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AERODROME ASSET MANAGEMENT PLAN Tatiara District Council



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1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

This Asset Management Plan (AM Plan) details information about infrastructure assets with actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide over the 2020-2039 year planning period. The AM Plan will link to a Long-Term Financial Plan which typically considers a 10 year planning period.

1.2 Asset Description

This plan covers the infrastructure assets that provide aerodrome services.

The aerodrome network comprises:

- 4 x Runways (1 x Sealed and 3 x Unsealed)
- Aprons, Taxiways and Access Roads
- Pilot-activated lighting in Bordertown and Keith
- Other (wind indicators, gable markers, cones etc.)

The above infrastructure assets have replacement value estimated at \$1,562,738.

1.3 Levels of Service

The allocation in the planned budget is sufficient to continue providing existing services at current levels for the planning period.

1.4 Future Demand

The factors influencing future demand and the impacts they have on service delivery are created by:

- Population
- Demographics (aging population)
- Legislative Requirements

These demands will be approached using a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions, insuring against risks and managing failures.

- Monitor future population data
- Monitor changes in legislation

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AM Plan includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AM Plan may be prepared for a range of time periods, it typically informs a Long-Term Financial Planning period of 10 years. Therefore, a summary output from the AM Plan is the forecast of 10 year total outlays, which for the aerodrome network is estimated as \$892,168 or \$89,217 on average per year.

1.6 Financial Summary

1.6.1 What we will do

Estimated available funding for the 10 year period is \$895,081 or \$89,508 on average per year. This is 100% of the cost to sustain the current level of service at the lowest lifecycle cost.

Forecast Lifecycle Costs and Planned Budgets



Figure Values are in current dollars.

We plan to provide aerodrome services for the following:

• Operation, maintenance, renewal and acquisition of runways, lighting and other aerodrome assets to meet service levels set by Tatiara District Council's annual budgets.

1.6.2 Managing the Risks

Our present budget levels are insufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Lack of parking space. Aircraft may park on Runway which can create risk for landing/taking off
- Emergency services may lose accessibility to the airfield. (e.g. Ambulance being block from driving to RFDS aircraft)
- Unauthorised access to aerodromes. Risk of physical injury and damage to assets.

We can mitigate these risks by;

- Constructing a new parking area for aircraft.
- Locking entry points with a number pad system.

1.7 Asset Management Planning Practices

Key assumptions made in this AM Plan are:

- Maintenance and Operations expenditure is based on no acquisition/significant upgrades taking place during the planning period. Upgrading existing assets or acquiring new ones will increase both the Maintenance and Operations expenditure.
- No acquisition or disposal projects for the planning period.

- Where historical construction information was missing assumptions have been made on construction standards of some aerodrome infrastructure such as runway pavement depths.
- Where historical acquisition dates are missing, assumed acquisition dates based on condition have been utilised.

Assets requiring renewal are identified from either the asset register or an alternative method.

- The timing of capital renewals based on the asset register is applied by adding the useful life to the year of acquisition or year of last renewal,
- Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems and may be supplemented with, or based on, expert knowledge.

The Asset Register was used to forecast the renewal lifecycle costs for this AM Plan.

This AM Plan is based on a reliable level of confidence information.

1.8 Monitoring and Improvement Program

The next steps resulting from this AM Plan to improve asset management practices are:

- Establish a measure for resilience in service responsibility
- Add aerodrome asset data to AssetFinda database
- Consultation with stakeholders to gather feedback and suggestion
- Review Chart of Account records and maintenance records system to improve data confidence

2.0 Introduction

2.1 Background

This AM Plan communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the planning period.

The AM Plan is to be read with the Tatiara District Council planning documents. This should include the Asset Management Policy and Asset Management Strategy, along with other key planning documents:

- Strategic Management Plan The Strategic Management Plan provides a focus for Council's service delivery over a three-year period.
- Development Plan The Development Plan has two purposes. Firstly, it sets our objectives to guide the type and location of future development proposals through the establishment of a network of zones together with detailed criteria against which development application are assessed.
- Long Term Financial Plan This plan outlines all aspects of the key financial strategy objectives and commitments. Since financial resources are limited, the long term financial plan will both inform and interpret the Strategic Management Plan.
- Annual Budget The Annual Budget details resources needed to deliver services on an annual basis. In
 addition, it outlines the service delivery programs and projects of the Council and details performance
 measures (both financial and non-financial) in which the efficiency and effectiveness of the service delivery
 can be gauged.

The infrastructure assets covered by this AM Plan include runways, airfield lighting and many other assets. For a detailed summary of the assets covered in this AM Plan refer to Table in Section 5.

These assets are used to provide locations from which aircraft flight operations can take place.

The infrastructure assets included in this plan have a total replacement value of \$1,562,738.

Key stakeholders in the preparation and implementation of this AM Plan are shown in Table 2.1.

