

# Enclosure 18

Applicant's Response to  
Submissions prepared by  
Place Design Group dated  
27 May 2022

Our Reference: 1621035  
Council Reference: SUB2021/0042  
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27 May 2022

Council's Development/Building Services Team  
Clarence Valley Council  
(Via email: [Carmen.Landers@clarence.nsw.gov.au](mailto:Carmen.Landers@clarence.nsw.gov.au))

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**Attention: Carmen Landers (Acting Coordinator Development Services)**

Dear Madam,

The following document has been prepared to provide an overview of the 58 submissions received and our responses to the key matters raised. The review found key concerns were raised in relation to planning, environment, traffic, stormwater, flooding, sewer, impact on surrounding agricultural properties, lack of consultation with traditional custodians, and earthworks.

Each of these matters is discussed in detail below.

**PLANNING / URBAN DESIGN**

**Housing density**

The proposed housing density and lot mix provided is in direct response to Council's rezoning of the land for urban purposes. The 'Salt and Peppering' of the different lot sizes throughout the estate has been previously agreed with Council and provides a superior mix of housing style and affordability within the estate. In several cases, smaller lots have been clustered with the intention to allow project builders to purchase a group of lots and efficiently develop and construct housing product. The multi-unit site has been added in response to feedback provided from Council and maintained with the subject proposal in response to delivering additional density and an efficient use of the R3 zoned land on the site.

**Lack of infrastructure and services**

Based on the 2006 ABS data for James Creek, we understand the average number of people per household is 2.8 persons. Given this, we anticipate the development will result in approximately 966 new residents to the area. The development anticipates a local commercial offering and neighbourhood centre on proposed Lot 1. Given the anticipated population, it is anticipated businesses will consider the site economically viable to establish within the development and will therefore provide some of the sought commercial services to the community.

**Incompatible to character of area**

The proposed subdivision has been designed to establish a 'village' like character, as anticipated within the strategic regional plans for the area. Some of the key unique characteristics of the development include:

- creating a small and intimate residential community that can be comfortably covered on foot;
- a unique development, that has defined boundaries;
- designed for social interaction through inclusion of network of pathways and open spaces areas that will establish opportunities for community activities and recreation; and
- provide lots that can accommodate a mix of housing product.

Significant consideration has been given to the interface of the development and adjacent properties. The Applicant acknowledges the difference zoning on surrounding properties, and has worked to minimise disturbance on them, whilst also responding to the intent of the sites zoning for urban residential development in response to current regional strategies for housing supply.

A LUCRA report has been prepared that considers the developments separation to the different land uses / zoning on the estates boundaries and reviews the suitability of the proposed mitigation measures designed into the subdivision layout. The findings of the LUCRA assessment, concluded that the overall the risk on land use conflict are generally low and acceptable, and do not require high levels of intervention or management. Some limited risk was identified and associated with immediately adjoining low intensity grazing is present, however the proposed setback combined with integrated vegetated buffer strip along the western boundary within the road reserve, is considered to suitably ameliorate this to an acceptable level. It further concludes that the proposed development suitably addresses any potential land use conflicts and suitably addresses the requirements under Clause 5.16 of the Clarence Valley LEP.

#### Affordable housing

The Applicant acknowledges Council's Affordable Housing Policy, which requires that new large-scale development provide appropriate housing stock that is more likely to be affordable and appropriate to the future demographic needs of the Clarence Valley Local Government Area. In response to this policy, the subdivision proposal includes 34 lots less than 450m<sup>2</sup>, together with 16 duplex lots (32 homes) and a multi-unit lot (12 homes) for a total of 78 affordable housing sites in accordance with Council's policy. This represents 21% of the housing product and exceeds Council's requirement of 10% of lots to provide for affordable housing.

In addition to the affordable housing lots, every attempt has been made to have the majority of lots more than 600m<sup>2</sup> (217 lots of 329 lots). Specifically, 66% of the residential lots exceed 600m<sup>2</sup>. The average lot size across the estate is 618m<sup>2</sup>. This calculation excludes the multi-unit lot.

