

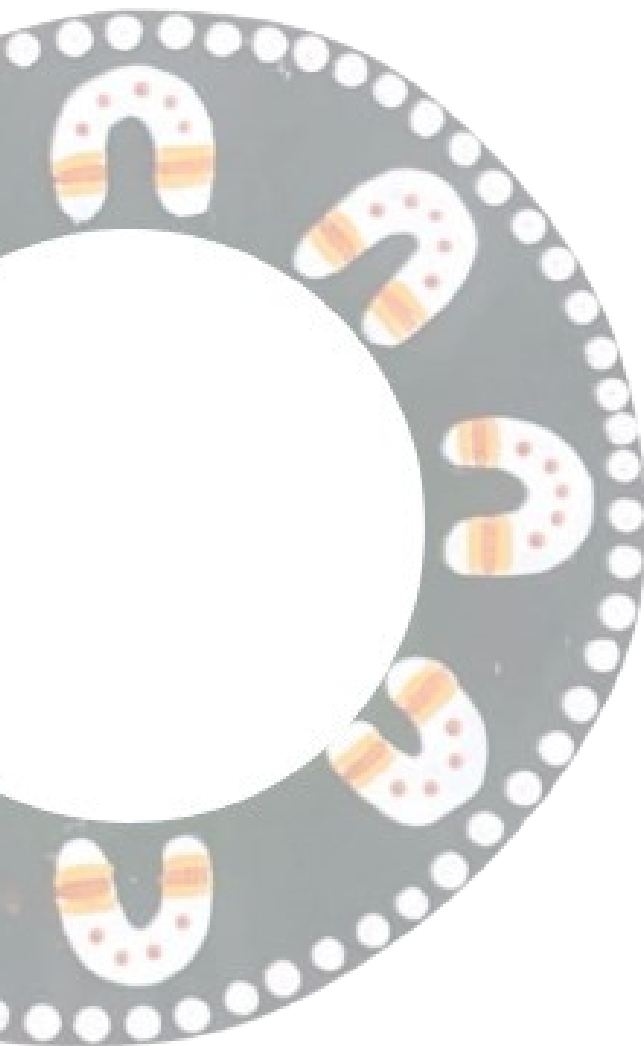
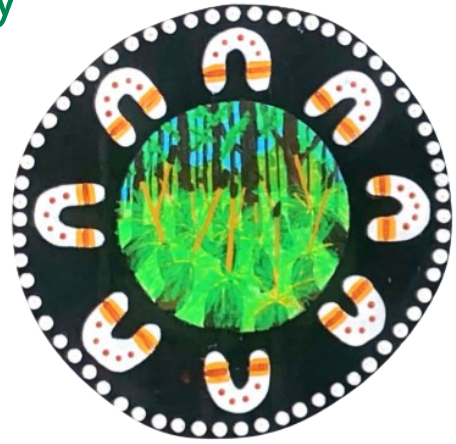


FEASIBILITY, BENEFITS AND DISBENEFITS OF NETTING TREES IN RUNDLE MALL

November 2025
CITY OF ADELAIDE

Acknowledgement of Country

Ecosure acknowledge the Traditional Custodians of the lands and waters where we work. We pay deep respect to Elders past and present who hold the Songlines and Dreaming of this Country. We honour and support the continuation of educational, cultural and spiritual customs of First Nations peoples.



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1 Introduction

At the City of Adelaide (CoA) Council meeting on 11/11/2025, Council resolved that “administration provide preliminary advice regarding the feasibility, benefits and disbenefits of netting trees in Rundle Mall at a special meeting of Council to be held on Tuesday 2 December 2025”. This report provides the requested advice.

Contextually, “netting trees in Rundle Mall” relates to six (6) of the 40 Chinese elm trees (*Ulmus parvifolia*) in the shopping precinct. Specifically, during the summer and autumn of 2024-2025, over 10,000 tree martins (*Petrochelidon nigricans*; Appendix 1), a small native bird species, were observed roosting at night in these six trees. These are located in front of several shops: Optus, OPSM, Sunglass Hut, Michael Hill Jeweller, Apple Store, and close to the main entry into Rundle Place, a large four-storey mall (see Appendix 2).

