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24th October 2020

Re: Report into the potential for interference with nearby existing telecommunications mast infrastructure arising from the proposed development of 482 apartments along with ancillary residential amenities, and provision of a childcare facility, gym, and local shop at Golf Lane, Carrickmines, Dublin 18

1 Introduction:

Bowbeck DAC intends to apply to An Bord Pleanála's strategic housing development division for planning permission to construct a residential apartment complex comprising 482 apartments on its site off Golf Lane, Carrickmines, Dublin 18. The proposal includes several tall elements including a landmark tower with a maximum height of 22 storeys.

This report addresses the requirement for the developer to conduct an assessment of the impact of the proposed development on 'the retention of important telecommunication channels, such as microwave links' as set out under Section 3.2 Development Management Criteria of the Urban Development and Building Heights Guidelines for Planning Authorities Consultation Draft issued in August 2018.

Acting on behalf of John Spain & Associates we provided plans and elevations of the proposed development to Three, Vodafone and eir to enable them to identify potential impacts on their respective networks; their responses are set out under Section 2 below.

This report also independently assesses the potential for impact on operators' local microwave link paths on account of the proposed residential development. This is done by examining the position of all existing masts in the area relative to the proposed development. The report then goes on to describe the specific remedies deployed where operators' networks are impacted by new buildings or other tall infrastructure.

2 Operator Assessment of Impact of Proposed SHD on Three's Golf Lane Site

As set out above, details of the proposed development has been provided to Three, Vodafone and Eir and their responses are set out below.

Operator	Response to development proposal
Three	<i>I have reviewed the proposed development and the nearest MW link 3Ireland have is 75m south (pink line in screenshot below) – <u>the development will not impact this link.</u> We have no other planned MW links which could potentially be affected.</i>

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Vodafone	<i>It is highly likely that the development will block one of our links between DN291 Carrikmines Great and DN294 Mountainview. <u>The good news though, is we have an alternative route we can use to Shankill Exch DNSKL from DN291, making the reroute easy to do.</u></i>
Eir	<i>We have a link on the same path as Three between DN_1266 (53°14'55.04"N 6°10'22.80"W) and DN_4395 (53°15'56.67"N 6°11'40.94"W), if the development was to go ahead as per plans the link would be blocked. The link is around 101meters ASL as the link passes over the development.</i>

Three has confirmed that the proposed development has no impact on existing or planned microwave links. Vodafone has confirmed that one link shall be impacted but that a re-route is easy to complete. Eir has confirmed one blocked link – it does not state that a re-route is easy to achieve, but as is the case with Vodafone’s impacted link, a re-route may be achieved where another mast site is used to bypass the blockage. In practice, the operator triangulates the microwave link path around the obstacle; such interventions are commonplace in a city setting and this is the default remedy deployed.

3 Telecommunications Masts in the immediate area of the proposed development

There are six telecommunications masts situated in relative proximity to the proposed development and of those Three’s 18m mast at Golf Lane, Carrickmines, Dublin 18 (E721925 N723582 ITM Co-ordinates) has greatest potential to be impacted by the proposed development. This is on account of the large numbers of microwave dishes carried by the mast in addition to its function as a host mast for Vodafone (Site Ref: DN291) and Eir (Site Ref: DN1266).

This mast is identified by the red circle in Figure 1 below and is situated circa 450m south east of the Bowbeck DAC’s application site. Three’s mast serves as a coverage site in the first instance; its secondary function is to link to nearby telecommunications sites via microwave dish. Vodafone and eir also transmit from the structure.

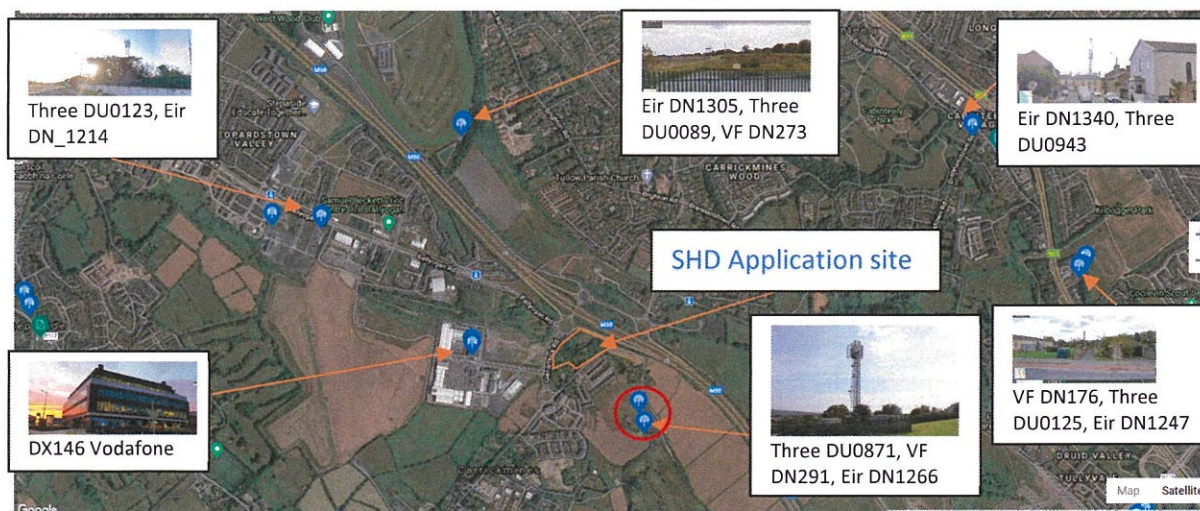


Figure 1: Proximate masts to proposed SHD at Golf Lane. Source: Photos Source: Google Maps.

4 Remedy where new buildings interrupt Microwave Link Paths

For microwave link connectivity to occur a direct and unbroken line of sight is required between masts. Microwave link paths between masts are regularly broken by intervening tree growth, new buildings or where adverse weather conditions are so inclement as to interrupt the link.

Within a city or edge of city setting operators will come to expect situations where microwave link paths are broken. Network operators have in place two interventions to overcome link blockages or disruptions. In the first instance, operators may redesign or triangulate their microwave link network paths around the obstacle and secondly operators may install fibre between towers in place of link dishes.

In the above case Vodafone has confirmed it shall re-route its dishes around the proposed apartment complex and similarly eir shall take this approach as a means of maintaining connectivity between mast structures.

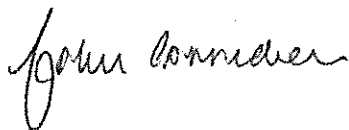
5 Conclusion

The proposed applicant has provided full details of its proposed development to Vodafone, Three and eir. There shall be a minor impact for both Vodafone and eir which consists of one blocked link per operator. Three's network shall not be impacted.

Our communication with the operators has enabled them to consider microwave link reengineering options at this very early stage mindful of course that the proposed application is in its infancy.

In conclusion, the proposed residential development at Golf Lane, the subject of this assessment, shall not cause meaningful disruption to microwave link connectivity between nearby telecommunications base stations. Where disruption occurs, its effects shall be minor and may be rectified at negligible cost.

Yours sincerely

A handwritten signature in cursive script, appearing to read 'John Corridan'.

John Corridan MRICS MSCSI
Charterhouse Infrastructure Consultants