shire of Ashburton
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Business Case

Pilbara Regional Waste Management Facility
Trading Undertaking - Operator

February 2021

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1. Organisation Details

Organisation	Shire of Ashburton
Organisation Type	Local Government
Core Business	Provision of services to local communities and ratepayers
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2. Executive Summary

The Shire of Ashburton (the Shire) is tendering for a suitably experienced Operator to operate the Pilbara Regional Waste Management Facility (PRWMF), as well as potentially providing a number of discretionary waste management services (including collection services and providing management of other waste infrastructure).

The rapid increase in industrial development and associated growth within the Shire and the Pilbara Region has resulted in a significant increase in the volume of waste generated. The complex and hazardous waste materials generated from mining and gas developments such as the Wheatstone and Macedon projects present challenges to current waste management infrastructure. As a result, the concept of a modern integrated waste management facility situated within Onslow that can accommodate municipal and hazardous materials from both Onslow and the broader Pilbara Region was born.

The Class IV PRWMF was designed and is constructed to Best Practice Standards and will provide a range of waste management services including sustainable initiatives such as reuse, recycling and recovery as well as treatment and disposal. The landfill design includes a basal lining system, capping and restoration, leachate collection system, landfill gas management system, supporting infrastructure and equipment.

The PRWMF will deliver a range of economic benefits, social benefits and value for money which include:

- Job creation;
- Supporting the growth of the region;
- Increasing efficiency of the transport system;
- Local opportunities;
- Improved services;
- Indigenous opportunities; and
- Benefits beyond the construction phase.

A number of social benefits were identified which include addressing disadvantage, improved services, community involvement, support of heritage and culture and health benefits.

The PRWMF will fill a critical gap in waste management infrastructure in the Pilbara by providing a facility designed to Best Practice Standards that can cater for the hazardous and problematic wastes generated from industries across the region. Furthermore, the procurement of a suitably experienced Operator will ensure that the PRWMF will be run to best practice standards and minimise the environmental risk during the operational life of the facility.

3. Introduction

In 2009, the Western Australian Government endorsed the commencement of investigations to create a Strategic Industrial Area at Ashburton, 11km south-west of Onslow town. After the successful completion of the investigations, the Ashburton North Strategic Industrial Area (ANSIA) was established in 2011 with the aim of promoting regional development and providing a gas hub to utilise gas fields in the Carnarvon Basin promoting more diverse sources of domestic gas.

Major investment in the resources sector and the expedited growth of the Onslow townsite have put significant pressures on the infrastructure and services within the Onslow and wider region. In fact, in Western Australia there are currently no Class IV Waste Management Facilities outside of Perth. This means that hazardous waste must be transported via road from the Pilbara to Perth (to the Red Hill Waste Management Facility) for disposal, a round trip of between 2,800km and 3,200km.

Development within the Onslow townsite has led to land use conflicts with the former Onslow landfill, which was closed and fully rehabilitated in 2013 at a cost to the Shire of $4.9 million. The waste management services provided by the Shire of Ashburton including collections, recycling and disposal is critical infrastructure and service that has experienced significant pressure.

This pressure has led to the recognition that radical transformation is required to advance the waste management infrastructure and services in the region to cater for the expanding and complex waste materials that will be generated within the region from the advancement of the resource sector.

This transformation must also ensure that these materials are dealt with in an environmentally sound and sustainable manner.

Industrial development within the ANSIA and the associated growth of the Onslow townsite has resulted in a significant increase in relation to the volume of waste generated within the region. More complex and hazardous waste materials are generated from the Wheatstone and Macedon projects which present further challenges. As a result, the concept of a modern integrated waste management facility situated within Onslow catering for municipal and hazardous materials was born.

The delivery of the PRWMF provides a range of waste management services including sustainable initiatives such as reuse, recycling and recovery as well as treatment and disposal. The infrastructure on site includes a Class IV landfill that can cater for the municipal waste generated within the Onslow townsite and all the industrial and hazardous waste generated within the ANSIA and the broader Pilbara. The facility has been sited, designed and operated to the Victorian EPA 2015 Siting, Design, Operation and Rehabilitation of Landfills (Best Practice Landfill Guidelines) to ensure that all potential impacts are managed to appropriate standards. As the Class IV landfill will be the second such facility within WA, with the other in Perth, the PRWMF will cater for hazardous materials from the wider Pilbara, Kimberley and Midwest regions underpinning the continued economic development of these regions.

Prior to completion of the facility construction in February 2021 a competitive Request for Tender procurement process (to engage a suitably experienced and qualified Operator on an alliance agreement model) commenced.

4. PRWMF Need

The following section provides background information on the Shire of Ashburton and the evolving waste management systems within Onslow.

4.1 Shire of Ashburton

The Shire is located within Western Australia's Pilbara region approximately 1,300 kilometres (km) north of Perth in one of the most remote and isolated areas of Australia. With just 11,000 residents (Australian Bureau of Statistics, 2015), the Shire covers an area almost half the size of Victoria (105,647km2) and is the second largest local government in Western Australia, by area. The Shire is renowned for mining, agriculture, fishing and tourism, where visitors come to experience its natural beauty.

The Pilbara region is Western Australia's mining powerhouse and makes a significant contribution to national wealth.

The region's iron ore and liquefied natural gas (LNG) industries are valued at over $70 billion (Department of Regulation Development, 2014) and the Pilbara region was estimated to produce 95% of Australia's iron ore, 70% of Australia's natural gas and 85% of Australia's crude oil and condensate (WA Mineral and Petroleum Statistical, Digest 2010).The Shire has four main population centres, namely Tom Price, Paraburdoo, Onslow and Pannawonica. Onslow is the only coastal town within the Shire and is strategically located for exploitation of oil and gas reserves on the North West Shelf. However, it is also extremely isolated, with Pannawonica, a small mining town of 700 people, over 200km away. The next closest regional centre is Karratha which is 310km northeast of Onslow.

