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CONSTRUCTION TRAFFIC MANAGEMENT PLAN

FOR

AGED CARE DEVELOPMENT AT BRIGANTINE DRIVE

SHELL COVE

PREPARED FOR

Warrigal

DATE: 1ST SEPTEMBER 2014

OUR REFERENCE: 20130294

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REVISION HISTORY

REVISION	DATE	BY	CHECKED	COMMENTS
A	06/05/14	SF	JB	For S96 approval
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1 SITE LOCATION AND EXISTING CONDITIONS

This Construction Traffic Management Plan (CTMP) has been prepared to review traffic conditions during the construction of the proposed aged care development by Warrigal on Lot 8201 DP1153225.

The subject site (Lot 8201 DP1153225) is located on the eastern side of Cutter Parade and to the north of the road reserve for Brigantine Drive. Harbour Boulevard is proposed to be constructed along the eastern boundary of the site as part of the continuing Shell Cove development (Figure 1.1).

Currently, the site is a green field site with no existing buildings or infrastructure constructed on site.

Figure 1.1 – Site Location

Brigantine Drive and Cutter Parade are classified as local streets. At the location of the subject site, Cutter Parade and Brigantine Drive are two lane roads with one lane of traffic in each direction. The roads are bound by kerb and gutter on each side of the pavement, and no centreline marking is currently present for each of these roads. The posted speed limit is 50 km/hr in this area.

2 DEVELOPMENT PROPOSAL

The development as currently proposed consists of a 128 bed residential car home and 80 community village units which comprises 33 villas and 47 apartments.

The 33 villas are proposed to be single level residential construction with garages provided to each villa.

The 47 apartments will be constructed as two blocks of 3 level residential units. As part of this construction, the two blocks will have one combined basement (underground) parking area.

3 CONSTRUCTION STAGING

The construction of Lot 8201 DP1153225 is proposed to be staged as per the following:

- Stage 1 – Residential Care Home construction;
- Stage 2 – Village villa construction; and
- Stage 3 – Village Apartment Block construction.

Stage 1 is scheduled to commence in June to October 2015. The Residential Care Home (RCH) will comprise a proposed car park access from Brigantine Drive, footpaths and access ways around the RCH, the village green, landscaping works, access driveways and a new sub-station (to be located fronting Harbour Boulevard) with main switchboard (located within the site). It is anticipated that this stage of construction will be completed in October 2016 to February 2017.

Stage 2 is scheduled to commence in November 2015 to March 2016. The villa construction will be completed in villa clusters varying from two villas to six villas. The villa development will include landscaping works for open spaces, footpaths and access driveways. It is anticipated that this stage of construction will be completed in November 2016 to March 2017.

Stage 3 will be the last stage of construction on the site. The Village Apartment Block will be constructed in conjunction with footpaths and access ways to the apartment block, and associated landscaping. This stage will is not likely to be constructed until access is available to the development site from Harbour Boulevard. The construction of Harbour Boulevard will provide construction access to the site and not require the use of alternate routes through the Shell Cove precinct that are covered in this report. As such, this stage of works will not be addressed in this construction management plan.

3.1 CONSTRUCTION TIMING

Based upon current progress, the construction of each of the Stages is programmed as follows:

- Stage 1 – The RCH may commence in March to August 2015 and be complete by October 2016 to February 2017
- Stage 2 –The Villas may commence in June to November 2015 and be complete by November 2016 to March 2017
- Stage 3 – The timing of construction works for the proposed Apartments is dictated by the programmed activities of the Shell Cove Project and is beyond the control of Warrigal. Construction works will commence following the completion of Harbour Boulevard whereby access to the Warrigal site via Harbour Boulevard can be achieved.

From current discussions with Australand, the construction of Harbour Boulevard is proposed to commence from February 2015 through to October 2015. However, Harbour Boulevard is not proposed to be constructed in its entirety. Connection to Shellharbour Road is unlikely to occur before late 2016 or early 2017. Stage 3 will only commence construction once permanent access is available both to and from the Warrigal site via Harbour Boulevard.

