

Transport Assessment

Development Application

East Maitland Retirement Aged Care Facility

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1 Introduction

1.1 Overview

Ason Group has been engaged by Fresh Hope Care to prepare a Transport Assessment (TA) in regard to a Development Application (DA) for a residential aged care facility (RACF - the Proposal) at 7 Martin Close and 42 Stronach Avenue, East Maitland (the Site). The Proposal provides for:

- 160 Retirement Aged Care (RAC) Beds, including 16 dementia specific beds.
- 8 Respite overnight beds.
- A Respite Day Centre for 20 people.
- A one-bedroom family room.
- A Wellness Centre including:
 - 3 Consulting Rooms;
 - 1 Treatment Room;
 - 2 Offices;
 - 1 Physio Room; and
 - A Gym.

Full details of the Proposal are provided in the broader DA submission which this TA accompanies.

1.2 Transport Assessment Tasks

This TA provides an assessment of the relevant access, traffic and parking characteristics of the Proposal, and the potential impacts of the Proposal on the local road, parking and active transport environment. This has included a detailed assessment of:

- Existing local road network operations;
- Public and active transport services and infrastructure;
- The existing and future peak period trip generation and distribution of the Site, and the potential impact of those trips on the local road network;
- Parking requirements and provision; and
- The design of access driveways, car parks and servicing areas.

1.3 Planning Controls

The assessment of the Proposal is primarily subject to the requirements of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (SEPP Seniors). In addition, the Site lies within the Maitland City Council (Council) Local Government Area (LGA), and as such key Council planning controls have also been referenced, including:

- Maitland Local Environmental Plan 2011 (Maitland LEP)
- Maitland Development Control Plan 2011 (Maitland DCP).

1.4 Traffic and Transport Guidelines and Standards

This TA references general access, traffic and parking guidelines, including:

- Roads & Maritime Services Guide to Traffic Generating Developments 2002 (RMS Guide);
- Roads & Maritime Services Guide to Traffic Generating Developments – Updated Traffic Surveys 2013, (RMS Guide Update);
- Austroads Guide to Traffic Engineering, Part 14 (Austroads GTE 14);
- Austroads Cycling Aspects of Austroads Guides (Austroads Cycling);
- Australian Standard 2890.1: Parking Facilities – Off-Street Car Parking (AS 2890.1);
- Australian Standard 2890.2: Parking Facilities – Off-Street Commercial Vehicle Facilities (AS 2890.2);
- Australian Standard 2890.3: Parking Facilities – Bicycle Parking (AS 2890.3);
- Australian Standard 2890.6: Parking Facilities – Off-Street Parking for People with a Disability (AS 2890.6);
- Environmental Impact Statement Guidelines, Department of Planning & Environment; and
- Transport for NSW Guide to Transport Impact Assessments.

1.5 Consultation

Ason Group has had the opportunity to provide comments in regard to the Proposal to Council as part of the Pre-DA process, and in turn to review the outcomes of Pre-DA discussions. Ason Group acknowledges the insights provided by Council officers in regard to local transport conditions and key issues for assessment.

1.6 Traffic & Parking Data

At the time of preparing this assessment, many businesses and activities across NSW have either closed or are operating significantly below capacity as a result of the Covid-19 virus. However, as part of preliminary investigations for the Proposal, traffic and parking surveys were undertaken in 2019, and as such a valid data set is available for the assessment.

