

Transport Impact Assessment

Bankstown Airport Aviation Hangar Project

24-Jun-2024
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Bankstown Airport Aviation Hangar Project

Client: Bankstown Airport Limited

ABN: 50 083 058 637

Prepared by

AECOM Australia Pty Ltd

Gadigal Country, Level 21, 420 George Street, Sydney NSW 2000, PO Box Q410, QVB Post Office NSW 1230, Australia

T +61 1800 868 654 www.aecom.com

ABN 20 093 846 925

24-Jun-2024

Job No.: 60708314

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Quality Information

Document Transport Impact Assessment
Ref 60708314
Date 24-Jun-2024
Originator Mack Brinums
Checker/s Cameron Ward
Verifier/s Cameron Ward

Revision History

Rev	Revision Date	Details	Approved	
			Name/Position	Signature
B-F	25-June-2024	Final	Andrew Raeburn Principal Planner	

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1.0 Introduction

1.1 Background

A new development is proposed at Bankstown Airport on a portion of land herein referred to as the Aviation Hangar Project. The proposal involves the construction of two new aircraft hangars within the existing aircraft parking area located to the south-west of the airport's Chevron Precinct. The development will include the following elements:

- the creation of a new landside access road extending from Avro Street
- construction of a centralised car parking area with 91 car parking spaces
- construction of two rectangular shaped aircraft hangars
- construction of ancillary office spaces and a passenger terminal located at the western end of the southern hangar
- construction of hangar aprons and alterations to existing taxiways to accommodate up to Code C aircraft movements
- service connections
- stormwater management works and on-site detention
- the provision of airside fencing and landscaping.

Bankstown Airport Pty Limited (BAPL) commissioned AECOM Australia Pty Ltd (AECOM) to prepare a Transport Impact Assessment to accompany the Major Development Plan for the proposed development.

1.2 Purpose of this report

This report sets out an assessment of the anticipated transport implications of the proposed development, including consideration of the following:

- existing traffic and parking conditions surrounding the site
- suitability of the proposed parking arrangements
- the traffic generating characteristics of the proposed development
- suitability of the proposed access arrangements for the site
- the transport impact of the proposed development on the surrounding road network.

1.3 References

In preparing this report, reference has been made to the following:

- Transport for NSW (TfNSW) Guide to Traffic Generating Developments 2002 (TfNSW Guide 2002)
- TfNSW Guide to Traffic Generating Developments Updated Traffic Surveys Technical Direction (TDT 2013/04a)
- Australian Standard/New Zealand Standard, Parking Facilities, Part 1: Off-Street Car Parking AS/NZS 2890.1:2004
- Australian Standard, Parking Facilities, Part 2: Off-Street Commercial Vehicle Facilities AS 2890.2:2018
- Australian Standard/New Zealand Standard, Parking Facilities, Part 6: Off-Street Parking for People with Disabilities AS/NZS 2890.6:2022
- plans for the proposed development prepared by Crawford Architects, Drawing Number A011-A012, dated 31 October 2023

- Bankstown Airport Master Plan 2019 prepared by BAPL
- other documents and data as referenced in this report.

2.0 Existing conditions

2.1 Site location

The Aviation Hangar Project site is located within Bankstown Airport. Bankstown Airport is within the Canterbury-Bankstown local government area (LGA) and is around 313 hectares in size. It is bounded by Marion Street and residential areas to the north, Milperra Road and Bankstown Golf Course to the south, and Wackett Street, Birch Street and Bankstown Paceway to the east. Immediately west of the Airport is the Georges River Golf Course, Henry Lawson Drive and the Georges River.

Other uses immediately surrounding the Airport include warehouses and other industrial uses, commercial premises and low-density residential dwellings.

The location of Bankstown Airport and the Aviation Hangar Project site in the local context is shown in Figure 2-1, with an aerial image of the Aviation Hangar Project site shown in Figure 2-2.

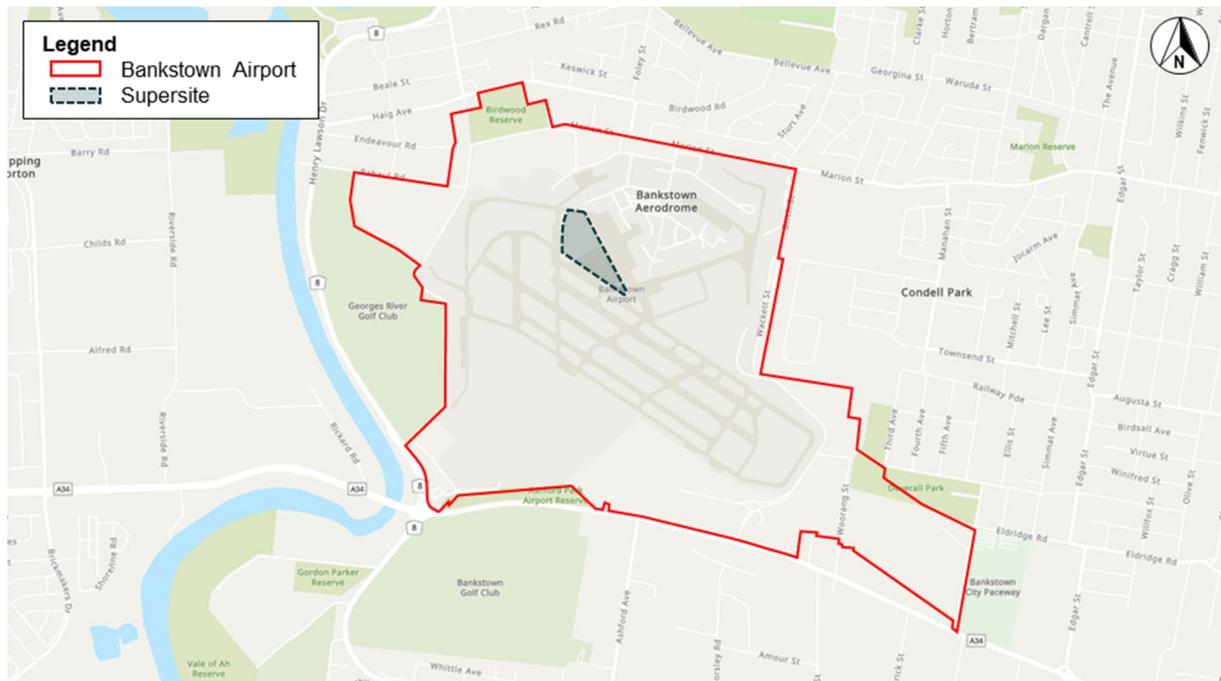


Figure 2-1 Bankstown Airport local context



Base image source: Nearmap

Figure 2-2 Aerial image of the site

2.2 Surrounding road network

Marion Street

Marion Street is an unclassified Regional Road (Road Number 7121) that is aligned in an east-west direction along the northern boundary of Bankstown Airport. It is a two-way road with two lanes in each direction set within a 13-metre-wide carriageway. Drover Road and Airport Avenue connect with Marion Street at T-intersections to provide access to Bankstown Airport.

Near the airport, kerbside parking is permitted along the northern side of the road outside the weekday AM peak period of 6:30am to 9:30am, and along the southern side of the road outside the weekday PM peak period of 3:00pm to 6:00pm. Marion Street has a posted speed limit of 60 kilometres per hour.

Milperra Road

Milperra Road is a classified State Road (Road Number 167) that is aligned in an east-west direction along the southern boundary of Bankstown Airport. It is a two-way road with generally three lanes in each direction plus additional turning lanes at intersections. Murray Jones Drive and Nancy Ellis Leebold Drive connect with Milperra Road at signalised intersections to provide access to Bankstown Airport.

Clearway restrictions are active on both sides of the road between 6:00am and 7:00pm Monday to Friday, and between 9:00am and 6:00pm on weekends and public holidays. Milperra Road has a posted speed limit of 70 kilometres per hour.

