# TRAFFIC IMPACT ASSESSMENT

**Proposed Seniors Living Development**
**16-26 Friend Street, Merrylands**

Reference: 19.040r01v02
Date: March 2020

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# DOCUMENT VERIFICATION

| Job Number | 19.040 | | | |
|---|---|---|---|---|
| **Project** | 16-26 Friend Street, Merrylands | | | |
| **Client** | Crawford Architects | | | |
| **Revision** | Date | Prepared By | Checked By | Signed |
| **v02** | 11/03/2020 | Shenara Wanigasekera | Vince Doan |  |

# CONTENTS

# 1. INTRODUCTION

TRAFFIX has been commissioned by Crawford Architects to undertake a traffic impact assessment (TIA) in support of a development application (DA) relating to a seniors living housing development at 16-26 Friend Street, Merrylands, comprising of 30 residential units. The development is located within the Cumberland Council LGA and has been assessed under that Council's controls.

This report documents the findings of our investigations and should be read in the context of the Statement of Environmental Effects (SEE) prepared separately. The development is a minor development and does not require referral to the Road and Maritime Services (RMS) under the provisions of SEPP (Infrastructure) 2007.

The report is structured as follows:

- Section 2: Describes the site and its location
- Section 3: Documents existing traffic conditions
- Section 4: Describes the proposed development
- Section 5: Assesses the parking requirements
- Section 6: Assesses traffic impacts
- Section 7: Discusses access and internal design aspects
- Section 8: Presents the overall study conclusions

# 2. LOCATION AND SITE

The subject site is known as 16-26 Friend Street, Merrylands and is located on the southern side of Friend Street, approximately 600 metres south of the M4 Motorway and 1.6 kilometres north west of Stockland Merrylands Shopping Centre.

The subject site is rectangular in configuration and has a total area of 4,492.8m$^2$. It currently consists of six (6) residential dwellings, each on separate lots and provided with a vehicular access driveway. It has a northern frontage of 95.1 metres to Friend Street, is bounded to the west by a public park and is bounded to the east and south by residential developments.

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**. Reference should also be made to the Photographic Record presented in **Appendix A** which provides an appreciation of the general character of roads and other key attributes in proximity to the site.


**Figure 1: Location Plan**


**Figure 2: Site Plan**

# 3. EXISTING TRAFFIC CONDITIONS

## 3.1 Road Network

The road hierarchy in the vicinity of the site is shown in **Figure 3** with the following roads of particular interest:

- Great Western Highway: an RMS State Highway (HW 5) that generally traverses east-west between City Road in Sydney CBD in the east and Parker Road in Penrith in the west. Within the vicinity of the site, it is subject to a 60km/h speed zoning and generally consist of three (3) traffic lanes in either direction within a divided carriageway.
- Frances Street: a local road that traverses north-south between from Hilltop Road in the south and forming a cul-de-sac in the north. Frances Street is subject to a 50km/h speed zoning and carries a single lane of traffic in each direction within an undivided carriageway. Frances Street permits on-street parking along either side, outside of Bus Zone and clearway restrictions.
- Coleman Street a local road that traverses north-south between from Hilltop Road in the south and Great Western Highway in the north. Coleman Street is subject to a 60km/h speed zoning and carries a single lane of traffic in each direction within a divided carriageway. Frances Street permits on-street parking along either side, outside of Bus Zone and clearway restrictions.
- Friend Street: a local road that traverses east-west between Coleman Street in the east and Frances Street in the west. It is subject to a 50km/h speed zoning and carries a single lane of traffic in each direction within an undivided carriageway. Friend Street permits on-street parking along both sides outside of Bus Zone and clearway restrictions.
- Newsome Lane: a local road that traverses north-south between Friend Street in the north and Dorothy Street in the south. It is subject to a 50km/h speed zoning, two-way flow of traffic and permits unrestricted kerbside parallel parking along both sides.

It can be seen from **Figure 3** that the site is conveniently located with respect to the arterial and local systems serving the region. It is therefore able to effectively distribute traffic onto the wider road network, minimising traffic impacts.