The issue is that these small birds were observed colliding with shop windows and flying into shops, resulting in numerous incidents across the 2024-2025 summer and autumn. These incidents represent a bird welfare issue and cause impacts to the adjoining businesses.

2 Location description

Rundle Mall is the major pedestrian shopping precinct located in the heart of Adelaide’s city centre. Located between King William Street and Pulteney Street, just north of Victoria Square, Rundle Mall creates a 500-metre-long pedestrian-only shopping experience. The mall is a central thoroughfare connecting key shopping landmarks such as the Adelaide Arcade, Adelaide Central Plaza, The Myer Centre, Regent Arcade, Rundle Place, and Rundle Mall Plaza.

Rundle Mall incorporates 40 Chinese elm trees. The trees are planted in linear stands dispersed along the mall. Six (6) trees located near the centre of the mall were used as a roost by over 10,000 tree martins’ (*Petrochelidon nigricans*) during the 2024-2025 summer and autumn (Figure 1). These trees are located in front of Optus, OPSM, Sunglass Hut, Michael Hill Jeweller, Apple Store, and to the side of Rundle Place, a large four-storey mall. Business impacts during the 2024-2025 roosting season were within the stores on the southern side of Rundle Mall near the roosting trees. Stores on the northern side were either unaffected or did not require any intervention during the roosting season.

