

Notice of Intent

For a proposal to be assessed under the

Environmental Management and Pollution Control Act 1994 (the EMPC Act).

Assessment by the

Board of the Environment Protection Authority – Tasmania.

**Blackmans Bay Water Treatment Plant to South Arm Peninsula
Reuse Water Pipeline**

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Section 27B(2) of the EMPC Act stipulates that a Notice of Intent is to contain the following information:

1. The name and contact details of the person lodging the application.
2. The name of the proposed project and its location
3. Background of the project proponent, including details of the proponent's experience and financial capacity to undertake the project and his, her or its contact details
4. A description of the proposed project, including its key physical components.
5. An outline of the proposed location of the project and a general site location map.
6. An outline of the stakeholder consultation process undertaken or proposed to be undertaken, including the consultation method, stakeholders consulted or to be consulted and the issues raised or to be raised.
7. A general description of the physical environment that may be affected by the project.
8. The key environmental, health, economic and social issues identified for the project to date.
9. The surveys and studies proposed or underway in relation to the key issues for the project.
10. The proposed timetable for the project.
11. For the purposes of section 27B(2)(k) of the EMPC Act, the Board has determined that a Notice of Intent is to contain the following additional details.
 - (i) Whether the project requires or is likely to require approval under the Environment Protection and Biodiversity Conservation Act 1999 (which will be determined by the project's potential to impact upon matters of national environmental significance or upon Commonwealth land).
 - (ii) Whether the proponent has or intends to refer the project to the Commonwealth Government for a determination on whether approval under the Environment Protection and Biodiversity Conservation Act 1999 is required⁵.
12. For the purposes of section 27B(2)(k) of the EMPC Act, the Board has determined that a Notice of Intent is to contain the following additional details.
 - (i) The status of the proposal under the Land Use Planning and Approvals Act 1993 (LUPAA)⁶. This must include:
 - (a) whether or not the relevant council will require a LUPAA permit application;
 - (b) whether a single permit application or multiple applications will be required;
 - (c) the division of LUPAA under which the application will be made;
 - (d) zoning of the proposal site(s), and whether or not rezoning will be required;
 - (e) if the proposal is for intensification or alteration of an existing activity, the status of the existing activity under LUPAA; and
 - (f) if the proposal is for intensification or alteration of an existing activity, whether or not the council regards the proposal as a substantial intensification for the purposes of subsection 20(6) of LUPAA.
 - (ii) In the event that the proposal has a reasonable likelihood of requiring approval from the Commonwealth Government under the Environment Protection and Biodiversity Conservation Act 1999 (Cth), a statement is to be provided as to whether or not the proponent elects for the proposal to be assessed pursuant to the Bilateral Agreement made under section 45 of the Environment Protection and Biodiversity Conservation Act 1999 (Cth) between Tasmania and the Australian Government (dated 22 October 2014).

1. Introduction

Proposal; Blackmans Bay Sewage Treatment Plant to South Arm Peninsula Reuse Water Pipeline.

This Notice of Intent (NOI) has been prepared by Craig Ferguson (Project Manager) and All Urban Planning Pty Ltd on behalf of the Arm End Public Recreation Reserve Project. Arm End is managed by Mary Ann's Island Pty Ltd. The Notice of Intent is provided to address the requirements of Section 27B (2) of the *Environmental Management and Pollution Control Act 1994* and to provide advice on the proposed development to the Board of the Environmental Protection Authority (the EPA Board).

The Notice of Intent enables the EPA Board to determine the class of assessment and to develop guidelines for preparation (by the proponent or a consultant engaged by the proponent) of the case for assessment.

The contact person and expected applicant for a permit under the Land Use Planning and Approvals Act 1993 is:

Craig Ferguson

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Hobart, Tasmania, 7000 Australia

Company Status Registered

Company Type Australian Proprietary Company, Limited by shares

ACN: 141 272 568

ABN: 64 141 272 568

The irrigation water is proposed to be provided by TasWater, who operate and manage the Blackmans Bay Sewage Treatment Plant (STP) [currently being upgraded]. The irrigation water is proposed to be delivered to the South Arm Peninsular, including the Arm End project site by an anchored to the seabed pipeline, crossing the Derwent River.