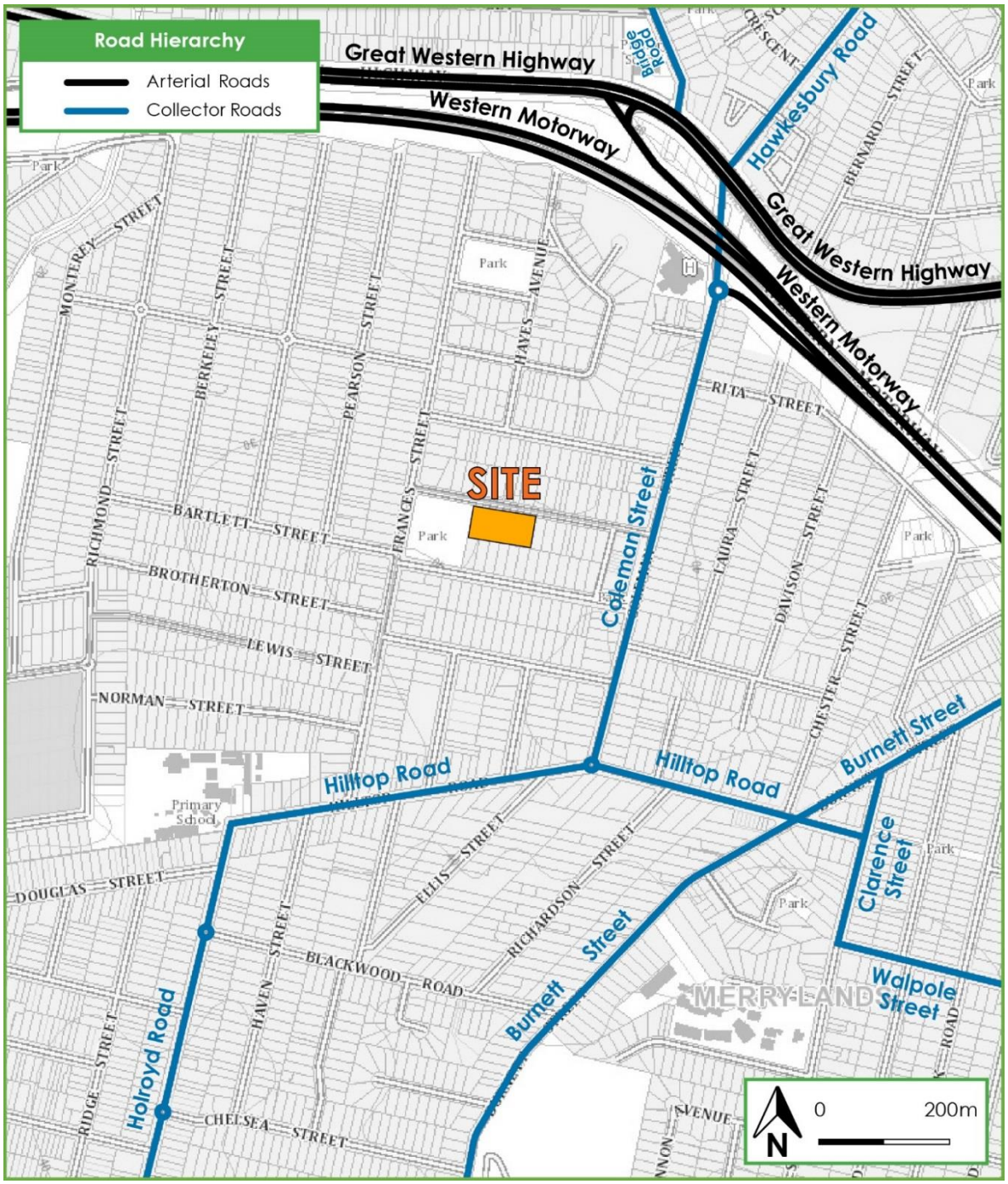


**Figure 3: Road Hierarchy**

## 3.2 Public Transport

The existing bus services that operate in the locality are shown in **Figure 4**. It is evident that the development benefits from good bus services with bus stops in either direction being situated within 400 metres of the site. These services provide connections to such centres as Pemulwuy, Parramatta and Westmead. These bus routes provide frequent services during the weekday peak hour periods.