Upon completion of the construction of Harbour Boulevard, the temporary access road off Cutter Parade will be decommissioned and permanent access to the site established from Harbour Boulevard. This permanent access off Harbour Boulevard will also form part of Stage 3.

All timeframes provided are best estimates at the time of this report and are subject to change.

3.2 CONSTRUCTION ACTIVITIES

Working hours for building works are to comply with the conditions of development consent which are as follows:

a. Excavation & deliveries are to occur between 7.00am-5.00pm Monday –Friday & 8.00am-12noon Saturday. No work or deliveries are to take place on Sunday or public holidays;

b. Excavation or material removal using machinery of any kind must be limited to 7.30am-5.00pm Monday – Friday with a respite break of 45mins at approximately 12 noon.

Any activities required to be conducted outside of these hours will be subject to the issue of an 'outside of hours works permit' from council; additionally, notification will be given to the surrounding properties likely to be affected by the out-of-hours works. Works outside of usual hours may include large concrete pours or activities such as the use of oversized trucks and/or cranes to deliver beams, tanks or service equipment to or from the site.

The approximate number of truck movements per day are summarised in Table 1.1. These figures are best estimates only and subject to final design documentation and the selected builder's construction methodology.

Table 1.1 Approximate Average Number of Daily Truck Movements

STAGE	WORK	AVERAGE TRUCK MOVEMENTS (per day)
1	RCH Construction	3 - 25
2	Villa Construction	3 - 10
3	Apartment Block Construction	3-25

4 SITE ACCESS

In the determination of appropriate construction access to accommodate the development of Lot 8201 DP1153225, three options have been investigated and prepared in order of priority and is a proactive approach to contingency planning should one option not be available.

4.1 OPTION 1 – NEGOTIATED PRIVATE ACCESS

Warrigal has negotiated a private access arrangement (Access Deed) with Warilla Bowls and Recreation Club to enable a construction access to be established over Lot 802 DP1149748. This agreement enables construction traffic to access the site via Addison Street (refer Figure 4.1) and minimise any construction traffic travelling through the local street network of Shell Cove.

Construction vehicles can approach the site via Shellharbour Road and turn east onto Addison Street. Once on Addison Street, travel approximately 100m and turn right onto the western fork of Addison Street. Travelling to the end of the fork of Addison Street, construction vehicles will be able to access the site via a stabilised access way through Lot 802 DP1149748.

Construction vehicles can exit the site following the same path of travel to access Shellharbour Road where they can travel in a northerly, southerly or westerly direction.

Warrigal has implemented the access deed and will utilise this access instrument for the construction of Stages 1 and 2 as outlined in this report as long as this instrument legally remains active. Warrigal is committed to utilising this access as the only construction access point for Stages 1 and 2, and will use its best efforts to ensure the access deed remains activated for the entire construction of Stages 1 and 2.

Figure 4.1 – Option 1 Construction Access

Options 2 and 3 below are contingency plans if the access deed is dissolved during the construction of Stages 1 and 2. Options 2 and 3 are should be treated as last resorts by Warrigal to complete construction works at the development site.

4.2 OPTION 2 – HARBOUR BOULEVARD ACCESS

Should the negotiated private access arrangement (option 1) with Warilla Bowls and Recreation Club need to be dissolved, Warrigal are proposing to utilise Harbour Boulevard as the second priority in providing construction access to the site. This requires construction traffic to access the site via Harbour Boulevard (refer Figure 4.2) and minimise any construction traffic travelling through the local street network of Shell Cove.

As outlined previously, current discussions with Australand has revealed that Harbour Boulevard is proposed to be constructed and complete prior to end 2016 up to Shellharbour Road.

Construction vehicles can approach the site via Shellharbour Road and turn east onto Addison Street. Once on Addison Street, travel approximately 100m and turn right onto the western fork of Addison Street. Travelling along the fork of Addison Street, construction vehicles will be able to turn left onto on Harbour Boulevard and access the construction site.

Construction vehicles can exit the site following the same path of travel to access Shellharbour Road where they can travel in a northerly, southerly or westerly direction.