Table 2.1: Key Stakeholders in the AM Plan

| Key Stakeholder | Role in Asset Management Plan |
|---|--|
| | Represent needs of community/shareholders, |
| Tatiara District Council | Allocate resources to meet planning objectives in providing services while managing risks, |
| | Ensure service sustainable. |
| Elected Members (Council) | Responsible for delivering Council operations. |
| Rate Payers | Will fund (partially) works undertaken and cost of operation. |
| Community Organisations (Gliding Club etc.) | Beneficiaries of services provided by aerodromes. |
| Royal Flying Doctor Service | Regular use of aerodromes and key emergency health service. |

2.2 Goals and Objectives of Asset Ownership

Our goal for managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are

- Levels of service specifies the services and levels of service to be provided,
- Risk Management,
- Future demand how this will impact on future service delivery and how this is to be met,
- Lifecycle management how to manage its existing and future assets to provide defined levels of service,
- Financial summary what funds are required to provide the defined services,
- Asset management practices how we manage provision of the services,
- Monitoring how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan how we increase asset management maturity.

Other references to the benefits, fundamentals principles and objectives of asset management are:

International Infrastructure Management Manual 2015¹

¹ Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2 | 13

ISO 55000²

A road map for preparing an AM Plan is shown below.





² ISO 55000 Overview, principles and terminology

3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

This AM Plan is prepared to facilitate consultation prior to adoption of levels of service by the elected members. Future revisions of the AM Plan will incorporate customer consultation on service levels and costs of providing the service. This will assist the elected members and stakeholders in matching the level of service required, service risks and consequences with the customer's ability and willingness to pay for the service.

We currently have no research on customer expectations. This will be investigated for future updates of the AM Plan.

3.2 Strategic and Corporate Goals

This AM Plan is prepared under the direction of the Tatiara District Council vision, mission, goals and objectives.

Our vision is:

"A vibrant, prosperous and connected community building its own opportunities."

Strategic goals have been set by the Tatiara District Council. The relevant goals and objectives and how these are addressed in this AM Plan are summarised in Table 3.2.

Table 3.2: Goals and how these are addressed in this Plan

| Goal | How Goal and Objectives are addressed in the AM Plan |
|---|---|
| Support access to a diverse range of health and community services in the district | • Providing appropriate aerodrome infrastructure supports access to critical health services provided by the Royal Flying Doctors Service |
| Provide appropriate infrastructure that supports our district's growth | Assets are renewed, upgraded and maintained based on asset condition and risk assessment process Demand management and growth is considered as part of this plan for any future upgrades and renewal works |

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the aerodrome service are outlined in Table 3.3.

Table 3.3: Legislative Requirements

| Legislation | Requirement |
|---|--|
| Local Government Act 1999 | Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by Asset Management plans for sustainable service delivery. |
| Local Government (Financial Management and Rating) Amendment Act 2005 | Impetus for the development of a Strategic Management Plan, comprising an (Infrastructure) Asset Management Plan and Long-Term Financial Plan. |
| Environment Protection Act | This Act places a 'duty of care' on people not to undertake activities that will cause environmental harm. |
| Work Health and Safety Act 2012 | An Act to provide for the health, safety and welfare of persons at work. |
| Development Act | An Act to provide for planning and regulate development in the State; to regulate the use and management of land and buildings; to make provision for the maintenance and conservation of land and buildings where appropriate; and for other purposes. |

3.4 Customer Values

Service levels are defined in three ways, customer values, customer levels of service and technical levels of service.

Customer Values indicate:

- what aspects of the service is important to the customer,
- whether they see value in what is currently provided and
- the likely trend over time based on the current budget provision

Table 3.4: Customer Values

| Service Objective: | | | | |
|--------------------|--|---|---|--|
| Customer Values | Customer Satisfaction Measure | Current Feedback | Expected Trend Based on Planned Budget | |
| Safety | Complaints and requests for maintenance | 2020: 2 requests 2019: 3 requests | No change expected | |
| Accessibility | Complaints and requests regarding the availability of aerodrome services | 2020: Multiple requests for additional parking area | Increase in complaints/requests | |
| Quality | Request for upgrade of existing/new aerodrome assets | 2020: Multiple requests for additional parking area | Increase in complaints/requests | |

3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

- **Condition** How good is the service ... what is the condition or quality of the service?
- **Function** Is it suitable for its intended purpose Is it the right service?
- **Capacity/Use** Is the service over or under used ... do we need more or less of these assets?

In Table 3.5 under each of the service measures types (Condition, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation.

These are measures of fact related to the service delivery outcome (e.g. number of occasions when service is not available or proportion of replacement value by condition %'s) to provide a balance in comparison to the customer perception that may be more subjective.

| Type of Measure | Level of Service | Performance Measure | Current Performance | Expected Trend Based on Planned Budget |
|--------------------|--|--|--|---|
| Condition | Quality of aerodrome assets | Condition inspections and safety audits | All aerodromes are in serviceable conditions. Majority of assets in good-fair condition. | No change expected |
| | Confidence levels | | High | |
| Function | Provide appropriate aerodrome assets | Compliance with regulations and council policy/strategy/ plans | Aerodrome assets comply with CASA standards. | No change expected |
| | Confidence levels | | High | |
| Capacity | Do stakeholders have access to aerodrome services | Accessibility to aerodrome services | Aerodromes are easily accessible to users. Lack of parking space could cause accessibility issues. | Accessibility will decrease. |
| | Confidence levels | | High | |

Table 3.5: Customer Level of Service Measures

3.6 Technical Levels of Service

Technical Levels of Service – To deliver the customer values, and impact the achieved Customer Levels of Service, are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

- Acquisition the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).
- Operation the regular activities to provide services (e.g. opening hours, cleansing, mowing grass, energy, inspections, etc.
- Maintenance the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. road patching, unsealed road grading, building and structure repairs),
- Renewal the activities that return the service capability of an asset up to that which it had originally
 provided (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building
 component replacement),

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.³

Table 3.6 shows the activities expected to be provided under the current 10 year Planned Budget allocation, and the Forecast activity requirements being recommended in this AM Plan.