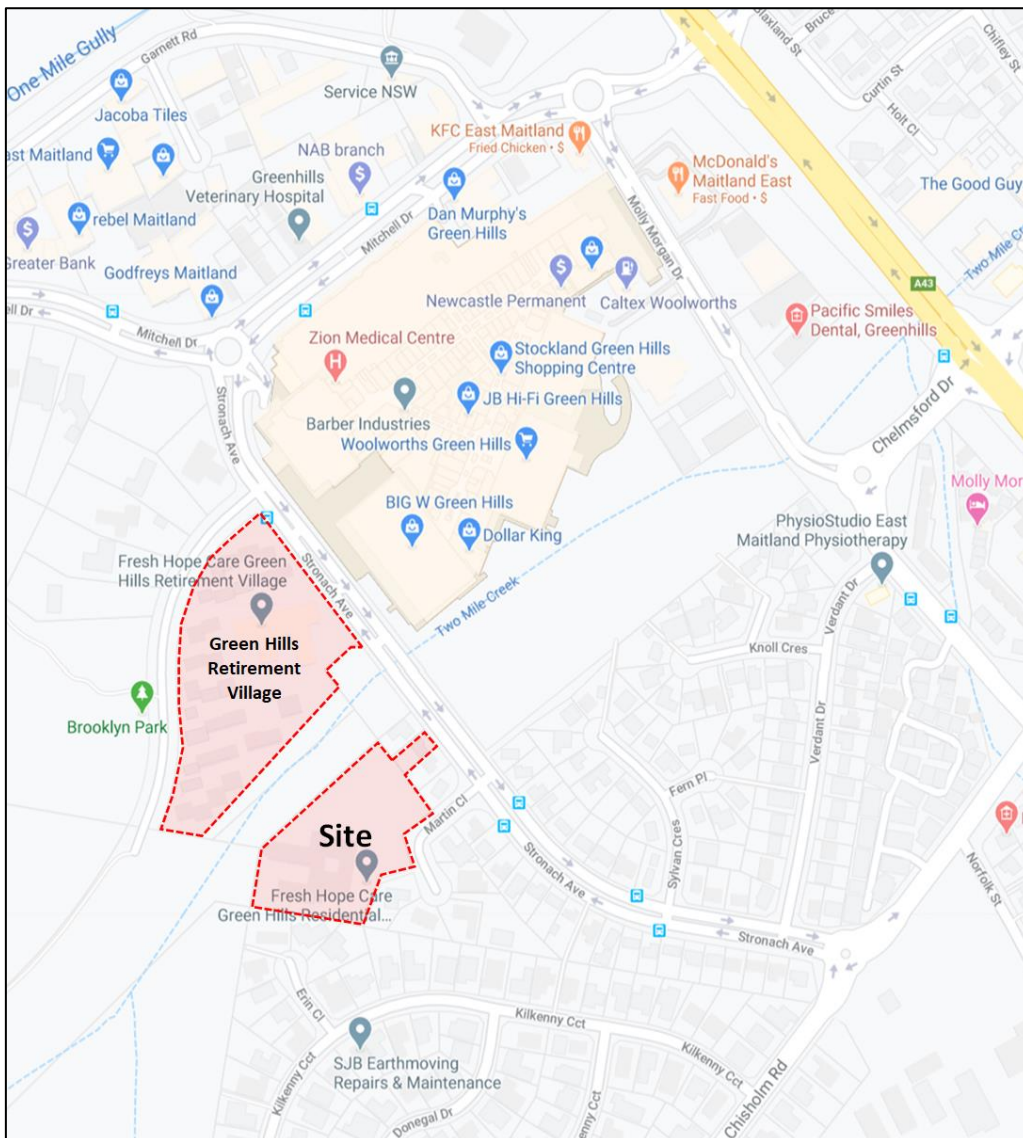
2 The Existing Site

2.1 Location

The Site is officially known as Lot 57 DP2608333 (Lot B) and is located at 7 Martin Close and 42 Stronach Avenue, East Maitland; the Site has an area of approximately 13,966m².

For ease of reference, Ason Group has designated Stronach Avenue as running north-south to the east of the Site; the Site is therefore also bordered by Two Mile Creek to the north, Martin Close to the south and existing low-density residential dwellings to the west. The Site is shown in its local context in **Figure 1**, as is the Green Hills Retirement Village (the GHRV Site) which lies to the immediate west of Two Mile Creek.

Figure 1: Site Location



2.2 Current Use

2.2.1 Operational Capacity

The Site is currently occupied by the Green Hills Residential Aged Care Facility; the RACF on the Site itself provides 60 beds, while a further 50 RAC beds are provided in 'The Lodge' which lies within the GHRV Site.

While still fully operational, the RACF is outdated and has reached the end of its operational life; the Proposal therefore provides for the provision of a new, up-to-date RACF to continue to meet the needs of the community.

2.2.2 Staff and Shifts

The RACF currently employs a total of 144 staff, though a much lower full time equivalent (FTE) staff cohort are on-site at any one time given the operational shift profile, and the fact that some staff are only occasionally on-site. On average, a total of 70 – 75 staff are employed on-site each day across 3 shifts, being:

- Day Shift: 6:30am - 2:30pm;
- Afternoon Shift: 2:30pm – 10:30pm; and
- Night Shift: 10:30pm – 6:30am.

Average staff numbers for each of these shifts are shown in **Table 1**.

Table 1: Existing RACF Shift Structure

Existing Staff	Day Shift	Afternoon Shift	Night Shift
Home	22	13	4
Lodge	11	6	3
Administration	4		
Ancillary	8		
Ministry	3		
Total	48	19	7

Source: Fresh Hope

With reference to **Table 1**, the peak number of staff on-site at any one time is during the Day Shift, with a total of 48 staff on-site. It is noted that a number of Administration, Ancillary and Ministry staff work during more standard office hours (8:00am – 5:00pm).

2.3 Vehicle Access

All vehicle access to the Site is provided via 2 driveways to Martin Close, which in turn provides access to on-site parking and servicing areas. The western driveway provides for all entry movements, while the eastern driveway provides for all departure movements.

Noting that internal pedestrian access is provided between the Site and The Lodge (and broader GHRV Site), RACF staff attending both the Site and The Lodge park within the Site and then – as necessary – walk between the Site and The Lodge.

2.4 Trip Generation

The existing trip generation of the Site can be determined with reference to the RMS Guide, which provides the following in regard to *housing for aged and disabled persons*:

- *Daily vehicle trips: 1 - 2 per dwelling*
- *Evening peak hour vehicle trips: 0.1 - 0.2 per dwelling*

Factors

These figures at the lower end of the above rates are based on research conducted by the Authority. This research concentrates on subsidised developments (often run by religious organisations). Generation rates of resident funded developments are often greater, as indicated at the higher end of the range.

Based on these trip rates, it is estimated that the existing Site generates approximately 10 – 20 vehicle trips in a peak hour (vph).

These trip estimates tally well with traffic surveys undertaken at the intersection of Stronach Avenue & Martin Close in February 2019 as part of pre-planning for the Proposal. These surveys (provided in **Appendix A**) report a total of 16vph and 9vph to/from Martin Close in the AM and PM peak periods respectively.

2.5 Parking

The Site currently provides a total of 54 formal parking spaces across 3 parking areas.

Parking surveys were also undertaken in February 2019 as part of pre-planning for the Proposal. The parking surveys report on the individual car parks across the Site, which are shown in **Figure 2** while **Table 2** provides a summary of peak parking demands across the day.

Figure 2: Existing Site Car Parks



Table 2: Existing RACF Parking Demand

Time	CP1	CP2	CP3	Total RACF
6:30	1	3	22	26
7:30	1	3	22	26
8:30	0	3	20	23
9:30	3	6	34	43
10:30	3	6	34	43
11:30	5	8	36	49
12:30	5	8	36	49
13:30	5	4	35	44
14:30	5	4	35	44
15:30	4	2	29	35
16:30	4	2	29	35
17:30	4	4	13	21
18:30	4	4	13	21
19:30	1	2	13	16
Peak Demand	5	8	36	49

With reference to **Table 2**, peak parking demand occurs in the middle of the Day Shift, with 49 of the 54 parking spaces occupied. This reflects a high use of private vehicles for staff, but only a very moderate visitor demand.