Irrigation potential for Arm End and other agricultural producers on South Arm Peninsula, using recycled water from Blackmans Bay STP is an intelligent use of a valuable and required commodity – currently 100% of the outfall is being discarded into the Derwent River.

Significant interest from the agricultural sector on the South Arm Peninsula has demanded that water also be provided as an option for irrigation. The water may enable primary producers can to grow their business potential.

The Arm End project commits to facilitating the process of delivering irrigation water to the South Arm Peninsula.

The reuse water while being an essential resource to the Arm End business, will also create and provide opportunity for other compliant users of the water to develop commercially and environmentally sustainable businesses.

The Arm End project (the activities associated with the development of the project site) has gained full approvals; accordingly this NOI is only applicable to the proposed water pipeline.

2. The Project and Location

Background Information; Arm End Public Recreation Reserve Project.

The Arm End landform has spectacular views of the Derwent Estuary and adjoining landscapes. The landform is surrounded by water and has four separate beaches, several kilometres of cliffs, all forming a dramatic topography. The Arm End project is the development of an open access public recreation facility, known as the Arm End Multi-Use Public Recreation Reserve.

A major component of the project is to implement the comprehensive rehabilitation plan, which is aimed at increasing biodiversity and wildlife habitat through the reintroduction of native indigenous plants. The Arm End Multi-Use Public Recreation Reserve intends to provide a genuine and sustainable experience for the visitor, rich in nature and an environment that is designed to thrive and grow over the years.

Arm End is located 40 minutes by road from Hobart City and 25 minutes from the Hobart International Airport. Using the water, via a boat, Arm End is 20 minutes from Hobart's busy water front precinct.

The Arm End site can easily accommodate a mix of outdoor activities including a unique golfing experience. The project aims to regenerate this area of abandoned weed infested open agricultural land into a multi-functional recreational reserve that includes:

- Extensive environmental floral rehabilitation;
- World class 18-hole golf course;
- Native animals and bird habitat rehabilitation;
- Public Café;
- Family open play spaces;
- Public BBQ facilities and shelters;
- 10 km of public walking and jogging trails;
- Single track cycle pathways;
- Lookouts and shelters;
- Open access to beaches;
- Bird watching;
- Fishing; and
- Natural and heritage interpretation.

“We believe Arm End will become one of Tasmania’s most widely used and enjoyed areas of public land. The site is absolutely spectacular – the perfect location for Tasmanian families and their children”.

A tourism based world class golf facility is part of the Arm End project. Arm End will require specialised and expert master turf managers – the course superintendent. The superintendent's role is to keep the managed turf grass in excellent condition all year round. The superintendent will use the very best environmental sustainable practises. The most valuable resource for the supernatant is water. The superintendent needs as much irrigation water as the seasons and turf demands.

The irrigation demands for the golf course at Arm End; (quality and quantity requirements)

- **Golf course and site more generally will require summer peak demand of a minimum of 0.8 mega litres (ML) per day. 800,000 litres per day equates to a 24 hour flow rate of 9.2 litres per second.**
- **The turf grow in period requires up to 2.5 ML every day.**
- **Estimated annual demands (with considerations of seasonal variations) is 200,000,000 L of water per annum. (200 Mega Litre). 200 ML equals in volume about 85 Olympic sized swimming pools.**
- **Max salinity for turf high quality turf grass is 1000 parts per million. (ppm)**
- **The site has approved on site water storage of 4 mega litres. (in 2x 2 2ML storage tanks).**

Arm End with large expanses of turf and a massive native revegetation program is particularly well-suited to a recycled water irrigation program. Recycled water management controls are of utmost importance to ensure only positive impacts result for use of this valuable resource.

Irrigation for Arm End and other agricultural users on South Arm Peninsula with recycled water from Blackmans Bay is an intelligent use of a readily available and valuable commodity - presently being dumped into the Derwent River.

The Arm End Project has all the required approvals.

