

VBris6001A

Level 30, 111 Eagle Street  
Brisbane, QLD 4000
**Toowoomba Office**  
 Rural & Agribusiness  
 126 Margaret Street  
 Toowoomba, QLD 4350

MAIN | 07 4659 7875

www.colliers.com.au

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s 22

 Water Markets Policy Section  
 Department of Agricultural and Water Resources  
 GPO Box 858  
 Canberra, ACT 2600
Email – s 22 [@agriculture.gov.au](mailto:@agriculture.gov.au)

Dear s 22

 Re **Valuation of Overland Flow Water Entitlements**  
**Condamine Balonne Water Resource Plan – Lower Balonne**

I refer to your **Commonwealth Contract – Services, Reference No 2017-004** for Colliers International (CIVAS (QLD) Pty Limited) to provide valuation advisory services to the Department of Agriculture and Water Resources (The Department) for the valuation of Overland Flow Water Licences within the Lower Balonne region of the Condamine Balonne Water Resource Plan.

**Reliant Party**

Department of Agriculture and Water Resources

**Specific Instructions**

The Department requires the Service Provider to:

- (1) Provide an assessment of the market value of Lower Balonne Overland Flow (OLF) water entitlements.
- (2) The value provided must be single point as well as a value range.
- (3) Indicate the timing and period of validity for the report, and comment on any known factors that may be reasonably expected to change in the near future.
- (4) Document the method (e.g. volume-weighted average prices, mean, media, expert knowledge and experience, etc.) and logic used to arrive at a value/ range. If using expert knowledge and experience as the method, it must be justified with evidence/ logical arguments.
- (5) Use graphs, tables, as appropriate to present analysis and results, as appropriate.
- (6) Include reference sources, data used (in spreadsheet format), as relevant.

**Definition of Market Value**

Market Value is the estimated amount for which an asset or liability should exchange on the date of valuation between a willing buyer and willing seller in an arm's length transaction, after property marketing, wherein the parties each had each acted knowledgeably, prudently and without compulsion.



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## Key Assumptions and Important Comments

In the preparation of this valuation report we have made a variety of key assumptions and important comments. In this regard we advise that this entire report, including appendices, must be read and understood by the nominated parties to whom reliance is extended in order that the various assumptions and comments are understood in the context of the adopted valuation. Should the parties to this report have any concerns or queries regarding the contents or key assumptions made in the preparation of this valuation, those issues should be promptly directed to the nominated Valuer for comment and review. A selection of Key Assumptions and Important Comments are as follows:

### General

- (i) This valuation is provided for **market valuation** purposes and is provided subject to terms and conditions, limitations, exclusions, assumptions and important comments set out in **CIVAS Standard Terms of Business** in **Appendix A** attached to this report.
- (ii) We assume that the instructions and subsequent information supplied contain a full and frank disclosure and that all information provided to us for the purposes of preparing this valuation is correct and current.
- (iii) This valuation can only be assigned, confirmed, reissued or dealt with in some other way which has the effect of assuming or extending responsibility to any person other than the reliant party (other act) if the (a) initial valuation is dated within three months of the assignment, confirmation, reissue or other act and (b) the assignment, confirmation, reissue or other act is provided on the basis that the property has not been reinspected nor has any further investigation or analysis as to any changes since the initial valuation been undertaken. We accept no responsibility for reliance on the initial valuation other than as a valuation of the property as at the date of the initial valuation.

### Asset Specific

- (iv) The valuations are of unspecified, unsupplemented water allocations associated with the Condamine Balonne Resource Operation Plan (ROP). The source documents referring to the conditions of use, transferring and sale of assets comprise the Water Act 2000 (QLD) and the Condamine Balonne Resource Operation Plan which forms sub-ordinate legislation to the Water Act.
- (v) As the valuations are of unspecified, unsupplemented allocations there can be a variation in value due to various factors and as such our opinion of value is general in nature only. For more detailed opinion of the value of specific water allocations a more individual report may be required.
- (vi) We reserve the right to review and in appropriate circumstances revise our valuation report should any of the above key assumptions and important comments result in matters that will have a material impact on valuation.

### Australian Property Institute Valuers Limited (APIV) Standards

- (vii) This valuation is current at the date of valuation only. The value assessed herein may change significantly and unexpectedly over a relatively short period of time (including as a result of general market movements or factors specific to the particular property). Liability for losses arising from such subsequent changes in value is excluded as is liability where the valuation is relied upon after the date of the valuation. (See Appendix B - Australian Property Institute Valuers Limited (APIV) Insurance Standards (for the APIV Professional Standards Scheme) Standard 7).

Without limiting the generality of the above, we do not assume any responsibility or accept any liability at all in circumstances where this valuation is relied upon in any way after the expiration of 90 days from the date of valuation, or such earlier date that the client or reliant party become aware of any factors that may affect the valuation. The value of the property may change within 90 days from the date of the valuation. The valuation is a valuation at the date of valuation only.



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## Introduction

This report will provide a description of the Condamine Balonne Region in which the Overland Flow (OLF) Water Licences and water resources are located. To attribute a value to a resource it is important to understand the local market dynamics which include:

- the size of the resource;
- distribution of the resource;
- rules of operation (Resource Operation Plan (ROP));
- the extent of the existing market and history of transactions;
- drivers of value/ change.

Water rights and water markets within Australia have evolved over the last 40 years, with the last two decades seeing the greatest level of change. Water as a property right has also evolved and with the establishment of a stronger and more transparent property right, investors and land owners have become more comfortable with the risk profile as an investment. There are large variations between water markets in regards to:

- size of resource (volume of megalitres);
- type of water rights;
- reliability of water rights;
- transparency of water rights;
- type of industries supplied;
- level of technology used;
- size of market and the volume of transactions.

What is important to understand is that the value of water is derived from the products/commodities that it contributes to the production of. Water rights are an asset separate to land, or in the case of an OLF licence, are a right granted and attached to land and underpins the highest and best use of the land. Water used is an input within a production system. Therefore, when buying water rights, a buyer is placing a value on the ability to access future physical water to grow particular crops (assuming agricultural use) with an estimated level of reliability underpinning the acquisition.

Water as a resource can improve the production capability and reliability of a cropping enterprise. However, in most instances it is not water in isolation that makes this possible, but also the investment in infrastructure such as water storages and irrigation systems. These combine to underpin the value of water as part of a larger investment that has the productive capacity to create positive cash flow and sustainable Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA).

Most business enterprises are seeking to expand and their decision making process will be based on a number of factors including, but not limited to the following:

- availability of capital (debt and equity);
- existing utilisation of current and potential productive resources; and
- cost of developing further capacity (if available) verses cost of buying similar or equivalent.



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Following the evolution in water markets, the value of water helps to understand how the market is likely to react under certain circumstances. Initially when licences/entitlements were issued they had little value, as there was more water available than demand required that existed at that time.

There was also greater risk as the industry was in the development phase and the risk reward profile was much higher as the knowledge and experience that is now established did not exist.