Henry Lawson Drive

Henry Lawson Drive is a classified State Road (Road Number 508) that is aligned in a north-south direction to the west of Bankstown Airport. It is a two-way road with generally one lane in each direction plus additional through and/or turning lanes at intersections.

Near the airport, kerbside parking is not permitted on either side of the road. Henry Lawson Drive has a posted speed limit of 60 kilometres per hour.

The NSW Government is currently upgrading Henry Lawson Drive to reduce congestion and improve safety and connectivity. The upgrade is being carried out in stages to minimise impact to road users, with Stage 1A spanning from Auld Avenue to just north of Tower Road near Bankstown Airport.

Once complete, Stage 1A will provide more capacity for vehicles travelling through the Henry Lawson Drive/Milperra Road intersection. Completion of Stage 1A is expected by mid-2026.

2.3 Public transport

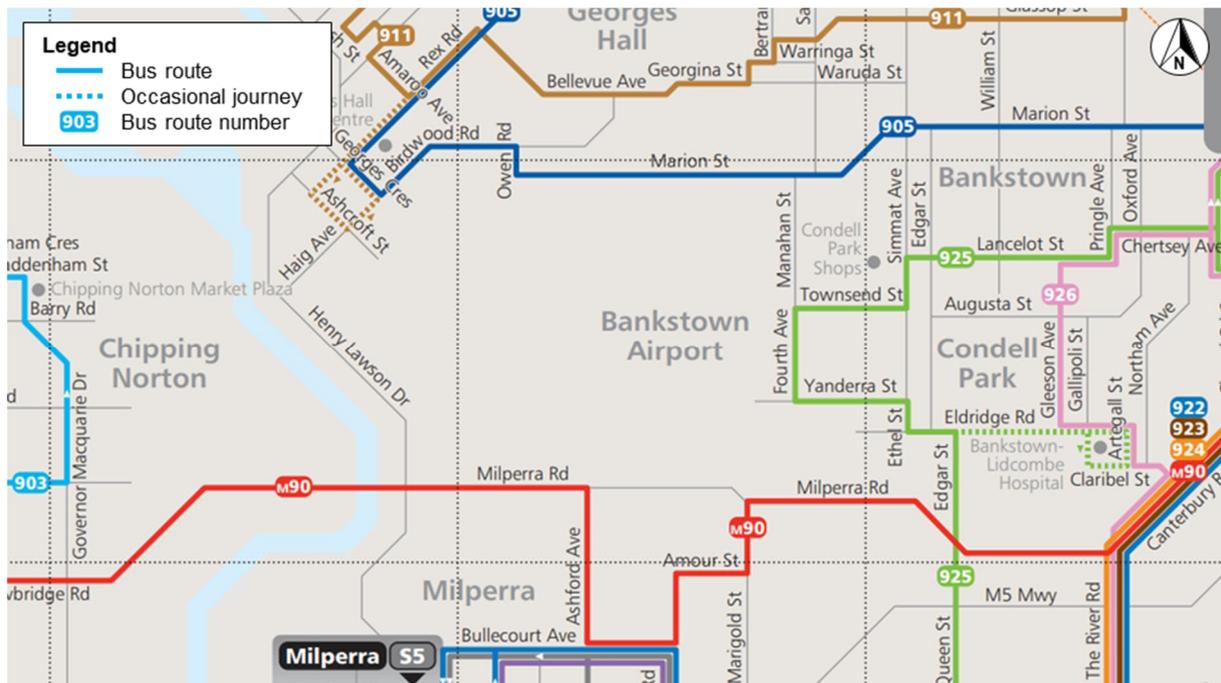
The site is relatively well serviced by public transport, with frequent bus services operating along Marion Street providing connection to nearby surrounding centres including Bankstown and Fairfield.

While frequent bus services also operate along Milperra Road, no direct pedestrian connections are currently provided between the bus stops along Milperra Road and Bankstown Airport.

A summary of the bus routes available near the site is provided in Table 2-1 and shown indicatively in Figure 2-3.

Table 2-1 Public transport provision

Service	Route number	Route description	Location of stop	Distance to nearest stop	Frequency on/off-peak
Bus	905	Bankstown to Fairfield	Marion Street at Airport Avenue	0 metres	15 mins/ 30 mins
	M90	Burwood to Liverpool	Milperra Road at Murray Jones Drive	0 metres	10 mins/ 15 mins



Base image source: https://transportnsw.info/document/5885/22210_tdev_nsw_network_map_13.pdf, dated April 2022

Figure 2-3 Surrounding public transport network

2.4 Walking and cycling infrastructure

Existing pedestrian infrastructure surrounding Bankstown Airport is sporadic. Where pedestrian paths do exist, they are generally only provided on one side of the road and/or in small sections along roads. Historically, limited pedestrian paths have also been provided along roads within Bankstown Airport, however some paths have recently been constructed along Airport Avenue and Murray Jones Drive as part of broader infrastructure and development works.

Cycling infrastructure servicing Bankstown Airport is also limited, with the nearest shared paths located to the west of the site along the eastern side of the Georges River.

2.5 Crash history

An analysis the most recent five-year period of available crash data between 2017 and 2021 has been undertaken based on crash data obtained from the TfNSW Centre for Road Safety along Marion Street, noting the Aviation Hangar Project site will be accessed via internal roads within Bankstown Airport that connect with Marion Street. The locations and severity of the crash data for the five-year period is shown in Figure 2-4.



Base image source: <https://www.transport.nsw.gov.au/roadsafety/statistics/interactive-crash-statistics/lga-view-crashes-map>, accessed July 2023

Figure 2-4 Crash map from 2017 to 2021

A total of four crashes were recorded along Marion Street near the accesses to Bankstown Airport, including three at the Marion Street/Airport Avenue intersection and one at the Marion Street/Sturt Avenue intersection.

The crash at the Marion Street/Sturt Avenue intersection was classified as a head-on collision between two vehicles on Marion Street resulting in a serious injury. This crash was recorded to have occurred at night.

The three crashes recorded at the Marion Street/Airport Avenue intersection were all related to multi-vehicle collisions between vehicles turning in or out of Airport Avenue and through traffic on Marion Street. The crashes resulted in a non-casualty (towaway), a moderate injury and a serious injury, with all the crashes occurring during daylight hours.

