3 Quarry Road, Dural NSW

DA Submission Outline Construction Management Plan

Thelem Consulting

06 June 2018

Rev Date	Revision Description	PM's Initials (acceptance of changes)
06 June 2018	DA Submission	NG

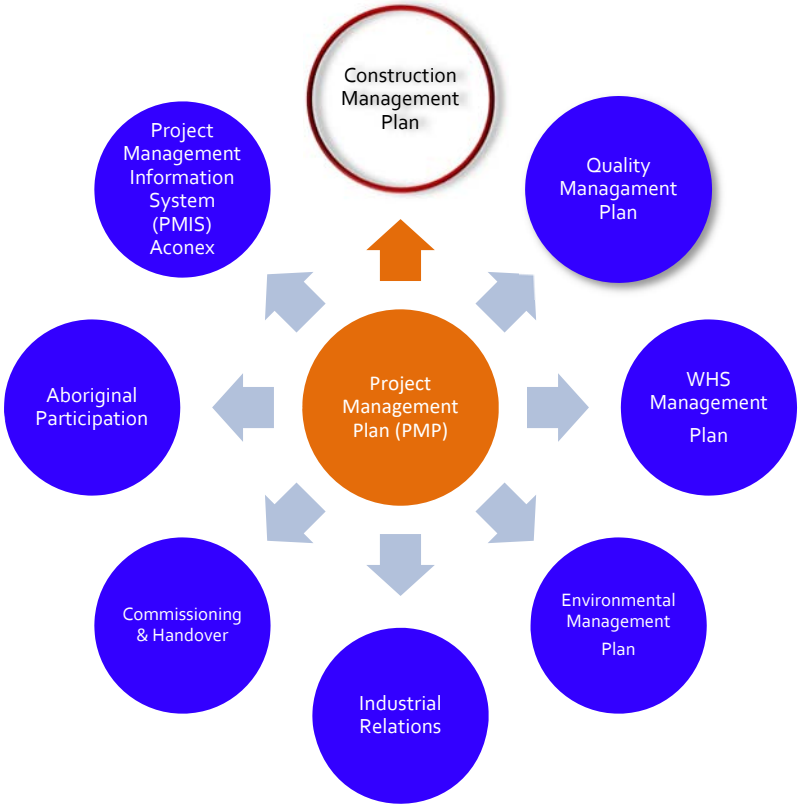
Contents

1.0 Introduction

1.1 Construction Management Plan and the PMP

This outline Construction Management Plan (CMP) describes the approach and overview methodology for undertaking the 3 Quarry Road, Dural project in multiple stages. It also describes the project management, quality, WHS and environmental systems and controls to be implemented in the delivery of the works.

A detailed project specific CMP will form part of the successful Contractor's Project Management Plan (PMP). These plans will be continuously reviewed and audited for compliance by the Developers Project Management team, inclusive of:



1.2 Objectives

The objective of this CMP is to ensure that:

- Planning is taken to minimise impact on neighbouring areas and infrastructure
- Environmental controls are established.
- Contractors have a standard set as part of the DA Approval

1.3 Safety & WHS

Safety is the highest priority. It is imperative that the safety and well-being of all public, visitors, subcontractors, consultants and contractors and eventual residents are addressed in all of our design planning and management decisions.

The Contractors Project Management Plan will address the implementation of Safety in Design and WHS Workplace Management.

WHS policy recognises that each and every person has the responsibility to promote and maintain WHS Standards and Requirements at all times.

The following will be implemented by the Contractor as the responsible entity for WHS on the site during construction:

- Compliance with all regulatory requirements
- Appropriately experienced and trained site personnel
- Plant and equipment registers
- Hazardous materials management
- Safe Work Methods and Personal Protective Equipment
- Appropriate site security
- Services searches and site investigation
- Implementation of AS 14001 for safety

2.0 Scope of Work and Staging

The scope of the project is outlined in the DA drawing submission for the construction of a high quality retirement community and associated facilities and infrastructure:

- Construction of 146 Independent Living Units (ILU's) in 7 blocks of units
- Construction of a 74 bed residential aged care facility and associated underground parking
- Construction of associated underground parking for each unit block
- Construction of disabled and visitor parking
- Construction of a Community Centre, administration, facilities and associated above ground parking and visitor parking.
- Wellness centre
- Augmentation of services to site
- Drainage and detention facilities on site
- Construction to include in all stages:
    - Demolition (first stage only) and bulk excavation and disposal of spoil to appropriate licenced premises.
    - Construction of basement retaining walls 1 to two levels below ground
    - Construction carparks, landscaped podium and ILU's over
    - Landscaping. Commissioning and occupation in stages.