The irrigation industry, as it developed, moved to a situation where water supply was determined as being less reliable, however returns from the activities of irrigation (eg cotton growing) limited what could be paid for water. Water users became more focused on where they could improve. This included crop agronomy and water use efficiency. With water reform and the establishment of more secure property rights in water, water users had more confidence to invest. There were a number of types of users, including some having infrastructure that was not as well utilised as other users. Reviewing the various markets it can be seen that these users help set the initial market value for water.

They essentially had an asset that had no value, as it could not be utilised without access to the required water resource. They had a high propensity to justify paying more for water rights than other users who had to expend additional capital to utilise any additionally acquired water resources.

Focus then shifted to reviewing irrigation methods and agronomy systems that assisted in increasing production with a restricted quantity of water. We have seen the cotton industry evolve from a production target of 7.5 bales per hectare in the late 1980s to 15 bales per hectare in 2015. Some individual properties achieved yields in individual fields in excess of 16 bales per hectare. This gain has been achieved with the use of the same or less amount of irrigation water as that which was required in the 1980s. We have seen the renewal and development of irrigation in major irrigation regions in the southern Murray Darling Basin as the adoption of new cotton varieties extended into these new cotton producing areas. Overall production has increased from less than 1 bale per megalitre of water to about 2 bales per megalitre of water.

The focus on agriculture and the demand for soft commodities globally has increased as economic regions such as China and India grow their middle class and experience a growth in average personal income. Agriculture has also increased its profile with corporate and institutional investors and we have seen the evolution of companies that specialise in the investment of water assets. With large enterprises, water rights can represent a very significant proportion of a transaction and for various reasons many are opting not to own all their assets. As long as they have control over the water resource, (such as a lease), they can often improve their return on capital invested.

The Lower Balonne region as a water market does not have a mature trading market as the water rights are predominantly unsupplemented allocations, which are not traded as often or as easily as supplemented allocations. Secondly the volume of water (nominal volume) in the system is not large enough to see a reasonable turnover within the "market". With regards to the OLF water licences there is no true market as trading is limited to sales only to the Commonwealth.

The Healthy Headwaters Water Use Efficiency (HHWUE) Project aims to help irrigators, communities and the environment in the Queensland Murray–Darling Basin by funding irrigation infrastructure and supporting projects. Two more rounds of the HHWUE project were completed in 2016. Approved applicants will have until March 2018 to complete projects. The project funds irrigators to upgrade on-farm irrigation infrastructure. Irrigators contribute at least 10 per cent of the cost, with cash, in-kind contributions or additional water.



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Future trends that we see to the development of the resource in the Lower Balonne region is an increase in investment in water use efficiency projects that improve production and reduce water losses.

The factors that we consider contribute to and/ or affect the value of water include, but are not limited to the following:

- Supply and demand conditions in the area of the particular water resource;
- Water use efficiency;
- Cost of water use efficiency options;
- Value of cropping options;
- Resource reliability;
- Transferability;
- Type of water right; and
- Location – resource management area.

Overall, water is a limited resource and as the users become more efficient these two factors, limited supply and improved efficiency will drive the value of water higher.

### Overview of the Condamine Balonne Catchment

The Condamine Balonne region is mostly located in Queensland. This river system originates in the border regions of Queensland and New South Wales near Warwick on the Southern Darling Downs. It flows in a north westerly direction until reaching the Condamine area, after which it then traverses westerly and south westerly. There are numerous tributaries into the river of which the most significant is the Maranoa River that originates near the Carnarvon ranges. The river starts to diverge into multiple streams south of Dirranbandi where it discharges into the Barwon River, west of Brewarrina (NSW) or into the lakes and wetlands of the Narran River. As a river catchment the region covers approximately 150,101 square kilometres (14.4 percent) of the Murray Darling Basin (MDB) area.

There are two main public storages that provide water for irrigation purposes and they comprise the Leslie Dam near Warwick and the Beardmore Dam at St George. They have a combined capacity of 188 gigalitres. These storages manage the majority of the supplemented allocations managed under the Water Resource Plan. The region's irrigation development is underpinned predominantly by on-farm storage systems spread throughout the catchment. These private dams are authorised to access water from flood events within the river and overland flow events outside of the various rivers beds and banks.

The access to the flood events and overland flows is obviously event based, that is, as a flood occurs water becomes available for diversion into these private storages. These private storage works have to be notified and acknowledged by the Queensland Department of Environment, Resources and Mining (DERM) as authorised works. The acknowledgement of these works that have the ability to divert overland flow were part of the original Moratorium process implemented by the Queensland government within the various catchments. The moratorium had the effect of halting any new infrastructure works that had the potential to take additional water from a catchment for any purpose other than stock and domestic. This created the base line for the water planning required to assess the sustainable diversions. The moratorium has now been lifted and private infrastructure works have been certified.

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The standard of irrigation development within the Lower Balonne varies and the design of irrigation systems is influenced by access to flood events. At St George, the northern end of the Lower Balonne River is narrow and flood events are characterised by fast flows and river heights that rise faster and fall faster than lower within the system.

St George is used as a gauging station for measuring river flows. Unsupplemented Allocations and OLF licences are managed using these river flows. Each allocation and licence is authorised to commence pumping when they are notified by the DNRM that the river has reached a flow event size that is consistent with their conditions and rules of operation. Therefore, at a low flow event only a few allocations and licences are able to access water for harvesting, as the river height and flow increases more allocations and pumps are permitted to commence pumping as their threshold is reached. The river is managed to meet environmental objectives and certain triggers have to be met to also permit pumping.

