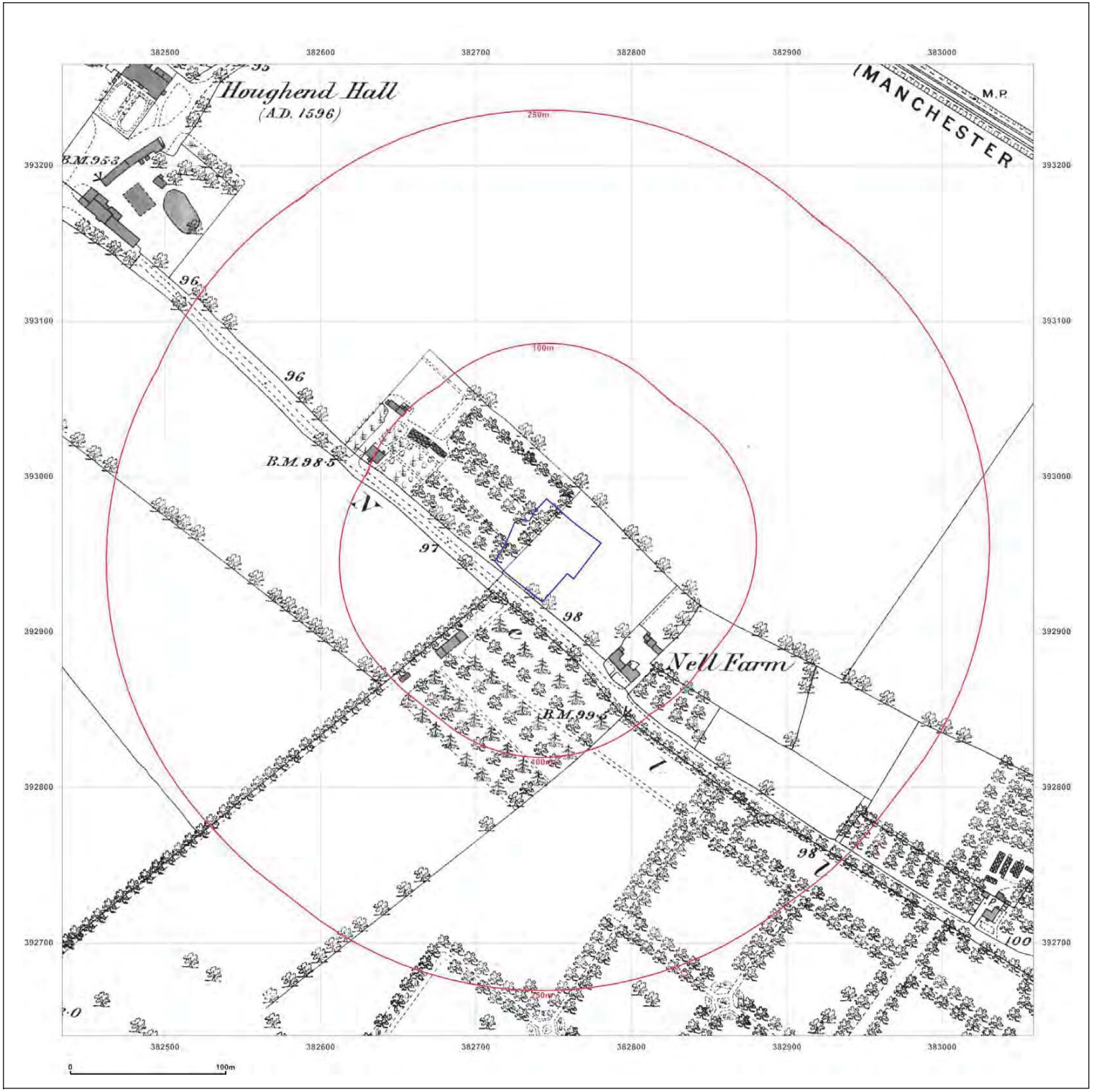


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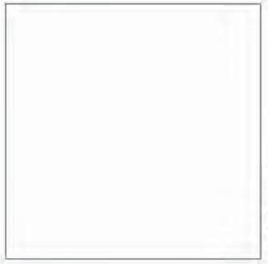
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Surveyed 1881
Revised N/A
Edition 1881
Copyright N/A
Levelled N/A