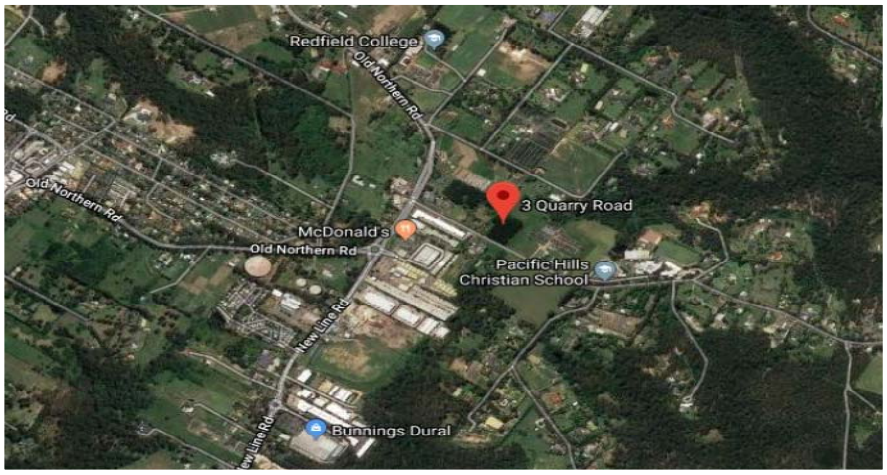


Figure 01 – Location Plan

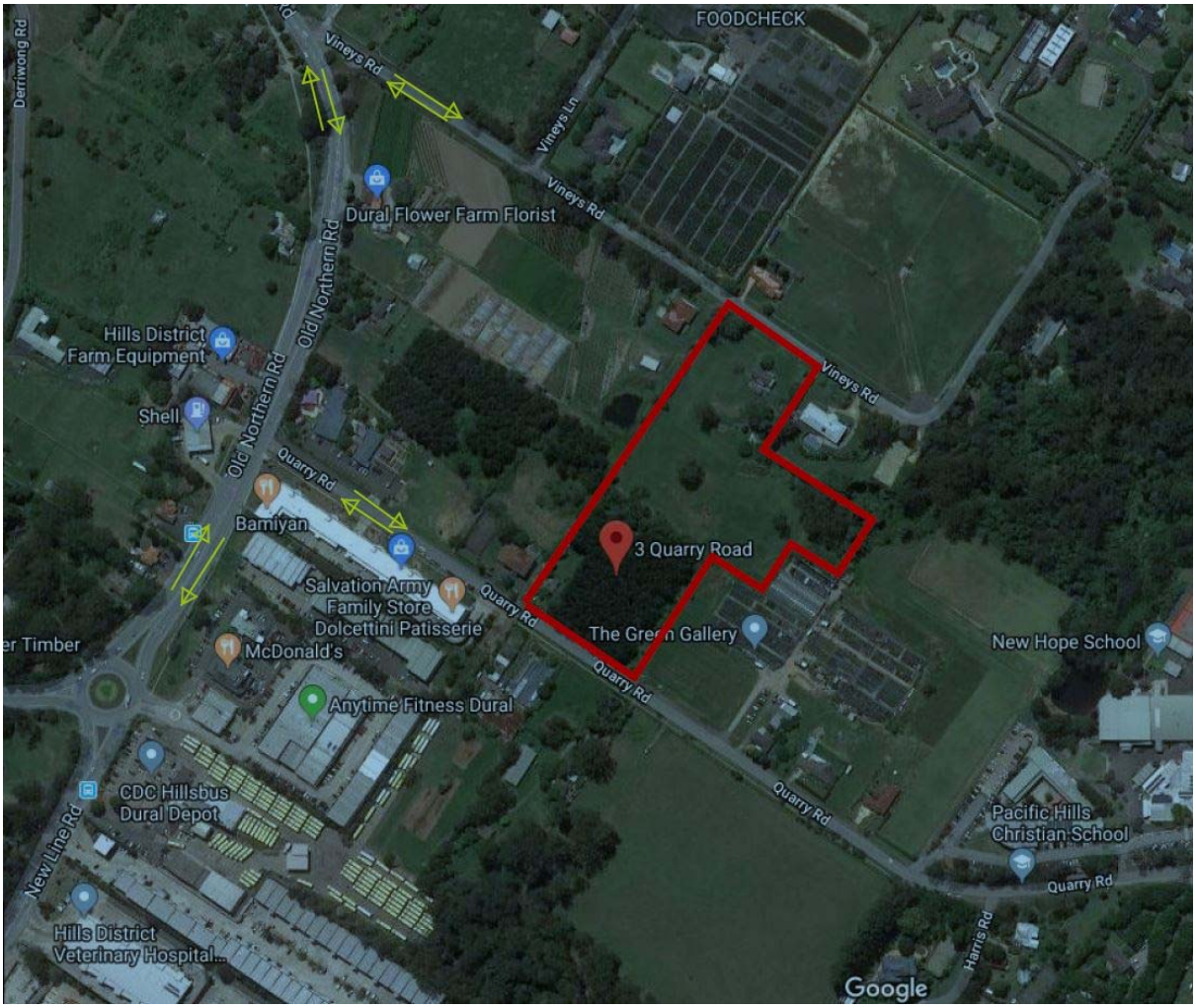


Figure 02 – Local Plan and Access

2.1 Key Works & Staging – Stage 1

The scope of the project and the necessity to work within sales