The Pilbara region has experienced significant growth in the last 15 years due to the rapid expansion of the resources industry, in particular in the mining and oil and gas sectors. With deep water access and proximity to off-shore gas reserves, the town of Onslow was selected to support the construction and operation of the ANSIA. As outlined previously, this growth is putting significant pressure on the existing infrastructure and services within the region, including waste management.

4.2 Onslow's Waste Management Infrastructure

Historically, waste disposal operations across regional Western Australia have been undertaken at small local landfill sites situated within close proximity to the regional population centres they service. Generally these facilities have not been sited or constructed to modern Best Practice Standards and therefore have posed a number of environmental and public health risks. The former Onslow landfill was a typical old fashion landfill located on the edge of the townsite that did not comply with modern Best Practice Standards.

Arising from the significant resource sector investment within the ANSIA, the town of Onslow has undergone significant transformation to cater for the rapid growth within the region. This transformation included residential and industrial subdivisions and social infrastructure projects such as roads, wastewater treatment upgrade, potable water supply and a school expansion. This rapid development resulted in land use conflicts with the former Onslow Landfill and the proposed developments, particularly Main Road WA's Onslow Ring Road which was designated to go through the north eastern corner of the landfill site. In addition, Development WA's (formerly Landcorp) Barrarda Estate residential subdivision was to be developed within 100m of the eastern boundary of the landfill. In 2015, the former Onslow Landfill was closed and rehabilitated to Best Practice Standards to facilitate the development.

To ensure that the Shire could continue to provide critical waste management services to its community, while supporting the continued growth of the Onslow region, the Shire delivered a Waste Transfer Station (WTS) 6km from the townsite. All waste materials are accepted at the WTS and consolidated prior to transportation to the Shire's Tom Price landfill, which is a round trip of 850 km. Due to the excessive travel distances the WTS is an interim arrangement until the PRWMF can be developed. Once the PRWMF is operational, it is proposed that the WTS will be converted to a Community Drop Off Facility to minimise travel for residents.

5. PRWMF Overview

The following section provides an overview of the PRWMF including PRWMF summary, PRWMF objectives and PRWMF site.

5.1 PRWMF Summary

The aim of the PRWMF is to develop an integrated facility built to best practice standards that can deliver sustainable resource recovery initiatives and accommodate hazardous wastes. The PRWMF consists of a Class IV Landfill as well as a greenwaste facility, C&D recycling facility, liquid waste facility, asbestos monocell and tyre and rubber monocell. A Class IV landfill is defined in the Landfill Waste Classification and Waste Definitions (Department of Environment Regulation, 1996 as amended 2009) as 'A double-lined landfill with leachate collection, designed to accept contaminated soils and sludges (including encapsulated wastes)'.

It is well understood that the Onslow and Pilbara regions have a need for improved waste management services. BH

The Class IV Landfill will be able to cater for Class IV waste hazardous material generated from these projects and other developments across the Pilbara, the wider Kimberley and Mid-West Regions.

The PRWMF is considered a regionally significant facility as it will be the only facility of its kind in the Pilbara and only the second such facility in the State (the other being Red Hill Waste Management Facility located on the outskirts of Perth). Therefore, the facility will provide the critical waste management service required to support the Onslow community and surrounds economic development of the area including ANSIA. As part of this economic development, the requirement for a Class IV facility was determined necessary in order to provide appropriate waste treatment options close to the generation source of the material.

The PRWMF was completed in mid-February 2021. A procurement process is currently being undertaken to find a suitable and experienced Operator that can manage and operate the PRWMF. The Operator will enter into a Hybrid Alliance Agreement with the Shire to ensure that both parties work together to operate the PRWMF to a Best Practice standard and maximise the profitability of the facility.

5.2 PRWMF Objectives

The PRWMF has the following key objectives:

1. Deliver Sustainable Resource Recovery Initiatives

The PRWMF is an integrated facility that will provide a variety of resource recovery initiatives that will divert waste materials from landfill, including greenwaste, C&D and scrap metal. It is anticipated that these resource recovery initiatives will continue to advance in the future aligning with the State Waste Policy and the Shire's Strategic Waste Management Plan (SWMP). Furthermore, the landfill facility will be constructed and operated to Best Practice Standards to ensure that all disposal undertaken on site is delivered in a sustainable manner.

2. Provide Best Practice Waste Disposal Services

The delivery of a new Waste Management Facility in Onslow will provide local residents, businesses and industries within the region with long-term access to best practice municipal, commercial and hazardous waste disposal services, ensuring public health and environmental issues and risk are managed to appropriate standards. This long-term security for waste disposal facility will support future economic development within the region.

3. Provide Best Practice Regional Hazardous Waste Services

The PRWMF will provide the only Class IV hazardous waste landfill within northern Western Australia to support the globally significant mining and energy industry within this region. Furthermore, the PRWMF will support the continued growth and investment that has significant economic and strategic importance to State and National interests.

5.3 PRWMF Site

The PRWMF will be located on Reserve 53324, being Lot 550 & 551 on Deposited Plan 414367, Onslow Road, Western Australia (the Site). The Site is approximately 36 km south of the town of Onslow, has not been developed and is characterised by low-lying grasses and shrubs. The Site is approximately 435 hectares (ha) in size and the development envelope is approximately 76ha.

6. PRWMF Key Milestones and Timeline

6.1 Construction Procurement

The Shire of Ashburton adhered to Purchasing Policy (FIN12), which commits to procurement policies, which ensure best practice in the purchasing of goods, services and works that align with the principles of transparency, probity and good governance. The Shire of Ashburton is committed to delivering best practice in the purchasing of goods, services and works that align with the principles of value for money, open and fair competition, accountability, risk management and probity and transparency.