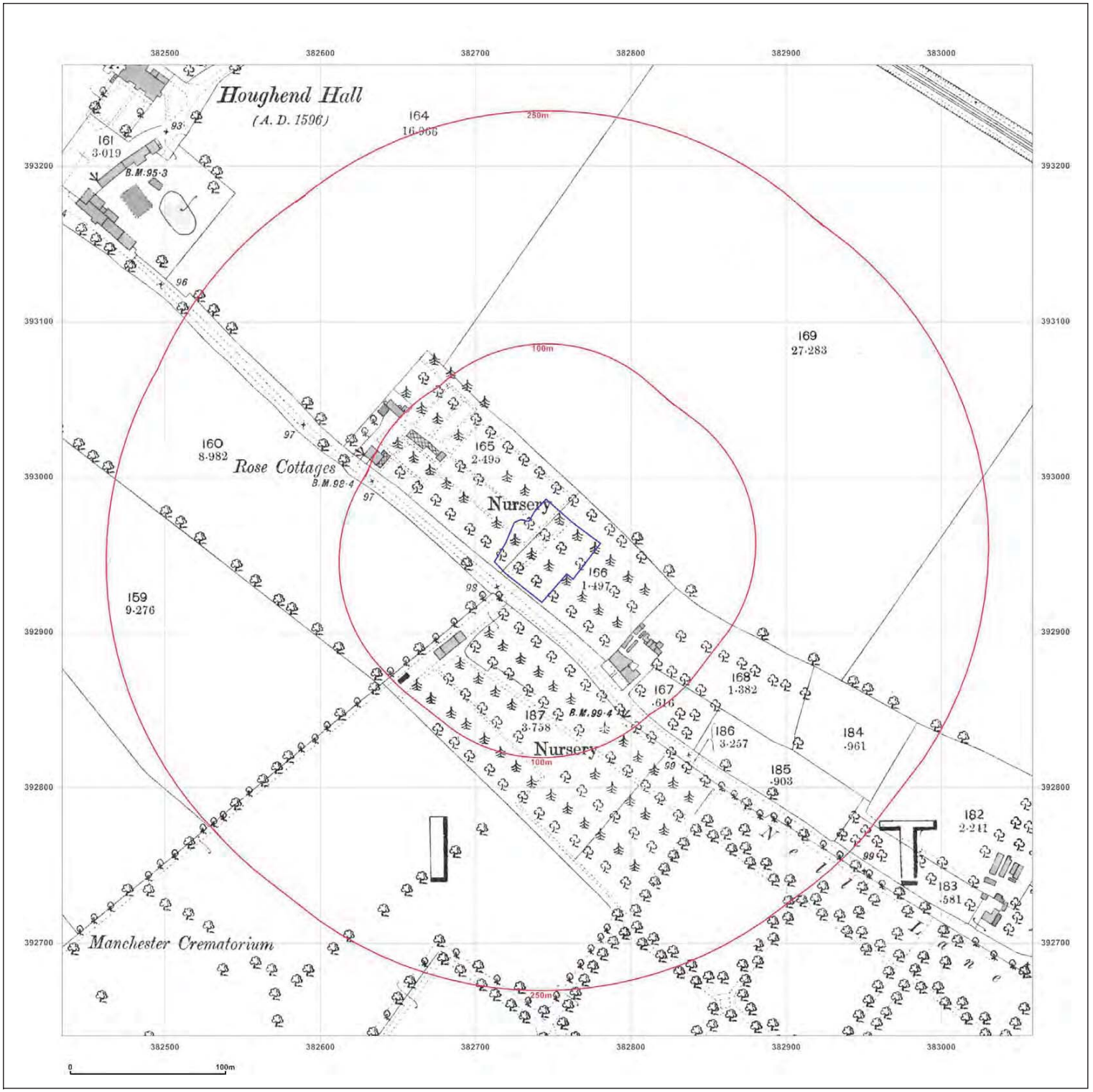
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Client Ref: 7592G_-_Arrowfield_Road
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Grid Ref: 382746, 392953

Map Name: County Series
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Surveyed 1894
Revised N/A
Edition 1894
Copyright N/A
Levelled N/A