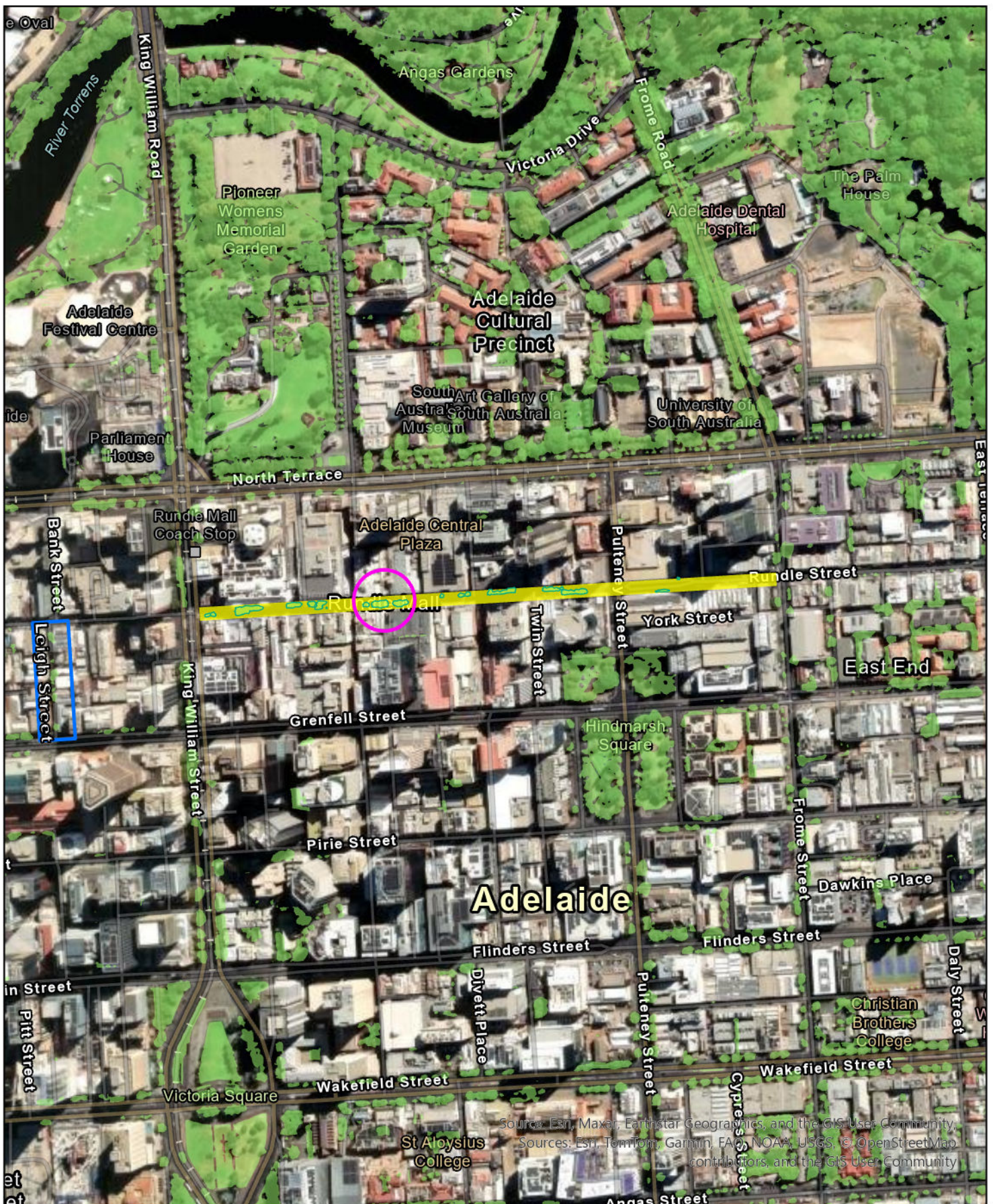


Figure 1 Location of Chinese elm trees in Rundle Mall

City of Adelaide

PR9200 Feasibility, benefits and disbenefits of netting trees in Rundle Mall

- Street trees and greenspace
- Rundle Mall
- Tree martin roost trees 2024 - 2025
- Former roost location: Leigh Street

3 Benefits and disbenefits

Category	Benefits	Disbenefits
Business impacts	Likely reduces impacts to the businesses directly affected in the 2024-2025 roosting season (faeces, birds entering stores, collisions).	<p>High likelihood birds move to other parts of Rundle Mall (there are 40 Chinese elm trees), potentially increasing impacts to more businesses (Appendix 2).</p> <p>Creates new, unpredictable roost sites that may be harder to manage. For example, the decision to net the trees in Leigh Street demonstrates this risk and the potential for increased welfare issues and business impacts. Netting the Callery pear (<i>Pyrus calleryana</i>) trees in Leigh Street prevented roosting, removing the impact to business, including public health and safety risks for outdoor dining venues, however the issue moved to Rundle Mall.</p>
Bird welfare	Likely reduces bird collisions and welfare issues in the netted trees, noting challenges within Rundle Mall associated with catenary wires, reflective shop front surfaces and indoor Malls with large entries, in addition to natural predation.	<p>Welfare risks if birds become trapped in or under netting (see Appendix 3: Wildlife Friendly Netting factsheet by the Department of Environment and Water (DEW)).</p> <p>Birds may relocate to areas with greater hazards (e.g. vehicle disturbance, increased glass frontage, reduced lighting control).</p> <p>Reduced ability to effectively manage due to site constraints.</p> <p>Impacts on other bird and wildlife species.</p>
Operational/Cost	Reduced need for increased daily cleaning and maintenance in the Mall (though could mean additional cleaning in other location(s) if colony relocates).	<p>Netting trees is a significant cost:</p> <ul style="list-style-type: none"> · ~\$25,000 for the six focal trees in Rundle Mall, plus ongoing maintenance · ~\$125,000 for the 34 additional trees in Rundle Mall, plus ongoing maintenance. <p>Netting also introduces the risk of bird entrapment and requires ongoing monitoring, maintenance and compliance checks, including an increased inspection burden to ensure no animals become trapped.</p> <p>Net damage from wind, UV, and vandalism requires frequent repair.</p> <p>Unknown new roost locations may not offer the same safety or management conditions.</p>
Community and Reputation	Visible action demonstrating Council responsiveness to retailers.	High reputational risk: netting of street trees in the city's premier retail precinct may be perceived as "anti-wildlife", and impact on attractiveness of