³ IPWEA, 2015, IIMM, p 2 | 28.

Table 3.6: Technical Levels of Service

| Lifecycle Activity | Purpose of Activity | Activity Measure | Current Performance* | Recommended Performance ** |
|-------------------------|---|---|--|----------------------------------|
| TECHNICAL LEV | ELS OF SERVICE | | | |
| Acquisition /Upgrade | To provide appropriate facilities for aerodrome services | Requests for additional assets/upgrade s to existing assets | Multiple requests from stakeholders for more aircraft parking area | 0 requests |
| | | Budget | To be determined | |
| Operation | Servicing and Management | Inspections and audits | Bi-monthly inspections and an annual report prepared by contractors | Current performance is adequate. |
| | | Budget | \$15,700 | |
| Maintenance | Provide appropriate facilities that meet stakeholder requirements | Number of requests for maintenance | 2020 – 2 requests 2019 – 3 requests | 0 requests |
| | | Budget | \$15,700 | |
| Renewal | To achieve the level of service expected from Council and members of the community | Planned & unplanned renewal projects | Runway 17/35 to be resealed as per recommendation from annual safety inspection. | Current performance is adequate. |
| | | Budget | \$204,000 | |

Note: * Current activities related to Planned Budget.

** Expected performance related to forecast lifecycle costs.

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged changing circumstances such as technology and customer priorities will change over time.

4.0 FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets have been identified and documented.

4.3 Demand Impact and Demand Management Plan

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 4.3.

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices can include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this AM Plan.

| Demand driver | Current position | Projection | Impact on services | Demand Management Plan |
|-----------------------------|--|---|--|--|
| Population | Bordertown: 2953 Keith: 1355 Mundulla: 436 Padthaway: 318 Wolseley: 180 Willalooka: 143 Western Flat: 121 Total: 6794 As per 2016 Census | Population estimates projected to reduce slightly to 5995 within the district over period 2016 – 2031 (SA Planning Panel) | Nil | Monitor population projection data. |
| Demographic | Median Age: 42 | Aging population – over 70s will increase by >20% in the period 2016 – 2031 (SA Planning Panel) | Increased in need for emergency services such as RFDS (one of the largest users of TDC Aerodrome assets) | Monitor population projection data. |
| Legislative Requirements | Aerodrome assets constructed and maintained according to current legislation | Increased design standards | Increased construction, maintenance and operational costs. | Monitor changes to legislation relating to aerodromes. |

Table 4.3: Demand Management Plan

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.4.

Acquiring new assets will commit the Tatiara District Council to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial plan (Refer to Section 5).

4.5 Climate Change Adaptation

The impacts of climate change may have a significant impact on the assets we manage and the services they provide. In the context of the Asset Management Planning process climate change can be considered as both a future demand and a risk.

How climate change impacts on assets will vary depending on the location and the type of services provided, as will the way in which we respond and manage those impacts.⁴

As a minimum we consider how to manage our existing assets given potential climate change impacts for our region.

Risk and opportunities identified to date are shown in Table 4.5.1

| Climate Change Description | Projected Change | Potential Impact on Assets and Services | Management |
|-------------------------------|--|---|-------------------------------------|
| Temperature | Increase of 0.6 to 1.3 degrees Celsius above the climate of 1986- 2005* | Minimal impact during this planning period. | Monitor future climate projections. |
| Rainfall | Natural variability is projected to predominate over trends due to greenhouse gas emissions.* | Minimal impact during this planning period. | Monitor future climate projections. |

Table 4.5.1 Managing the Impact of Climate Change on Assets and Services

Note: * As per Climate Change in Australia future climate projections for the Murray Basin

Additionally, the way in which we construct new assets should recognise that there is opportunity to build in resilience to climate change impacts. Building resilience can have the following benefits:

- Assets will withstand the impacts of climate change;
- Services can be sustained; and
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this AM Plan.

⁴ IPWEA Practice Note 12.1 Climate Change Impacts on the Useful Life of Infrastructure

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Tatiara District Council plans to manage and operate the assets at the agreed levels of service (Refer to Section 3) while managing life cycle costs.

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this AM Plan are shown in Table 5.1.1.

Aerodrome assets include runways, access roads, lighting and other related assets. Assets are located at the Tatiara District Council's three aerodromes (Bordertown, Keith and Padthaway).

Table 5.1.1: Assets covered by this Plan

| Asset Category | Replacement Value |
|---|-------------------|
| Runways (including extensions, turning nodes, aprons) | \$1,109,202 |
| Lighting | \$380,000 |
| Taxiways and access roads | \$21,200 |
| Other (wind indicators, gable markers, cones) | \$52,336 |
| TOTAL | \$1,562,738 |

All figure values are shown in current day dollars.

