

Prosser Plains Raw Water Scheme

DRAFT Business Plan

Prepared: July 6, 2016 Updated: 18th January 2017

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Business Plan Summary

The Business

The business will be known as "Prosser Plains Raw Water Scheme". The business will be owned by the Glamorgan Spring Bay Council and will operate on the farming property named "Twamley Farm" owned and operated by the Turvey family located in Buckland on the south eastern side of Tasmania. The business will entail the design, construction, maintenance and storage and delivery of up to 3,000mgl of fresh raw water per annum. It should be noted that members of the Turvey family are current employees of Glamorgan Spring Bay Council. This site was determined by professional qualified independent consultants as the best site servicing the Prosser River Catchment. It is important that there will be absolute transparency with business dealings with the Turvey family and Council.

Whilst the primary purpose of the dam will be to supply raw water to several proposed developments, the dam will also provide an excellent back up resource for TasWater regarding their residential water supply to both Orford and Triabunna and a form of recreational use for the many tourism activities being carried out on the farm. Main users of the raw water will be "Tassal" for farm expansion into Okehampton Bay (up to 500mgl per annum for bathing of salmon), "Solis" golf course (up to 300mgl per annum for watering of the golf course), TasWater raw water for water treatment residential use (up to 200mgl per annum as needed). In an average year there should be approximately 1,000mgl available for farming opportunities. Initial interest has been shown by up to ten farmers up to 20 kilometres north of the scheme's discharge point at Louisville Point with two farmers actually putting in a formal expression of interest. It is considered by engineers that the dam could be expanded at a relatively small cost to increase the dam by up to 30%. Engineers have indicated they consider it is one of the best dam sites they have seen in Tasmania in relation to cost versus quantity and land use. This site has water surety at around 95% and the water license will be for 40 years under the Water Management Act once approved. This will allow Council to offer 40 year water licenses to all users.

Background

Both Tassal and the Glamorgan Spring Bay Council had been working on alternative options to supply fresh water to the salmon farm lease and the Solis golf course development. Early designs had indicated that preferred sites were not capable of large water holdings and only have surety of supply at around 75-80% putting pressure on both organisations to either find alternative sites or other options for raw water supply or take the risk in dry years. This is when it became clear that there was an opportunity to work together and see if there was a benefit for all stakeholders to benefit from this solution. Under this plan Council will be the natural owner of the infrastructure allowing it to deal with all stakeholders on a commercial basis. A single commercial owner does not afford the opportunity for the dam to become an economic driver for the local economy and community. Council has the ability, expertise and workforce to be involved in constructing some of the infrastructure including pipelines.

The Turvey family are long established respected farmers of the area and are very supportive of development, helping wherever they can. The development will complement their existing farming and tourism ventures and allow them to expand. A long term lease acceptable to all parties will be negotiated between the Turvey family and the Council.

Access to the site will be via existing accesses and a new access will be provided across the top of the dam to enable farming operations to continue. Council will ensure that these roads are maintained to an acceptable standard for all users.

The take out point of the dam is still to be decided with one option being to take water just to the south of the existing TasWater pump on the Prosser River. Any water taken from this point will be metered and the equivalent amount of water will be released from the dam to ensure that there is no negative effect on the environment or the drinking water supply. This water release will be calculated by a hydrologist and may be as high as 130% of water taken.

The Market

There is abundant data on the market potential and demand for such a quantity of water with a low capital cost. The capital cost of this project is expected to be around \$4.5 million to deliver water to the Louisville Point node and then a further \$7.0million to deliver it 20 kilometres north of that node in the future if the demand and market return is there making a total cost of around \$11.5 million dollars. This capital cost of \$3,833 per mega litre compares to a capital cost of \$8,500 per mega litre for other irrigation schemes of comparable size.