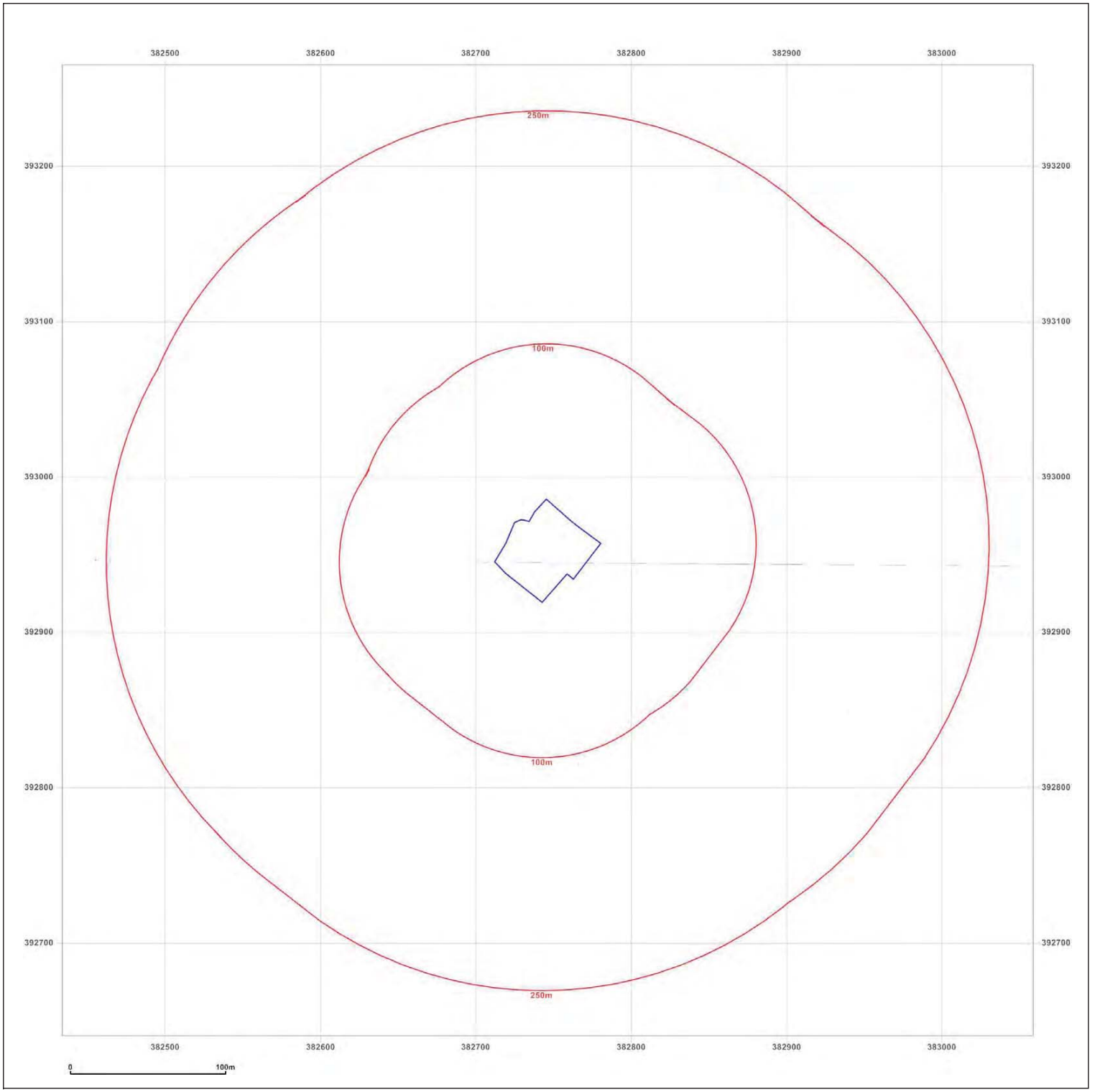
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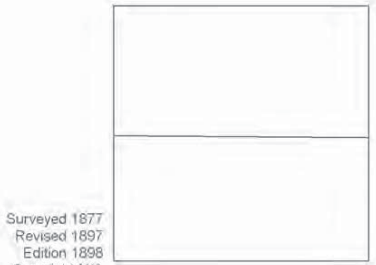
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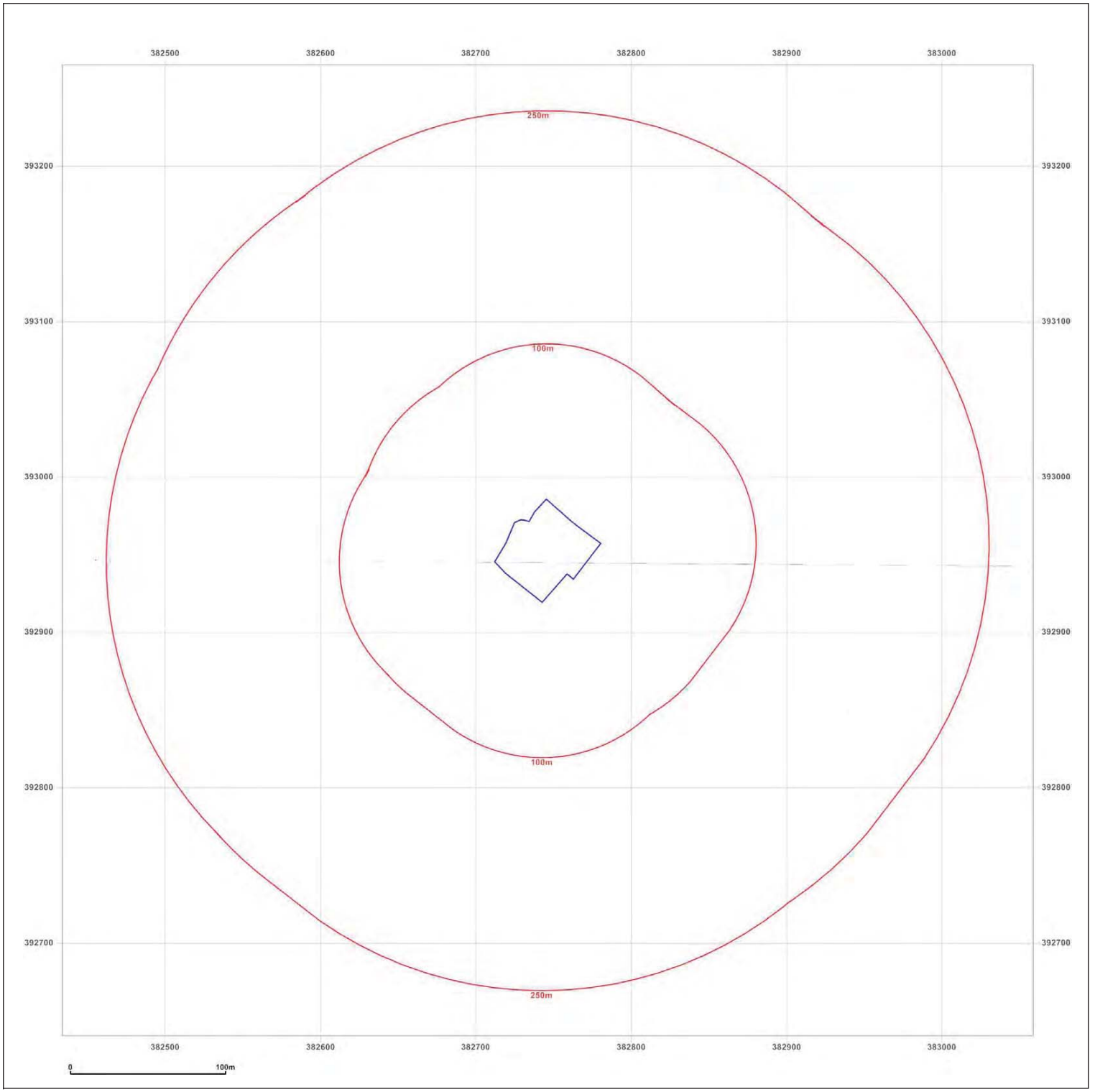
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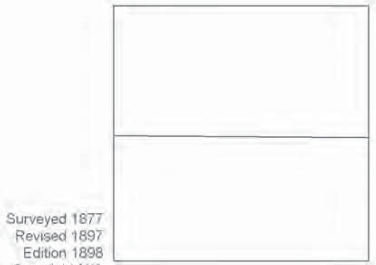
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Printed at: 1:2,500

