APPENDIX 3

TECHNICAL JUSTIFICATION

Introduction

The lattice structure that has been on site (Site Ref DN_1242) since the late 1990s has provided an important point of co-location where a number of mobile and broadband operators have been able to use as base station in order to provide telecommunication services into this part of Clondalkin.

There are currently 2 operators located on site, Eir and Vodafone. Both operators are aware of the planning history pertaining to the site, particularly the previous applications that have been limited to temporary permissions, and also the most recent refusal of permission for the continued use of the site. Both operators are anxious to continue to have a presence at this site given the difficulties in securing alternative location in the area from which an appropriate level of mobile and broadband services can be secured to their customers including businesses, residents and visitors to Clondalkin.

Both Eir and Vodafone have issued statements in support of the current application. These along with supporting coverage maps are detailed below as follows:

Eir

Eir have stated that 'as part of Eir Ltd licensing requirements and the continuing rollout of their 3G and 4G networks they require a site in Clondalkin. '

Eir add that 'Without a site in this part of Clondalkin, parts of this area will suffer a severe degradation in mobile voice and data services which leads to poor mobile coverage and as a result there would be a large number of dropped / blocked calls and poor data sessions which will also possibly limit people's ability to work from home on the Eir network in this area if we are unable to maintain and upgrade Eir's coverage in the area.'

Areas which will be degraded by the loss of this site will include but not limited to a large stretch of the 9th Lock Road, The Mill Centre , Old Nangor Road , Thornfield Square ,Castle Drive ,Castle Grove and Clondalkin Main Street.

In support Eir have provided the following three coverage plots showing different indoor coverage levels from the site. Note there is no difference between the 'red and the 'blue ' colouring in terms of coverage levels, in so far as both colours represent good coverage levels. Image 1 first from DN_1242: Existing Coverage, shows the good level of indoor coverage currently provided from the lattice; Image 2 The second coverage map shows area of Lost Coverage i.e. isolating the blue area of good coverage that would be lost if the site were to be removed. Image 3 The third coverage map shows the Proposed Coverage is the mast were lost (i.e. more grey areas, a 'hole' in coverage with blue areas remaining being remaining areas of good coverage gained from other sites). The last coverage map clearly shows the amount of indoor coverage lost were the mast to be decommissioned.

Vodafone

Vodafone have indicated that id requested they' will move from the present 25m lattice tower to the new proposed 20m monopole' at the Substation adding that 'if we had to exit this site, we would lose mobile coverage in the Clondalkin area as we have no available site

replacement options.' Vodafone also state that they 'wish to retain a presence on this site even at a reduced height. At a lower level we will be able to provide at least a contiguous service albeit at a lower power receive level'.

In order to emphasise the above Vodaphone have supplied three coverage plots as follows:

The first plot Image 4 shows the present 3g coverage in the Clondalkin area, while the second plot Image 5 shows 3g coverage after the loss of the tower at the Clondalkin 38kV station.

The colour coding red is good coverage and yellow is a low-level coverage. When Clondalkin is removed the yellow level becomes the dominant level in the area.

With the reduced height option, the third plot Image 6, the coverage level drops but not to the extent which occurs with the full removal of the site.

Conclusions

The radio frequency coverage plotting showing indoor coverage levels clearly shows the importance of the Site for both the current operators. In particular the coverage maps show the extent to which the site provides levels of good coverage to the important part of Clondalkin, and the 'hole' in coverage levels if the Site were lost.

In addition, the Site also accommodates a number of radio dishes which facilitate point to point line of site for radio dishes to function by enabling the towers to interconnect with other base stations. This proposed reduction in height to 20m is a minimum for these point to point connections to be made. The importance of securing point to point connections is emphasised by the fact that the dishes proposed would be sited above any antennae, even though having the antennae at a lower height would result in a poorer area of coverage.

