



## **APPENDIX D – PACs and TLM**

**Precautionary Approach Checklist – Site Selection (Code Ref Section 4.1)**

<b>Issue Date</b>	22 December 2014	<b>Carrier</b>	Optus Mobiles Pty Ltd	<b>Location</b>	Catshed Maintenance Workshop Upper Ski Slope Friday Drive Thredbo Village NSW 2625 Optus Ref: S8956 Thredbo CBD RFNSA Number: 2625005
<b>Description of Infrastructure</b>	<p>The components of the proposed work are as follows:</p> <ul style="list-style-type: none"> <li>• One (1) x 25 metre Optus Slimline Monopole;</li> <li>• Three (3) x new panel antennas at 25m centreline elevation with 60°, 120° and 180° orientations, mounted on circular headframe;</li> <li>• Remote Radio Units (RRU) set behind panel antennas on circular headframe;</li> <li>• Mast Head Amplifiers (MHA) set behind panel antennas on circular headframe;</li> <li>• One (1) Phase 8 Sandwich Panel Equipment Shelter (3m x 2.5m) colour matched to maintenance workshop, bored piers, with 45° gabled snow roof;</li> <li>• Ancillary equipment, including feeders to be running internally from the equipment shelter to the panel antennas, RRU's, and MHA's;</li> <li>• Power will be supplied via new trenched conduits from the existing Maintenance Workshop; and</li> <li>• Transmission will be obtained via new trenched conduits containing optic fibre from existing Telstra optic fibre transmission conduits located southwest of site.</li> </ul>				

<b>4.1 Application of Precautionary Approach to Site Selection</b>		
<b>Section No.</b>	<b>Industry Code C564:2011 Requirement</b>  For each site the Carrier must have regard to:	<b>Comments on how the Carrier has had regard to each item.</b>

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4.1.3	<i>For new sites, once the preferred option has been selected, the Carrier must make available to the public on request the summary of the sites considered and the reasons for the selection of the preferred option.</i>	Noted, Refer to Statement of Environmental Effects Section 4.0 Other Site Options.
4.1.5 (a)	<i>The reasonable service objectives of the carrier including (i) the area the planned service must cover (ii) power levels needed to provide quality of service (iii) the amount of usage the planned service must handle</i>	<p>The facility will introduce enhanced mobile phone services to the Thredbo Village and Ski Resort and nearby townships for the Optus Mobile Network.</p> <p>The transmit power settings at this facility will be set to accomplish the desired coverage, capacity and call quality within the area listed above. The Over the Air specifications provide for the ability for the facility to reduce the transmitting power to each user based on the radio environment.</p>
4.1.5 (b)	<i>Minimisation of EMR exposure to public</i>	<p>The environmental EME level is minimised through the radio network design and reducing the transmit power to each user based on the radio environment. The site will easily comply with the ACMA public exposure limit. RF EME levels have been estimated from the existing and proposed antennas at the <b>Catshed Maintenance Workshop, Upper Ski Slope, Friday Drive, Thredbo Village NSW 2625</b>. The maximum cumulative EME level at 1.5 m above ground level is estimated to be <b>0.63%</b> of the ARPANSA public exposure limits (see EME Report at <b>Appendix C</b>).</p>
4.1.5 (c)	<i>The likelihood of an area being a community sensitive location.</i>	<p>The proposal involves the deployment of a new permanent Telecommunications facility adjacent to existing Ski Resort infrastructure in disturbed areas of land. A new slimline monopole and equipment shelter is proposed to be installed adjacent to the existing Catshed Maintenance Workshop and existing Ski Lift. In addition a 'Points of Interest' report has been undertaken to identify any sensitive locations. There is one identified community sensitive location (Thredbo Leisure Child Care Centre) within the vicinity of the proposed new slimline monopole location (see EME Report at <b>Appendix C</b>).</p>

