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8 February 2018

P0775 TA Hillview Street Woy Woy

Thrum Architects Pty Ltd
Level 3, 80 Clarence Street
Sydney NSW 2000

Attn: Chris Baker

Dear Chris,

Proposed Residential Aged Care Facility, 45 Hillview Street, Woy Woy, NSW.

Further to your email and following our site visit and review of the documentation provided for the proposed residential aged care facility at Woy Woy, NSW we provide the following traffic impact statement. This assessment has been prepared in accordance with the Austroads Guidelines and Section 2.3 of the RTA Guide to Traffic Generating Developments which provides the structure for the reporting of key issues to be addressed when determining the impacts of traffic associated with a development. This guide indicates that the use of this format and checklist ensures that the most significant matters are considered by the relevant road authority.

The report has also taken into consideration the planning requirements outlined within State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 and the Gosford Development Control Plan 2013 (GDGP).

The subject site is located at 45 Hillview Street, Woy Woy between Dulkara Road and Veron Road as shown in Figure 1. The site has previously been approved for a seniors housing development consisting of 56 independent living units (DA30219/2006). The existing development consent has been activated for the site.

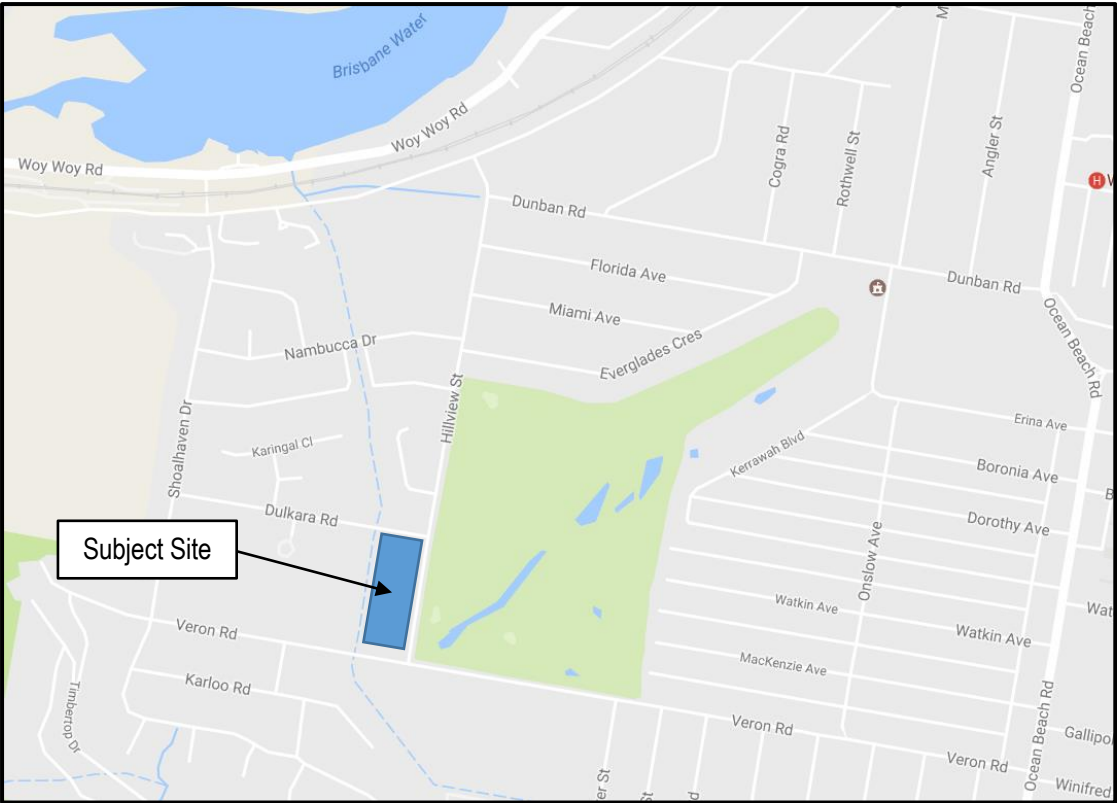


Figure 1 – Project site within the context of the local road network (Source: Google Maps).

