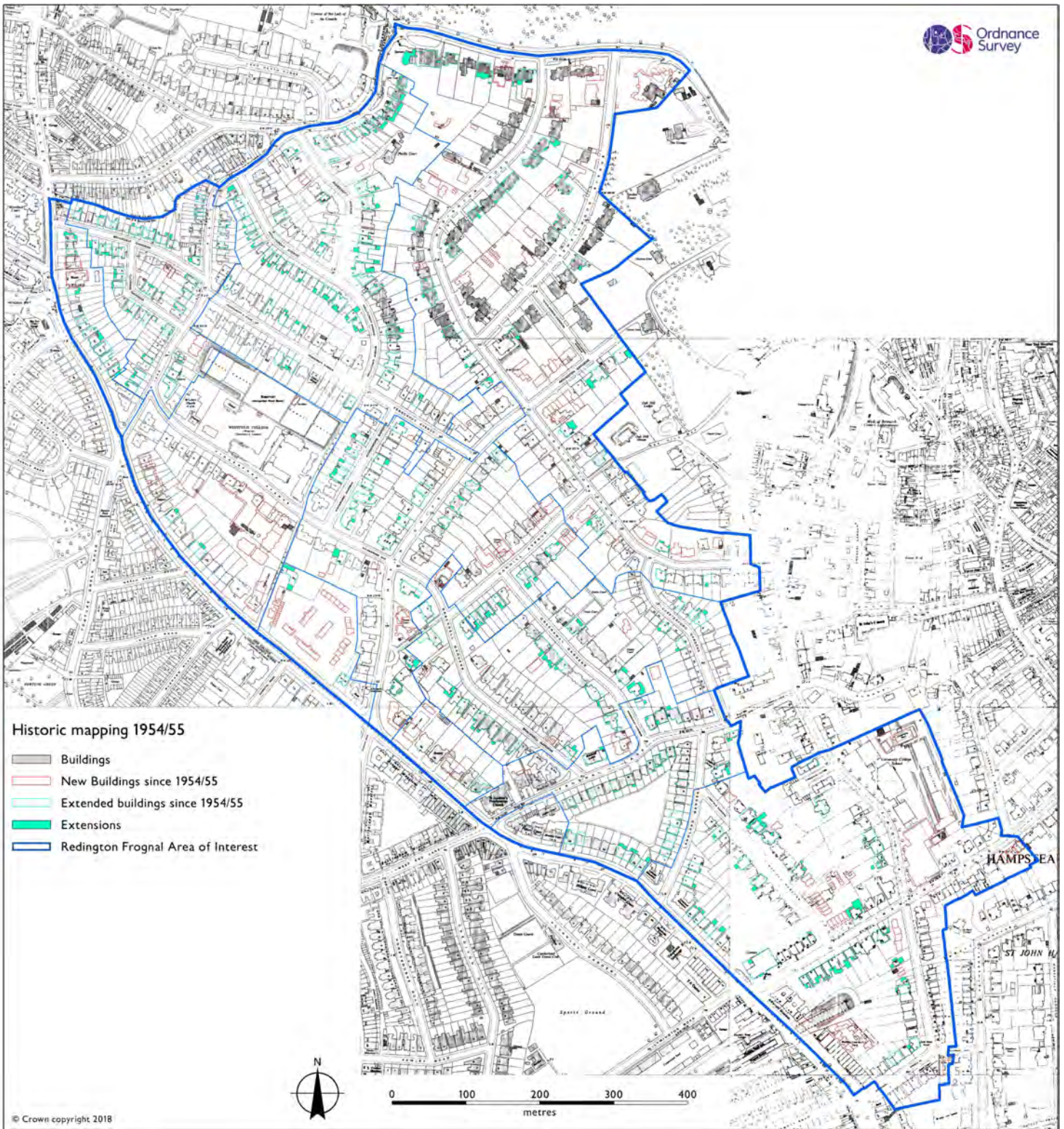


### SD 5 REDINGTON FROGNAL GARDEN LOSS 1954/55 TO 2018 FROM ORDNANCE SURVEY

Map of Redington Frogнал Area showing original buildings, extensions added since 1954/55 and new buildings constructed since 1954/55



