



PLANNING REPORT

*for A Proposed Mobile Telecommunications Facility
At 213-221 Mountain Ridge Road, South Maclean*

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Proposal Summary	
Proposal	Key elements of the proposed telecommunications facility are as follows: • One (1) 40 metre monopole; • Triangular headframe mounted at 40m; • Six (6) Telstra panel antennas mounted on the headframe with a maximum overall height of 41.4m; • 100m² lease area • One (1) equipment shelter approximately 3.0m x 2.38m; • One (1) GPS antenna mounted on the equipment shelter; • One (1) 450mm wide elevated cable ladder running between the proposed monopole and equipment shelter. • Security compound fencing (2.5m high), double access gates (approximately 3m wide); • Access to the facility via a proposed crossover from Mountain Ridge Road and an internal access track. The proposed facility is to provide improved 4G and 5G coverage to Telstra's customers in the surrounding precincts.
Site Description / Location	213-221 Mountain Ridge Road, South Maclean RPD: Lot 19 RP143361 Coordinates: -27.78674; 152.97142 Total Area of Site: 2.01Ha
Planning Scheme	Planning Scheme: Logan Planning Scheme 2015 Zoning: Rural Residential (Park Living) Existing Use: Rural Proposed Use: Telecommunications Facility
Application Details	Development Permit sought for a Material Change of Use for a proposed Telecommunications Facility. Impact Assessable. The proposed telecommunications facility responds to a demonstrated planning need to provide reliable digital infrastructure supporting the public interest. The facility will improve network coverage, capacity and service reliability within South Maclean and surrounding areas, strengthening access to emergency communications services, particularly during natural hazard or outage events. The infrastructure will also enhance network redundancy, reducing service disruption risks and improving resilience of essential communications systems. Importantly, the proposal is well located to mitigate any potential adverse impacts and will support regional growth and development associated with the expanding Flagstone Priority Development Area and surrounding rural-residential communities, ensuring telecommunications infrastructure keeps pace with population growth. Improved connectivity will further contribute to economic productivity, enabling remote work, business operations, education and access to digital services, consistent with contemporary infrastructure expectations and State and local planning objectives.

1. Introduction

1.1 Overview of the Report

BMM Group Pty Ltd acts as Project Manager to Amplitel Pty Ltd, a subsidiary of Telstra that deploys telecommunications infrastructure. This planning report has been prepared by BMM Group, on behalf of Amplitel to support Telstra's wireless network with the development of a new telecommunications facility at 213-221 Mountain Ridge Road, South Maclean.

The report and appendices address the merits of the proposed development with regards to the provisions of the Logan Planning Scheme 2015 and the relevant sections of the Planning Act 2016. The application is for a Material Change of Use and Development Permit and is subject to Impact Assessment. The development is appropriate and justified; therefore, Council's approval of the application is sought, subject to reasonable and relevant conditions. The telecommunications facility will operate within all current and relevant standards regulated by the Australian Communications and Media Authority (ACMA).

1.2 Objectives of the Proposal

Telstra regularly undertakes detailed assessments and review of the performance and coverage of its digital mobile telecommunications network to ensure it is achieving the required objectives and is adequately servicing demand within defined areas. The review also provides an indication of areas of poor performance or where coverage does not exist. For the subject location, the immediate objective of the Telstra facility is to improve existing levels of coverage and capacity within the network to adequately service the existing and projected customer demand. Strategically, the locality is also subject to significant population growth within parts of the Flagstone Priority Development Area (PDA) and customer demand for access to high quality telecommunications infrastructure is forecast to grow substantially. The proposed facility will fulfill each of these priorities.

The proposed telecommunications facility will deliver essential telecommunications infrastructure to the locality and provide an important and necessary link to Telstra's existing telecommunications network. The facility will improve overall mobile and mobile broadband performance in the area and provide a high-quality service which enhances the depth of coverage and call capacity within the area. The facility will also provide capacity for other telecommunications carriers to co-locate on the facility.

1.3 Objectives of the Report

This report provides an assessment relevant to a Development Application for Material Change of Use (Impact Assessable) for a 'Telecommunications Facility'. The purpose of this planning report is to assess and describe:

- The need for the proposal (Section 2)
- The site selection process and potential candidates (Section 2)
- Site description and locality (Section 3)
- The proposed mobile telecommunications facility (Section 4)
- How the proposed development meets the planning objectives of the various applicable Commonwealth, State and Local laws (Section 5,6,7)
- The environmental planning implications associated with the proposed facility (Section 8)

2. Telecommunications Objective and Site Selection

2.1 Telstra's Network

Telstra uses a number of methods to identify those parts of the network that require improved coverage, capacity and call performance. These methods include drive surveys, statistical measures, modelling of coverage, and the evaluation of customer complaints. When an area within the Telstra network is identified as providing poor service and performance, investigations are undertaken to determine the measures required to rectify these service and performance deficiencies.

The first stage of the process is to consider if the deficiency can be improved through optimisation of the existing network hardware, to avoid the deployment of additional infrastructure. This involves a review of the antenna configurations at existing sites in the subject area, adjustments to software parameters and other similar changes to the existing network configuration. In some instances, network optimisation offers sufficient improvements and means that capital works or the construction of new facilities is not required to remedy the situation.

However, if optimisation cannot deliver a satisfactory outcome, the deployment of a new site is considered. The initial research undertaken is used to define the scope of the network deficiency and the performance objective of the proposed new facility.

2.2 Mobile Base Station Information

A Mobile Base Station is essentially a radio transmitter / transceiver and an antenna, which transmits and receives radio frequency (RF) or electromagnetic energy (EME) signals from mobile phones. The base stations are linked to the rest of the mobile and fixed phone network and pass the signal/call on into those networks.

A base station typically consists of an Equipment Cabin (which houses all the electronics required to send and receive mobile phone calls), a series of Panel Antennas (which transmit and receive signals to and from the handset) and a Radio Transmission (RT) Dish or optical fibre cable which links the base station to the rest of the network. It is essential that when a call is made, coverage is available within the area. A base station establishes the call connection, holding the call as long as the phone user remains on the call and in the range of that base station.

The location of the base station is determined by a number of factors, including topography and other physical constraints such as trees and buildings, the immediate network 'capacity' or number of calls expected to be made in the area and data consumption, and the radio frequency at which the base station will operate. Antennas need to be located clear of obstructions like trees and significant changes in grade, in order to provide a clear line of uninterrupted sight and ensure good signal quality.

(MCF Fact Sheet - How the mobile phone network operates).

2.3 Need for the proposed telecommunications facility

Mobile telecommunications connectivity has grown significantly since the introduction of smart phones and tablets. These devices, with increased mobile broadband speeds, capacity and capability, are changing the way we live and operate our day to day lives and businesses. The availability of high-speed, reliable, mobile telecommunications services is becoming an expectation of Australia's population.

Analysis of the Telstra mobile network in South Maclean and parts of the greater Flagstone area has identified that network performance and quality fail to satisfy Telstra's objectives for servicing their customer's requirements. Telstra is seeking to improve overall mobile and broadband performance including depth of coverage and call capacity to the locality, as well as provide coverage to the nearby significant residential development which form part of the Flagstone PDA and the transport routes which service these areas.

Existing Telstra infrastructure currently providing service to the locality is sparse and is experiencing congestion from high mobile phone and wireless internet usage within the area. The inadequacy of the Telstra service is due to a number of factors, including an increased number of users, topography and distance to existing Telstra facilities. The nearest Telstra telecommunications facility is located at 21-39 Clifton Drive, North Maclean approximately 1.75 kilometres to the north. Another Telstra facility is located at Outlook Crescent, Flagstone, which is located approximately 2.65 kilometres southwest.

This distance to existing Telstra mobile telecommunications facilities means that coverage to the targeted area is inadequate and congestion is increased due to the higher demand for wireless services by existing customers, and by the growing residential and commercial populations in immediately surrounding areas, and the higher volume of commuters using the local road network.

As demand increases within the targeted coverage area, the cell service areas are necessarily reduced to their optimum size and areas between radio cells where there is insufficient radio signals will result (known as coverage trouble-spots or coverage holes) unless new, appropriately located radio cells are introduced into the network.

To accommodate the increase in customers, the subscriber service area must be divided into multiple sub-areas creating an interlinked network of sub-areas or radio cells. All of the available radio spectrum is able to be re-used within each individual radio cell.

The installation of new technologies at a radio facility typically includes the need to incorporate additional equipment which is mounted on the antenna support structure such as additional antennas, remote radio units (RRUs) and tower mounted amplifiers (TMAs). The existing facility needs to be capable of supporting the additional space required for such equipment at the required height as well as accommodating the additional structural loading that this equipment creates.

The proposal will greatly improve "depth of coverage". This term refers to the level of coverage received by a mobile phone user in the urban and rural environment, such as inside residential and commercial buildings. The performance objective for the proposed site is therefore to improve the call quality, network capacity and overall performance in the target area.

Failure to provide a suitably located and correctly configured radio facility in this location will have a detrimental effect on network operation and performance. This includes radio cell sizes being geographically larger than the desired optimal size for the amount of demand being serviced by that existing radio facility, leading to increased demand on that radio cell and ultimately in its underperformance and redundancy.

2.4 Site Selection

In areas where the deployment of a new site is required, a "search ring" is identified by Telstra's radiofrequency engineers describing where a facility is required in order to deliver the required network improvement to a targeted area. Figure 1 shows the Telstra search ring.