targets, necessitates that the site be developed in stages.

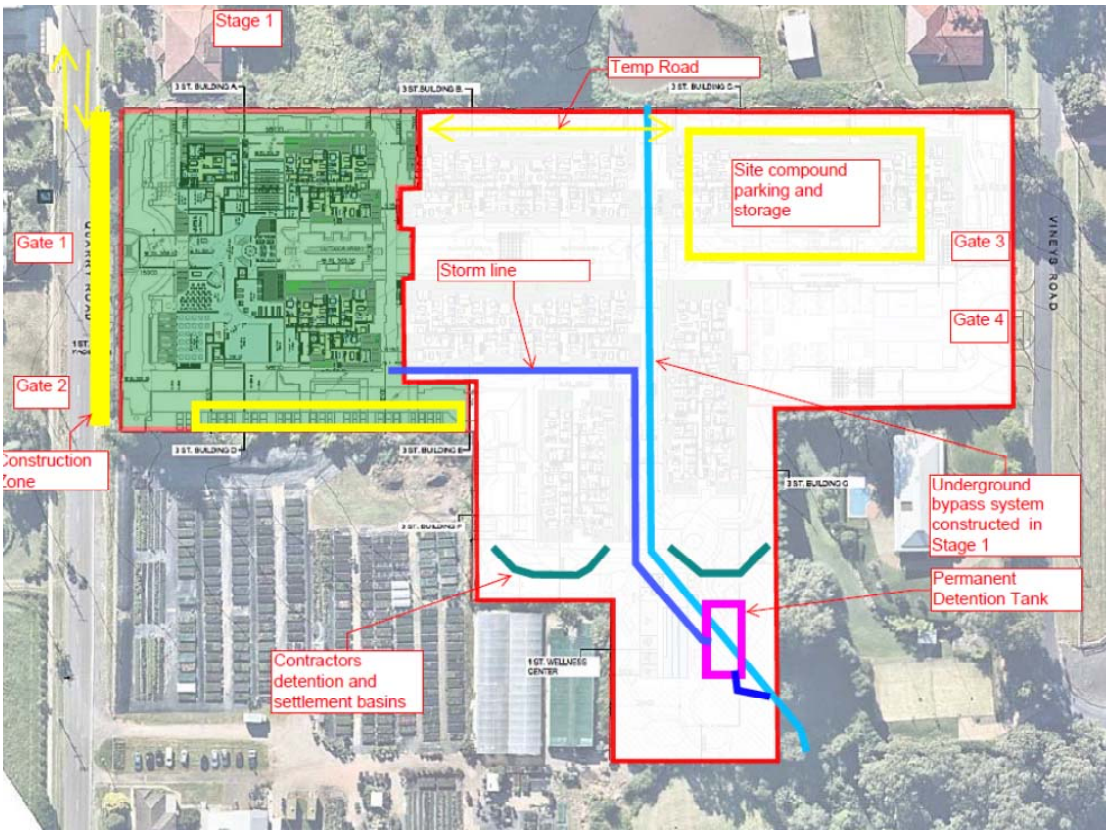
The number of stages envisaged is 6, including the RACF. The RACF can be built independently or concurrently with and of the 5 proposed ILU stages.