2.6 Existing Site Benchmarks

The identification of the existing Site's traffic and parking characteristics provides an important benchmark by which to measure the Proposal. In summary, the existing Site operations are estimated to:

- Generate a peak staff demand of some 48 staff during the Day Shift;
- Generate peak period traffic flows of 10 – 15 vph; and
- Generate a peak parking demand for 49 parking spaces.

These characteristics are referenced again in later sections of this TA.

3 The Road Network

Key roads and intersections in the vicinity of the Site are shown in **Figure 1** and described further in sections below.

3.1 Key Roads

3.1.1 Martin Close

Martin Close is a local road which generally runs east-west from Stronach Avenue to a terminus south of the Site. It provides 1 traffic lane in each direction, and – given its width – provisions for on-street parking on both sides of the road. Martin Close has a posted speed limit of 50km/h.

3.1.2 Stronach Avenue

Stronach Avenue is a local collector road which generally runs north-south from Mitchell Drive to Chisholm Road respectively. In the vicinity of the Site, it provides a median separated carriageway providing 1 traffic lane, 1 parking lane and 1 on-road cycle lane in each direction, as well as bus stops. Stronach Avenue has a posted speed limit of 50km/h.

3.1.3 Mitchell Drive

Mitchell Drive is a local collector road which generally runs east-west from New England Highway to Chisholm Road respectively. It provides a median separated carriageway providing different combinations of traffic and parking lanes in each direction, as well as key access intersections to the Green Hills Shopping Centre. Mitchell Drive has a posted speed limit of 50km/h.

3.1.4 Chisholm Road

Chisholm Road is a local collector road which runs from Mitchell Drive to the north-west of the Site to New England Highway to the south-east of the Site. It provides 1 traffic lane in each direction, as well as on-street parking and bus stops. Chisholm Road has a posted speed limit of 50km/h.

3.1.5 New England Highway

New England Highway is an arterial road that runs from Newcastle to the south-east through Maitland to Branxton and then through major regional centres to the north. In the vicinity of the Site, New England Highway provides 2 – 3 traffic lanes in each direction, as well as additional lane infrastructure at key intersections. New England Highway has a posted speed limit of 60km/h through East Maitland.

3.2 Key Intersections

3.2.1 Stronach Avenue & Martin Close

This intersection operates under priority (Give Way) control with priority to Stronach Avenue.

3.2.2 Stronach Avenue & The Boulevarde

This intersection operates under priority (Give Way) control with priority to Stronach Avenue, and provides a right turn lane, Stronach Avenue to The Boulevarde.

3.2.3 Stronach Avenue & Mitchell Drive & Green Hills Shopping Centre

This intersection operates under roundabout control, with 2 lanes on each approach and additional slip lanes to and from the Green Hills Shopping Centre northern car park.

3.2.4 Stronach Avenue & Chisholm Road

This intersection operates under roundabout control, with 1 lane on each approach and pedestrian refuges within the northern and eastern median approaches.

3.3 Existing Traffic Conditions

3.3.1 Traffic Surveys

Traffic surveys were undertaken in February 2019 at the following intersections:

- Stronach Avenue & Martin Close;
- Stronach Avenue & The Boulevarde; and
- Stronach Avenue & Mitchell Drive & Green Hills Shopping Centre.

The surveys were undertaken across the entire day (6:30am – 7:30pm), with the peak hours determined to be 8:15am – 9:15am and 15:45pm – 16:45pm in the AM and PM peak periods respectively. The survey results are provided in **Appendix A**.

3.3.2 Intersection Operations

SIDRA intersection modelling has been undertaken to establish the existing performance of the key intersections in the vicinity of the Site. The SIDRA model provides a number of outputs by which to measure the performance of an intersection, including:

- **Average Vehicle Delay (AVD):** AVD (or average delay per vehicle in seconds) for intersections is used to determine an intersection's Level of Service (see below). For signalised intersections, the AVD reported relates to the average of all vehicle movements through the intersection.
- **Degree of Saturation (DOS):** DOS is defined as the ratio of demand (arrival) flow to capacity.

- **Level of Service (LOS):** LOS is a comparative measure that provides an indication of the operating performance, based on AVD.

Table 3 provides a summary of the SIDRA recommended criteria for the assessment of intersections, which references LOS and delay criteria outlined in the RMS Guide, while **Table 4** summarises the outputs of the SIDRA analysis of existing intersection operations.

Table 3: SIDRA Level of Service Criteria

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals & Roundabout	Give Way & Stop Signs
A	less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays	At capacity, requires other control mode
		Roundabouts require other control mode	
F	More than 70	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode or major treatment.

Table 4: Existing Intersection Operations

Existing Intersection Operations	Level of Service		Average Delay (s)		Degree of Saturation	
	AM	PM	AM	PM	AM	PM
Stronach Ave & Martin Cl	A	A	8.8	8.5	0.18	0.17
Stronach Ave & The Boulevard	A	A	6.3	7.8	0.19	0.24
Stronach Ave & Mitchell Dr	A	A	6.1	6.6	0.33	0.54

With reference to **Table 4**, the key intersections all operate at a very good LOS during the peak periods, with minimal delays and significant spare capacity.

Ason Group notes that - based on the traffic volumes in Stronach Avenue south of Martin Close and estimated traffic volumes in Chisholm Road - the intersection of Stronach Avenue & Chisholm Road is expected to operate to a similar high standard.

