (the first round effect), while the flow through effect because of additional purchases and the spending of wages would create an additional .0042 jobs giving a total of .0154 jobs. It should be noted that for region such as Mt Lofty, two perspectives of the multipliers for incomes (wages and salaries and employment) must be provided. The region has extensive employment and population links with other regions, and jobs within the region are not necessarily held by local residents, while local residents do not necessarily work in the region. This is not a substantial issue in more self-contained regions such as the South East, and comes about because of the semi-urban nature of much of the Mt Lofty region. Therefore, the first multiplier measure is a narrower perspective that demonstrates the impact of economic activity in the region for wages and jobs which accrue to regional residents. The second is a broader perspective that indicates the impact of activity within the region on the wages, value added and job opportunities for South Australians (but not the impact of purchases associated with regional expenditure that leak out to the rest of South Australia). Value added is only meaningful in this broader context. The multipliers derived for the region are, as one would expect, generally lower than those derived for the state from state tables, which indicates reasonable leakage (in terms of inputs) from the region to the rest of the state. However, because of the "breadth" of the region involved, and the geographic nature it is more self contained than studies suggest for a purely metropolitan region, or for smaller areas."*

Using data from the Input-Output tables and making several assumptions regarding the nature of the wine industry in the watershed a region, the model and table on the following page has been developed to illustrate possible economic impacts of the enclosing, bunding and spill retention costs on the regional and the South Australian economy.

It is very important to note that the estimated impacts do not take into consideration any potential reductions in winery size or numbers that could occur if wineries do not have sufficient capital to fund additional costs. That is, the model assumes that the additional costs can be funded by the wineries without impact on inventories. It is also important to note that many other factors, such as potential tax benefits that may accrue through environmental and water conservation expenditures, are not factored into the estimates. Once again, it is stressed that a comprehensive cost benefit assessment is required to properly assist decision making.

Winery Processing Capacity (tonnes)	*50*	*200*	*500*	*2,000*	*4,000*	***Totals***	
Est. Retrofit Costs	$54,000	$121,000	$490,000	$1,042,000	$2,568,000		*(Source: Land Energy Pty Ltd)*
No. of Existing Wineries (approved tonnages)	2	2	1	5	0	10	*Source: Stage 2 Executive Summary*
Existing Approved (not actual) Production (tonnes)	100	400	500	10,000	0	11,000	
2012 Scenario (est.)	14	6	5	5		30	*(Source: Jenkins 2001 Report)*
Est. Total Cost - Existing	$108,000	$242,000	$490,000	$5,210,000	$0	$6,050,000	*Assumes all 10 wineries require retrofitting*
Est. Total Cost - 2012 Scenario	$756,000	$726,000	$2,450,000	$5,210,000	$0	$9,142,000	*Assumes all 30 wineries require retrofitting or fit-out*
Est Production Increase - 2012 (tonnes)	600	800	2,000	0	0	3,400	
Est Increase in Wine Production (litres)						2,380,000	*Assumes 700 litres per tonne*
Est Retail Value of Production Increase						$47,600,000	*Assumes $20 per litre (guesstimate)*
Employment Multiplier - Narrow						10.85	*i.e.: 10.85 Jobs for every $1m production increase*
Employment Multiplier - Broad						13.37	
Employment Increase - Narrow						517	*Assumes not replacement crushing*
Employment Increase - Broad						636	*Assumes not replacement crushing*

Based on the above assessment and assumptions, it is estimated that the Jenkins 2012 scenario for wineries in the Adelaide Hills watershed region could result in up to 636 additional jobs in the South Australian region and up to 517 additional jobs in the narrower Adelaide Hills region.