2.6 Relevant policies

Bankstown Airport Master Plan 2019

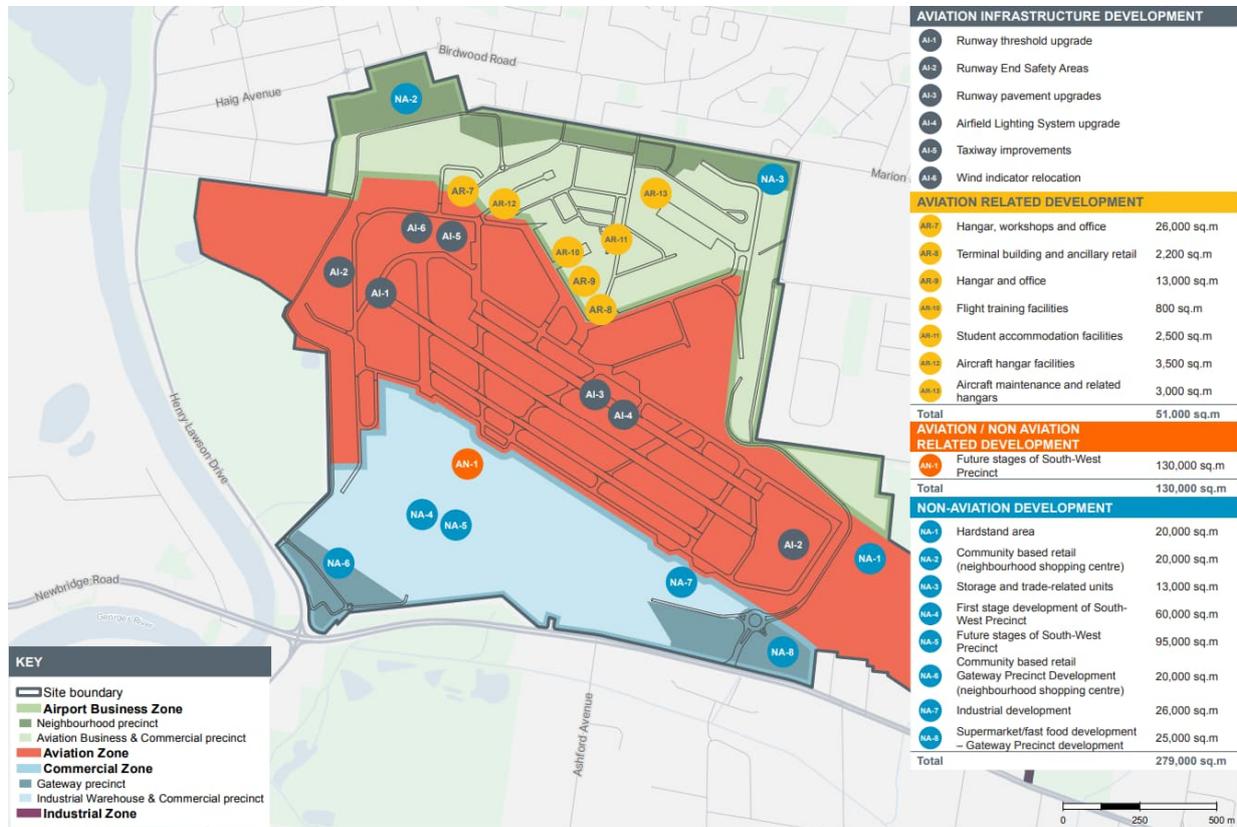
BAPL has prepared the Bankstown Airport Master Plan 2019 in line with the requirements of the Airports Act 1996 (Airports Act). The Airports Act requires BAPL to prepare an Airport Master Plan every five years, setting out the 20 year strategic direction for the Airport, and a more detailed five year development strategy. The Master Plan outlines the vision, objectives and strategic intent for future Airport growth and provides a clear direction for airport facilities development.

BAPL has developed a traffic model using VISSIM software to assess the implications of potential development at the Airport during the first five years of the Master Plan 2019. The traffic modelling has been used to inform the creation of the five year Ground Transport Plan (GTP) to optimise the use of existing transport infrastructure and increase its capacity where necessary to support growth.

The Master Plan indicates that the five year development program on the Airport site will contribute minor increases to traffic on roads surrounding the Airport, mostly in the Airport’s proposed Commercial Zone in the South West Precinct shown in Figure 2-5.

Most of the upgrade works identified to 2024 within the Master Plan are required to cater for existing traffic and growth in background traffic for the study area surrounding the Airport. The timing and triggers for upgrade works in this Ground Transport Plan will depend on the scale and location of development at the Airport, and continued discussions with TfNSW and Canterbury-Bankstown Council.

Of particular note, development of the Aviation Hangar Project, which is the subject of this assessment, was not specifically identified within the Bankstown Airport five year development program.



Source: Bankstown Airport Master Plan 2019

Figure 2-5 Bankstown Airport five year development program

3.0 Proposed development

The proposal involves the construction of two new aircraft hangars within the existing aircraft parking area located to the south-west of the airport’s Chevron Precinct. The development will include the following elements:

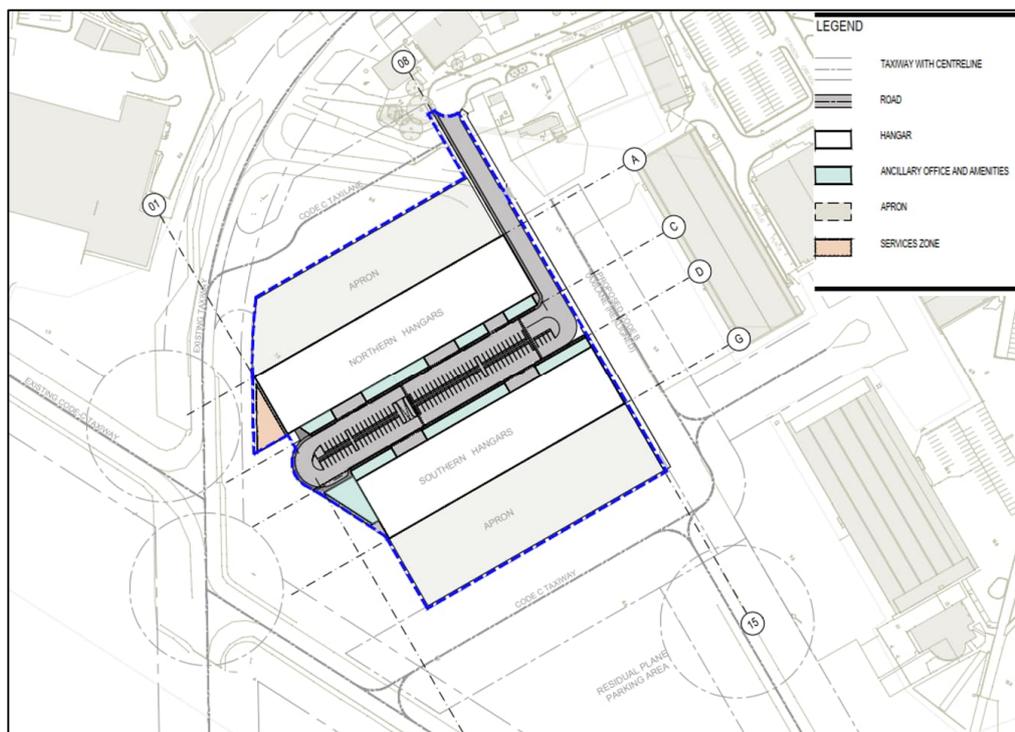
- the creation of a new landside access road extending from Avro Street
- construction of a centralised car parking area with 91 car parking spaces, plus an indented short-term parking zone for up to two vehicles
- construction of two rectangular shaped aircraft hangars
- construction of ancillary office spaces and a passenger terminal located at the western end of the southern hangar
- construction of hangar aprons and alterations to existing taxiways to accommodate up to Code C aircraft movements
- service connections
- stormwater management works and on-site detention
- the provision of airside fencing and landscaping.

A summary of the area schedule for the hangars and office space is provided in Table 3-1.

Table 3-1 Area schedule

Use	Size (GFA)
Hangar	9,978m ²
Office	3,582m ²

The proposed site plan is shown in Figure 3-1.



Source: Site Plan Concept prepared by Crawford Architects, Drawing Number A011, Issue E, dated 16 November 2023

Figure 3-1 Proposed site plan

4.0 Parking and access assessment

4.1 Car parking

While it is acknowledged that the Canterbury-Bankstown Development Control Plan 2023 (DCP 2023) technically does not apply to the site, the Bankstown Airport Master Plan 2019 suggests that car parking for future development within the Airport would be provided at rates consistent with Canterbury-Bankstown Council's planning requirements.

Offices and hangars

DCP 2023 recommends that parking for office space in locations similar to Bankstown Airport be provided at a rate of one space per 40 square metres GFA. Based on the proposed 3,582 square metres GFA, this equates to a recommended minimum provision for 90 car parking spaces. DCP 2023 also recommends accessible parking for office buildings be provided at a rate of one space per 50 standard spaces. Given the proposed hangars are linked with the adjacent offices, the hangars are not expected to generate any additional parking demand.

A total of 91 car parking spaces are proposed including six accessible spaces, therefore meeting the minimum parking provision recommended by DCP 2023.

Passenger terminal

No specific guidance is provided within DCP 2023 on the parking requirements for passenger terminals. Considering the small size of the proposed passenger terminal and that the terminal would only be associated with small passenger/private planes, minimal parking demand and associated traffic generation is expected.

As such, no long-term parking is proposed for the passenger terminal. However, an indented short-term parking zone suitable for up to two cars would be provided along the southern side of the car park to accommodate pick-up and drop-off activity. This arrangement is considered acceptable for the proposed use.