4 Public & Active Transport

4.1 Overview

The Site is provided with immediate access to public and active transport services, which are described further in sections below. It is noted that the provision of such access is a key requirement of SEPP Seniors, Clause 26 of which provides the following:

26 Location and access to facilities

- 1) *A consent authority must not consent to a development application made pursuant to this Chapter unless the consent authority is satisfied, by written evidence, that residents of the proposed development will have access that complies with subclause (2) to:*
 - a) *shops, bank service providers and other retail and commercial services that residents may reasonably require, and*
 - a) *community services and recreation facilities, and*
 - b) *the practice of a general medical practitioner.*
- 2) *Access complies with this clause if:*
 - a) *the facilities and services referred to in subclause (1) are located at a distance of not more than 400 metres from the site of the proposed development that is a distance accessible by means of a suitable access pathway and the overall average gradient for the pathway is no more than 1:14, although the following gradients along the pathway are also acceptable:*
 - i. *a gradient of no more than 1:12 for slopes for a maximum of 15 metres at a time,*
 - ii. *a gradient of no more than 1:10 for a maximum length of 5 metres at a time,*
 - iii. *a gradient of no more than 1:8 for distances of no more than 1.5 metres at a time, or*
 - c) *in the case of a proposed development on land in a local government area that is not within the Greater Sydney (Greater Capital City Statistical Area)—there is a transport service available to the residents who will occupy the proposed development:*
 - i. *that is located at a distance of not more than 400 metres from the site of the proposed development and the distance is accessible by means of a suitable access pathway, and*
 - ii. *that will take those residents to a place that is located at a distance of not more than 400 metres from the facilities and services referred to in subclause (1), and*
 - iii. *that is available both to and from the proposed development during daylight hours at least once each day from Monday to Friday (both days inclusive), and the gradient along the pathway from the site to the public transport services (and from the transport services to the facilities and services referred to in subclause (1)) complies with subclause (3).*

4.2 Bus Services

Bus stops are located in Stronach Avenue immediately south of Martin Close (approximately 120m from the centre of the Site), and in Stronach Avenue south of The Boulevard (approximately 220m from the centre of the Site). It is noted that these northern bus stops would generally be favoured by staff and visitors as a marked pedestrian crossing of Stronach Avenue is provided adjacent to these bus stops.

The Stronach Avenue bus stops are serviced by Route 181, Rutherford to Woodberry via Aberglasslyn, Maitland, Stockland Green Hills & Beresfield. Services operate every 40 to 80 minutes across the day in each direction. Bus stops are also provided in Mitchell Drive within 400m of the Site, which are serviced by a number of other local and sub-regional bus routes.

Figure 3 shows the bus routes operating in the vicinity of the Site, while **Table 5** provides a summary of these routes and their frequencies.

Figure 3: Local Bus Routes

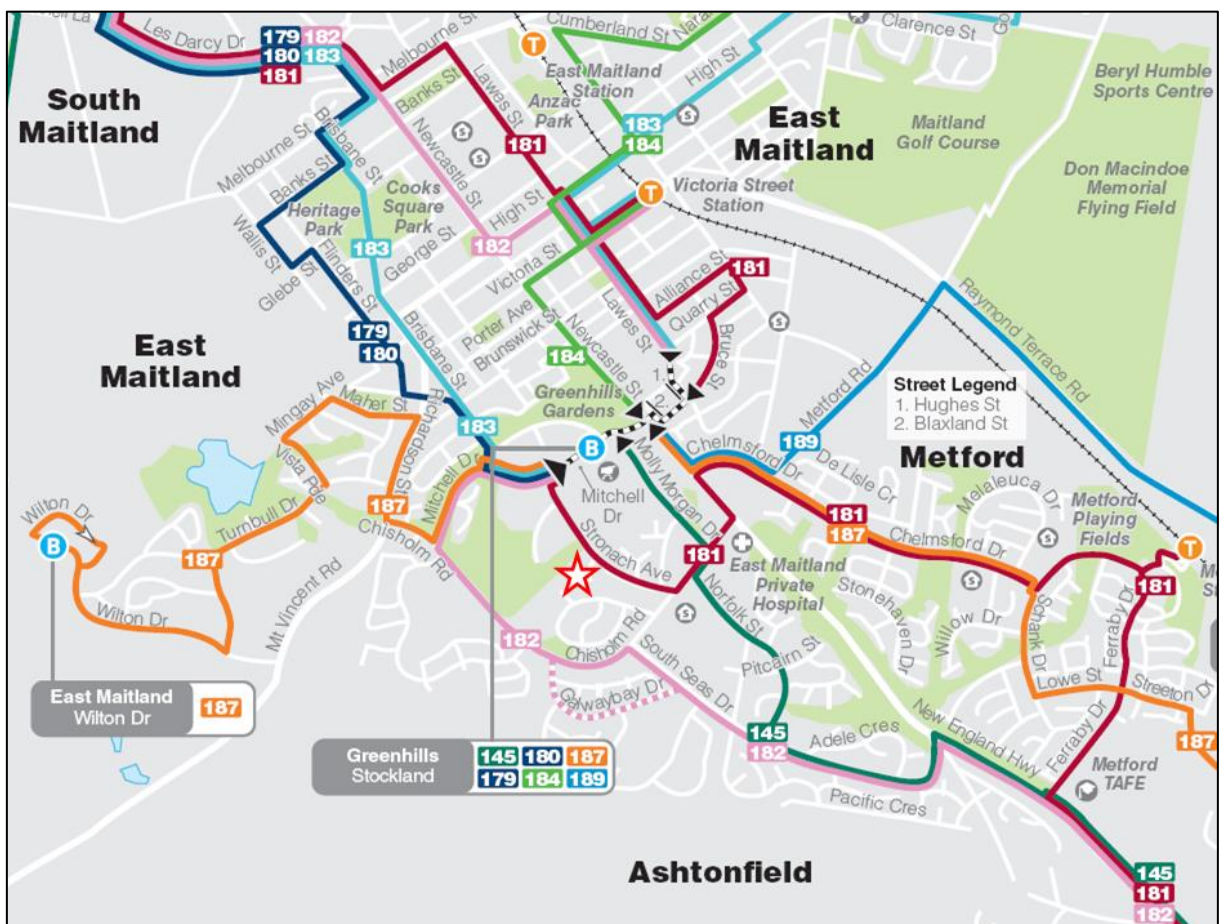


Table 5: Bus Service Frequencies

Route	Origin-Destination	Peak Headway	Off-Peak Headway
145	Newcastle Airport to Stockland Green Hills	60 min	60 min
164	Cessnock to Maitland	60 min	60 min
179	Stockland Green Hill to Rutherford	na	60 min
180	Stockland Green Hills to Singleton Heights	120 min	120 min
181	Rutherford to Woodberry	60 min	60 min
183	Rutherford to Tenambit	30 min	40 min
184	Stockland Green Hills to Morpeth	60 min	60 min
187	Stockland Green Hills to Wilton Drive Loop	60 min	120 min
189	Stockland Green Hills to Thornton	60 min	120 min

4.3 Active Transport

The Site provides a high level of pedestrian connectivity, including immediate and safe connections to public transport services and the Green Hills Shopping Centre, which provides all of the services required under SEPP Seniors.