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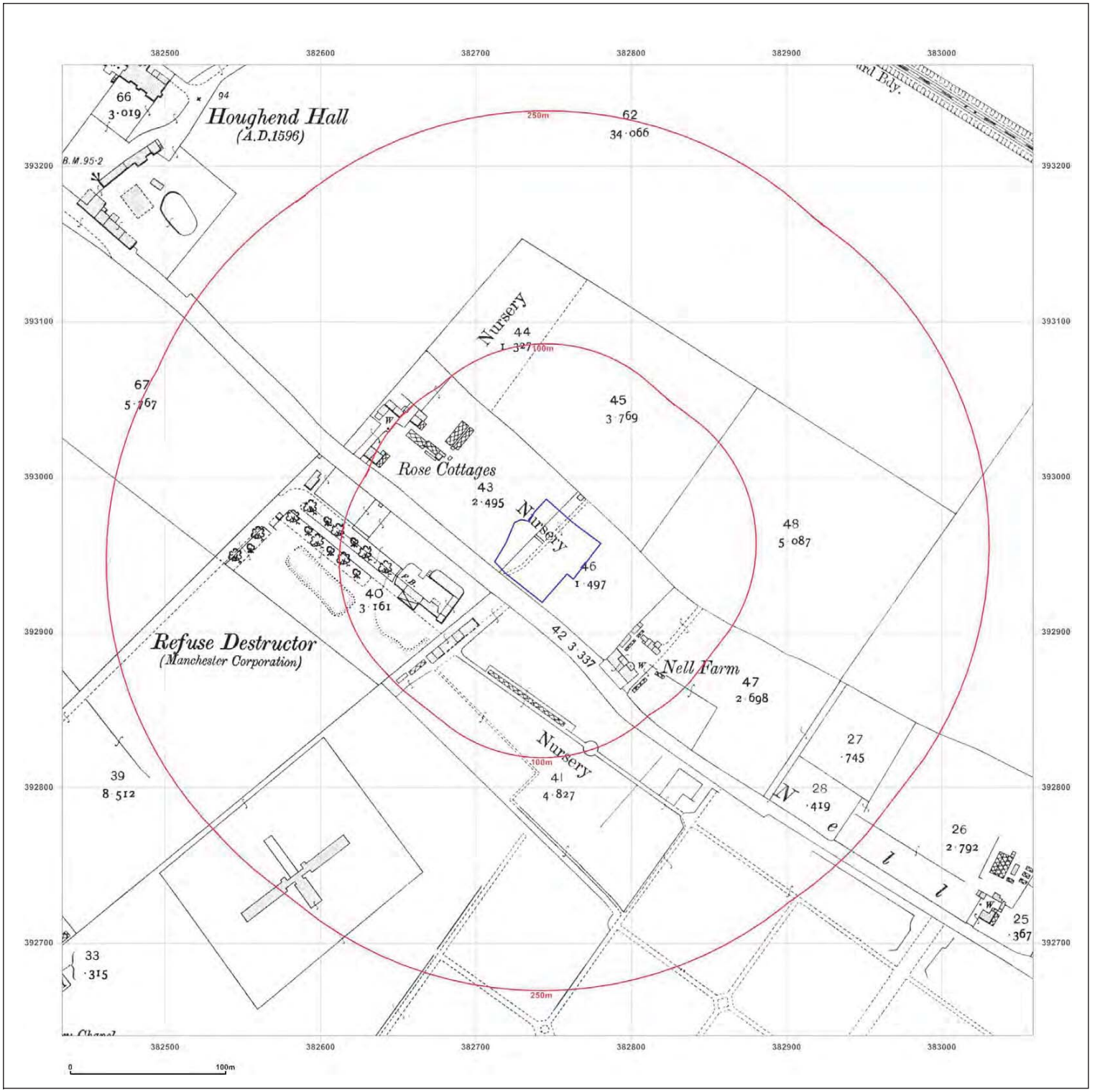
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Client Ref: 7592G_-_Arrowfield_Road
Report Ref: GS-3786494
Grid Ref: 382746, 392953

Map Name: County Series
Map date: 1907
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Printed at: 1:2,500

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Surveyed 1891
Revised 1905
Edition 1907
Copyright N/A
Levelled N/A