Ordnance Survey specialists have digitised maps of the Redington Froggnal Neighbourhood Plan area for 2001 and 2018 and undertaken a visual comparison with maps of 1954. From this analysis it has been demonstrated that:

- the area of the footprint of buildings and extensions (excluding those under PD) has increased from 141,265 sq. metres in 1954-55 to 186,982 sq. metres in 2018 – an increase of 32%;
- the area of road, pavements and other grew at a compound annual rate of 0.2% between 2001 and 2018. Data are not available for 1954-55 but, if the compound average growth rate is applied over the 63-year period, it can be estimated that the area of road, pavements and other has expanded by 13% from 179,371 sq. metres to 203,431 sq. metres;
- the area of “garden” has consequently reduced by from 481,664 sq. metres to 411,886 sq. metres, a decrease of -14% (as set out in Evidence Base document SD 5 Garden Loss). This reduction, however, does not allow for losses due to hard surfaced off-street parking, patios, decking, swimming pools, changing rooms, tennis courts, garden buildings and outbuildings, including those constructed under permitted development rights. This is a serious and unsustainable rate of loss at a time of growing surface water flood risk.

**Changes in Built and Unbuilt Areas in Redington Froggnal Neighbourhood Plan Area, 1954-55 Compared with 2018**

Area (square metres)

|                               | 1954-55 | 2001    | 2018    | % change<br>2018 ÷<br>1954-55 |
|-------------------------------|---------|---------|---------|-------------------------------|
| Buildings                     | 141,265 | 175,729 | 186,982 | 32%                           |
| Gardens                       | 481,664 | 429,960 | 411,886 | -14%                          |
| Roads, pavements and other 1) | 179,371 | 196,611 | 203,432 | 13%                           |
| Total Plan Area               | 802,300 | 802,300 | 802,300 | 0%                            |

Note: 1) 1954-55 estimated from 2001 to 2018 annual growth rate

Source: RedFrog based on Ordnance Survey

**Email exchanges between Ordnance Survey and Redington Froggnal Neighbourhood Forum, August 2018 to February 2019**

**From:** [REDACTED] [Danny.Hyam@os.uk](mailto:Danny.Hyam@os.uk)>

**Subject:** RE: Redington Froggnal Neighbourhood Plan Area

**Date:** 14 August 2018 at 18:10:36 BST

**To:** [REDACTED] [Miranda.Sharp@os.uk](mailto:Miranda.Sharp@os.uk)>,

I've been looking at this for you today and I have some numbers and can create some images but I want to run them past you first to make sure they are what you would like.

I've digitised the area of interest and have taken data from 2018 and 2001, which is the earliest digital data we have in the right format. I have also managed to get historical maps from 1954, which are only images and have done a visual comparison.

So, what can be output:

- Area of buildings in 2001 and 2018, as numbers and as % of the area of Interest (AOI)
- The same again for gardens. [I'm not sure how much you know about Ordnance Survey data but we have a classification for 'Garden', we do not say what it is made of, just that it is a garden. We also do not capture details in gardens such as swimming pools, paving, grass, driveways, etc as these can change on an almost annual basis. As a result, we can do numbers for area of garden, but not for what is in the garden.]
- The area of buildings that have been built since 1954, and as a %
- It is a lot harder to look at buildings that have been extended. I have identified them, but it is not easy to tell the area that they have increased by as the 1954 map is just a picture, not queryable data.
- The same goes for gardens as unless someone digitises the old 1954 map, we do not have data to query.
- I can produce images of the area for 2018 and 2001.
- I can also produce an image of Aerial photography for the area
- It is possible, with a little work, to produce an image of the 1954 map of the area as well

Is this the sort of thing you were after?

If you could let me know I can then get on with these and send them over.