Add discussion about the age asset profile. Outline how past peaks of investment that may require peaks in renewals in the future. Comment on the overall age versus useful lives of the assets.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

| Location | Service Deficiency |
|------------|--|
| Bordertown | Not enough aircraft parking area, specifically for overnight parking |

The above service deficiencies were identified from stakeholder feedback and internal analysis.

5.1.3 Asset condition

Condition is currently monitored by an annual independent audit of all council aerodromes by a qualified aerodrome inspector (CASA approved persons under CASA 139.320).

Condition is measured using a 1-5 grading system⁵ as detailed in Table 5.1.3. It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system may be used at a more specific level, however, for reporting in the AM plan results are translated to a 1-5 grading scale for ease of communication.

⁵ IPWEA, 2015, IIMM, Sec 2.5.4, p 2 80.

Table 5.1.3: Condition Grading System

| Condition Grading | Description of Condition | |
|----------------------|---|--|
| 1 | Very Good: free of defects, only planned and/or routine maintenance required | |
| 2 | Good: minor defects, increasing maintenance required plus planned maintenance | |
| 3 | Fair: defects requiring regular and/or significant maintenance to reinstate service | |
| 4 | Poor: significant defects, higher order cost intervention likely | |
| 5 | Very Poor: physically unsound and/or beyond rehabilitation, immediate action required | |

The condition profile of our assets is shown in Figure 5.1.3.



Figure 5.1.3: Asset Condition Profile

All figure values are shown in current day dollars.

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, street sweeping, asset inspection, and utility costs.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include pipe repairs, asphalt patching, and equipment repairs.

The trend in maintenance budgets are shown in Table 5.2.1.

Table 5.2.1: Maintenance Budget Trends

| Year | Maintenance Budget \$ |
|---------|-----------------------|
| 2019/20 | \$20,315 |
| 2020/21 | \$15,700 |
| 2021/22 | \$17,740 |

Maintenance budget levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance budget allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this AM Plan and service risks considered in the Infrastructure Risk Management Plan.

Assessment and priority of reactive maintenance is undertaken by staff using experience and judgement.

Summary of forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Figure 5.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.



Figure 5.2: Operations and Maintenance Summary

All figure values are shown in current day dollars.

Operations and maintenance is funded from the operating budget and grants where available.

5.3 Renewal Plan

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an acquisition resulting in additional future operations and maintenance costs.

Assets requiring renewal are identified from one of two approaches in the Lifecycle Model.

- The first method uses Asset Register data to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year), or
- The second method uses an alternative approach to estimate the timing and cost of forecast renewal work (i.e. condition modelling system, staff judgement, average network renewals, or other).

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives were last reviewed on November 2020.⁶

| Asset (Sub)Category | Useful life |
|--|-------------|
| Sealed surface (runway, apron etc.) | 15 |
| Pavement of sealed infrastructure | 40 |
| Unsealed surface (gravel runways, aprons etc.) | 20 |
| Runway markings | 5 |
| Gable Markers | 10 |
| Wind Sock | 2 |
| Cones | 10 |
| Illuminated Wind Indicator | 30 |

Table 5.3: Useful Lives of Assets

The estimates for renewals in this AM Plan were based on the asset register method.

5.3.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. condition of a playground).⁷

It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and

⁶ Aerodrome Design Services, 2020, Tatiara Asset Management Plan Valuations November 2020 Update ⁷ IPWEA, 2015, IIMM, Sec 3.4.4, p 3 | 91.

Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.⁸

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5.3.1.

| Criteria | Priority |
|--|----------|
| Asset Condition | 1 |
| Have high operational or maintenance costs | 2 |
| Resident/Industry Serviced | 3 |

Table 5.3.1: Renewal Priority Ranking Criteria

5.4 Summary of future renewal costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.4.1. A detailed summary of the forecast renewal costs is shown in Appendix D.





All figure values are shown in current day dollars.

Renewals are to be funded from capital works programs and grants where available.

⁸ Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3 97.

5.5 Acquisition Plan

Acquisition reflects are new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated to the Tatiara District Council.

5.5.1 Selection criteria

Proposed acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Potential upgrade and new works should be reviewed to verify that they are essential to the Entities needs. Proposed upgrade and new work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term.

Expenditure on new assets and services in the capital works program will be accommodated in the long-term financial plan, but only to the extent that there is available funding.

When an Entity commits to new assets, they must be prepared to fund future operations, maintenance and renewal costs. They must also account for future depreciation when reviewing long term sustainability. When reviewing the long-term impacts of asset acquisition, it is useful to consider the cumulative value of the acquired assets being taken on by the Entity.

Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 5.5.3. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

The bars in the graphs represent the forecast costs needed to minimise the life cycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between the forecast work and the proposed budget is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.



Figure 5.5.3: Lifecycle Summary

6.0 RISK MANAGEMENT PLANNING

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2018 as: 'coordinated activities to direct and control with regard to risk'⁹.

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 6.1. Failure modes may include physical failure, collapse or essential service interruption.

| Critical Asset(s) | Failure Mode | Impact |
|-------------------|---|---|
| Runway | Physical failure Essential service interruption | Complete loss/significant reduction in aerodrome services (RFDS etc.) Aerodrome may no longer comply with regulations Significant increase in risk |
| Lighting | Physical failure Essential service interruption | Complete loss/significant reduction in aerodrome services at night |

Table 6.1 Critical Assets

By identifying critical assets and failure modes an organisation can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

6.2 Risk Assessment

The risk management process used is shown in Figure 6.2 below.