Category	Benefits	Disbenefits
		<p>retail environment.</p> <p>Potential negative media or community sentiment, especially if welfare incidents occur.</p>
Environment and Amenity	May reduce faeces and mess under affected trees and reduce bird welfare issues associated with daylight savings which conflated issues of bird collisions in the Mall.	<p>Visual impact of netting trees in the city's premier retail street.</p> <p>Nets may reduce airflow, light penetration, and increase heat stress for trees.</p> <p>Potential impact on tree growth and desirable form with nets on.</p> <p>Prevents other wildlife from accessing the trees along Rundle Mall.</p>
Strategic/Urban Ecology	Contributes to understanding tree martin roost preference and management.	<p>Encourages reliance on "hard exclusion" methods rather than integrated/coexistence-based management.</p> <p>Risk of creating precedent for netting or excluding wildlife in other areas.</p> <p>At odds with Councils strategic objectives and goals to be a 'city where nature thrives'.</p> <p>Netting trees in Rundle Mall and displacing the population may restrict the ability of behavioural research to be safely undertaken to inform the medium to long term Management Plan.</p>
Stakeholder relationships	Could reassure directly affected retailers.	May strain relationships with environment agencies, Green Adelaide, DEW, wildlife groups, and broader community expecting nature-positive approaches. May transfer impacts to other retailers or hospitality venues.

4 Feasibility

The Department for Environment and Water has advised that a permit is not required under the *National Parks and Wildlife Act 1972* for the City of Adelaide to install netting on trees in Rundle Mall, provided the works occur before tree martins return to roost. Although a permit is not required, compliance with general animal welfare obligations still applies. This would necessitate routine and proactive monitoring to ensure no birds or other animals become trapped in or beneath the netting, including a formal inspection schedule, rapid response capability, and clear incident protocols.

The estimated cost to net the six trees used as the primary roost in the 2024-2025 season is approximately \$25,000, in addition to ongoing maintenance costs. However, given the presence of 40 Chinese elm trees throughout Rundle Mall and the high likelihood that excluding the six trees may lead to birds relocating elsewhere within the precinct, it is probable that the majority, or potentially all, trees would ultimately require netting for the measure to be effective.

Netting all 40 trees along Rundle Mall is estimated to cost approximately \$150,000 to install, with unknown but ongoing annual maintenance costs. Maintenance requirements would include inspection and repair following weather events, vandalism, UV degradation, and tree growth, as well as ongoing monitoring to prevent wildlife entrapment.

Based on current information, netting is considered technically feasible but operationally will require ongoing resource commitment to manage welfare risks and maintain the nets in a high-traffic retail environment.

5 Conclusion/Preliminary Advice

Advice from the DEW confirms that netting trees in Rundle Mall does not require a permit under the *National Parks and Wildlife Act 1972*, provided installation occurs before tree martins return. However, netting creates risks of bird entrapment and would require ongoing monitoring, maintenance and compliance checks to meet animal welfare obligations.

Netting the six trees used in the 2024-2025 season is estimated to cost approximately \$25,000, with additional maintenance costs. As tree martins are likely to relocate if only these trees are netted, broader netting may be needed. Netting all 40 trees in Rundle Mall is estimated at around \$150,000, alongside significant ongoing maintenance requirements. Decisions about netting a selection of trees in Rundle Mall should have regard to factors such as large entries to multi-storey Mall's and other shopfront characteristics that exacerbate bird welfare impacts.

Although netting may reduce impacts at the original roost site, it presents considerable risks, including displacement of birds to other parts of the Rundle Mall or city, welfare issues in less suitable locations, reputational concerns around excluding wildlife in a high-profile precinct, and impacts on visual amenity.

Overall, netting is technically feasible but poses operational, welfare, and reputation risks. A coordinated on-ground response remains the preferred, lower-risk approach for the 2025-2026 season, and netting is not recommended at this stage.

6 References

Birds in Backyards 2025, *Tree Martin*. Available at:
<https://www.birdsinbackyards.net/species/Petrochelidon-nigricans>


Department of Environment and Heritage 2008, *Adelaide and Mount Lofty Ranges South Australia Threatened Species Profile: Tree Martin*, 'Petrochelidon nigricans'. Available at:
<https://cdn.environment.sa.gov.au/landscape/docs/statewide/pa-fact-treemartin.pdf>

ebird.org. 2025, *Tree Martin*. Available at:
https://ebird.org/species/treemar2?siteLanguage=en_AU

Green Adelaide 2025, *Tree martin update*. Available at:
<https://www.greenadelaide.sa.gov.au/discover/native-animals/tree-martins>

Museums Victoria 2025, *Museums Victoria Collections: 'Petrochelidon nigricans', Tree Martin*. Available at: <https://collections.museumsvictoria.com.au/species/7383>