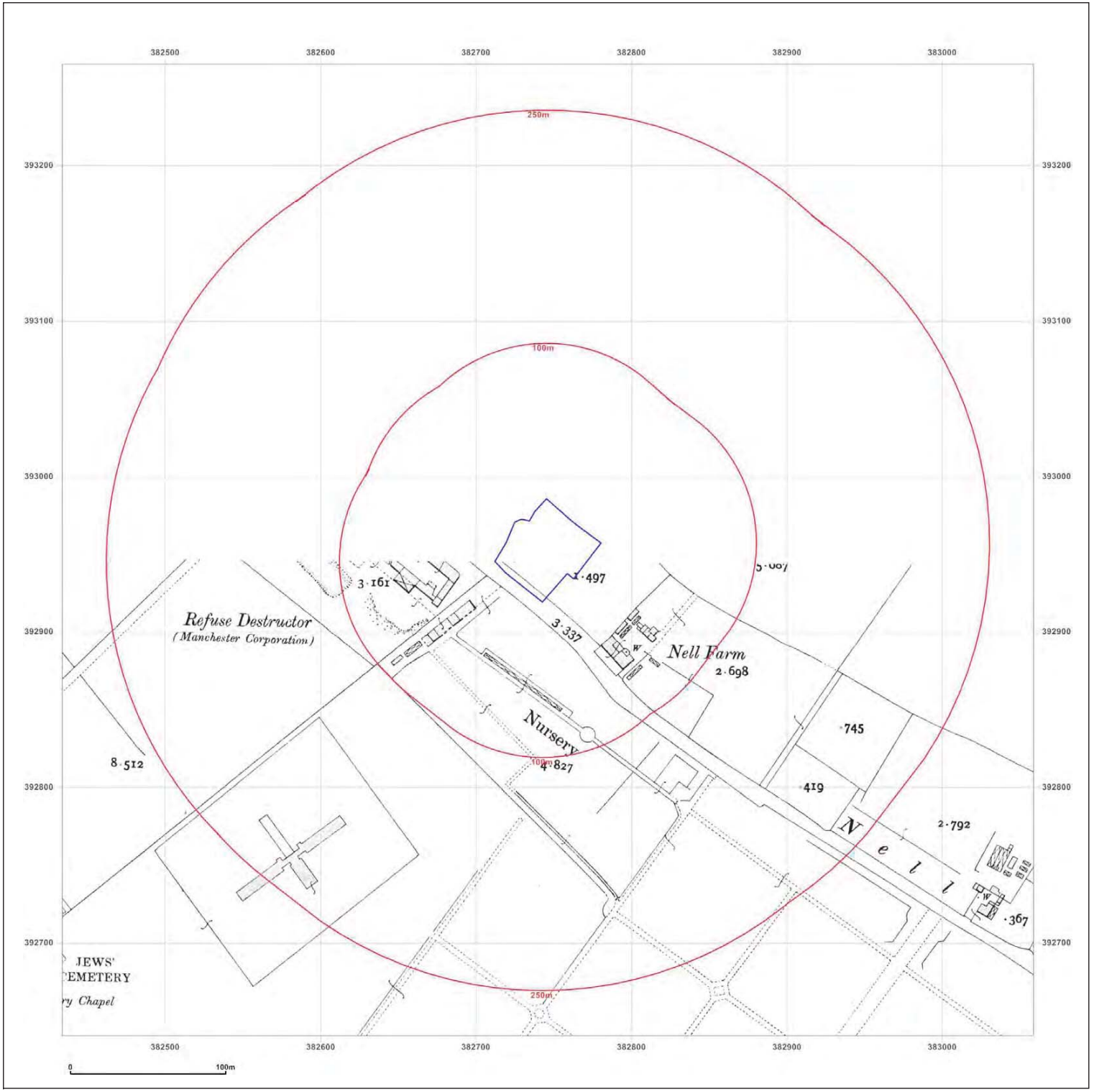
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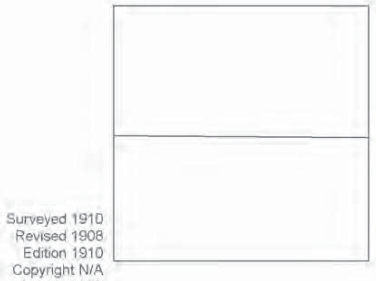
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Printed at: 1:2,500