Blackmans Bay Sewage Treatment Plant to South Arm Peninsula Reuse Water Pipeline

The proposal is to service the Arm End Project and the greater South Arm Peninsula water requirements via a pipeline connecting into TasWaters existing outfall infrastructure at the Blackmans Bay Water Treatment Plan (Kingborough Municipality) and running anchored on the riverbed of the Derwent River Estuary to the South Arm Peninsula (Clarence City Council).

It is the **pipeline infrastructure only** that forms the basis of this NOI – separate from the Arm End Development Project.

The pipe line is intended to be constructed and assessed in two separate stages.

While the NOI includes the combined stage one and two concept masters plan this NOI is primarily intended for the information and assessment of Stage one only.

Stage One includes.

- Connection Point and control infrastructure (likely just an isolation and control valve) at the Blackmans Bay WTP.
- Pipeline section from Blackmans Bay WTP to western shore marine side
- Trans Derwent anchored pipeline.
- Pipeline section crossing from Derwent River to pump house building.
- pump house building.
- Pipeline from pump house building running along road reserve of South Arm Highway, along Spitfarm Road to terminate on Arm End site.

Stage Two includes (not assessed under this NOI) ;

- All infrastructure to the south of the pump house building.

Benefits of stage two includes.

- Readily available source of irrigation water for anyone to use and access (as per individual user Irrigation EMP's)

<https://maps.thelist.tas.gov.au/listmap/app/list/map?bookmarkId=268545>

3. The Proponent

Arm End Multi-Use Public Recreation Reserve is managed by the company Mary Ann's Island Pty Ltd.

Mary Ann's Island Pty Ltd was formally created by the founding directors in December 2009. The founding group developed the idea to design and deliver one of the world's great golf course developments on the landform known as Arm End. Arm End will be managed by the Mary Ann's Island Pty Ltd Board. The Board will consist of four (4) positions and an independent chairperson.

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Craig Ferguson - Project Manager – 0409 222 858.

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4. The Proposed Project

Recycled or reuse water is any water that has undergone one cycle of use, and after treatment, is suitable for limited reuse, including irrigation. Recycled water is also referred to as reclaimed water, wastewater, and effluent water, treated effluent water and treated sewage water.

Recycled water may be primary, secondary or advanced (also called tertiary) treated municipal or industrial wastewater. Primary treatment is generally a screening or settling process that removes organic and inorganic solids. Secondary treatment is a biological process in which complex organic matter is broken down and metabolized by simple organisms, which are then removed.

Advanced or tertiary wastewater treatment consists of processes similar to those used to prepare potable water and may include chemical coagulation and flocculation, sedimentation, filtration.

A major benefit of effluent reuse, by irrigation is the decrease in wastewater discharges to natural waterways. When pollutant discharges to waterways are removed or reduced, the pollutant loadings to these waters are decreased. Substances that can be pollutants when discharged to waterways can be beneficially reused for irrigation. For example, plant nutrients such as nitrogen and phosphorus can stimulate potentially harmful algal blooms in waterways, but can be a valuable fertiliser for crops.

Many irrigations demands can be sustainably satisfied with recycled water as long as it is managed under an approved usage plan and the water is treated to ensure water quality is appropriate for the proposed use.

Water recycling has proven to be effective and reliable water supply, while not compromising public health. Effluent reuse by irrigation is now an accepted practice that will play a greater role in our overall water supply into the future.

The reuse of effluent by irrigation can make a significant contribution to the integrated management of water resources. When the water and nutrients in effluent are beneficially utilised through irrigation some of the negative impacts of the discharged water is reduced along with the amount of pollutants discharged into our waterways.

Blackmans Bay Water Treatment Plant – Upgrade

TasWater is currently upgrading the existing Blackmans Bay Sewage Treatment Plant (STP) as part of the overall Kingborough Sewerage Upgrade Project.

This existing STP has been operating for 30 years and is nearing the end of its service life.

An upgrade will improve its environmental performance, bringing it in line with modern standards and allowing TasWater to enhance the Kingborough sewerage system.