Footpaths are provided across the Site, and a connection is provided to the existing footpath in Stronach Avenue which extends north to a marked pedestrian crossing, and then along the footpath on the eastern side of Stronach Avenue; this in turn provides access to local bus stops and the Green Hills Shopping Centre. It is noted that the gradient of the existing footpath has been assessed and determined to meet the grade requirements detailed in SEPP Seniors; more information in this regard is provided in the broader DA submission which this TA accompanies.

As discussed previously, mark on-road cycle lanes are also provided in Stronach Avenue, which connect to other off-road shared paths in Mitchell Drive and Chisholm Road.

5 The Proposal

5.1 Overview

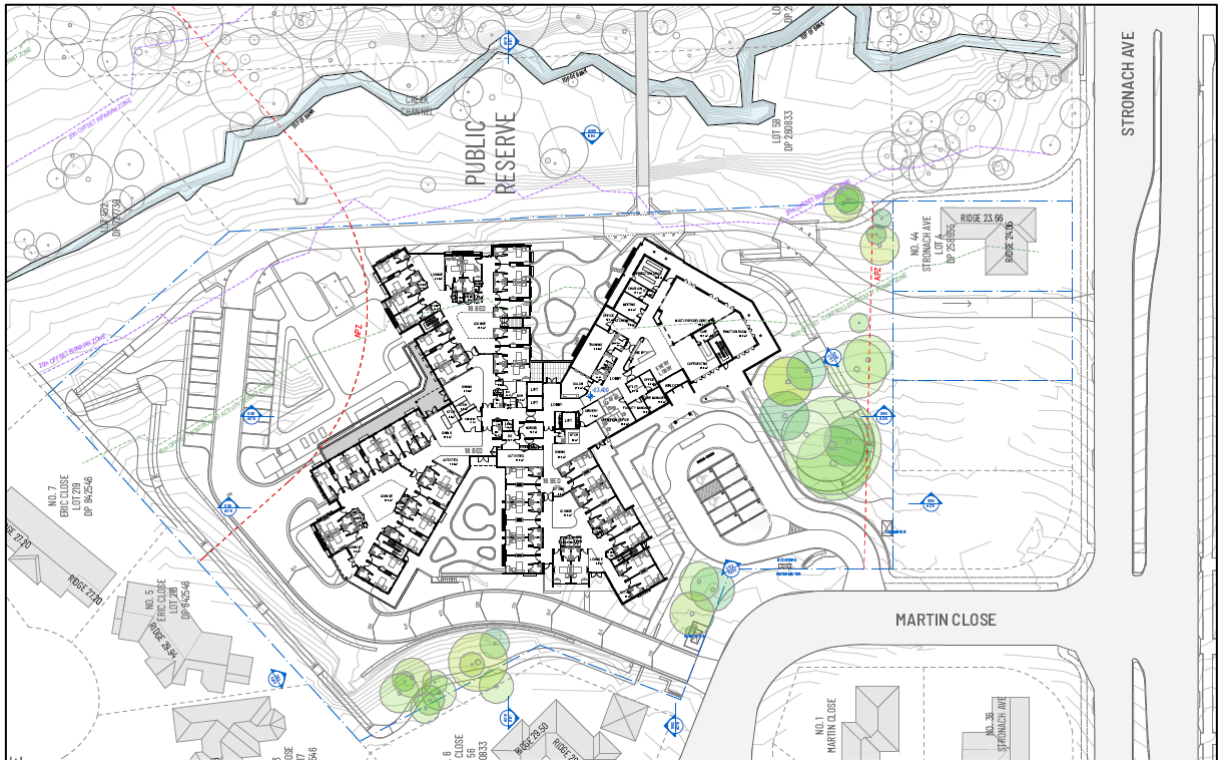
As discussed in the Introduction, the Proposal provides for the redevelopment of the Site to provide a new up-to-date RACF, including:

- 160 RAC beds, including 16 dementia specific beds.
- 8 Respite overnight beds.
- A Respite Day Centre for 20 people.
- A one-bedroom family room.
- A Wellness centre including:
 - 3 Consulting Rooms;
 - 1 Treatment Room;
 - 2 Offices;
 - 1 Physio Room; and
 - A Gym.

Full details of the Proposal are provided within the broader DA submission which this TA accompanies; plans relevant to this TA are provided below for context, including the Ground Floor Plan and Lower Ground Floor Plan.