The Shire's policy acknowledges the engagement of local and/or regional contractors and suppliers has the following benefits:

- Fosters government and non-government partnerships.
- Demonstrates investment in the community.
- Local suppliers would place considerable value on serving their local community and the benefits associated with it.
- Close proximity makes it far easier to travel to them for supplier development and contract management purposes, as well as for site inspections, which minimises costs.
- The local knowledge of local suppliers means that they are well placed to appreciate and satisfy local preferences - this is particularly relevant where specialised products and services

are concerned.

- Supply chains are generally shorter, leading to greater certainty and predictability of delivery times.

6.2 Construction

Construction of the PRWMF has been completed, with the Construction Quality Assurance and Compliance report to be submitted to the Department of Water and Environmental Regulation (DWER). This will then complete the construction phase of the facility.

6.3 Operations Procurement

This Business Case has been developed to support the Operations Procurement process to maximize the profitability of the PRWMF. The Shire is looking to engage an experienced Operator to realise the potential of the facility, particularly with the type of waste streams and volumes. The treatment and disposal of commercial and industrial waste streams within the region goes beyond the standard 'municipal' operations that are undertaken by Local Governments.

The Shire is outsourcing operation of the PRWMF to provide the following benefits:

- Allows the Operator to have the ability to attract additional tonnes;
- Allows the Operator to also invest into the facility; and
- Provide valuable input into the waste pre-treatment processes, types of waste streams and technologies.

The Shire has entered into a procurement process to select a suitable and experienced Operator to operate the PRWMF, while also including a number of mandatory and discretionary services as part of this process. The Shire will enter into a Waste Services Agreement that aligns with a Hybrid Alliance contact model to maximize the benefits to the Shire. This framework of the Hybrid Alliance contract model would provide the following:

- Establishment of an Alliance board (comprising representatives from the Shire and the Operator) including equal representation from the Shire and the Operator;
- Setting of an annual budget covering the operation and capital investments;
- Financial model would set out the risk/reward scheme including profit shares where applicable;
- Key Performance Indicators to monitor the performance of the Operator;
- Potential for the Operator to further invest into the facility based on their technical expertise; and
- A ramp-up period whereby the Shire would be able to trial the arrangement for a period of 12 months.

The timeline below outlines the key milestones and dates for the PRWMF moving forward.

Main Activities/Milestones	Date
Request for Tender Released	30th Jan 2021
Closing Date for Submissions	12th Mar 2021
Tender Evaluation	TBD
Ordinary Council Meeting	TBD

Following the evaluation of the tenders received, a recommendation will be made to Council before awarding the Contract.

6.4 Operations and Environmental Management Plan

Following the issuing of the licence from the DWER, the PRWMF will be ready for the acceptance of waste. An Operations and Environmental Management Plan (OEMP) has been developed for the PRWMF and will be altered accordingly in consultation with the Operator that is engaged to operate the PRWMF. The OEMP provides a manual for all activities and operations on site, including:

- Waste Acceptance and Handling,
- Environmental Management Measures and Monitoring;

- Infrastructure and Plant Maintenance; and
- Administration and Financial Management.

The operations manual will outline the procedures for the management of the Class IV landfill to ensure that all appropriate techniques to prevent, reduce, control emissions and discharges to the environment and the monitoring and reporting of them are delivered reliably and on a consistent basis.

6.5 Key Activities Summary

Table 2 summarises the key tasks and dates for the PRWMF moving forward.

Table 1: PRWMF Timeline

Main Activities/Milestones	Commencement Period	Completion Period
Operations Procurement	July 2020	Early 2021
Commencement of Operations	Q2 2021	-

7. Policy and Strategy Framework

The following policies and strategies, at the various levels of Government, align with the PRWMF:

- National Waste Policy;
- Western Australian Waste Strategy;
- Pilbara Regional Investment Blueprint;
- Pilbara Planning and Infrastructure Framework;
- Regional Development Australia Pilbara - Investment Prospectus;
- Shire of Ashburton 10 Year Community Strategic Plan 2017-2027;
- Ashburton Strategic Waste Management Plan; and
- Onslow Townsite Strategy.

7.1 Policy Summary

The following table summarises the PRWMF-relevant policies detailed in the sections above.

Table 2: Summary of relevant policies

Policy Document	PRWMF Alignment with Objectives
National Waste Policy	▪ To support improved waste management and re-use of waste in regional, remote and Indigenous communities; ▪ Local government plays an important role in managing and operating landfill sites; ▪ Local governments 'Form cooperative groups to work together on waste management issues of regional significance'; and ▪ Improved management of landfill sites.
Western Australian Waste Strategy: "Creating the Right Environment"	▪ Providing 'best practice and continuous improvement' within waste management services; ▪ Showing the importance of effective partnerships between the community, local government including regional local governments, State Government and industry; ▪ Improving LGA performance against best practice outcomes relevant to their local circumstances; and ▪ Improving landfill practices and incentives to reduce waste to landfill.
Pilbara Regional Investment Blueprint	▪ Investment in land access and economic infrastructure to overcome barriers to development in the Region.
Pilbara Planning and Infrastructure Framework (2012)	▪ Framework provides a context for the preparation of local planning strategies by local authorities. The Framework sets a number of Utility Infrastructure Priorities for 2015 with regard to waste management in the region.
Pilbara Regional Development Australia - Investment Prospectus (2012)	▪ The document outlines major investment opportunities in the region including waste management.
Shire of Ashburton 10 Year Community Strategic Plan 2017-2027	▪ Provide and maintain affordable infrastructure that serves the current and future needs of the community, environment, industry and business. ▪ Actively advocate for the effective supply of utilities and services that meet commercial, industrial and retail needs. ▪ Promote and encourage protection of natural assets and sustainable use of resources and utilities. ▪ Encourage and implement improved waste minimisation practices, including proactive