Traffic Impact Assessment:

Item	Comment
Existing Situation	
2.1.1 Site Location and Access	The subject site is located at 45 Hillview Street, Woy Woy between Dulkara Road and Veron Road as shown in Figure 1. The site is currently vacant and does not have formal access.
2.2.1 Road Hierarchy	Hillview Street is a local street which provides a single lane of travel (3.3m wide) in each direction with kerbside parking to both sides. At its southern end, kerb and guttering is provided to the western side of the street with an unsealed verge along the eastern side. Street lighting and pedestrian footpaths are provided along its length. The posted speed limit along Hillview Street is 50 km/hr although there is a 40 km/hr school zone approaching Veron Road. Hillview Street connects with Veron Road to the south of the site via a priority controlled T-intersection which allows for all turning movements. Veron Road is a local street providing a similar alignment to Hillview Street. It provides a single lane of travel (3.3m wide) in each direction with kerbside parking and a cycling lane to both sides of the roadway. Street lighting is available and there are pedestrian footpaths provided along the majority of its length. The posted speed limit along Veron Road is 50 km/hr although there is a 40 km/hr school zone in the vicinity of Hillview Street and Carpenter Street. The surrounding roads are all local roads under the care and control of Central Coast Council.
2.2.2 Roadworks	No significant roadworks planned or ongoing in the immediate locality of the subject site.
2.2.3 Traffic Management Works	No significant traffic management works planned or ongoing in the locality of the subject site.
2.2.4 Pedestrian and Cycling Facilities	Pedestrian footpaths are provided along the site frontage to Hillview Street and to the southern side of Veron Road. Bicycle lanes are provided along both sides of Veron Road. No cycling facilities are provided along Hillview Street with cyclists able to ride along this road to connect with the existing facilities along Veron Road.
2.3 Traffic Flows	
2.3.1 Daily Traffic Flows	As part of the project work, Seca Solution completed a traffic survey on Hillview Street to determine the current two way flows along the site frontage. This survey was completed on a typical weekday afternoon (4:30pm to 5:30pm) on Thursday 8th December 2016, consistent with the RMS Guide for seniors living developments. The current peak hour two-way flows along Hillview Street (at the site frontage) were 702 vehicles per hour during the afternoon peak, split between 543 vehicles southbound and 159 vehicles northbound. Advice from the RMS Guidelines indicate that peak hour flows typically represent around 8-12% of the daily traffic flows. As such the daily flows along Hillview Street would be in the order of 7,000 vehicles per day.
2.3.2 Daily Traffic Flow Distribution	Traffic flows would be reasonably balanced on both directions over the day with a strong bias in southbound traffic during the afternoon peak and northbound during the morning peak associated with commuter traffic

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	travelling towards Gosford or the M1 Pacific Motorway. This is consistent with observation on site during the afternoon peak.
2.3.3 Vehicle Speeds	No speed surveys were completed as part of the survey work, however observations on site indicate that drivers generally travel at or below the posted speed limit due to interactions with the various driveways and intersections.
2.3.4 Existing Site Flows	The subject site is currently vacant and does not generate traffic.
2.3.5 Heavy Vehicle Flows	Low heavy vehicles flows along Hillview Street which consist primarily of local buses and waste collection vehicles.
2.3.6 Current Road Network Operation	Observations on site indicate that the local roads operate well throughout the day with minimal delays and congestion during the peak hours.
2.4 Traffic Safety and Accident History	A review of crash data provided by the RMS indicates that there have been 6 accidents along the length of Hillview Street in the 5-year period between 2011 and 2016. Five of these accidents occurred at intersections with only a single accident occurring within 400 meters of the site. None of these accidents were fatal and only a single accident had speed as a factor. Local roads and nearby intersections provides a straight and flat road alignment which allows for good visibility on all approaches. It is considered that the local roads provide an acceptable level of overall road safety.
2.5 Parking Supply and Demand	
2.5.1 On-street Parking Provision	On-street parking is permitted along both Hillview Street and Veron Road in this location with typical restrictions associated with driveways and intersections.
2.5.2 Off-street Parking Provision	No public off-street parking is available in this location. Off-street parking or the various land uses is provided within the individual lots.
2.5.3 Parking Demand and Utilisation	Observations on site indicate that there is typically a low demand for parking in this location.
2.5.4 Set down or pick up areas	No set down or pick up areas noted in the locality of the site.
2.6 Public Transport	
2.6.1 Rail Station Locations	The nearest railway station is located on Railway Street, Woy Woy (near Blackwall Road) around 2.7 km drive to the north of the subject site.
2.6.2 Bus Stops and Associated Facilities	Bus stops are provided along both sides of Veron Road with the nearest bus stops located around 50 meters to the east of Hillview Street (less than 150 meters walk from the subject site). These bus stops provide a sign only.
2.6.3 Transport Services	Busways is the local bus operator for this area. It provides a single service through this location, Route 57: Umina Beach (west) to Woy Woy which offers hourly services throughout the day with more frequent services during the peak periods. Woy Woy Station is located on the Newcastle and Central Coast Line which provides regular services between Newcastle, the Central Coast and Sydney. Services are provided half hourly throughout the day with more frequent services provided during the peak hours.
2.7 Pedestrians Network	Pedestrian footpaths are provided along the site frontage (to the western side of Hillview Street) and to the southern side of Veron Road. There are no pedestrian crossing in this location which allow for pedestrian access across these roads. Pedestrians can instead utilise breaks in the traffic to cross the road for access to the nearby bus stops.
2.8 Other Proposed Developments	No other significant developments noted in the immediate locality.