#### Non-compliant with applicable statutory framework / Inappropriate location and scale

The proposal development is responsive to the relevant controls, and the recent rezoning of the subject site for residential development. Matters raised by Council as part of the Additional Information Request have been addressed by the Applicant and seek to clarify and outline how the proposed development is: i) compliant with the applicable statutory framework and ii) is in an appropriate location and scale in the context of the sites current zoning and Council's broader planning strategy for the area.

#### Lack of open space / green space

The landscape works and open space for the development enhances the overall residential amenity of character of the residential estate by providing improved streetscapes, and parks within walking distances of all lots. The subdivision pattern has been designed to promote safe walking and cycling networks, with high level of landscape amenity for users to promote active travel and use of spaces within the development.

Two (2) internal parks are proposed with area 6444m<sup>2</sup> (Village Green) and 1992m<sup>2</sup> (Pocket Park). These parks are located centrally within the estate and in the case of the larger eastern park, are highly visible and accessible. The intention is that the neighbourhood parks be created as an essential amenity facility for the residents.

The Village Green "local park" will be a vibrant space and will provide significant amenity for the new community as well as enhancing the entrance experience. It consists of a large circular multipurpose lawn, shelter, BBQ facilities, seating and feature playground. The lawn allows for community gatherings as well as structured (e.g. markets/stalls, concerts, group exercise, etc.) and non-structured (e.g. small gatherings, picnics, play) activities to occur.

The pocket park provides the community with a different experience from the Village Green in a more relaxed setting for non-structured activities and visual amenity.

The entry boulevard is also a key feature and will enhance a sense of arrival to the development using with feature trees and groundcover planting. The landscape will draw upon the existing character of James Creek using endemic native plant species.

Further to the open space areas, the development includes planted pedestrian pathways throughout the estate that provide an overall greening affect to the streetscape.

Overall, the quantity and useability of the proposed Open Space areas is considered to suitably address the needs of the residents of the development.

#### Lack of community consultation

On 7 December 2021, following lodgement of the Application to CVC in October, the Applicant and part of the project team meet with representatives of the local Community Group to discuss the subject proposal. Discussion held at this meeting related to impacts on the external road network, amenity, stormwater management, development buffers, housing density. Each of the considerations raised were considered as part of the preparation of the response to Council's Request for Additional Information.

#### Lack of sustainable development

Sustainable design principles have been incorporated into the development. The development balances the social, environmental, and economic considerations of the community by providing:

- Opportunities for residential dwellings, in line with the expect yield stated in the Maclean Urban Catchment Local Growth Management Strategy Contains a range of housing types and lot sizes
- Will be fully serviced by the required infrastructure
- Contains quality open space areas and pedestrian networks throughout the estate
- Encourages walkability
- The subdivision design responds positively to the topography of the site
- Encourages a sense of community with the open space areas and connectivity
- Provides opportunity for future public transport routes through the site
- Integrates with surrounding land uses within the context of the strategy
- Avoids natural hazards
- Manages stormwater effectively using best practice methods

### **ENVIRONMENTAL CONCERNS**

#### Impact on biodiversity

A Biodiversity Assessment Report (BAR) has been prepared by GeoLINK in support of the Statement of Environmental Effects (SEE) and development proposal.

The assessment has been prepared to:

- Identify any ecological constraints to the proposal (e.g. habitat for threatened species or communities listed in the Biodiversity Conservation Act 2016 or the Environment Protection and Biodiversity Act 1999);
- Identify trees/native vegetation which may require removal for the proposal; and
- Assess the impacts of the proposal against relevant statutory requirements.

