

# SERVICES AND INFRASTRUCTURE

# 8



# SERVICES AND INFRASTRUCTURE

## 8.1 Introduction

The major utilities, including SA Power Networks, Envestra, Telstra and SA Water, have services located within, or in close proximity to, the airport. These utilities are able to service the current and future developments described in this Master Plan to cater for equitable service delivery to businesses on-airport.

As a result, there are a number of easements contained within the airport site that must be taken into consideration when contemplating the development of new structures and this is discussed further below.

## 8.2 Existing Interests and Easements

### 8.2.1 Pre-existing Leases

Adelaide Airport Limited inherited several ongoing leases pursuant to the *Airports (Transitional) Act 1996*, which were issued prior to the transition of the management of the airport from the Federal Airports Corporation (FAC) to AAL. Some of these leases continue to operate, and the associated lessor obligations have been assumed by AAL, with their uses generally incorporated into the respective precincts as 'Envisaged Activities'.

Any existing leases that might be now categorised as 'Non-Complying', or not separately identified, are able to continue as existing activities while remaining within their current locality on-airport. Similarly, any leases that are now in existence, or have been duly approved under the process of the *Airports Act 1996*, or where there may be some anomalies in planning terminology definitions, have been categorised as 'Envisaged'.

Figure 8.1 depicts the building ownership and tenancy at Adelaide Airport.

### 8.2.2 Other Interests – Easements

AAL also became the head-lessor under the airport lease subject to a number of other interests in the airport land (such as easements). Some of these contractual and other rights remain in existence while others have expired. Of note are the contractual obligations and conditions that exist between the Commonwealth Government as grantor of the interest and the party who receives the benefit of that interest that protects these easements; arguably outside of the provisions of the subsequent *Airports Act 1996*.

In any proposal for future development on airport land, AAL will act consistently with any such obligations or interests that exist at the relevant time. Details of registered easements over the airport land are included on the Certificates of Title available from the State Government Lands Titles Office.

A map of the easements on airport land understood to be in existence at privatisation in 1998 is shown in Figure 8.2 below. The numbers on the plan indicate the quantity of easements for a particular location.