4.2 Site layout review

The site layout has been reviewed against the requirements of the Australian Standard for Off Street Car Parking (AS/NZS2890.1:2004 and AS2890.6:2022).

Overall, the site is expected to operate satisfactorily, with access to the car park provided from a new landside road extending from Avro Street within the broader Bankstown Airport site. From there, vehicles are able to connect with the external road network via the following routes:

- Airport Avenue and Marion Street
- Klemm Street, Desoutter Street, Drover Road, Link Road and Rabaul Road or Tower Road.

Car parking is proposed to be allocated to staff associated with the offices. Car parking spaces have been designed appropriately to exceed the minimum dimensional requirements of a Class 1A facility of 2.4 metre wide and 5.4 metre long spaces, with 5.8 metre wide parking aisles. Accessible parking spaces also include an adjacent 2.4 metre wide and 5.4 metre long shared area in accordance with AS2890.6:2022.

It is expected that infrequent vehicle access will be required by trucks up to and including 8.8 metre medium rigid vehicles (MRVs). The access road from Avro Street has been designed with a width of around nine metres which is more than adequate for providing access to the car parks and hangars. The car park will operate under a one-way clockwise arrangement to minimise the number of conflict points between vehicles and simplify vehicle circulation through the site. The access road connects with the existing cul-de-sac at the end of Avro Street, with suitable sight lines provided at the access.

A swept path assessment has been completed and has been provided in Appendix A, confirming vehicles up to 8.8 metre MRVs are able to adequately circulate through the site and access the hangars as required.

5.0 Traffic impact assessment

5.1 Construction traffic

Construction of the proposed development is expected to generate around 40 vehicles (80 vehicle trips) per day on average, or around four vehicles per hour (eight vehicle trips). Overall, this increase in traffic is considered minor and is not expected to compromise the function of the surrounding road network.

A detailed Construction Traffic Management Plan (CTMP) would be prepared by the Appointed Contractor during the detailed design phase and prior to the commencement of construction. The CTMP would include the guidelines, general requirements and procedures to be used to minimise the impact of construction works on the surrounding road network and other road users.

5.2 Operational traffic

Traffic generation rates for the proposed uses have been sourced from the TfNSW Guide 2002 and TDT 2013/04a. The TDT 2013/04a recommends traffic generation rates of 1.6 and 1.2 vehicle trips per 100 square metres GFA for commercial office uses in the weekday AM and PM peak hours, respectively. Based on the proposed 3,582 square metres GFA of office space, it is expected the proposed development will generate around 57 vehicle trips in the AM peak hour and 43 vehicle trips in the PM peak hour.

The hangars are only expected to generate occasional deliveries (i.e. say one to two deliveries per day across the hangars) noting their primary function of storing aeroplanes. Similarly, the passenger terminal would also generate minimal traffic with up to five vehicle trips per hour expected within the proposed short-term parking zone, noting the passenger terminal is only associated with small passenger/private planes. Deliveries and traffic associated with the hangars and passenger terminal respectively would likely occur outside peak periods.

As mentioned, vehicle access to the site is proposed via a new landside access road from Avro Street. From there, vehicles are able to connect with the external road network via the following routes:

- Airport Avenue and Marion Street
- Klemm Street, Desoutter Street, Drover Road, Link Road and Rabaul Road or Tower Road.

As discussed in Section 2.6, the five year development program outlined in the Bankstown Airport Master Plan 2019 was estimated to generate between 1,350 and 1,825 vehicle trips during the weekday peak hours, with it found that this level of development will contribute minor increases to traffic on roads surrounding the Airport in the context of existing and future background traffic growth. Further to this, the 20-year Road Network Strategy states that Marion Street is expected to have sufficient capacity in its current form and would be unlikely to require any upgrades, even with some additional development within the Aviation Business Zone. As mentioned, Stage 1A of the Henry Lawson Drive upgrade works are currently underway and are planned to increase the capacity at intersections along Henry Lawson Drive including at Tower Road and Milperra Road to accommodate future traffic growth.

While development of the Aviation Hangar Project was not specifically identified within the five year development program for Bankstown Airport, the addition of 43 to 57 vehicle trips in the weekday peak hours would equate to an additional vehicle at the Marion Street/Airport Avenue or Henry Lawson Drive/Tower Road intersections every two to three minutes (assuming a 50:50 distribution between the two intersections). Clearly this increase in traffic is minor, particularly in the context of the broader Bankstown Airport Master Plan, and could not be expected to compromise the function of the surrounding road network.