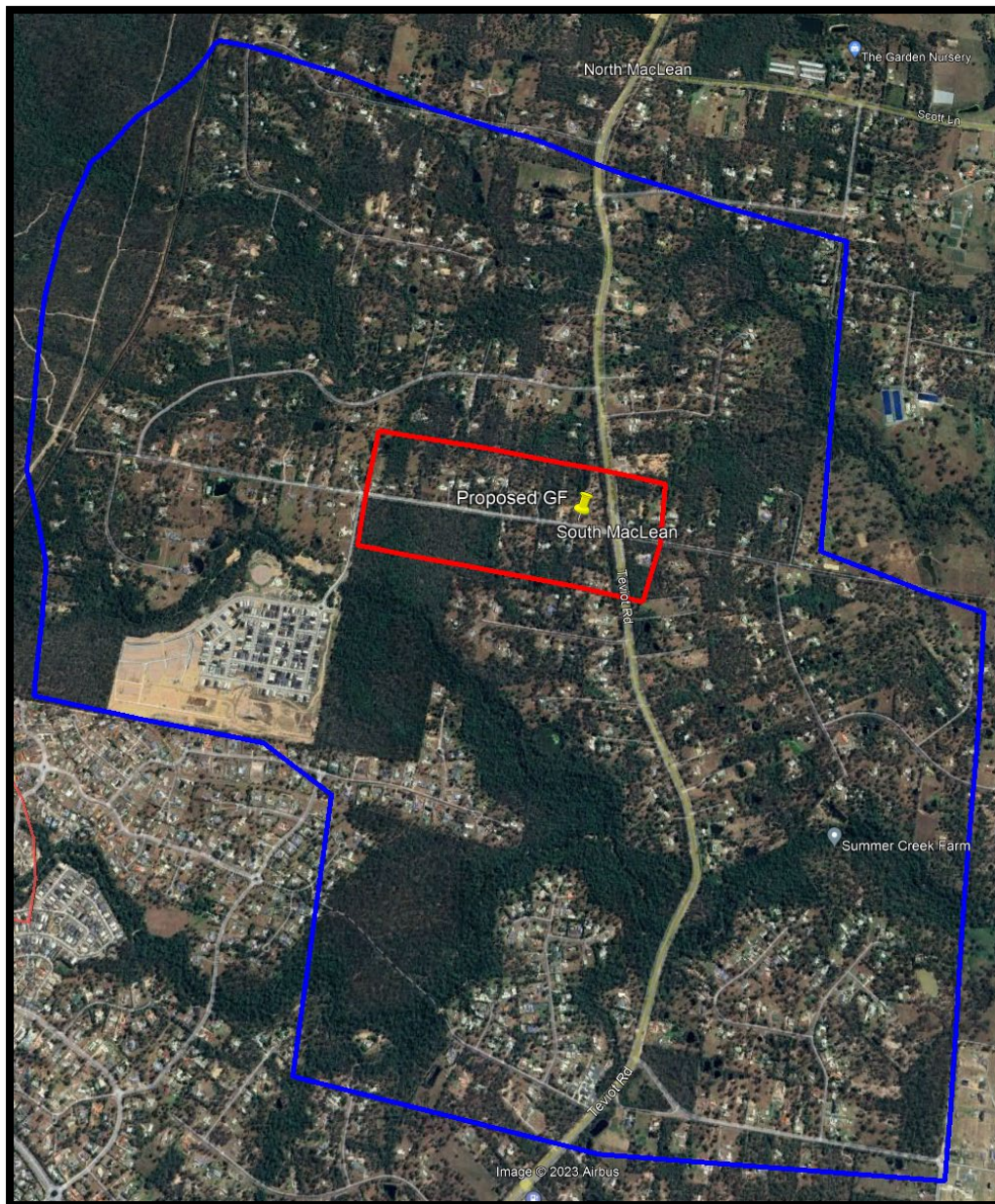


Figure 1: Telstra search ring

There are many competing factors to be considered in determining possible suitable locations to site a telecommunications facility. These include the availability of land, requirements of the landowner, visual effect, cost, access for maintenance purposes, construction issues, planning objectives and radio frequency requirements such as coverage objectives, capacity, network design constraints, line of sight and height of surrounding buildings, trees, hills and other structures. An in-depth site selection process was undertaken in the area prior to confirming the site as the preferred location.

Carriers are required to apply a precautionary approach when designing their radio communications networks. A number of candidates were therefore identified through this selection process and evaluated against the criteria within **Table 1**. *N.B. the criteria may not represent an exhaustive list of issues that need to be addressed when designing mobile network infrastructure.*

Table 1: Site Selection Criteria

Key Factors	Key Criteria
Planning	Compliance with the Logan Planning Scheme 2015 and the Planning Act 2016
	Acceptability to the local Council and community
	Suitable location with regard to sensitive land uses and environmental factors
	Minimal potential visual impacts
	Compliance with the EME standards mandated by the Australian Communications and Media Authority (ACMA)
	Minimal environmental impact on the subject site and surrounding area
	Potential co-siting with another existing telecommunications facility
Property	Willingness by the owner to enter into a lease agreement and provide access during construction and operation
Engineering	Feasibility of construction, availability of infrastructure such as power, and access to the facility for construction and maintenance
Radio Frequency and Coverage	Ability to be linked to the existing telecommunications networks and meet the radio frequency coverage objectives for the area

These considerations are applied to the site selection process with differing weight. Firstly, the applicant cannot locate a facility on a site without the landowners willing consent. There is also no point in locating a facility where radio frequency requirements are not met. Generally, greater coverage is achieved with an elevated base station combined with a taller base station structure. Additional base stations may be required if height is restricted. The best location to build base stations to maximise network performance efficiency is closest to where those services are required.

Mobile telecommunications facilities provide coverage to an area with three sectors of antennas that cover approximately 120 degrees each. By locating within the search area, the telecommunications facility is able to provide coverage and capacity to customers on all three sectors.

The nature of any base stations is such that reliable communication is limited mainly to "line of sight" of the mobile. Whilst some buildings and foliage can be penetrated to a limited extent, radio signals cannot penetrate more substantial objects, such as hills. Accordingly, in order to achieve Telstra's network performance and quality requirements for the area, the base station must be located in an elevated location and have antennas above the treeline. The subject site, which is located near to the highest point in the search area, is suitable to achieve Telstra's coverage objectives.

To establish criteria for site selection, an assessment of the immediate area was undertaken to determine the best long-term plan for the design and configuration of the network. The proposed standalone facility provides for the most effective and sustainable long-term plan for Telstra's network and is deemed to satisfy the requirements of Council's Planning Scheme and Codes, contributes to the local area and

broader Flagstone's success as a sustainable and connected community, and has been appropriately sited and designed to ensure that the amenity of the locality will not be compromised.

2.5 Candidate Sites

Following the identification of the search area, a number of candidate sites were examined. Each candidate was assessed based on the ability to meet the coverage objectives and site considerations detailed above. The search area is comprised of a number of different land uses that are to be serviced by the proposed facility. These uses include the rural residential areas to the immediate north, east and west, and the growing residential communities located immediately to the south which will grow to support thousands of new residents in the coming years.

Figure 2 below indicates the location of the candidates considered within the site selection process. A summary of the candidate assessment is set out in Table 2 below. A large number of additional candidates over and above those identified below were considered however were excluded based on lack of landowner interest or significant site constraints.

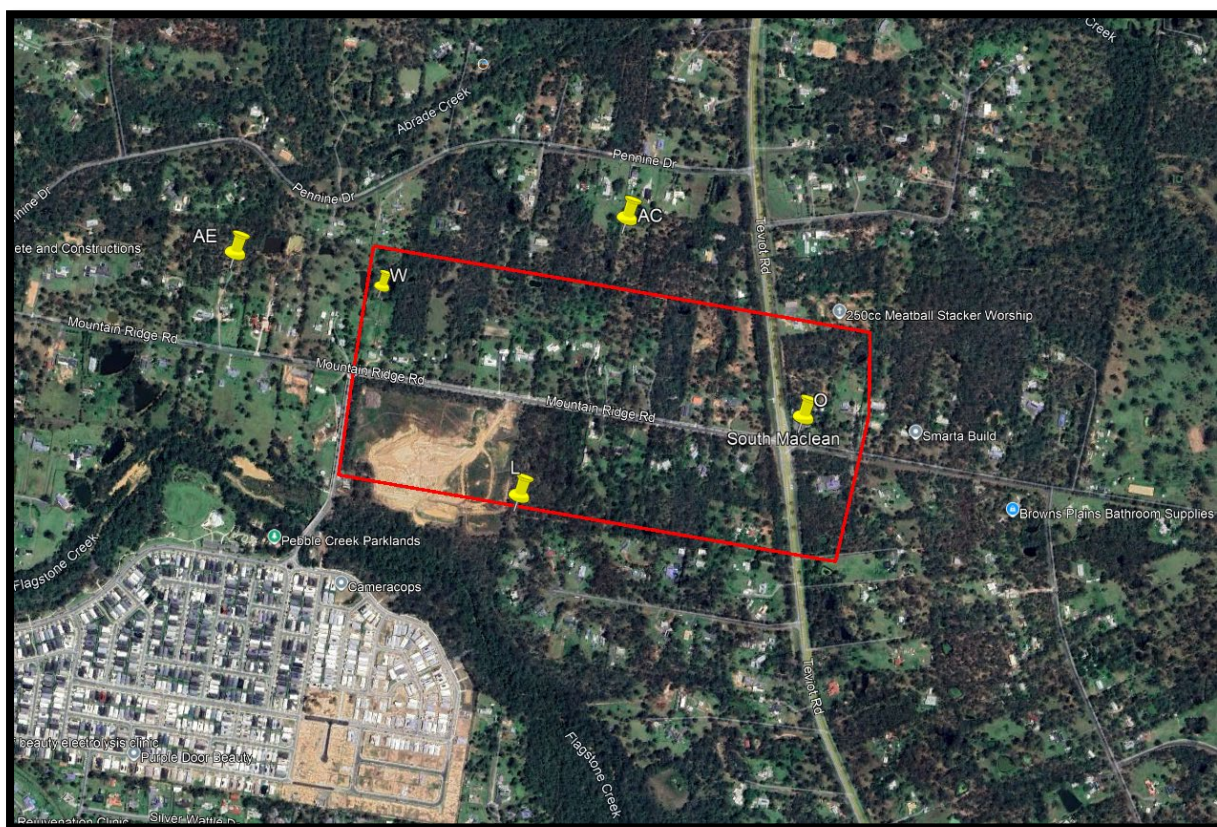


Figure 2: Location of potential candidate sites

Table 2: Candidate Site Details

Candidate	Address	Facility Type	Description
L	27.79133571, 152.97476473	New monopole	The candidate site location is within a partially cleared area however is directly adjacent to existing protected vegetation within the allotment and on adjoining land. Establishment of the facility would require substantial

			clearing of protected vegetation and is not considered viable. The location is also very close to large areas of new residential development and will be visually prominent to existing and future residents.
O	-27.78967, 152.98154195	New monopole	The site is located towards the eastern edge of the search area and while still supporting a good coverage solution, the proposed location at the corner of Teviot Road and Mountain Ridge Road is visually prominent in the context of the local area. Establishment of the facility in the subject location would also require substantial removal of protected vegetation and was not supported on planning and ecological grounds.
AE	-27.786212, 152.967995	New monopole	Candidate AE location was not supported from a radio frequency perspective.
W	-27.88192; 153.12926	New monopole	Good coverage solution due to proximity and elevation relative to the targeted coverage areas. The location is beneficial for radio frequency as it meets the performance objectives and provides coverage to the Pebble Creek Estate and Flourish Estate. Power is readily accessible. Good access to the proposed site location. Avoids all sensitive environmental overlays, can be setback from the road behind existing trees to provide screening and mitigation of visual impact. No clearing of protected vegetation is required to establish the facility. The site location is generally flat and buildability is good.
AC	-27.785472, 152.977345	New monopole	The site location is impacted by regulated vegetation overlays (essential habitat). Substantial clearing would be required to establish the facility and create a buffer for bushfire protection. The site location would also result in an inferior radio frequency outcome as it located too far north of the large residential development areas. The proposed site was not progressed based on concerns regarding visual amenity, ecological impact an inferior radio frequency coverage grounds.

2.6 Co-location opportunities

There are no existing structures within or near to the search area on which the proposed Telstra facility could co-locate. **Figure 3** shows the location of existing facilities in the broader area. An assessment was undertaken of the telecommunications facility locations and it was confirmed that they did not satisfy the coverage objectives.