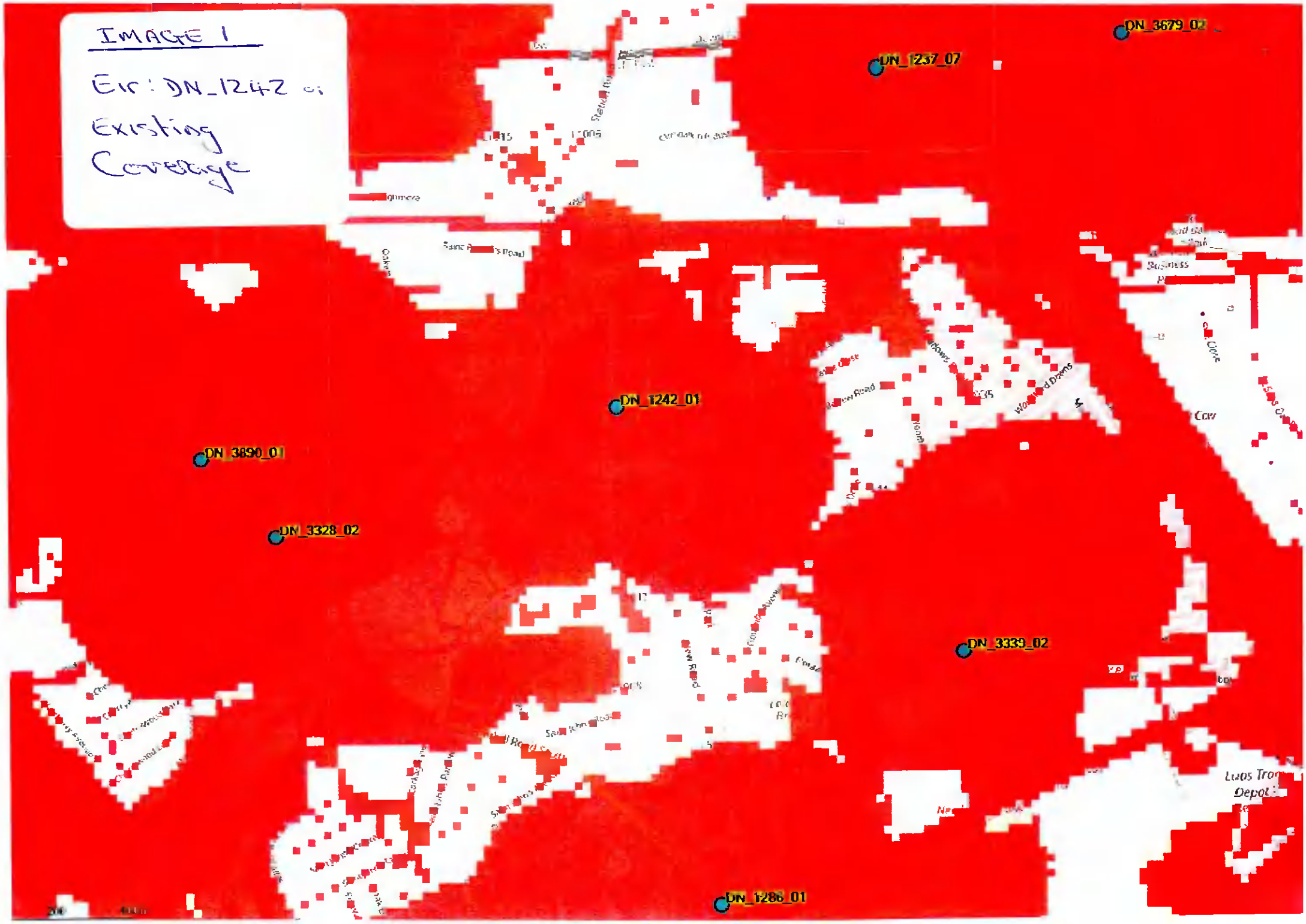


IMAGE 1
Eir : DN_1242 o:
Existing
Coverage
DN_3679_02
DN_1237_07
DN_1242_01
DN_3890_01
DN_3328_02
DN_3339_02
DN_1286_01