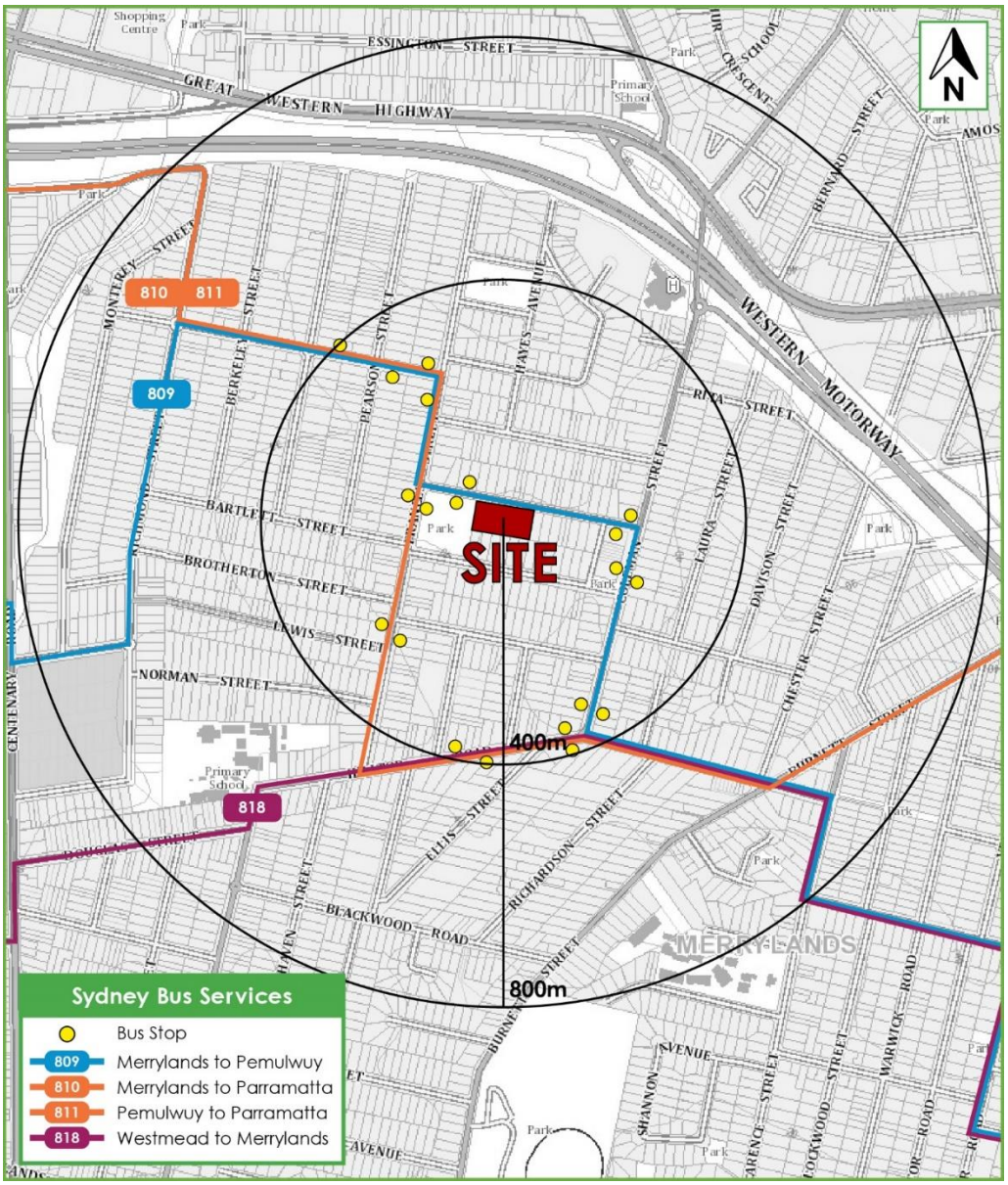


**Figure 4: Public Transport**

# 4. DESCRIPTION OF PROPOSED DEVELOPMENT

A detailed description of the proposed development is provided in the Statement of Environmental Effects prepared separately. In summary, the development for which approval is now sought is a 2-storey seniors living development with a total of 30 residential units made by NSW Government's Family and Community Services. The total site area is sub-divided into two sites comprising of the following components:

- Village West:
  - 14 residential apartments made up of the following:
    - 6 x one-bedroom apartments; and
    - 8 x two-bedroom apartments;
  - At grade car park providing 7 car parking spaces.
- Village East:
  - 16 residential apartments made up of the following:
    - 6 x one-bedroom apartments; and
    - 10 x two-bedroom apartments;
  - A total of 8 car parking spaces provided within 2 separate vehicular accesses.

