



27 November 2020

Andrew Trosic
Director of Development Services
Shire of Serpentine Jarrahdale
6 Paterson Street
MUNDIJONG WA 6123

Via email: atrosic@sjshire.wa.gov.au

Dear Andrew,

**Re: Response to Questions from Ordinary Council Meeting on 6 November 2020
Development Application Reference PA20/585
The construction of a telecommunications facility and associated infrastructure
928 Orton Road, Oldbury WA 6121**

Following on from the Ordinary Council Meeting on Monday 16th November 2020, we wish to respond to the two issues raised by Council at this meeting.

- 1. Additional boosting equipment being added to existing telecommunications infrastructure in the nearby locality, in order to expand its coverage; and/or*
- 2. Additional transmission equipment being added to the existing infrastructure in the nearby locality, in order to expand its coverage.*

All carriers must work within their spectrum licence as defined by Section 66 of the Radiocommunications Act (Refer to attached ACMA document).

Core conditions imposed under section 66 of the Radiocommunications Act define the spectrum space within the license and the *maximum permitted level* of radio emissions. These Licence Conditions are included in all spectrum licences.



The ACMA is the governing body of these licences and may suspend or cancel a spectrum license if it is satisfied that a licensee or an authorised third party has either;

- breached a licence condition or the Radiocommunications Act;
- has operated a radiocommunications device in the course of contravening such a law.

In simple terms all Mobile Carriers design their networks to comply with the current legislation, as defined in the spectrum Licence Conditions. Amplifying or boosting of technology beyond the maximum absolute power level, as defined in the Licence Conditions on any site will be in direct contravention of Section 66 of the Radiocommunications Act. As such the ACMA may suspend or cancel a spectrum licence if the licensee is in breach of its Licence Conditions the Radiocommunications Act or any Commonwealth, State or Territory law.

Alongside the existing legislation in place governing power limits from a mobile phone base station, there are a number of technical reasons that prohibit boosting power from sites.

All Mobile Carrier networks work on duplex (two-way) communications, which is solely defined by the End User (EU). Typically, the End User would be using a phone (mobile device) powered by a battery with a finite level of power. As the phone (mobile device) does not have an infinite power source it must be within reasonable proximity to the Base Station to establish two-way communication. Simply put the phone needs to be able to tell the Base Station what it wants, do I wish to stream a video or do I simply wish to make a voice call. As such mobile networks are not defined by the power emitted from a Base Station, but rather the power emitted by the phone and its ability to establish that two-way communication.

Further adjustment of the transmit power of a mobile device occurs so that the mobile device is not transmitting at full power allowing the licensees to strike a balance between the maximum radiated power of a device and its out-of-band performance (interference). This limits the mobile devices ability to interfere with surrounding devices, degrading network performance and the ability for other devices to connect to the network.

Spectrum licensees are responsible for managing interference that arises between devices operated under their licence and other co-sited devices. In most cases, this is expressed as a maximum horizontally radiated power limit that applies to all transmitters, regardless of where they are located, within a spectrum licence area.



Adding boosting equipment to a site aside from being illegal will cause interference to the existing Telstra, Optus and Vodafone networks within the area if added to nearby sites. The subject site at Orton Road has been specifically selected in order to provide the required Telstra coverage to the area that will abide by spectrum licensing rules but also to ensure there is no interference to any surrounding telecommunications sites, that can impact coverage.

Coverage plots and need for the facility at 928 Orton Road.

Attached are a set of indicative coverage maps that show the following;

- Existing Telstra base station in-building coverage in the area;
- Coverage provided with the proposed facility 928 Orton Road, Oldbury.
- Coverage provided if Telstra equipment is co-located upon the NBN facility at 400 Kargotich Road, Oakford. This NBN site is 2.4km from our proposed site.

The coverage maps clearly indicate that there is a significant area (coverage hole) that can only be adequately covered with the proposed facility at 928 Orton Road.

Any queries please contact myself at clinton.northey@visionstream.com.au or 0439 180 205.