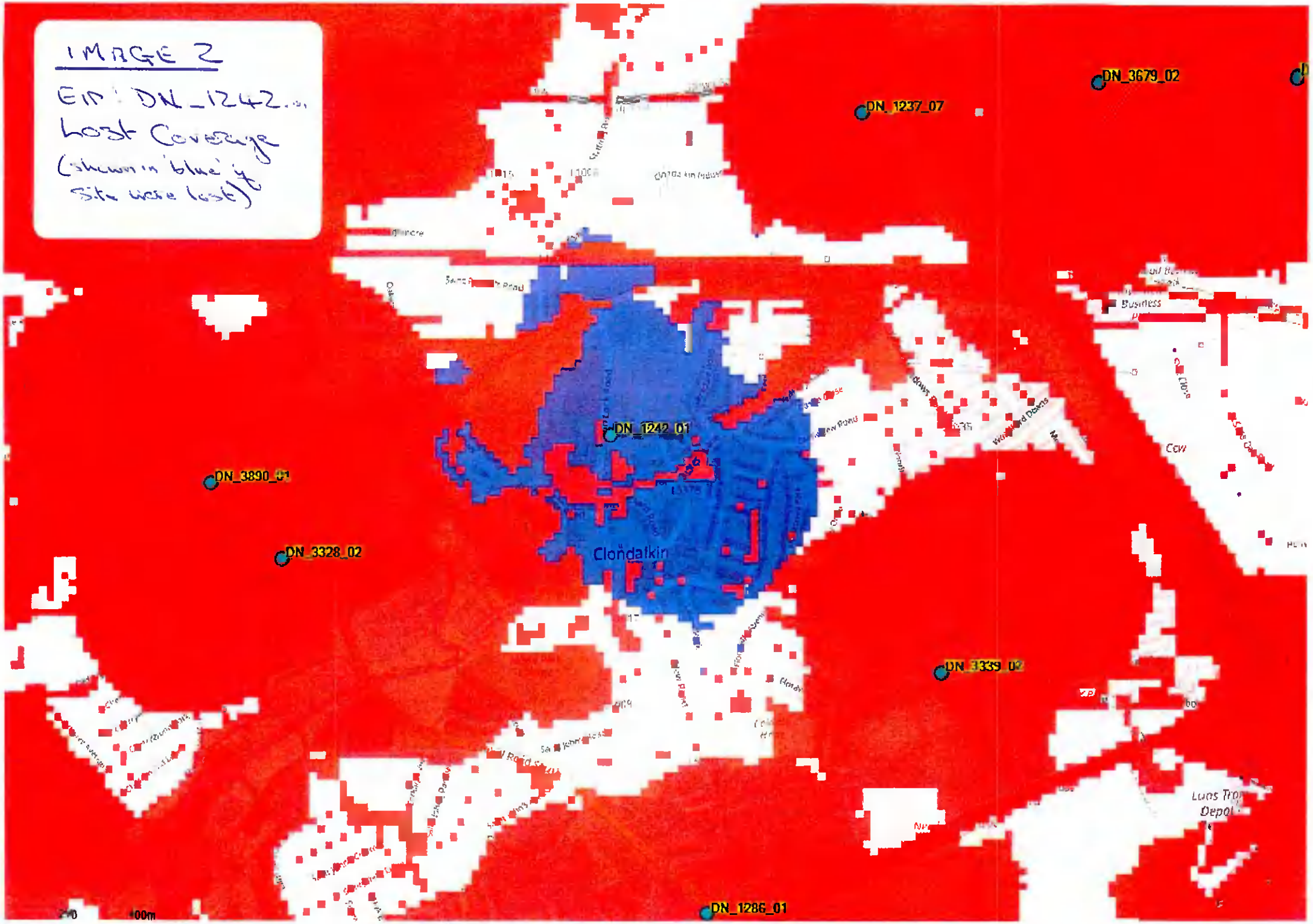


IMAGE 2
EIR: DN_1242...
Lost Coverage
(shown in blue)
Site used (lost)
DN_3679_02
DN_1237_07
DN_1242_01
DN_3890_01
DN_3328_02
Clondalkin
DN_3339_02
DN_1286_01
Business
Luas Tra
Depot
200
400m