The parking and traffic impacts arising from the development are discussed in **Section 5** and **Section 6**. Reference should be made to the plans submitted separately to Council which are presented at reduced scale in **Appendix B**.

# 5. PARKING REQUIREMENTS

## 5.1 Statutory Car Parking Requirements

Whilst the development is considered to be seniors living, it has been advised that car parking assessment is to be conducted in accordance with the statutory car parking requirements applicable set out within the State Environmental Planning Policy (SEPP) (Affordable Rental Housing) 2009. The relevant car parking rates are applicable for in-fill affordable housing where the development application made is by a social housing provider and within an accessible area. The parking assessment of the proposed development is summarised in **Table 1.**

**Table 1: SEPP (Affordable Renting Housing) Parking Rates and Provision**

| Type | Units | Minimum Parking Rate | Minimum Spaces Required | Spaces Provided |
|---|---|---|---|---|
| **Village West** | | | | |
| 1 Bedroom | 6 | 0.4 space per unit | 2.4 | 7 |
| 2 Bedroom | 8 | 0.5 space per unit | 4 | |
| **Totals** | | | **6*** | **7** |
| **Village East** | | | | |
| 1 Bedroom | 6 | 0.4 space per unit | 2.4 | 8 |
| 2 Bedroom | 10 | 0.5 space per unit | 5 | |
| **Totals** | | | **7*** | **8** |

*Number of car spaces rounded to the nearest whole number.

It is evident from **Table 1** that the Village West development requires a minimum of six (6) car parking spaces under SEPP. In response, the Village West development provides a total of seven (7) parking spaces and is therefore superior to the minimum SEPP (Affordable Renting Housing) requirements.

The proposed Village East development requires a minimum of seven (7) car parking spaces under SEPP. In response, the development provides a total of eight (8) parking spaces for Village East and thereby satisfies the minimum SEPP (Affordable Renting Housing) requirements.

In summary, Village West and Village East developments satisfies the minimum SEPP (Affordable Renting Housing) requirements and is considered acceptable.

## 5.2 Accessible Parking

SEPP (Housing for Seniors or People with Disability) 2004 Schedule 3, Part 1 (5) states that car parking spaces must comply with the requirements for parking for persons with disability set out in AS2890, and that 5% of the total number of car parking spaces (or at least one space if there are fewer than 20 spaces) must be designed to enable the width of the spaces to be increased to 3.8 metres.

Under SEPP Seniors requirement, the Village West development is required to provide three (3) parking spaces and hence three (3) parking spaces have been provided as accessible parking spaces.

Village East development is required to provide three (3) parking spaces. In response, four (4) parking spaces have been provided as accessible parking spaces.

In addition, both developments provide sufficient area for one (1) space to be increased to 3.8m wide.

In summary, Village West and Village East developments meets the requirements of SEPP (Housing for Seniors or People with Disability) and is therefore considered supportable.

## 5.3 Refuse Collection and Servicing

The garbage room for Village West and Village East is located near the Friend Street and the bins will be collected by Council's waste contractor. This arrangement is consistent with high density residential developments throughout metropolitan Sydney and is considered acceptable based on site's locality and that all bins will be sufficiently accommodated along the Friend Street site frontage.

# 6. TRAFFIC AND TRANSPORT IMPACTS

## 6.1 Existing Site Generation

The site currently accommodates six (6) residential dwellings. For low density residential developments in metropolitan Sydney, the Roads and Maritime Services (RMS) Technical Direction TDT 2013/04a recommends an hourly trip generation rate of 0.95 vehicle trips per dwelling during the AM peak period and 0.99 vehicle trips per dwelling during the PM peak period. Application of these rates on the existing developments estimate the following trip:

- 6 vehicle trips per hour in the AM peak period (0 in, 6 out); and
- 6 vehicle trips per hour in the PM peak period (6 in, 0 out).

## 6.2 Future Trip Generation

The RMS Technical Direction for Guide to Traffic Generating Developments (TDT 2013/04a) recommends the following traffic generation rates for 'Housing for seniors' as follows:

- Nil vehicle trip per hour per dwelling during the AM peak (the guide specifically states that morning site peak hour does not generally coincide with the network peak hour)
- 0.4 vehicle trips per hour per dwelling during the PM peak

Application of the above rates to the proposed development with 30 dwellings will result in a peak traffic generation as follows:

- 0 vehicle trip per hour in the AM peak period (0 in, 0 out); and
- 12 vehicle trip per hour in the PM peak period (9 in, 3 out)

## 6.3 Net Combined Generation

The above is not a net increase and account should be taken of the existing traffic associated with the site. In this regard the net combined traffic generation can be summarised as follows:

- -6 vehicle trips per hour in the AM peak period (0 in, -6 out); and
- 6 vehicle trips per hour in the PM peak period (3 in, 3 out).