Item	Comment
The Development	
3.1.1 Nature of Development	The Proposed DA will allow for a 3-storey residential aged care facility providing 160 beds (152 rooms) and associated facilities. Carparking will be provided on site within a single level of basement parking with ambulance parking provided at ground level to the front of the site. Access to the site will be provided via a single driveway from Hillview Street. Plans for the proposed residential aged care facility are provided within Attachment A.
3.1.2 Access and Circulation Requirements	All vehicles are required to enter and exit the site in a forward direction with the internal site layout and access driveway allowing for all vehicle movements in accordance with AS2890.
3.2 Access	
3.2.1 Driveway Location	All vehicles access to the site will be provided from a new access driveway on Hillview Street, located approximately 50 meters north of the southern site boundary.
3.2.2 Sight Distances	Hillview Street in this location provides a straight and flat road alignment which allows good visibility in both directions for a vehicle entering or exiting the site. The minimum sight distance required along a frontage road for a vehicle exiting a driveway is described by AS2890. For the posted speed limit of 50 km/hr along the site frontage the minimum required sight distance is 45 meters with 69 meters being desirable. Sight distances at the proposed driveway have been reviewed on site and satisfy these requirements providing more than 80 metres visibility in both directions along Hillview Street.
3.2.3 Service Vehicle Access	The deliveries and garbage room dock is located at ground level adjacent to the one-way circulating road leading to the down ramp for the basement carpark. Service vehicles (SRV) will both access and leave the loading dock along this road which has been designed to allow for movements in a single direction at any time. Controlled by a loading dock management plan, entry to the dock will be in the direction of travel with the roadway operating as a contraflow for outbound service vehicles. The site will require minimal servicing with a low frequency of service vehicles entering the site. The section of roadway connecting the loading dock and access driveway is short (less than 20 metres) and space will be provided within the access driveway for an entering vehicle to hold whilst a service vehicles is exiting. Operation of the loading dock will be controlled during service periods by a loading dock management plan which will outline how vehicles are controlled and how inbound vehicles will be held whilst service vehicles are exiting the site. Such servicing will occur outside of shift changeovers or peak visitor times when the demand for inbound traffic is low.
3.2.4 Queuing at entrance to site	No queues are expected at the site entry due to the low traffic volumes associated with the site and available capacity along Hillview Street.
3.2.5 Comparison with existing site access	The site does not currently have formal access from Hillview Street.
3.2.6 Access to Public Transport	Footpaths are provided along the site frontage to Hillview Street and to the southern side of Veron Road which allow for pedestrian connection to the