Each stage will require between 14 and 16 months to construct with stage 1as follows:

Stage 1 Comprises:

- ILU Building A
- ILU Building D
- Community Centre . Facilities

- Underground Parking
- Central Trunk Site Service Points (Main Switch / Fire etc)



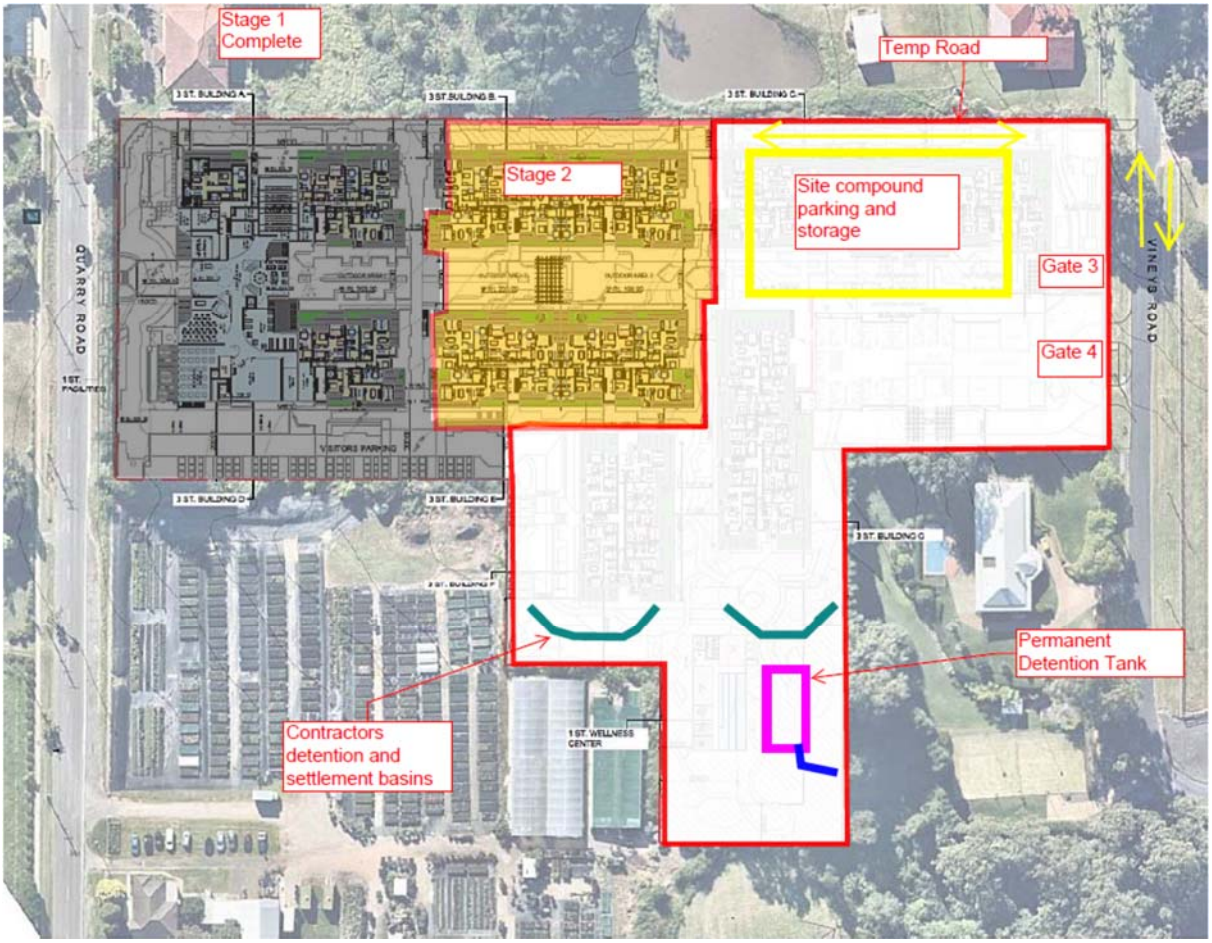
Stage 1 will also include central services and preparation for following stages:

- Establishment of temporary services to site
- Site perimeter fencing
- Environmental controls and temporary stormwater controls / basins
- Bulk demolition required on all areas of the site
- Any remediation on a staged basis
- Installation of the central stormwater management system (undergrounding the water course, detention tank installation and trunk stormwater lines

