

APPENDIX 9. ECONOMIC FEASIBILITY OF PRIMARY PRODUCTION

This investigation report can be viewed as a separate document on the Have Your Say Page of the SA Planning Portal at www.plan.sa.gov.au/codeamendments

16 April 2024

Damien Collins

Burke Urban Developments Pty Ltd

Adelaide SA 5000

Dear Damien,

Re: - Land assessment for the Wallaroo Code Amendment

Background

A primary production viability assessment was requested for the properties on sections 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 679, 680, 681, A626 and A628, located on the outskirts of the Wallaroo township. The properties are currently owned by Silvergate (SA) Pty Ltd.

Site inspection

Inspection of the property found topography to be relatively flat with suitable arability in all areas (a total of approximately 110ha). Wheat stubble from the previous season was present on the large portion of the land split into 4.85ha lots. Barley stubble from the previous season was present in section A626. This indicates recent use of the property for grain production.

There appeared to be no evidence of livestock grazing in all areas and supporting infrastructure for animal husbandry was either nonexistent or in disrepair (Appendix 3).

The actively growing plant species observed included a mix of annual weeds and perennial shrubs (such as buckbush and saltbush). Given that this district has winter dominant rainfall, it isn't surprising to see little desirable species during summer/autumn.

Preliminary soil inspections found sandy clay loam topsoil. This soil type is likely to be alkaline and highly calcareous given existing knowledge of the region .

Agricultural Viability

Primary production of the 17 sections has been assessed in two components, firstly technical viability and secondly economic viability. Technical viability considers the physical features of the property, along with soil and climate suitability, trafficability and access to irrigation water. Economic viability looks at the likely profitability of a primary production enterprise once input costs and fixed costs are considered. Economic viability was not assessed where an enterprise was deemed technically unviable.

This viability assessment has been split into two sections, firstly the property at section A626 and secondly, the remaining 16 4.85ha sections. The 16 4.85ha sections were found to have very similar attributes and given that they are of equal size, this analysis considers them all the same (instead of assessing them individually).

Section A626 property viability

Table 1: Summary of enterprise viability for section A626.

Enterprise	Technical viability	Economic viability
Irrigated horticulture	No	-
Grazing livestock	Yes	No
Grain/hay production	Yes	Yes

Irrigated horticulture is technically unviable due to the lack of irrigation water supply.

Grazing livestock (sheep or cattle) is technically viable for section A626. However, given that current practices are to crop the land, there is little supporting infrastructure. Investment is required in infrastructure (water points and gates) to allow for a grazing enterprise. This is estimated to be a total of approximately \$4,550.

Access to water for livestock is a limitation, however, this could be overcome by carting water. This would carry considerable cost and would cause the grazing enterprise to be economically unviable. Particularly when considering the upfront investment in infrastructure required.

Alternatively, a pipeline through a neighbouring property to the mains water supply could be installed. This would allow the property to achieve an annual gross margin of \$75/ha or \$2,307 total (income less variable costs including stock purchases, pasture and selling costs). This margin is before fixed costs such as council rates and insurance, which are likely to be larger than this amount. For this reason, grazing livestock on section A626 has been deemed as economically unviable.

Grain and/or hay production at section A626 is technically viable, as demonstrated through the previous use of the property. A common crop rotation in this district is wheat, barley and lentils which would have an estimated annual gross margin of \$264/ha or \$8,131 total (income less variable costs such as inputs and contractor costs). This is lower than industry average for the district as it has been assumed

that due to the small scale, the property would rely on contractors for all crop operations rather than owning and operating equipment. Therefore grain production can be deemed economically viable. Noting that it isn't creating a significant return due to the small scale of the property.

Further detail on the analysis for livestock and grain production enterprises can be found in Appendix 4 and 5.

Individual 4.85ha property viability

The 16 individual 4.85ha blocks have been assessed as being the same given their similar soil type, topography and size. This includes sections 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 679, 680, 681 and A628.

Table 2: Summary of enterprise viability for individual 4.85ha sections.

Enterprise	Technical viability	Economic viability
Irrigated horticulture	No	-
Grazing livestock	Yes	No
Grain/hay production	Yes	No

Irrigated horticulture is technically unviable due to the lack of irrigation water supply.

Grazing livestock (sheep or cattle) is technically viable for the 4.85ha properties. However, given that current practices are to crop the land, there is little supporting infrastructure. Investment is required in infrastructure (water points and gates) to allow for a grazing enterprise. This is estimated to be approximately \$9,900. This is higher than the estimated amount for section A626 due to requiring a new boundary fence as well as a similar number of troughs and gates.