Appendix B

Summary of Applications

Winery Wastewater Review				
	Winery DA Checklist			
Identification				
Identification of Company	Lobethal Heritage Farm (473/0249/00 - April 2001)	Barrett Wines (473/779/00 - February 2001) Approved by Council; DAC Planning Officer recommended Refusal	Ashwood Estate (473/0774/00 - April 2001); Council recommended approval; DAC Planning Officer recommended refusal	Woods Vineyards (473/1173/00 – October 2002) DAC concurred with Council to grant Provisional Development Plan Consent.
Location - title/section number/road address	Part Section P517, Hundred of Onkaparinga, Cudlee Creek - Lobethal Road	Lot 99 and 100 Cornish Road, Summertown	Lot 1, section 5009 & Lot 105, Section 5091, Hundred Onkaparinga, Mappinga Road, Oakbank	Lot 1 Pfeiffer Road, Woodside. CT 5261/544.
Form of land use - operational characteristics	To upgrade and expand existing tourist facility, involving a 10 tonne per annum demonstration boutique winery, change of use of dwelling to a bed and breakfast and additions to restaurant	Establishment of Winery	Establishment of a Winery building, Cellar Door Sales and Tasting Outlet.	Convert existing building into a Winery, Olive oil bottling and olive packing
Size of Crush	10 tonne per annum - involving hand methods and traditional wine making methods for educational and interpretive function.	50 tonne crush per annum	500 tonne crush per annum.	500 tonne crush per annum
Is there a vineyard on site	Existing vineyards and the removal of existing chestnut orchard for planting a vineyard. Total area will be 4 hectares of the site	Existing vineyard	Has approval for 200ha of vineyard however only 13ha have been planted	Yes, around 300 tonnes of the crushing capacity will be produced from this site.
Does Bottling Occur on site (scale of and relevant water use)	No mechanical bottling, hand bottling will be limited up to 2,000 litre barrel store capacity.	No	Yes, with a mobile bottling plant	Yes
Any ancillary activities (restaurants/cafes/tourism etc)	Proposed Cellar Door Sale and Restaurant.	Dwelling, which has a licence to serve, and sell wines.	Existing on site is equine uses. Cellar Door sales & Tasting Outlet will be limited to a maximum of 50 persons for the serving of food and wine.	Olive Oil Bottling and storage of pickled olives. No waste products to occur on site as the production will occur off-site in Loxton or Virginia.
Environmental Effects - Site Plan				
Rainfall	Average of more than 900mm a year (considered most water sensitive area)	EPA advice – it is located in a high water sensitive area of the watershed. It receives greater than 900mm of rainfall per year.	Less water sensitive part of the Mount Lofty Ranges Water Protection Area (receiving less than 900mm of rainfall per year)	Receives an average of 800mm rainfall per year
Slope of land		Steep sloping	Slope of the land is less than 20%	Moderate Slope
Wastewater Management (stormwater - roof/car parking run off)			Water from roof run-off will be re-used in the winery. Water collected from run-off from car parking areas will be put through a grease, oil and gross pollutant trap before being discharged to the existing adjacent dam	No stormwater will be allowed to enter the wastewater treatment and storage area due to the interception drain and sump located uphill from the buildings. Water collected in this sump flows by gravity directly into the catchment dam.
What systems and containment methods are uses for waste	All wastes will be appropriately contained and removed off site.	Solid waste to be stored in plastic bins and when full transported to the Barossa for treatment. Wastewater to be directed to an underground effluent holding tank with a capacity of 13,600 litres and an audible alarm system	Solid waste will be stored in concrete lined and drained marc bays and will be regularly tanked to the Barossa. Waste from stems will be mulched and used across the vineyards. An effluent holding tank will be used.	Waste to be contained and treated on-site. It is expected that 750,000 litres of wastewater per annum will be produced.
Is Bunding used around the tank operation				Yes
	Lobethal Heritage Farm (473/0249/00 - April 2001)	***Barrett Wines (473/779/00 - February 2001) Approved by Council; DAC Planning Officer recommended Refusal***	***Ashwood Estate (473/0774/00 - April 2001); Council recommended approval; DAC Planning Officer recommended refusal***	***Woods Vineyards (473/1173/00 – October 2002) DAC concurred with Council to grant Provisional Development Plan Consent.***
How do the drainage systems work - cleaning up of water				