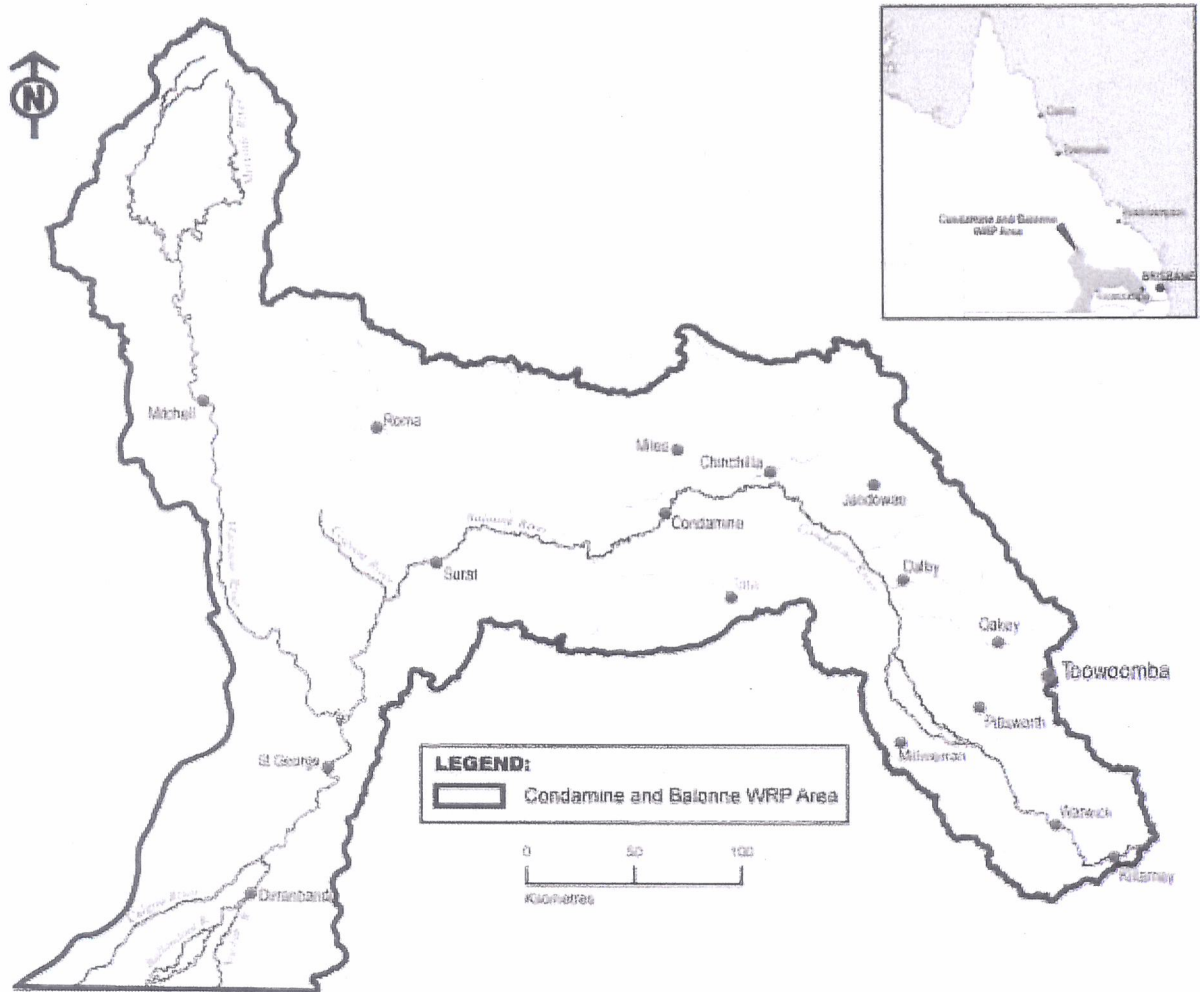
As such, each unsupplemented allocation and OLF licence is quantified by a nominal volume and a volume metric limit. The Nominal Volume (NV) is a reflection of the Long Term Average Annual Yield (LTAAY). With this now defined using the Integrated Quantity and Quality Model (IQQM), certainty and transparency was delivered to the owners and operators of the water rights. The irrigation area has evolved over the last decade since these new rights were established. There were some undeveloped licences (Sleepers) and partly developed licences (Dozers), but in the main the region was fully developed.

Restoring the Balance purchasing program has been part of the management process to return water to the environment since water trading commenced. These initially comprised transactions of unsupplemented allocations, however over the last two years it has been expanded to include OLF licences once their level of transparency improved. The acquisition of these OLF licence has to be carefully considered. Depending on the location of a licence within the catchment the acquisition of these rights to restrict the taking of water with the intent of providing more water for environmental purposes may only increase the opportunity for a water harvester downstream to increase their take.



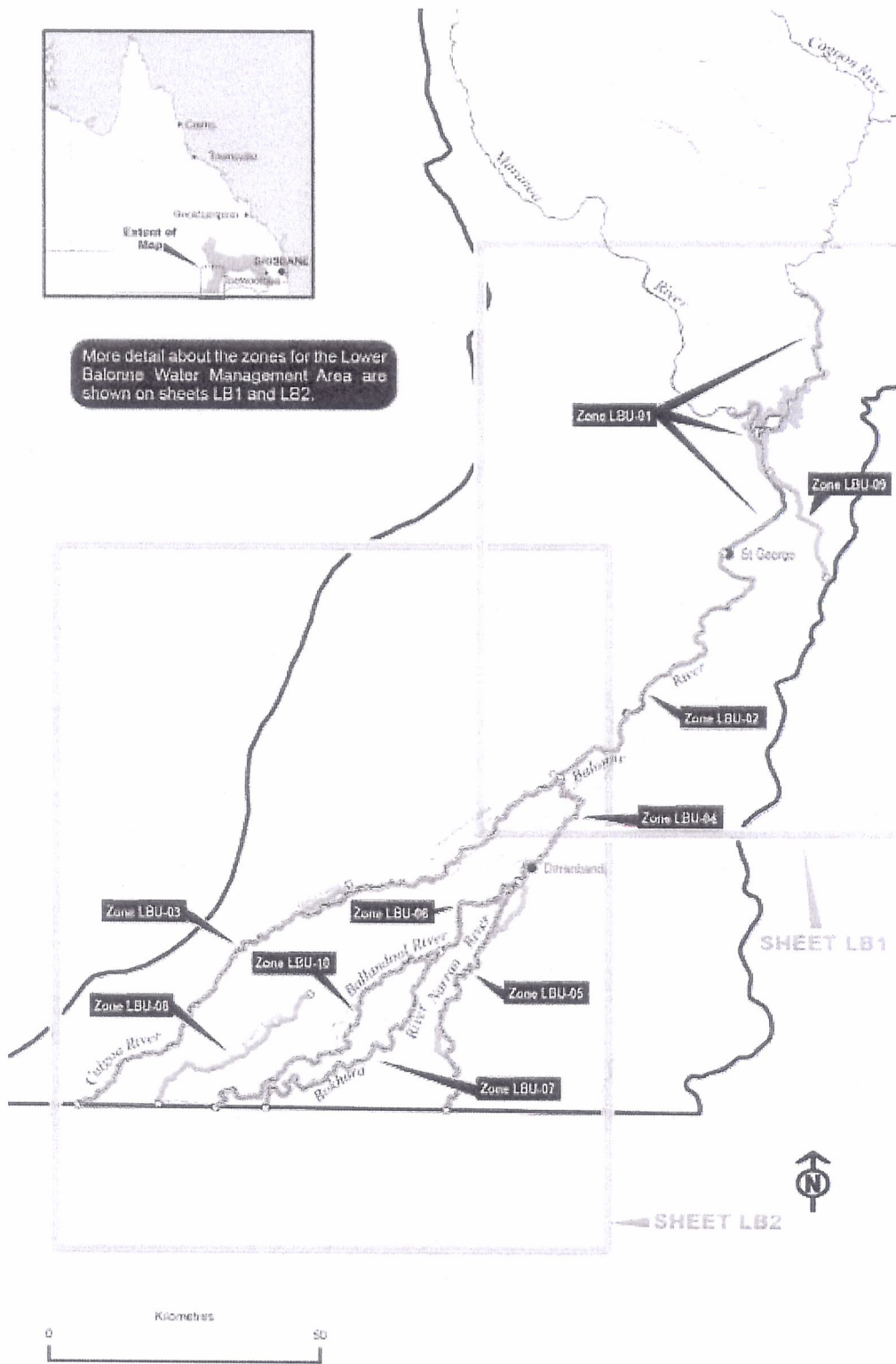
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### Condamine Balonne Catchment Area



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### Map Lower Balonne Water Management Area Zones





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## Overland Flow Licences – General Rules of Operation

The Condamine Balonne Resource Operations Plan governs the arrangements for Overland Flow access:

- Granting a licence for previously unregulated taking of overland flow;
- Management rules for the operation of infrastructure;
- Management to allow changes to certified works;
- Management of the Instantaneous Volumetric and Multi Year Volumetric Accounting water sharing rules.