To minimise biodiversity impacts which may result from the proposal, the following measures have been incorporated into the design of the development:

- Detailed design of the road reserves, lot layout and stormwater basins will ensure that suitable setbacks are maintained to allow for the retention of scattered trees along the site boundaries. The 2 trees identified on site to have habitat values will be retained in situ.
- The limit of vegetation clearing must be clearly delineated on site prior to works commencing.
- Landscaping will utilise endemic native species.
- Measures will be implemented during construction to ensure the potential for the introduction of weed propagules to the site is minimised.
- Erosion and sediment control measures will be implemented (in accordance with the Landcom/ Department of Housing Managing Urban Stormwater; Soils and Construction Guidelines) and maintained to prevent sediment moving off-site and sediment laden water entering any water course.

### Lack of wildlife corridor

No wildlife corridor or key habitats are depicted at or in proximity to the site. Local agricultural clearing has contributed to increased fragmentation and habitat isolation to patches of vegetation proximate to the site.

### Bushfire safety and buffer

The subject site is not mapped within Council's Bushfire Prone Land (BPL) area, however the Applicant recognises that the vegetation to the north of the site on Lot 8 DP1093910 could present a potential hazard in the event of a bushfire emergency given the size and extent of the vegetation. Given this, the proposed development includes a 20 metre asset protection zone (APZ) to the north of the site for residential lots exposed to the hazard. This APZ is in accordance with Table 1.12.3 of the Planning for Bushfire Protection (PBP, 2019) for residential development. Additionally, access, water supply and electrical services per the PBP 2019 have been applied to the overall design of the subdivision. These measures include:

- Safe, all-weather access to structures is provided for firefighting vehicles, including a perimeter ring road that forms part of the separation of the hazard to the north and residential lots to the south.
- The capacity of access roads is adequate for firefighting vehicles. The perimeter road does not contain 'dead ends' and is a sealed two-way road capable of handling Category 1 type firefighting appliances.
- Roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating, as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface. Adequate water supply will be provided for firefighting purposes.
- Although only a single main entry into the subdivision is to be provided, it will be constructed as a dual carriageway with separate entry and exit lanes each being sufficiently wide for passenger and emergency vehicles to pass. A secondary emergency access is also provided to the development between Lot 6 and 7.
- Location of electricity services will be such to limit the possibility of ignition of surrounding bush land or the fabric of buildings. Transmission lines will be placed underground.

### Ecological buffer

The site currently provides minimal value to fauna connectively being predominantly cleared. Post development of the site, connectively for locally occurring fauna would be maintained between forested vegetation to the north of the site and Yaegl Nature Reserve to the south west of the site via disparate vegetation occurring to the west of the site. As such the proposal is unlikely to impact on connectivity for local fauna. Council can consider other mitigation measures (cat curfews/ speed limits) in assessing the DA.

### Lack of wetlands in the area

There are no requirements for wetlands to be incorporated into proposal designs and the proposal does not require removal of such ecosystems. Wetlands also typically require a much larger footprint than bioretention basins to achieve the same level of stormwater treatment (up to 10 times the surface area), which is not considered to be a good use of the available land. Further, the topography, hydrology and elevation of the site does not readily support constructed wetlands.

### Environmental offsetting

Council will consider the need for offset requirements for the proposal when considering the DA and issuing conditions of consent.

### Light pollution

Light spill into the adjacent vegetation to the north of the site has been considered within the Biodiversity Assessment Report prepared by GeoLINK. Light spill is not considered likely to substantially impact locally occurring fauna. Consideration of low light emitting streetlights could be considered by Council in conditioning the DA.

## TRAFFIC

A Traffic Impact Assessment has been prepared by GeoLINK that aims to summarise the effect the proposed development is likely to have on the operation of adjacent roads, considering the impacts on all road users. Recent (March 2022) traffic data has been used to model the existing intersections at either end of James Creek Road and the proposed intersection providing entry into the new development. All modelling was carried out based on a ten-year design horizon, using a 3.5% traffic growth rate for Yamba Road and 1.5% for traffic on Gardiners Road.