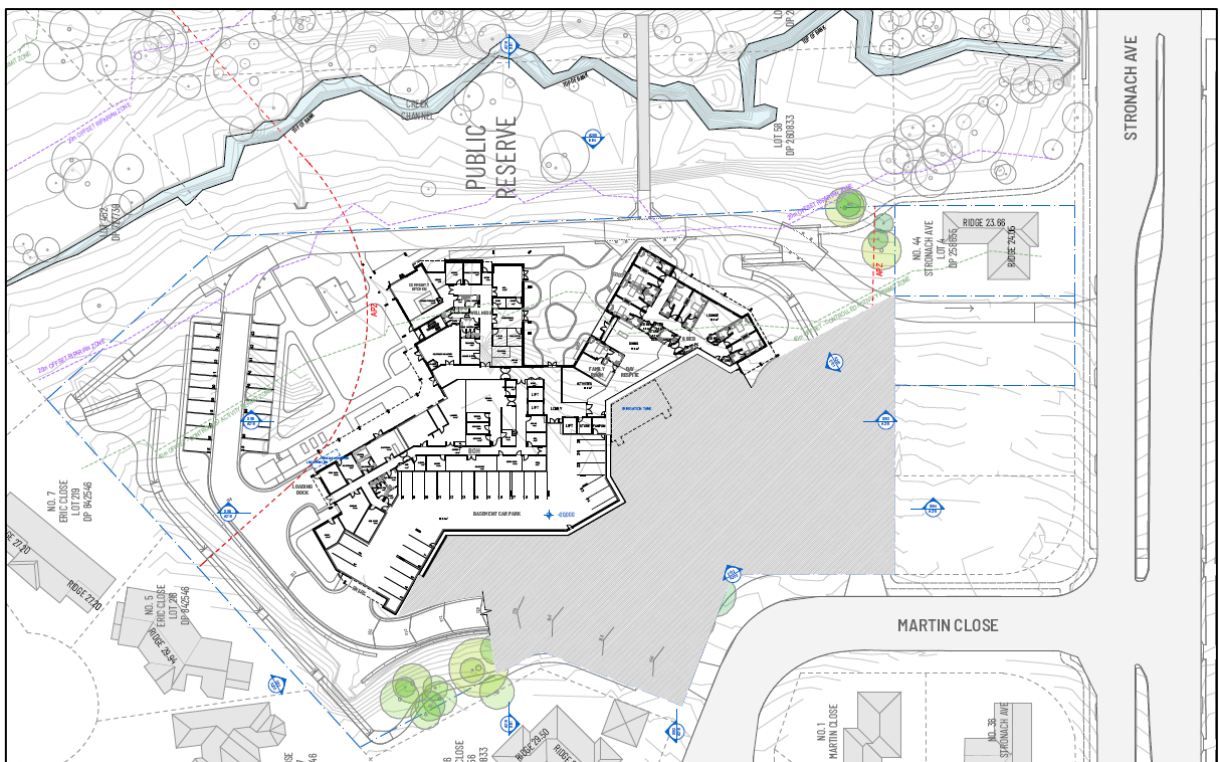
It is important to note that the Proposal will entirely replace the existing RACF located at 7 Martin Close, East Maitland (i.e. The Lodge). The Lodge itself will stop operations at some stage following the start of operations at the new RACF.

Figure 4: Ground Floor Plan



Source: Calder Flower

Figure 5: Lower Ground Floor Plan



Source: Calder Flower

5.2 RACF Operations

5.2.1 Staff and Shifts

The RACF will employ a total of 133 staff, though again a much lower FTE staff cohort will be on-site at any one time given the continuing operational shift profile, and the fact that some staff will only occasionally be on-site.

On average, a total of 65 - 70 staff will be employed across the same shifts as detailed in **Section 2.2.2**, with the new facilities providing additional efficiencies further to technological and management improvements. Average staff numbers for each of these shifts are shown in **Table 6**.

Table 6: Future RACF Shift Structure

Future Staff	Day Shift	Afternoon Shift	Night Shift
RACF	33	16	4
Administration	4		
Ancillary	8		
Ministry	3		
Total	48	16	4

Source: Fresh Hope

With reference to **Table 6**, the peak number of staff on-site at any one time will again be during the Day Shift, with a total of 48 staff on-site. As discussed previously, many of the Administration, Ancillary and Ministry staff will continue to work during more standard office hours.

Importantly, the proposed new facilities such as the Wellness Centre, Respite Day Centre and consulting rooms will operate as ancillary facilities for the RACF, i.e. the new facilities will not be for the use of the general public but only for residents and visitors

5.2.2 The Lodge

As stated previously, the operation of The Lodge will discontinue at some stage following the start of operations at the new RACF.

5.3 Access

Primary vehicle access to the Site will continue to be via Martin Close, with 2 driveways provided. The eastern driveway will provide two-way access to visitor and accessible parking, and for emergency access, adjacent to the main entry lobby. The western driveway will provide two-way access to staff parking (at grade and in the lower basement) and for service and maintenance vehicles.

It is noted that the western driveway continues to the north around the perimeter of the Site and then to an access point to Stronach Avenue. This track is provided for maintenance vehicles, but could also provide for firefighting vehicles if circumstances required such. More importantly, bollards or the like will be installed west of Stronach Avenue to ensure that this track would only be accessible during these emergency situations, with an expectation that firefighting vehicles would only depart to Stronach Avenue (having entered from Martin Close).

5.4 Traffic Assessment

5.4.1 Trip Generation

With reference to the staff numbers and shift structure detailed in **Section 5.2**, the Proposal is expected to generate an essentially identical number of trips as the existing RACF and indeed with the potential for a very minor reduction in daily trip generation as well as during the afternoon and night shift periods due to the reduction in staff on-site at any one time.

5.4.2 Trip Distribution

There is no information to suggest that the general distribution of trips to and from the local road network would change as a result of the Proposal.

5.4.3 Future Road Network Operations

With reference to the existing trip generation and distribution of the Site as detailed in **Section 2.4**, the Proposal will not result in any significant level of additional trip generation during local peak periods, and there is no information to suggest any distribution change either in regard to arrival and departure patterns or general trip origins/destinations.

As such, Ason Group has concluded that the Proposal is entirely supportable with regard to traffic considerations.