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4.1.5 (d)	<i>The objective of avoiding community sensitive locations</i>	The proposed facility desktop feasibility study sought to identify community sensitive locations in which one was identified, being the Thredbo Leisure Child Care Centre. In addition a 'Points of Interest' report has been undertaken to identify any sensitive locations (see EME Report at <b>Appendix C</b> ).
4.1.5 (e)	<i>Relevant state and local government telecommunications planning policies</i>	Consideration of the relevant Commonwealth, State and Local government telecommunications planning policies, legislation and acts within the Statement of Environmental Effects. Due to a new slimline monopole being proposed to be installed within a National Park a Development Application (DA) will be lodged with Department of Planning and Infrastructure, referred to the National Parks and Wildlife Service, addressing the relevant legislation objective and controls.
4.1.5 (f)	<i>The outcomes of consultation processes with Councils and Interested and Affected parties as set out in <b>Section 7</b></i>	<p>Due to a new slimline monopole being proposed to be installed within a National Park a Development Application will be lodged with Department of Planning and Infrastructure, referred to the National Parks and Wildlife Service, addressing the relevant legislation objective and controls.</p> <p>As part of the DA process Stakeholders (E.g. community, businesses, etc.) being interested and affected parties will be notified through the standard public notice advertising and the DA being listed in the relevant section of the Department of Planning and Infrastructure website.</p>
4.1.5 (g)	<i>The heritage significance (built, cultural and natural)</i>	<p>Online searches were undertaken in order to determine any natural or cultural values of Territory or Commonwealth significance. The following databases were viewed:</p> <ul style="list-style-type: none"> <li>• Australian Heritage Places Inventory;</li> <li>• Register of the National Estate; and</li> <li>• NSW Heritage Register.</li> </ul>

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		The property is an existing site utilised for the maintenance of snow ploughing machinery, other plant equipment and parking requirements. Searches of the above Heritage databases and inventories indicate that other than being included within the Kosciuszko National Park, the specific site has not been registered as having any heritage significance. As such, the proposal will not have any impact on the heritage significance of the area.
4.1.5 (h)	<i>The physical characteristics of the locality including elevation and terrain</i>	The proposal involves installation of a permanent Telecommunications Facility at the subject site. The physical characteristics of this site have been considered during the desktop study and original site visit evaluation. Factors considered included the terrain, site elevation and the height of the surrounding obstacles. A Geotechnical Report will be undertaken accordingly to establish site characteristics for construction methods.
4.1.5 (i)	<i>The availability of land and public utilities</i>	Consideration of land and public utilities was undertaken during a number of site visits. Power is to come from the adjacent Catshed Maintenance Workshop. This will involve minor trenching works for new conduits in already disturbed areas of land, and therefore minimal impact is expected.
4.1.5 (j)	<i>The availability of transmission to connect the radiocommunications infrastructure with the rest of the network, e.g. line of sight for microwave transmission</i>	Optic Fibre Transmission is to be connected to the nearby (southwest) Telstra Optic Fibre Transmission line conduits coming from the village. This will involve trenching works in already disturbed areas of land, and therefore minimal impact is expected during the construction process.
4.1.5 (k)	<i>The radiofrequency interference the planned service may cause to other services</i>	Prescribed antennae spacing (in conjunction with appropriate tilt) and allocated frequencies have been used to meet the requirements for coverage from the facility, while minimising interference to the existing network. Whilst interference is not anticipated, Optus will promptly investigate any interference issues that are reported.