Appendix 1 Tree martin species profile

Name	Tree martin, <i>Petrochelidon nigricans</i>	
Size	Length: 12 cm, wingspan: 28 cm, weight: 15 g (Museums Victoria 2025)	
Identification	<p>Small bird with glossy blue-black feathers on the neck, back and crown, and cream feathers on the breast and belly. Wings and notched tail are brownish-grey, with a darker grey underneath and reddish-brown markings on the head.</p> <p>Males and females look very similar. Young are browner and paler.</p> <p>(Image: www.ebird.org [Ged Tranter])</p>	
Distribution	Widespread throughout Australia, between January and May, before heading to northern Australia, Papua New Guinea, and Indonesia from May to July (Green Adelaide 2025).	
Preferred habitat	<p>Generally, occur in airspace above open spaces such as grassland through to forests and wetlands, farmlands, and cities and suburban areas. Prefer to live within proximity to water sources. In non-urban areas they prefer open woodland with large trees that provide nest holes.</p> <p>In Adelaide, recorded roosting locations in the urban environment have included Chinese elm trees and Callery pear trees, where noise, light (e.g. fairy lights), and people are present (Green Adelaide 2025). These locations have been non-vehicular in nature.</p>	
Behaviour	Seasonally migratory. Will fly in an erratic but skilled way in pursuit of flying insects. May fly in large flocks as they approach their roosting site near sunset, that rise and then dive down as a large flock into the vegetation, avoiding predators such as peregrine falcons (Birds in Backyards 2025).	
Breeding	August-January. Nest in horizontal hollows of gum trees, and vertical banks of eroded creek lines. Can use artificial nests such as steel tubing and vent holes in buildings (Green Adelaide 2025). Nest hollow lined with grass and leaves (Department of Environment and Heritage 2008). Clutch 2-5 eggs with brown and mauve spots. Incubation for 14-16 days. Both parents incubate the eggs and feed the young.	
Conservation status	Colonial breeder, migratory breeder.	