Regards

Clinton Northey
Senior Town Planner | Visionstream

Attachments:

- ACMA Know Your Obligations
- Byford West Coverage Plots

BYFORD WEST

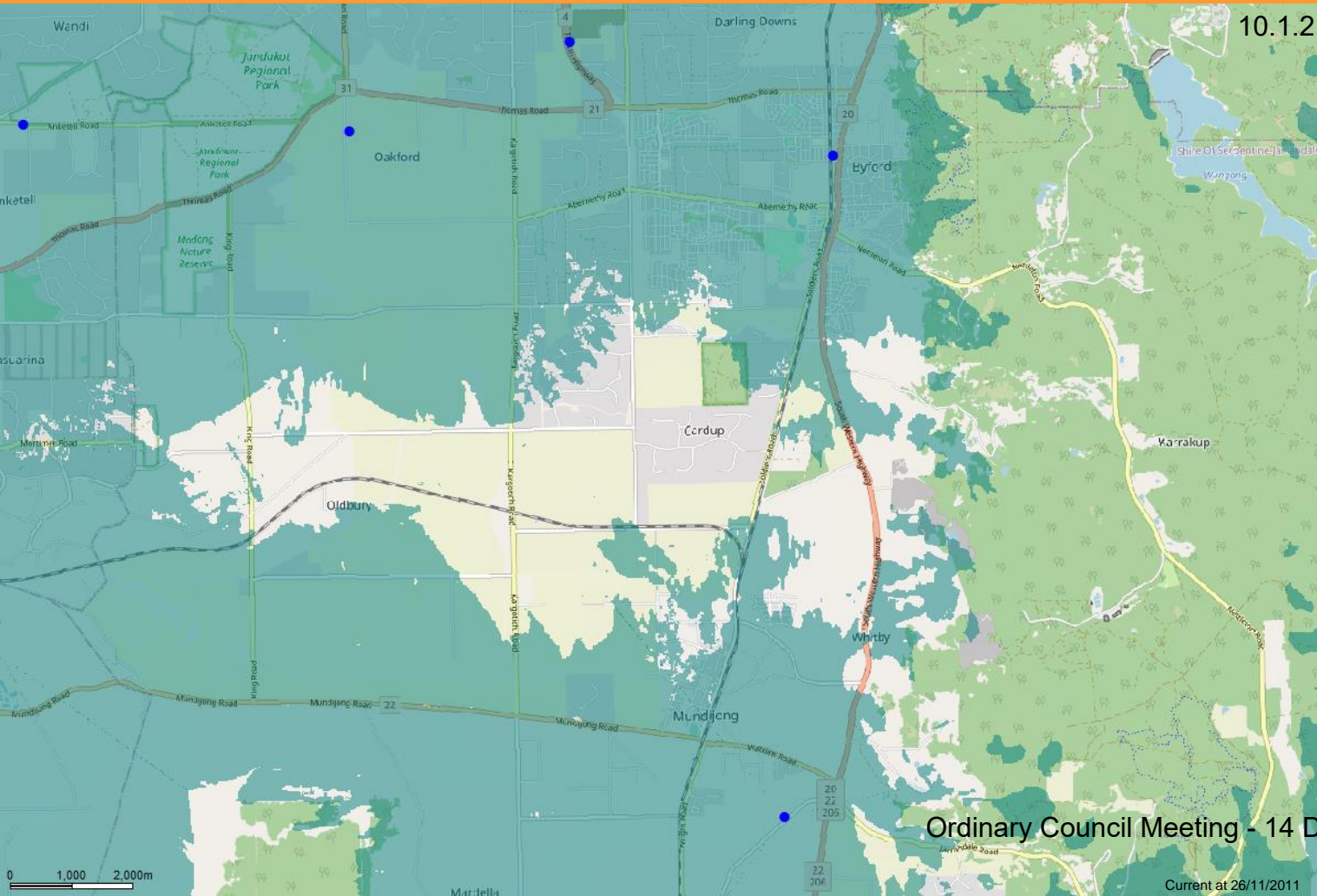
Indicative coverage prediction



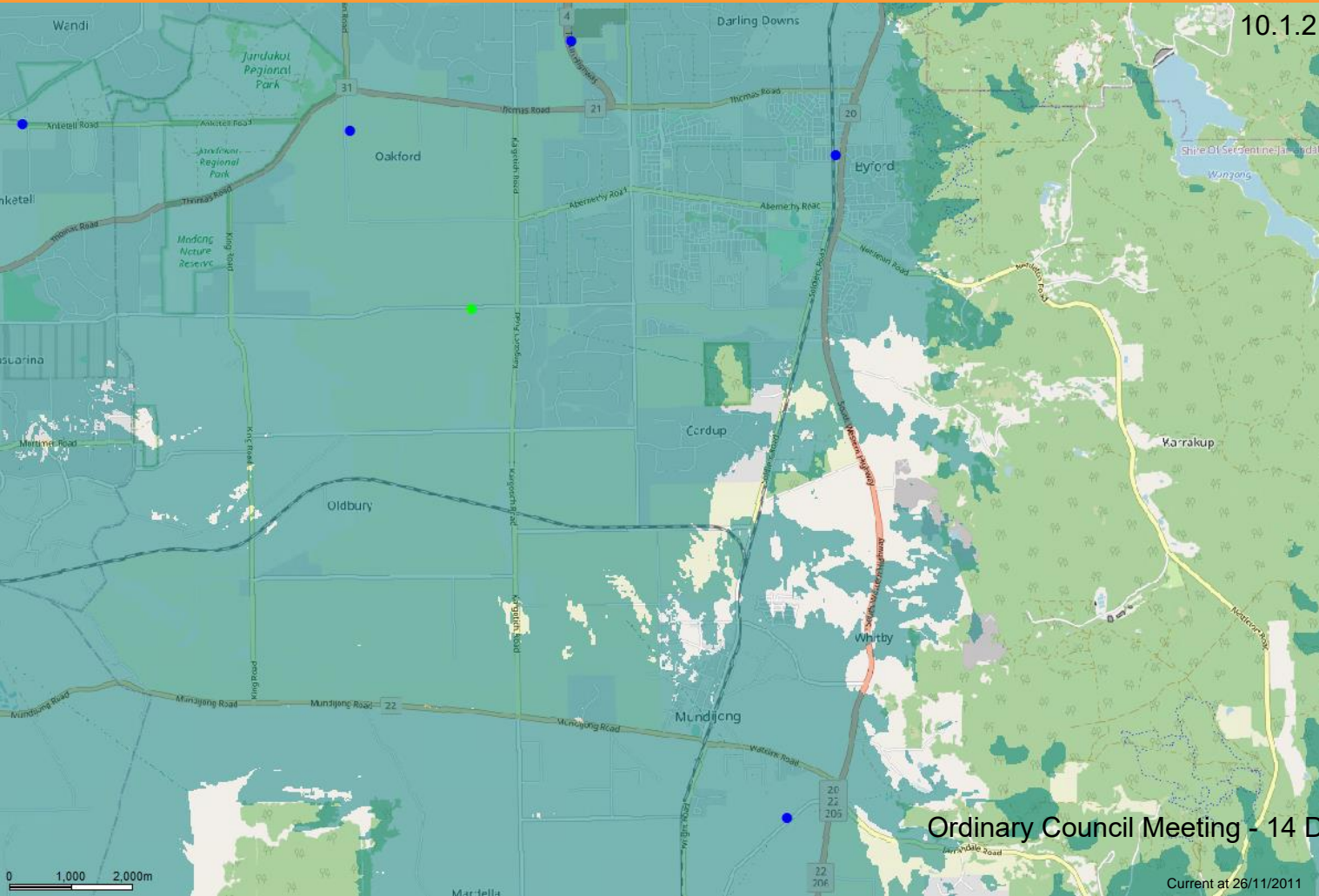
Disclaimer

The Telstra mobile coverage maps displayed have been created using tools that predict the likely areas of outdoor coverage. We have not individually tested every particular location within the identified outdoor coverage areas for coverage. This means that while the footprint of outdoor coverage outlined on the maps is generally accurate, there may be some areas described as being within the outdoor coverage area shown where your device will not work. This is a common characteristic of wireless systems. For example, actual outdoor coverage could be degraded or not exist in specific locations due to certain geographic features or as a result of the device used. Geographic features that may reduce or block outdoor coverage could include formations, such as hills and mountains or even trees. Any future coverage shown is indicative only and subject to change. Any offshore coverage shown is only indicative of where a device may operate. Factors beyond Telstra's control such as the weather, tides, sea conditions and your antenna installation (type and height of antenna above sea level) can significantly influence the actual user experience of coverage, data speed and performance. Public mobile networks must not be relied upon as a primary method of emergency communication at sea.

The Telstra Mobile Network offers 4GX in all major and regional cities and in over 1600 towns and communities around Australia. In other coverage areas, you'll automatically switch to our fastest available 4G or 3G service. Data speeds experienced on the Telstra Mobile Network may be affected by demand on the network, the type and configuration of customer equipment or device used, the signal strength at the location the device is used, the performance of external networks (for example, sub-sea cables) and content servers, and other factors such as the type of application being used.