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	nearby bus stops. Footpaths will be provided within the site to connect with the existing footpaths along Hillview Street.
3.3 Circulation	
3.3.1 Pattern of circulation	All vehicles will enter and exit the site in a forward direction with the driveway and basement carpark both allowing for two way movements. Vehicles entering the driveway may either circulate around the roundabout to access a drop off zone adjacent to the main entry or otherwise enter the basement carpark via an entry ramp to the south of this roundabout. Vehicles exiting the carpark will then connect with the driveway via a separate ramp located to the north.
3.3.2 Road width	The width of the driveways and the internal roads shall be consistent with the requirements outlined within AS2890 and the GDCP.
3.3.3 Internal Bus Movements	No requirement for buses to access the development. Community buses such as a 14-seat Mercedes Sprinter will be able to access the site and embark passengers at the Porte Cochere. The internal roads and access driveway have been designed to accommodate these vehicles.
3.3.4 Service Area Layout	A dedicated loading area will be provided to the south of the main driveway for waste collection, laundry and general servicing of the site. The dimensions and overall layout of this area is consistent with the requirements of AS890 for small rigid vehicle (SRV). A height clearance of 3.5m is required for this area.
3.4 Parking	
3.4.1 Proposed Supply	Parking will be provided within a basement carpark for 52 vehicles (including two accessible spaces) with separate entry and exit. One accessible space and one ambulance parking space will also be provided at ground level adjacent to the main entry. A short term drop off will also be provided within the porte cochere to the front of the main entry.
3.4.2 Authority Parking	Gosford City Council Development Control Plan 2013 does not provide specific parking requirements for a development of this nature. Parking rates have therefore been adopted as those specified in the SEPP (Housing for Seniors or People with a Disability) which provides the minimum standards which cannot be used to refuse development consent for a residential aged care facility. The SEPP specifies the following rates for parking to be provided at the site: • 1 space per 10 beds within the residential care facility; plus • 1 space per 2 people employed in conjunction with the development and on duty at any one time; plus • 1 space suitable for an ambulance. Disabled parking for an aged care facility is also required under the Building Code of Australia (BCA) at the rate 1 space for every 100 car parking spaces or part thereof.
3.4.3 Parking Layout	The parking layout shall be in accordance with Council's requirements and AS2890.
3.4.4 Parking Demand	The proposed aged care facility will provide 160 beds, which under the above rates requires 16 spaces. The proposed supply of parking allows for 53 parking spaces (including three accessible spaces). This allows 37 parking spaces to be used for staff and visitor parking. Of the parking spaces provided at least one space must be suitable for a person with a disability in accordance with AS2890.6. Three accessible spaces will be provided within the site to satisfy this requirement.

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	Suitable parking for an ambulance will also be provided on the site.
3.4.5 Service Vehicle Parking	Service vehicles will be able to park within the dedicated loading area as required while loading or unloading. The layout of this area is consistent with the requirements of AS2890 for a small rigid vehicle. It is noted that the current development consent allows for all waste bins to be placed at the kerb side in the public street for collection. The proposed development will improve the amenity for the street by providing a new loading dock which will allow for waste collection to occur off-street by a private waste collection contractor. A separate parking space will be provided for an ambulance.
3.4.6 Pedestrian and Bicycle Facilities	Pedestrian footpaths will be provided within the site to accommodate pedestrian movements. These footpaths will connect with the existing pedestrian facilities along Hillview Street.
Traffic Assessment	
4.1 Traffic Generation	The RTA Guide to Traffic Generating Development provides the following traffic generation for the housing of aged and disabled persons: • Weekday daily vehicle trips – 1-2 per dwelling • Weekday evening peak hour vehicle trips – 0.1-0.2 per dwelling Note that the lower end of this range reflects traffic generation rates for subsidised developments. Resident funded developments are often greater as indicated by the higher end of this range. For the proposed aged care facility, which will provide 160 beds in 152 rooms, this equates to between 16-31 vehicle movements during the evening peak hour with 152-304 vehicles movements per day (equally split between inbound and outbound movements). This represents an increase of between 34-186 vehicles per day over the existing approved use for the site. The balance of this assessment will be undertaken to allow for the higher traffic rates to ensure a robust assessment.
4.1.1 Daily and Seasonal Factors	Minimal daily and seasonal variation in traffic movements associated with the development, other than normal variation between weekdays (working days) and weekends.
4.1.2 Pedestrian Movements	Given the nature of the development there would be minimal pedestrian movements expected for the site. Any pedestrian movements can be accommodated within the existing footpaths along Hillview Street and Veron Road.
4.2 Traffic Distribution and Assignments	Vehicles having an origin/destination to the south or east would turn right out of the site onto Hillview Street and then left onto Veron Road before dispersing over a number of potential routes. Vehicles having an origin/destination to the north would turn left out of the site and travel north along Hillview Street to connect with Railway Street or turn into one of the many side streets along Hillview Street. Vehicles having an origin/destination to the east may turn either left or right out of the site to travel along one of many different routes.