For a Licence (with a term expiring 30 June 2111), the major factors providing transparency to these new rights are:

- the nominal volume, stated on the title for the water allocation, quantifies and expresses the unit share within the available resource. It is generally understood that the nominal volume is a reflection of the long term average annual diversion capacity of the resource;
- rules of operation, regarding river height, to determine when pumping can commence and when it must cease. Also the daily diversion volumes (megalitres per day); and
- the tenure, exceeding 95 years, provides a high degree of certainty.

As these licenses require significant on farm infrastructure in the way of river pumps, diversion channels, on farm storages, lift pumps and developed irrigation fields, significant capital investment is associated with existing developments. The size of an allocation or an aggregation of allocations will influence the level and scale of development required in order to utilise the resource at the optimal level.

## Market Overview

The market for water in the Lower Balonne is directly tied to the market for irrigated properties in the region. It is a very complex market with water underpinning the value of significant private infrastructure projects. Without water and access to water the infrastructure has no utility and no value.

The market for OLF water licences is presently limited to land owners selling/trading to the Commonwealth. The Commonwealth has bought water on the temporary market from irrigators who had water in storage and were willing to sell. The water was used to achieve objectives that promoted environmental values such as extending the breeding season within the Narran Lake water bird habitat.

It would be a reasonable assumption to say that the present sales of unsupplemented water are comprised of:

- Sleeper and Dozer allocations;
- Distressed vendors affected by drought and needing to reduce their debt to sustainable levels;
- Water sold as part of various Healthy Headwaters Water Use Efficiency (HHWUE) projects.

Not all irrigators who have undertaken water use efficiency projects within their irrigation schemes have elected to participate in the Healthy Headwaters water use efficiency project (HHWUE) scheme. This scheme aims to help irrigators, communities and the environment in the Queensland Murray–Darling Basin by funding irrigation infrastructure and supporting projects. Two more rounds of the HHWUE project are planned for 2016. Approved applicants will have until March 2018 to complete projects. The project funds irrigators to upgrade on-farm irrigation infrastructure. Irrigators contribute at least 10 per cent of the cost, with cash, in-kind contributions or additional water.



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Our experience within the region has revealed that every property is different and efficiency gains can be achieved through many ways. The value of water can therefore vary from one property to another.

The Lower Balonne region is an area where we consider the irrigators to be among of the most knowledgeable of their resource.

In recent times, corporate agriculture has entered the region to take advantage of the scale and the quality of the development that has been established. The majority of the enterprises are large family owned operations. With the entry of corporate agriculture, the focus has been on production and earnings. Their perception of a resource is based on what it can contribute to this outcome of productivity (eg bales of cotton) and profit (return on investment). One of the reasons corporate agriculture has entered the market in recent years has been to secure supply of particular commodities as part of a larger supply chain strategy. These factors all impact on motivation of market participants.

As a region, the Lower Balonne can be characterised as having tradable water values that are representative of their productivity and contribution to profit. Some other irrigated cotton regions, such as the Gwydir have tradeable water values that are not necessarily reflective of this productivity. On their own the value of an effective megalitre of water (LTAAY) available from a unit share of entitlement can exceed \$5,000 per megalitre. In valuing irrigation properties, a major basis of comparison is the Average Cotton Hectare Area (ACHA) value. An ACHA value is a unit of productivity that represents one hectare of land with adequate water to irrigate a cotton crop. This allows for factors such as climate, water type, reliability and method of irrigation. The value of an irrigated hectare of an ACHA can vary within irrigation regions and between irrigation regions. The range is such that the resultant return on investment can also vary significantly. Based on anecdotal evidence we consider that this range may comprise a return on total capital from 3 to 10 percent. The high valued, more established regions reflect the lower end of the range, whilst the lower valued, less established region with a high degree of perceived risk reflect the higher end of the range.

A benefit that a region such as the Lower Balonne and the Border Rivers have over more established irrigation areas, such as the Gwydir, is that they still have potential for production gains that would exceed a comparable property in the Gwydir. These gains will come through improved efficiency of on-farm infrastructure that will ultimately permit a larger area to be irrigated from their existing water resource over the longer term. This is as a consequence of how their development evolved. The Gwydir Valley region has the Copeton Dam which is a large public infrastructure project that underpins the general security allocations issued. Water harvesting is a relatively small part of the water resource. In QLD, the level of public infrastructure is relatively low, with a high dependence on water harvesting that requires more on farm infrastructure. This feature provides farmers the opportunity to control their own efficiencies and productivity gains.

The range in values that exists between the Lower Balonne region and the Border Rivers and Gwydir Valley regions is considered to be between \$12,000 and \$25,000 per ACHA. The Gwydir Valley is consistently at the higher end of this range. We consider that there is a two tier market evolving within the current market conditions.

- The first tier, comprising larger enterprises, are receiving a high degree of interest as institutional investors seek out a limited pool of quality assets that provide scale, such as is suitable for inclusion within a large portfolio.
- The second tier, comprising smaller enterprises not meeting the criteria of the institutional investors are needing to attract interest from the local market of existing operators or new investors who are not requiring scale. This segment of buyers are generally more constrained in their ability to raise adequate capital.



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We are aware of a number of properties currently being marketed. They are at varying stages of their respective transactions, however it is considered that they will represent an improvement in market sentiment from where it was only 12 to 18 months ago. We also have clients seeking to acquire assets with value ranges from \$50,000,000 plus.

## Sales Evidence

The following sales have been sourced from the Queensland Department of Environment and Resource Management's (DERM) QVAS (Queensland Valuation and Sales) database and the NSW Office of Water database. We have checked the data bases for any new sales in the last six months since our last valuation and new enquires did not reveal any additional sales. Where possible/practical, the data has been confirmed or checked against our knowledge of the transaction and with discussion with one or more parties. Databases in NSW however do not provide details of vendor or purchaser and as such, this reduced the ability to investigate the sales and the circumstances under which they occurred.

Queensland sale databases do not provide the details of the unit shares included in the transactions and as such we have to conduct further investigations into other databases. This does increase the probability for inaccurate information and errors in our analysis of various sales.

The terminology between states also varies, as does the reliability factor associated with water access rights on a unit share basis. We have endeavoured to bring that back to a common denominator for comparison purposes.

The OLF water licence allocations in the Lower Balonne have been based on the long term average annual yield. That is, one unit of Nominal Volume is estimated to be equivalent to one megalitre yield over the long term. This will vary on a seasonal basis as the allocations are event based and subject to the volume and duration of a flood event.

New South Wales entitlements can vary between systems. The Barwon Darling Unregulated Systems supplementary water access licences are more comparable to Queensland's unsupplemented allocations, however for other regions such as the Border Rivers (NSW) and Gwydir water resource areas the nominal volume is more akin to Queensland's Volumetric Limit.