Figure 4.2 – Option 2 Construction Access

4.3 OPTION 3 – ACCESS VIA COVE BOULEVARD ONTO HARBOUR BOULEVARD

Should the negotiated a private access arrangement (Access Deed) with Warilla Bowls and Recreation Club need to be dissolved, Warrigal are proposing to utilise Harbour Boulevard via Cove Boulevard as the third priority in providing construction access to the site. This requires construction traffic to access the site via Harbour Boulevard (refer Figure 4.3) and minimise any construction traffic travelling through the local street network of Shell Cove.

As outlined previously, current discussions with Australand has revealed that Stage 1 of Harbour Boulevard is proposed to be constructed from February 2015 to October 2015. The completion of Stage 1 of Harbour Boulevard will enable construction vehicles to access the site via Cove Boulevard.

Construction vehicles can approach the site via Shellharbour Road and turn east onto Cove Boulevard. Once on Cove Boulevard, travel approximately 1100m and turn left onto the completed section of Harbour Boulevard. Once on Harbour Boulevard, proceed 400m north where construction vehicles access the site via a stabilised site access.

It is envisaged that Stage 3 apartments will be undertaken once access via Harbour Boulevard is available to the site. This effectively means that 60% of the village will not be constructed until this is available.

Figure 4.3 – Option 3 Construction Access

Construction vehicles can exit the site following the same path of travel to access Shellharbour Road where they can travel in a northerly, southerly or westerly direction.

4.4 OPTION 4 – ACCESS VIA CUTTER PARADE/BRIGANTINE DRIVE

Should the negotiated a private access arrangement (Access Deed) with Warilla Bowls and Recreation Club need to be dissolved, and access via Harbour Boulevard not be afforded (due to timing of the construction of Harbour Boulevard by Australand) then Warrigal are proposing to utilise the existing Shell Cove road network (refer Figure 4.4) to gain construction vehicle access to the site. **This is Warrigal's lowest and least favoured priority for construction access to the site and is unlikely to transpire.**

Construction vehicles can approach the site via Shellharbour Road and turn east onto Cove Boulevard. Once on Cove Boulevard, travel approximately 300m and turn left onto Brindabella Drive. Once on Brindabella Drive, travel approximately 400m and turn left onto Condor Drive. Once on Condor Drive, travel 50m and turn right to continue travelling along Condor Drive. At the intersection of Condor Drive and Caravel Crescent, turn left onto Caravel Crescent. Once on Caravel Crescent, travel 50m and turn right onto Brigantine Drive. Once on Brigantine Drive, proceed to the end of Brigantine Drive where construction vehicles can either proceed straight ahead and access the site via a stabilised site access, or turn left into Cutter Parade and access the site via a stabilised access approximately 100m along Cutter Parade and on the eastern side of the road.

Alternately, once on Cove Boulevard, travel approximately 800m and turn left onto Brindabella Drive. Once on Brindabella Drive, travel approximately 400m and turn right onto Condor Drive. Once on Condor Drive, travel 50m and turn right to continue travelling along Condor Drive. At the intersection of Condor Drive and Caravel Crescent, turn left onto Caravel Crescent. Once on Caravel Crescent, travel 50m and turn right onto Brigantine Drive. Once on Brigantine Drive, proceed to the end of Brigantine Drive where construction vehicles can access the site.

It is anticipated that construction vehicles accessing the site via Brigantine Drive will be completing works associated with Stage 1 (Residential Care Home Construction). Construction vehicles accessing the site via Cutter Parade will be completing works associated with Stage 2 (Village Villa construction) which is predominantly residential type construction.

It is envisaged that Stage 3 will be undertaken once access via Harbour Boulevard is available to the site.

Figure 4.4 – Option 3 Construction Access

Construction vehicles can exit the site following the same path of travel to access Shellharbour Road where they can travel in a northerly, southerly or westerly direction.