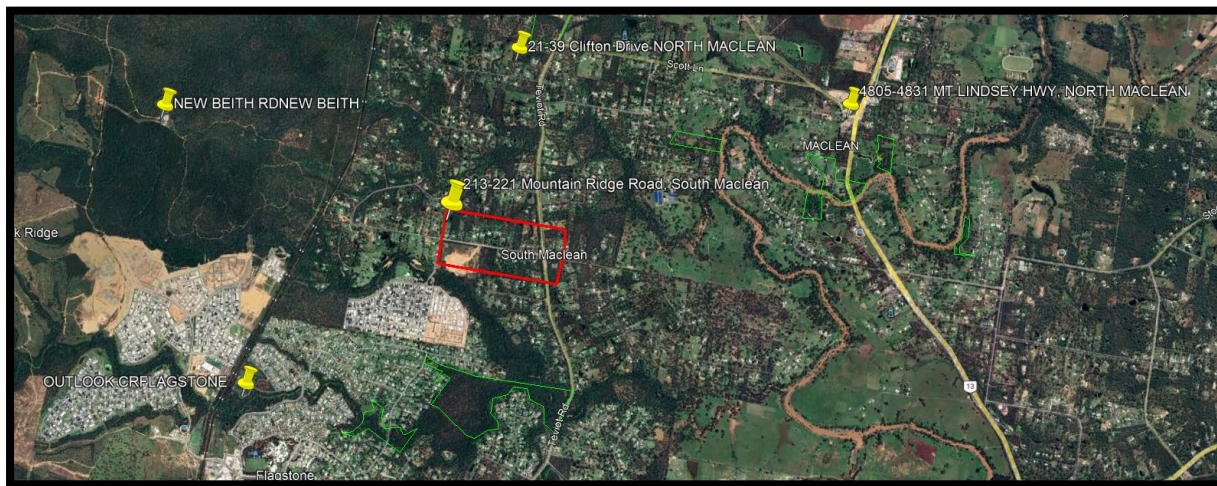


Figure 3 –Existing telecommunications facilities (google earth)

2.7 Preferred Site

The assessment concluded that **Candidate W** sited at 213-221 Mountain Ridge Road (-27.88192; 153.12926) is the optimal location in terms of coverage, network connectivity and satisfactory environmental outcomes. With particular consideration given to **Table 1** above, the merits of the site are summarised below:

- The proposed location will deliver the targeted coverage to the surrounding residential precincts.
- The proposed facility will be designed and constructed to accommodate co-location of equipment by other telecommunications carriers.
- The proposal is considered to be consistent with and provides acceptable solutions in relation to local and state environmental planning requirements.
- The proposed facility has been located and designed to visually integrate in the locality. The monopole is proposed on a large rural residential allotment setback from the road frontage which is adjacent to state owned land with significant vegetation overlays and protection.
- The proposed location ensures that the facility integrates well in the locality. While the facility will be partially visible when viewed from some locations, any impacts are minor and inconsequential to the overall amenity of the locality.
- A key criteria for selection of the proposed location was that it maximises setbacks from any residences or sensitive uses.
- No clearing of significant vegetation is required to establish a power supply, or access. The proposed development footprint does not contain significant biodiversity value and will not impact upon the general biodiversity value.
- The site has a readily accessible power supply and internal access for construction, operations and maintenance.

- The proposed facility will be unstaffed on a continuous basis (other than occasional access for maintenance) and will have no measurable impact on traffic.
- The owner is willing to enter into a commercial agreement.
- The proposed facility will provide a superior service for existing residential and local business customers and provide sufficient coverage and capacity to service the substantial population growth in the immediate vicinity of the proposed facility.

An assessment of the prime candidate considered the environmental and planning aspects of the proposal. **Section 6** provides a detailed assessment of these potential environmental impacts and describes proposed mitigations. The assessment concludes that the development is unlikely to have a detrimental impact on the environment or the locality. Other sites were investigated with limited success due to relative elevation, inadequate radio frequency coverage, capacity, power access, planning overlays and/or environmental impacts.

3. Site Description and Surrounding Locality

3.1 Site Location and Surrounds

The telecommunications facility is proposed at 213-221 Mountain Ridge Road, South Maclean. The land is formally described as Lot 19 RP143361. The proposed monopole is positioned centrally within the allotment and approximately 170 metres from the Mountain Ridge Road frontage. The land is currently used for rural residential purposes.

Large tracts of rural and rural residential land extend north, east and west of the subject allotment. Growing master planned residential communities including 'Flourish' and 'Pebble Creek' developments are located immediately south of the subject allotment.

The Local Government Authority for the proposal is Logan City Council and the location is governed by the *Logan Planning Scheme 2015*. The site is zoned 'Rural Residential – Park Living Precinct' under the Planning Scheme. **Table 3** provides a summary of the site details. **Figure 4** illustrates the location of the site and the proposed facility.

Table 3: Proposed Site Details

Details	Comment
Street Address	213-221 Mountain Ridge Road, South Maclean
Legal Description	L19 RP143361
Total Site Area	2.01Ha
Coordinates	-27.88192; 153.12926
Proposed Development Footprint	100m ²
Zone	Rural Residential – Park Living
Planning Scheme	Logan Planning Scheme 2015
Current Use	Rural Residential
Access	Mountain Ridge Road



Figure 4: Proposed telecommunications facility location

The total footprint of the proposed facility and compound area is 100m² and is positioned centrally along the western boundary of the allotment within a largely cleared area. An existing power supply is available and will be reticulated internally within the site. A Locality Plan and access alignment is provided as part of the Proposal Plan within **Appendix A**.

The proposed telecommunications facility is sited at an elevation of approximately 49m AHD. **Figures 5 to 8** illustrate the surrounding land uses and natural features relative to the proposed facility location.



Figure 5: View Looking north-towards the site location from Mountain Ridge Road



Figure 6: View looking south towards Mountain Ridge Road from within the subject allotment



Figure 7: View of the proposed 100m² lease area. Existing grass covers and regrowth vegetation.



Figure 8: View looking south towards the lease area from within the allotment. Regrowth vegetation along internal fenceline to be removed.

4. Proposed Development

4.1 Proposal Summary

A summary of the proposed development is as follows:

- One (1) 40 metre monopole;
- Triangular headframe mounted at 40m;
- Six (6) Telstra panel antennas mounted on the headframe with a maximum overall height of 41.4m;
- 100m² lease area
- One (1) equipment shelter approximately 3.0m x 2.38m;
- One (1) GPS antenna mounted on the equipment shelter;
- One (1) elevated cable ladder running between the proposed monopole and equipment shelter.
- Security compound fencing (2.5m high), double access gates (approximately 3m wide);
- Access to the facility via a proposed crossover from Mountain Ridge Road and an internal access track.

Refer to **Appendix A** – Proposal Plans.

4.2 Proposal Construction and Installation

A total construction period of approximately six weeks (including civil works and network integration and equipment commissioning) is anticipated. Construction activities will involve four basic stages:

- Stage 1 (Week 1) – Site preparation works, including field testing, ground preparation and construction of foundations and footings;
- Stage 2 (Week 2) – Construction of the pole;
- Stage 3 (Week 3) – Construction of the equipment shelter and fences;
- Stage 4 (Weeks 4 – 6) – Installation of antennas and radio equipment, as well as equipment testing.

4.3 Traffic, access and parking

Access for construction and ongoing maintenance to the facility is proposed via a crossover and gate directly from Mountain Ridge Road. The access will accommodate traffic movements associated with the facility. The gate will be padlocked and for the exclusive use of maintenance vehicles. No vegetation will need to be removed for access purposes. The access location and alignment are shown on the proposal drawings in **Appendix A**.

During the early stages of construction (Weeks 1 to 3) there will be occasional construction vehicle entry and exit. During the second half of the construction period (Weeks 4 to 6) access will be required for up to three passenger vehicles each day.

Once operational there will be no measurable impact on the road network. The facility will be unstaffed and operated remotely. Only occasional access is required for maintenance up to approximately three times per year by one passenger vehicle (4WD) for approximately one day. Occasional heavy vehicle access would also be required when upgrading or replacing equipment on the monopole.

A detailed assessment of any traffic related impacts and confirmation that the continuously unstaffed facility will not compromise the safety, efficiency, function or convenience of use or capacity of the

operation of the existing and future road hierarchy is provided in the Assessment Benchmark responses provided in **Appendix B**.

4.4 Construction and noise

There will be minimal noise and vibration emissions associated with construction of the proposed facility. Noise generated during the construction phase is anticipated to be of short duration and accord with the standards outlined in the relevant EPA guidelines. Construction works are planned only to occur between the hours of 7.00am and 6.00pm or otherwise in accordance with Council's conditions.

4.5 Utility services

Power to the proposed structure will be sourced from the existing power supply. No tree clearing is required to gain access to the power supply or transmission.

4.6 Maintenance

Once operational, the facility is designed to function on a continuously unstaffed basis and will typically only require maintenance works up to three times per year, for approximately one day.

4.7 Leasing Agreements

BMM Group Pty Ltd will facilitate the completion of a lease with the landowner.

In accordance with Schedule 2 of the *Planning Act 2016*, the definition of a Reconfiguration of a Lot includes:

- (d) dividing land into parts by agreement rendering different parts of a lot immediately available for separate disposition or separate occupation, other than by an agreement that is—
 - (i) a lease for a term, including renewal options, not exceeding 10 years

The proposed lease term will not trigger a Reconfiguration of a Lot application as the terms of any individual lease will not exceed ten years.

4.8 Council Pre-Lodgement Advice

Preliminary pre-lodgement feedback and advice obtained from Council regarding the proposed facility outlined the type of application required, the assessment framework, commentary on the design and siting of the proposed facility, the relevant legislation and Council codes against which the proposal would be assessed.

5. Commonwealth Regulatory Framework

The installation of certain telecommunications facilities (as defined in the *Telecommunications Act 1997*) is regulated by the Australian Communications and Media Authority (ACMA) under the *Telecommunications Act 1997*. The legislative requirements are discussed below in further detail.

5.1 Telecommunications Act 1997

The *Telecommunications Act 1997 (TA)* came into operation in July 1997. This legislation establishes the criteria for 'low impact' telecommunications facilities. If a proposed facility satisfies the requirements of a 'low impact' facility, the development is exempt from the planning approval process.

Part 1 of Schedule 3 of the TA authorises a carrier to enter on land and exercise any of the following powers:

- Inspect the land;
- Install a facility; and to
- Maintain a facility.

A Carrier's power to install a facility is contingent upon:

- a) the Carrier being authorised to do so by a Facility Installation Permit, or
- b) the facility being a low-impact facility (as defined by the *Telecommunications (Low-Impact Facilities) Determination 1997* (as amended)), or
- c) the facility being temporary and used for a defence organisation for defence purposes, or
- d) if other conditions are satisfied in relation to the facility concerned.

As the proposal involves the installation of a 40-metre monopole, it does not constitute a low-impact facility under the *Telecommunications (Low-Impact Facilities) Determination 1997* (as amended).

As the proposed facility does not meet the criteria mentioned above, the applicant is not empowered to undertake the proposed works without approval under Queensland legislation and must obtain development consent from Logan City Council in accordance with the *Planning Act 2016* and the *Logan Planning Scheme 2015*.

(Telecommunications Act 1997, p466)

5.2 Telecommunications Code of Practice 1997

The Telecommunications Code of Practice 1997 (TCP) is made under Schedule 3 of the Telecommunications Act 1997. The TCP ensures good practice measures under which a Carrier must operate and outlines conditions which carrier conduct must adhere to.

This proposal has taken into consideration the requirements of carriers in the best practice conditions of the TCP and thus includes the best design, planning and location measurements to ensure the development is in accordance with sections 2.11 and 3.11 of the Act.