### Summary of Queensland Sales

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The sale of water outlined in the preceding table in the Moonie River ROP and the Condamine Balonne ROP are all associated with unsupplemented allocations. There is no comprehensive or transparent database of

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OLF licences that have traded already with the Commonwealth. A basic summary of transactions exists, however, in reality the value of these OLF rights may vary significantly from one enterprise to another. The value of the resource is very site specific both from a potential seller's perspective and any potential (theoretical buyer) perspective.

The value of a megalitre of an OLF water licence must include the value of the infrastructure associated with the licence or the loss of any utility of the infrastructure if it is used in conjunction with unsupplemented allocations. The definition of value is a willing buyer and willing seller, both being desirous to transact but not without consideration of prudent business principles that would require a vendor to seek the recognition of one or both of the following:

- the value of any stranded infrastructure; and/ or
- what it might cost to replace / reinstate the asset or productive capacity of the sold resource / asset.

In reality, this is a "shadow" market as the trading of these licences is not likely to occur due to the value of the infrastructure tied to the water licence. Most purchasers seeking additional water could not feasibly justify the value that may be required to be paid to attain a licence entitlement and then expend the capital required to utilise a licence. There are exceptions to this. The development on some holdings is the most extensive and a marginal increase in water access would not impact on their long term utilisation of water licences and allocations that they current hold. It could however improve the utilisation of infrastructure during those years between large flow events. These properties could technically pay as much for such water as they would for unsupplemented allocation.

### Valuation Methodology

The most appropriate/ accepted method of valuation is by direct comparison, however there are markets where there is an absence of sales. This then requires consideration of other evidence and extrapolation of the data to determine a reasonable assessment of value. In this instance the prevalence of sales is more limited as the sale of these rights (independent of land) can only occur between a land owner and the Commonwealth. Consideration has been had to the sales of other 'similar' water rights such as unsupplemented allocations. As a check, residual analysis was also undertaken based on various scenarios.

The Lower Balonne region is considered to be a mature and highly developed region. The value of the water rights is aligned strongly to the land and the infrastructure developed on the land, which may include large water storages, pump sites, channels, and fields. Therefore for a prudent and willing vendor to sell, the diminishment in value of any infrastructure also has to be recouped from the sale of the associated water resource.

Values for developed irrigation farms in the Lower Balonne region are considered to have a value range of \$12,000 to \$20,000 per average cotton hectare area (ACHA). The recent sales may not reflect this as they do not necessarily reflect the better quality assets not available for purchase. These properties and sales evidence will comprise a mix of water rights including supplemented and unsupplemented allocation, as well as OLF access. We have provided a number of sales over the last few years from within the region and from adjoining comparable areas.



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The main transactions of note include:

- “Cubbie Station Aggregation”
- “Mooramanna”, St George
- “Undabri Aggregation”, Goondiwindi
- “McIntyre Downs”, Toobeah
- “Gubbergunya”, Toobeah
- “Tundunna”, Mungindi
- “Rugby”, Billa Billa
- “Yarrowee”, Mungindi
- “Boongargil”, Toobeah
- “Yattlewondi”, Mungindi

The circumstances behind the above sales vary, with some vendors being more motivated than others. To get a reasonable sample size, consideration of sales outside of the Lower Balonne was also necessary. We have noted and adjusted the analysis of these sales to reflect the value of an effective megalitre (\$ /ML) of water separate to land. A property is currently in the process of transacting in the region and it will settle later this year. Details of this sale are not yet available, however we expect that it will support current levels.

Using residual analysis methods for sales of irrigation farms sold with water included, we estimate the added value of water under difference circumstances. The value per megalitre is dependant in the efficiencies of the system and as such for individual transactions a more detailed analysis should be considered.

The value of an irrigation property is driven by the quality of development in conjunction with the quantity of water rights (or its access to water rights). It is necessary to understand the quantity and quality of this resource in terms of its LTAAY in the form of an estimate of megalitres per annum on average. The subsequent productivity (and main driver of value) is the efficiency of the irrigation development. An efficient development has a low ML/ ha use when allowing for in-crop water, evaporation and transmission losses.

Therefore when trying to “solve for” the added value of any particular component of value of a sale – i.e. land, infrastructure or water right, a residual analysis approach is required. In the scenario of looking at the value of water as separate from the land asset, it is important to understand that the land and infrastructure value forms the ‘**alternate use**’ value (such as dryland cropping) if irrigation is not considered likely. In our analysis we have adopted dryland cropping as the appropriate alternate land use. The value for dryland cropping is applied from comparable sales evidence. In this situation any willing seller of water rights knows that, when the water is sold, the land will have a lesser/ inferior use to irrigation and they will want to ensure they capture this redundancy/ obsolescence.

The equation to assess the added value of water separate from land can be summarised as:

- Value of Water =

$$\frac{\text{Value of Property ('In-Use' as an Irrigation Farm)} - \text{Value of Property 'Alternate Use'}}{\text{LTAAY}}$$

The above formula assess a total value for each enterprise. To assess a value on a per megalitre basis a sound knowledge of the LTAAY is required. The value per megalitre will be driven by the efficiencies of a particular system and as such, for individual transactions a more detailed analysis should be considered.

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Given the LTAAY of a water resource is assumed to be quantifiable (average annual yield in megalitres), it is the efficiency of the water utilisation which determines the current value of the water – i.e. the more efficient the use, the more valuable it is. Efficient water users will irrigate more land with a given quantity of water than an inefficient user, and they will be more competitive in any particular market as a consequence.

An analysis of the following sales reflects the following analysis of \$ /ML using the above approach. We have previously valued most of these sales and are familiar with the types and sources of water. The ACHA area is the basis of assessing the LTAAY of all sources of water. These include supplemented and unsupplemented allocations, plus any water attained from OLF. The sales also have a relatively high component of water harvesting (Unsupplemented (QLD) and Supplemented (NSW) water rights) as well as OLF access. The analysis does have a degree of subjectivity underpinning some of the assumptions such as crop water factors and efficiency of the irrigation system (where no hydrology data was available).

#### Table – Analysed Sales

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BOONGARGIL  
 YATTLEWONDI  
 YARROWEE  
 MOORAMANNA  
 GUBBAGUNYA  
 UNDABRI  
 NORLIN IRRIGATION  
 MACINTYRE DOWNS  
 CUBBIECROUP  
 RUGBY

*Alt Use = Alternate Use assuming the highest and best use has changed.*

The range in value is \$1,050 to \$2,300 per megalitre. The variation can be attributed to the time of sale, location, efficiency of the irrigation scheme and the mix and balance of the water resources. OLF has traditionally been considered some of the lower valued water rights as the quality of the property right was inferior. With the extension of the licence period to the year 2111 the security of tenure has improved reducing perceived risks from potential buyers.

The sale of “Boongargil” is reflective of the value of OLF as part of a good quality irrigation holding. Over 50 percent of water used is sourced from OLF. Analysing for the value of water, assuming an alternate use, we are deriving a value of approximately \$2,300 per megalitre. As previously discussed, this assumes no added value for the existing irrigation infrastructure. In our analysis, we had access to a professionally prepared hydrology report. It would represent the minimum value, in this instance, of what would be required to entice an owner of OLF water access to sell their right to this access.