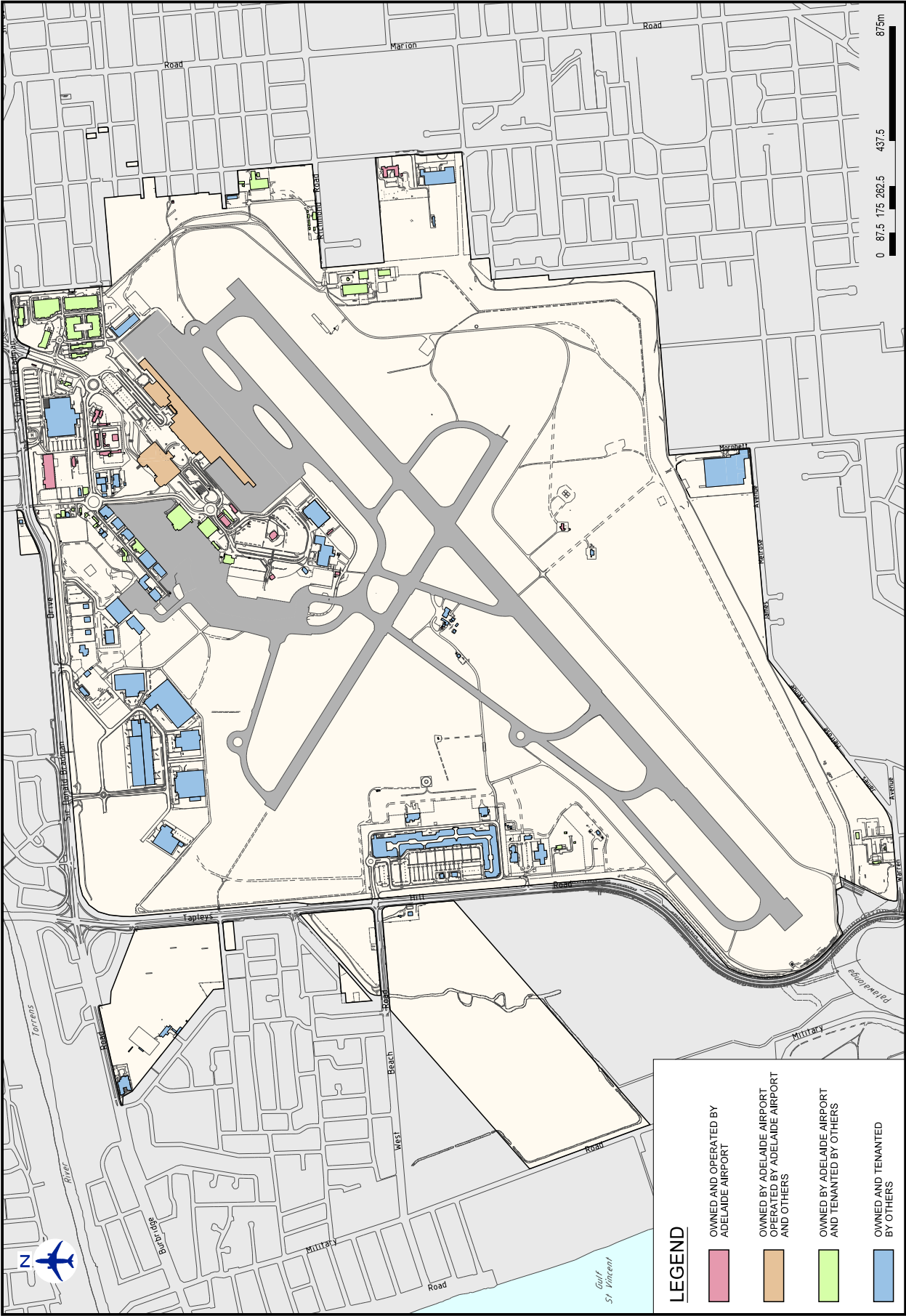


Figure 8.1 Building Ownership and Tenancy at Adelaide Airport



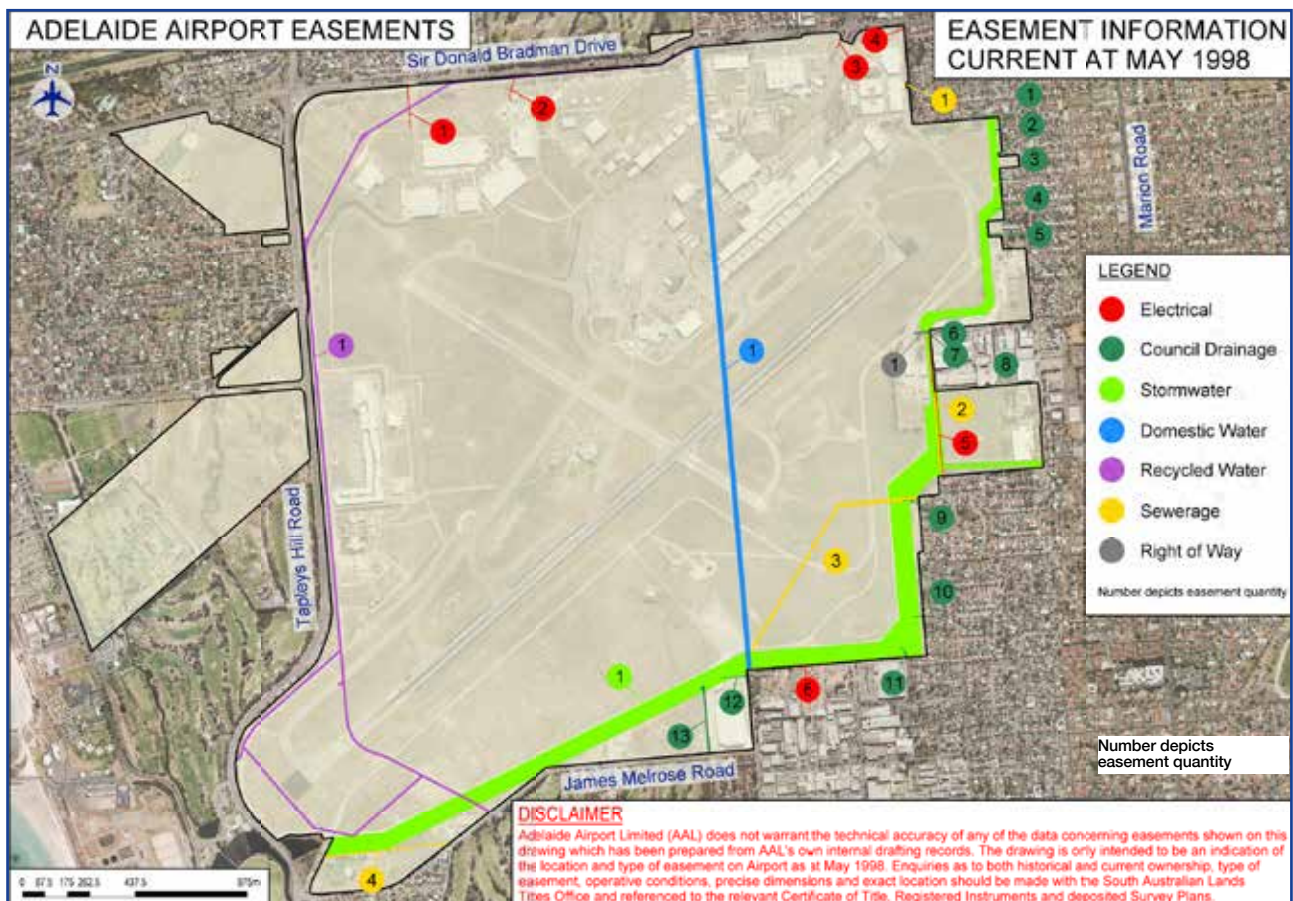


Figure 8.2 Easements on the Adelaide Airport site (as of privatisation in 1998)

## 8.3 Services

### 8.3.1 Gas

Envestra has a number of low, medium and high pressure gas mains around most of the interface with the airport as well as several Site Licence Agreements for gas mains within airport land, specifically in the Terminals & Business Precinct.

These Site Licence Agreements cater for relocation of gas mains as required for future development. Envestra has indicated it would provide a gas supply to any development on the airport if the anticipated gas demand makes it economically viable.

### 8.3.2 Electricity

SA Power Networks has indicated it can service proposed development on the airport from a network of high voltage electricity mains and substations located around the periphery of the airport and investigates the optimum means of electricity delivery for airport projects, including contingency back-up where additional feeders are supplied when overall loads to an individual specific development site exceeds four megawatt volt amperes (MVA).

The various SA Power Networks switching cubicles and lines located on-airport are either within existing easements to the Commonwealth, or are progressively being placed under a Grant of Easement related to the Adelaide Airport head lease.

### 8.3.3 Water

#### Potable and Fire Water

SA Water has indicated that there is a sufficient network of water mains adjacent to the airport to supply the projected Master Plan developments to each precinct. Under this arrangement, the water is supplied to the airport site boundary, with airport owned pipelines connected to the SA Water mains supply and reticulated to individual airport tenancies and sites. Metering of water consumption occurs at the SA Water mains site, with the cost of water consumption recovered from individual tenancies based on sub-metering installed on Adelaide Airport water networks.

#### Recycled Water

Recycled water is supplied to the airport from the effluent treatment plant at Glenelg North and through reticulated recycled water pipelines on the western, northern and southern boundaries of the airport land. It is used for irrigation of lawns and gardens and toilet flushing within Terminal 1 (T1) and also potentially available for other new developments in the Terminals & Business, Torrens and Tapleys Precincts.