Thanks

[REDACTED]

**Danny Hyam**

Operations Manager, Consultancy & Technical Services



Adanac Drive, Southampton, United Kingdom, SO16 0AS

T: +44 (0)2380 055551 | M: +44 (0)7714 431321

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**From:** [REDACTED] [Danny.Hyam@os.uk](mailto:Danny.Hyam@os.uk)>

**Subject: RE: Redington Frogna! Neighbourhood Plan Area**

**Date:** 11 October 2018 at 09:48:39 BST

**To:** [REDACTED] [allan.mayo@digitalgreenwich.com](mailto:allan.mayo@digitalgreenwich.com)

[REDACTED]

Apologies for the prolonged radio silence, a project landed on my desk just after I sent these over to you that has consumed pretty much all my time until 2 weeks ago.

In response to your comment about 'not being a cartographer, I am not sure what the unlabelled maps are telling us' let me try to explain.

- Each map has a title across the top of the map outlining what is on each one they are as follows:
- 1954\_55.jpg – historic black and white maps from 1954/55 overlaid with the Redington Frogna! Neighbourhood Plan Area and sub areas.

- 1954\_55\_plus.jpg – same historic map as above but with buildings built since then in **red**, buildings that have been extended in **green** outline and the extensions themselves in **green** solid fill
- 2001.jpg – the area as it looked in our data in 2001, buildings are orangey, gardens are yellow, pavements are grey, roads white and grass/green areas are green.
- 2001andHistoric.jpg – the 1954/55 data and 2001 data shown together so the differences between the 2 can be seen
- 2016\_Imagery – aerial photography of the area from 2016, as you have pointed out, there is a lot of tree cover so seeing garden contents is difficult
- 2018.jpg – the area as it looked in our data in 2018, same colours as 2001

If you need them redone with a key/scale/legend/etc please let me know.

With the infra-red imagery, it will show up the vegetation for you, but I am not sure it will show up what is under trees, only make clearer what is happening in the garden areas visible from above.

If there is anything else we can do please ask, in the meantime I hope the King's College work proves useful for you.

Thanks

D

**Danny Hyam**

Operations Manager, Consultancy & Technical Services



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**From:** [allan.mayo@digitalgreenwich.com](mailto:allan.mayo@digitalgreenwich.com)>  
**Sent:** 23 August 2018 22:56  
**To:** [Danny.Hyam@os.uk](mailto:Danny.Hyam@os.uk)>  
**Cc:** [Miranda.Sharp@os.uk](mailto:Miranda.Sharp@os.uk)>  
**Subject:** Re: Redington Frogna! Neighbourhood Plan Area

Thank you for the data and the maps that you sent.

If I am honest, and not being a cartographer, I am not sure what the unlabelled maps are telling us. But if we simply take your statistics as describing what is happening then the reduction in “garden space”, between 1954-2018, resulting from extensions and new build is just under 6%, prima facie of little concern, with the obvious caveat that, if these statistics do not include extensions/new build under permitted development rights, then they will be an underestimate - of unknown significance.

However, this brings us back to the core problem of the nature of the garden - the conversion of soft to hard surfaces, in the form of patios and off street parking, which is having such a deleterious effect on

wildlife and rainwater run-off. I attach a couple of photos (“before” and “after”) to illustrate the importance of this issue. Because of this, I understand that the Redington-Frognaal Neighbourhood Forum is commissioning some research, from King’s College and GiGL, that involves using infra-red technology, with a view to trying to recognise the difference between types of surface. This could potentially make a massive contribution to the debate because, whereas your own statistics suggest a reduction in gardens of only 2.3% between 2001-2018, the area of soft surface in 2018 may be only 25% of the total area (to select a hypothetical number) which would put a very different complexion on the argument.

I shall let you know the outcome. In the meantime, enjoy the horrors of development below.

Best wishes,



Before:

After:



On 17 Aug 2018, at 15:48,

[Danny.Hyam@os.uk](mailto:Danny.Hyam@os.uk)

Here are the stats for the different eras of data:

Size of Area of Interest:

- 802,300 sq m<sup>2</sup>/ 0.8 sq km<sup>2</sup>

2001

- Area of Buildings: 175,729 sq m<sup>2</sup>/ 0.17 sq km<sup>2</sup> = 21.9%
- Area of Gardens: 429,960 sq m<sup>2</sup>/ 0.43 sq km<sup>2</sup> = 53.6%