2.2 Key Works Stage 2

Construction of Block C and Block E north of completed Block B and E

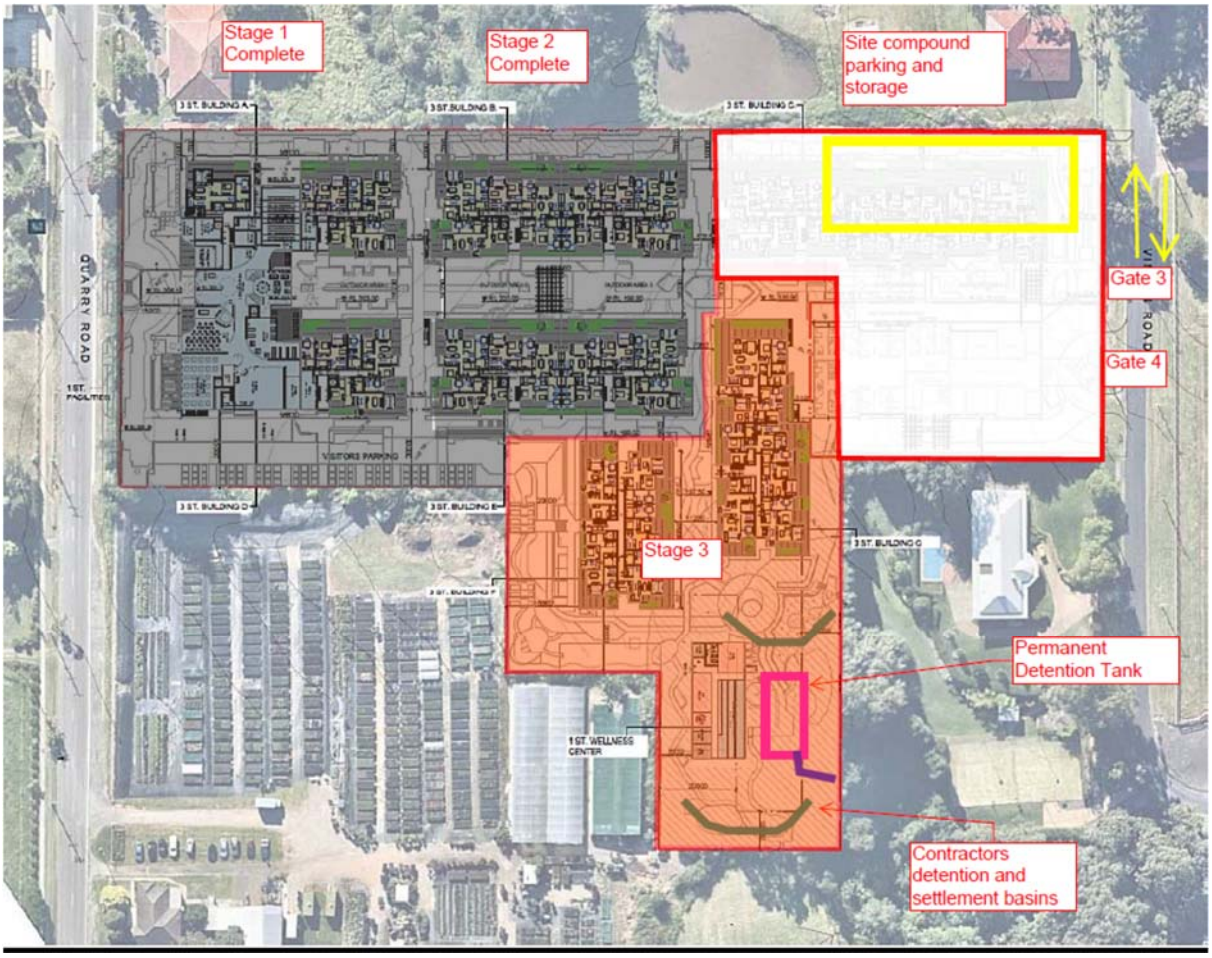
- Additional bulk and detailed excavation
- Basement shoring walls and carpark
- ILU units and associated landscaped podium slab
- Extension of trunk services established in Stage 1.