Operating costs of the system are expected to be around \$205,000 per annum or \$68.33 per mega litre which compares favourably to other irrigation systems at \$102.00 per mega litre for similar sizes. This operating cost also includes a cost allocation of \$35.00 per mega litre for renewal of assets including pump stations and dam walls. At this rate Council could set a water rate at \$3,833 per mega litre buy in and an annual usage rate of \$68.33 per mega litre. These rates would be cheaper for users closer to the Louisville node, as this is calculated at the furthest delivery point 20 kilometres north of the Louisville node. Alternatives could be a no upfront capital cost for users and Council borrow the funds ensuring the principal plus interest cost is returned to Council via the usage cost to users.

A more detailed analysis is provided as Annexure "A".

Vision, Values and Objectives

Vision

- To become an affordable raw water supplier to the South East Glamorgan Spring Bay area.
- To support future business expansion including farming and tourism.
- To produce an excellent reliable water supply at the lowest possible cost.
- To create a business that pays for itself but is not commercial in nature.
- To ensure future residential subdivisions are viable by helping TasWater to ensure adequate water supply well into the future and dry years.
- To make the Council sustainable by increasing business activity and creating new opportunities and employment.

Values

- Passion about economic support for businesses on the East Coast.
- Committed to supporting our farmers.
- Integrity, honesty and transparency in our business dealings.
- To value and protect the natural assets.

Objectives

- To build the water source as designed.
- To cover all costs including any finance costs.
- To be returning a small profit per annum of \$35.00 per mega litre to cover future infrastructure renewal costs.
- To achieve yearly turnover targets and usage.
- To expand on demand.

The Finances

Costs of Setting up the Venture

The capital cost of this project is expected to be around the \$4.5 million to deliver water to the Louisville Point node and then a further \$7.0million to deliver it 20 kilometres north of that node making a total cost of around \$11.5 million dollars. This capital cost of \$3,833 per mega litre compares to a capital cost of \$8,500 per mega litre for other similar sized irrigation schemes. At this rate Council could set a water rate at \$3,833 per mega litre buy in and an annual usage rate of \$58.33 per mega litre. Alternatives could be a no upfront capital cost for users and Council borrow the funds ensuring the principal plus interest cost is returned to Council via the usage cost to users. A more detailed analysis is provided as Annexure "A"

Ongoing Costs of the Venture

Operating costs of the system are expected to be around \$205,000 per annum or \$68.33 per mega litre which compares to other similar sized schemes at \$102.00 per mega litre. This operating cost also includes a cost allocation of \$35.00 per mega litre for renewal of assets including pump stations and dam walls. Operating costs are detailed in Annexure "A"

Risk Management

Risk	Likelihood	Impact	Strategy
Sourcing sufficient capital for start up	Low	High	 Business case stacks up. MOU with major users or letters of intent.
Sourcing sufficient capital for other stages of venture	Low	Low	• As in the first instance
Competition	Low	Low	 Demonstrated lack of competition in this venture throughout Tasmania especially with the low capital cost and excellent dam site.
Inadequate management of resources	Moderate	Medium	 Appoint experienced Team to carry out this tasks
Poor take up of allocations	Low	High	 Not likely after selling the low capital costs, ongoing costs and reliability
Quality of construction	Low	High	 Ensure appropriate project management and accountability
Community Acceptance and social license	High	Medium	• Need to sell the benefits to the community
Users going into liquidation	Low	High	 The water should be readily snapped up by other users Ensure appropriate conditions in contract of sale
Dispute with Landowner	Low	High	 Needs to be managed and a fair outcome for all
Government Acceptance	Medium	High	• Sell the benefits to all. Still semi Government owned
Unreliable water	Low	High	• 95% surety

The Market

The market is proven on the East Coast of Tasmania. The northern section of the Glamorgan Spring Bay area has been largely taken care of by Tas Irrigation with the commissioning of the Swan Valley irrigation scheme. On the East Coast it is all about storing water when it rains.