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4.2.1 Origin / destinations assignment	It is considered that the majority of the vehicles accessing the site would be associated with staff or visitors who are likely to be residents of the surrounding areas. It is considered that the origin/destination of vehicles travelling to the site would be equally split towards these residential areas to both the north (33%), east (33%) and south (33%). Vehicle movements into and out of the site would be equally split in both directions along Hillview Street.
4.3 Impact on Road Safety	The access driveway is located on a relatively straight road alignment which provides good visibility in both direction for drivers entering or exiting the site from Hillview Street. The local roads and nearby intersections are well laid out and provide an acceptable level of overall road safety. In the last 5 years there have only been 5 accidents recorded along Hillview Street with only one of these accidents occurring within 400 meters of the subject site. The development will not significantly increase the daily traffic flows along Hillview Street and therefore will have minimal impact upon overall road safety.
4.4 Impact of Generated Traffic	
4.4.1 Impact on Daily Traffic Flows	Based upon the traffic distribution and assignment above the proposed development will increase the daily flows along Hillview Street (both north and south of the site) by up to 152 vehicles to 7,152 vehicles per day. This represents an increase of less than 2.5% over the existing flows along this road. While the RTA Guide to Traffic Generating Developments does not provide specific limits on daily flows, it does provide advice relating to road capacity and performance which are based upon peak flows in each direction. For Hillview Street, which is a two lane road, the RTA Guide specifies a capacity of 900 vehicles per hour per direction. This corresponds to a Level of Service (LoS) D along Hillview Street. Current peak hour flows along Hillview Street (northbound during the evening peak) are 543 vehicles, which is equivalent to Los B. The proposed development will increase the peak hour flows along Hillview Street (northbound) by 16 vehicles to 559 vehicles per hour, corresponding to LoS B. This is well within the capacity of Hillview Street with no reduction in the current LoS along this road. Therefore the additional traffic associated with the proposed development will have an acceptable impact.
4.4.2 Peak Hour Impacts on Intersections	Due to the large number of potential routes over which vehicles could travel to connect with the regional road network, the impact upon any one intersection would be minimal. As a worst-case scenario the proposed development could increase the current flows through the intersection of Hillview Street and Veron Road by 16 vehicles per hour during the evening peak. The equates to less than one vehicle every three minutes on average. Observations on site during the evening peak indicate that this intersection currently operates well with no delays or congestion. These additional vehicles will therefore not have a noticeable impact upon the operation of this intersection.
4.4.3 Impact of Construction Traffic	All works can be accommodated within the site with no impact upon the external road network. The site area is large and will be able to accommodate the parking demands associated with construction vehicles and workers. During construction, there will be a requirement for construction vehicles to access the site as well as additional traffic movements associated with

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	worker. These movements can be catered for within the local road network.
4.4.4 Other Developments	There are no other major developments noted in the locality of the subject site.
4.5 Public Transport	
4.5.1 Options for improving services	None required.
4.5.2 Pedestrian Access to Bus Stops	Existing footpaths along the local roads allow for access to nearby bus stops on the southern side of Veron Road only.
4.6 Recommended Works	
4.6.1 Improvements to Access and Circulation	The access driveway and internal roads shall be designed in accordance with AS2890 and the GDCP. One way circulating roads require a width of 3m under AS2890.
4.6.2 Improvements to External Road Network	None required.
4.6.3 Improvements to Pedestrian Facilities	The SEPP requires that for a residential aged care facility in a local government area within the Sydney Statistical Division there is a public transport service located less than 400 metres from the site that is accessible by means of a suitable access pathway. Pedestrian facilities are provided to only one side of the road along Hillview Street and Veron Road. These footpaths provide suitable access to bus stops located on the southern side of Veron Road. There are no footpaths available along the northern side of Veron Road to connect with the bus stop.
4.6.4 Effect of Recommended Works on Adjacent Developments	No works proposed that will impact on adjacent developments.
4.6.5 Effect of Recommended Works on Public Transport Services	None.
4.6.6 Provision of LATM Measures	None Required
4.6.7 Funding	All works shall be funded by the developer.

Site Photos:



Photo 1 – Visibility looking right (south) along Hillview Street from approximate location of the proposed access driveway.



Photo 2 – Visibility looking left (north) along Hillview Street from approximate location of the proposed access driveway.