Where does the waste go - tanked or detention	Wastewater from the winery will be discharged to a holding tank and tanked from the site on an as need basis.	Wastewater detained on site and to be pumped out on an as needs basis and tanked to a town sewer or sewerage treatment works.		Wastewater will be treated on-site in two interconnected in ground 136kL tanks fitted with both audible and visual alarms. It will then be re-used across the vineyards.
How does overflow work				
Is onsite disposal used (i.e. used for irrigation methods) what systems are in place			Water collected from roof run-off etc will be captured in rainwater tanks and be reused in the winery to supplement mains water.	Treated wastewater will be distributed from the storage tanks though the existing drip irrigation system over 24ha of vineyard. Small quantities of laboratory wastes will be generated. These wastes will be stored in sealed plastic containers and transported off-site for a disposal at a licensed waste management facility.
What is the water type / combined with rainfall			750,000 litres of waste water per annum	
Nature and extent of vegetation		Native vegetation is present on site, no removal needed.	No removal of native vegetation	
Proximity to streams/gully's (use 50,000 topography rule)	The land is bisected, east west, centrally through the property by a creek line.	100m from the nearest watercourse. The site is at the head of a steep gully, which drains into the headwater of the sixth creek, and eventually into the River Torrens and Hope Valley Reservoirs.	100m from a substantial farm dam across a natural watercourse	200m from the nearest watercourse
How is waste, other than associated with the winery, disposed of	Effluent from the restaurant facility will be held in storage tanks of a total capacity of 15,500 litres, and pumped off site for disposal. Two tanks exist and will act on an alarm system for capacity. Up graded waste disposal system is needed for the bed and breakfast development.			A commercial aerobic waste system will be stored to deal with waste not associated with the winery directly.
Noise and odour impact - relevant to size of crush and location in relation to other uses	No audible bird scare devices, gas guns and screechers.	No noise or odour concerns.	No noise or odour concerns.	Little or no noise and odour impacts expected.
Transport and Access				
Is the road access safe and convenient	It has a 625m frontage to the Cudlee Creek Road.	Access from Cornish Road from Collins Road.	Concern that road safety and access along Mappinga Road will be deteriorated. Studies showed the effect to be minimal.	Yes
What is the road hierarchy - served by minor or main road				
What is the affect of the vehicle route on surrounding development	The changes to visitor numbers etc were not considered to have a detrimental effect on the character of development.	Representor concerned about increased traffic.	It is estimated that there will be an increase of 54 vehicle trips per week on Mappinga Road. It is considered to be only a minor increase. Effect will be minimal.	It is considered that the impact on traffic will be minimal if not a reduction from the current situation as fruit will not need to be carted off site.
What surface is proposed for car parking and access arrangements?	Use of existing car park. It was conditioned by council to construct a sealed standing area.		Road surfaces will be bitumen.	
	Lobethal Heritage Farm (473/0249/00 - April 2001)	***Barrett Wines (473/779/00 - February 2001) Approved by Council; DAC Planning Officer recommended Refusal***	***Ashwood Estate (473/0774/00 - April 2001); Council recommended approval; DAC Planning Officer recommended refusal***	***Woods Vineyards (473/1173/00 – October 2002) DAC concurred with Council to grant Provisional Development Plan Consent.***
Building form and appearance				
What is the form/materials of the buildings		Colourbond	The winery building will be constructed of galvanised iron. Cellar door sales and tastings will be in the form of a rendered building.	Contained in existing building
Is there any visual impact occurring (any vegetation blocking the view)	As no additional buildings will result it, a positive impact on the appearance of the locality is expected.	Minimal visual impact as the building is located behind an existing building on the site. It can only be seen from locations within the site.	Landscaping will be provided between the dam and the winery building to screen the complex from Mappinga Road.	

Location of building on the site (setbacks)			The winery complex is set back a minimum of 82m from Mappinga Road. The cellar door and tasting building is setback 240m from Mappinga Road.	
Lighting and signage			Some external lighting will be required in and about the receival area to enable grapes to be safely	
Nearest sensitive use - residential	There are no dwellings in close proximity to the proposal that would be affected by the development.	Nearest dwellings are located between 250&270 metres to the northwest and to the south. 750m from the townships of Uraidla and Summertown.	330m away from the nearest house on a neighbouring property. Approximately 2km from Oakbank.	300m from the nearest residential development on a neighbouring property
Are the winery operations within a covered building	The winery will exist in an existing shed.	Yes – colourbond shed	Yes – galvanised iron	Yes, in an existing building.
Agency Advice	EPA - Opposed to the application due to the winery, cellar door sales and restaurant components. The winery is located in the most water sensitive part of the Water Protection Area because of its high rainfall location. Due to the DAC willingness to approve the application, conditions were provided (8). TSA - supports the access arrangements. The northern most access point may remain open for traffic entering the property from the north only.	EPA - the disposal of wastewater is a potential major source of pollution and land degradation. Significant risk for spillage/overflow and potential illegal dumping. The steep slope and high rainfall intensifies the risks. Is opposed to any increase in the number of wineries operating in the Mt Lofty Ranges Water Protection Area.	EPA - the disposal of wastewater is a potential major source of pollution and land degradation. Significant risk for spillage/overflow and potential illegal dumping. Concern with the possibility that small wineries have the opportunity to expand and this will cause future problems. Is opposed to any increase in the number of wineries operating in the Mt Lofty Ranges Water Protection Area.	EPA- Original decision to refuse the application due to pollution risk and precedent across the Mount Lofty Ranges Watershed. However, the winery wastewater management system proposed incorporates high technology and minimises the risk of water pollution arising from the winery operation. On approval the EPA recommended 20 conditions that related to: confirmation of proposed design details; wastewater treatment and disposal; stormwater; and scale of operation.
Key Issues	▪ Re-use of heritage buildings; ▪ Opportunity to enhance viability of existing small scale tourist use; ▪ Isolation from nearby dwellings; and ▪ Vines on site.	▪ Vines on site; ▪ Steep well vegetated terrain; ▪ Drainage gully immediately adjacent winery site; ▪ Narrow local access; and ▪ Reasonable proximity to residential development and township.	▪ Large site; ▪ Generically suitable based on minimal slop, rainfall and setback from watercourses; ▪ Some dwellings within 500m; and ▪ Good road access.	