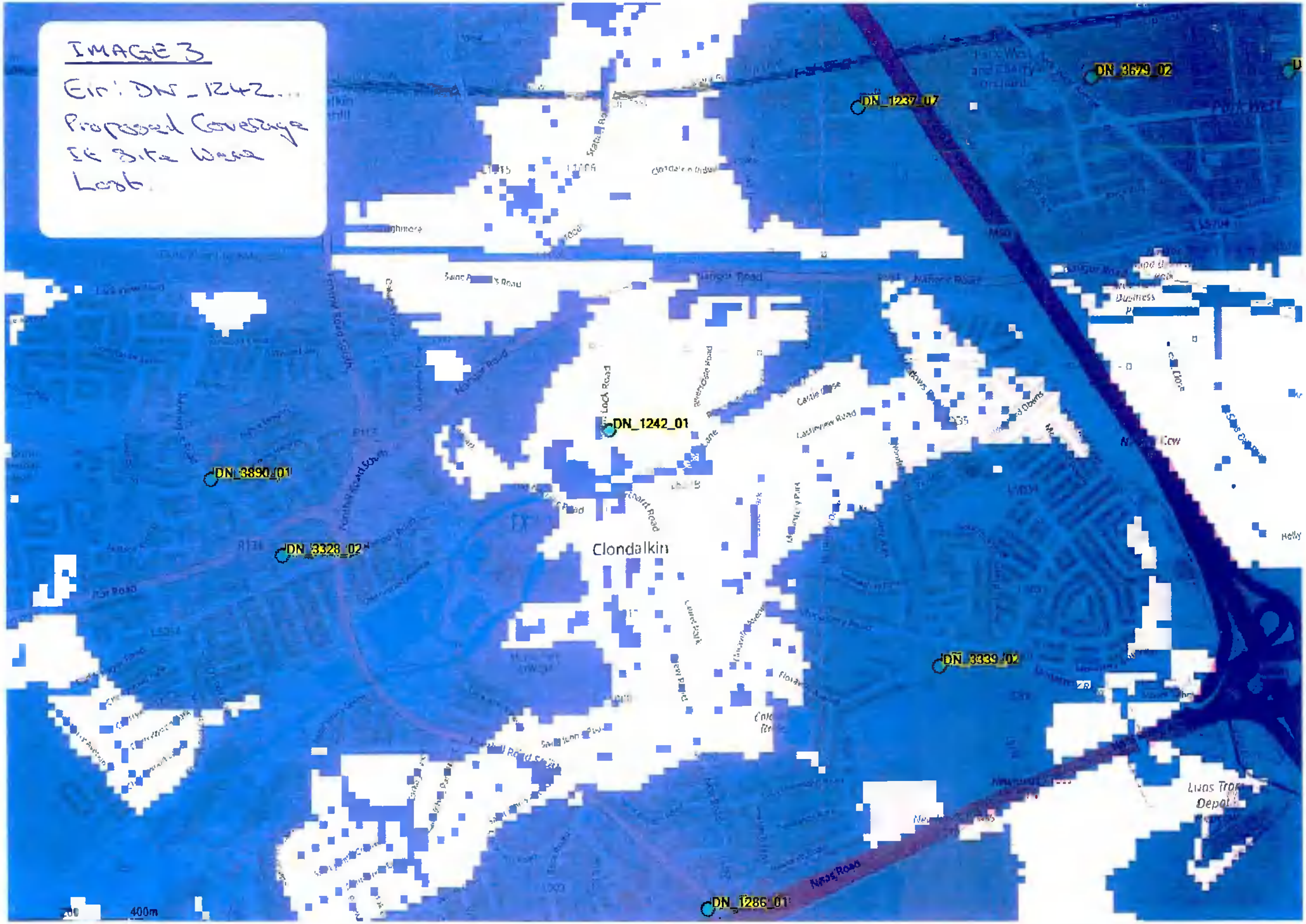


IMAGE 3
Eir: DN_1242...
Proposed Coverage
If Site Were
Lost.
DN_3679_02
DN_1237_07
DN_1242_01
DN_3890_01
DN_3328_02
DN_3339_02
DN_1286_01
Clondalkin
Lock Road
Naas Road
Nangor Road
Fonthill Road South
Castle Close
Laurelview Road
Orchard Road
New Road
Court Park
Business
M50