Policy Document	PRWMF Alignment with Objectives
	approaches to recycling and reuse. ▪ Collaborate with industry and government to target their investment in stimulating more diversified business and economic development to benefit communities and the local economy.
Ashburton Strategic Waste Management Plan (2015)	▪ The SWMP identifies a variety of recycling and resource recovery initiatives that should be developed for Onslow which have been included within the PRWMF. In addition, the SWMP identified the requirement for a new landfill and Class IV facility to cater for the disposal requirement of the region.
Onslow Townsite Strategy (2011)	▪ Provide utility infrastructure in a coordinated, cost effective and timely manner; ▪ Provide community facilities and services in a coordinated and timely manner; and ▪ Ensure that resource and associated companies associated with Ashburton North utilise Onslow for operational purposes.

8. Needs Analysis

The following sections outlines the need for the PRWMF by considering:

- Waste Volumes;
- Waste Projections;
- Regional Waste Generators; and
- Regional need for a Class IV Facility.

8.1 Waste Volumes

Waste volumes were required to ensure that the proposed WMF could cater for current and future demands. Traditionally, two methods are used to estimate future waste generation quantities. Population growth rates combined with per capita waste generation rates are utilised for Municipal Solid Waste (MSW). Forecasting in economic and construction activities are generally utilised to project future Commercial and Industrial (C&I) and Construction and Demolition (C&D) waste quantities.

Given its geographical isolation, relatively small population and typically large size of resource development projects in Onslow, population is strongly influenced by growth in the resources sector. Most of the population is involved directly or indirectly in the resources industry. Such growth also results in increases in construction activity, generating C&D waste.

The Original Feasibility Study used waste data projections developed through the Pilbara Waste Data Study and the Pilbara Waste Projections Project. The Revised Feasibility Study drew upon updated waste generator data through a targeted engagement exercise to gather up to date waste data from Onslow and the wider Pilbara region. Updated waste data was considered to be required due to a reduction in growth rates forecast for the area, reduction in overall waste generation, the economic downturn in the resources sector and reduction in capital works costs.

Up to date Class IV waste data for the Region was also gathered as part of the Revised Feasibility Study. This was also compared to previously published data from the Pilbara Waste Data Study was utilised for Class IV (hazardous) materials. Utilising these data sets, high and low current volumes of Class IV was generated.

8.2 Waste Projections

The waste tonnage figures were utilised to determine waste projections. Waste projections are required to ensure that the proposed WMF can cater for future demand. Population projections assist to determine per capita waste generation with forecasting in economic and construction activities utilised to project future C&I and C&D waste quantities.

Population projections data was sourced from the Pilbara Development Commission's (PDC) report, Assessment of Accommodation Need in Tom Price, Onslow and Paraburdoo: Final Report which was published in 2015 and included a High growth and Low growth scenario. Conservative linear growth rates of 0% for the low scenario and 1% for the high scenario up to 2039 were adopted. In September 2016, PDC advised they are further revising these projections, as they were considered too conservative. However, these were not available prior to completion of this report and therefore have not been included in the projections.

Table 4: Annual Average Growth rates for population

Scenario	Average Annual Growth Rate	
	Pilbara Development Commission (2015) 2015-2024	2025-2039
Low	-3%	0%
High	0%	1%

Onslow's projected waste generation volumes up to 2039 under the High growth scenario indicates incremental growth around 2018-19 and 2024-25. There were no published population projections data available after 2024. Therefore, population and associated waste generation levels were assumed on the High growth scenario with 1% growth from 2024 to 2039. This scenario assumes that expansion of existing projects, which would potentially result in increased population and increases in overall waste generation. Other development projects anticipated in the area have not be accounted for due to a lack of available data. It is pertinent that the High growth waste projections should be considered to be conservative.

The Onslow population would also be likely to increase as a result of these developments, which would result in an increase in the Shire's waste volumes above the currently projected levels.

The tonnages for Class III and IV waste over the estimated lifespan of the Facility are shown in **Table 5.**

Table 5: Total estimated waste accepted over lifespan of the PRWMF

Waste Category	Low growth scenario	High growth scenario
Class III	105,643	138,857
Class IV	76,791	159,623
Total	**182,434**	**298,481**

8.3 Waste Generators

Waste Generators in the Onslow area and wider Pilbara region can be grouped into three main categories:

- Local Governments;
- Resource Companies; and
- Private Waste Service Providers.

The significant growth in the Pilbara region in the last 15 years has seen a rapid expansion of the resources industry, in particular in the mining and oil and gas sectors.

The PRWMF will have the capacity to cater for the hazardous materials that are generated from these industries including Class IV and Potentially Class V waste materials.

8.4 Regional Need for Class IV and Hazardous Facility

The WA Waste Strategy acknowledges that remote areas in WA face challenges in regards to managing waste and that there is a current lack of infrastructure. The strategy also stresses that waste infrastructure are required particularly in the Pilbara. The need for a Class IV facility is also highlighted within the Pilbara Planning Infrastructure Framework that emphasized the need to identify new waste management facilities or upgrade existing waste management facilities within the region. The Regional Development Australia Investment Prospectus also outlined that one of the major investment opportunities in the region included the establishment of a Class IV waste management and hazardous waste disposal facility. The Regional Development Australia recognized the establishment of a waste facility that caters for hazardous materials was critical to the long-term growth of the region.