6.0 Conclusion

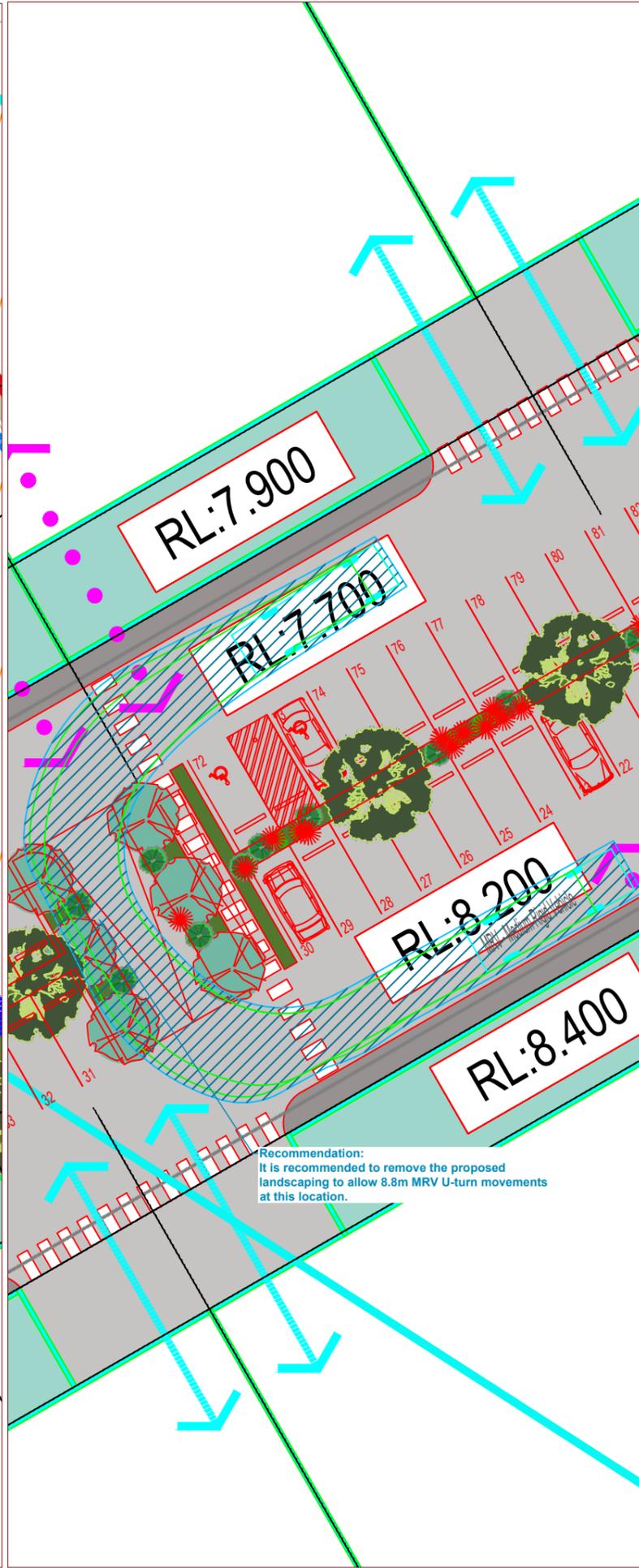
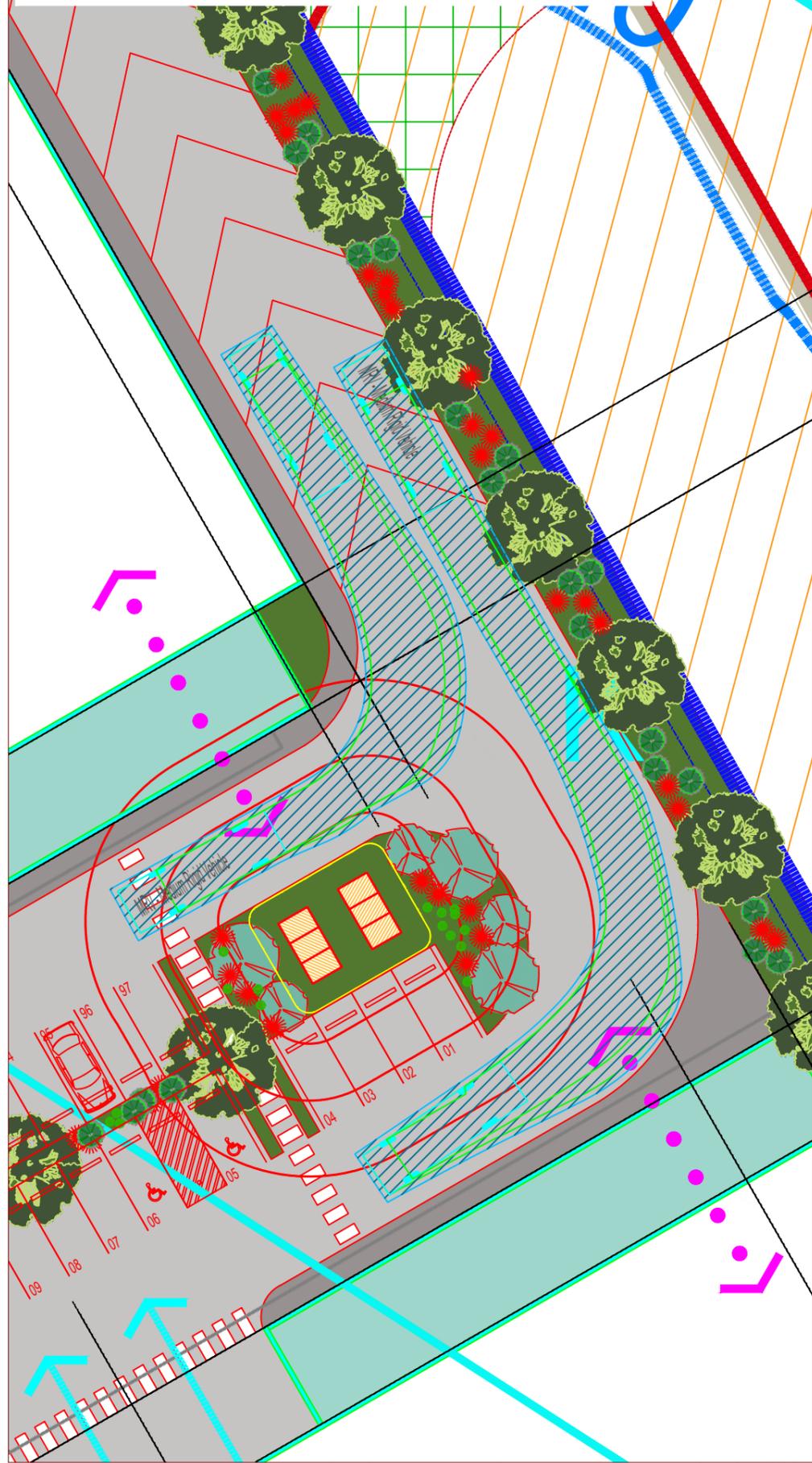
Based on the analysis and discussions presented within this report, the following conclusions are made:

1. A new development at Bankstown Airport is proposed involving the construction of new aeroplane hangars and office space, associated car parking, a passenger terminal, ancillary taxiway/apron links and residual plane parking areas.
2. The proposed development generates a recommended minimum provision for 90 car parking spaces including four accessible spaces.
3. A total of 91 car parking spaces are proposed including six accessible spaces, therefore meeting the minimum recommended parking provision.
4. In addition, an indented short-term parking zone suitable for up to two cars is also proposed which would accommodate pick-up and drop-off activity associated with the proposed passenger terminal. This arrangement is considered acceptable noting the small size of the passenger terminal and that the terminal would only be associated with small passenger/private planes.
5. The proposed site layout is consistent with the dimensional requirements as set out in the Australian/New Zealand Standard for Off Street Car Parking (AS/NZS2890.1:2004 and AS2890.6:2022).
6. Construction of the proposed development is expected to generate around 40 vehicles (80 vehicle trips) per day on average, or around four vehicles per hour (eight vehicle trips). Overall, this increase in traffic is considered minor and is not expected to compromise the function of the surrounding road network.
7. Once operational, the site is expected to generate around 43 and 57 vehicle trips in the weekday AM and PM peak hours, respectively.
8. While development of the Aviation Hangar Project was not specifically identified within the five year development program for Bankstown Airport, the 20-year Road Network Strategy within the Bankstown Airport Master Plan 2019 states that Marion Street is expected to have sufficient capacity in its current form and would be unlikely to require any upgrades, even with some additional development within the Aviation Business Zone. Further to this, Stage 1A of the Henry Lawson Drive upgrade works are currently underway and are planned to increase the capacity at intersections along Henry Lawson Drive including at Tower Road and Milperra Road to accommodate future traffic growth.
9. The addition of 43 to 57 vehicle trips in the weekday peak hours would equate to an additional vehicle at the Marion Street/Airport Avenue or Henry Lawson Drive/Tower Road intersections every two to three minutes. Clearly this increase in traffic is minor, particularly in the context of the broader Bankstown Airport Master Plan, and could not be expected to compromise the function of the surrounding road network.