AAL has entered into a long-term Supply Agreement with SA Water that allows for four supply points of recycled water on the north/west boundaries, and three take-off points along the southern perimeter of the Adelaide Airport site for irrigation purposes within the Morphett and Airport East Precincts.

In the West Beach Precinct, there are a number of supply points under direct contract arrangements between Adelaide Shores (an airport lessee) and SA Water. Figure 8.3 identifies the various existing or approved recycled water supply/take off points located both on-airport and at Adelaide Shores, including the respective recycled water mains traversing or surrounding the airport.

#### Treated Stormwater

In 2013, SA Water completed a Treated Stormwater Project along the southern boundary of the airport, which sources water from the Brownhill-Keswick Creek easements, purifies it, and injects it into underground aquifers for distribution around the airport, as identified also on Figure 8.3.

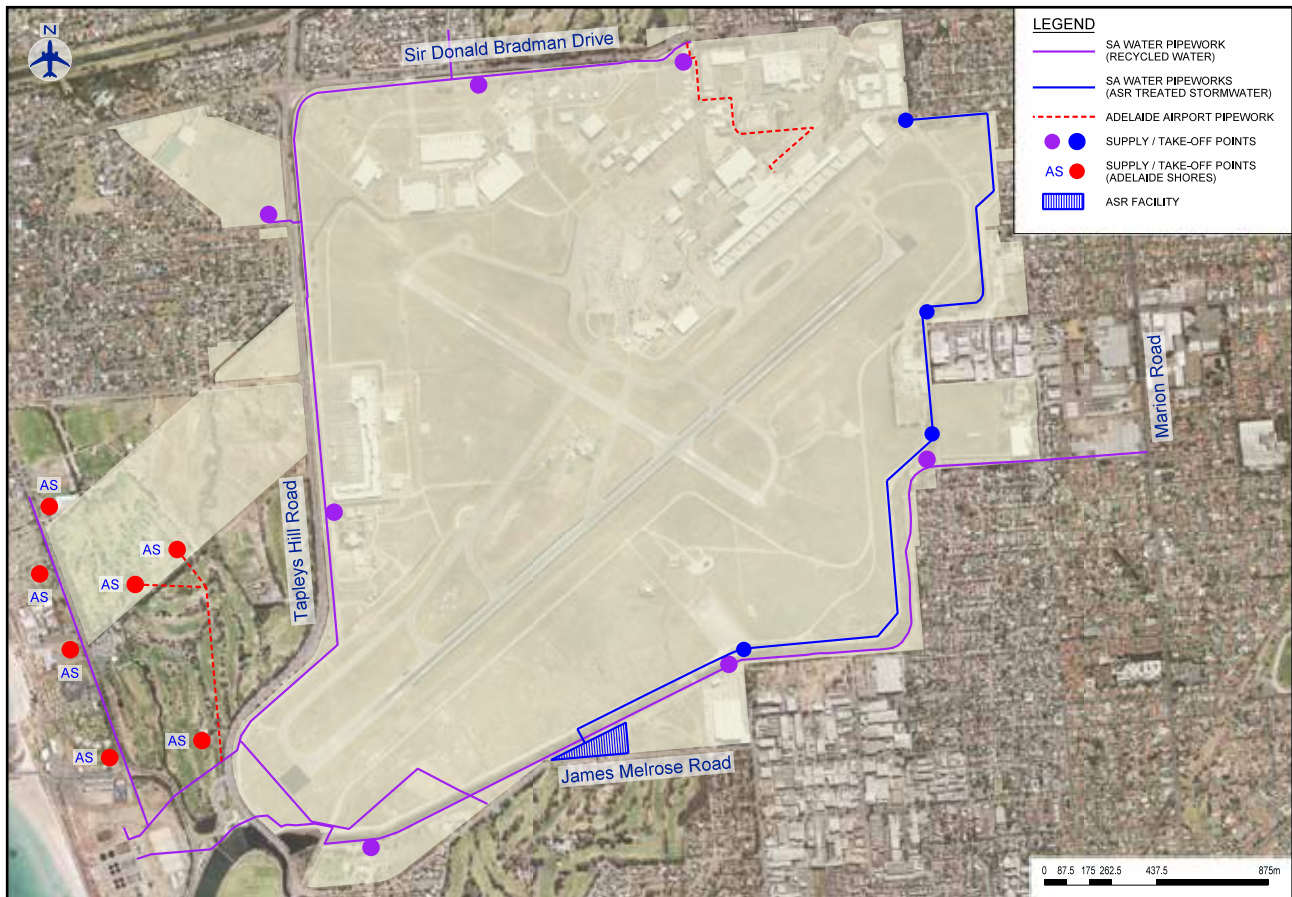


Figure 8.3 Outline of the various Existing or Approved Recycled Water Supply/Take Off Points On-Airport and at Adelaide Shores



### 8.3.4 Sewerage

SA Water will provide one boundary (airport) connection point for new developments in suitable locations within each airport precinct, from which AAL will provide airport owned sewerage infrastructure pipelines, some of which may require pumping stations.

### 8.3.5 Telecommunications

Telstra has either a single supply-point (on-boundary) with AAL to provide conduit and the airport tenant to pay for the consumer line through the conduit to the supply point, or in some instances, Telstra has its own conduit networks around airport roadways, as do other telecommunications providers. There are sufficient telecommunication services surrounding the airport to meet the expanding need of the future developments on airport land.

Mobile telecommunications facilities exist on-airport from which individual providers have equipment located on leased sites. Consolidation of the equipment of the respective providers is intended in the short term to several towers in a central location located on the Adelaide Airport multi-level car park within the Terminals & Business Precinct. The provision of an in-building system is present within T1, which is being readily expanded to include all carriers and also service the external plaza area.