The Waste Data Study for the Pilbara Region (the Waste Data Study) established a Pilbara Waste Projections Model to consider what was needed to improve waste management in the Pilbara. The outcomes of the Waste Data Study and modelling were then analysed in 2014 during a Pilbara

Priorities Assessment to establish priorities that warranted further attention by the PDC and Waste Authority. The priorities assessed included specific waste streams, establishment of waste infrastructure or development of markets. One of the key opportunities that were identified in the study included the potential for infrastructure opportunities such as the improvement of existing facilities or establishment of new facilities in the Pilbara.

The rapid expansion of the resources industry within the region, particularly in the mining and oil and gas sectors, will result in an increase in waste generation as highlighted within the high growth scenario in the PDC report. As mentioned previously there are developments within the region that cannot be accounted for due to a lack of available data. As mines close in the region, a need presents for the management of hazardous and problematic wastes.

These hazardous and problematic waste streams may include timber railway sleepers, rubber, waste oil, contaminated soils, wooden pallets oil contaminated solids and oil/water mixtures. Due to the lack of appropriate hazardous waste treatment options within Western Australia to cater for these materials, it is widely acknowledged that there is a significant stockpile of these materials on a variety of mine sites across the State particularly in the Pilbara. Alternatively, hazardous waste must be transported via road from the Pilbara to Perth (to the Red Hill Waste Management Facility) for disposal, a round trip of between 2,800km and 3,200km. The cost to transport this hazardous waste to Perth is a major barrier in terms of logistics and financial viability and creates huge inefficiencies in the waste management systems.

The PRWMF includes a Class IV landfill which will be able to provide secure, best practice disposal options for the treatment of these materials. It is common practice that Class V materials can also be accepted at Class IV landfills with appropriate methods of pre-treatment including concrete encapsulation. The PRWMF will have the opportunity of providing a greater level of hazardous waste services to the surrounding industrial and resources sectors.

9. Financial Assessment

The PRWMF is an integrated facility consists of the following:

- Class IV Landfill;
- Greenwaste Recycling;
- C&D Recycling;
- Scrap Metal Recycling;
- Liquid Waste; and
- Tyre Facility.

The following section details the costs associated with constructing and operating the PRWMF.

9.1 Capital Cost

The capital costs of the facility were prepared following completion of the conceptual design, from which the bills of quantities of the landfill and each of the Ancillary Waste Activities, with the total costs for design and construction being $13,000,000 (yet to be finalised at the time of report writing).

A lifetime model was produced to determine the capital costs over the whole life of the facility. This model outlines all financial stages of the facility from construction to closing of the landfill. The capital costs for the PRWMF are shown below in **Table 6**, as well as Total Capital Costs over the 20 years of life currently modelled.

The procurement of machinery and equipment required for the PRWMF operations prior to operations being initiated is also included within the capital costs. Amortisation of this plant and equipment is considered as part of the operating costs.

Table 6: Total Capital Costs

	Capital Cost	Estimated Total Capital Cost
	Year 0 (2019)	Lifetime (2020 - 2041)
Estimated Total Cost	**$13,000,000**	**$32,600,000**

9.1.1 Class IV Landfill

The preferred option to accommodate Class III and Class IV type waste over the life of the PRWMF requires the development of a landfill to Class IV standard. The capital costs for the Class IV landfill facility represent all expenses associated with the establishment of physical infrastructure items such as earthworks, road works and buildings, landfill lining, leachate collection, surface water management, pond lining and the materials required for restoration to close the landfill. The financial model for the landfill has been based on the volumetric material requirements over its lifespan.

The Associated Site Infrastructure and Ancillary Waste Activities costs have also been included. The total cost for all capital works during the 21 years of operational life of the facility is approximately $33 million.

9.2 Operational Costs

Operational cost estimates have also been prepared for the operations of the PRWMF.

The operational cost estimates were generated drawing upon a range of datasets including operational budgets, previous similar projects and general industry knowledge and experience. This included obtaining costs for:

- Labour;
- Consumables;
- Machinery and Vehicle amortisation;
- Utility Services; and
- Additional operating expenditure.

The additional operating expenditure is inclusive of the general maintenance and repair costs required to keep this facility operational. This includes such activities as annual mulching in the Green waste processing area and the crushing and screening performed every 5 years at the C&D recycling facility.

The key plant items required have been included with the capital cost items. However, amortisation was included within the operational costs to cover the replacement cost of the item over a designated period. In this case, the amortisation has been calculated differently for each item of machinery or vehicle depending on operational activities and expected life. **Table 8** provides details of the approach to calculating the amortisation for the machinery and vehicles, which are considered conservative.

The operational cost of the facility will be determined through the Operations Procurement Process. Tenderers will be assessed on tendered rates for resourcing and plant, and will be required to prepare a draft operational budget for the facility. These rates will provide the Shire with visibility on the operational costs moving forward and will allow the flexibility of increasing resourcing or plant as required into the future.

The Operator will work closely with the Shire during an initial 12-24 month ramp-up period, whereby the Shire will have the ability to exit the Agreement if it finds that the arrangement does not meet the Shire's objectives. During this ramp-up period, the Operator will submit an operational budget to be reviewed and approved by the Alliance Board. The Operational Budget will be reviewed annually.

9.3 Revenue Streams

The PRWMF presents a unique opportunity in that it is the only Class IV landfill facility in the North West region of WA, with the only other Class IV landfill within WA located in the Perth Metro area. Part of the procurement process is selecting an experienced Operator that can demonstrate its ability to develop a marketing plan, attract additional waste to the facility and provide innovative waste processing and treatment solutions to maximize the use of the facility. Future economic

development in the North West region of WA would also be met with the waste management services available at the PRWMF.

It is anticipated that once the PRWMF is operational and the Operator will begin to attract additional tonnes to the facility. Gate fees will be developed and agreed by the Alliance Board for each of the waste streams accepted at the PRWMF, and reviewed annually.