Upgrading the Blackmans Bay STP is forecast to be completed mid-year 2018, including design and construction and commissioning.

The existing Blackmans Bay Sewage Treatment Plant (STP) is on the western shore of the lower Derwent Estuary, off Tinderbox Road. This site has suitable capacity for upgrade and has an existing 600m long outfall pipeline into the Derwent Estuary.

The proponent has engaged and received advice from water management consultants Macquarie Franklin. Their advice is as follows;

Advice on suitability of recycled water irrigation on the proposed Arm End Golf Course

(The Macquarie Franklin report is included as and appendices to this Notice of Intent.

“In most cases recycled water irrigation on golf courses/amenity areas occurs at night, when public access can be restricted (thereby minimising risk of public contact with recycled water). Irrigation of Hobart City Council land at Cornelian Bay (sports grounds) provides precedent for a site which is not fully enclosed, relying on signage and night time irrigation to reduce the risk of public contact with Class B recycled water.”

and

“In summary, the Arm End site is eminently suitable for recycled water irrigation. The site is currently heavily infested with environmental weeds and the Arm End Public Recreation Reserve development offers a great opportunity to rehabilitate the land.”

Following on and from the Macquarie Franklin report the proponent has further engaged Macquarie Franklin to develop a site specific Irrigation Environmental Management Plan (IEMP) for the proponent. The IEMP is expected to be in be in draft form Feb 2018.

Marine Environmental Advice

The proponent MAI has engaged and received advice from Marine Environmental Ecological consultants;

Marine Solution Tasmania.

Their advice is as follows;

ENVIRONMENTAL ASSESSMENT OF A PROPOSED PIPELINE ROUTE BETWEEN BLACKMANS BAY AND SOUTH ARM, TASMANIA

Summary of findings and recommendations from the 2017 field survey across the mouth of the Derwent River.

Bathymetry	Bathymetry mapping demonstrated that the river mouth reached a depth of 26 m. The profile showed few undulations and is therefore relatively conducive to laying a pipe across the river mouth.	There are no physical barriers to installing the pipe across the Derwent River mouth.
Habitat Characterisation	The video surveys demonstrated that the benthic habitat was predominantly sand with a mosaic of seagrass and algae on the eastern side and reef on the western side. The habitat was biologically depauperate and very few marine organisms were evident.	The proposed pipeline route was void of large obstacles. Disturbance to seagrass beds and potential handfish habitat on the eastern shore should be minimised through HDD and the pipe should enter through the existing corridor (used by TasWater) on the western shore to avoid impacts to giant kelp.
Threatened and Protected Species	The desktop study, together with expert opinion, demonstrated that handfish are found in and around Halfmoon Bay. Marine mammals, giant kelp and Gunn's screw shell also (potentially) occur in the area. Mitigations are required to ensure these species and communities are protected.	The eastern end of the pipe will be HDD. There is a risk that the pipe will emerge in handfish habitat. Diver swum transect surveys are required to understand the distribution of seagrass, handfish and handfish habitat in development area, and potential mitigations. Visual marine mammal surveys should be conducted during construction and works ceased if mammals are within 300 m radius. Additional field surveys are required to better understand the presence/absence of threatened and protected species in the area. Methods for these surveys have been outlined in the report and have been approved by Policy and Conservation Advice Branch (PCAB).

Proposed Pipeline Route

The proposal is best viewed via this Tas List Maps link.

<https://maps.thelist.tas.gov.au/listmap/app/list/map?bookmarkId=228950#.Wi-GUkT9FZs.email>

The pipeline proposal can be planned and approved in 2 separate stages.

- Stage 1 - will include the pipeline across the Derwent River, and the South Arm Peninsular booster / pump station; and
- Stage 2 - will include South Arm Peninsular reuse water storage dam and expanding pipeline to the south of the booster / pump station.

Engineering Advice

A preliminary assessment of the route of the recycled effluent pipeline has been undertaken. This comprises a submarine pipe of approximately 6,875 m and 4,222 m of land based pipe. The maximum water depth is 25 m, which occurs approximately 2,500 m from Blackman's Bay STP.