## 8.4 Stormwater

### Stormwater Drainage

Adelaide Airport is located within the Patawalonga Catchment, downstream from several large urban stormwater catchments. The airport site abuts the Keswick and Brownhill Creeks through an easement to SA Water, the Sir Donald Bradman Drive drain (being the responsibility of the City of West Torrens), the Patawalonga Creek and the Patawalonga Basin leading to the Barcoo Outlet to the sea.

Upstream catchment flows independent of the airport have not been suitably upgraded to the levels consistent with the capacity of the existing drainage systems and the maintenance of the system around the airport in easements or adjacent channels has at times been inadequate in terms of vegetation and contaminated silt control. However, the respective authorities are continuing to progress strategies to manage future flows from upstream, and intensity suitable desilting programs.

The drainage system on the airport as represented in Figure 8.4, has been assessed by specialist consultants, and new airport developments can be readily accommodated, with airport drains leading to the Barcoo Outlet having been designed and sized for this purpose.

For this reason, new developments within the Terminals & Business and Tapleys Precincts will generally use the internal airport drainage networks assisted with suitable detention arrangements, but with current and accepted water flows also to the Cowandilla-Mile End outfall drain abutting Sir Donald Bradman Drive along the northern perimeter of the airport site. It is noted that hydraulic assessments recommend early release of stormwater flows rather than detention so that downstream and airport water flows have passed through to the stormwater system before pressure occurs from upstream stormwater.

Should new airport developments drain to the external drainage system adjacent to Sir Donald Bradman Drive, appropriate arrangements will be made where possible so that the aggregate quantity of airport outflow is not greater than current outflows. It should be noted that the development of T1 has re-directed water flows away from Sir Donald Bradman Drive in order to use sized detention basins to the south-eastern side of the T1 apron, and thereby to a system of on-airport drains. This has significantly reduced the load on the perimeter drainage system to allow future development along the northern side of the Terminals & Business Precinct to direct stormwater flows into the drain alongside Sir Donald Bradman Drive.