## 6.4 Traffic Impacts

The proposed development will result in no more than one (1) additional vehicle trip being generated every 10 minutes during the critical evening peak period. As such the development is considered supportable from a traffic planning perspective with no external improvements to the network required.

# 7. ACCESS AND INTERNAL DESIGN ASPECTS

## 7.1 Vehicular Access

### 7.1.1 Village West Access

The development proposes a total of seven (7) residential parking spaces with access to Friend Street, a local access road. It will therefore require a Category 1 driveway under AS2890.1 (2004), being a combined entry and exit width of 3.0 to 5.5 metres. In response, a 5.5 metre driveway has been provided which is compliant with the requirements of AS 2890.1.

### 7.1.2 Village East Accesses

The development proposes a seven (7) residential parking spaces via this access to Friend Street, being a local access road. It will therefore require a Category 1 driveway under AS2890.1 (2004), being a combined entry and exit width of 3.0 to 5.5 metres. In response, a 5.5 metre driveway has been provided which is compliant with the requirements of AS 2890.1.

In addition to the above, a vehicular access is proposed for on the eastern frontage to Friend Street. This vehicular access is to accommodate a single parking space and provides a 3.0 metre wide vehicular access which is compliant with the requirements of AS 2890.1.

## 7.2 Internal Design

The internal at-grade car park complies with the requirements of AS 2890.1 (2004) and AS 2890.6 (2009), and the following characteristics are noteworthy:

**Parking Modules**

- All standard car parking spaces have been designed in accordance with User Class 1A being for residential parking. These spaces are provided with a minimum space length of 5.4m, a minimum width of 2.4m and a minimum aisle width of 5.8m.
- All spaces located adjacent to obstructions of greater than 150mm in height are provided with an additional width of 300mm.

- Dead-end aisles are provided with the required 1.0m aisle extension in accordance with Figure 2.3 of AS2890.1 (2004).
- All accessible parking spaces have been designed in accordance with AS 2890.6 (2009), being 2.4m wide, 5.4m long and situated immediately adjacent to a dedicated shared area or the circulating aisle.

**Other Considerations**

- Visual splay has been provided at the access driveway in accordance with Figure 3.3 of AS 2890.1 (2004).

## 7.3 Summary

In summary, the internal configuration of the at-grade car park has been designed in accordance with AS 2890.1 (2004) and AS 2890.6 (2009). It is however envisaged that a condition of consent would be imposed requiring compliance with these standards and as such any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.

# 8. CONCLUSIONS

In summary:

- The proposal seeks approval to construct two (2) two-storey seniors living development at 16-26 Friend Street in Merrylands, containing a total of 30 apartments, and a provision of 15 car parking spaces.
- The subject site is well connected to the public transport network with reliable access to regular bus service.
- The proposed development satisfies the minimum SEPP (Affordable Renting Housing) requirements and is considered acceptable. As such, all normal parking demands will be readily accommodated on-site.
- The proposed development will result in no more than one (1) additional vehicle trip being generated every 10 minutes during the critical evening peak period. As such the development is considered supportable from a traffic planning perspective with no external improvements to the network required.
- The at-grade car park has been designed in accordance with the requirements of AS 2890.1 (2004), and AS 2890.6 (2009). It is however envisaged that a standard condition of consent would be imposed requiring compliance with these standards and as such any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.

This traffic impact assessment therefore demonstrates that the subject application is supportable on traffic planning grounds. TRAFFIX anticipates an ongoing involvement during the development approval process.