9.3.1 Revenue

Revenue will be collected by the Operator for the processing of waste or for the sale of commodities at the PRWMF and allocated between the Operator and the Shire.

Revenue includes:

- Gate fees;
- Amounts paid to the Operator under contracts;
- Revenue from the sale of commodities;
- Any other money paid to the Operator in relation to waste processing at the PRWMF; and
- Any other money paid to the Shire in relation to waste processing at the PRWMF.

The Operator must collect revenue as part of the performance under the Agreement. The Operator must keep detailed records of revenue collected and amounts deposits including the corresponding weighbridge entries.

Revenue will be allocated for each quarter upon agreement of costs and allocation by the Alliance Board. Residual Revenue (Revenue for that Quarter – [Operator Costs for that Quarter + Shire Costs for that Quarter]) above $0 will be calculated as follows:

- Operator Residual Revenue = Residual Monies (determined in accordance with the table below) Percentage x Residual Revenue x KPI Multiplier (calculated by adding the KPI Score for each KPI relating to Mandatory Services and then adding 100)
- Shire Residual Revenue = Residual Revenue – Operator Residual Revenue

Residual Revenue for the Quarter	**RM Percentage**
$0.00 - $500,000.00	10%
$500,001.00 - $1,000,000.00	15%
$1,000,001.00 and above	20%

Revenue generated from operations will be used for ongoing capital investment in the facility, site remediation, community development and contribute to the Shire's Strategic Community Plan.

10. PRWMF Benefits

The benefits associated with the PRWMF include:

- Economic benefits;
- Social benefits;
- Value for money; and
- PRWMF delivery.

The following section provides a detailed overview of how the PRWMF addresses each.

10.1 Economic Benefits

There are significant Economic benefits associated within the PRWMF, which will not only be realised within Onslow but also the surrounding regions including the Pilbara, Kimberley and the Mid-West. The key economic benefits can be categorises as:

- Revenue;
- Job creation;
- Supporting the growth of the region;
- Increasing efficiency of the transport system;
- Local opportunities;
- Improved services;
- Indigenous opportunities; and
- Benefits beyond the construction phase.

These are discussed in detail within the following sections.

10.1.1 Job Creation

There are a variety of employment opportunities that are directly and indirectly associated with the successful completion of the PRWMF. The two key direct job creation opportunities that the PRWMF will deliver include the construction and operational phases.

The overall capital cost of the facility over the 20 years currently modelled is $33M. Using Australian Bureau of Statistics (ABS) National Accounts: Inputs-Outputs data show that for every $1 million spent on construction gives rise to nine jobs in the construction industry, indicating a total of 297 jobs will be created across the initial 20 years of asset life. As per normal financial modelling works for landfill facilities, the planning has only been undertaken for 20 years. However, it is widely accepted that the PRWMF will continue to operate well beyond this term and potentially for 100 years.

If so, over the next 100 years, the actual construction employment opportunities could be approximately 1,500.

The most significant capital investment for the PRWMF has been the Initial Capital Costs for establishing the site. This was approximately to $13M, which presents 117 construction job opportunities. Over the life of the facility new cells will be constructed and old cells capped and rehabilitated. Therefore, the capital costs of the facility are spread across its operational life which could be up to 100 years. New cell development and capping will take place approximately 2-3 years and equates to approximately $4M. This future capital investment every 2-3 years represent long term reoccurring employment opportunities of approximately 36 jobs.

The operation of the PRWMF will be determined through the Operations Procurement Process and approved by the Alliance Board. Previous financial modelling undertaken for the facility estimated labour costs of approximately $500,000 per annum. Spread over the current 20 years, this equates to in excess of $10M in salaries or in excess of $50M if operations continue for 100 years. Such full time employment will provide long-term opportunities to the Onslow community.

There are also a range of indirect job opportunities that the facility will bring to the region mainly focused around the operation of the facility and supporting industries. Excluding labour, the operational expenditure of the facility was previously estimated to be in excess of $1M per annum, which is made up of goods and services, required to support the operation of the facility. These can range from the supply and maintenance of plant and machinery, supply of Personal Protection Equipment (PPE) to the provision of specialist services such as greenwaste mulching or crushing and screening of building materials to generate recycled building products.

It is anticipated that the vast majority of these good and services will be provided by suppliers within Onslow or the Pilbara region presenting attractive long term contract opportunities. The PRWMF will therefore also support employment within such support industries.

10.1.2 Supporting Growth of the Region

In relation to the Onslow townsite, the PRWMF will provide critical waste management services in an efficient and long-term sustainable manner. Following on from the development of the ANSIA, the Onslow townsite is forecasted to undergo substantial domestic and industrial development in the coming years. Aligning with this forecasted growth, a range of domestic and industrial subdivision projects have been delivered or are currently in the planning phase to ensure that the growth potential for Onslow Townsite can be realised and delivered. The PRWMF will support this development by providing best practice waste management services and facilities locally and therefore at a reasonable price.

The ANSIA is a nationally important resource area, which has been developed to support the Oil and Gas activities within the Indian Ocean. The PRWMF will support the continued growth of the ANSIA through the provision of both commercial and hazardous waste services locally. Currently Oil and Gas companies are transporting their waste materials significant distances to either Perth or other regional centres such as Karratha or Geraldton for treatment. This is resulting in significant costs for the treatment of their waste materials. The provision of local best practice solutions will provide Oil and Gas projects with more efficient and cost effective waste treatment opportunities, which will aid their future growth.

The PRWMF will also support the future growth of additional resource projects within the ANSIA and wider Onslow region. The PRWMF is proposed to include only the second Class IV landfill within Western Australia.