It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

⁹ ISO 31000:2009, p 2

The process is based on the fundamentals of International Standard ISO 31000:2018.



Source: ISO 31000:2018, Figure 1, p9

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to management and the elected members.

Table 6.2: Risks and Treatment Plans

| Service or Asset at Risk | What can Happen | Risk Rating (VH, H, M, L) | Risk Treatment Plan | Residual Risk * | Treatment Costs |
|-----------------------------|--|---------------------------------|--|--------------------|--------------------------|
| Runway/Apron | Aircraft may park on runway which can create risk for landing/taking off. Emergency services may lose accessibility to the airfield. (e.g. Ambulance being blocked from driving to RAF Aircraft for transfer) | Η | Construct additional parking area. This may include purchasing land from surrounding properties. Line mark areas where parking is prohibited (e.g. in front of access gate to runway) | L | \$100,000 - \$150,000 |
| All Assets | Unauthorised access to aerodrome. Risk of physical injury and damage to assets. | Μ | Lock entry gates with number pad locks. | L | \$500 - \$1500 |
| Lighting | Failure of lighting system. This will prevent night operations | Μ | Regular inspection of lighting system. ** Procedures in place to manually turn on lighting when PAL system fails.** | L | |
| | Collision between aircraft and stock on runway leading to a significant aircraft accident. | Η | Stock proof fence surrounding aerodromes. ** Regular inspections of perimeter fencing. ** | L | |
| All aerodrome services | Loss of key staff. | Μ | Succession Plan Train more staff. ** | L | |
| All assets | Fire. Significant damage to assets and a reduction is service capability. | Η | Regular mowing and slashing. ** Regular inspections of aerodrome grounds. ** | L | |

| Damage to aircraft due to loose stones/aggregate on runways, taxiways and other surfaces. | Μ | | |
|---|---|--|--|
| | | | |

Note * The residual risk is the risk remaining after the selected risk treatment plan is implemented. ** Risk Treatment plan is already in place.

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to 'withstand a given level of stress or demand', and to respond to possible disruptions to ensure continuity of service.

We do not currently measure our resilience in service delivery. This will be included in future iterations of the AM Plan.

7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this AM Plan. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

7.1 Financial Sustainability and Projections

7.1.1 Sustainability of service delivery

There are two key indicators of sustainable service delivery that are considered in the AM Plan for this service area. The two indicators are the:

- asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years), and
- medium term forecast costs/proposed budget (over 10 years of the planning period).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio¹⁰ 100%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 100% of the funds required for the optimal renewal of assets.

The forecast renewal work along with the proposed renewal budget, and the cumulative shortfall, is illustrated in Appendix D.

Medium term – 10 year financial planning period

This AM Plan identifies the forecast operations, maintenance and renewal costs required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

This forecast work can be compared to the proposed budget over the first 10 years of the planning period to identify any funding shortfall.

The forecast operations, maintenance and renewal costs over the 10 year planning period is \$89,217 average per year.

Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to achieve a financial indicator of approximately 1.0 for the first years of the AM Plan and ideally over the 10 year life of the Long-Term Financial Plan.

7.1.2 Forecast Costs (outlays) for the long-term financial plan

Table 7.1.3 shows the forecast costs (outlays) required for consideration in the 10 year long-term financial plan.

Forecast costs are shown in 2020 dollar values.

Table 7.1.2: Forecast Costs (Outlays) for the Long-Term Financial Plan

| Year | Operation | Maintenance | Renewal |
|------|-----------|-------------|-----------|
| 2020 | \$15,700 | \$15,700 | \$197,087 |
| 2021 | \$17,740 | \$17,740 | \$0 |
| 2022 | \$17,740 | \$17,740 | \$0 |
| 2023 | \$17,740 | \$17,740 | \$0 |
| 2024 | \$17,740 | \$17,740 | \$0 |

¹⁰ AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

| Year | Operation | Maintenance | Renewal |
|------|-----------|-------------|-----------|
| 2025 | \$17,740 | \$17,740 | \$326,368 |
| 2026 | \$17,740 | \$17,740 | \$0 |
| 2027 | \$17,740 | \$17,740 | \$5,993 |
| 2028 | \$17,740 | \$17,740 | \$0 |
| 2029 | \$17,740 | \$17,740 | \$12,000 |
| 2030 | \$17,740 | \$17,740 | \$65,636 |
| 2031 | \$17,740 | \$17,740 | \$0 |
| 2032 | \$17,740 | \$17,740 | \$4,610 |
| 2033 | \$17,740 | \$17,740 | \$0 |
| 2034 | \$17,740 | \$17,740 | \$40,937 |
| 2035 | \$17,740 | \$17,740 | \$209,423 |
| 2036 | \$17,740 | \$17,740 | \$200,000 |
| 2037 | \$17,740 | \$17,740 | \$0 |
| 2038 | \$17,740 | \$17,740 | \$0 |
| 2039 | \$17,740 | \$17,740 | \$12,000 |

7.2 Funding Strategy

The proposed funding for assets is outlined in the Entity's budget and Long-Term financial plan.

The financial strategy of the entity determines how funding will be provided, whereas the AM Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset valuations

The best available estimate of the value of assets included in this AM Plan are shown below. The assets are valued at total replacement cost.