This project will be one of the largest storage dams on the East Coast of Tasmania. With its added reliability it will provide assurance to the customers of the scheme which will promote serious economic activity. A recent analysis of the river shows that the dam will not adversely impact other Prosser River water users; it only acts to capture and store water during wet periods for later use. Prosser River flows can be quite extreme – experiencing not only long periods of dry, but also very large flows following major rainfall events. As an indication, records show that since 1965 there have been 640 times when Prosser River flows exceeded 1,000ML in a single day, and 237 days when flows exceeded 3,000 ML in a single day. The market for the water is assessed as considerable.

Target Markets

Tassal will require up to 500 mega litres of fresh raw water per annum for the bathing of their fish and Solis will require up to 300 mega litres of fresh raw water for the golf course. Of course usage on the golf course will be dependent on weather conditions and usage in the wetter years may be a lot less. Taswater will have a security of 200 mega litres per annum. Assuming the storage is kept at two years supply for these projects there should be up to 1,000 mega litres available for farmers and other users.

Marketing Strategy

Once the final dam is sized and costed a marketing strategy will be developed, although it is not likely that this will be needed considering the level of interest already generated by the project.

SWOT Analysis

Strengths	Weaknesses
High volume raw water of good quality	Community support
Relatively easy construction of dam	Council support and negativity
Low cost of capital in comparison to quantity of water	Possible resistance from State and Commonwealth Governments with the preference to fund or approve through Tas Irrigation
Everybody wins	
Opportunities	Thursda
Opportunities	Inreats
Provide Irrigation for new crops for up to 10 farmers	No take up of excess mega litres
Provide Irrigation for new crops for up to 10 farmers The 2,000mgl Swan Valley Irrigation is expected to provide 32FTE jobs and \$16.6 million dollars at the farm gate. Based upon 3,000mgl can we determine 48FTE and \$24.9 million dollars at the farm gate	No take up of excess mega litres No social license Lack of support from Council and Governments Poor marketing, poor experience and poor project management
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Our Competitors

Competitor details – Tasmania/Mainland

Competitor	Value to customers	Strengths	Weaknesses
Tas Irrigation	Raw water sales	Being a GBE are possibly more trusted than Council	High priced red tape organisation. Not known to owners of land. Owners of land will be caught up in red tape
Farm Dams	Raw water for farming	On site raw water	Low volume. Low reliability.

The Future

Vision statement:

The Prosser Plains Raw Water Scheme is seen as a major project for the south east portion of the Glamorgan Spring Bay Municipality. The Prosser Plains Raw Water Scheme will deliver fresh raw water to a number of commercial activities at the lowest possible cost to boost economic development and jobs for the area.

Strategic objectives:

The Prosser Plains Raw Water Scheme will deliver water to the south east region of the Glamorgan Spring Bay Municipality at the lowest possible cost to achieve commercial, primary and other industrial economic development and jobs. It will also provide surety around the town water supplies for Orford and Triabunna. The dam is easily expanded should the demand exceed supply.

Growth opportunities:

- Primary Production
- Surety of town water supplies enabling residential growth
- Commercial activities
- Jobs

Summary

Overall we believe that the business plan is sound with unlimited market potential. The project will provide a sustainable water supply that will not be easily duplicated within Tasmania and will stand against anything globally or nationally with regards to cost versus supply and land usage. The key to the development is to gain farming support and as a lead on, community support for the venture.

Forecast Start-up Costs

- Capital Cost of dam construction \$2,255,372
- Capital Cost of raw water delivery (Louisville Node) \$2,144,628
- Capital Cost of raw water delivery (20klms North of Louisville Node \$7,000,000
- Approvals and engineering \$100,000
- TOTAL ESTIMATED START UP COST \$11,500,000 ***