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4.1.5 (l)	<i>The radiofrequency interference the planned service could experience at that location from other services or sources of radio emissions</i>	Radio propagation analysis has been used to ensure the new facility can be integrated with the existing network while minimising the interference to the new facility.
4.1.5 (m)	<i>Any obligations, and opportunities, to co-locate facilities</i>	<p>While co-locating on existing telecommunications facilities is Optus' preferred option, there are no feasible options for co-location at this location. Optus have taken the opportunity to co-site this facility with existing Ski Resort infrastructure (Catshed Maintenance Workshop and Ski Lift Structure).</p> <p>In addition once installed the new slimline monopole will have capacity to invite other carriers to collocate at this facility allowing less impact to the existing site of Eagles Nest (top of mountain) which is fast becoming an 'antenna farm', with continued approved upgrades continuing to break the ridgeline when view from the ski slopes and village.</p>
4.1.5 (n)	<i>Cost factors</i>	Optus has under taken preliminary costing of this new facility and are of the opinion these costs are reasonable to achieve the desired outcome of providing essential infrastructure to the Thredbo Village, ski slopes, and nearby townships.

**Precautionary Approach Checklist – Infrastructure Design (Code Ref 4.2)**

<b>Issue Date</b>	22 December 2014	<b>Carrier</b>	Optus	<b>Location</b>	Catshed Maintenance Workshop Upper Ski Slope Friday Drive Thredbo Village NSW 2625 Optus Ref: S8956 Thredbo CBD RFNSA Number: 2625005
<b>Description of Infrastructure</b>	<p>The components of the proposed work are as follows:</p> <ul style="list-style-type: none"> <li>• One (1) x 25 metre Optus Slimline Monopole;</li> <li>• Three (3) x new panel antennas at 25m centreline elevation with 60°, 120° and 180° orientations, mounted on circular headframe;</li> <li>• Remote Radio Units (RRU) set behind panel antennas on circular headframe;</li> <li>• Mast Head Amplifiers (MHA) set behind panel antennas on circular headframe;</li> <li>• One (1) Phase 8 Sandwich Panel Equipment Shelter (3m x 2.5m) colour matched to maintenance workshop, bored piers, with 45° gabled snow roof;</li> <li>• Ancillary equipment, including feeders to be running internally from the equipment shelter to the panel antennas, RRU's, and MHA's;</li> <li>• Power will be supplied via new trenched conduits from the existing Maintenance Workshop; and</li> <li>• Transmission will be obtained via new trenched conduits containing optic fibre from existing Telstra optic fibre transmission conduits located southwest of site.</li> </ul>				

<b>4.2 Application of Precautionary Approach to Infrastructure Design</b>		
<b>Section No.</b>	<b>Industry Code C564:2011 Requirement</b>	<b>Comments on how the Carrier has had regard to each item</b>
4.2.3 (a)	<p><b>For each site the Carrier must have regard to:</b></p> <p><i>the reason for the installation of the infrastructure considering – coverage, capacity and quality</i></p>	<p>This facility is intended to provide enhanced mobile phone services, improved capacity, and call quality to the Thredbo Village, ski slopes, and nearby townships.</p>

**Precautionary Approach Checklist – Infrastructure Design (Code Ref 4.2)**

4.2.3 (b)	<i>the positioning of antennas to minimise obstruction of radio signals</i>	The proposed panel antennas are chosen due to their improved technical capabilities, minimising the need for other additional antennas on the structure. This location meets the objectives outlined in Section No 4.2.3 (a).
4.2.3 (c)	<i>the objective of restricting access to areas where RF exposure may exceed limits of the EMR standard</i>	The new facility is designed to restrict public access to any areas that exceed the general public EME exposure limits.
4.2.3 (d)	<i>the type and features of the infrastructure that are required to meet service needs including: (i) the need for macro, micro or pico cells; and (ii) the need for directional or non-directional antennas</i>	The new facility consists of macro cells utilising directional panel antennas to meet the objectives outlined in Section No 4.2.3 (a).
4.2.3 (e)	<i>the objective of minimising power whilst meeting service objectives</i>	The transmit power settings at this facility will be set to accomplish the desired coverage, capacity and call quality within the area listed in 4.2.3 (a). The Over the Air specifications provide for the ability for the facility to reduce the transmitting power to each user based on the radio environment.
4.2.3 (f)	<i>whether the costs of achieving this objective are reasonable</i>	Optus has under taken preliminary costing of this facility and are of the opinion these costs are reasonable in context of delivering essential infrastructure to Thredbo Village, ski slopes, and nearby townships.
4.2.5	<i>Site EMR assessments for Mobile Phone Radiocommunication Infrastructure must be made in accordance with the ARPANSA prediction methodology and report format (see Appendix B – Additional Design Information and Appendix C – ARPANSA EME Report Format)</i>	EMR assessments in accordance with ARPANSA have been completed and are held within the MCF National Site Archive. See EME Report at <b>Appendix C</b> .