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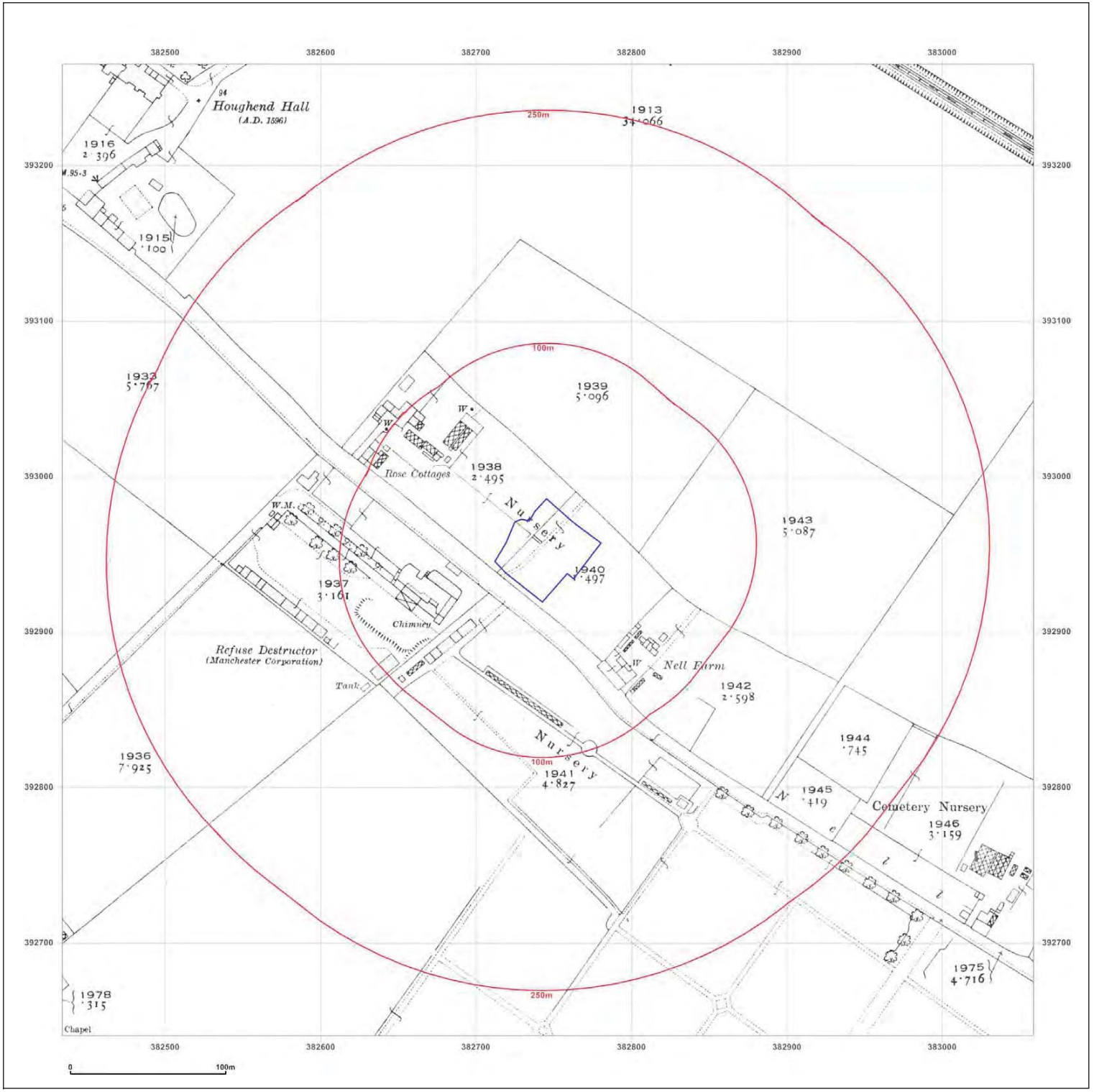
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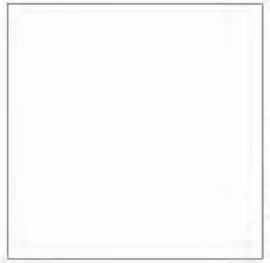
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Surveyed 1922
Revised 1916
Edition 1922
Copyright N/A
Levelled 1915

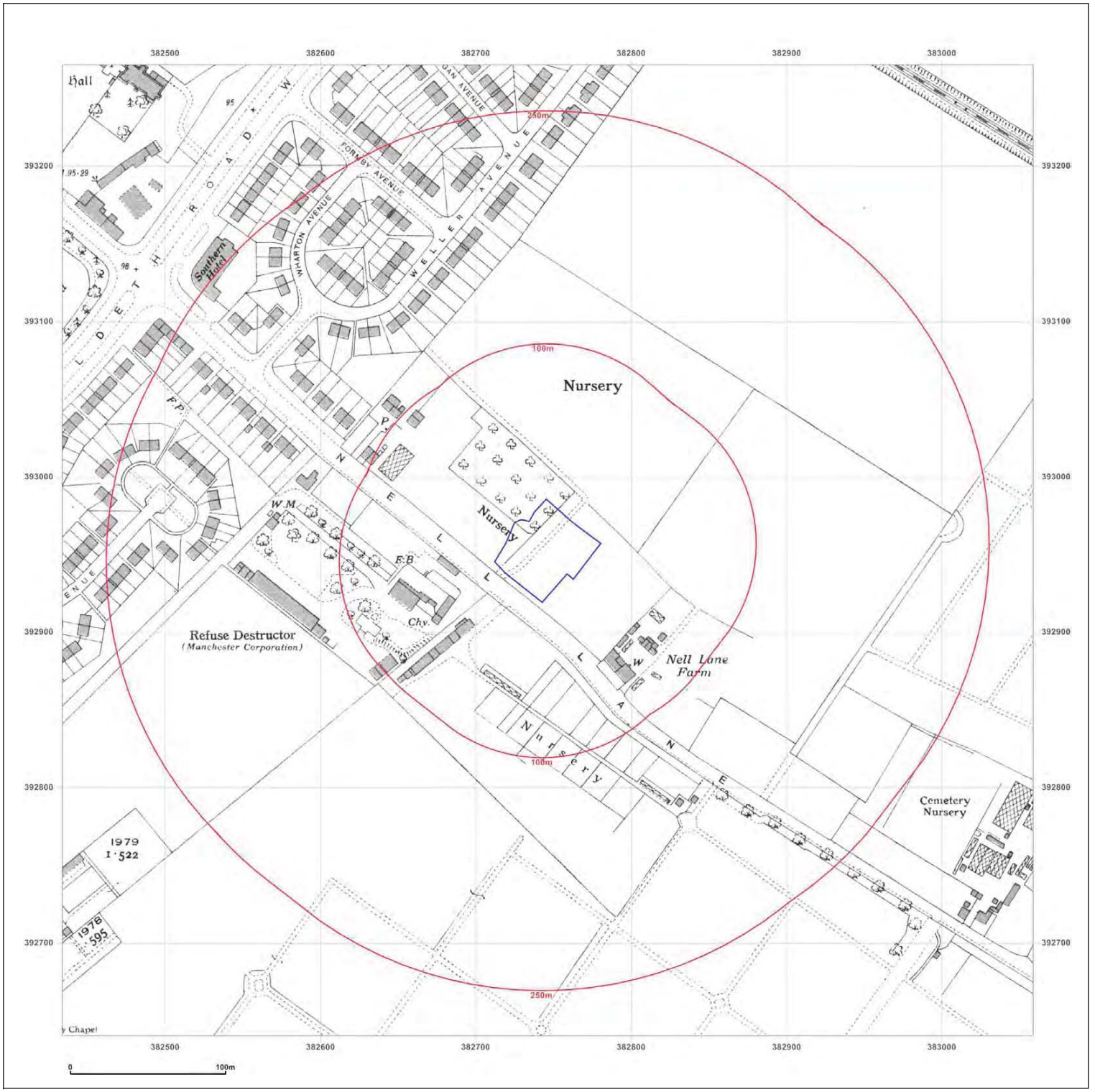
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Client Ref: 7592G_-_Arrowfield_Road
Report Ref: GS-3786494
Grid Ref: 382746, 392953