5.3 Telecommunications (Low-Impact Facilities) Determination 1997

The Telecommunications (Low-impact Facilities) Determination 1997 was made under subclause 6 (3) of Schedule 3 of the TA. The Act outlines under subclauses 6 (4), (5) and (7), that certain facilities cannot be low-impact facilities, these include the following:

- Designated overhead lines;
- A tower that is not attached to a building;
- A tower attached to a building and more than 5 metres high;
- An extension to a tower that has previously been extended; and
- An extension to a tower, if the extension is more than 5 metres high.

The proposal is not classed as a low-impact facility under the Determination as it involves the installation of a 40-metre monopole and is therefore subject to the assessment under the *Planning Act 2016* and the *Logan Planning Scheme 2015*.

(Telecommunications (Low-impact Facilities) Determination 1997, p. 3)

5.4 Communications Alliance C564:2020 – Mobile Phone Base Station Deployment Code

The Communications Alliance Industry code is a mandatory code for all Carriers and deals with concerns raised by the community. The code applies to Carriers who are installing, intending to install, operating, contracting or arranging for the installation of fixed radio communication infrastructure.

An underlying principle of the Code is that public health and safety is of paramount importance and the overarching driver of the code is the precautionary approach used to minimise the impact of telecommunications facilities. The precautionary approach must be applied to site selection, infrastructure design, installation and operation.

The precautionary approach has been adopted for the proposed development and careful consideration given to the following with respect to site selection:

- the site and surrounding land uses;
- the siting and design of the proposed facility; and
- proximity to sensitive land uses.

These matters are addressed in Sections 7.0 and 8.0.

6. State Regulatory Framework

6.1 Planning Act 2016

The Planning Act 2016 (the PA) is the legislation that governs planning in Queensland. The PA seeks to achieve ecologically sustainable outcomes for development within Queensland by coordinating and integrating transparent and effective planning mechanisms at local, regional and state levels, managing the effects of development on the environment, and managing the process by which development takes place.

Where a telecommunications facility is not considered a low-impact facility, it is subject to the provisions of the relevant local government planning provisions. As the proposal involves the installation of a new Telecommunications Facility and is not a 'low-impact' facility; the provisions of the Planning Scheme apply.

The proposed facility involves a 'Material Change of Use' of the premises and is defined as 'Assessable Development' for the purposes of the PA. Given the nature of the proposed use within the Rural Residential – Park Living Zone, the application is Impact Assessable. All applications for development are subject to the Development Assessment Rules (DA Rules) process as set out in Development Assessment Rules (under the Planning Act 2016, section 68(1)). Assessment of the proposal will be in accordance with the relevant local government planning legislation and the PA.

This Planning Report has been compiled to accompany the application to Logan City Council under the provisions of the *Logan Planning Scheme 2015*. The development proposal is assessed against the provisions of the Planning Scheme in Section 7.0 below.

6.2 State Planning Policy

The State Planning Policy (SPP) is a statutory instrument that identifies matters of State interest in land use planning development within Queensland. It provides a consolidated planning policy that centralises all state interests through the Department of Infrastructure, Local Government and Planning (DILGP).

In accordance with Part 2 of the *Logan Planning Scheme 2015*, the State interests have been appropriately reflected within the planning scheme and therefore an assessment of the development application against the SPP is not required.

Relevant matters, in accordance with the Planning Act 2016 (PA16) that Council should have regard to in its assessment of the proposed development relate to the planning need for the proposal and the relevance of the assessment benchmarks given the context of the location in immediate proximity to the Flagstone PDA. These matters are addressed within Sections 2.0 and 7.0.

6.3 Regional Planning

Regional plans are statutory instruments developed by the State Government under the Act to guide land use planning and development within Queensland at a regional scale. The proposed development falls within the Southeast Queensland region which is covered under the *Southeast Queensland Regional Plan*.

The Southeast Queensland Regional Plan allocates all land into one of three land use categories; Regional Landscape and Rural Production Area, Urban Footprint, and Rural Living. These categories provide the spatial context for the regulatory provisions of the Southeast Queensland Regional Plan. The

proposal will not compromise the intentions of the Regional Plan as the proposed facility relates to an essential form of utility infrastructure.

6.4 Referral Agencies

The subject site is affected by Koala Habitat Areas (KHA) as defined under the Planning Regulation 2017. For this reason, Schedule 10, Part 10 of the Planning Regulation 2017 is relevant to this development application.

The facility is proposed to be located on a cleared area of the site and can be established without removing any vegetation. The proposed development is therefore exempt development under the exempted development definition.

The development does not trigger referral under Schedule 10 of the Planning Regulation 2017.

7. Local Government Regulatory Framework

7.1 Logan Planning Scheme 2015

The site falls within Logan City Council and the associated planning regulations. The framework of the Planning Scheme consists of a Strategic Framework, Tables of Assessment, Zones, Overlays and Assessment Benchmarks (codes), which set out the council's intention for the future development.

7.2 Defined use

Under Schedule 1 of the Planning Scheme; the proposed development is defined as a 'Telecommunications Facility'. Under the planning scheme the use prescribed is defined as:

'Use of Premises for a facility that is capable of carrying communications and signals by means of guided or unguided electromagnetic energy'.

7.3 Planning Scheme Assessment

This section of the report identifies and assesses the proposal against the relevant provisions of the planning scheme, which includes the relevant Strategic Framework themes, and all zoning, use and overlay codes. Where it has been identified that the proposed development requires assessment against the Acceptable Outcomes of a code, further assessment has been provided within **Appendix B - Logan Planning Scheme Assessment Benchmarks**. This assessment has been prepared with reference to the Logan Planning Scheme 2015 (Version current at the time of lodgement).

7.4 Strategic Framework

The Strategic Framework of the Logan Planning Scheme outlines the policy direction for the Planning Scheme and ensures appropriate development occurs. The Strategic Framework contains eleven themes that represent the policy intent and are as follows:

- (i) settlement pattern;
- (ii) residential;
- (iii) centres;
- (iv) employment;
- (v) community;
- (vi) rural;
- (vii) natural environment;
- (viii) natural hazards;
- (ix) design, place making and amenity;
- (x) transport;
- (xi) infrastructure.

Following is an assessment of proposal against the relevant themes listed above, the following points are made in demonstrating consistency with the Strategic Framework:

- With an increase in population comes the need to provide improved infrastructure and services, including modern, efficient and reliable telecommunications networks. The distance to existing Telstra mobile telecommunications facilities means that coverage to the targeted area is inadequate and congestion is increased due to the higher demand for wireless services by existing customers, and by the growing residential and commercial populations in immediately surrounding areas, and the higher volume of commuters using the local road network.

Population growth, urban development and an increase in the number of people using smart phones, tablets and other smart devices, places increased demand on mobile telecommunications networks. The existing Telstra network cannot provide adequate telecommunications services to the existing and projected population. The proposed facility will provide Telstra the opportunity to meet the existing and projected increased user demand and provide up to date communications to support the local residential and businesses communities within the area.

The proposed facility will provide improved communication infrastructure, enhancing mobile phone and broadband coverage within the community, which would ultimately contribute to the Logan City's role as a Key Regional Centre and help to fulfill Logans City's target of 65 percent employment self-containment by 2031.

- Modern and efficient telecommunications networks are essential to the operation and function of urban communities. Effective communications provide these communities with greater resilience, inclusiveness and opportunity for personal and professional growth. The enabling of digital technologies can be a powerful driver of social good –enabling intractable social issues to be tackled in new ways and with greater scale. Wireless networks are essential to making a connected community possible and enduring economic and consumer benefit.
- The location for the proposed monopole has been selected based on effectiveness in screening from adjoining and surrounding locations. The facility location maintains a substantial setback to the road and any residences. The central location of the facility on the allotment ensures that it is substantially screened from any of the nearest residential precincts. The setback, screening, colour and design of the facility combine to ensure that dominant sight lines, views and vistas from adjoining and surrounding areas and from road users, will not be materially impacted by the development.
- The photomontages of the proposed facility provided in **Appendix D** help to demonstrate a successful balance between the provision of essential infrastructure and a very low-level impact on amenity. The proposed facility will provide enhanced social and economic benefit, and improved safety and accessibility to the community without compromising the amenity, function and ongoing use and enjoyment of the precinct.
- The design and siting of the facility ensures that the natural environment is not compromised. The facility can be established without removing any vegetation. The proposed development will not result in a loss of biodiversity and ecological values, viable koala populations or create new areas of fragmentation.
- The proposed location and access also ensures that the use and function of the allotment and surrounding land uses can continue unencumbered and will not diminish the amenity of the predominant bushland setting.
- When disaster events such as fire strike, telecommunications infrastructure experience excessive traffic loads. Effective communications are essential to facilitate the myriad activities for coordinating lifesaving activities concurrent with re-establishing control in the disaster area. The

delivery of the proposed facility will be valuable in the event of an emergency as it would provide necessary communication infrastructure.

- The proposed facility does not emit greenhouse gases nor involve acid or metal contaminants.

The following specific outcomes of the Strategic Framework are deemed relevant to the proposal.

- **3.3.5.1 Elements – Regional landscape and rural production area (specific outcomes (1)(c); limited, dispersed buildings and structures that are integrated with the natural landscape.**

Section 2.3 of the Planning Report describes the sparsity of telecommunications infrastructure in this locality. The assessment confirms that other telecommunications facilities of this nature are dispersed and not in close proximity of the proposed facility location. Section 2.6 of the Planning Report maps the locations of these telecommunications facilities and confirms there are no co-location opportunities that would achieve the targeted coverage objectives for the locality.

The Visual Impact Assessment and associated photomontages demonstrate that the facility integrates well within the natural landscape. The photomontages highlight a successful balance between the provision of essential infrastructure and a very low-level impact on amenity. The proposed facility will provide enhanced social and economic benefit, and improved safety and accessibility to the community without dominating the landscape or compromising the amenity, function and ongoing use and enjoyment of the precinct.

The orientation of surrounding roads and the setback of the location of the facility in relation to these roads and other allotments ensures that no prominent view lines are impacted for road users or residents.

- **3.4.5.1 The character and amenity associated with a rural residential use is compatible with:**
2 (b) Residential activities where on land that is not in the Cottage rural precinct.

Telecommunications is an essential form of utility infrastructure. All communities, including those located within rural residential areas, have a need for equitable access to a modern and efficient telecommunications network. Analysis of the Telstra mobile network in South Maclean has identified that network performance and quality fails to satisfy Telstra's objectives for servicing their existing customer's requirements. Telstra is seeking to improve overall network performance including depth of coverage and call capacity to the South Maclean area, as well as providing coverage to the growing master planned areas and the transport routes which service these areas.

The proposed facility will provide an equitable solution to the demonstrated need of the local community for enhanced wireless telecommunications. The photomontages provided in Appendix D adequately demonstrate that the facility can be delivered without compromising the rural residential charter and amenity of the location.

- **3.13.1 Infrastructure – Strategic Outcomes**
a. 1 (a) development is located in areas with a high level of infrastructure availability and capacity;
b.

Telstra are responding to a demonstrated existing need for improved telecommunications in a locality that has already been developed and continues to expand. South Maclean is an established low density residential and rural residential community located directly adjacent to a high growth PDA Area. Telecommunications infrastructure and capacity is currently inadequate to service these existing communities. The needs of both the existing residential communities and parts of the communities within the PDA will be serviced by the proposed facility.