Using standard design charts to AS/NZS 4130: Polyethylene pipes for pressure applications, and assuming a flow requirement of 1ML/d, it is possible to use a 180mm OD SDR17, PN10 pipe with gravity flow from Blackmans Bay to the beach at South Arm.

Therefore, a thorough assessment of all operating pressures is required before a final size, SDR and pressure rating is selected. It is also noted the up to 125mm, PE can be supplied in 100metre rolls, in lieu of 12 meter lengths for larger sizes. This significantly affects the butt fusion welded joint quantity required for the construction of the near 7km submarine section.

A potential solution involving a gravity pipe to Arm End, using the available head from Blackman's Bay STP and a subsequent booster pump station, located in proximate area of the intersection of Algona Street and The South Arm Road. The pump station / booster would reduce the submarine pipe size to 160mmOD if only 80% of peak demand was the transfer flow rate. This would be effective with adequate balancing storage available.

It is not necessarily optimal to pump from Blackmans Bay STP to meet peak demands at Arm End with only 4 days of emergency supply stored on site. It is probable that by allowing for the effective use of adequate system storage, including existing farm dams and proposed water features or additional lined storages, would reduce the capital headworks required and reduce operating costs.

Water / Marine based pipeline construction methodology

There are many precedents in Tasmania (e.g. Salmon Farming) for the following pipeline installation practice.

The Marine component of the pipeline proposal will be as per the following basic steps.

- Plastic weld lengths up to 500m of HDPE pipe. Cap both ends;
- Using a work boat and In suitable conditions pull and slide (float) the lengths out to water and prepare by attaching anchoring weights to the pipe;
- With a working platform and diver below slowly sink (remove caps) the pipeline into alignment; and
- Inspect and attach additional anchors as per design.

The intertidal and deeper sections of the pipe (on both side of the River) will be HDD (up to 400m) out into the Derwent River.

Float and Sink graphic

<https://youtu.be/Wo8RyCeI3gU>

<https://youtu.be/ADtHgX3JktA>

Land based infrastructure and construction

All terrestrial based pipe installations will be completed using Horizontal Directional Drilling (HDD).

Horizontal Directional Drilling examples can be viewed at the following link;

<https://youtu.be/bMSQTzJxro4>

Directional drilling, commonly called horizontal directional drilling, is a controlled steerable trenchless method of installing underground pipelines with minimal impact on the surrounding environment. Directional drilling is suitable for a variety of soil conditions.

Directional drilling is typically used to control potential issue, such as; to provide less traffic disruption, lower cost, deeper and/or longer installation, no access pit, shorter completion times, directional capabilities, and environmental management.

Trenchless technology is a non-invasive construction technique used in a variety of government-funded infrastructure projects.

5. The Development Site and Land Use

The proposal is best viewed via this Tas List Maps link. **Source: *annotated from theLIST***

<https://maps.thelist.tas.gov.au/listmap/app/list/map?bookmarkId=228950#.Wi-GUKT9FZs.email>

Land use and other applicable layers can be turned on or off on the RHS as required.

6. Public and Stakeholder Consultation

The key stakeholder in this proposal is;

Arm End Multi-Use Public Recreation Reserve is managed by Mary Ann's Island Pty Ltd.

Website Address <http://armend.com.au/>

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Contact Information

Craig Ferguson - Project Manager – 0409 222 858.

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Additional Stakeholders consultation and interested parties are listed and summarised below.

#	Who	What	Why	When	How
1	Community who support	Local residents supporting project and pipeline	Social license and local support. Education and understanding	Ongoing consultation	Social media SAPA news. Project updates direct communication
2	Community with concerns.	Local residents who have project and pipeline concerns	To educate and suppress false rumours. Education and understanding	Ongoing consultation	Social media SAPA news. Project updates direct communication
3	Tas Water	Reuse water supplier	MoU and Service Agreement / contract	Ongoing MoU Completed Service agreement by end 2017	As per MoU, meetings.
4	SAP Residents association.	SAP rep community group	SAPRA interested in project and progress.	Ongoing	Social media SAPA news. Project updates direct