5 CONSTRUCTION ACCESS AND STAGING PLAN – RISK ASSESSMENT

5.1 STAGE 1

As outlined in section 4.1 (Option 1), Warrigal has negotiated a private access arrangement (Access Deed) with Warilla Bowls and Recreation Club to enable a construction access to be established over Lot 802 DP1149748. Warrigal anticipate commencing Stage 1 (RCH) in June to October 2015. Stage 1 will be a commercial construction project with a heavier reliance upon construction vehicles to service activities in the new build.

It is expected that all of Stage 1 will be completed utilising the construction access as outlined in Option 1. **Warrigal has implemented the access deed and will utilise this access instrument for the construction of Stage 1 as long as this instrument legally remains active.** It is considered a **LOW RISK** that the access deed would be dissolved prior to the completion of this stage of works.

5.2 STAGE 2

Warrigal intend to commence works on Stage 2 (Villa Construction) in November 2015 to March 2016. As stated in section 4.1, Warrigal's first priority is to maintain construction access via the negotiated access deed and will do all within its control to ensure that the access deed is maintained for construction works.

Should the negotiated access deed be dissolved during Stage 2 works, based upon current information Harbour Boulevard is likely to afford construction access by utilising a temporary access road constructed to the end of the finished Stage 1 construction of Harbour Boulevard.

Stage 2 is primarily a residential construction project with construction activities more commensurate with new build residential construction works currently being completed in the Shell Cove precinct

Warrigal's first priority is to maintain construction access via the negotiated access deed and will do all within its control to ensure that the access deed is maintained for construction works. **Warrigal has implemented the access deed and will utilise this access instrument for the construction of Stage 2 as long as this instrument legally remains active.** It is considered a **LOW RISK** that the access deed would be dissolved prior to the completion of this stage of works.

5.3 STAGE 3

Stage 3 will only be commencing construction works once permanent access to the Warrigal site is able to be established from Harbour Boulevard.

As part of the risk assessment completed, it should be noted that Site Access Option 4 (through the Shell Cove Village and discussed in Section 4.3) **is not considered a likely option in any of the construction stages**. The construction program for the Shell Cove project and the private access arrangement (access deed) make Site Access Options 1, 2 and 3 the most likely scenarios to be employed in the construction activities associated with Warrigal's development site.

The only scenario whereby Option 4 may need to be implemented is that the access deed is dissolved at a time where Harbour Boulevard is not yet constructed. Considering the proposed commencement date of June to October 2015 for Stage 1 (RCH) and the current program of constructing Stage 1 of Harbour Boulevard from February 2015 to October 2015, it is highly likely that Option 4 will cease to be an option for consideration as a proposed construction access route. This report has explored Option 4 to provide a complete and thorough assessment of all access options in all possible scenarios.

6 AMENITY

6.1 TRADESPERSON CAR PARKING

It is proposed that tradesperson car parking will be provided within the confines of the construction site.

6.2 PEDESTRIAN ACCESS

Pedestrian access along Cutter Parade and the sealed section of Brigantine Drive will be maintained during the course of construction activities. Construction fencing will be erected around the perimeter of the site to restrict access to the site to construction vehicles and personnel only.

6.3 ACCESS TO NEIGHBOURING PROPERTIES

Access to existing residences along Cutter Parade will not be compromised as part of the development works.

7 TEMPORARY SITE ACCESS FOR VILLAGE RESIDENTS

At the completion of Stage 1, a temporary site access will be established off Cutter Parade to allow residents of the Residential Care Home (RCH) and possibly some Village Villas to have access to and from their residence until such time as access is available via Harbour Boulevard.