Map Name: County Series
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Scale: 1:2,500
Printed at: 1:2,500

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Surveyed 1873
Revised 1933
Edition N/A
Copyright N/A
Levelled 1927

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Client Ref: 7592G_-_Arrowfield_Road
Report Ref: GS-3786494
Grid Ref: 382746, 392953

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Surveyed 1954
Revised 1954
Edition N/A
Copyright N/A
Levelled 1948

Surveyed 1954
Revised 1954
Edition N/A
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Surveyed 1955
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Copyright N/A
Levelled 1949

Surveyed 1954
Revised 1954
Edition N/A
Copyright N/A
Levelled 1948

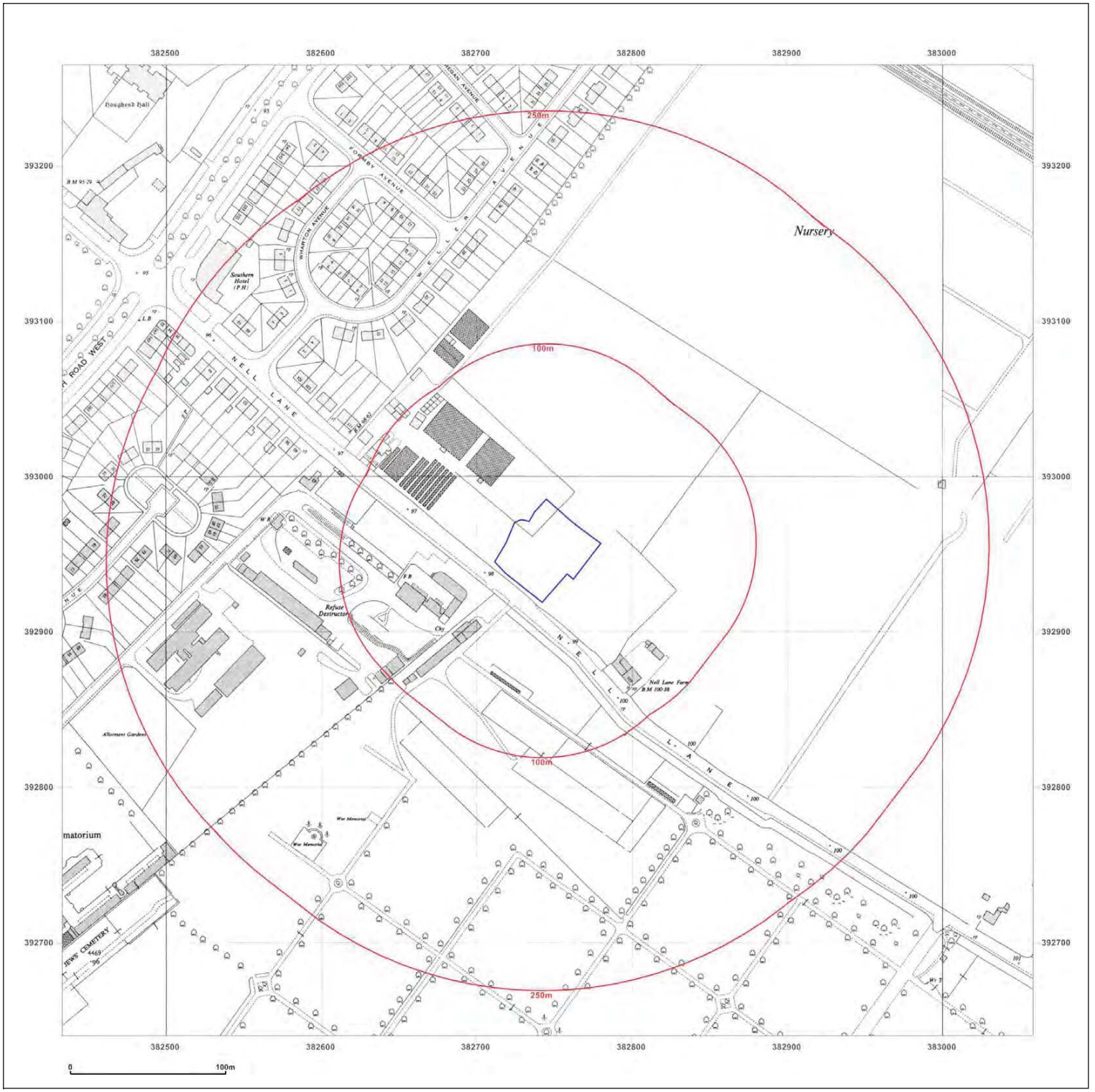
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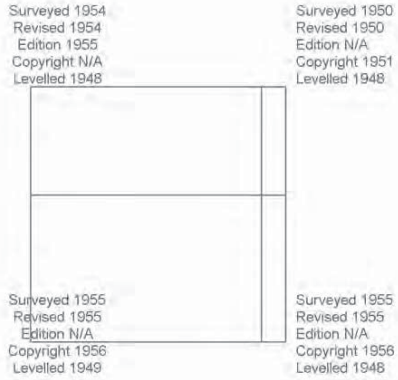
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Report Ref: GS-3786494
Grid Ref: 382746, 392953