Access to water could be arranged with a mains water pipeline running along the Spencer Highway. If all 16 blocks committed to running livestock then a pipeline could be installed to allow access to all properties. However, under it's current layout, only 3 properties have immediate access to water due to proximity to the mains water pipeline.

If access to water is available then an annual gross margin of \$75/ha or \$364 total, should be achievable. This is unlikely to be enough to cover fixed costs and therefore is deemed economically unviable.

Grain and/or hay production on the individual 4.85ha blocks is technically viable, as demonstrated through the previous use of the property. Estimated production indicates that an annual gross margin of \$158/ha or \$710 total is possible (income less variable costs such as inputs and contractor costs). This is lower than industry average for the district as it has been assumed that due to the small scale, the property would rely on contractors for all crop operations rather than owning and operating equipment. This is also lower than section A626 as it is assumed more will be spent on inputs and contracting costs due to the smaller size of the

property. This is unlikely to be enough to cover fixed costs and therefore is deemed economically unviable.

Further detail on the analysis for livestock and grain production enterprises can be found in Appendix 6 and 7.

The economic viability assessment would likely be different for both livestock and cropping, if all 16 blocks were farmed as one property (approximately 80ha). This is due to decreased demands on infrastructure and increased economies of scale.

Conclusion

It is my opinion that the properties located on the outskirts of the township of Wallaroo, including sections 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 679, 680, 681 and A628 cannot support an economically viable primary production enterprise. In addition to this, it is my opinion that section A626 could support an economically viable grain production enterprise, however, with only small returns. Other enterprise options assessed for section A626 were found to be economically unviable. Assessments deemed to be economically unviable are due to combination of property size, water availability/access and general productivity.