While a hydrology report is not presently available for “Yattlewondi”, we would reasonably expect it to reflect a value, on a \$ /ML basis, that is higher than “Boongargil”.



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The market sentiment is considered to be improving and, for many of the above properties, if offered on the market today an improvement in value could be anticipated. By our estimate this may range from only 10 percent to as high as 30 percent. Three large transactions are currently occurring in the \$90,000,000 to \$200,000,000 value range. These include a mix of 100% to partial transfers. They will support a trend of strong values underpinned by production and management capability.

We have provided a value and a value range. The majority of OLF licences would be considered to be in the lower end of this range. The exception to this would be individual properties of a high standard that have achieved above average levels of water use efficiency, in which case the value would be in the higher end of the value range.

## Conclusions

The valuation of OLF water access is very complex. The main driver will be the impact on value to the whole operation (individual enterprises) that the sale of any water may have. That is – “what is the difference in the **after sale value** as compared to the **before sale value**?”.

Acquiring OLF licenses will, in most cases, result in the redundancy of existing infrastructure which the property owner will reasonably seek to recoup from the sale of any water.

Water use efficiencies can vary significantly from property to property.

Previous transactions comprising the acquisition of unsupplemented water can be categorised as initially comprising the following:

- Dozer and Sleeper licences;
- distressed vendors affected by the drought and needing to reduce their debt to sustainable levels;
- efficient enterprises that had surplus water and considered that they could sell some allocations without impacting on long term productivity and in doing so achieve a superior return on their total capital invested.

As sales of water allocations and OLF licences to the Commonwealth occur, the total available water within the market will diminish and increase demand for the remaining water rights. Markets can vary significantly over time, however the fundamentals of value will be determined by the contribution to profit that a particular resource makes. Land is not a limiting resource in the Lower Balonne, however, water is.

Recent transactions support the belief that values for irrigation properties have marginally increased in recent times. This is partly due to increased productivity from better crop yields and improved water use efficiency. Improved crop yields provide a higher gross income per hectare; while improved water use efficiency drives improved productivity across the whole crop area, with an increase in the potential area of crop grown (in the long term).

13 March 2017

## Valuation

Having regard to the sales evidence outlined in this report and our experience with water markets and irrigation properties, we consider that the value range for Overland Flow Licence (nominal volume) within the Lower Balonne can be assessed as follows:

Water Type	Valuation \$ /ML of Nominal Volume	Valuation Range
Overland Flow Licence	\$1,500/ML	\$1,100 to \$2,300 per ML

This valuation advice is confidential to the Department of Agriculture and Water Resources and is provided for **financial reporting and acquisition purposes** only.

We accept no responsibility to any party not identified as a reliant party. This valuation (including any part of or reference to this valuation) shall not be used for any purpose other than:

- financial reporting and acquisition purposes by the Department of Agriculture and Water Resources; and
- advice to the respective Minister and Government for information and approval purposes

and shall not be published in any document, statement or circular or referred to in any communication outside of the Department of Agriculture and Water Resources or other relevant Commonwealth Authorities without our permission.

CIVAS (QLD) Pty Limited accepts no responsibility for this valuation other than for the stated purpose. This valuation is issued on the basis that no liability attaches to companies in the Colliers International Group other than CIVAS (QLD) Pty Limited.

### CIVAS (QLD) Pty Limited

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#### Shaun Hendy, FAPI MRICS

Certified Practising Valuer

QLD Reg. 2131

Director Valuation | Rural & Agribusiness

17 March 2017 (Date of Signing Report)

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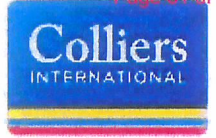
This report has been verified by Jason Osborn, Associate Director | Valuation | Rural & Agribusiness.

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#### Appendices:

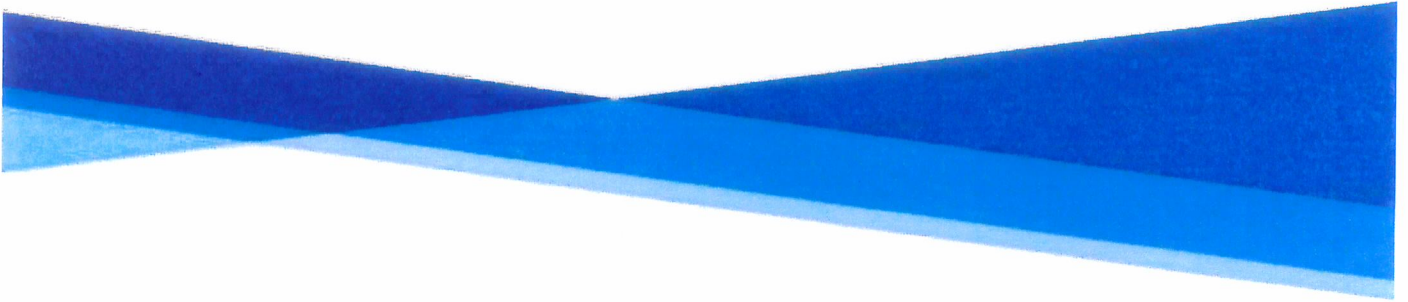
- CIVAS Standard Terms of Business





# APPENDIX A

## CIVAS Standard Terms of Business




**IT IS AGREED AS FOLLOWS:**
**1. DEFINITIONS**

'Confidential information' means information that:

- (a) Is by its nature confidential;
- (b) Is designated by Us as confidential;
- (c) You know or ought to know is confidential;
- (d) and includes, without limitation:
  - (i) Information comprised in or relating to any of Our intellectual property in the Services or any reports or certificates provided as part of the Services; and
  - (ii) The Quotation annexed hereto.

'Currency Date' means, in relation to any valuation or advisory report, the date as at which our professional opinion is stated to be current.

'Fee' means the amount agreed to be paid for the Services as set out in the Quotation.

'Party' means You or Us and Parties means You and Us.

'Quotation' means the written quote provided by Us in relation to the Services.

'Services' means the valuation or advisory services provided pursuant to these Terms & Conditions and the Quotation, and includes any documents, reports or certificates provided by Us in connection with the services.

'Services Validity Period' means the three month period following the Currency Date during which Our professional opinion is valid. After this period, Our professional opinion cannot be relied upon or referred to.

'We', 'Us', 'Our' means the entity that You engage with to perform the Services as set out in the Quotation being either CIVAS (NSW) Pty Limited (ABN 32 168 282 728), CIVAS (VIC) Pty Limited (ABN 21168282620), CIVAS (ACT) Pty Limited (ABN 70168282451), CIVAS (SA) Pty Limited (ABN 87168282586) or CIVAS (QLD) Pty Limited (ABN 87168282522).

'You', 'Your' means the entity engaging Us to perform the Services as set out in the Quotation.

**2. PERFORMANCE OF SERVICES**

2.1. We will provide the Services in accordance with:

- (a) The Terms & Conditions contained herein; and
- (b) The relevant provisions of the current Australian Property Institute (API) Valuation and Property Standards and/or the current Royal Institution of Chartered Surveyors (RICS) Valuation – Professional Standards. If there is any inconsistency, they are to be read in the following order: letter of instruction, standing instructions, API Valuation and Property Standards, RICS Valuation – Professional Standards.