					communication
5	Ian Grubb	SAP landowner	OK with proposal to have pipeline infrastructure on his land. Dam and pump shed.	ongoing	Several meetings to discuss concept. Contract agreement.
6	RSL Iron Pot GC	Local members nine hold golf club	Interested in irrigation water	asap	Meeting to be called to discuss final proposal.
7	Clarence City Council	Local government for SAP and Arm End	Support and planning. Most of reuse pipeline will be on CCC municipality. Jobs, tourism, community and municipality assets. Shared community use of the water. Valuable Public space /reserve Environmental Jobs and employment	Aug 2017 ongoing	Met and briefed Adam Saddler (CCC Business Dev Manager) Weed man Allister Mc. Mayor Chipman. Andrew Paul
8	Kingborough Council	BB STP local council	Origin of reuse water on KC land tenure	Met General Manager KC Aug 2107.Ongoing	Meetings and documentation. Briefings.
9	Marine Solutions	Marine Environmental Compliance consultant	Environmental marine compliances		
10	State Political Labour Party Alex Johnstone David O'Byrne	State govt support	Bi partisan support of concept. Possible financial support for infrastructure	ongoing	Briefings and upgrade memos.
11	State Political Liberal Party Minister Peter Gutwin Premier Will Hodgman	State govt support	Bi partisan support of concept. Possible financial support for infrastructure	ongoing	Briefings and upgrade memos.

12	Materials provider.	HDPE and hardware supplier.	Procurement lead times and material compliance to specifications.	Pre-construction	contract
13	Aboriginal Heritage.	AH permit for project works. Will need AH survey for pipeline works.	Planning requirement	Pre lodging of application	Engage AHO
14	Derwent Environmental Estuary Program	Environmental stakeholder.	Pipeline crosses Derwent Estuary	Meeting and briefing TBA	Meeting and briefing
15	Construction contractors marine	Experience marine based construction company. OHS and construction methodology / capability to be demonstrated	Marine based construction environmentally sensitive	Works package to be completed and contractor to be assessed and selected upon criteria.	Meeting, briefings, tender process.
16	Construction contractors Terrestrial WIS	Experience landside based construction company. OHS and construction methodology / capability to be demonstrated	Horizontal Directional drill capacity	Works package to be completed and contractor to be assessed and selected upon criteria.	Meeting , briefings, tender process
17	Tourism Tasmania	Representative body	Interested and supportive of Arm End Project – pipeline enables Arm End project	Ongoing general project updates and briefings.	Meeting as required
18	Golf Australia	Representative body	Interested and supportive of Arm End Project – pipeline enables Arm End project	Ongoing general project updates and briefings.	Meeting as required
19	E.P.A.	Environmental assessment and approval of proposal	Essential	Dec 2017 and ongoing	Meeting and as per EPA process.
20	PCAB	Tas State Marine Environmental approval	Concept approval and assessment	Nov 2017 and ongoing	Meetings and correspondent
21	Macquarie Franklin Sarah Jones	Water suitability use compliance consultant	Compliance to reuse water guidelines and IEMP	By the end on 2017	Ongoing consultation.
22	Allurabn Planning - Frazer Read	Planner	Complex process	Aug 2107 and ongoing	Ongoing consultation
23	Subsea Access	Construction Diver	Sensitive and environmentally complaint sub surface construction	During construction period and planning advice	Ongoing consultation

			compliance		
24	Other Potential water users	Potential agricultural beneficiaries	Economy and increase irrigation for agricultural purposes.	Upon final concept proposal	Meetings and agreements to concept
25	Tas Irrigation	Support of concept	IT have done this before.	Oct 2017 and ongoing	Meeting and correspondence
26	pipeline route private freehold landowners	Agreement to pipeline proposed route	Support / Compliance and understanding	ongoing	Contract
27	Geo-Environmental Solutions (GES) JP cummings - geology	Geotechnical consultation	Planning requirements.	Dec 2018	Report

Under the approvals process the general public will be notified of the development and given an opportunity to view the proposal and comment.