The only other Class IV facility is a landfill cell at Red Hill, which is currently not accepting waste due to operational issues. This has presented significant problems to the Class IV waste generators, as there are currently no treatment option available to them. It is recognised that substantial volumes of Class IV materials is therefore being stockpiled at resource and mine sites across the State including the Pilbara, Kimberley and Mid-West which is presenting significant challenges to the operators of these sites.

There is also the potential that the Class IV landfill cell could potentially accept Class V waste materials through concrete encapsulation prior to disposal. Following consultation with key waste generators and private waste services providers, it is understood that appropriate treatment options for Class V waste is also a significant challenge to resource and mining companies across the State as there is currently only one such facility owned by the State Government which is only operated on a campaign basis and has not been opened by the State Government for a number of years. Similar to the Class IV materials, there is a range of Class V waste materials stockpiled and stored across resource and mining sites across the State including the Pilbara, Kimberley and Mid-West.

The successful delivery of the PRWMF and the Class IV landfill will ensure that appropriate disposal opportunities are provided within the Pilbara for the currently problematic materials. This will ensure that long term, relatively local and cost effective treatment options are provided to these waste generators. This in turn will help support the continued operation and future growth of the resources sector across the Pilbara and further afield including the Kimberly and Mid-West.

10.1.3 Local Opportunities

The PRWMF will provide new job opportunities for the Town of Onslow as well as the wider region. New job opportunities will be generated throughout both the construction and operational stages of the PRWMF.

The operation and ongoing maintenance of the PRWMF will provide opportunities for training and knowledge creation. The PRWMF will provide a training platform for the local workforce, providing job opportunities outside of the resource industry, which can be cyclical in nature. Direct jobs opportunities will arise from the construction and operation of the PRWMF.

There will also be jobs created indirectly associated with the PRWMF through existing and, potentially, future businesses. Skills and services required will include civil contracting, environmental monitoring and rehabilitation, materials handling, administration, accounting, equipment and earthworks suppliers and operators.

New and existing suppliers in the Onslow area will have the opportunity to tender for contracts to assist with the construction as well the operation and maintenance aspects of the PRWMF. This requirement will be ongoing through the construction of new landfill cells and capping of old landfill cells throughout the 20 year lifespan.

The delivery of the PRWMF will provide work opportunities for skilled and non-skilled workers providing a diversity of employment opportunities, training and knowledge creation. It is the provision of unskilled jobs that addresses disadvantage for many, and once employed, this will open up the opportunity for training and support. For skilled staff, the facility will provide opportunities for some of the resident workers who no longer have employment in the resource industry due to the economic downturn. The facility directly addresses disadvantage in the area by providing real, long-term sustainable jobs.

10.1.4 Improved Services

The Class IV Facility will be designed and constructed to Best Practice Standards as per the EPAs Best Practice Management Guidelines. The PRWMF will improve the waste management infrastructure for the Town of Onslow as well as the wider Pilbara Region. The only other WMF constructed to the same standard is located in Perth. The establishment of this facility will fill a vital gap in the current waste infrastructure identified by the Shire, legislative policies and strategies, the

Department of Jobs, Tourism, Science and Innovation (JTSI) and significant waste generators within the region.

The provision of a Class IV facility will allow for the acceptance of Class III and Class IV waste and the capacity to potentially also accept Class V wastes. The facility will be able to accept the hazardous wastes generated through from major. The provision of the Class IV facility located within the Shire will allow for the local management of waste and therefore reducing costs associated with the transportation of waste. The PRWMF will provide waste management services and security to businesses and the community for the foreseeable future.

The PRWMF will include a greenwaste facility, C&D waste recycling facility, liquid waste facility, and tyres and rubber monocell. The PRWMF will increase environmental awareness and encourage recycling initiatives and more sustainable practices for the treatment of these materials.

The Western Australian Government is due to introduce a Container Deposit Scheme in 2020. The PRWMF may be able to provide a collection depot for the Scheme. The Scheme will provide further opportunities for community involvement and facilitate local involvement in shaping their local area into a more attractive place to live. In this regard, the PRWMF aligns with the WA Waste Strategy, showing the importance of effective partnerships between the community and government including regional local governments, State Government and, industry.

10.1.5 Indigenous Opportunities

The PRWMF will provide a range of Indigenous opportunities including:

- Employment and training;
- Construction Contracts; and
- Goods and Service Contracts

A range of employment opportunities will arise from the successful delivery of the facility including during the construction and operational phases. The operational phase will require six operational staff including both skilled and unskilled positions. A key component of the waste handling activities

is machinery and plant operations, which are similar to large earthmoving plant. There are number of successful examples where waste management and landfill facilities have provided training opportunities to employees for machinery and plant qualifications.

There will also be contracting opportunities for Indigenous organisations to provide services to the Shire during the construction and operational phase of the facility. As outlined previously, the PRWMF will represent a $33 million capital investment within the region over a period of 20 years. Initially there will be a $13 million contract for the construction of the facility and then every 2-3 years were will be further capital construction contracts in the order of $4 million for the development of new cells and the capping of previous cells. These ongoing contracts present a significant opportunity to local contractors as well as indigenous corporations. Furthermore, it is anticipated that there will be approximately $1 million worth of goods and services that will be required for the operation of the site, which will also present an opportunity to local indigenous corporations.

10.1.6 Benefits

The PRWMF will provide Onslow, the Pilbara and the wider north Western Australia region with access and security in relation to long term best practice waste management services and infrastructure. This will be a significant improvement in relation to hazardous waste generators within the region that need that either have to transport such materials significant distances for treatment or else no such treatment options are viable and these materials are stockpiled on site. The provision of best practice hazardous waste treatment service will ensure the continued growth of this resource region of national importance.

Another key long-term economic benefit of the PRWMF is the long-term employment opportunities. The operation of the facility will directly employ full time staff, which provide ongoing local employment. In addition, there will be large capital works required every 2-3 years valued at approximately $4 million, which again will provide long-term employment opportunities.