7.3.2 Valuation forecast

Asset values are forecast to increase as additional assets are added to the aerodrome network.

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals. Any additional assets will also add to future depreciation forecasts.

¹¹ Also reported as Written Down Value, Carrying or Net Book Value.

7.4 Key Assumptions Made in Financial Forecasts

In compiling this AM Plan, it was necessary to make some assumptions. This section details the key assumptions made in the development of this AM plan and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this AM Plan are:

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AM Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale¹² in accordance with Table 7.5.1.

| Confidence Grade | Description |
|---------------------|---|
| A. Very High | Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate $\pm 2\%$ |
| B. High | Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10% |
| C. Medium | Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25% |
| D. Low | Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40% |
| E. Very Low | None or very little data held. |

Table 7.5.1: Data Confidence Grading System

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 7.5.2.

Table 7.5.2: Data Confidence Assessment for Data used in AM Plan

| Data | Confidence Assessment | Comment |
|------|-----------------------|---------|
| | | |

¹² IPWEA, 2015, IIMM, Table 2.4.6, p 2 | 71.

| Demand driversAInformation is based on 2016 census data and climatechangeinaustralia.gov.au Murray Basin cluster report.Acquisition forecastBThere is currently no planned acquisition for the planning period.Operation forecastCOperations expenditure has varied frequently in the past. Projected Operations expenditure from 2014/15 – 2019/20.Maintenance forecastCMaintenance expenditure has varied frequently in the past. Projected maintenance expenditure is based on the annual average expenditure from 2014/15 – 2019/20.Renewal forecastCMaintenance expenditure from 2014/15 – 2019/20 Asset valuesAAsset values are based on values provided by Aerodrome Design Services- Asset useful livesBAsset useful lives is based on values provided by Aerodrome Design Services Condition modellingACondition modelling is based on feedback from AerodromesDisposal forecastBThere is currently no planned disposal for the planning period. | | | |
|--|------------------------------------|---|---|
| Acquisition forecastBThere is currently no planned acquisition for the planning period.Operation forecastCOperations expenditure has varied frequently in the past. Projected Operations expenditure is based on the annual average expenditure from 2014/15 – 2019/20.Maintenance forecastCMaintenance expenditure has varied frequently in the past. Projected maintenance expenditure is based on the annual average expenditure from 2014/15 – 2019/20.Renewal forecastCMaintenance expenditure from 2014/15 – 2019/20.Renewal forecastAAsset values are based on values provided by Aerodrome Design Services- Asset valuesAAsset useful lives is based on values provided by Aerodrome Design Services Condition modellingACondition modelling is based on feedback from Aerodrome Design Services safety inspections of TDC AerodromesDisposal forecastBThere is currently no planned disposal for the planning period. | Demand drivers | A | Information is based on 2016 census data and climatechangeinaustralia.gov.au Murray Basin cluster report. |
| Operation forecast Operations forecastCOperations expenditure has varied frequently in the past. Projected Operations expenditure is based on the annual average expenditure from 2014/15 – 2019/20.Maintenance forecast Maintenance forecastCMaintenance expenditure has varied frequently in the past. Projected maintenance expenditure is based on the annual average expenditure from 2014/15 – 2019/20.Renewal forecast - Asset valuesAAsset values are based on values provided by Aerodrome Design Services- Asset useful lives - Condition modelling Disposal forecastACondition modelling is based on feedback from Aerodrome Design Services safety inspections of TDC Aerodrome Design Services safety inspections of TDC AerodromesDisposal forecast Pase ServicesBThere is currently no planned disposal for the planning period. | Acquisition forecast | В | There is currently no planned acquisition for the planning period. |
| Maintenance forecastCMaintenance expenditure has varied frequently in the past. Projected maintenance expenditure is based on the annual average expenditure from 2014/15 – 2019/20.Renewal forecastAAsset values are based on values provided by Aerodrome Design Services- Asset valuesAAerodrome Design Services- Asset useful livesBAsset useful lives is based on values provided by Aerodrome Design Services Condition modellingACondition modelling is based on feedback from Aerodrome Design Services safety inspections of TDC AerodromesDisposal forecastBThere is currently no planned disposal for the planning period. | Operation forecast | С | Operations expenditure has varied frequently in the past. Projected Operations expenditure is based on the annual average expenditure from 2014/15 – 2019/20. |
| Renewal forecastAsset values are based on values provided by Aerodrome Design Services- Asset valuesA- Asset useful livesB- Condition modellingA- Condition modellingA- Disposal forecastB- Disposal forecastB- Condition modellingCondition modelling is currently no planned disposal for the planning period. | Maintenance forecast | С | Maintenance expenditure has varied frequently in the past. Projected maintenance expenditure is based on the annual average expenditure from 2014/15 – 2019/20. |
| - Asset useful livesBAsset useful lives is based on values provided by Aerodrome Design Services Condition modellingACondition modelling is based on feedback from Aerodrome Design Services safety inspections of TDC AerodromesDisposal forecastBThere is currently no planned disposal for the planning period. | Renewal forecast - Asset values | А | Asset values are based on values provided by Aerodrome Design Services |
| - Condition modellingACondition modelling is based on feedback from Aerodrome Design Services safety inspections of TDC AerodromesDisposal forecastBThere is currently no planned disposal for the planning period. | - Asset useful lives | В | Asset useful lives is based on values provided by Aerodrome Design Services. |
| Disposal forecast B There is currently no planned disposal for the planning period. | - Condition modelling | Α | Condition modelling is based on feedback from Aerodrome Design Services safety inspections of TDC Aerodromes |
| | Disposal forecast | В | There is currently no planned disposal for the planning period. |

The estimated confidence level for and reliability of data used in this AM Plan is considered to be **B**.