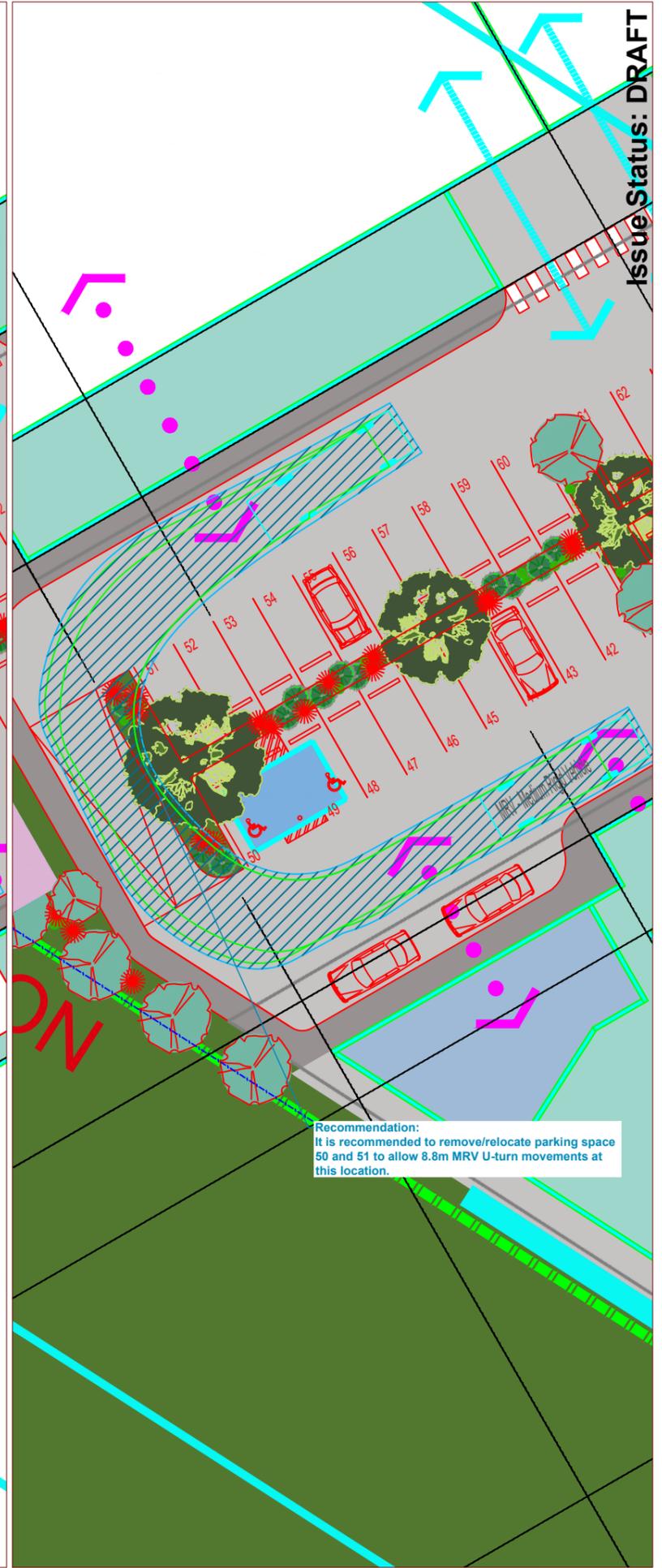
Appendix A

Swept path assessment

Site Circulation (clockwise) (8.8m MRV)



Recommendation:
It is recommended to remove the proposed landscaping to allow 8.8m MRV U-turn movements at this location.

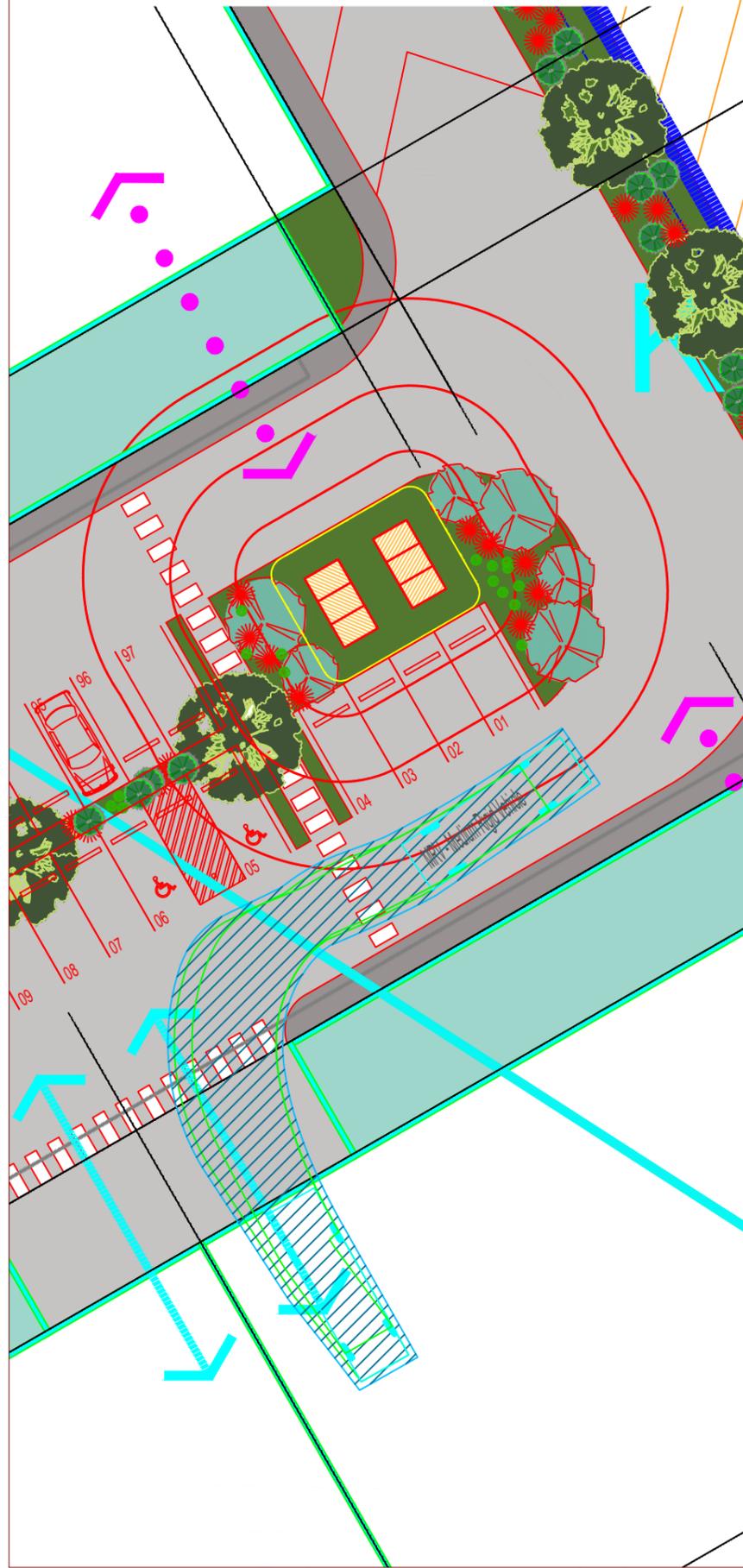


Recommendation:
It is recommended to remove/relocate parking space 50 and 51 to allow 8.8m MRV U-turn movements at this location.