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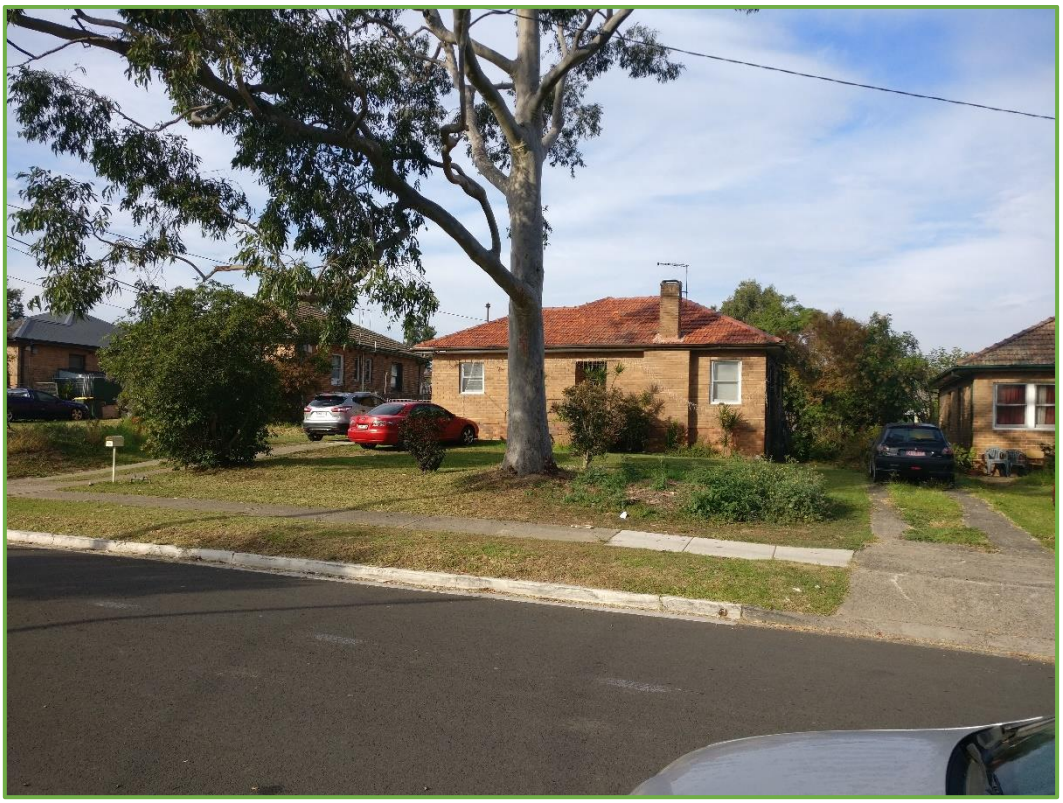
# APPENDIX A

Photographic Record

Site Frontage, 16 Friend Street, Merrylands

Site Frontage, 18 Friend Street, Merrylands



Site Frontage, 20 Friend Street, Merrylands

Site Frontage, 22 Friend Street, Merrylands

Site Frontage, 24 Friend Street, Merrylands

Site Frontage, 26 Friend Street, Merrylands

Pedestrian section view of Friend Street facing east, with subject site on left side

Pedestrian section view of Friend Street facing west, with subject site on right side

Vehicle section view of Friend Street facing east, with subject site on left side

Vehicle section view of Friend Street facing west, with subject site on right side

# APPENDIX B

Reduced Plans

VILLAGE WEST

VILLAGE EAST

FRIEND STREET

STAGE 1 LANDSCAPE (TEMPORARY)

EXISTING CONCRETE PATH

BOUNDARY 99° 57' 25" 95.10M

UNIT 1 RL 42.500

UNIT 3 RL 42.500

UNIT 5 RL 42.500

UNIT 7 RL 42.500

UNIT 9 RL 43.00

UNIT 11 RL 43.00

UNIT 13 RL 43.00

UNIT 15 RL 44.150

UNIT 17 RL 44.150

UNIT 19 RL 44.150

UNIT 21 RL 44.150

UNIT 23 RL 44.150

UNIT 25 RL 44.150

UNIT 27 RL 44.650

UNIT 29 RL 44.650

LOT 33 D.P. 35643

LOT 40 D.P. 35643

" ALDERSON PARK "