2.3 Key Works - Stage 3

Construction of Block F and Block G

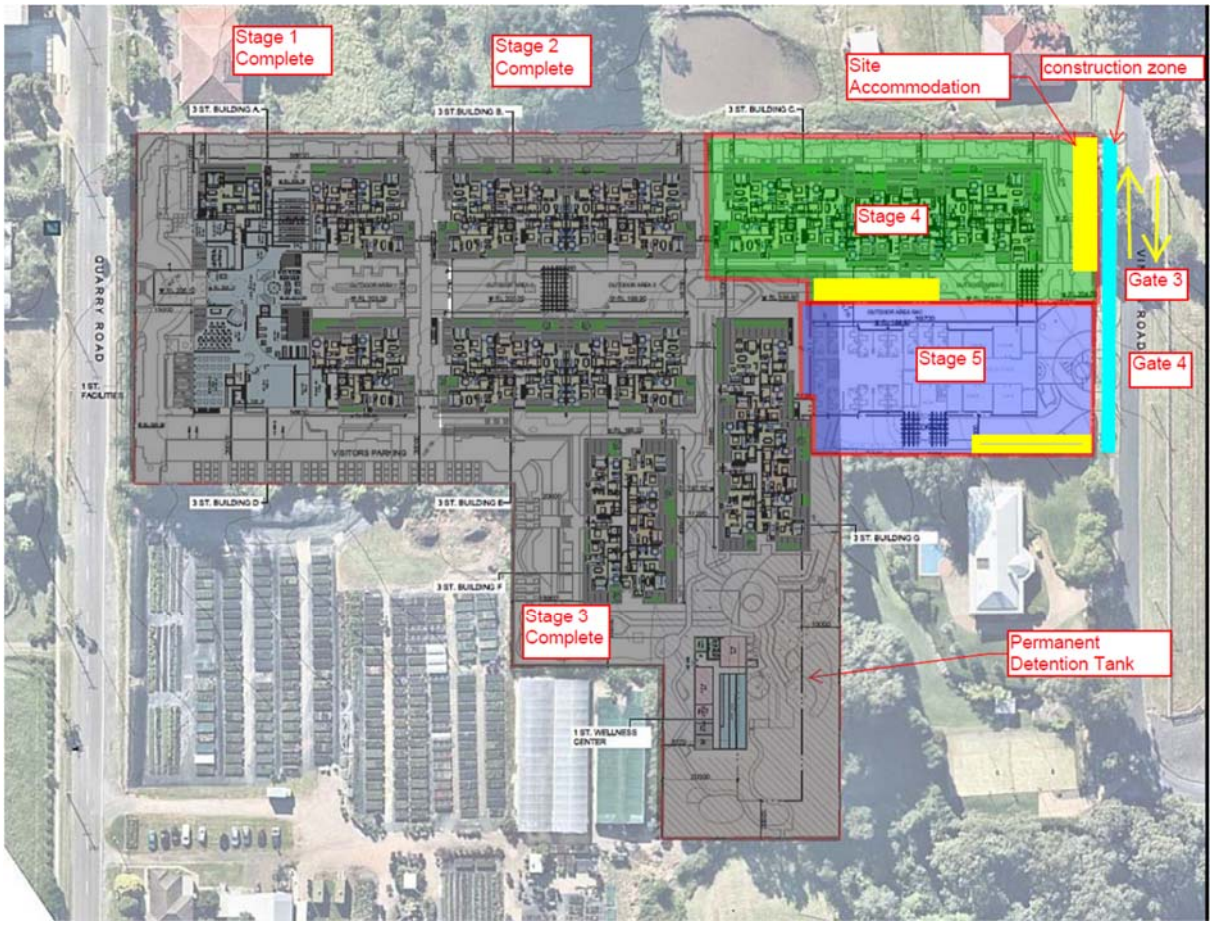
- Additional bulk and detailed excavation
- Basement shoring walls and carpark
- ILU units and associated landscaped podium slab
- Extension of trunk services established in Stage 1.
- Latest Construction of the Wellness Centre



2.4 Key Works – Stage 4

Construction of Block C

- Additional bulk and detailed excavation
- Basement shoring walls and carpark
- ILU units and associated landscaped podium slab
- Extension of trunk services



2.5 Key Works - Stage 5

Construction of the Residential Aged Care Facility:

The Aged Care construction phasing/ staging is independent of the ILU's depending on the operator. Construction can be undertaken concurrently with any stage.

- Bulk and detail excavation
- Basement carpark and shoring walls
- Services level / amenities and administration
- Resident rooms
- Entrance off of Vineys Road
- Provision of extended trunk services from Stage 1 depending on when constructed

3.0 Programming & Planning

Action Plan

The following action plan is proposed for commencement of each stage by the construction contractor:

Project Management	Action / Responsibility
Mobilisation Workshop review	Project Mgt and Executives
Commence process with Authorities for approval of hoardings amendments, work zones and temporary services.	Project Team
Commence 'final' drafting of the Project Plans to be included with our PMP - including: ▪ Design, Commissioning & Handover Plan ▪ Environmental Management Plan ▪ Noise and Vibration Management Plan ▪ Work Health & Safety Management Plan ▪ Project Quality Management Plan ▪ Construction Management Plan ▪ Traffic Management Plan ▪ Emergency Plan ▪ Training Plan ▪ Industrial Relations Plan	Project Team, WH&S / QA & Environmental Managers, and Programmer
Procurement	**Action / Responsibility**
Procure initial investigative documentation. ▪ Dilapidation records and reports. ▪ Services searches and scans (if required) ▪ Procure Early work Subcontracts for temporary services, hoardings etc	Contracts Manager
Engage with (and confirm) existing utilities and temporary services suppliers to ensure temporary electrical, water, data/communications are ready and have capacity for connection.	Site Services Engineer
Engage design consultant team as required	Project Director / Senior Project Manager / Contracts Manager
Construction Planning	**Action / Responsibility**
Finalise programme for site establishment works, design and Construction Certificates milestone dates	Senior Planner & Senior Project Manager
Finalise documentation platform & initial distribution process (pending document management system establishment)	IT Manager