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices¹³

8.1.1 Accounting and financial data sources

This AM Plan utilises accounting and financial data. The source of the data is ITVision's SynergySoft System and Microsoft Excel spreadsheets.

8.1.2 Asset management data sources

This AM Plan also utilises asset management data. The source of the data is a combination of Univerus AssetFinda, ITVision's SynergySoft System and data from documents provided by Aerodrome Design Services.

8.2 Improvement Plan

It is important that an entity recognise areas of their AM Plan and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this AM Plan is shown in Table 8.2.

| Task | Task | Responsibility | Resources Required | Timeline |
|------|--|-----------------------------|-----------------------|---|
| 1 | Consult with stakeholders to gather feedback and suggestions for new/upgrading assets | Asset Management | Staff time | February 2021 |
| 2 | Add aerodrome asset data to the AssetFinda database | Asset Management | Staff time | 30/06/2021 |
| 3 | Establish a measure for resilience in service responsibility. | Asset Management | Staff time | Next AMP Comprehensive review – 4 yrs time |
| 4 | Review operations and maintenance chart of accounts and maintenance record systems with the aim of improving data confidence and accessibility to historic operations and maintenance data. | Asset Management/Finance | Staff Time | 30/6/2021 |

Table 8.2: Improvement Plan

8.3 Monitoring and Review Procedures

This AM Plan will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The AM Plan will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are incorporated into the Long-Term Financial Plan or will be incorporated into the Long-Term Financial Plan once completed.

The AM Plan has a maximum life of 4 years and is due for complete revision and updating within 2 years of each Council election.

¹³ ISO 55000 Refers to this as the Asset Management System

8.4 Performance Measures

The effectiveness of this AM Plan can be measured in the following ways:

- The degree to which the required forecast costs identified in this AM Plan are incorporated into the long-term financial plan,
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures consider the 'global' works program trends provided by the AM Plan,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Planning documents and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 90 100%).

9.0 REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, <u>www.ipwea.org/IIMM</u>
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- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management Guidelines
- Aerodrome Design Services:

Tatiara Asset Management Plan Valuations November 2020 Update Keith ASIR 2020 Padthaway ASIR 2020 YBOR ASIR JAN 2020 (Bordertown)

10.0 APPENDICES

Appendix A Acquisition Forecast

There are currently no planned acquisition projects for the planning period.

Possible future acquisition projects include;

| Description | Estimated Expenditure |
|---|-----------------------|
| Construction of more aircraft parking area. May require the purchase of some surrounding land. | \$100,000 - \$150,000 |

| Year | Total Operation Forecast |
|------|--------------------------|
| 2020 | \$15,700 |
| 2021 | \$17,740 |
| 2022 | \$17,740 |
| 2023 | \$17,740 |
| 2024 | \$17,740 |
| 2025 | \$17,740 |
| 2026 | \$17,740 |
| 2027 | \$17,740 |
| 2028 | \$17,740 |
| 2029 | \$17,740 |
| 2030 | \$17,740 |
| 2031 | \$17,740 |
| 2032 | \$17,740 |
| 2033 | \$17,740 |
| 2034 | \$17,740 |
| 2035 | \$17,740 |
| 2036 | \$17,740 |
| 2037 | \$17,740 |
| 2038 | \$17,740 |
| 2039 | \$17,740 |

Table B2 - Operation Forecast Summary

Appendix C Maintenance Forecast

| Year | Total Maintenance Forecast | |
|------|-------------------------------|--|
| 2020 | \$15,700 | |
| 2021 | \$17,740 | |
| 2022 | \$17,740 | |
| 2023 | \$17,740 | |
| 2024 | \$17,740 | |
| 2025 | \$17,740 | |
| 2026 | \$17,740 | |
| 2027 | \$17,740 | |
| 2028 | \$17,740 | |
| 2029 | \$17,740 | |
| 2030 | \$17,740 | |
| 2031 | \$17,740 | |
| 2032 | \$17,740 | |
| 2033 | \$17,740 | |
| 2034 | \$17,740 | |
| 2035 | \$17,740 | |
| 2036 | \$17,740 | |
| 2037 | \$17,740 | |
| 2038 | \$17,740 | |
| 2039 | \$17,740 | |

Table C2 - Maintenance Forecast Summary

Appendix D Renewal Forecast Summary

Confirmed renewal projects for the planning period include;

| Year | Description | Budget |
|------|-----------------------------------|-----------|
| 2020 | Reseal of Bordertown Runway 17/35 | \$200,000 |