Telecommunications infrastructure is sparse in the locality (refer Sections 2.3 and 2.6 of the Planning Report). Network coverage and capacity is unable to service the needs of the existing and forecast population. Forecast population growth within the PDA area is expected to worsen the situation as the demand from existing and new residential and business customers (including those working from home) increases exponentially.

7.5 Code Assessment

The following planning scheme assessment benchmarks are relevant to the proposal:

- Zone:
 - Rural Residential – Park Living – Zone Code
- Use Codes:
 - Telecommunications facility code
- Overlay Codes:
 - Secondary Vegetation Management Area
 - Impact Buffer and Medium Bushfire Hazard area
 - Matters of both State and Local Environmental Significance
 - 15% or greater Slope Hazard Area
- Secondary Codes
 - 9.4.2 Filling and excavation code
 - 9.4.3 Infrastructure code
 - 9.4.4 Landscape code
 - 9.4.7 Servicing, access and parking code

7.5.1 Rural Residential – Park Living Zone

Under the Logan Planning Scheme 2015 V8 (LPS), Table 5.5.13 Rural residential zone, the Tables of Assessment stipulate that a material change of use for a Telecommunications facility within this zone will be impact assessable.

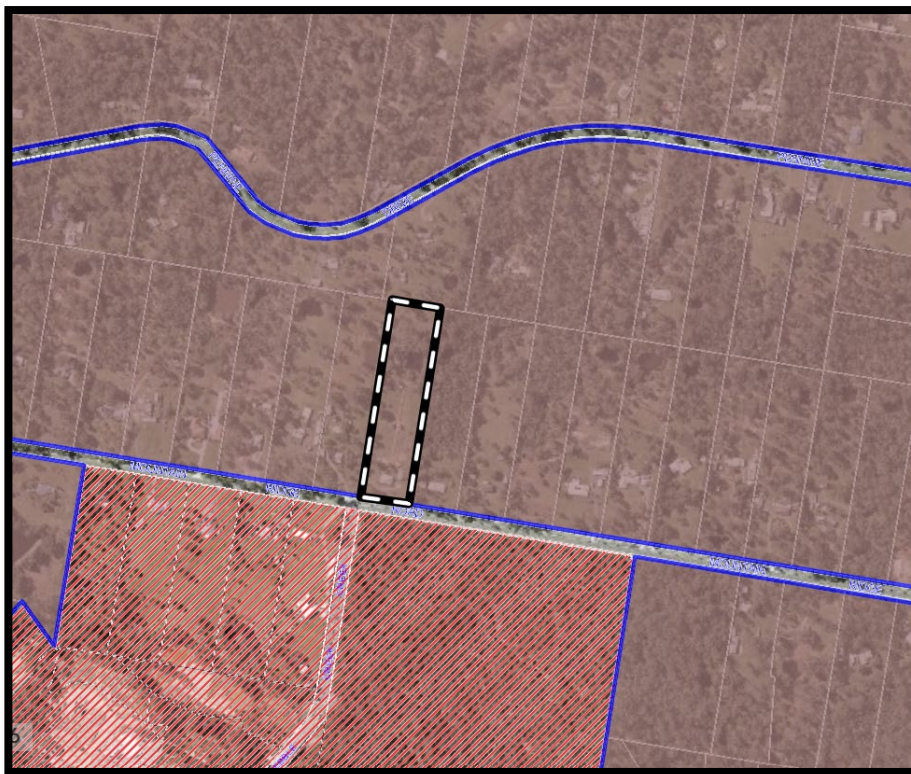


Figure 12: Land use zoning (Rural Residential – Park Living) under the Logan Planning Scheme 2015.

A Telecommunications Facility in the Rural-Residential Zone is assessable against the Rural-Residential Zone Code. The purpose of the Rural-Residential Zone Code is achieved through the Overall Outcomes of the Zone. An explanation of compliance with the Overall Outcomes is provided in the tables below. Further detailed assessment of the proposal is provided within **Appendix B** Logan Planning Scheme Assessment Benchmarks.

Compliance with Overall Outcomes of the Rural-Residential Zone Code

Overall Outcomes	Compliance
a) the design of the built form: i) responds to site characteristics, including the shape, frontage, size, orientation and slope; ii) produces a built form that is compatible with the semi-rural, landscaped or bushland setting; iii) provides that the semi-rural, landscaped or bushland setting predominates over the built form; iv) incorporates appropriate boundary clearances to protect and provide privacy for residents;	Complies The proposed facility location has been selected based on its existing site characteristics as follows: - The land is generally flat and very little ground disturbance is required to establish the facility. - The central location on the allotment and 170m setback from Mountain Ridge Road was selected so that the setback to any residences could be maximised; and - the existing mature vegetation and changes in topography on the subject allotment and adjoining allotments, effectively screen the facility when viewed

v) ensures it is easily and safely accessed;	from surrounding residential locations. Only partial views of the upper section of the pole will be visible from some locations, however these are distant views and have a very low level of visual impact; - Minor clearing of regrowth vegetation and groundcover will occur within the lease area and along the internal fence line. No clearing of significant vegetation or native habitat trees is required. - The proposed facility would occupy a relatively small area in relation to the remainder of the site (<1% of total site area). - the facility can be established without the need to clear any significant vegetation and the surrounding bushland immediately adjacent to the proposed facility will not be impacted. - Safe and convenient access to the facility can be obtained via Mountain Ridge Road (noting that the facility is operated remotely and only occasional access is required for maintenance vehicles).
c. development protects amenity consistent with its location in the Rural residential zone or precinct and the surrounding area;	Complies Noise associated with construction activities will be of a short duration. Noise produced from the facility during operations is limited to a standard household air conditioning unit which operates within the equipment shelter and will shut down when not required. There will be no air, light or vibration emissions from the facility. Electromagnetic Energy (EME) will be emitted from the level of the antenna at approximately 40 metres above ground level. An Environmental EME Report has been prepared and is provided in Appendix C. The report demonstrates that the EME is predicted to be a maximum of 2.1% (where 100% is the maximum limit) of the minimum standard set by the ACMA.
d. in the Carbrook precinct: a. land uses comprise Caretaker's accommodation, Dual occupancy (auxiliary	Not Applicable The proposed development is not located within the Carbrook precinct.

unit), Dwelling house, Emergency services, Home-based business, Nature-based tourism, Roadside stall or Sales office; b. development: i. protects the fauna, flora and environmental values; ii. protects the scenic amenity values; iii. has a landscaped or bushland setting;	
e. in the Cottage rural precinct: a. land uses comprise Caretaker's accommodation, Dual occupancy (auxiliary unit), Dwelling house; Emergency services, Home-based business, Nature-based tourism, Rural activities on larger lots (other than Aquaculture and Intensive animal industry) or Sales office; b. development has a semi-rural or bushland setting;	Not Applicable The proposed development is not located within the Cottage Rural precinct.
f. in the park living precinct: a. land uses comprise Caretaker's accommodation, Dual occupancy (auxiliary unit), Dwelling house, Emergency services, Home-based business or Sales office; b. development has a landscaped or bushland setting;	No Performance Outcome Telecommunications facilities are essential form of utility infrastructure and are complimentary to existing and surrounding land uses in the area. As with all communities, equitable access to high speed and quality communications networks is essential and expected by residents and businesses (including home businesses) to support personal and business requirements. The proposed facility would meet the increased demand of existing customers for mobile service and internet browsing on the Telstra network and would accommodate expected growth to the customer base in the immediate surrounding area, particularly the population growth associated with the PDA. The delivery of the proposed facility will be valuable in the event of an emergency as it would provide necessary communication infrastructure.

	The proposed facility location will provide significant benefit to the community without compromising the amenity and setting of the locality. The facility maintains a substantial setback from the road and has been designed and sited to utilise an already cleared area of land which is substantially screened by existing mature vegetation. The monopole design is proposed at a height that is necessary to clear the surrounding tree cover and provide services to the targeted coverage area. The design and location achieves these coverage objectives without dominating the landscape or compromising the bushland setting. Refer Photomontages in Appendix D.
g. in the Park Residential precinct: a. land uses comprise Caretaker's accommodation, Dual occupancy (auxiliary unit), Dwelling house, Emergency services, Home-based business or Sales office; b. development has a landscaped or bushland setting.	Not Applicable The proposed development is not located within the Park Residential precinct.

For these reasons, the proposal is considered to comply with the Purpose and Overall Outcomes of the Rural-Residential Zone Code. Further Compliance with the Performance Outcomes and Acceptable Outcomes of the Rural-Residential Zone Code is included in **Appendix B – Planning Scheme Code Assessment**.

7.6 Telecommunications Facilities Code

The purpose of the Telecommunications Facilities Code is achieved through the Overall Outcomes of the Code. Compliance with the Overall Outcomes is provided in the Table below.

Compliance with Overall Purpose of the Telecommunications Facilities Code

Overall Outcomes	Compliance
1. The purpose of the code is to protect the amenity of the surrounding area. 2. The purpose of the code will be achieved through the following overall outcomes: a. A Telecommunications facility: i. is integrated with the natural and built environment; ii. supports co-location; iii. minimises adverse amenity impacts on development	Complies i) The proposed site has been selected so that the facility will integrate with the natural and built environment and substantially mitigates any potential adverse impacts (primarily visual) through appropriate siting, setback and design, and screening by existing mature vegetation. ii) the existing mature vegetation and changes in topography on the subject allotment and adjoining allotments, effectively screen the facility when viewed from surrounding residential locations. Only partial views of the

in a residential zone category.	upper section of the pole will be visible from some locations, however these are distant views and have a very low level of visual impact (refer photomontages Appendix D) iii) Although co-location is preferred, a search other sites within the locality confirmed that no viable colocation opportunities existed in the South Maclean area (refer Section 2.6) . iv) The proposed facility has been designed to allow for other carriers to co-locate as it will be designed and constructed with sufficient structural capacity to support co-location by other carriers and provides sufficient lease area to accommodate additional equipment.
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For these reasons, the proposal is considered to comply with the Purpose and Overall Outcomes of the Telecommunications Facilities Code. Further Compliance with the Performance Outcomes and Acceptable Outcomes of the Telecommunications Facilities Code is included in **Appendix B – Planning Scheme Code Assessment**.

7.7 Filling and Excavation Code

The purpose of the Filling and Excavation Code is achieved through the Overall Outcomes of the Code. Compliance with the Overall Outcomes is provided in the Table below.

Compliance with Overall Outcomes of the Filling and Excavation Code

Overall Outcomes	Compliance
1. The purpose of the code is to protect premises, people and natural processes from adverse impacts associated with filling or excavation. 2. The purpose of the code will be achieved through the following overall outcomes: a. development protects: i. natural physical processes and ecosystems; ii. existing and planned infrastructure; iii. personal health and safety and premises; iv. visual amenity.	Complies Establishment of the site requires minimal site preparation. Minor excavation works are required for the installation of the foundation of the monopole. All of minor ground preparation works will occur outside of significant drainage areas and will not impact on the environmental quality of the property and surrounding area. The facility will not impact on planned infrastructure and will be adequately secured so that it is not accessible. Any excavation is expected to consist of less than 100 m³ of material and will not compromise visual amenity.