2018

- Area of Buildings: 186,982 sq m<sup>2</sup>/ 0.19 sq km<sup>2</sup> = 23.3%
- Area of Gardens: 411,886 sq m<sup>2</sup>/ 0.41 sq km<sup>2</sup> = 51.3%

New buildings since 1954:

- Area of Buildings: 37,217 sq m<sup>2</sup>/ 0.037 sq km<sup>2</sup> = 4.6%

Extended buildings since 1954:

- Area of Extensions is approximately: 8,500 sq m<sup>2</sup>/ 0.009 sq km<sup>2</sup> = 1.1%

I've uploaded a set of images for you and have placed them in Dropbox

here: <https://www.dropbox.com/sh/v90651wpc87814s/AADNnXxcV2C4wqx8PN2nTpf6a?dl=0>

Regarding digitising the old data, it is possible to edit and doctor the 2001 data make it an approximation of 1954 however it will take quite a lot of effort, so can you see what you can make of the images/stats first?

As for the issue of what the garden is made of, there really is no answer to that from Ordnance Survey data, or really from Aerial Photography, unless there is some that is flown early/late in the season when the trees are bare.

Hope this is useful.

Thanks

D

**Danny Hyam**

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**From:** [REDACTED] [allan.mayo@digitalgreenwich.com](mailto:allan.mayo@digitalgreenwich.com)>  
**Sent:** 15 August 2018 16:56  
**To:** [REDACTED] [Danny.Hyam@os.uk](mailto:Danny.Hyam@os.uk)>  
**Cc:** [REDACTED] [Miranda.Sharp@os.uk](mailto:Miranda.Sharp@os.uk)>  
**Subject:** Re: Redington Frogna! Neighbourhood Plan Area

[REDACTED]

Many thanks for this.

I think you have defined the problem well. The concerns/questions about gardens are multi-layered. At the simplest level, planners need to know how much green space has been taken over by housing over a period but interest in front and back gardens extends to the way the surfaces have changed - from soft to hard - because of the hard run-offs for water which can cause flooding, as well as loss of natural environment as a habitat for wildlife. In dwellings of multiple occupancy, this can be monitored through the planning requirements but single occupancy buildings do not have to notify the Council of such changes and herein lies the problem: there are no reliable benchmarks or means of monitoring, particularly if aerial photography is constrained by mature tree cover/canopies and, as a result, the Councils do not have reliable data on which to make judgements about further garden loss.

But you mentioned that there may be a way of using 1954 as a broad benchmark if the map were to be digitised. The Council could be asked to pay for that as part of developing the evidence based for the Neighbourhood Plan so do you have any idea how much it would cost to have it digitised and what benefits might accrue to so doing? I am also wondering whether the exercise might be worth doing as a means of defining the extent of the challenge which incremental development poses to communities.

Thank you again for taking on this challenge with such enthusiasm.

[REDACTED]



On Tue, 14 Aug 2018 at 18:10, [REDACTED] [Danny.Hyam@os.uk](mailto:Danny.Hyam@os.uk) wrote:

[REDACTED]

I've been looking at this for you today and I have some numbers and can create some images but I want to run them past you first to make sure they are what you would like.

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Thanks

[REDACTED]

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Our values are adventurous, incisive, restless and true.

**From:** [REDACTED]  
**Sent:** 09 August 2018 10:41  
**To:** [REDACTED] [Danny.Hyam@os.uk](mailto:Danny.Hyam@os.uk)  
**Subject:** FW: Redington FrognaI Neighbourhood Plan Area

Thank you for your help in advance

[REDACTED]

**From:** [REDACTED] [allan.mayo@digitalgreenwich.com](mailto:allan.mayo@digitalgreenwich.com)  
**Sent:** 29 July 2018 13:43  
**To:** [REDACTED] [Miranda.Sharp@os.uk](mailto:Miranda.Sharp@os.uk)  
**Subject:** Fwd: Redington FrognaI Neighbourhood Plan Area

[REDACTED]

A range of maps defining the area.

Many thanks for exploring with your expert.

Best wishes,

[REDACTED]

Various maps of the designated Neighbourhood Plan Area, including one which shows the sub areas (or character areas) of the Redington FrognaI Conservation Area

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