**3. CONDITION OF THE PROPERTY**

- 3.1. In undertaking the Services We will have regard to the apparent state of repair, condition and environmental factors in relation to the property based upon a visual inspection, but We will not (and are not qualified to) carry out a structural, geotechnical or environmental survey. We will not inspect those parts of the property that are unexposed or inaccessible.
- 3.2. We will assume that there is no timber infestation, asbestos or any other defect (unless advised otherwise) and that the property is compliant with all relevant environmental laws. It is Your responsibility to provide reports to Us that are relevant to these issues.
- 3.3. We will not undertake a detailed inspection of any plant and equipment or obtain advice on its condition or suitability.
- 3.4. We recommend that You engage appropriately qualified persons to undertake investigations excluded from the Services.
- 3.5. No responsibility will be accepted either to You or to any third party for loss or damage that may result directly or indirectly from the condition of the property.

**4. ENVIRONMENT AND PLANNING**

- 4.1. We will obtain only verbal town planning information. It is Your responsibility to check the accuracy of this information by obtaining a certificate under the appropriate legislation.
- 4.2. State or Federal Laws may require environmental audits to be undertaken before there is a change of land use. You will provide such audits to Us where they are required. We will not advise You whether such audits are required or obtain such audits. If You do not provide Us with such audits We will perform the Services on the assumption that such audits are not required.

**5. BUILDING AREAS AND LETTABLE AREAS**

- 5.1. Where a survey is provided to Us for consideration, We will assume that information contained in the survey is accurate and has been prepared in accordance with the Property Council of Australia (PCA) Method of Measurement.
- 5.2. If You do not provide Us with a survey, We will estimate building and/or lettable areas based only upon available secondary information (including but not limited to building plans, Deposited Plans, and our own check measurements). Such estimates do not provide the same degree of accuracy or certainty as would be provided by a survey prepared by an appropriately qualified professional in accordance with the Property Council of Australia (PCA) Method of Measurement.
- 5.3. Where such a survey is subsequently produced which differs from the areas estimated then You will refer the valuation or advisory advice back to Us for comment or, where appropriate, amendment.

**6. OTHER ASSUMPTIONS**

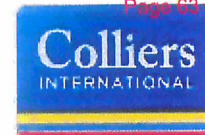
- 6.1. Unless otherwise notified by You, We will assume:
  - (a) there are no easements, mortgages, leases, encumbrances, covenants, caveats, rights of way or encroachments except those shown on the Title; and
  - (b) all licences and permits can be renewed and We will not make any enquiries in this regard.
- 6.2. Where third party expert or specialist information or reports are provided to Us or obtained by Us in connection with the Services (including but not limited to surveys, quantity surveyors reports, environmental audits, structural/dilapidation reports), We will rely upon the apparent expertise of such experts/specialists. We will not verify the accuracy of such information or reports.

**7. VALUATION FOR FIRST MORTGAGE SECURITY**

- 7.1. Where the Services are provided for mortgage purposes, You agree that You will not use the valuation where the property is used as security other than for first registered mortgage.
- 7.2. Where our services are prepared for first mortgage security purposes our report will be prepared for the Bank on behalf of the Applicant. Accordingly, our extension of reliance is to the Bank only. In no way is reliance extended to the Applicant for any purpose.



## Colliers International Valuation & Advisory Services Terms and Conditions



### 8. ASSIGNMENT OF VALUATION

- 8.1. We reserve the right, at Our absolute discretion, to determine whether or not to assign Our valuation to any third party. Without limiting the extent of Our discretion, We may decline a request for assignment where:
- the proposed assignee is not a major recognised lending institution (such as a major bank);
  - the assignment is sought in excess of 3 months after the date of valuation;
  - We consider that there has been a change in conditions which may have a material impact on the value of the property;
  - the proposed assignee seeks to use the valuation for an inappropriate purpose (including in a manner inconsistent with Your agreement at clause 7.1); or
  - Our Fee has not been paid in full.
- 8.2. Where We decline to provide an assignment on either of the bases at 8.1(b) or (c), We may be prepared to provide an updated valuation on terms to be agreed at that time.
- 8.3. In the event that You request us to assign Our valuation and We agree to do so, You authorise Us to provide to the assignee a copy of these Terms & Conditions, the Quotation and any other document, including instructions provided by You, relevant to the scope of Our Services.
- 8.4. Any potential reliance on our valuation by an Intending Mortgagee is conditional upon a formal re-assignment from Us and will be subject to all that is contained within 7.1, 7.2, 8.1, 8.2 and 8.3.
- 8.5. Client instructed valuations for first mortgage security purposes where reliance is extended to a specific Bank may contain particular assumptions which are commented upon throughout this report. We note that each Bank has their own standing instructions, and also from time to time require valuations be undertaken having regard to a specific set of assumptions which are generally property specific and in addition to their standard instructions. Our valuation(s) will be prepared in accordance with the nominated Bank's standard instructions. However, we highlight that where we have not been instructed by the Bank to value the property, specific assumptions required by the Bank may not have been incorporated into this valuation. Should the Bank require the valuation to be undertaken using additional or separate assumptions to those adopted in the valuation, these assumptions should be communicated to the Valuer for comment and if appropriate revision of the valuation may be necessary, which may produce a different result to our opinion of value. We strongly recommend that the Bank issue the Valuer with specific instructions to value the property including any appropriate and/or property specific assumptions that may be required in addition to their standing instructions.
- 8.6. Institutional valuations for financial reporting purposes where reliance is extended to specific Bank(s) for First Mortgage Security purposes will be subject to that within 8.5.

### 9. ESTIMATED SELLING PRICE

- 9.1. Where You instruct Us to provide an estimated selling price, You agree that the Services:
- are limited to the provision of an opinion based upon Our knowledge of the market and informal enquiries.
  - We are not required to carry out a full inspection of the property; any inspection of comparable properties; a search on Title(s) or other enquiries as to encumbrances, restrictions or impediments on Title(s); or other investigations which would be required for a formal valuation.
  - provide an indicative figure only which is not suitable for use for any purpose other than as general information or guide as to sale expectations. It is not suitable to be relied upon for the purpose of entry into any transaction.
- 9.2. No responsibility will be accepted either to You or to any third party for loss or damage that may result from the issue of such an estimated selling price.

### 10. CURRENCY OF VALUATION

- 10.1. Due to possible changes in market forces and circumstances in relation to the subject property the Services can only be regarded as relevant as at the Currency Date.

10.2. Where You rely upon Our valuation or advisory report after the Currency Date, You accept the risks associated with market movement between the Currency Date and the date of such reliance.

10.3. Without limiting the generality of 10.2, You cannot rely upon Our valuation or advisory report:

- after the expiry of the Services Validity Period;
- where circumstances have occurred during the Services Validity Period which has a material effect on the value of the property or the assumptions or methodology used in the valuation or advisory report.