For these reasons, the proposal is considered to comply with the Purpose and Overall Outcomes of the Filling and Excavation Code. Further Compliance with the Performance Outcomes and Acceptable Outcomes of the Filling and Excavation Code is provided in **Appendix B**.

7.8 Infrastructure Code

Compliance with Overall Outcomes of the Infrastructure Code

Overall Outcomes	Compliance
a. development protects the existing infrastructure and planned infrastructure networks being the: i. movement network; ii. park network; iii. water network; iv. sewerage network; v. stormwater network; vi. other networks including electricity, gas and telecommunications; vii. land for community facilities network; b. development other than operational work provides infrastructure that is necessary to service the development, including elements of: i. a safe, efficient and legible road network; ii. a safe, efficient and legible public transport network; iii. a safe, efficient and legible cycle network; iv. a safe, efficient and legible pedestrian network; v. a safe, efficient and legible parks network; vi. a safe and efficient water network; vii. a safe and efficient sewerage network; viii. a safe and efficient stormwater network; ix. safe and efficient other networks including electricity, gas and telecommunications; x. a safe and efficient road lighting network;	Complies The proposed facility is for the sole purpose of providing infrastructure to service an existing and an immediate growing need in the surrounding areas of development with South Maclean and the PDA. The proposed facility will have no adverse impact on existing or planned infrastructure projects. The proposed facility will enhance telecommunications coverage and capacity to the surrounding area. The proposed facility has been sited and designed to service a targeted coverage area, including the existing rural residential area to the north, east and west and also to parts of the rapidly emerging communities immediately to the south, southeast and southwest. There is no financial cost to the community as the infrastructure will be owned, operated and maintained by the owners of the facility. The facility will be serviced with a power supply in accordance with the energy providers requirements. The facility is unstaffed and operated remotely and will not require water or sewerage. No lighting is proposed. The infrastructure is designed to ensure the protection of health and safety to both persons and the premises; and The proposed facility is to be constructed on an already cleared area which is substantially screened from surrounding land uses by the existing mature vegetation. The establishment of site requires only minor ground works and will in no way compromise environmental values.

xi. land for a community facilities network; c. development integrates with existing and planned infrastructure networks; d. infrastructure is designed and constructed to deliver a standard of service that is efficient and equitable; e. the cost to the community for the life of the infrastructure is minimised by providing for a suitable design life, ease of maintenance and ease of replacement; f. infrastructure protects personal health and safety and premises; g. infrastructure protects environmental values.	
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7.9 Landscape Code

Compliance with Overall Outcomes of the Landscape Code

Overall Outcomes	Compliance
a. Landscaping is designed and located to: i. enhance the amenity of premises; ii. enhance streetscapes; iii. protect the movement network; iv. be responsive to site conditions; v. retain significant on-site vegetation, where practicable; vi. protect a building and infrastructure; vii. be cost effective to maintain; viii. buffer incompatible uses; ix. protect public open space from encroachment by existing or future uses;	Complies - The location of the proposed facility centrally on the allotment and its 170m setback from Mountain Ridge Road ensures that the use and function of the allotment and surrounding land uses can continue unencumbered and will not diminish the predominant bushland setting. - Safe and convenient access to the facility can be obtained via Mountain Ridge Road (noting that the facility is operated remotely and only occasional access is required for maintenance vehicles). - The land is generally flat and very little ground disturbance is required to establish the facility; - The proposed facility would occupy a relatively small area in relation to the remainder of the site (<1% of total site area). Given the nature of the development, the proposal would not interfere with the rural residential setting of the adjoining areas and the adjacent residential development areas south of Mountain Ridge Road. - key selection criteria for the proposed facility have been achieved by maintaining significant

x. protect personal health and safety; xi. rehabilitate degraded areas; b. A degraded area is rehabilitated with endemic species.	setbacks from residences, avoidance of significant vegetation and screening via existing vegetation, and minimising ground disturbance on relatively flat land. In particular, the 170m setback from Mountain Ridge Road and significant vegetation screening helps to achieve these outcomes; and - the existing mature vegetation and changes in topography on the subject allotment and adjoining allotments, effectively screen the facility when viewed from surrounding residential locations. Only partial views of the upper sections of the pole will be visible from some locations, however these are distant views and have a low level of visual impact; - The proposed facility would occupy a relatively small area in relation to the remainder of the site (<1% of total site area). - the facility can be established without the need to clear any significant vegetation and the surrounding bushland immediately adjacent to the proposed facility will not be impacted. - The facility will be secured so that it is safe at all times and is not accessible to members of the public.
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7.10 Servicing, access and parking code

Compliance with Overall Outcomes of the Servicing, Access and Parking Code

Overall Outcomes	Compliance
a. The purpose of the code is to ensure that development satisfies the demand for parking and provides safe, functional and legible parking, access and servicing. b. The purpose of the code will be achieved through the following overall outcomes: - parking, access and servicing areas; - satisfy the expected demand for the number and type of vehicles, motorcycles and bicycles; - are safe and functional and have easy way finding; - protect the movement network.	Once constructed, mobile phone base stations are of low maintenance, unmanned and remotely operated. As such, operational visits to the site will be up to three times per year. Parking is available on site for any service vehicles. The proposed facility will not require public transport services or parking facilities.

7.11 Biodiversity Areas Overlay Code

The subject site is identified within the Biodiversity Corridor, Matters of Local Environmental Significance Area, and Primary and Secondary Vegetation Management Area. In accordance with Section 5.10.2.1

of the Logan Planning Scheme 2015, an Impact Assessable development within the overlay is assessable against the Biodiversity Areas Overlay Code. The purpose of the Biodiversity Overlay Areas Code is achieved through the Overall Outcomes of the Overlay. Compliance with the Overall Outcomes is provided in the Table below.

Compliance with Overall Outcomes of the Biodiversity Areas Overlay Code

Overall Outcomes	Compliance
1. The purpose of the code is to: a. connect biodiversity corridors; b. protect and enhance habitat values and ecosystem functions; c. protect scenic amenity values. 2. The purpose of the code will be achieved through the following overall outcomes: a. Development protects and enhances: i. habitat values and biodiversity corridors; ii. native vegetation in the primary vegetation management area; iii. native trees and native habitat trees in the secondary vegetation management area; iv. wildlife habitat and movement; v. landscape values.	Complies The location of the facility and the specific siting of the monopole has been carefully selected to ensure that the habitat values of the location are not impacted. These objectives are achieved through the following key aspects of the siting and design: - The facility is located on a previously cleared and degraded area of land used for grazing horses. Only re-growth vegetation will be cleared/maintained along with ground covers. No clearing of significant vegetation is required to establish the telecommunications facility. - The subject site is mapped by, and development is proposed within, Council's Biodiversity areas overlay map OM-2.01 as containing Secondary vegetation management areas. The proposal does not involve clearing of ten (10) or more native trees or any native habitat trees as defined within the Logan Planning Scheme 2015 and does not trigger the requirement to achieve a net gain of native trees/native habitat trees under Performance Outcome PO3 of the code. - The facility is proposed on a 20,000m² allotment and comprises less than 0.005% (<1%) of the total site area. The 100m² facility will not impede or have any impact on fauna movement through the site. - The existing mature vegetation and changes in topography on the subject allotment and adjoining allotments, effectively screen the facility when viewed from surrounding locations. Only partial views of the upper section of the pole will be visible from some locations, however these are distant views and have a very low level of impact on the amenity of the area; - The location is generally flat and no significant excavation is required in order to establish the site. Ground disturbing activities will be kept to a minimum and

	appropriate sediment control measures will be implemented, such as the installation of silt/sediment fences and/or sediment traps.
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For these reasons, the proposed development is considered to comply with the purpose and overall outcomes of the Biodiversity Areas Overlay Code. Further Compliance with the Performance Outcomes and Acceptable Outcomes of the Biodiversity Areas Overlay Code is included in **Appendix B – Planning Scheme Code Assessment**.

7.12 Bushfire Hazard Overlay Code

The subject site is located within the Bushfire Hazard Trigger Area, Bushfire Hazard (Potential Impact Buffer) Area on the Bushfire Hazard Overlay. In accordance with Table 5.10.3.1 of the Logan Planning Scheme 2015, an Impact Assessable development within the overlay is assessable against the Bushfire Hazard Overlay Code. The purpose of the Bushfire Hazard Overlay Code is achieved through the Overall Outcomes of the Overlay. Compliance with the Overall Outcomes is provided in the Table below.

Compliance with Overall Outcomes of the Bushfire Hazard Overlay Code

Overall Outcomes	Compliance
1. The purpose of the code is to protect people and premises in a Bushfire hazard area. 2. The purpose of the code will be achieved through the following overall outcomes: a. Development protects people and premises from bushfire risk: i. through allotment design and siting of development envelope areas and asset protection zones; ii. by providing vehicular access, fire maintenance trails and evacuation routes that are safe and facilitate easy way finding; iii. by providing an accessible water supply for firefighting purposes;	Complies A bushfire hazard assessment has been completed and is provided in Appendix E and demonstrates that the siting and design of the facility ensures that it can be established with adequate protection from the risk of fire hazard. The proposed telecommunications facility does not comprise a habitable structure. The facility is proposed to be sited in an already cleared area and is adjacent to a discontinuous area of vegetation. The siting and design of the facility helps to maximise the protection of the facility in the event of bushfire. Vehicle access to the facility location is available directly from Mountain Ridge Road and will remain accessible and unencumbered at all times. The design and location of the facility will ensure the essential service is protected from bushfire attack and remains viable at all times during an emergency. The wireless network is critical to emergency services communications and will help

iv.	by ensuring the function of community infrastructure is not adversely impacted by bushfire;	to ensure that communities remain safe during a bushfire event.
v.	by protecting personal health and safety and the environment from hazardous materials.	

A Bushfire Hazard Assessment has been prepared and is provided in **Appendix E**. The assessment concludes that The bushfire hazard level, bushfire-related risk level and radiant heat level applicable to the proposed buildings are considered to be acceptable. Logan Planning Scheme Bushfire overlay should not prohibit the site's development subject to compliance with the measures detailed in this Bushfire Management Plan.

The proposed development is considered to comply with the purpose and overall outcomes of the Bushfire Hazard Overlay Code. Further Compliance with the Performance Outcomes and Acceptable Outcomes of the Bushfire Hazard Overlay Code are provided in **Appendix B**.

7.13 Landslide Hazard overlay Code

Compliance with Overall Outcomes of the Landslide Hazard Overlay Code

Overall Outcomes	Compliance
1. The purpose of the code is to: a. protect the geological stability of premises; b. protect people and premises from the risk of landslide; c. maintain the visual amenity of the area. 2. The purpose of the code will be achieved through the following overall outcomes: a. Development: i. takes into account the risks associated with the natural physical process of land movement and erosion; ii. protects the safety of people and premises from risk of landslide; iii. is designed and located to protect and enhance the visual amenity of adjoining premises, the	Complies The location of the facility is generally flat and only minor ground preparation is required to establish the facility. Ground disturbing activities will be kept to a minimum and appropriate sediment control measures will be implemented, such as the installation of silt/sediment fences and/or sediment traps. Erosion and sediment controls will be checked regularly and immediately prior to and after any rain event. Any trenches will be filled immediately after services have been laid, and works would not occur during periods of heavy rainfall.

streetscape and the locality.	
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8. Potential Environmental Impacts and Proposed Mitigation Measures

8.1 Hazards, Risk and Health Impacts

The ACMA mandates exposure limits for continuous exposure of the general public to Radio Frequency Electro Magnetic Emissions (RF EME) from mobile base stations. These limits are specified in the Radiation Protection Series S-1 (Rev. 1) Standard for Limiting Exposure to Radiofrequency Fields – 100 kHz to 300 GHz.