In respect to traffic matters, we understand the following concerns were raised as a result of the proposed development:

- Incompatibility of traffic infrastructure
- Inaccurate traffic assessment
- Lack of supporting public transport
- Lack of footpaths/cycle paths
- Safety concerns generally, and specifically for children
- Lack of interconnectivity

### Incompatibility of traffic infrastructure

The existing and proposed traffic infrastructure has been designed in accordance with the recommendations of the TIA prepared by GeoLINK. The recommendations ensure an appropriate traffic outcome is delivered to support the development and suitably mitigate and manage any anticipated impacts. The TIA details the assessment process, expected impacts, and recommended mitigation measures in relation to traffic efficiency, safety for all road users, amenity, public transport and pedestrians/cyclists.

### Inaccurate traffic assessment:

The traffic assessment has been undertaken in accordance with the following guidelines and specifications:

- AUS-SPEC (Northern Rivers Local Government Development Design Specification D1: Geometric Road Design)
- Austroads Guide to Road Design Part 3 (Geometric Design) and Part 4A (Unsignalised and Signalised Intersections)
- Austroads Guide to Traffic Management Part 3 (Traffic Studies and Analysis) and Part 6 (Intersections)
- Austroads Guide to Pavement Technology Part 2 (Pavement Structural Design)
- Transport for NSW Guide to Traffic Generating Developments

The TIA has been updated following receipt of Council's Request for Additional Information. Specifically, additional traffic data has been collected, including two weeks of tube counts on James Creek Road at the site frontage, and three days of intersection movement counts for the Yamba and Gardiners Road intersection, collecting and classifying all traffic movements at both intersections from 7.00-10.00AM and 2:30-6:30PM. The data was used to update the SIDRA modelling for these two intersections as well as the proposed new intersection at the site entry.

The increase in traffic volumes utilising the intersection at the northern end of James Creek Road warrants upgrades to ensure safety and efficiency is maintained for through and turning traffic. As detailed within the information request response, the developer is agreeable to contribute design and construction costs for key infrastructure upgrades.

### Lack of public transport

The Applicant recognises the concerns raised by submitters with respect to the lack of public transport in the area, and the need for such infrastructure for a proportion of the residents that will either want or need to make use of public transport. The site is 2.8 km from the nearest bus stop. Given the distance to the nearest bus stop and the unsuitability of James Creek Road as a pedestrian or cyclist route, it is recommended that some or all of the Route 380 bus trips detour along James Creek Road and loop through the proposed development to provide this service for residents. The internal loop road within the development has been designed to support a bus route and facilitate this outcome. This is discussed further in the TIA.

### Traffic safety concerns / children safety

The following key safety considerations have been addressed within the TIA prepared by GeoLINK:

1. New subdivision will be designed in accordance with the relevant standards and guidelines to ensure no road safety issues are introduced as part of the proposed works.
2. The location of the proposed intersections on James Creek Road provides ample sight distance required for safe access into the site and safety for other users of James Creek Road.
3. The proposed layout for the development is in accordance with the relevant design standards and a compliant road design within the subdivision is achievable.
4. Speed limits - The existing 80km/h speed zone applicable to the northern portion of James Creek Road changes to a 60km/h speed zone for the southern portion of James Creek Road. The signage indicating the change in speed zone falls within the proposed intersection providing access to the development. This is not considered to be an appropriate location for a change in speed zone, given that drivers may be preoccupied with negotiating the intersection and disregard the speed zone signage. It is proposed to relocate the change speed zone to the north of the proposed development intersection on James Creek Road.
5. Additional turning movements at the Yamba Road and Gardiners Road intersections will introduce greater opportunity for conflict between vehicles. The construction of the recommended upgrades will offer a significant increase in safety for turning and through vehicles James Creek/Yamba Road and James Creek / Gardiners Road intersections.