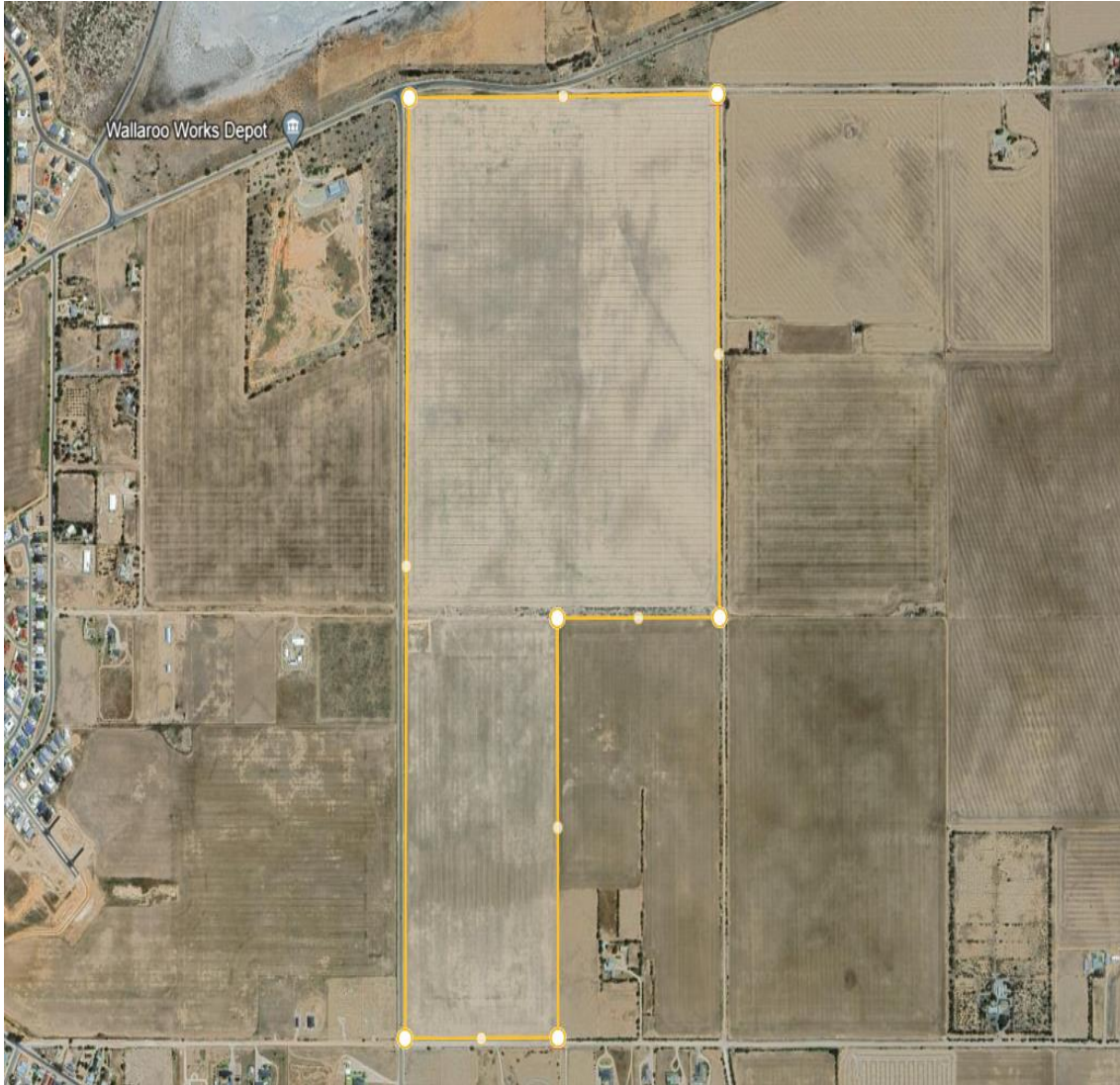
Regards,



Royce Pitchford

Consultant – Agribusiness

Appendix 1 – Site map (Screenshot from Google Earth)



**Appendix 2 – Site map including mains water supply outlined in blue lines
(Screenshot of the properties from SA Property and Planning Atlas).**



Appendix 3 – Images from property inspection



Figure 1: Example of boundary fenceline fallen over on land split into sixteen 4.85ha sections.



Figure 2: Example of boundary fenceline down on land split into sixteen 4.85ha sections.



Figure 3: Example of site characteristics, including saltbush/buckbush along fenceline and relatively flat terrain.



Figure 4: Example of site characteristics, including buckbush, wheat stubble and relatively flat terrain.

Appendix 4 – Economic analysis of section A626 for grazing livestock

Grazing enterprise economic analysis - 'A626'				
	Area (ha)	Stocking rate (DSE/ha)	Total DSE's	
Current fenced area	30.76	3	92.28	
Total	30.76	3	92.28	
Annual performance	Per DSE	Current	Per Ha	
Income	\$75	\$6,921	\$225	
Variable costs inc labour	\$50	\$4,614	\$150	
Gross margin	\$25	\$2,307	\$75	
	Units	Cost/unit	Cost	
Troughs	1	\$700	\$700	
Fencing	1200	\$5	\$6,000	
Gates	5	\$500	\$2,500	
Labour	1	\$600	\$600	
Pipe (metres)	750	\$1	\$750	
Total			\$4,550	

Appendix 5 – Economic analysis for section A626 for grain production

Cropping enterprise economic analysis - 'A626'				
	Wheat	Barley	Lentils	Average
Yield (t/ha)	2.4	2.7	1	
Price (\$/t)	\$ 350	\$ 300	\$ 750	
Income	\$ 840	\$ 810	\$ 750	\$ 800
Variable costs	\$ 544	\$ 544	\$ 519	\$ 536
Gross margin	\$ 296	\$ 266	\$ 231	\$ 264
Hectares				30.76
Total gross margin				\$ 8,131

Appendix 6 - Economic analysis of individual 4.85ha properties for grazing livestock

Grazing enterprise economic analysis - individual 4.85ha lot				
	Area (ha)	Stocking rate (DSE/ha)	Total DSE's	
Proposed grazing area	4.85	3	14.55	
Total	4.85	3	14.55	
Annual performance	Per DSE	Current	Per Ha	
Income	\$75	\$1,091	\$225	
Variable costs inc labour	\$50	\$728	\$150	
Gross margin	\$25	\$364	\$75	
Investment required to increase stocking rate				
	Units	Cost/unit	Cost	
Fencing (metres)	1000	\$8	\$7,500	
Gates	3	\$400	\$1,200	
Troughs	1	\$700	\$700	
Pipe (metres)	500	1	\$500	
	Total		\$9,900	

Appendix 7 - Economic analysis of individual 4.85ha properties for grain production

Cropping enterprise economic analysis - 4.85Ha Lifestyle blocks				
	Wheat	Barley	Lentils	Average
Yield (t/ha)	2.4	2.7	1	
Price (\$/t)	\$ 350	\$ 300	\$ 750	
Income	\$ 840	\$ 810	\$ 750	\$ 800
Variable costs	\$ 649	\$ 649	\$ 629	\$ 642
Gross margin	\$ 191	\$ 161	\$ 121	\$ 158
Hectares				4.85
Total gross margin				\$ 765