Conclusion:

From the site work undertaken and the review of the development proposal and associated plans against the requirements of the RMS Guide to Traffic Generating Developments and Austroads Guide to Traffic Management, it is considered that the proposed development application should have no objections raised on traffic and access grounds. The additional traffic movements generated by the development are well within the capacity of the local roads and will have an acceptable impact on the surrounding road network.

Parking provided on site is consistent with the parking demands outlined within the SEPP (Housing for Seniors or People with a Disability) 2004 and is appropriate for the use on site.

Access to the site is consistent with the requirements of AS2890 and the Gosford Development Control Plan with a loading dock management plan to provide direction on vehicle controls associated with site servicing.

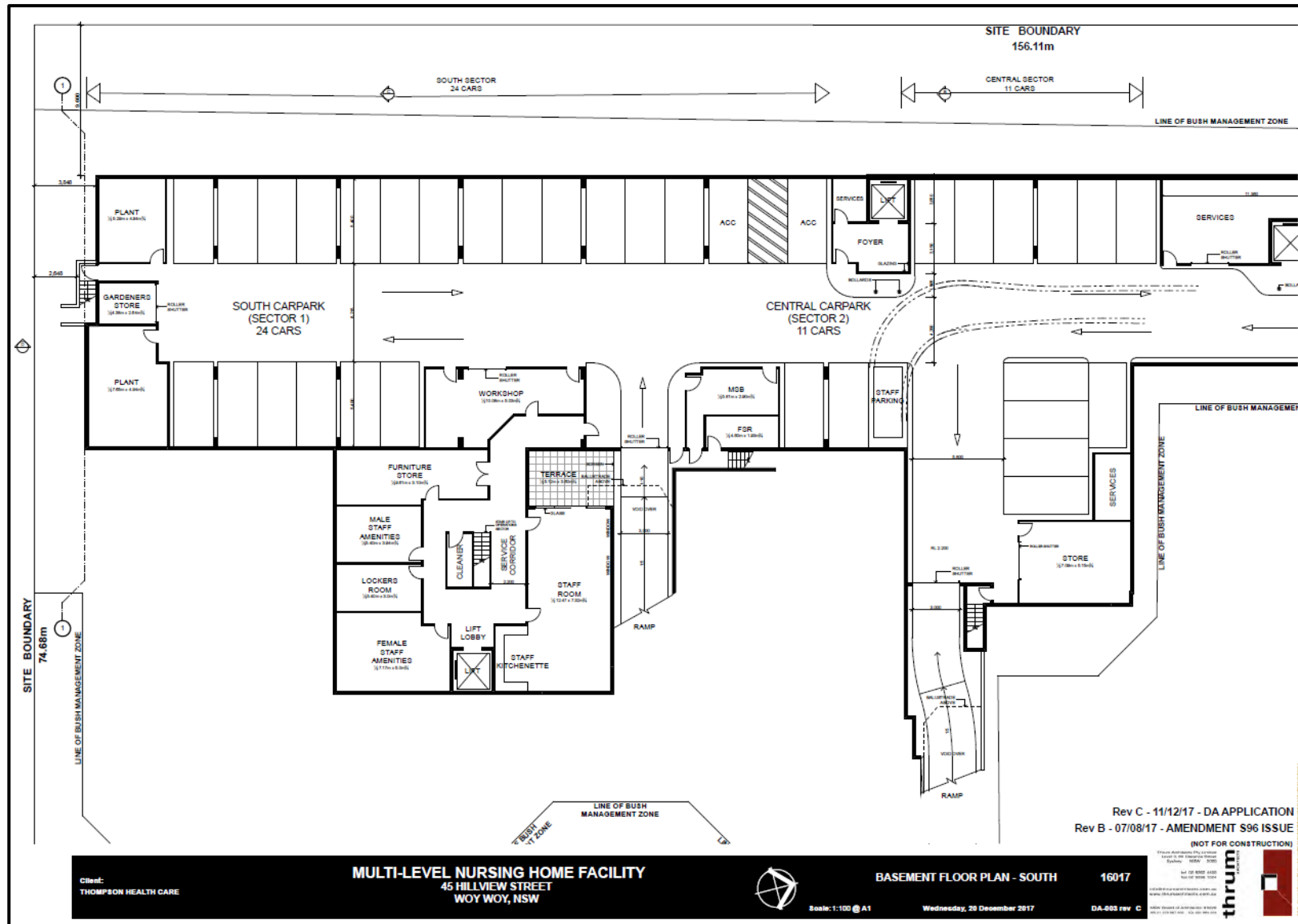
Please feel free to contact me on 4032 7979, should you have any queries.