5.5 Parking Requirements

5.5.1 SEPP Seniors Parking Rates

Parking requirements for the Proposal have been determined with reference to Part 7 Division 1 (48) of SEPP Seniors, which provides the following:

Standards that cannot be used to refuse development consent for residential care facilities

A consent authority must not refuse consent to a development application made pursuant to this Chapter for the carrying out of development for the purpose of a residential care facility on any of the following grounds—

(d) parking for residents and visitors: if at least the following is provided:

1 parking space for each 10 beds in the residential care facility (or 1 parking space for each 15 beds if the facility provides care only for persons with dementia), and

1 parking space for each 2 persons to be employed in connection with the development and on duty at any one time, and

1 parking space suitable for an ambulance.

It is noted that these are the same parking requirements as those provided in Part C (Appendix A) of the Maitland DCP.

Table 7 provides a summary of the parking required to meet these SEPP Seniors requirements.

Table 7: SEPP Seniors Parking Requirements

RACF Component	Beds/Staff	Parking Rate	Parking Requirement
RACF Beds	152	0.10	15.2
Dementia Beds	16	0.07	1.1
Staff	48	0.5	24
Total			40

With reference to **Table 7**, the Proposal would require a minimum of 40 parking spaces to provide compliance with SEPP Seniors.

5.5.2 Proposal Parking Provision

The Proposal will provide a total of 52 on-site parking spaces, and therefore full compliance with the requirements of SEPP Seniors (and the Maitland DCP), and moreover a realistic provision of parking based on first principles and reference to the existing parking demand surveys as detailed in **Section 2.5**; as such, the peak staff and visitor Day Shift parking demand will be met entirely on-site.

The majority of parking will be allocated to staff, while visitor and accessible parking spaces will be provided at ground level adjacent to the RACF entry lobby (see also **Section 6**).

5.5.3 Accessible Parking

The Maitland DCP provides *enhanced* parking requirements for accessible parking, recommending that 2% - 3% of all car parking spaces be provided as accessible spaces. In response, the Proposal provides 2 accessible parking spaces, and therefore full compliance with the requirements of the Maitland DCP.

It is noted that the accessible parking design specifications detailed in the Maitland DCP refer to the now superseded accessible parking design; this issue is discussed further in **Section 6.2**.

5.5.4 Ambulance Parking

An ambulance space is provided immediately adjacent to the entry lobby, and as such compliance with SEPP Seniors.

5.5.5 Bicycle Parking

The Maitland DCP requires that bicycle parking be provided with reference to AS 2890.3 and Austroads GTE 14; however, both of these documents have now been superseded by a revised Australian Standard 2890.3, and Austroads Cycling, while bicycle parking rates are now provided only in Austroads Cycling.

In this regard, Appendix H of Austroads Cycling provides the following *guidance* rates for nursing homes:

- Staff: 1 space per 7 beds; and
- Visitors: 1 space per 60 beds.

Application of these rates suggests a requirement for 27 bicycle parking spaces.

Importantly, Austroads Cycling also provides the following in regard to these rates:

It should be noted that the application of these types of provision rates needs to be undertaken with caution as local circumstances may often render them inappropriate.

With no expectation of any resident or visitor bicycle parking demand, only staff are expected to cycle to the Site. Given the existing car park usage (which again suggest a high use of private vehicles) Ason Group has recommended that the provision of 10 bicycle parking spaces would provide for the maximum cycling demand.

It is noted that 4 bicycle spaces have been provided within the landscape area and a further 6 secure spaces are provided in the basement. Appropriate End of Journey facilities for staff, including lockers and showers would be provided as part of the broader RACF.

5.6 Service Vehicle Provisions

All servicing will be accommodated on-site, with all service vehicles entering and departing the Site in a forward direction. The largest vehicle accessing the Site will be a Medium Rigid Vehicle (MRV), the movements of which to and from the servicing area are examined in **Section 6.3**.

6 Design

6.1 Relevant Design Standards

The Site access, car park and loading areas have been designed to comply with the following relevant Australian Standards:

- AS2890.1 for car parking areas;
- AS2890.2 for commercial vehicle loading areas; and
- AS2890.6 for accessible parking.

It is anticipated that any detailed construction drawings in relation to any modified areas of the car parks or Site access would comply with these Standards, and moreover that compliance with all relevant Australian Standards would form a standard Condition of Consent to any development approval.

6.2 Driveways and Car Park Design

Further to a detailed design review of the Site plans, the following features of the proposed driveways, internal access roads and car parking areas are considered noteworthy:

- The driveways have been designed in accordance AS2890.1, which requires Category 2 driveways to be up to a combined width of 6.0m – 9.0m.
- The western driveway can also accommodate the largest vehicle that may attend the Site (MRV). This approach is consistent with the requirements of AS 2890.2 (see also **Section 6.3** below).
- All staff spaces have been designed in accordance with User Class 1A and are to be provided with a minimum space length of 5.4m, a minimum width of 2.4m and minimum aisle width of 5.8m.
- All visitor spaces have been designed in accordance with a User Class 2 and are to be provided with a minimum space length of 5.4m, a minimum width of 2.5m and minimum aisle width of 5.8m.
- All accessible parking spaces have been designed in accordance with AS2890.6, which requires a space with a clear width of 2.4m adjacent to an unobstructed ‘shared space’ of minimum 2.4m width. This represents the most recent accessible space design, noting again that the Maitland DCP references the design detailed in the previous iteration of AS 2890.6.
- All spaces located adjacent to obstructions greater than 150mm in height (including landscaping items) are provided with an additional width of 300mm.

Swept path figures showing vehicle movements to parking spaces across the staff and visitor parking areas are provided in **Appendix B**.

6.3 Service Vehicles

The development will employ a private waste contractor with the largest vehicle size being an MRV, and all service vehicles will utilise the western driveway for access to the service bay. The design of the service bay has been tested using swept path analysis, which demonstrates that the proposed service bay can be safely and efficiently accessed by an MRV.

Swept path diagrams showing these service vehicle movements are provided in **Appendix B**.