7. Physical Environment

The physical environment along the 10 km length and vicinity of the pipeline is characterised by the Derwent River and the existing road reserves - predominately the South Arm Road.

The proposal is best viewed via this Tas List Maps link. *Source: annotated from theLIST*

<https://maps.thelist.tas.gov.au/listmap/app/list/map?bookmarkId=228950#.Wi-GUkT9FZs.email>

Land use and other applicable layers can be turned on or off on the RHS as required.

8. Key Environmental Issues Associated with the Proposal

The likely environmental issues associated with the proposal are considered in the following table:

Summary of threatened marine communities and species

Listing				
	EPBC Act	TSP Act	NVA findings	EPBC PMST findings
Australian grayling (<i>Prototroctes maraena</i>)	Vulnerable	Vulnerable	Based on range boundaries; within 5,000 m	Species or species habitat known to occur within area
Spotted Handfish (<i>Brachionichthys hirsutus</i>)	Critically Endangered	Endangered	Based on range boundaries; within 500 m. Verified records within 5,000 m	Species or species habitat known to occur within area
Red handfish (<i>Thymichthys politus</i>)	Critically endangered	Endangered	-	Species or species habitat may occur within area
Southern right whale (<i>Eubalaena australis</i>)	Endangered	Endangered	Verified record within 5,000 m	Breeding likely to occur within area
Humpback whale (<i>Megaptera novaengliae</i>)	Vulnerable	Endangered	Verified record within 5,000 m	Foraging, feeding or related behaviour known to occur within area
Blue whale (<i>Balaenoptera musculus</i>)	Endangered	Endangered	-	Species or species habitat likely to occur within area
White shark, Great White Shark (<i>Carcharodon carcharias</i>)	Vulnerable	Vulnerable	-	Species or species habitat known to occur within area
Gunn's screw shell	-	Vulnerable	Verified record within	-

<i>(Gazameda gunnii)</i>			5,000 m	
Tasmanian live-bearing seastar <i>(Parvulastra vivipara)</i>	Vulnerable	Vulnerable	-	Species or species habitat may occur within area
Giant kelp marine forests of South East Australia <i>(Macrocystis pyrifera)</i>	Endangered	Endangered	-	Community likely to occur within area
Subtropical and temperate coastal saltmarsh	Vulnerable	Endangered	-	Community likely to occur within area

Component	Description and Management
Use of water	<p>The Arm End site is eminently suitable for recycled water irrigation. The site is currently heavily infested with environmental weeds and the Arm End Public Recreation Reserve development offers a great opportunity to rehabilitate the land...</p> <p>Decisions are required in regard to the preferred strategy for options for managing the public health risk associated with recycled water irrigation.</p>
Terrestrial (HDD)	<p>Directional drilling, commonly called horizontal directional drilling or HDD, is a steerable trenchless method of installing underground pipelines with minimal impact on the surrounding environment .</p> <p>Directional drilling is suitable for a variety of soil conditions.</p> <p>Directional drilling is typically used to provide less traffic disruption, lower cost, deeper and/or longer installation, no access pit, shorter completion times, directional capabilities, and environmental management.</p>

9. Proposed legislative approval summary

Consultation and services from qualified professionals will be compiled and produced as the planning approval process demands.