### Lack of footpaths/cycles / lack of interconnectivity

Pathways (footpaths and shared pedestrian/cycle paths) are proposed within the roadside verge of the subdivision connecting residential lots to the proposed open space reserves and/or neighbourhood centre.

Beyond the subdivision, within the James Creek locality, there are few provisions for pedestrians and cyclists. The Applicant recognises that this is a key concern raised by submitters. The Applicant proposes to work with Council towards the delivery of a shared path from James Creek Village to Townsend in accordance with the James Creek Urban Growth Area Road Infrastructure Developer Contributions Plan.

## **STORMWATER**

### Overview:

A Stormwater Management Strategy has been prepared by GeoLINK for the proposed development. This report includes the assessment, modelling and design of the proposed stormwater strategy to support the subdivision. The design meets the criteria specified within the Clarence Valley Council Residential Zones Development Control Plan (DCP) 2011 – Part H – Sustainable Water Controls. In GeoLINK's professional opinion, Council's design aligns with best practice management principals in relation to peak flow attenuation and water quality.

### Bioretention basins / impact of run-off external to the site:

The proposed strategy to detain and treat stormwater is designed to mimic the existing conditions in terms of where the stormwater leaves the site, how much water leaves the site, and the water quality of the runoff from the site. This means that there will be no increase in stormwater flows leaving the site up to a 100-year ARI storm event when compared to the existing scenario.

### Peak flow concerns

The development of the site will result in an increase in the impervious area, which will lead to increases in the peak flow of stormwater emanating from the site. To ensure that the proposed stormwater system meets the peak flow attenuation target, hydrologic and hydraulic calculations have been undertaken using a model developed with the DRAINS software.

Council's DCP states that post-development peak flows are not to exceed pre-development peak flows specified within Council policy and design standards. The stormwater peak flow attenuation target that has been adopted is to ensure that the peak flow from the proposed development does not exceed the existing peak flow from the site for the 5, 10, 20, 50 and 100 year ARI events.

The logical design response to the existing topography and stormwater run-off is to manage stormwater in four catchments, with the four discharge locations being located at the four corners of the site.

Bioretention basins are an effective method of providing peak flow attenuation and treatment of stormwater and are widely utilised throughout Australia. The intention is to provide a bioretention basin located in a drainage reserve adjacent to the outlet of each catchment. Each basin will perform the dual function of peak flow attenuation and treatment of stormwater. During smaller rainfall events, stormwater will temporarily pond on the surface of the basin and infiltrate through the filter media. In larger rainfall events, stormwater will fill the basin to a greater depth and there will be outflow via low flow pipe outlets and a high flow weir, designed to discharge stormwater as sheet flow as opposed to concentrated flow. Once the rainfall ceases, the depth of water in the basin will drop to 200 mm within minutes. Assuming there is no additional inflow to the basin, the remaining 200 mm of water will drain via infiltration within several hours.

DRAINS modelling results presented in GeoLINK's Stormwater Management Report, and provided in full to Council, demonstrates that the proposed stormwater management strategy will attenuate flow from the site to pre-development flow rates. As such, they are not expected to be any negative impacts off site, including no increase in flood depths or velocities.

#### Treatment devices and impacts on water quality

The proposed land use changes and associated increase in impervious areas will also result in higher loads of water-borne contaminants being generated from the internal catchments. However, as previously discussed, bioretention basins will be utilised to treat all stormwater run-off from the development up to and including the 1:100 ARI event, limiting pollutants leaving the site to the strict and conservative reduction targets set by Council.

A MUSIC model was used to quantify the pollutant removal provided by the proposed stormwater strategy. The results are detailed in GeoLINK's Stormwater Management Report and the MUSIC model has been provided in full to Council, which demonstrates that the load reductions are greater than the targets for each pollutant.

#### Community impact:

The proposed stormwater management strategy will not result in any community impact or change to existing stormwater regime external to the subject site for all storms up to and including the 1:100 ARI event.