Appendix 2 Rundle Mall and site photos

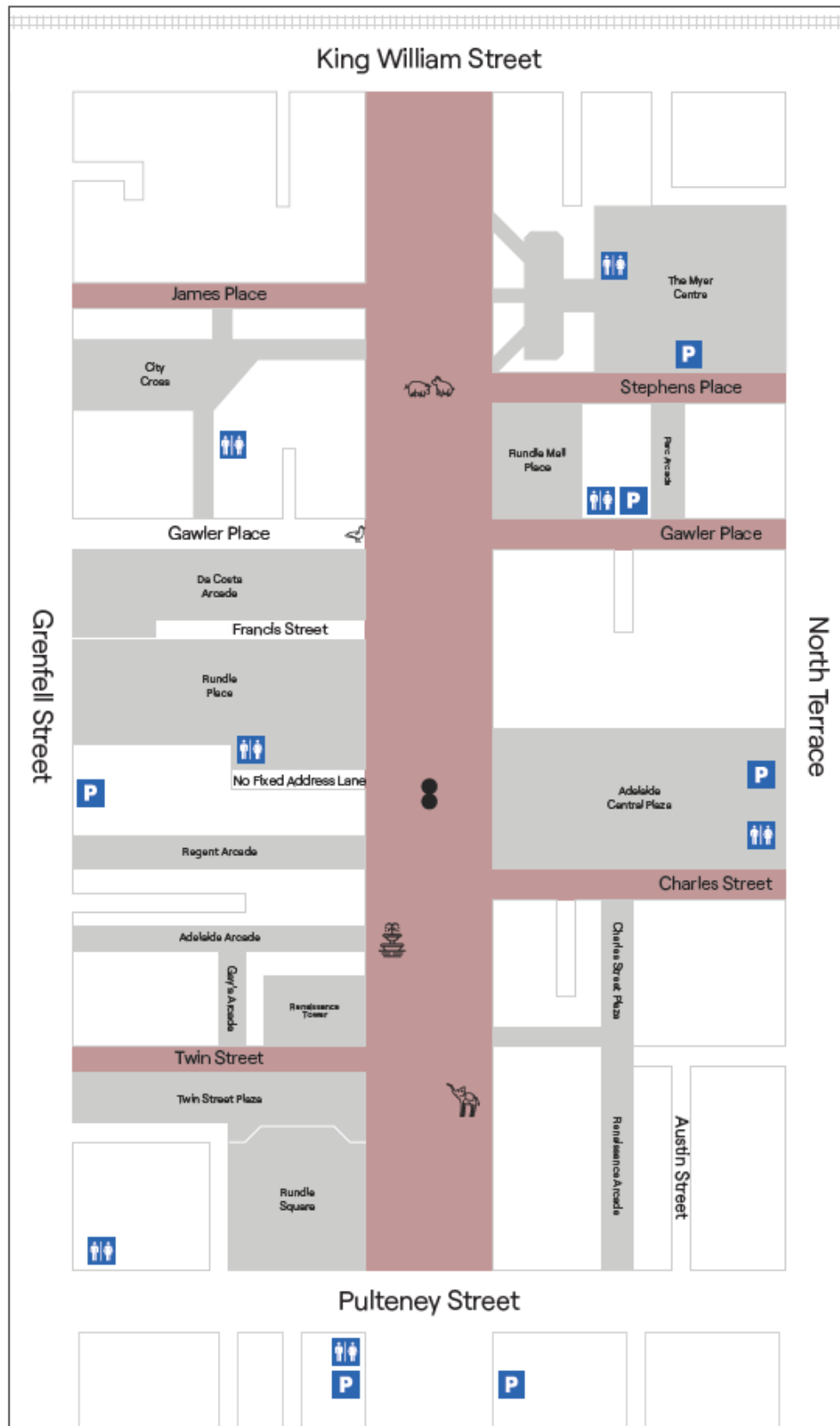


Figure 2 Rundle Mall (source: rundlemall.com)



Figure 3 Rundle Place, Rundle Mall, with Chinese elm trees located near the entry in front of the Apple Store



Figure 4 The Myer Centre, Rundle Mall, with Chinese elm trees located at the entrance



Figure 5 Regent Arcade, Rundle Mall, with Chinese elm trees located down the mall



Figure 6 Adelaide Arcade, Rundle Mall, with Chinese elm trees located at the entrance



Figure 7 Adelaide Central Plaza, Rundle Mall, with Chinese elm trees located down the mall



Figure 8 Rundle Mall Plaza, Rundle Mall, with Chinese elm trees located near the entrance

Appendix 3 Wildlife-friendly temporary horticultural netting fact sheet

Wildlife-friendly temporary horticultural netting

For commercial and non-commercial fruit and nut trees

Protecting crops and wildlife

Temporary netting is a popular way to protect fruit and nut trees from wildlife. It also provides some protection from sunburn, wind and hail damage.

There are a range of netting options available to protect crops from wildlife.

Unfortunately, some netting (or the way it is erected) can entangle birds, possums, flying foxes, snakes and lizards; causing stress, injury or death.

For individual trees in domestic backyards, the best way to prevent animals becoming entangled in a net is to avoid it altogether by **protecting individual fruit** using fruit protection bags.

However, if you choose to use temporary netting, it is possible to protect the produce and wildlife by following the simple principles outlined below.

Light (colour)

Use a net(s) lighter in colour than the background foliage, *ideally white*, so birds and mammals can see and avoid it, especially at night.

Strong

Use a durable, densely woven or knitted net(s) that does not stretch and enable animals to become entangled¹.

Alternatively, use 30% (shade factor) shade cloth. Avoid thin, lightweight nets (e.g. extruded) as they are easy for animals to pull out of shape and become entangled, and are not very durable.

¹ Ideally, made from high-density polyethylene monofilament, a minimum of 500 microns thick, with woven selvedge edges that give extra strength and ensure the net will not unravel.

Small (aperture)

Use a net(s) with apertures 5 mm x 5 mm or less (if single strand, 2 mm x 2 mm or less) to prevent access by small animals (e.g. birds) and/or the entanglement of larger animals' wings or feet.

The finger test – choose netting that you cannot poke your finger through.