An EME Report is provided in **Appendix C** and confirms that the maximum cumulative EME level at 1.5 m above ground level is estimated to be a maximum of 2.1% (where 100% is the maximum) of the ARPANSA public exposure limit.

8.2 Visual Amenity

Whilst undertaking site selection for a new base station facility in the locality, BMM Group considered the nature of existing land uses, visual impact and aesthetics of its facility on the surrounding environment. The facility has been sited and designed to maximise visual integration in the locality and ensure that the amenity of the area is not compromised.

The proposed facility is located within a rural residential precinct with allotments ranging in size from 1Ha to 10Ha. The area is gently undulating and is characterised by substantial tree cover across the majority of the precinct. As a result, view lines from surrounding properties and roads are screened by the presence of mature vegetation.

The photomontages of the proposed facility provided in **Appendix D** help to demonstrate a successful balance between the provision of essential infrastructure and a very low-level impact on amenity. Matters such as viewing distance, number of viewers and period of view are key factors taken into consideration in the siting and design of the facility and the mitigation of visual impact.

The setbacks of the facility location from Mountain Ridge Road and any surrounding residential areas is substantial and the site location was selected based on maximising these setbacks and locating the facility away from any sensitive uses. Any views of the facility from residential properties will generally be limited to the upper section of the facility. These views are distant and the impact on amenity and any scenic values are very low.

The photomontages help to demonstrate a high level of visual absorption of the facility into the landscape. In particular, when viewed from any residential area and surrounding roads, the facility is not visible or the visual impact is very minor and inconsequential to amenity of the location. In all instances, any views of the facility from surrounding residences are fleeting and considered to be a low-level visual impact.

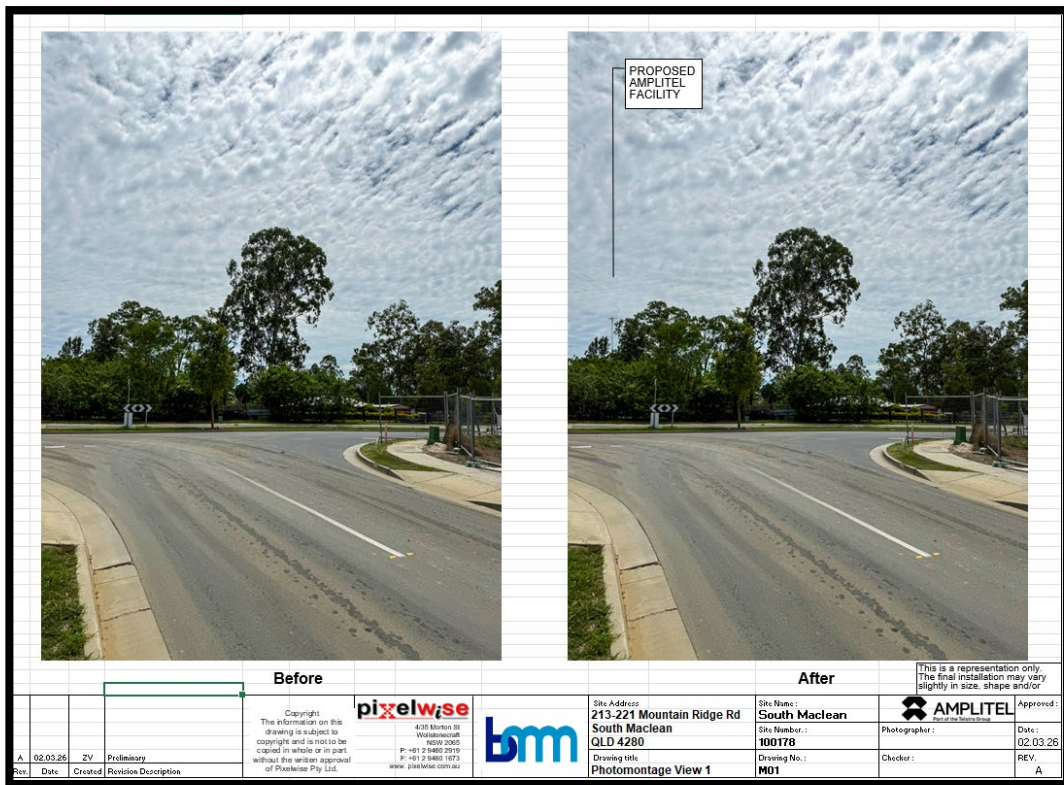


Figure 12: View looking north from Pebble Creek Road near its intersection with Mountain Ridge Road



Figure 13: View from near the site frontage looking north east

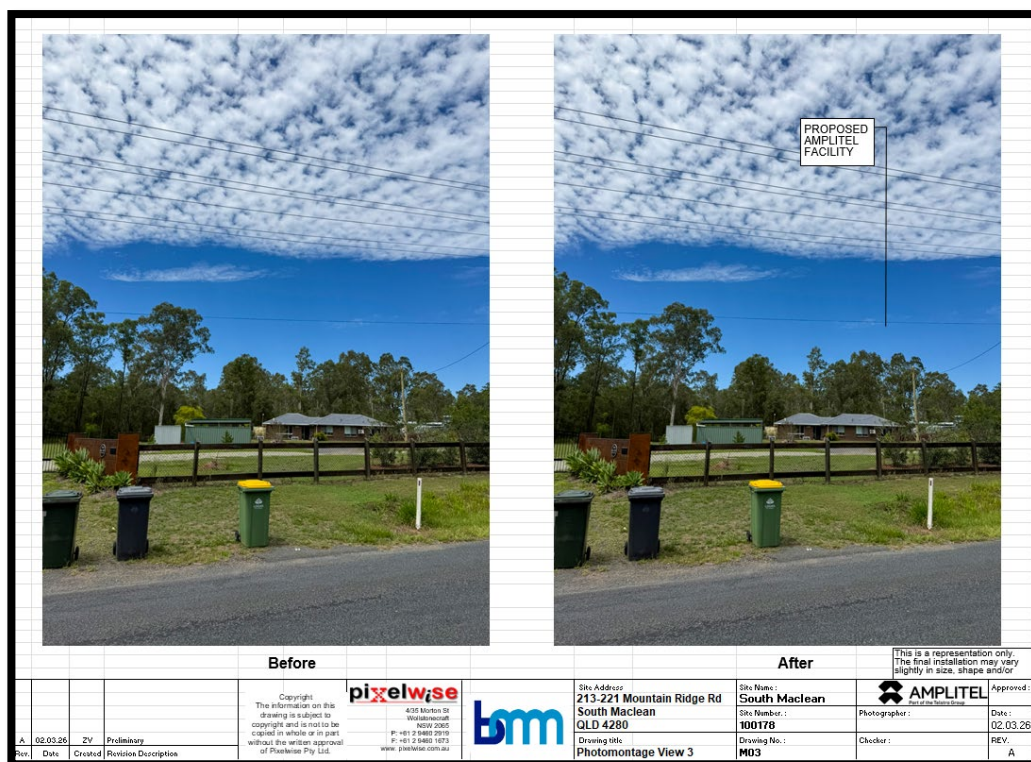


Figure 14: View from Pennine Drive looking south towards the subject allotment and facility location

8.3 Socio-Economic Considerations

The proposed facility will enable the upgrade and expansion of the telecommunications service for customers within the surrounding residential and business precincts. Key benefits are:

- Greater business accessibility and flexibility for workers, industrial and commercial businesses, commuters and home-based businesses.
- Reliable personal safety through maintaining a mobile phone for critical communications and emergencies.
- Increased physical capacity for improving telecommunications infrastructure, resulting in improved customer connectivity, and rapid delivery of technology improvements.

The proposed development will enable carriers to remain competitive and increase the choice of mobile telephone services available to consumers. Increased competition in the market brings direct economic benefits for individual consumers and the community as a whole.

The proposed facility will provide improved communication infrastructure, enhancing mobile phone and broadband coverage within the community, which would ultimately contribute to the Logan City's role as a Key Regional Centre and help to fulfill Logans City's target of 65 percent employment self-containment by 2031.

8.4 Flora and Fauna

The subject site location has been substantially modified as a result of current land uses. Ground disturbance for the facility will be limited to a footprint of 100m² for the proposed compound and clearing and ongoing maintenance of regrowth vegetation around the perimeter of the facility for protection against potential bushfire risk. The facility will not have an impact on any existing fauna movements. A

detailed assessment of the facility has been completed against the performance outcomes and acceptable solutions of the various overlay codes in **Appendix B**.

8.5 Bushfire Hazard

A bushfire hazard assessment has been prepared in accordance with Planning Scheme Policy 6 – Management of Bushfire Hazard and is provided in **Appendix E**.

The report concludes that This BHA complies with Performance Outcomes to achieve the purposes as detailed in the Logan Planning Scheme (2015), Part 8 S8.2.3 Bushfire Overlay Code (BHOC), specifically S8.2.3.2.

The development satisfies all relevant Performance Outcomes detailed in BHOC s8.2.3.3 Part A 'Requirements for accepted development (subject to requirements) and assessment benchmarks for assessable development' through the use of Acceptable and Performance Outcomes Design. The proposed facility achieves acceptable risk outcomes and does not increase bushfire hazard exposure.

8.6 Heritage Significance

Online searches were undertaken in order to determine any natural or cultural values of state or national significance. The following databases were viewed:

- Australian Heritage Places Inventory;
- Register of the National Estate; and
- Queensland Heritage Register.

Searches of the aforementioned registers established that the site is not subject to, nor has any recorded cultural significance. Notwithstanding, precaution and due diligence will be exercised during the construction phase and if any items of indigenous or cultural heritage are encountered, works will cease and the Department of Environmental Heritage Protection will be contacted to provide direction.

8.7 Contaminated land

No signs of land contamination were observed during the site inspection. The proposed facility requires only minor ground preparation.

The ground level at the proposed location is 49m AHD and potential Acid Sulfate Soils are not identified. Minor excavation works are proposed during construction to establish the foundations for the monopole.

8.8 Erosion and sediment control

Given the scale of the works and location of the proposal, potential impacts would be addressed and mitigated with the following soil and water management measures undertaken during construction of the proposed facility and continued after construction until the site is established. These measurements include:

- Keeping ground disturbing activities to a minimum;
- Implementing appropriate sediment control measures as required, such as the installation of silt/sediment fences and/or sediment traps;
- Erosion and sediment controls will be checked regularly and immediately prior to and after any rain event;
- Fill in and compact any trenches immediately after services have been laid; and
- Works would not occur during periods of heavy rainfall.

8.9 Air Quality

There is unlikely to be any dust impacts associated with the proposal given the minor extent and short-term duration of any ground disturbance.

Measures such as wetting down exposed surfaces would be undertaken if required to mitigate any construction related impacts due to dust generation. Once established the proposal will have no air pollution and will not generate dust.