#### Impact on natural water cycle:

As above, all stormwater leaving the site up to and including the 1:100 year ARI event will be treated to limit outflow pollutants to Council's strict reduction targets, primarily via the proposed bioretention basins. Treatment of the stormwater occurs both on the surface of the bioretention system and within the filter layer. When storm inflows cause temporary ponding on the surface of the system, pollutants are removed from the stormwater through sedimentation and particulate adhesion onto the stems and leaves of the vegetation. The agitation of the surface layer of the soil caused by movement of the vegetation and the root systems prevents the accreted sediments clogging the filter layer. As stormwater percolates through the filter layer, fine particulates and some soluble pollutants are removed through processes such as adhesion onto the surface of the soil particles, biological transformation of pollutants by biofilms growing on the surface of the soil particles, and biomass uptake of nutrients and metals through the root systems of the vegetation.

### **AGRICULTURAL CONCERNS**

#### Impact on primary producer community / Impact on surrounding farming lands

A Land Use Conflict Risk Assessment (LUCRA) report has been prepared given the proposals residential land use of the site and the nearby / adjoining rural land. The purpose of the LUCRA is to identify land use compatibility and any potential conflict between the proposed land use and neighbouring land uses and therefore, assists in the identification of the potential for future land use conflict and any necessary management measures that may be required.



Despite the lack of such guidance/controls in the CVDCP, the accepted guideline to assess land use conflict is the NSW DPI Living and Working in Rural Areas Handbook (the Handbook). This is the primary guide to assess proposals when there are residential uses proposed to interface with rural land or agricultural activities.

The LUCRA aims to:

- assess the effect of the proposed land use on the neighbouring land uses;
- identify any potential risk of conflict between the proposed and neighbouring land uses
- provide an understanding of any likely land use conflict;
- where deemed necessary, address land use issues and risks before a new land use proceeds or before a dispute arises; and
- where required, highlight or recommend strategies to help avoid or minimise conflict.

Section 2.3 of the LUCRA report identifies potential land use conflicts that may arise between agricultural enterprises and residential development (refer to Table 2.1). However, these matters are considered in the context of the proposed development. It was found that conflict between the proposed residential development of the site and the agricultural activities is of low consequence in this context given the lack of proximal intensive or large-scale agricultural activity, and the known expectation for residential/urban development to occur given the site zoning and strategic land use planning process that has already occurred.

This assessment primarily relates to any issues arising from potential conflict between agricultural practices/activities and the proposed residential subdivision. Potential risks or impacts that may give rise to possible land use conflicts have been considered and evaluated in the context of the site, surroundings and land use policy setting to establish if any minimisation or management measures may be required. In this instance, the main potential for conflict to arise would be through perceived or actual impacts from adjoining (albeit limited) grazing activities to the west, on future residential uses/development.

Overall, the risk assessment determined that the identified potential risks are generally low and acceptable, and do not require high levels of intervention or management. Some limited risks were identified along the western property boundary interface; however, these can be readily managed to an acceptable outcome. The LUCRA has demonstrated that the proposed development is acceptable, and the proposal is not expected to increase, substantially alter, or likely cause, unacceptable or significant land use conflict. Some limited risk associated with immediately adjoining low intensity grazing is present, however a setback combined with integrated vegetated buffer strip, that would be established along the western boundary within the road reserve, is considered to suitably ameliorate this to an acceptable level. Stormwater and traffic management would be subject to engineering design solutions which are required as part of the normal DA process and would achieve satisfactory outcomes.

The proposal therefore is reasonably consistent with the intent and relevant objectives of the Handbook and strict application of the recommended separation buffer for grazing in this context is unnecessary and onerous, especially when a small buffer, combined with vegetation, is likely to be of greater benefit/effect when working with relatively modest separation distances as this adds screening, filtering and also fragrant opportunities (through suitable plant species selection) to preserve and even enhance amenity at the subject interface compared to a slightly wider standard open buffer with no vegetation present.