*** Costs compiled by

JOHNSTONE, McGEE & GANDY PTY LTD Incorporating Dale P. Luck & Associates

Annexure A: Analysis of Figures

Draft Dam cost structures	am cost structures MGL Cost to Node Source Cost per			Cost from Node	Source	Cost per			
		Lousiville Road		MGL		20klms North		MGL	
Capacity of Dam	3000	\$4,500,000	JMG	\$1,500		\$ 7,000,000	JMG	\$ 3,833	
Maintenance Cost									
(Includes, Labour, Vehicles and									
Materials, Power, Renewal of									
Assets and estimated lease fee)	3000	\$175,000	JMG	\$58.33		\$30,000	JMG	\$68.33	
Cost of Capital:									
Capital	3000	\$86,008.00	Tascorp	\$28.67		\$133,790.00	Tascorp	\$73.27	
Interest	3000	\$158,993.00	Tascorp	\$53.00		\$247,323.00	Tascorp	\$135.44	
INVESTORS:				Initial	Ongoing			Initial	Ongoing
Capital plus Maintenance	3000			\$1,558.33	\$58.33			\$ 3,901.67	\$68.33
No Capital plus Maintenance	3000			\$140.00	\$140.00			\$277.04	\$277.04

Annexure B: Checklist of required approvals -Based upon
water take at the Prosser River

		Checklist of permits and approvals				
REASON	FROM	ТҮРЕ	Contact	PROP ID	PROPERTY ADDRESS	OWNERS ADDRESS
REGS	GSBC	Planning permit to build a pipeline- LUPA	David Metcalf			
REGS	GSBC	Building Permit Pump Station	David Metcalf			
POWER	TAS NETWORKS	Pump station power - Prossers River	Mather Taylor	TASNETWORKS - connect to Pole ID 330294 (Taswater)		
POWER		Pump Station Power -				
Private	SOLIS (TASMANIA) PTY LTD	Construction access and easement	Mario	2549195	Lot 1 TASMAN HWY ORFORD TAS 7190	110 FRANKSTON GARDENS DR CARRUM DOWNS VIC 3201
Private	Taswater	Construction access and easement	Prossers Dam			
Private	Taswater	Pump Station and Power	Prossers Dam			
Private	SOLIS (TASMANIA) PTY LTD	Golf Course Dams		2549195		
Private	Turvey	50 + year rights	Main Dam			
REGS	ACDC(DPIPWE)	Turvey site Dam	MAC FRANK			
Private	DOUGLAS BLAIN	Construction access and easement	Prosser River	5970591	'BROCKLEY' - 160 BROCKLEY RD BUCKLAND TAS 7190	STONEHURST STONEHURST RD BUCKLAND TAS 7190
Private	SIMON SHERRIF ALLEN & KAREN ANN WILD-ALLEN	Construction access and easement	Prosser River	2971775	Lot 1 ALMA RD ORFORD TAS 7190	27 MORTYN PL HOWRAH TAS 7018
Private	IAN JAMES HARREX & ANN DOROTHY TOLSON	Construction access and easement	Adjacent Convict Road	2566905	321 ALMA RD ORFORD TAS 7190	32A ALSTON AV COMO WA 6152
Private	MICHAEL KEELING GRANGER & ERICA JEAN CUTHBERT		Adjacent Convict Road	3191711	Lot 6 TASMAN HWY ORFORD TAS 7190	10 MUSGROVE RD GEILSTON BAY TAS 7015
GOVT	PARKS AND WILDLIFE SERVICE	Construction access and Pipeline easement	Sheas Creek	5974792	'RASPINS BEACH CAMPING PARK' - 90 TASMAN HWY ORFORD TAS 7190	GPO BOX 1751 HOBART TAS 7001
GOVT	DPIPWE	Construction access and Pipeline easement	Sheas Creek	Crown Land		
GOVT		Construction permission	Convict Road - crown Lease agreement 81723	3251438		
GOVT		Construction permission	Convict Road -			
	THREATENED		everywhere			
	EUROPEAN		Convict Road			
	HERITAGE CULTURAL		everywhere			
REGS	HERITAGE DSG	Permission to enter and	Tasman			
		construct	Highway			
REGS	GSBC	Road crossing louisville Road	David Metcalf			
REGS	DPIPWE	Crossing of Prossers River & Sheas Creek				
LANDOWNER	Taswater	PROSSERS DAM - power, extraction and pipeline	TASWATER- exisitng 300KW transformer on Pole 330294	5983552	7469 TASMAN HWY ORFORD TAS 7190	169 MAIN RD MOONAH TAS 7009