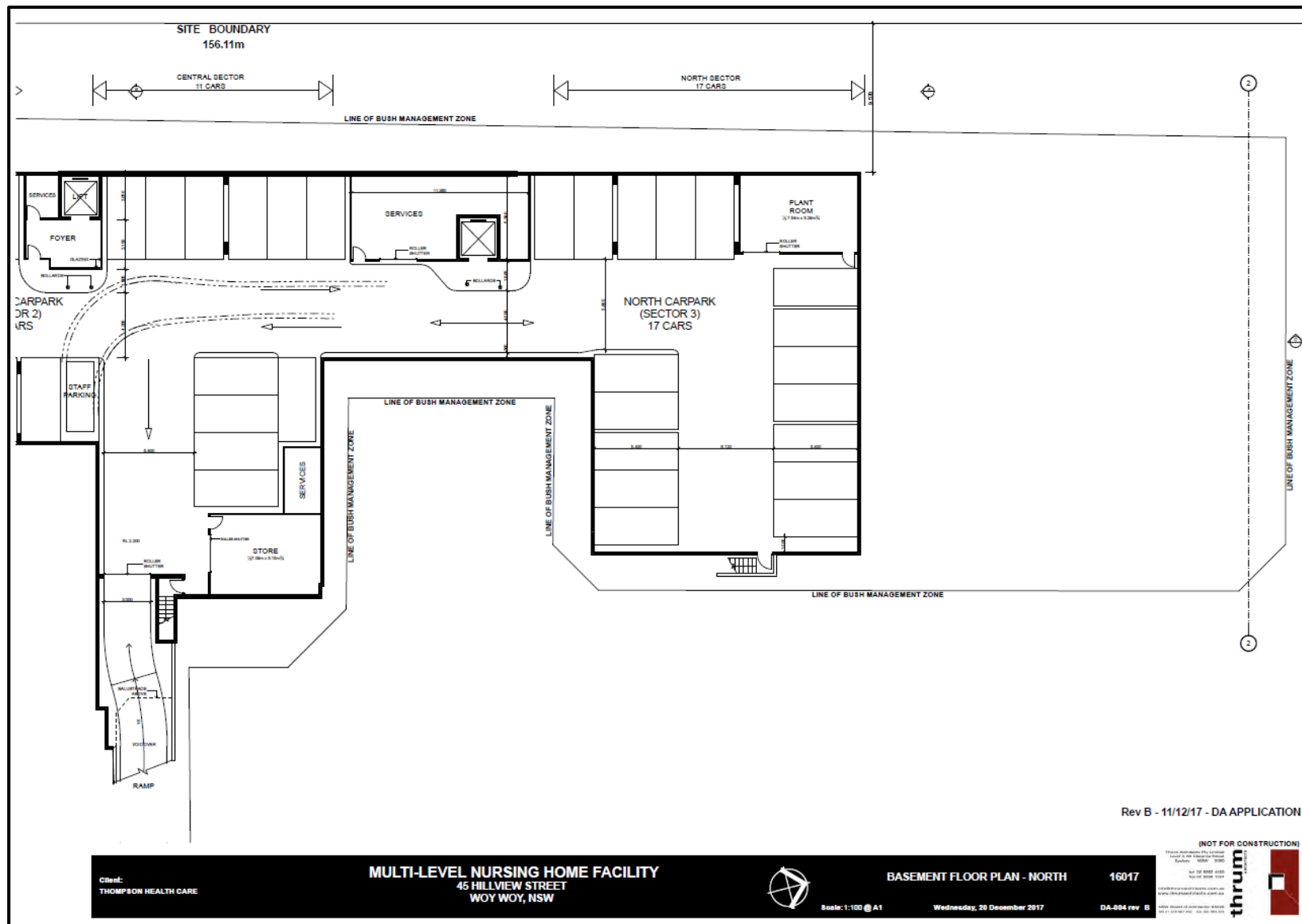
Yours sincerely,



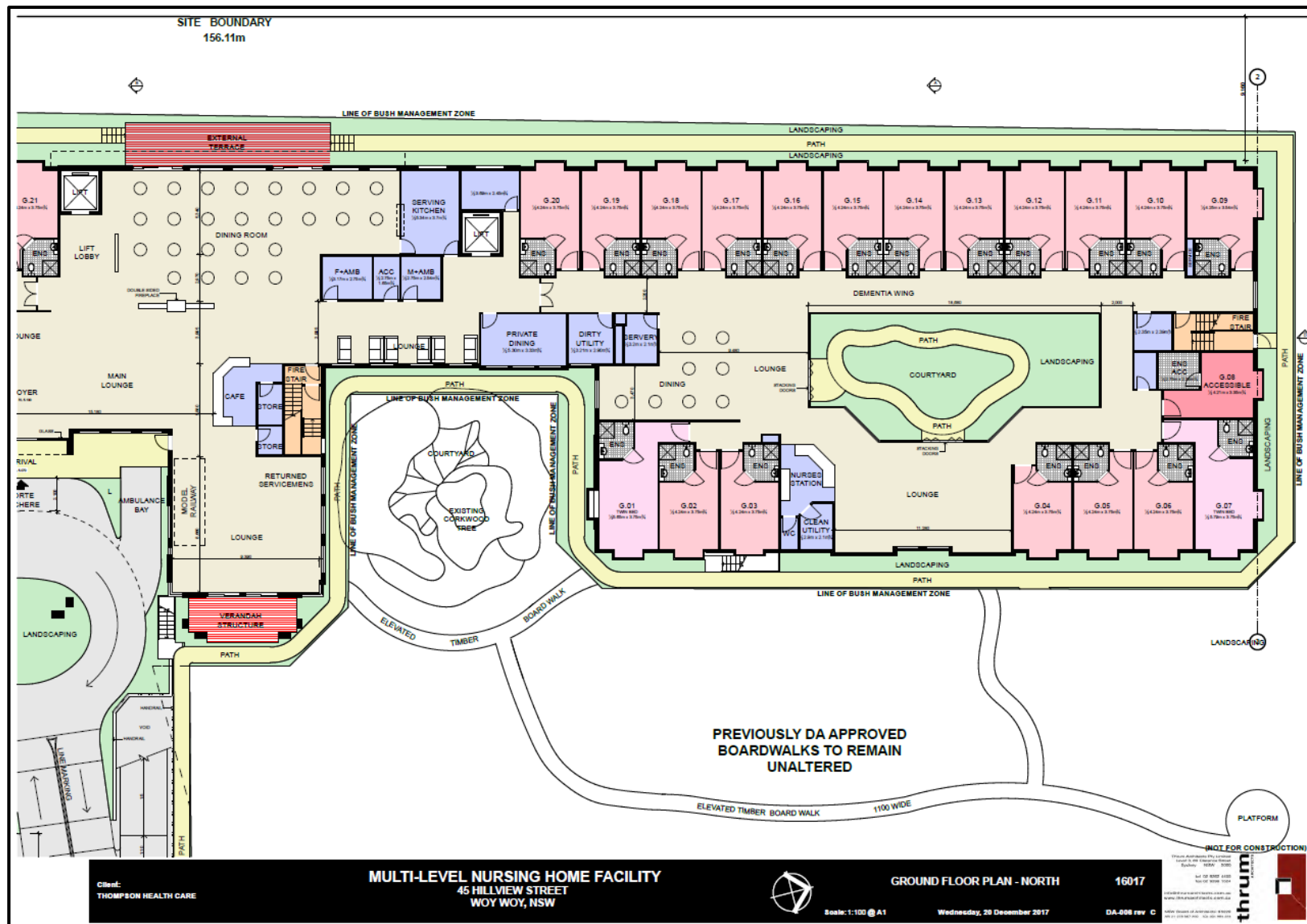
Sean Morgan
Director

Attachment A: Site Plan:









Attachment B: Accident Data



Transport
for NSW

Centre for Road Safety

Crashid dataset Hillview Street, Woy Woy - 2011 to 2016*

Note: Crash self reporting, including self reported injuries began Oct 2014. Trends from 2014 are expected to vary from previous yrs. More unknowns are expected in self reported data. Reporting yrs 1996-2004 and 2016 onwards contain uncategorised inj crashes.

Percentages are percentages of all crashes. Unknown values for each category are not shown on this report.

Attachment C: Traffic Data