LOT 41 D.P. 35643

LOT 42 D.P. 35643

LOT 43 D.P. 35643

LOT 44 D.P. 35643

LOT 45 D.P. 35643

LOT 46 D.P. 35643

LOT 47 D.P. 35643

BRICK RESIDENCE TILE ROOF No 14

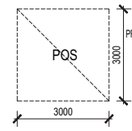
01 GROUND FLOOR PLAN
1:200@A1

## LEGEND

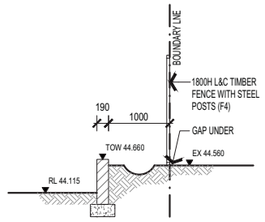
| | |
|---|---|
| POS | PRIVATE OPEN SPACE (PAVED) |
| | PRIVATE OPEN SPACE (LANDSCAPED) |
| | LANDSCAPE |
| COS | COMMUNAL OPEN SPACE |
| | CARPARK |
| | PATHWAY |
| | LOBBY |
| | PERMEABLE PAVING |
| B | BROOM STORAGE |
| P | PANTRY STORAGE |
| L | LINEN STORAGE |
| HWU | HOT WATER UNIT |
| CL | CLOTHES LINE |
| LB | LETTER BOX |
| | MAIN SWITCHBOARD |
| CTL | CABLE TRANSITION LOCATION |

## LEGEND - TREE

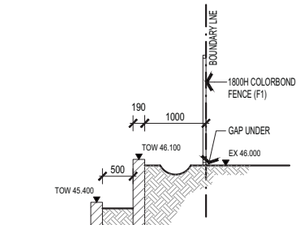
- TREE: EXISTING TO BE REMOVED
- TREE: EXISTING TO BE RETAINED
- TREE TPZ
- TREE DBH
- TREE SPREAD (Canopy)



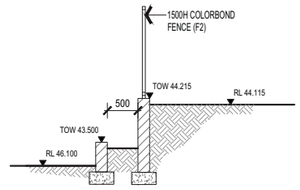

| | |
|---|---|
| F1 | FENCE 1 - 1800mm HIGH COLORBOND FENCE |
| F2 | FENCE 2 - 1500mm HIGH COLORBOND FENCE |
| F3 | FENCE 3 - 1500mm HIGH POWDERCOATED SLATTED FENCE |
| F4 | FENCE 4 - 1800mm HIGH LAPPED & CAPPED TIMBER FENCE |
| F5 | FENCE 5 - 1200mm HIGH POWDERCOATED BALUSTRADE |
| F6 | FENCE 6 - 1200mm HIGH COLORBOND FENCE TO BUILDING LINE |
| F7 | FENCE 7 - 1200mm HIGH POWDERCOATED SLATTED FENCE |



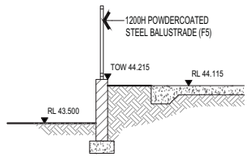

DETAIL A
TYPICAL SWALE RETAINING WALL DETAIL (STEPPED)




DETAIL B
TYPICAL TERRACED RETAINING WALL AT BOUNDARY




DETAIL C
RETAINING WALL AT EAST-WEST VILLAGE BOUDARY




DETAIL D
RETAINING WALL AT TREE (T9) / UNIT 15

02 TYPICAL RETAINING WALL DETAILS
1:50 @ A1




SUITE 3.01, LEVEL 3 80 MOUNT STREET NORTH SYDNEY, NSW 2060 AUSTRALIA
ABN 56 120 779 106
NOMINATED ARCHITECTS:
TONY GRAY 5303 & PAUL GODSELL 6726