Annexure C: Water Licence Application

WATER ALLOCATION ASSESSMENT REPORT (WAAR)

Type of Water Licence Application

 \square

NEW WATER LICENCE

VARIATION TO AN EXISTING WATER LICENCE

WATER LICENCE No:

<u>Applicant</u>

Applicant (licensee):): Tassal Operations Pty Ltd & Glamorgan-Spring Bay Council				
Property address:	'Twamley', 156 Twamley Road, Buckland, Tas 7190				
Contact name:	Justin O'	Connor			
Postal address:	GPO Box	1654, H	lobart, Tas		
Business Phone:	03 6244 9018	8	Mobile Phone:	0448 13	34 421
Home Phone:		Fax:		Email:	justin.oconnor@tassal.com.au
Is the applicant the landowner or tenant? Tenant					
If tenant, state name and address of landowner:		Derek Turvey 23 Kent Street, Buckland, Tas 7190			

Agent

Name:	Alistair Brooks			
Title:	Consultant			
Company:	Macquarie Frank	klin		
Company address	Tech 4, Unit 2 3	30-38 Innovation Dr	ive Dowsing Point Tasi	mania 7010
Business Phone:		Mobile Phone:	0438 476 215	
Fax:		Email:	abrooks@macfrank.	com.au
Signature: CEB	~			Date: 6/1/2016

	Reason for app	<u>olication</u>							
\square	New dam perm	nit			Licence	existing operat	ion		
\square	Application to i	ncrease storage capac	city		Reasses	ssment of stora	ge capa	acity	
	Other:								
	Type of storag	e (if applicable)							
\square	Instream			Offstrea	ım (includ	es catchment,	turkey n	est)	
Dam	ID No [.]	(Propose	ed) Cap	acity at ES	SI ·	3 000	МІ		
(if kno	own)		ou) oup			0,000			
	Location of sto	orage – Water Mana	gemen	t Plan (W	'MP)				
Is the	proposed storag	e located in a WMP are	ea?	· ·	Yes			\square	No
Name	of WMP:				J				
Is the	application in ac	cordance with the requ	irement	s of	Yes				N/A
	Details of Prop	osed Water Source							
	If the application report for each	on involves more tha water source.	n one v	water sou	irce, plea	ase complete	a sepa	rate	
Γ	Stream name:	Tea Tree Rivulet							
	Proposed total	period amount:		1	ML				
	Proposed sure	ty levels:		927	ML at s	urety 5			
				868	ML at s	surety 6			
	Proposed max	.daily amount ¹ :			ML/day	,			
	Proposed take	period:	1 st M	ay to 31 st	^t Oct				
	Coordinates of 5277701	extraction point [GD	A 94]:			E564715	Ν		
	Upstream catc	hment size		50.62	km ²				
	Upstream catc	hment rainfall		793.39	mm/a				
	Access ² :	Instream				Purpose ³ :Ac	quacult	ure <u>&</u> i	rrigation
_	¹ For daily amount	insert pump capacity if	via pumr	p. proposed	amount t	o be diverted if I	ov divers	ion or	
	est take required	if instream dam	· · ····	,			,		

² Access refers to how the water source is to fill the storage (e.g. instream dam, gravity diversion, pump from stream)

³Purpose may be irrigation, stock and/ or domestic, aquaculture, hydro, mining, commercial or other

Is the proposed take predominantly for a consumptive use?

Yes No 🗌

ML

If No, how much of the proposed annual allocation is consumptive:

General Information

This assessment includes Aquaculture, Commercial and Hydropower allocations which may not return water to the extraction locality. These allocations need to be considered in deciding actual water availability.