## Traffic Light Model



### Site Details

<b>NSA Site Number</b>	2625005
<b>NSA Site Name</b>	Thredbo CBD (Optus Ref: S8956)
<b>Site Address</b>	Catshed Maintenance Workshop, Upper Ski Slope, Friday Drive, Thredbo Village NSW 2625
<b>Prepared By</b>	Matthew Wood (Catalyst ONE)
<b>Date</b>	22 December 2014
<b>TLM Rating</b>	Amber

### Notes for Use

1. Provide a score for each issue, based on your knowledge of the site
2. Determine the score for the Community issues, and mark on the vertical axis
3. Determine the score for the Planning and Environmental issues, and mark on the horizontal axis
4. The point of intersection of the two scores defines the category of the site
5. This will assist in the preparation of the community consultation and site acquisition strategy

### Additional comments (*optional*)

The components of the propose are as follows:

- One (1) x 25 metre Optus Slimline Monopole;
- Three (3) x new panel antennas at 25m centreline elevation with 60°, 120° and 180° orientations, mounted on circular headframe;
- Remote Radio Units (RRU) set behind panel antennas on circular headframe;
- Mast Head Amplifiers (MHA) set behind panel antennas on circular headframe;
- One (1) Phase 8 Sandwich Panel Equipment Shelter (3m x 2.5m) colour matched to maintenance workshop, bored piers, with 45° gabled snow roof;
- Ancillary equipment, including feeders to be running internally from the equipment shelter to the panel antennas, RRU's, and MHA's;
- Power will be supplied via new trenched conduits from the existing Maintenance Workshop; and
- Transmission will be obtained via new trenched conduits containing optic fibre from existing Telstra optic fibre transmission conduits located southwest of site.

1.	COMMUNITY ISSUES		
1.0	Issue	Scale:	Site score:
1.1	Known Deployment Issues for all Carriers <ul style="list-style-type: none"> <li>- Previous community campaign against deployment</li> <li>- High / active political Interest</li> <li>- Local and National Media Coverage, including social media</li> </ul>	0-10	2
1.2	Views and attitudes of local community <ul style="list-style-type: none"> <li>• Residents action groups (other community issues)</li> <li>• Residents issues with specific site location (e.g. windfarm, nearby controversial activity proposed)</li> <li>• Known community interest groups eg local progress association and rate payers groups</li> </ul>	0-10	4
1.3	Sensitive Uses - Residential <ul style="list-style-type: none"> <li>• Impact on nearest homes</li> <li>• Impact on surrounding residences</li> </ul> Sensitive Uses - Schools <ul style="list-style-type: none"> <li>• Proximity to schools, child/day care centres &amp; kindergartens</li> </ul>	0-20	1
1.4	Sensitive Uses - Other <ul style="list-style-type: none"> <li>• Proximity to hospitals</li> <li>• Proximity to aged care facilities</li> <li>• Proximity to playgrounds, sporting facilities</li> </ul>	0-10	3
1.5	Political issues <ul style="list-style-type: none"> <li>• Timing of elections (next 6 months)</li> <li>• Likely or potential Interest of ward councillors</li> <li>• Likely or potential Interest of State MPs</li> <li>• Likely or potential Interest of federal MPs</li> </ul>	0-10	1
1.6	Media <ul style="list-style-type: none"> <li>• Previous media interest – local</li> <li>• Previous media interest – state</li> <li>• Previous media interest – national</li> <li>• Social media</li> </ul>	0-5	1
	<b>Total Community Issues score:</b>	<b>65</b>	<b>12/65 (19%)</b>