### 11. MARKET PROJECTIONS

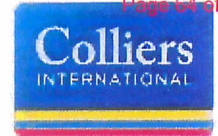
- 11.1. Any market projections incorporated within our Services including, but not limited to, income, expenditure, associated growth rates, interest rates, incentives, yields and costs are projections only, and may prove to be inaccurate. Accordingly, such market projections should be interpreted as an indicative assessment of potentialities only, as opposed to certainties.
- 11.2. Where Our Services include market projections such projections require the dependence upon a host of variables that are highly sensitive to varying conditions. Accordingly, variation in any of these conditions may significantly affect these market projections.
- 11.3. Where market projections form part of Our Services, We draw your attention to the fact that there will be a number of variables within acceptable market parameters that could be pertinent to Our Services and the projections adopted are representative of only one of these acceptable parameters.

### 12. INSURANCE REPLACEMENT COST ESTIMATE

- 12.1. Where our services include an Insurance Replacement Cost Estimate, we highlight that our advice in this regard is an indicative estimate only, based on generic replacement costs provided by industry sources. Furthermore, our Insurance Replacement Cost Estimate should be confirmed by a full valuation conducted in accordance with ANZVGN13 of the Australia and New Zealand Valuation and Property Standards – Valuations for Insurance Purposes or verified by a suitably qualified quantity surveyor and / or building expert. We accept no responsibility for reliance on this figure other than as an indicative estimate for internal purposes.

### 13. DEVELOPMENT VALUATIONS

- 13.1. Our services will be conducted on the basis that all building works will be completed in a workmanlike manner and in accordance with all authority regulations. Furthermore, our analysis will be prepared on the basis that the property is appropriately certified upon completion to allow registration of a Strata Plan/Units Plan/Linen Plan and individual sale of the various allotments.
- 13.2. The values that will be adopted for residential apartments and associated car parking spaces will be inclusive of GST, while the non-residential/carspace allotments will be adopted on a GST exclusive basis.
- 13.3. Where the property was purchased prior to 1 July 2000, we will adopt a Margin Value once appropriately confirmed. Accordingly, we will adopt the margin scheme for the residual calculation with input tax credits returned after the scheduled expenditure.
- 13.4. We will conduct our valuation analysis on the basis that all DA approvals, DA plans and consultant's reports are transferable, being reflected in the adopted valuation.



**14. INVOICING AND PAYMENT**

- 14.1. Our invoice will be made out and addressed to the entity as per the information you provide within the Acknowledgement section of the Professional Services Agreement. Any alternative entity will be required to agree in writing prior to any advice being readdressed. Further fees may be required. Payment due dates will not change.
- 14.2. On receipt of a full draft report (if applicable) you, the Client, agree that We are authorised to invoice the full amount of the agreed fee after 10 business days of receiving said draft report.
- 14.3. Where the brief is terminated prior to its conclusion, you (the client) will be invoiced for the cost of work completed at \$350 per hour exclusive of disbursements and GST, and reimbursed the difference between any payment up front. A copy of partially completed work will not be provided.
- 14.4. You must pay our Fees within 14 days of the date of a correctly rendered invoice. Fees that remain unpaid for a period of 30 days or more will attract an administration charge of 2% of the total of the invoice calculated per month or part thereof incurred from the date of the invoice.

**15. YOUR OBLIGATIONS**

- 15.1. You warrant that the instructions and subsequent information supplied by You contain a full and frank disclosure of all information that is relevant to Our provision of the Services.
- 15.2. You warrant that all third party expert or specialist reports provided to Us by You for the purpose of Us providing the Services are provided with the authority of the authors of those reports.
- 15.3. You authorise and licence us to incorporate Your intellectual property within our report(s).

You will not release any part of Our valuation or advisory report or its substance to any third party without Our written consent. Such consent will be provided at Our absolute discretion and on such conditions as We may require including that a copy of these Terms & Conditions be provided to such third party. This clause shall not apply to persons noted as recipients in Your prior instruction to Us or in the Quotation provided that You shall provide any such recipient with a copy of these Terms & Conditions.

- 15.4. You must advise recipients named in Your instruction to Us of the Services Validity Period.
- 15.5. If You release any part of the valuation or advisory advice or its substance with our written consent, You agree: a) to inform the other person of the terms of our consent; and b) to compensate Us if You do not do so. We have no responsibility to any other person even if that person suffers damage as a result of any other person receiving this valuation or advisory services.
- 15.6. We reserve the right to reconsider or amend the valuation or advisory services, or the Fee set out in our Quotation to You if:
- (a) Certificates, surveys, leases, side agreements or related documentation that were not provided to Us prior to the provision of the Services are subsequently provided, and contain matters that may affect the value of the advice; or
- (b) Where subsequent site inspections made in relation to any of the matters raised in clause 3 materially affect or may alter the value of the property the subject of the Services.

**16. CONFIDENTIALITY**

- 16.1. You must not disclose or make any of the Confidential Information available to another person without Our written consent.
- 16.2. If consent to disclose the Confidential Information is provided by Us, You agree to abide by any additional terms and conditions that We may apply to that disclosure.

**17. PRIVACY**

- 17.1. We may obtain personal information about You in the course of performing Our Services. We respect Your privacy. The Privacy Amendment (Private Sector) Act, 2001 requires Us to advise You that we will only obtain information that is necessary to assist us in the course of performing Our Services. If it is necessary for Us to engage third parties, we will inform these parties that they are not to disclose any personal information about You to any person or organisation other than Us.

A copy of Our Privacy Policy can be obtained by contacting Our Chief Privacy Officer.

**18. SUBCONTRACTING**

- 18.1. We may subcontract or otherwise arrange for another person to perform any part of the Services or to discharge any of Our obligations under any part of these Terms & Conditions, with Your consent.

**19. LIABILITY**

- 19.1. You agree to release Us and hold Us harmless from all liability to You for or in respect of any loss, damage, costs and expenses of whatsoever kind which we have or may have or, but for the operation of this Clause, might have had arising from or in any way connected with the Services or the use of the Services or any part of them. This release shall be complete and unconditional except in the case of gross negligence or wilful misconduct by Us in the provision of the Services.
- 19.2. You agree that You will fully indemnify Us for and in respect of all loss, liability, costs and expenses of whatsoever kind which We may suffer or incur arising from or in any way connected with any breach by You of Clause 15 or Clause 16. This indemnity shall include but not be limited to loss, liability, costs and expenses which we may suffer or incur in respect of any claims, actions, proceedings, disputes or allegations made against Us or to which we are a party.
- 19.3. Where the release referred to in Clause 19.1 does not apply, You agree that our liability in any such claim or claims will be limited to \$100,000 or a multiple of five times our Fee, whichever is the lower.
- 19.4. For the avoidance of doubt, the Services are provided by Us and no individual valuer or any other employee of Ours assumes any liability or responsibility for the Services.

**20. ENTIRE AGREEMENT**

- 20.1. No further agreement, amendment or modification of these Terms & Conditions shall be valid or binding unless made in writing and executed on behalf of the Parties by their duly authorised officers.
- 20.2. If there is an inconsistency between these Terms & Conditions and the Quotation, any letter of instruction from You, or other specific request or information, the other specific request or information shall prevail to the extent of the inconsistency.

**21. GOVERNING LAW**

- 21.1. These Terms and Conditions are governed by the law of the State in which Our principal place of business which is providing the Services is located.