OPTUS

Precautionary Approach Checklist – Infrastructure Design (Code Ref 4.1 & 4.2)

MCF
Mobile Carriers Forum

Issue Date	**25/7/19**	**Carrier**	**Optus**	**Site No. Address**	**John Fisher Park, Curl Curl NSW 2096**	**RFNSA No.**	**2096009**
Description of Infrastructure	The installation of a new telecommunications facility comprising a new monopole, three antennas attached to a turret mount and an outdoor unit. Associated ancillary equipment will also be installed.						

4.1 Application of Precautionary Approach to Site Selection			
Section No.	**Industry Code C564:2011Requirement** **For each site the Carrier must have regard to:**	**Meaning/Application**	**Prompt/Question/response**
4.1.3	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.	• Site selection details are available upon request.	Site selection details are available upon request.

4.1.5 (a)	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	• This applies to the selected candidate only	i) The surrounding area is to be covered by the facility. ii) The transmit power settings at this facility will be set to accomplish the desired coverage, capacity and call quality within the areas listed above. The specifications provide for the ability for the facility to reduce the transmitting power to each user based on the radio environment. iii) This site will provide peak traffic services
4.1.5 (b)	Minimisation of EMR exposure to public		This facility is designed and will be installed in accordance with relevant regulations relating to exposure to EME. The environmental EME level is minimised through radio network design. Adaptive power control is the network feature that automatically adjusts the power and hence minimises EME from both the base station and the handset. Another feature, called discontinuous transmission, reduces EME emissions by automatically switching the transmitter off when no speech or data is sent. The site has been designed to restrict public access to any areas that exceed the general public exposure limits. EME exposure to the public will be minimised due to the location.

4.1.5 (c)	The likelihood of an area being a community sensitive location.	• Consider the Likelihood of being Sensitive	A review of community sensitive locations both at and surrounding the site has been undertaken as part of the site selection process. This assessment takes in to account the environmental and community issues that have been identified and an evaluation is made as to whether the proposal is to proceed in its current form
4.1.5 (d)	The objective of avoiding community sensitive locations	• Avoid Sensitive Locations – How?	Optus seeks to avoid community sensitive locations when siting new telecommunications facilities. In some circumstances, sites need to be located near community sensitive locations due to the area that the carrier is trying to provide service to. Quality mobile network services can only be maintained where base stations are located in close proximity to the user. This site provides a reasonable separation to community sensitive locations.
4.1.5 (e)	Relevant state and local government telecommunications planning policies		Considerations of the relevant state and local government telecommunications planning policies have been undertaken. The proposal requires development approval from Northern Beaches Council The proposal is considered to be consistent with the applicable regulatory requirements.

4.1.5 (f)	The outcomes of consultation processes with Councils and Interested and Affected parties as set out in Section 6.7	• This happens after we have selected the site, so comments need to be generic	Consultation has been undertaken as detailed in the SEE and will also form part of the development application process.
4.1.5 (g)	The heritage significance (built, cultural and natural)		A review of the heritage significance both at and around the site has been undertaken as part of the site assessment process. This assessment has taken in to account any built, cultural and natural factors that have been identified. Although the specific lot contains heritage items, the proposed site is not located in a heritage precinct and is not heritage listed
4.1.5 (h)	The physical characteristics of the locality including elevation and terrain	• To be answered by planning consultant	The physical characteristics of the proposed site have been considered including the elevation and terrain. The site and surrounding area are relatively flat. RF performance is maximised by antennas being located in an elevated position.
4.1.5 (i)	The availability of land and public utilities	• To be answered by planning consultant	Land is available at this site and its use will not conflict with or impede the existing use of this site. Public utilities are available or can be connected to this site as indicated in the site plan.

4.1.5 (j)	The availability of transmission to connect the radiocommunications infrastructure with the rest of the network, e.g. line of sight for microwave transmission	Technical answer provided in Candidate Ranking Report of Candidate Assessment Report about transmission options.	The proposed site will utilise optical fibre transmission.
4.1.5 (k)	The radiofrequency interference the planned service may cause to other services	• Operate at Separate Frequencies?	Radio propagation analysis has been used to select appropriate antenna tilts to meet the requirements for coverage from the facility, while minimising interference to the existing network. Due consideration has been given to control interference to other services, for example: - Transmitters are designed to comply with ACMA regulations which minimise spurious interference to other services. - Sufficient antenna separation is maintained at co-located sites. - Detailed RF modelling has been performed to ensure that interference into other services (such as domestic electrical equipment, medical equipment and fuel/explosive stores etc) is within acceptable limits.

4.1.5 (l)	The radiofrequency interference the planned service could experience at that location from other services or sources of radio emissions		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)	Any obligations, and opportunities, to co-locate facilities		There were no suitable co-location opportunities in this area.
4.1.5 (n)	Cost factors	• Access Tracks/Power/ Transmission/Construction	Preliminary costing of the proposed facility has been undertaken. The costs are considered to be reasonable.

4.2 Application of Precautionary Approach to Infrastructure Design		
Section No.	**Industry Code C564:2011Requirement For each site the Carrier must have regard to:**	**Comments on how the Carrier has had regard to each item**
4.2.3 (a)	the reason for the installation of the infrastructure considering – coverage, capacity and quality	This facility is intended to provide enhanced mobile phone services, improved capacity and call quality in the area surrounding the site.
4.2.3 (b)	the positioning of antennas to minimise obstruction of radio signals	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 existing networks.
4.2.3 (c)	the objective of restricting access to areas where RF exposure may exceed limits of the EMR standard	This facility is designed and will be installed in accordance with Optus Deployment Guidelines to restrict public access to any areas that exceed the general public EME exposure limits.
4.2.3 (d)	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	This facility consists of macro cells utilising directional antennas to meet the objectives outlined in Section No 4.2.3 (a).
4.2.3 (e)	the objective of minimising power whilst meeting service objectives	The transmit power settings at this facility will be set to accomplish the desired coverage, capacity and call quality within the areas 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)	whether the costs of achieving this objective are reasonable	Optus has under taken preliminary costing of this facility and are of the opinion these costs are reasonable.

4.2.5	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)	An EME assessment has been completed in accordance with the ARPANSA and is held within the RFNSA.