Table D3 - Renewal Forecast Summary

| Year | Renewal Forecast | Renewal Budget |
|------|------------------|----------------|
| 2020 | \$197,087 | \$200,000 |
| 2021 | \$0 | \$0 |
| 2022 | \$0 | \$0 |
| 2023 | \$0 | \$0 |
| 2024 | \$0 | \$0 |
| 2025 | \$326,368 | \$326,368 |
| 2026 | \$0 | \$0 |
| 2027 | \$5,993 | \$5,993 |
| 2028 | \$0 | \$0 |
| 2029 | \$12,000 | \$12,000 |
| 2030 | \$65,636 | \$65,636 |
| 2031 | \$0 | \$0 |
| 2032 | \$4,610 | \$4,610 |
| 2033 | \$0 | \$0 |
| 2034 | \$40,937 | \$40,937 |
| 2035 | \$209,423 | \$209,423 |
| 2036 | \$200,000 | \$200,000 |
| 2037 | \$0 | \$0 |
| 2038 | \$0 | \$0 |
| 2039 | \$12,000 | \$12,000 |

D.4 – Renewal Plan

| Year | Location | Asset Type | Asset Description | Renewal Cost |
|------|------------|--------------------------------|-------------------|--------------|
| 2020 | Bordertown | RWY 17/35 | Seal Surface | \$166,170 |
| 2020 | Bordertown | Extensions + turning nodes | Seal Surface | \$30,917 |
| | | Lights, transformers, cables & | | |
| 2025 | Bordertown | pits | Airfield Lighting | \$150,000 |
| 2025 | Bordertown | Switchboard, PAALC | Airfield Lighting | \$30,000 |
| 2025 | Bordertown | Illuminated Wind Indicator | | \$14,000 |
| 2025 | Bordertown | Gable Markers | | \$4,440 |
| 2025 | Bordertown | Cones | | \$1,728 |
| 2025 | Keith | RWY 17/35 | Pavement Base | \$79,523 |
| 2025 | Keith | South Turning Node | Pavement Base | \$9,681 |
| 2025 | Keith | TWY Gravel | Pavement Base | \$3,458 |
| 2025 | Keith | Apron | Seal Surface | \$13,370 |
| 2025 | Keith | Illuminated Wind Indicator | | \$14,000 |
| 2025 | Keith | Gable Markers | | \$4,440 |
| 2025 | Keith | Cones | | \$1,728 |
| 2027 | Bordertown | TWY to hangars | Pavement Base | \$2,766 |
| 2027 | Bordertown | Gravel apron turning area | Pavement Base | \$3,227 |
| 2029 | Padthaway | Wind indicator | | \$12,000 |
| 2030 | Padthaway | RWY 16/34 | Pavement Base | \$39,070 |
| 2030 | Padthaway | Taxiway & Apron | Pavement Base | \$9,220 |
| 2030 | Keith | Apron | Pavement Base | \$17,346 |
| 2032 | Bordertown | Gravel Access Road | Pavement Base | \$4,610 |
| 2034 | Bordertown | RWY 13/31 (US) | Pavement Base | \$40,937 |
| 2035 | Bordertown | Extensions + turning nodes | Seal Surface | \$30,917 |
| 2035 | Bordertown | RWY 17/35 | Seal Surface | \$166,170 |
| 2035 | Bordertown | Cones | | \$1,728 |
| 2035 | Bordertown | Gable Markers | | \$4,440 |
| 2035 | Keith | Cones | | \$1,728 |
| 2035 | Keith | Gable Markers | | \$4,440 |
| | | Hard wired solar lighting | | |
| 2036 | Keith | system | Airfield Lighting | \$200,000 |
| 2039 | Padthaway | Wind indicator | | \$12,000 |

Appendix F Budget Summary by Lifecycle Activity

| Year | Operation | Maintenance | Renewal | Total |
|------|-----------|-------------|-----------|-----------|
| 2020 | \$15,700 | \$15,700 | \$200,000 | \$231,400 |
| 2021 | \$17,740 | \$17,740 | \$0 | \$35,480 |
| 2022 | \$17,740 | \$17,740 | \$0 | \$35,480 |
| 2023 | \$17,740 | \$17,740 | \$0 | \$35,480 |
| 2024 | \$17,740 | \$17,740 | \$0 | \$35,480 |
| 2025 | \$17,740 | \$17,740 | \$326,368 | \$361,848 |
| 2026 | \$17,740 | \$17,740 | \$0 | \$35,480 |
| 2027 | \$17,740 | \$17,740 | \$5,993 | \$41,473 |
| 2028 | \$17,740 | \$17,740 | \$0 | \$35,480 |
| 2029 | \$17,740 | \$17,740 | \$12,000 | \$47,480 |
| 2030 | \$17,740 | \$17,740 | \$65,636 | \$101,116 |
| 2031 | \$17,740 | \$17,740 | \$0 | \$35,480 |
| 2032 | \$17,740 | \$17,740 | \$4,610 | \$40,090 |
| 2033 | \$17,740 | \$17,740 | \$0 | \$35,480 |
| 2034 | \$17,740 | \$17,740 | \$40,937 | \$76,417 |
| 2035 | \$17,740 | \$17,740 | \$209,423 | \$244,903 |
| 2036 | \$17,740 | \$17,740 | \$200,000 | \$235,480 |
| 2037 | \$17,740 | \$17,740 | \$0 | \$35,480 |
| 2038 | \$17,740 | \$17,740 | \$0 | \$35,480 |
| 2039 | \$17,740 | \$17,740 | \$12,000 | \$47,480 |

Table F1 – Budget Summary by Lifecycle Activity