Update programmes from early works trades and services suppliers	Senior Planner
Finalise initial Design and Procurement Programs following Design Workshop	Project Director / Senior Project Manager / Senior Planner
Design	**Action / Responsibility**
Obtain design documentation and Construction Certificates	Project Director / Senior Project Manager / Design Manager
Agree design protocols with the Principal's Project Manager and finalise the Design Management Plan	Project Director / Senior Project Manager / Design Manager
WH&S	**Action / Responsibility**
Finalise WHS Plan	WHS&E Manager/ Senior Project Manager/Senior Site Manager
Engage with local WorkCover Authority representative	WHS&E Manager

3.1 Program Overview

The programming of each stage is based on conventional construction methodologies, however prefabrication of ensuites and structural elements such as preformed columns and proprietary wall systems in the basements can underwrite program performance.

The contractor will be encouraged to explore these options to minimise traffic and manpower impacts on site.

4.0 Construction Methodology

4.1 Overview

Specifically, consideration has been given to the following;

- Pedestrian and Vehicle traffic management, including our approach to co-ordination and co-operation with other relevant projects
- The safety of personnel, the public and property, both within the construction site boundary and adjacent affected areas
- The impact of construction on our neighbours particularly the and nearby residents and businesses
- Impact of the additional construction traffic and detailed TMP's by appropriate consultants signed off at each stage and implemented by the Contractor.
- Management of typical construction disruptions such and noise, dust and vibration
- Management of disruptions related to the protection and maintenance of existing infrastructure

4.2 Project Management Plan

The main element of work will be the finalisation of the Project Management Plan (PMP), which will include the following sub-plans:

- Construction Management Plan
- Work Health & Safety Management Plan
- Traffic Management Plan
- Community Consultation Plan
- Industrial Relations Plan
- Site Management Plan
- Quality Management Plan
- Environmental Management Plan
- Design Management Plan
- Commissioning and Handover Plan (Draft)

4.3 Site Establishement

Dilapidation Reports

Upon possession of the site, survey the works and all adjoining facilities and compile Dilapidation Reports

The survey involves recording down the physical condition of adjacent properties, both internally and externally, including such items as access routes, walls, ceilings, roof, structural members and other similar items.

Site Establishment - Site Accommodation, Temporary Services, Hoardings and Environmental Measures

Concurrent with the production of the Dilapidation Reports, review all temporary services, site access, environmental measures, site establishment plans and the like.

All required site establishment activities will be completed with traffic controllers present at the site entry to control vehicle movement within the work zone and on and off the site.

Site Accommodation

Each stage is estimated to peak at a workforce of approximately 120 workers. To ensure the resourcing requirements of the project, it is proposed to expand and relocate accommodation during various stages of the works to meet those demands.

Hoardings and Fences

Each stage will be enclosed by A class relocatable fencing. Subsequent to completion, each stage will be enclosed with a permanent boundary fence and a temporary fence between the completed and ongoing stages of works.

At the commencement of the project the entire boundary of the property will be secured with an 1800 mm chain link fence and appropriate gates for future construction and emergency access.

Craneage, Material Handling and Material Hoist

On the commencement of substructure works, mobiile crane access will be provided for each stage.

All loading and unloading will be undertaken within the site boundary at each stage.

Telescopic forklifts and all-terrains will be employed to move materials laterally and to lift materials on to working decks.

The works may also be supplemented with material hoists depending on construction methodology.

Construction Traffic Management Plan

General construction vehicle traffic would access the site via Quarry Road for Stage 1- for delivery and discharge of vehicles. (Refer to diagrams in Section 2 for access points)

It is possible to consider construction worker parking and stored materials delivery for all stages stages of the site by accessing Vineys Road.

Stage 2 and subsequent stages will be accessed via Vineys Road.