P 02 9660 3644 www.crawford.com.au
E arch@crawford.com.au

| ISSUE | DATE | AMENDMENTS |
|---|---|---|
| A | 20.03.10 | DA SUBMISSION |

Planning, Industry & Environment

CLIENT: NSW LAHC

PROJECT: FRIEND ST MERRYLANDS
16-26 FRIEND ST, MERRYLANDS, NSW 2160

TITLE: GROUND FLOOR GENERAL LAYOUT PLAN

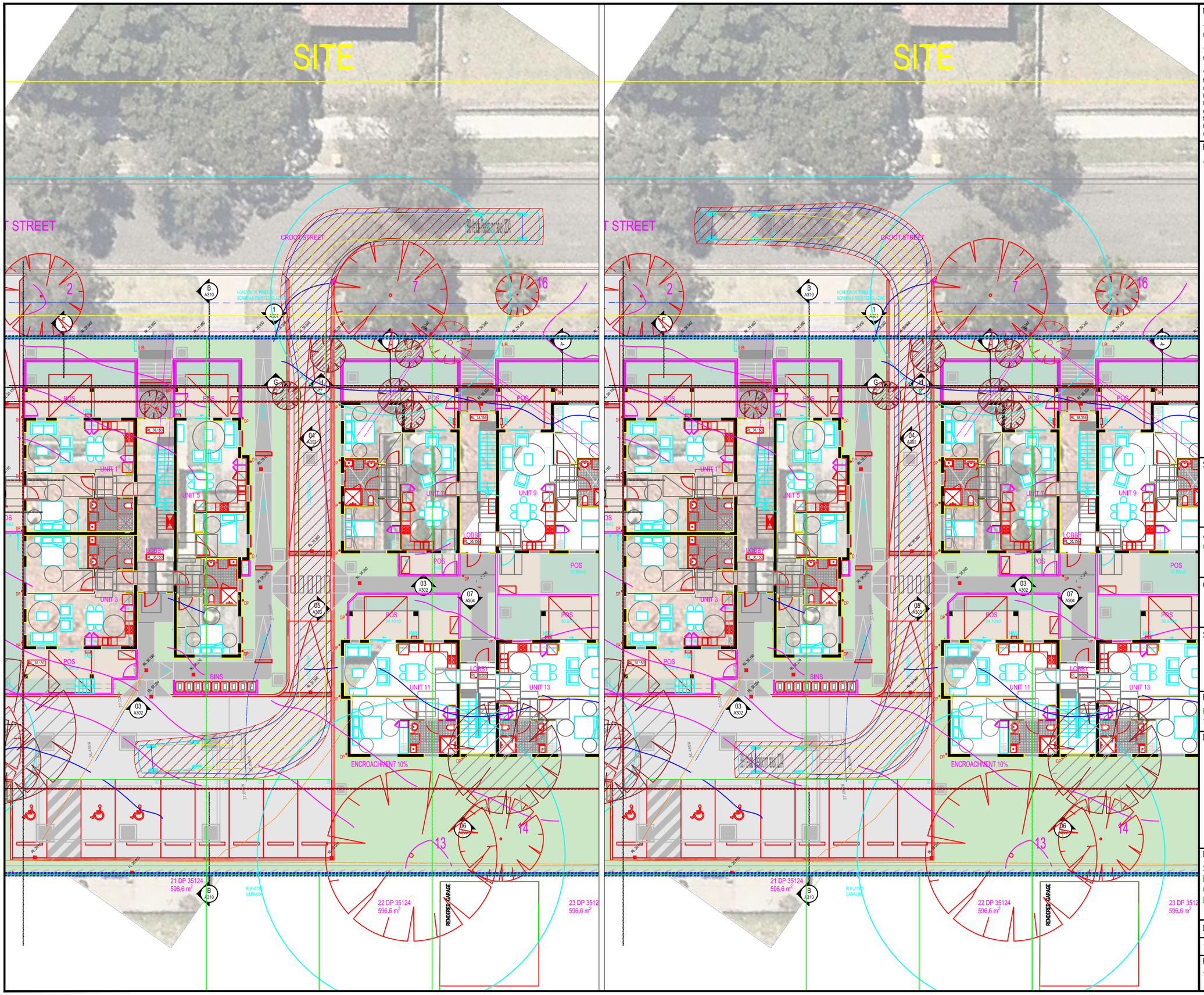
SCALE 1:200 @ A1
APPROVED
DRAWN
CHECKED TG
DATE 2019
STATUS DA

PROJECT NUMBER 19004

DRAWING NUMBER A200

ISSUE A

crawford architects







Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (*AS/NZS 2890.1:2004 Parking facilities - Off-street car parking*, and/or *AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

| Rev. | Revision Note | By. | Date |
|---|---|---|---|
| A | Swept Path Analysis | SW | 13-03-20 |

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
Crawford Architects

Client

Scale / Plan Orientation

0 2.5 5 7.5 10m
1:250 @ A3

Project Description
Proposed Senior Living Development
15-19 Croot Street, Hurstville NSW

Drawing Prepared By

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Drawing Title
Swept Path Analysis
B99 Design Vehicle
Ground Floor
Left: Entry Movement Right: Exit Movement

| Drawn: | Checked: | Date: |
|---|---|---|
| SW | VD | 13-03-20 |

19.123d01v01 TRAFFIX [191121 Plans] Design Review.dwg

| Project No. | Drawing Phase | Drawing No. | Rev. |
|---|---|---|---|
| 19.123 | DA | TX.01 | A |