This drain extends for over three kilometres along the perimeter of the airport, and has been benched on to airport land and landscaped to form a linear park with associated pedestrian/bicycle pathways. This occurred under a Site Licence Agreement with the City of West Torrens for flood mitigation purposes due to the increasing water flowing from the upstream Cowandilla-Mile End catchment.

Under legal agreements between the Commonwealth, State and Local Governments in the years 1963/1964, parts of the airport drainage system were transferred to the State or Local Government to aid upstream water flows. One-off payments were made by the Commonwealth on the basis that airport stormwater flows, both current and future, could continue to flow into the Keswick Creek, Brownhill Creek and the drain alongside Sir Donald Bradman Drive, could be crossed as necessary, and would be maintained by the respective authorities.

These agreements have been used as the basis for the overall stormwater management arrangements on airport. The stormwater catchments impacting upon Adelaide Airport are shown at Figure 8.5.

AAL has entered into an agreement with SA Water to capture excess water flows and store them in an aquifer underlying airport land to reduce the extent of water passing directly out to sea, with the location adjacent to James Melrose Road within the Morphett Precinct. This water is available as treated stormwater for on-airport use.



Figure 8.4 Drainage Systems on Airport



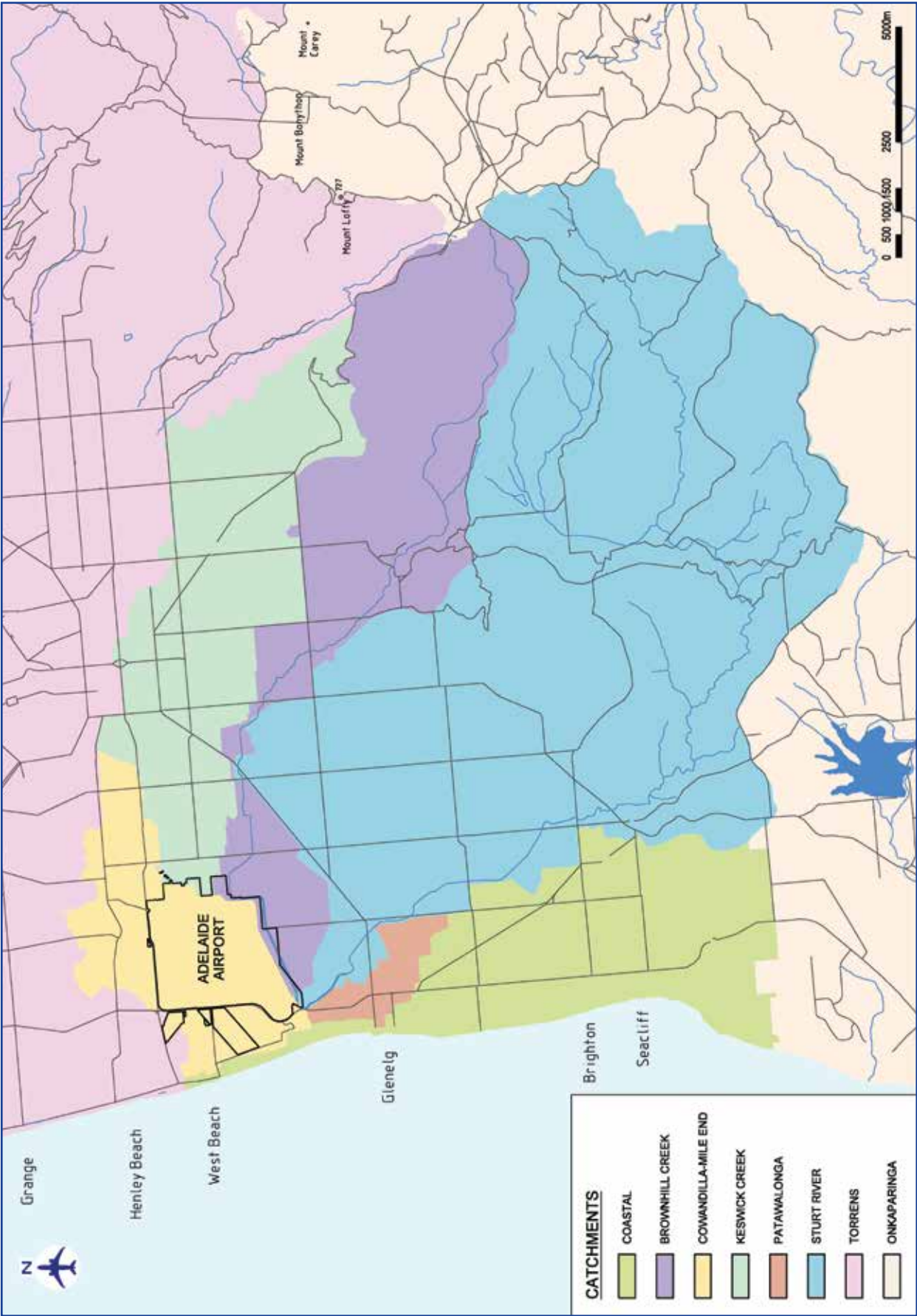


Figure 8.5 Major Airport Stormwater Catchments



## 8.5 Aviation Support Operations

### 8.5.1 Catering

In 2013, a new airline catering service was developed by Alpha Catering in the Terminals & Aviation Policy Area of the Terminals & Business Precinct, with direct airside access and thereby accessibility to Terminal 1 using airside roads. Further landside options may be possible in the Export Park Policy Area adjacent to the specialist cold store over time to cater for increasing air traffic, including international flights. Alternate development sites also exist adjacent to Alpha Catering or within the Airport East Precinct.