SCORE CALIBRATION GUIDE	
Issue Range	Score Range
No known issues	0-2
Medium interest (local paper, medium objection, Local MPs)	3-5
High Interest (organised campaign group, community meetings, high media coverage and political intervention)	6-10
No known action groups	0-2
Previous action groups or activity	3-5
Active local groups or anticipated local interest	6-10
No proximity / away from schools and residences	0-5
Schools and residences visible in local neighbourhood	6-10
Close proximity to schools and residences (immediate vicinity)	11-20
No / little proximity from sensitive land use	0-5
Visible and/or within close proximity to sensitive land use (immediate vicinity)	6-10
No identified political issues	0-5
Active political interest in site / involvement in previous telco sites in area / upcoming elections	6-10
No / little previous interest	0-2
Previous or anticipated interest	3-5

2.	PLANNING AND ENVIRONMENT ISSUES		
2.0	Issue	Scale:	Site score:
2.1	Council/ Relevant authority – Low Impact <ul style="list-style-type: none"> <li>Known Council Interest in deployment issues and or a relevant telecommunications Policy <ul style="list-style-type: none"> <li>Exclusion zones</li> <li>EME policy</li> <li>Co-location policies</li> </ul> </li> <li>Previous refusals and appeals on mobile phone base stations</li> </ul>	0-10	N/A
	<b>OR</b>		<b>OR</b>
	Council/ Relevant authority- DA <ul style="list-style-type: none"> <li>Known Council Interest in deployment issues and or a relevant telecommunications Policy <ul style="list-style-type: none"> <li>Exclusion zones</li> <li>EME policy</li> <li>Co-location policies</li> </ul> </li> <li>Timing of Council elections</li> <li>Stance of Planning Committee</li> <li>Previous refusals and appeals on mobile phone base stations</li> </ul>	0-20	18
2.2	State Government Policies	0-5	3
2.3	Site location <ul style="list-style-type: none"> <li>Zone <ul style="list-style-type: none"> <li>Industrial/rural</li> <li>Commercial / Residential</li> </ul> </li> </ul>	0-10	8
2.4	Siting and appearance <ul style="list-style-type: none"> <li>Level of visual impact of proposal</li> </ul> Consideration to be given from ground level, adjacent buildings and local area	0-20	15
2.5	Environmental issues <ul style="list-style-type: none"> <li>Heritage issues</li> <li>Location in protected land use (eg foreshore protection area, National Park etc)</li> <li>Native Title issues</li> </ul>	0-10	6
	<b>Total Planning and Environmental Issues score:</b>	<b>65</b>	<b>50/65 (77%)</b>

SCORE CALIBRATION GUIDE	
Issue Range	Score Range
No known Council concerns with deployment issues	0-2
Specific council / adjacent council EME policy	3-5
Active Council concern about deployment EME Policies Local Elections in next 6 months / known to refuse telco DA's Has Council legally questioned deployment	6-10
No known Council concerns with deployment issues or policy	0-5
Council's telecommunications policy is not restrictive	6-10
Council's telecommunications policy contains some restrictions	11-15
Council's telecommunications policy is restrictive and/or includes exclusion zones that are not in line with ICNIRP regulations	16-20
No Specific State Government Policies	0-2
Active State Government Department Policies (eg Education Department Buffer Zones)	3-5
Industrial / Area	0 – 5
Commercial / Residential Area	6-10
Not visible and no significant impact	0-5
Partially Visible	6-15
Highly visible and noticeable change	16-20
No / little issues	0-5
Identified issues	6-10