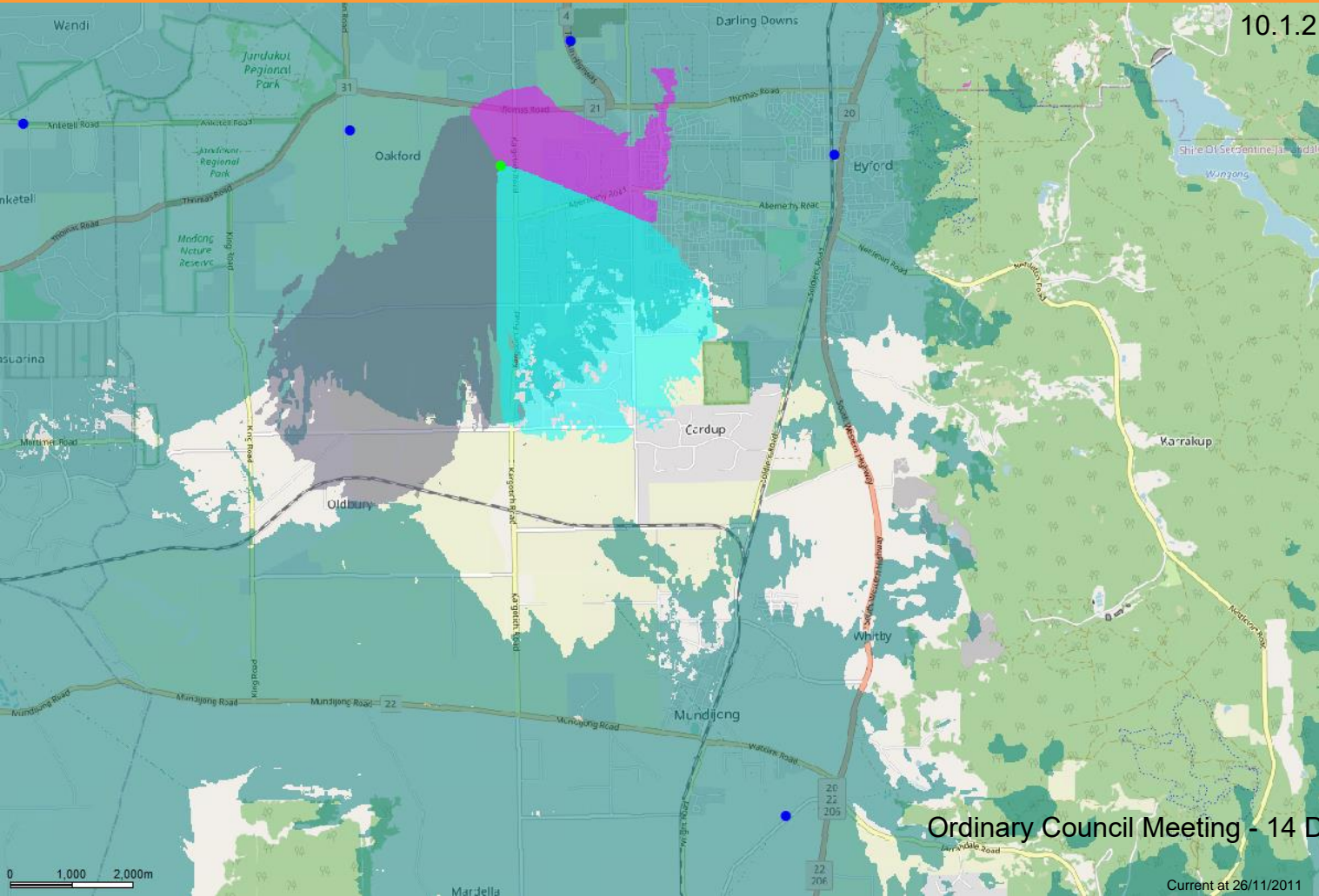
- Existing Telstra Mobile Base stations in the area
- Existing In-Building Coverage



Proposed Mobile Base station at 928 Orton Road

Existing Telstra Mobile Base stations in the area

Existing In-Building Coverage



- Proposed Mobile Base station at NBN tower in the north
- Existing Telstra Mobile Base stations in the area
- Existing In-Building Coverage