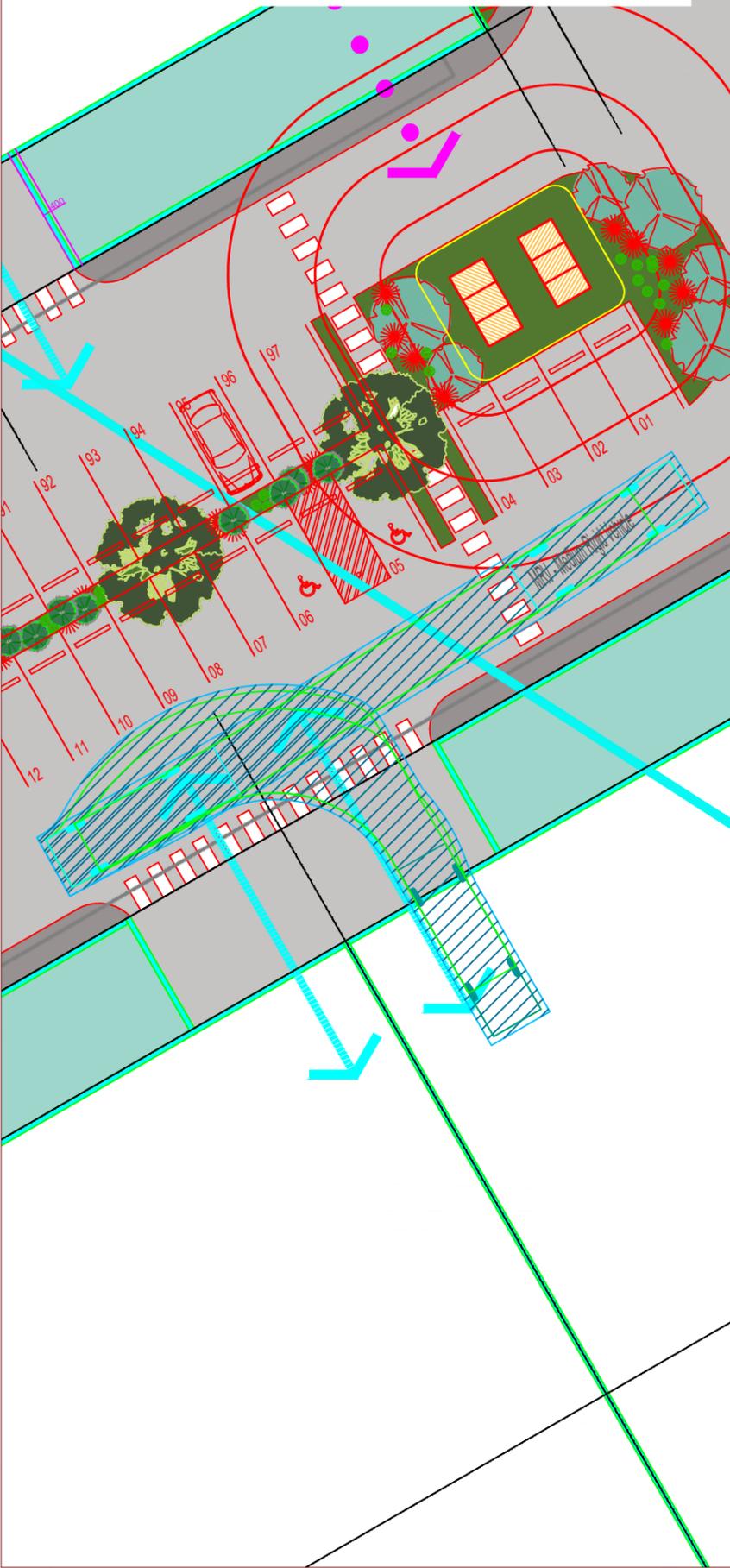
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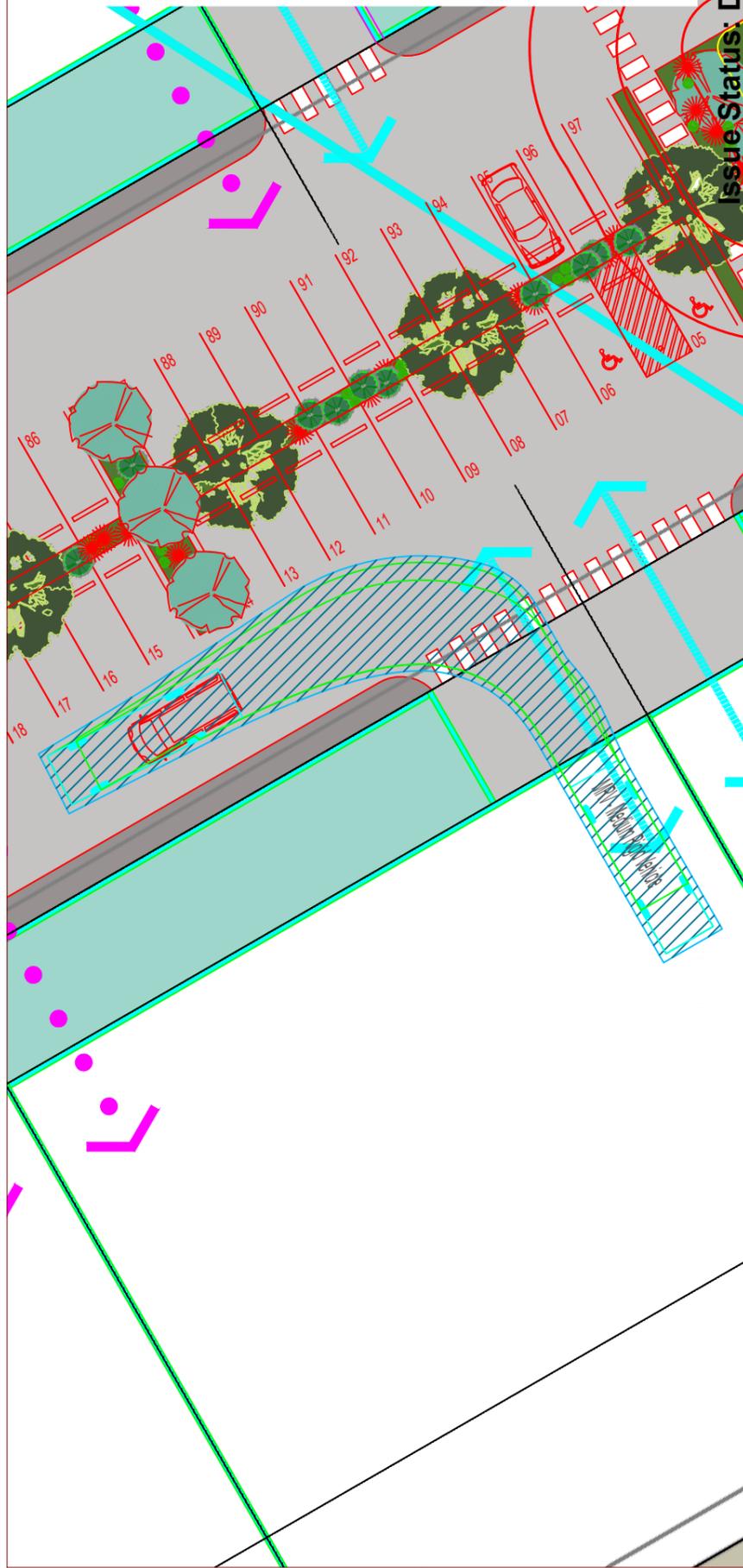
Hangar Access (8.8m MRV - forward in)