7 Construction Traffic Management Plan

A detailed Construction Traffic Management Plan (CTMP) will be prepared further to DA Approval. The CTMP will necessarily detail the characteristics of the construction period, including but not limited to:

- Construction timeframe;
- Construction hours;
- Construction vehicle routes; and
- Construction staff and vehicle demands, including a breakdown to light and heavy vehicles.

While these details are not known at this time, Ason Group anticipates the following measures would be employed to minimise construction impacts on the local road network:

- Construction vehicle access to the Site is expected to be via Martin Close and then via the most appropriate route to/from New England Highway, most likely Stronach Avenue and Mitchell Drive given that this route provides commercial frontage rather than residential frontage.
- Construction heavy vehicles are expected to be restricted to General Access Vehicles rather than oversized Restricted Access Vehicles. Should RAVs or other oversized construction vehicle be required, the appropriate licences would be required in accordance to Council and Roads & Maritime regulations.
- Traffic control may be required to manage and regulate traffic movements into and out of the site during construction.
- Disruptions to road users would be kept to a minimum by scheduling intensive construction movement activities outside of peak hours.
- All vehicles would be required to enter and exit the Site in a forward direction.
- All vehicles transporting loose materials will have the entire load covered and/or secured to prevent any items depositing onto the roadway during travel to and from the Site.
- A Drivers Code of Conduct will be prepared to inform all construction vehicle drivers of construction routes, hours and safety requirements.
- All construction staff parking would be provided on-site so as to reduced impacts in Martin Close.

8 Conclusions

Further to a detailed assessment of the access, traffic and parking characteristics of the Proposal, Ason Group provides the following conclusions:

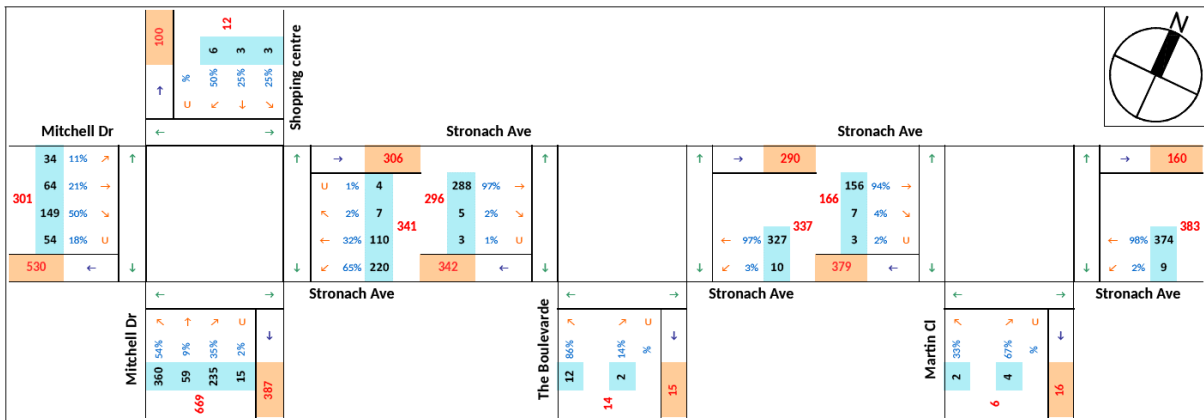
- The Site is afforded excellent access to local and sub-regional bus routes, as well as safe and immediate pedestrian access to the Green Hills Shopping Centre. Cycle paths are also available, and End of Journey facilities would be provided including lockers, showers and secure bicycle parking spaces.
- The traffic generation of the Site will remain very moderate, and primarily generated outside of local peak periods. Moreover, the trip generation and distribution characteristics of the Site further to the Proposal would essentially mirror the characteristics of the existing RACF operation, and as such have no impact on the operation on the local road network.
- On-site parking has been provided in accordance with SEPP Seniors (and the Maitland DCP), and moreover to meet the actual peak on-site staff and visitor parking demand.
- All access driveways, aisles, parking spaces and service areas have been designed with reference to the appropriate Australian Standards. It is anticipated that compliance with those Standards would form a standard Condition of Consent providing for any minor design changes which might arise.

In summary, it is concluded that the Proposal is supportable on access, parking and traffic planning grounds.

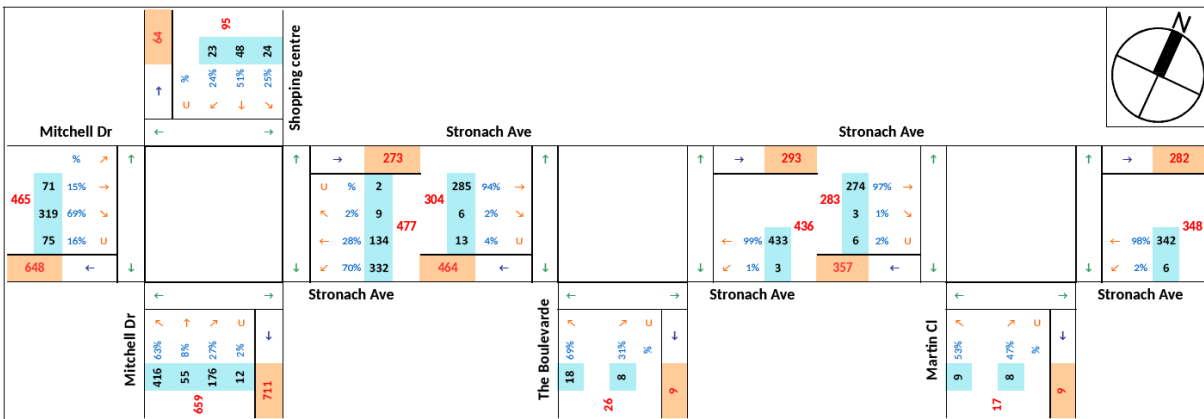
Appendix A

Traffic Surveys

Wednesday 27 February 2019 AM Peak Hour 8:15am – 9:15am



Tuesday 26 February 2019 PM Peak Hour 3:45pm – 4:45pm



Appendix B

Swept Path Analysis