### 8.5.2 Cold Storage

A dedicated cold storage facility of 3,200m<sup>2</sup> with airside access is present in the Terminals & Aviation Policy Area, immediately to the north of T1. The cold store has several dedicated aviation freight operators specialising in the processing and export of meat, fish and fresh produce. With the prospect of increasing exports to international locations, there is the potential of further cold storage space within the existing structure if necessary, or to extend the facility to the north of the existing cold store.

### 8.5.3 Aircraft Refuelling

The Joint Oil Storage Facility (JOSF) located in the Aviation Support Policy Area caters for the bulk storage of Avgas and Jet A1. The JOSF is connected by a Joint User Hydrant Installation (JUHI) to Terminal 1 and has direct airside access for hydrant dispensers and refuelling tankers to service both the T1 and General Aviation precincts.

At present, there are two bulk fuel storage tanks with a combined capacity of 2.8 million litres each; with the annual consumption being 278 million litres. Against the forecast increase in aviation services as detailed at Chapter 4, further tanks of 3 million litres each are expected to be necessary between 2017 and 2024. Area is available onsite for the installation of these tanks or in the near vicinity.

Delivery of fuel to the JOSF is through road tankers, which source the aviation fuel supplies from Largs Bay or Birkenhead, and the route taken is generally via Tapleys Hill Road into the airport from the intersection at Fred Custance Street. Assessment is currently underway of utilising a portion of the previous Port Stanvac to Birkenhead multi-fuel line for aviation fuel purposes.

This prospect is made possible by installing a fuel pipeline link from Military Road, West Beach through the West Beach Precinct, under Tapleys Hill Road and into the Terminals & Business Precinct.

Overall, the provision of Aviation Fuel Services is able to continue at Adelaide Airport for over the next 20 years from the current location of the JOSF within the Terminals & Business Precinct. This will also allow adequate space for expanded fuels bulk storage, modified roadway configurations and the potential installation of a new fuel pipeline link to the former multi-fuel service pipeline located in Military Road, West Beach.

### 8.5.4 Airservices Australia

In 2012, AsA developed a new Control Tower within the Terminals & Business Precinct, which was operational and opened in 2013. The previous Control Tower, located centrally in the Runways Precinct, is to be decommissioned and removed from the current site in the near future.