The Shire will require the services of a number of additional suppliers throughout the life of the PRWMF, which will provide further business opportunities within the Onslow townsite and the

broader Pilbara region. As outlined above the PRWMF has significant long-term economic benefits well beyond the initial construction phase.

10.2 Social Benefits

The social benefits that the PRWMF will deliver to the region during and beyond the construction phase are:

- Addressing Disadvantage; and
- Indirect Health Benefits.

Each of these social benefits is discussed in the following sub sections.

10.2.1 Addressing Disadvantage

The PRWMF will help to address disadvantage by providing job opportunities within the local community. Defining disadvantage in the Pilbara is particularly complex as, statistically, the region is considered well off due to the high pay of workers in the resources sector. However, there is a high reliance on jobs in the resources sector, which can significantly affect resource-reliant towns in the Shire when projects move from construction to operation phase, as generally a smaller workforce is needed during operation. However, there have also been significant job losses due to the downturn in the recent global commodity prices. The Shire is well aware that this disadvantage is not unique to the region however; the Pilbara's particular disadvantage is its isolation with so many workers in this remote area having been made redundant.

Both the construction and operational roles would require skilled and unskilled workers providing a diversity of employment opportunities, training and knowledge creation. It is the provision of unskilled jobs that addresses disadvantage for many, and once employed, this will open up the opportunity for training and support.

For skilled staff, the facility will provide opportunities for some of the resident workers who no longer have employment in the resource industry due to the economic downturn. The way this facility

directly addresses the disadvantage is by providing real, long-term sustainable jobs. Jobs and employment from a $37.4 million total investment is good for the region and good for addressing disadvantage.

10.2.2 Health Benefits

Population health profiling and needs assessment carried out by the Kimberley-Pilbara Medicare Local provides a more accurate summary of the 'real' disadvantage of the region. It found that the Kimberley-Pilbara population has poor health status and this, in part, reflects the very low socio-economic status (SES) of the region, the presence of lifestyle risk factors for, and high incidence of, chronic disease and lower life expectancy when compared with other areas of Australia. These health challenges are compounded by the remoteness of the northern parts of Western Australia and extreme disadvantage of some communities within the region. Data indicates that access to services is challenging. The PRWMF may assist to indirectly improve health through increased community involvement, volunteering opportunities and the strengthening of community institutions. A key health benefit that the PRWMF will provide is a the provision of Best Practice Waste treatment and disposal service which will mitigate the potential for health issues arising from poor waste management practices which luckily are a thing of the past within Australia.

10.3 Value for Money

The Shire engaged the Centre for International Economics (CIE) to undertake a detailed Business Case and Benefit Cost Analysis in 2015. CIE's study analysed the total benefits of the PRWMF assessed over an operating life of 20 years from the start of facility operation. The report concluded that using a real discount rate of 7%, the total project generates a Net Present Value from a Net Cash Flow of approximately $177 million with a benefit cost ratio of 4.27, indicating that the substantial investment in the facility would return greater overall benefits. (Source: CIE calculations). This is a 'win-win' in every sense.

The PRWMF provides value for money through leveraging additional partnerships. As the Shire is leading the delivery of the PRWMF , all procurement that will be required for the PRWMF will be

subject to Local Government procurement rules as specified within the *Local Government Act 1995*, thus ensuring that all significant procurement undertaken by Local Governments is undertaken through a competitive process ensuring that value for money is obtained. This is reflected within the Shire's Procurement Policy that specifies the internal processes that govern procurement. A key principle of this Policy is obtaining Value for Money. In addition, the Shire's Buy Local-Regional Price Preference Policy assists with direct investment with the Onslow and Pilbara region.

10.4 Hybrid Alliance Management

The key factors to be assessed in relation to the Operator Management criteria include:

- Experience Managing similar Agreements;
- Access to people with right Skills and Experience;
- Access to Technical Resources; and
- Operate and maintain the infrastructure.

10.4.1 Management

The completed PRWMF will be operated by a suitably qualified Operator as a result of a comprehensive Request for Tender procurement process. The terms and conditions for operations will be set out in the Hybrid Alliance Contract. This Agreement will be managed by a Shire Officer, and overseen by both the Infrastructure Services and Corporate Services teams, with specialist consultants engaged as required. An Alliance Board comprising representatives from the Shire and the Operator will be formed to ensure both parties are working effectively together and that the Agreement is being implemented in alignment with the intent of the Agreement.

Key Performance Indicators are included in the Alliance Contract to measure performance. Performance remedies must be implemented by the Operator where they fail to meet any of the KPIs.

10.4.2 Access to People with the Right Skills and Experience

Similar to the other capital works projects delivered by the Shire within Onslow, it is imperative to engage the right organisation to help deliver the desired outcome. The Shire is undertaking a competitive Public Tender process to obtain the services of suitably qualified Operator to operate the PRWMF.

10.4.3 Access to Technical Resources

The Shire will ensure its staff, the Operator and consultancy support, have the required resources to deliver their elements of the facility operations.

10.4.4 Operate and Maintain Infrastructure

The facility will be maintained in the medium to long term i.e. the 20 plus year life of the Waste Management Facility. Utilising the total costs projected over the 20 years modelled for the facility, gate fee modelling was undertaken to determine the average costs per tonne for waste accepted at the facility. These gate fees will ensure that sufficient revenue is received from the waste accepted into the facility to cover the capital and operational costs of the facility. In financial modelling, secured funding significantly reduced the average gate fee modelling per tonne, making the PRWMF significantly more financially viable.

11. Signing Of Business Case

I confirm that the information contained in this Business Case is true and correct.

Signed	
Approved by	Kenn Donohoe
Position	Chief Executive Officer
Date	19/02/2021