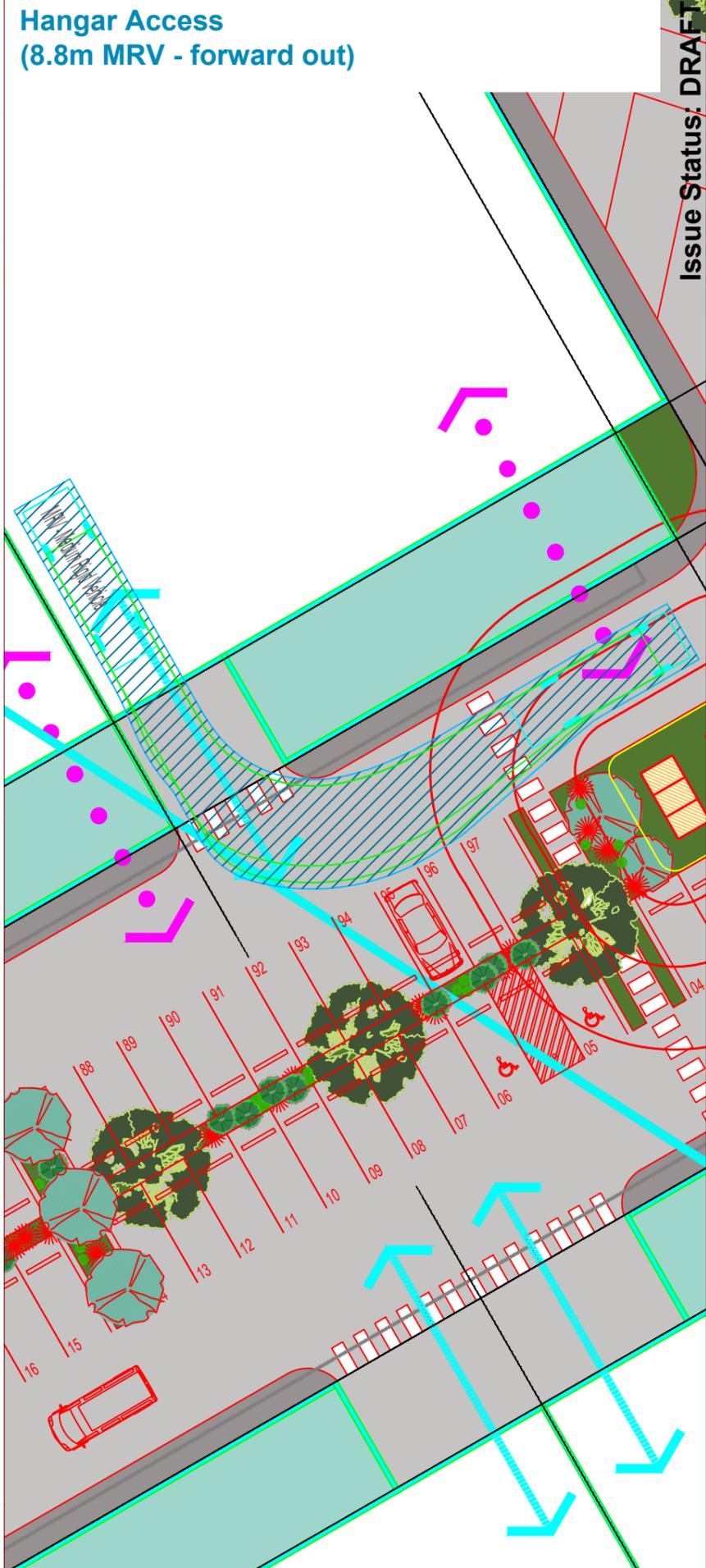
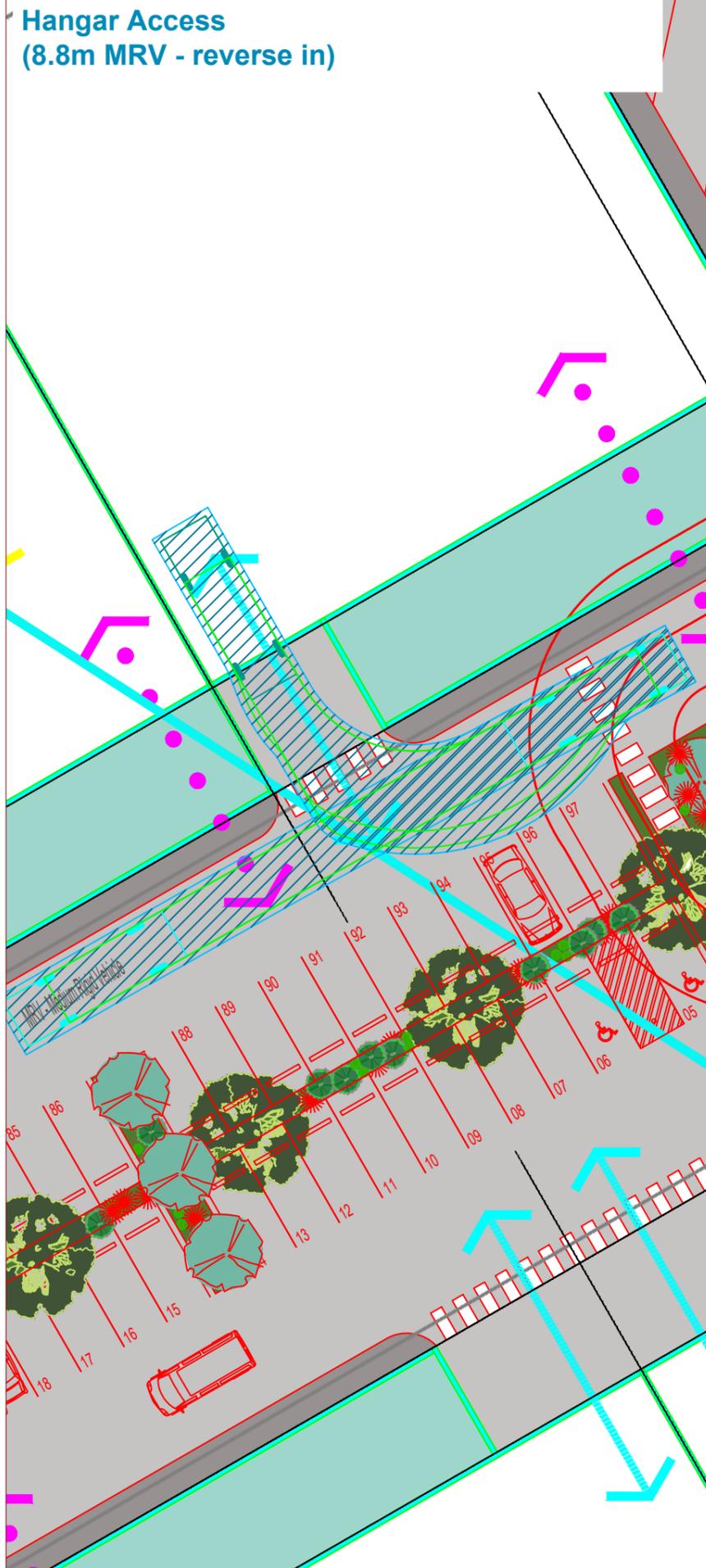
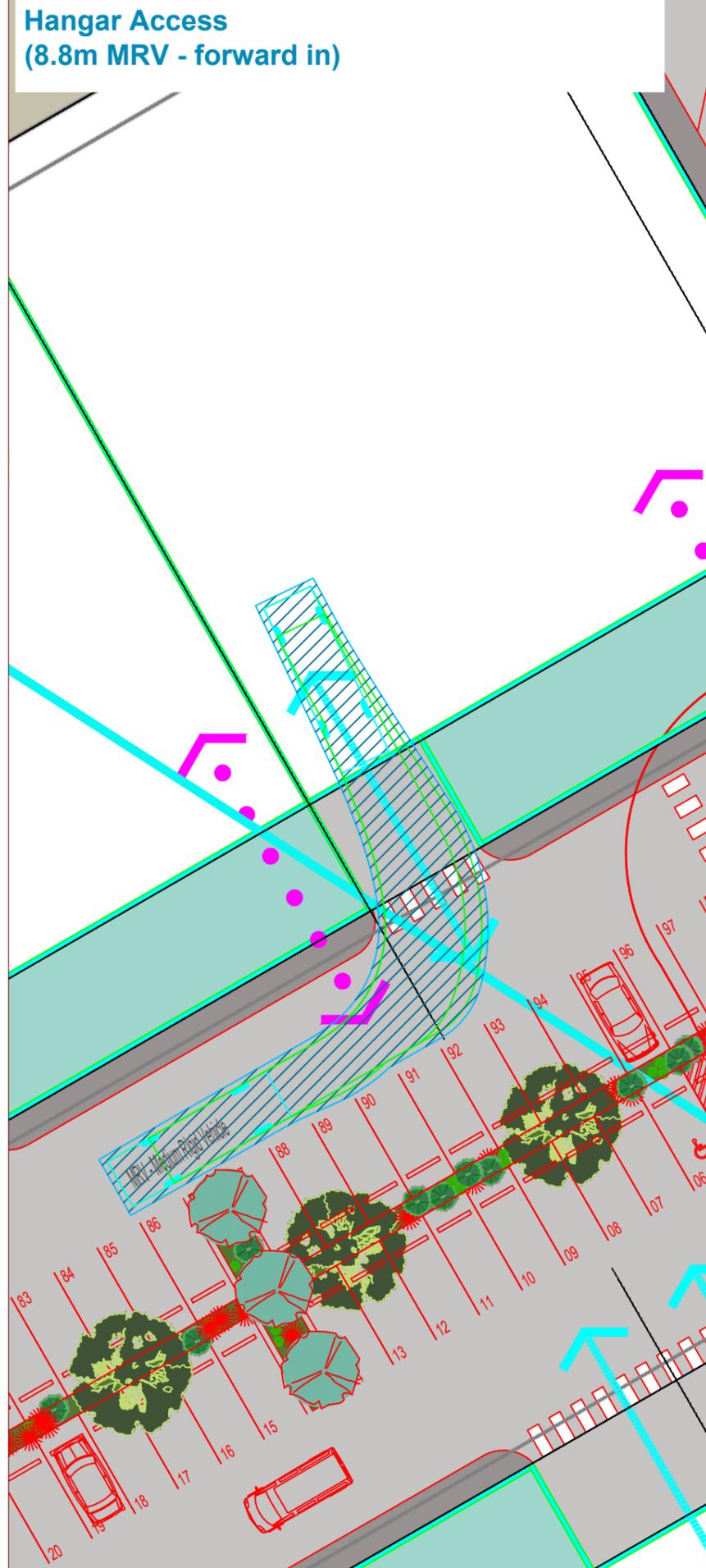
Hangar Access (8.8m MRV - reverse in)



Hangar Access (8.8m MRV - forward out)



Issue Status: DRAFT



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