8.10 Noise and Vibration

Any noisy construction activities would be as a result of drilling and excavation of the foundation / footing for the monopole. Works would be undertaken only during standard working hours would be minor and of short duration. It is not expected that construction works would cause any vibration.

Noise generated during the operational stage of the facility includes air-conditioning units servicing the equipment cabin. The air-conditioning units are similar to those used for cooling of residential premises and will comply with the relevant noise emission guidelines. The air-conditioning units are automatic and will shut down when not required.

8.11 Waste Minimisation and Management

Due to the relatively minor nature of the works, the generation of waste resulting from construction of the proposed facility is expected to be minimal.

Excess spoil from the earthworks would be reused onsite if suitable, reused off site, or disposed of at an approved waste disposal facility. Other waste packaging material will also be disposed of at an approved waste disposal facility. The ongoing operation of the facility will be unmanned and will not generate any waste or odour emissions.

8.12 Traffic and Access

The facility is proposed to be accessed directly from Mountain Ridge Road. Once constructed, mobile phone base stations are of low maintenance, unmanned and remotely operated. As such, operational and maintenance visits to the site will be infrequent (up to approximately three times per year). The proposed facility will not require public transport services or parking facilities. Parking for maintenance vehicles is available on-site.

The proposed secondary access is subject to performance-based assessment under the Logan Planning Scheme 2015, which requires development to demonstrate acceptable safety and operational outcomes rather than strict compliance with advisory design metrics.

The assessment therefore considers whether the proposal achieves the intent of the relevant planning and engineering provisions.

Secondary Access – Performance-Based Transport Assessment

1. Assessment Framework

The proposed secondary access has been assessed under the performance-based framework of the Logan Planning Scheme 2015, which requires demonstration that development achieves safe and efficient transport outcomes rather than strict compliance with advisory geometric parameters.

Within this framework:

- Austroads and TMR guidance establish accepted engineering practice and typical design solutions;
- Numerical separation distances represent risk-management benchmarks based on assumed traffic exposure;
- Alternative arrangements may be supported where equivalent or superior operational safety outcomes are demonstrated.

Accordingly, this assessment considers whether the proposal satisfies the intent and performance outcomes of the relevant transport provisions.

2. Applicable Standards and Guidance

Assessment has been undertaken with reference to:

- *Austroads Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections (AGRD04A)*
- *Austroads Guide to Traffic Management – Part 7*
- *Queensland TMR Road Planning and Design Manual (RPDM)*
- Logan City Council access and driveway requirements

These documents collectively address:

- intersection functional areas,
- access spacing principles,
- sight distance requirements, and
- safe vehicle manoeuvring.

3. Proposal Description

The application proposes a secondary maintenance access from Mountain Ridge Road serving a telecommunications facility.

Operational characteristics include:

- maintenance access only (secured locked gate);
- used solely by authorised contractors;
- light vehicle access only;
- maximum three visits per year;
- short-duration maintenance activities.

The existing residential access arrangement remains unchanged.

The access is located within the nominal 12 m advisory separation distance referenced in Austroads guidance for unsignalised intersections.

4. Key Assessment Criteria

Council assessment focuses on whether the access:

1. Maintains road safety;
2. Preserves intersection efficiency;
3. Provides safe ingress and egress;
4. Avoids unacceptable conflict risk;
5. Maintains driver expectancy and visibility.

5. Engineering Assessment

5.1 Traffic Generation and Operational Exposure

Typical rural residential driveway:

- approximately 6–10 trips/day
- 2,500–3,500 vehicle movements/year.

Proposed telecommunications access:

- maximum 3 visits/year;
- total 6 vehicle movements/year.

This represents approximately 0.2% of the traffic exposure assumed by Austroads spacing guidance — a reduction of about 99.8% in potential conflict opportunity.

Accordingly, the access functions operationally as an occasional service access, not an active driveway.

5.2 Intersection Functional Area (AGRD Part 4A – Section 3.3)

Austroads seeks to prevent accesses interfering with:

- driver decision-making,
- deceleration/acceleration,
- turning storage areas.

The proposed access:

- generates negligible traffic demand;
- will not create queues or turning conflicts;
- does not introduce recurring movements;
- will not influence intersection operations.

The access therefore does not functionally operate within the intersection conflict area despite its proximity and the intent is satisfied.

5.3 Access Location Principles (AGRD Part 4A – Section 8)

Austroads allows flexibility where:

- traffic demand is low;
- visibility is adequate; and
- operational safety is maintained.

Given the extremely infrequent usage, the access behaves similarly to a rural field or utility access and achieves the safety objectives of the guideline.

5.4 Access Spacing Guidance (Austroads GTM Part 7)

The nominal 12 m spacing value is intended to reduce conflict density in environments with frequent access activity.

In this case:

- access frequency is exceptionally low;
- movements will rarely coincide with intersection activity;
- cumulative conflict risk is negligible.

The underlying safety intent of the guideline is achieved despite non-compliance with the advisory distance.

5.5 Sight Distance

Site inspection confirms:

- unobstructed visibility in both directions along Mountain Ridge Road;
- clear sightlines toward the Pebble Creek Way intersection;
- absence of geometric or vegetation constraints.

Available sight distance exceeds Safe Intersection Sight Distance (SISD) requirements for the road environment.

Primary Austroads safety control achieved.

5.6 TMR RPDM Consistency

The RPDM emphasises context-sensitive design focused on:

- visibility,
- operational safety, and
- risk outcomes.

Given negligible traffic demand and compliant sight distance provision, the proposal aligns with RPDM performance expectations.

5.7 Access Geometry (AS 2890.1)

The driveway design accommodates light vehicles and provides:

- safe ingress and egress;
- forward exit visibility;
- controlled vehicle manoeuvring.

6. Telecommunications Infrastructure Context

Telecommunications facilities differ from conventional land uses as they:

- are unstaffed,
- generate no daily traffic,
- involve predictable maintenance-only access.

Applying standard driveway spacing assumptions therefore materially overestimates operational risk. The proposed access operates comparably to low-frequency utility or agricultural accesses commonly accommodated on rural roads.

7. Performance Outcome Summary

The proposed access achieves the Planning Scheme transport outcomes because it:

- maintains safe operation of Mountain Ridge Road;
- does not adversely affect the Pebble Creek Way intersection;
- preserves driver decision-making conditions;
- provides adequate sight distance;
- introduces negligible traffic exposure.

Although the advisory separation distance is not numerically achieved, the proposal delivers an acceptable engineering and planning outcome.

Overall Planning and Engineering Conclusion

While the proposed driveway does not strictly meet the advisory Austroads separation distance, detailed assessment demonstrates that the development satisfies the intent and performance outcomes of Austroads guidance due to extremely low traffic generation, compliant sight distance, absence of intersection operational impacts and consistency with Austroads and TMR performance principles. In particular the proposal achieves equivalent or lower safety risk than a compliant access aligns with the performance-based assessment framework of the Logan Planning Scheme 2015.

8.13 Associated Infrastructure and Activities

An existing power supply is located on the subject lot. (Refer **Appendix A – Proposal Plans**).

The following mitigation measures would be implemented to ameliorate any impacts on existing infrastructure:

- A 'dial-before you dig' search would be undertaken during the detailed design stage;
- Prior to construction, all infrastructure and utilities would be identified;

- If required, prior to construction, relevant utilities and adjacent residents would be notified of any impending disruptions to services.

Please refer to **Appendix A – Proposal Plans**. When operational, the site will be unmanned, and does not require utility services such as telephone, water and sewerage.

8.14 Cumulative Environmental Effects

The key perceived and potential environmental impacts for this proposed development have been identified as: health and risk issues (perceived); visual impact (potential); and potential impacts during construction of the proposed facility. Each of these aspects have been considered individually and collectively from a cumulative impact perspective.

A common concern about base station and local wireless network antennas relates to the possible long-term health effects that whole-body exposure to the RF signals may have. To date, the only health effect from RF fields identified in scientific reviews has been related to an increase in body temperature (> 1 °C) from exposure at very high field intensity found only in certain industrial facilities, such as RF heaters. The levels of RF exposure from base stations and wireless networks are so low that the temperature increases are insignificant and do not affect human health.

The strength of RF fields is greatest at its source and diminishes quickly with distance. Access near base station antennas is restricted where RF signals may exceed international exposure limits. Recent surveys have indicated that RF exposures from base stations and wireless technologies in publicly accessible areas (including schools and hospitals) are normally thousands of times below international standards.

(World Health Organization (WHO), Electromagnetic fields and public health: Base stations and wireless technologies, Fact Sheet No. 304)

Key References

International Commission on Non-Ionizing Radiation Protection (ICNIRP) (2020), Guidelines for limiting exposure to electromagnetic fields (100 kHz to 300 GHz), Health Physics

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), Radiofrequency Electromagnetic Energy (RF EME) and Health, arpan.sa.gov.au

The cumulative levels of EME in the proposed location will fall well within the standard limits set by the ACMA. Any potential environmental impacts during construction are expected to be temporary and mitigated through the implementation of appropriate work practices and management measures specified in this development application report. Consequently, the proposed development is not considered likely to have an adverse cumulative impact on the environment and the community.

9. Conclusion

The proposed Amplitel telecommunications facility located at 213-221 Mountain Ridge Road, South Maclean is integral to Telstra's ability to optimise their network coverage and transmission requirements through the delivery of a high quality and reliable service. Delivering on this objective is vital in order to enhance connectivity, economic development and opportunities for growth throughout the surrounding residential and retail precincts and major transportation corridors.

The proposed telecommunications facility responds to a demonstrated planning need to provide reliable digital infrastructure supporting the public interest. The facility will improve network coverage, capacity and service reliability within South Maclean and surrounding areas, strengthening access to emergency communications services, particularly during natural hazard or outage events. The infrastructure will also enhance network redundancy, reducing service disruption risks and improving resilience of essential communications systems.

Importantly, the proposal supports regional growth and development associated with the expanding Flagstone Priority Development Area and surrounding rural-residential communities, ensuring telecommunications infrastructure keeps pace with population growth. Improved connectivity will further contribute to economic productivity, enabling remote work, business operations, education and access to digital services, consistent with contemporary infrastructure expectations and State and local planning objectives.

BMM Group has undertaken a thorough analysis of potential site alternatives and during this process has selected the most appropriate site for the facility. Factors such as the ability to meet the required coverage and technical objectives, opportunities for co-location by other carriers, the surrounding environment and visual amenity have all been carefully considered as part of this selection process.

The planning report demonstrates that the proposed facility has been designed and sited in the most appropriate location in response to coverage objectives and in the context of adjacent and surrounding land uses. The facility location, setbacks, screening, colour and design of the proposed facility ensure that the natural environment and ecological processes are not compromised, only minor clearing of regrowth vegetation and groundcover will occur within the lease area and along the internal fence line. No clearing of significant vegetation or native habitat trees is required, and any potential visual impacts are mitigated so that the amenity of the locality and wellbeing of the community will not be detrimentally affected.

It is requested that Council grant a permit to support this development application, subject to relevant and appropriate conditions.

Appendix A – Proposal Plans

Appendix B – Benchmark Assessments

Appendix C – EME Report

Appendix D – Photomontages

Appendix E – Bushfire Hazard Assessment