The Aviation Rescue and Fire Fighting (ARFF) services continue to operate from its locality within the Runways Precinct, however is expected to be replaced with a new 'Category 101' facility within the next five-years, with timing likely to be directed to coincide with any new Code F aircraft activity (e.g. A380) at Adelaide Airport. Prospective locations include a site in close proximity to the existing ARFF facility, or possibly one within the Tapleys Precinct to the northern side of the existing helicopter services. The latter site has both airside and landside accessibility, and less chance of any impediment to possible long-term taxiway alterations.

AsA currently holds leases for an existing Fire Training Ground within the Runways Precinct and also a former Fire Training Ground facility within the Morphett Precinct. The unused facility within the Morphett Precinct has been decommissioned, though a lease is still held by AsA pending future analysis of any onsite contamination from PFOS/ PFOA (Per fluoroocane sulfonate / Per-fluoro-octanoic Acid) fire-fighting foam. Testing of the site for contamination is to be undertaken by AsA in conjunction with the Department of Environment towards establishing an appropriate standard of management, amelioration and disposal practices for any contaminated soil or water. Following completion of testing or any remediation, the lease is to be surrendered to allow future development at this portion of the Morphett Precinct.

### 8.5.5 Air Freight

In order to segregate landside freight from passenger terminals and associated road access, future air freight cargo facilities at Adelaide Airport are to be progressively relocated from the southern side of the Terminals & Aviation Policy Area, within the Terminals & Business Precinct, and directed to airside sites within the Airport East Precinct. This relocation is more suitable to Airport operations, with the Precinct located within several kilometres of the Cold Storage complex and also T1. The new locality will have direct access to existing transport corridors around Richmond Road, Netley and links to major arterial roads such as Marion Road, South Road and Greenhill / Glen Osmond Roads.

To ensure maximum economy, efficiency and availability of suitable airside operational areas, a Common User Air Cargo freight facility is currently under review, which would allow air freight companies with limited need for full time airside access to functionally operate air freight services.

The overall approach will be to focus on quality and time-critical cargo in the closest proximity to T1, transport networks and airside logistic areas, and with suitable freight tug movements within the airfield. It is recognised that the majority of air freight is transported in the hold of scheduled passenger airline services including exports from Australia, such as fresh, chilled or frozen fruit or vegetables, fish, wine and livestock, as well as high value pharmaceutical goods. Mail and parcel services into airports in Australia are also an expanding activity using both passenger aircraft and dedicated freight aircraft.



### 8.5.6 Aviation Engineering

Aligned with the relocation of air freight to the Airport East Precinct, current larger-scale hangar facilities within the Terminals & Aviation Policy Area are also intended for progressive relocation to the Airport East Precinct. Again, this location is suitable for direct airside access and has landside functionality. These progressive relocations will allow the continuing expansion of passenger services through the expansion of T1 and ancillary facilities.

Smaller-scale aviation engineering services are expected to continue operating within the Terminals & Aviation Policy Area in the vicinity of James Schofield Drive and National Drive for the foreseeable future.

Allowing for the progressive and centralised relocation of both cargo freight and aviation hangars to the Airport East Precinct, there is adequate land supply to meet the evident short-term demand for each activity. For the medium-to-longer-term, land within the Morphett Precinct will be developed for aviation-related support industries. Additionally, future aviation infrastructure, such as aprons, taxiways, hardstand and roadways, will be also required in both the Morphett and Runways Precincts.

### 8.5.7 Aircraft Approach Lighting

Aircraft approach lighting is located at the ends of the Adelaide Airport runways, extending into residential areas at West Richmond for Runway 23 where such lighting is held generally under easement or by ownership of specific allotments. The long-term continuity of this lighting in the vicinity of the current sites is aligned with aviation services at Adelaide Airport, and it is possible that such lighting will be replaced with more efficient systems within the next 5-20 years. The approach lighting locality of West Richmond is now identified under NASF principles as generally unsuitable for close density residential development, due to the impacts of airport operations. However, AAL has in the past acquired further premises to ensure the long-term protection of the runway approach lighting corridor.