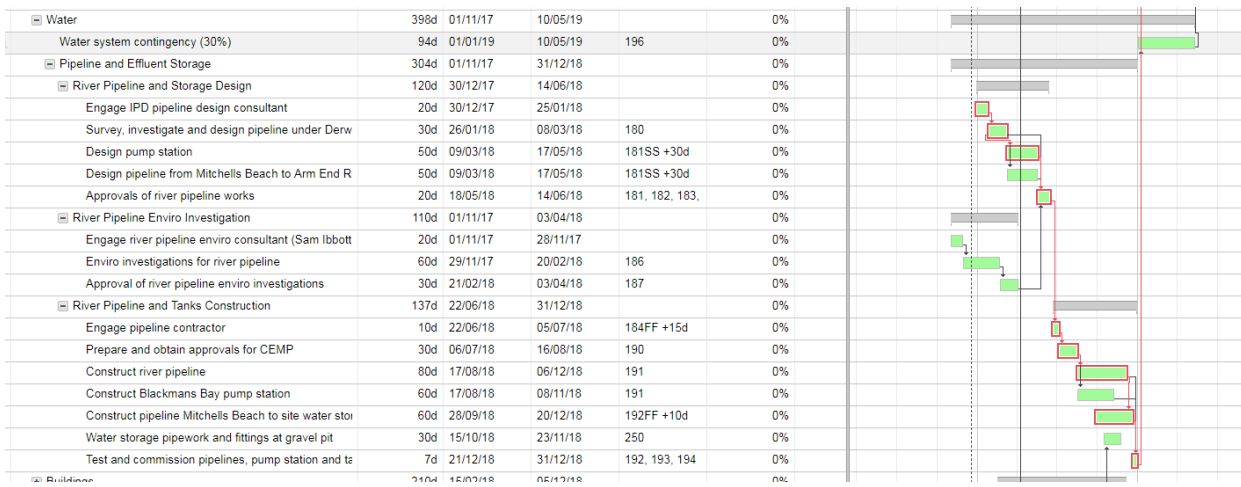
The approval process would be as follows

1. Consultation with Clarence City Council, Environment Protection Authority and Kingborough Council;
2. Consultation with Crown Land Services and Parks and Wildlife;
3. Application for a desktop assessment with Aboriginal Heritage Tasmania;
4. Submit Notice of intent to EPA for pipeline and water reuse scheme;
 - EPA confirm class of assessment (assume Level 2B) issue project specific guidelines for preparation of the DPEMP;
5. Licence application to Crown Land Services;
6. Crown land consent to lodge Notice of Intent;
7. Draft DPEMP and submit to EPA for informal review;
8. Update DPEMP following EPA feedback;
9. Finalise DPEMP and lodge with Crown Land Services
10. Kingborough - planning application for land owners consents;
11. Lodge DPEMP with Clarence Council. Council refer to EPA;
12. Lodge application for planning permit with Kingborough Council;
 - Kingborough Council advertise for 28 days and then refer any representations to EPA;
 - EPA confirm whether any additional responses/ information required of the applicant;
 - EPA Board issue decision and conditions and forward to Kingborough Council;
13. Kingborough Council consider application and include EPA conditions on permit;
14. Lodge application for planning permit with Clarence Council
 - Clarence Council advertise for 28 days and then refer any representations to EPA;
 - EPA confirm whether any additional responses/ information required of the applicant;
 - EPA Board issue decision and conditions and forward to Clarence Council;

15. Clarence Council consider application and include EPA conditions on permit;
16. Prepare detailed information to address permit conditions for Council and EPA approval to commence works;
17. Application for works to CLS including the above permit condition information and EPA and Council endorsements;
18. Crown Land issue Licence for execution and provision of insurances; and
19. Crown Land & Council's issue consent to commence work.
20. Construction start project phase.

10. Proposed Timetable

The proponent intends to lodge for assessment with the EPA and a subsequent Development Application to authority stakeholders as soon as possible and seek approval for construction of the pipeline proposal in readiness and aligned with the Arm End construction period.



This NOTICE OF INTENT has been prepared for:

The Chairperson

Board of the Environment Protection Authority

GPO Box 1550

Hobart TAS 7001

11. Appendix A –

- Arm End Project Master Plan.

12. Appendix B –



PROJECT NOTE

To:	Craig Ferguson	From:	Dr Lee Peterson, Sarah Jones
Date:	Monday, 25 September 2017	Pages:	1 of 8
Project Code:	21_MARYAI_ARMEND	Note Ref:	Final version
Re:	Advice on suitability of recycled water irrigation on the proposed Arm End Golf Course	CC:	

13. Appendix C -

ENVIRONMENTAL ASSESSMENT OF A PROPOSED PIPELINE ROUTE BETWEEN BLACKMANS BAY AND SOUTH ARM, TASMANIA



Report to

Arm End Public Recreation Reserve

October 2017