The proponent is applying for a water allocation from Tea Tree Rivulet for the taking of water into a proposed 3,000ML storage dam. Tassal are currently undertaking an expansion of their salmon fish farming activities into the Triabunna region. Tassal are proposing to construct a 3,000ML storage on Derek Turvey's property on Tea Tree Rivulet near Buckland.

The WAT is currently showing the available allocation at the dam site to be 927ML at surety 5 and 868ML at surety 6.

It is likely that the development proposed for Louisville Point near Triabunna by Solis (Tasmania) Pty Ltd will also take water from this water resource for their requirements. At this stage Tassal are applying for the full water allocation but a percentage of that allocation may be transferred to Solis in the future.

The likely annual usage demand from the dam will be around 1,000ML, however due to the need to have a very high reliability of supply (97%) water will need to be carried over from one year to the next so a modelled dam capacity of 3,000ML is likely to be required.

A dam assessment is currently being undertaken and all the necessary reporting requirements will be submitted in due course. The proposal includes the establishment of a water course authority to release water from the dam site into the Prosser River with the extraction of the released flow near Orford.

Yield Assessment

Yield Reliability Table for proposed take location:

Winter (May to November)		
		Winter
	Total	environmental
Reliability	flow	flow (ML)
50%	6120.02	852.15
60%	4654.98	852.15
70%	2892.82	852.15
80%	1779.82	852.15

Selected FDAT reference catchment number

1563, Prosser, 24, Subcat Yield

Justification for selection of reference catchment: (if other than recommended reference catchment)

Click here to enter text.

Water Availability Assessment (May – Oct Take Period)

Catchment Level

Catchment Name		Click here to enter text.				
Catchment Outlet P	oint	[GDA94]	E 572338.95 N 52	288441.06		
Reliability	Availat	oility				
	limit		Current	Potentially		
			allocated	available		
Hi (S5)	???		2435.11	???		
Mid (S6)	???		310	???		

Subcatchment level

Subcatchment Outlet Point [GDA94]		E 565351.12 N 5284789.1	
Reliability	Availability		
	limit	Current	Potentially
		allocated	available
Hi (S5)	1040.5	75	965.5
Mid (S6)	1079.36	0	1079.36

Local Level - Water take location

Please ensure any relevant secondary allocations are included in the assessment, add to existing upstream allocations if required.

Reliability	Availability		
	limit	Current allocated	Potentially available
Hi (S5)	927.66	0	927.66
Mid (S6)	868.04	0	868.04



Overview Map

<u>Proposed Surety 6 Takes (allocation within theoretical yield range between 50% Tay and 80% TAY):</u>

Where a s6 allocation is proposed, please give details why a low risk scenario with regards to impacts on other persons taking water from this water resource, aquatic or riparian ecosystems is claimed.

- Risk based rule with regards to allocation size/yield yet to be determined
- If required, show extent of downstream zone of influence of a proposed s6 allocation¹ (please add supporting information, including a yield table for the endpoint of the zone of influence)
- Include a CFEV report covering the downstream zone of influence of the water allocation. Any statements discounting the relevance of listed values for must be supported by suitable evidence.
- Any other relevant information (for example, information in relation to groundtruthing of CFEV information, Natural Values Atlas extracts where relevant, ephemeral nature of stream etc)

Supplementary Information for Environmental Water Requirements

If a reduction of the default seasonal preserved volume (SPV) for environmental water requirements is requested for this proposed water allocation, please attach the relevant study determining seasonal preserved volumes, environmental flow requirements and proposed flow release regime. A reduction in the SPV for water allocation purposes will not be accepted without relevant supporting information. Title and date of environmental flow study: **TBA**

Additional Information for Low Reliability Water Take Applications -TBA

¹ The downstream influence of an s6 water allocation extends to the point where existing and proposed water allocations are contained within the 80% TAY at that point. Please provide a yield allocation table for the downstream point zone of influence of the proposed water allocation.

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