Taut

The net should be taut enough that it does not sink under the weight of animals or form folds around them² when they land or crawl over it. The best way to do this is to make a sturdy frame:

- The frame could be made from commercial grade polythene pipe, metal or timber (checkout the internet for construction techniques). Allow for some tree growth and to provide some distance between determined animals and the produce.
- Tension the net tight against the frame and stop animals getting under it by weighing it down (e.g. with pipes or timber wrapped around the ends of the net), or pin down with tent pegs and tuck any excess net under.
- Fasten the net to the frame (e.g. with cable/zip ties, tie wires or string) to keep it taut and prevent sagging. Do not forget to create an opening and fasten tight, e.g. with butterfly clips or clothes pegs.

The bounce test – the net should ideally be tight enough that animals almost 'bounce' off it when they land on it.

² Common brush tail possums can weigh up to 3.5 kg, common ringtails 1.1 kg, and grey-headed flying foxes up to 1 kg

Check the net regularly

During the fruiting season, check the net regularly for holes, or trapped or entangled wildlife.

Trapped or entangled wildlife

Trapped but uninjured wildlife

- release the wildlife as soon as discovered
- check the integrity of the net.

Entangled and/or injured wildlife

Entangled and/or injured animals are likely to be highly stressed and potentially dangerous.

DO NOT attempt to remove them from the net

– cover them with a towel and contact a licensed wildlife rescuer group (e.g. Fauna Rescue SA) trained to handle and care for wildlife.

DO NOT attempt to rescue entangled and/or injured flying foxes or bats of any kind.

DO NOT handle dead flying foxes or bats due to the risk of infection by Australian Bat Lyssavirus, which can be transmitted by a bite or scratch from an infected animal.

Call the Fauna Rescue SA Microbats and Flying Foxes Rescue hotline on 8486 1139.

DO NOT attempt to rescue entangled and/or injured snakes. Call a licenced snake catcher.

Risks of entanglement

As they struggle to escape, entangled wildlife can become stressed, break bones and tear wing membranes.

Thin monofilament line can cut into animals; causing deep wounds or stop circulation.

Ultimately, these injuries can lead to shock and even death, particularly if the animal is trapped for a long time.

Entangled flying foxes may also be mothers nursing young that are waiting at a nursery roost. If these mothers cannot return to the roost within a day, these young will starve.



Netting with large apertures can trap native fauna
Photo: Victorian Advocates for Animals

Destruction permit

Under the *National Parks and Wildlife Act 1972*, a Permit to Destroy Wildlife may be granted to allow for the destruction or removal of wildlife that are causing damage to the environment, crops, stock or other property (including to nets).

The destruction of any animal must comply with codes of practice or animal welfare standards outlined in the *Animal Welfare Act 1985* and the regulations under that Act.

For more information

Animal Welfare Act; National Parks and Wildlife Act:
legislation.sa.gov.au

Queensland Government Netting Fruit Trees guide
environment.des.qld.gov.au

Grey-headed Flying-foxes in South Australia:
naturalresources.sa.gov.au/adelaidentloftyranges

Fauna Rescue of South Australia Inc.:
faunarescue.org.au

Appendix 4 Netted trees in Leigh Street



Figure 9 Gallery pear tree fitted with bird exclusion netting on Leigh Street, Adelaide

Revision History

Revision No.	Revision date	Details	Prepared by	Reviewed & approved by
00	17/11/2025	Preliminary Advice Regarding Netting Trees In Rundle Mall To Deter Tree Martin Roosting	Dr John Martin, Principal Ecologist	Heather Richards, Senior Environmental Scientist
01	19/11/2025	Feasibility, Benefits and Disbenefits of Netting Trees in Rundle Mall	Heather Richards, Senior Environmental Scientist	Dr John Martin, Principal Ecologist
03	20/11/2025	Feasibility, Benefits and Disbenefits of Netting Trees in Rundle Mall	Veronica Hutchison, Ecologist	Dr John Martin, Principal Ecologist
04	26/11/2025	Feasibility, Benefits and Disbenefits of Netting Trees in Rundle Mall	Veronica Hutchison, Ecologist	Dr John Martin, Principal Ecologist

Distribution List

Copy #	Date	Type	Issued to	Name
1	26/11/2025	Electronic	City of Adelaide	Nelly Belperio
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