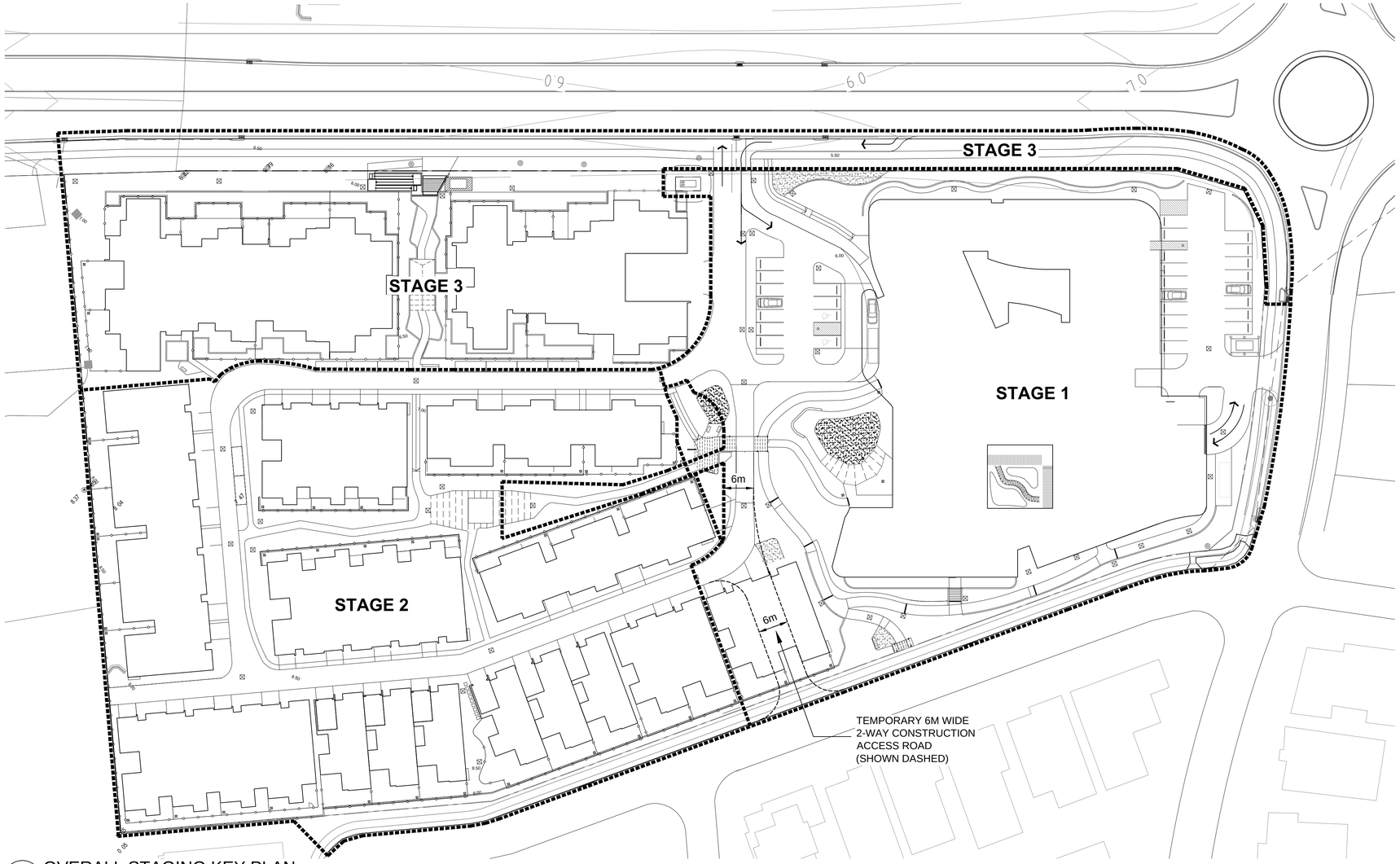
Once access is gained via Harbour Boulevard, the temporary site access will be decommissioned and demolished with the remaining villa construction proposed for this location completed. Warrigal will make good all footpath crossings, landscaping and the like to comply with the approved Construction Certificate documentation for the site.

8 CONTINUOUS CONSTRUCTION ACCESS

In developing this plan, all consideration has been given to minimise the impact of construction traffic on the Shell Cove neighbourhood. Warrigal must ensure that once construction commences, it has continuous access to the construction site. This plan provides for this whilst prioritising and minimising the impact on the Shell Cove neighbourhood.