Luas Tram
Depot
400m

IMAGE 4

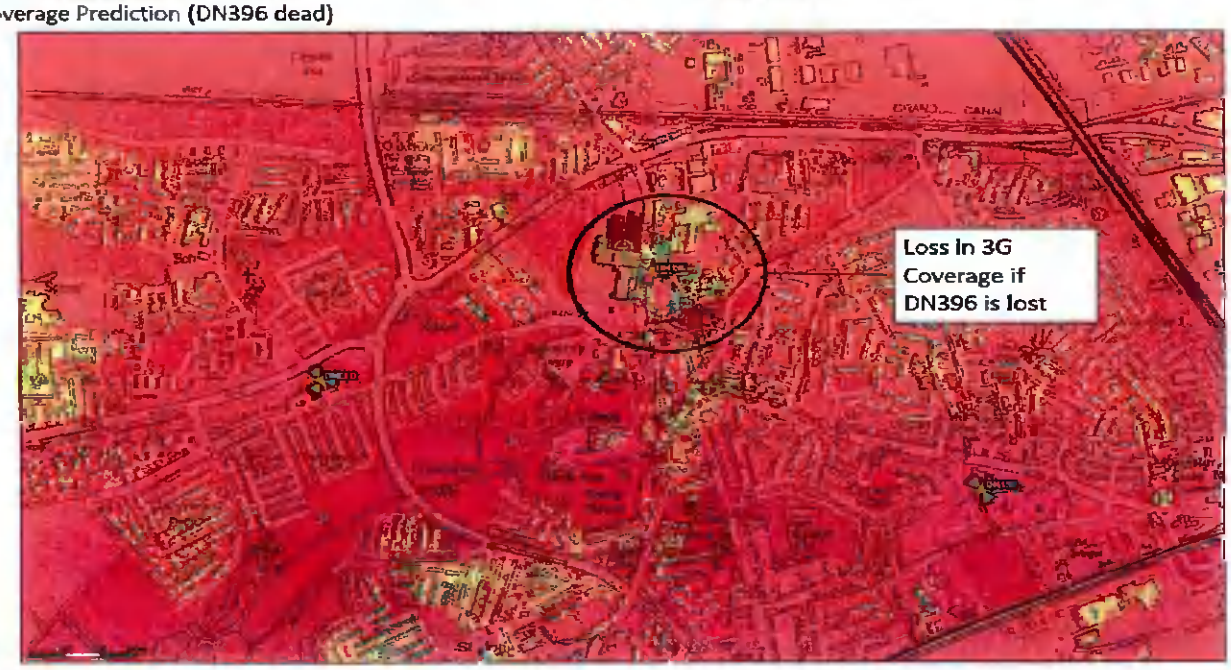
Vodafone : As Is

3G Coverage Prediction (As Is)

C1 General

IMAGE 5 Vodafone : If DN396 is lost

3G Coverage Prediction (DN396 dead)



C1 General

IMAGE 6

Vodafone Predicted Coverage at 19m

3G Coverage Prediction (DN396 height reduced to 19m)