Construction traffic generation would primarily be associated with the following construction activities at peak:

- Bulk excavation load out
    - 10 trucks per hour/ 60 per day
- Concrete pours - trucks and pumps
    - 7 trucks per hour / 40 per day
- Delivery of building materials using an mixture of small rigid and heavy rigid trucks
    - 10 trucks per day / 7 average
- Small trade deliveries and services using vans and utilities.
    - 15 per day /10 average
- Commuting workers by vehicle
    - Morning and evening peak 70 / average 40

It is not envisaged that the Bulk and Concrete activities occur concurrently.

Cumulative construction traffic generation for the Project would peak around 12 trucks per hour, during working hours, which excludes commuting. Excluding concrete pours or bulk load out days, traffic would reduce to 4 to 6 movements an hour concentrated in the morning and afternoons.

In isolation, an increased traffic flow of vehicles per hour would have very little impact on the adjacent traffic network; however with the combined use of the road network by the surround residences, businesses and through traffic, an element of coordination will be required to ensure traffic queuing on the surrounding network does not become an issue.

Traffic controllers will be available on site to allow trucks to safely enter and exit the site. It is the aim of the traffic controller to ensure that traffic does not queue along Quarry Road, hindering the progress of other road users. In addition, traffic controllers will provide management protection for pedestrians using the surrounding footpaths.

Coordination of material deliveries will be managed through a booking system. Firstly, to optimise the number of truck movements and deliveries and secondly, to ensure construction traffic does not queue on the transport network.

Waste Management & Recycling

All materials will be handled and disposed of in accordance with their classification, including protocols for any unexpected finds management.

With a relatively low level of structures demolition required, it is the soil management and bulk excavation that will need to be managed to maximise reuse and minimise landfill use.

Noise, Dust and Vibration Management

Noise and vibration can have significant impacts on the ability of the adjoining neighbours

Noise, dust and vibration can impact via two formats:

- Brief, intrusive exposure
- Long term background exposure

A systematic approach to the mitigation of vibration and noise emissions on the Project will be required. In order to ensure that noise and vibration emissions are minimised and adequately addressed, in an appropriately prepared Construction Noise and Vibration Management Plan.

Adequate notification will be provided to relevant stakeholders. This provides the project with 'control' data to measure any future readings. The subsequent commencement of construction works allows all parities to assess the impact of the work of surrounding neighbours.

If recommended by the engineering consultants, data loggers / noise and vibration will record in strategic locations around the site, firstly to establish benchmark data for the site prior to the commencement of construction activity and secondly to monitor noise and vibration periodically during construction

Dust monitors are typically used during site excavation activities, with temporary hydraulic provision for hose taps at the primary and secondary entrances. In addition, utilise water carts in difficult to access areas.

During inclement weather or load out of spoil, regular street sweepers / wash down to ensure that the surrounding roadways are kept clean and free from foreign material.

Shaker grids and wheel washers will be set up at site entrances.

Hazardous Substances Management

Should unexpected hazardous material be encountered the processes and steps outlined in the Project Work Health and Safety Management Plan.

Fuel and Hazardous Materials Storage

Storage of fuel or other hazardous materials on site other than those listed below is not envisaged:

- Fuel: Limited quantities for onsite portable power generators & portable fuel powered plant e.g.: hand held concrete saws, compactors and compressors,
- Oxy/Acetylene: Limited cylinders for plumbing works, and steel cutting,
- Propane/Butane: Limited quantities for pipe and cable soldering, welding, and gas charged fastening devices,

The above liquids & gas fuels will be stored in segregated, well ventilated, and secure enclosures with a surrounding fully closed watertight bund to ensure that contamination of the surrounding ground through potential spillage does not occur.

Major plant refuelling will be carried out by mobile mini-tanker facilities within an isolated dedicated area; this is to avoid stockpiling and cartage of bulk fuels on site.

Spill kits and appropriate hazmat signage will be located both at the materials stores & project office in the event of spillage occurring.

Signage

The following site signage and safety signage will be clearly displayed in accordance with relevant authority requirements

- Site signboard identifying the key project stakeholders and 24/7 contact details
- Personal Protection Equipment (PPE) signs
- Deep Excavation sign and other warning / safety signage
- Road signage (when required)
- Temporary Pedestrian Signage and travel rout diagrams
- Temporary vehicle diversions (detour) signage and travel rout diagrams (when required)

The CMP's at each stage will include dilapidation surveys each time for adjacent residents, public infrastructure and completed stages of 3 Quarry Road.

Appropriately qualified traffic, and other specialist consultants, will be retained by the Contractor to formulate and monitor where required all aspects of each Plan.