#### **LACK OF CONSULTATION WITH TRADITIONAL OWNERS**

A AHIMS Web Service search was conducted by Madison Ruygrok on 21 October 2021 for the subject site with a Buffer of 1000 meters and was submitted with the subject application (refer to Copy within Enclosure 14). This search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) found that:

- Zero (0) Aboriginal sites are recorded in or near the above location; and
- Zero (0) Aboriginal places have been declared in or near the above location.

On 17 March 2022, Andrew Fletcher on behalf of the Applicant consulted with the Yaegl LALC in relation to the proposed development, requesting the Yaegl LALC to update the Aboriginal Heritage Impact Assessment (AHIA) prepared by Ron Heron in 2009. Refer to copy of correspondence issued from Andrew Fletcher to Noeline Kapeen Executive Officer of Yaegl LALC on 17 March 2022 in Enclosure 15.

On 13 April 2022, Yaegl LALC acting CEO Dave Brown, and Chairperson, provided a response to Andrew Fletcher via email on behalf of the Yaegl LALC, advising that he agrees with the previous recommendations made within the Aboriginal Cultural Heritage Site Assessment prepared by Ron Heron in 2009 (enclosed within Enclosure 17), and does not consider it necessary to prepare an updated full AHIA for the subject development in this instance. A copy of the correspondence from Dave Browns is enclosed within Enclosure 18.

#### **FLOODING** (safety and impact)

The subject site itself is not mapped on the Flood Planning area, however we acknowledge the majority of land surrounding the site is flood affected, and the concerns raised by submitters in relation to James Creek being cut off from surrounding and services during flood events.

To assist in improving the current accessibility issues during flood events for the local community, the Applicant proposes to undertake voluntary works as part of Stage 1 development works to increase the flood immunity levels of Gardiners Road to provide flood immunity up to and above the 5% AEP (1:20 ARI) event (levels to be determined) as per the James Creek Urban Growth Area Road Infrastructure Developer Contributions Plan. We understand that Gardiners Road connects James Creek Road with both Townsend and Gulmarrad, and that a number of rural residential properties rely on Gardiners Road for access to Townsend. Gardiners Road currently does not offer 1: 20 ARI flood immunity meaning that approximately 800 – 900 metres of Gardiners Road can be inundated and impassable in a 1:20 ARI event or greater. These works will assist in improving the overall safety and useability of the road networks during a flood event and ensure residents can safety evacuate during a flood emergency up to at least the 1:20 ARI flood event.

#### **SEWER**

Concerns were raised by submitters with respect to the proposed pressure sewer system. This system comprises household reticulation, tanks and grinder pumps which deliver the sewerage via a network of pipes (pressurised) and controls by the collective of household pumps to Sewerage Pump Stations surrounding the development site. This method for services remains a suitable and effective option for the development (refer to details within Enclosure 11). No noise or odour amenity impacts are expected as a result of the proposed sewer methodology.

The other key concern that was raised in relation to Sewer, was the impact upon the road reserves during the construction of the sewer line to Townsend. An Environmental / Construction Management Plan will be implemented throughout this process, to minimise disturbance throughout the construction phase.

#### **SEDIMENT CONTROL IMPACTS**

Best practise management erosion and sediment control measures will be implemented (in accordance with the Landcom/ Department of Housing Managing Urban Stormwater; Soils and Construction Guidelines) and maintained to prevent sediment moving off-site and sediment laden water entering any water course. Council will include conditions of this nature within an issued approval, to ensure on-going compliance during construction and post development periods as necessary.

We consider the information enclosed suitably addresses the key matters raised within the submissions, however should you require any further clarification on this matter please contact Madison Ruygrok ([Madison.r@placedesigngroup.com](mailto:Madison.r@placedesigngroup.com)) on (07) 5591 1229.

Yours faithfully,

**Place Design Group**



Madison Ruygrok  
**Associate Planner**

**Place Design Group**



Peter Bell  
**Planning Principal**