APPENDIX A

WARRIGAL SHELL COVE STAGING PLAN



OVERALL STAGING KEY PLAN
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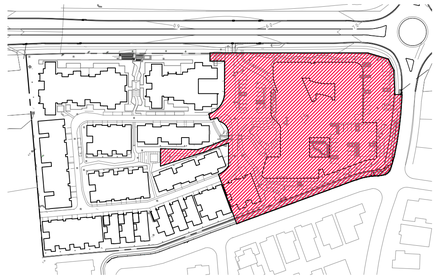

STAGE 1
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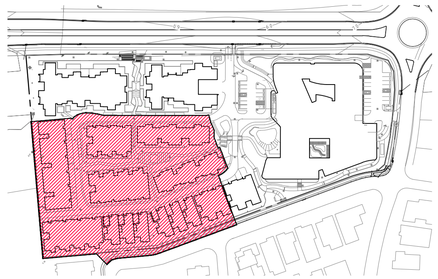

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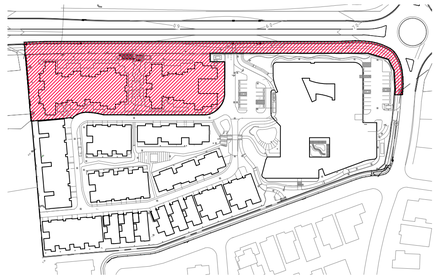

STAGE 3
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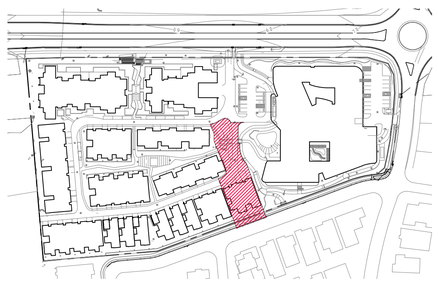

STAGE 3A
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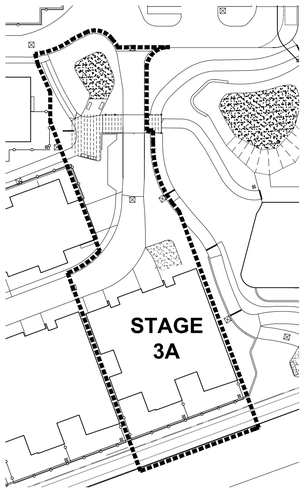
STAGE 1
Construct Care Home and associated works including:
- Car-parking and driveway
- Create two way temporary access road including signage (from Cutter Parade before the construction of Harbour Boulevarde)
- Porte-cochere
- Entry Structure of Cutter Parade
- Landscaping
- Services (including provision for Stage 2 and 3 connections)
- Infrastructure - stormwater drainage, substation serving stage 1 and fire hydrant serving all stages
- Works within the council reserve along Cutter Parade and Brigantine Drive (frontage to care Home only)

STAGE 2
Construct Villa Homes (except nos 48 & 49) and associated works including:
- Car-parking and driveway (connecting into temporary access formed part of Stage 1)
- Landscaping
- Services (including provision for Stage 3 connections)
- Infrastructure - substation to servicing stage 2 and 3
- Works within the council reserve along Cutter Parade

STAGE 3
Construct Apartment Building A and B and associated works including:
- Basement Car-parking and ramp access (connecting into road formed as part of Stage 1)
- Form driveway cross over into Harbour Boulevarde (including Warrigal entry signage)
- Construct visitor parking along west edge (adjoining Stage 2 driveway)
- Remove temporary road and complete loop driveway (including associated landscape works)
- Landscaping (on podium and ground)
- Entry stairs and ramp from Harbour Boulevarde
- Services
- Works within the council reserve fronting Harbour Boulevarde (extending to the corner of Brigantine Drive to edge of Stage 1 works)

STAGE 3A
- Community mail box meeting place enclosure with signage
- Construct last remaining two villa (nos 48 & 49) and associated works including landscaping



STAGE 3A
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TaylorBrammer

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PROJECT:
WARRIGAL SHELL COVE
HARBOUR BOULEVARD, SHELL COVE

DRAWING TITLE:
LANDSCAPE OVERALL STAGING KEY PLAN

CLIENT:
WARRIGAL

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DRAWN:	LQ	DESIGNED:	JWON		

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