Map Name: National Grid
Map date: **1950-1955**
Scale: 1:2,500
Printed at: 1:2,500

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Client Ref: 7592G_-_Arrowfield_Road
Report Ref: GS-3786494
Grid Ref: 382746, 392953

Map Name: National Grid
Map date: **1955-1956**
Scale: 1:1,250
Printed at: 1:2,000

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Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
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Copyright N/A
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
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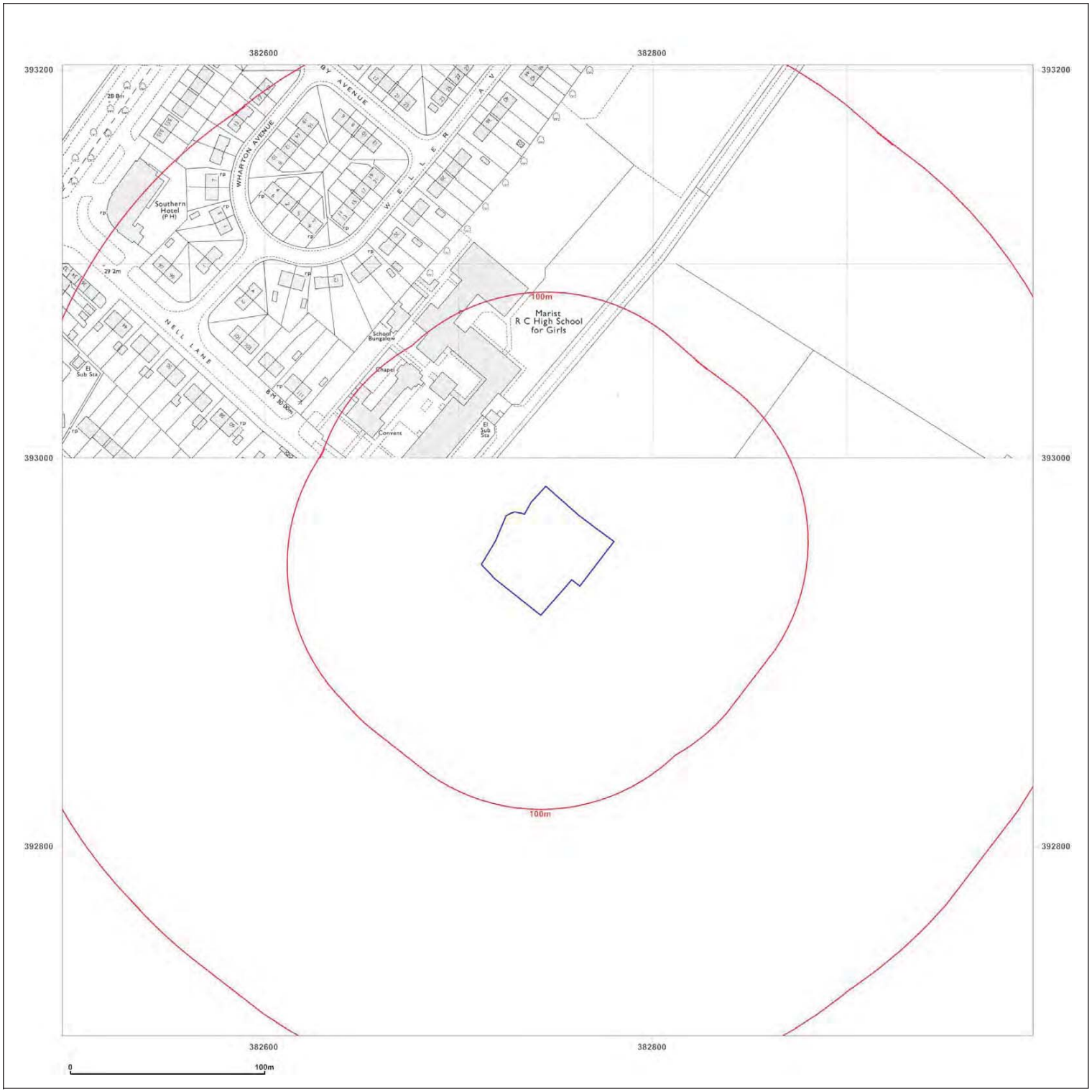
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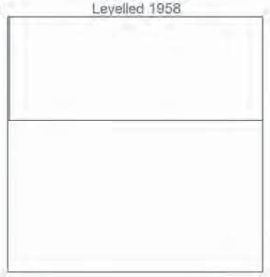
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Grid Ref: 382746, 392953

Map Name: National Grid
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Scale: 1:1,250
Printed at: 1:2,000

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Surveyed 1954
Revised 1973
Edition N/A
Copyright 1974
Levelled 1958

Surveyed 1954
Revised 1972
Edition N/A
Copyright 1972
Levelled 1958



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Report Ref: GS-3786494
Grid Ref: 382746, 392953

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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1978
Levelled 1958

Surveyed 1956
Revised 1984
Edition N/A
Copyright 1984
Levelled 1956

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Edition N/A
Copyright 1980
Levelled 1958

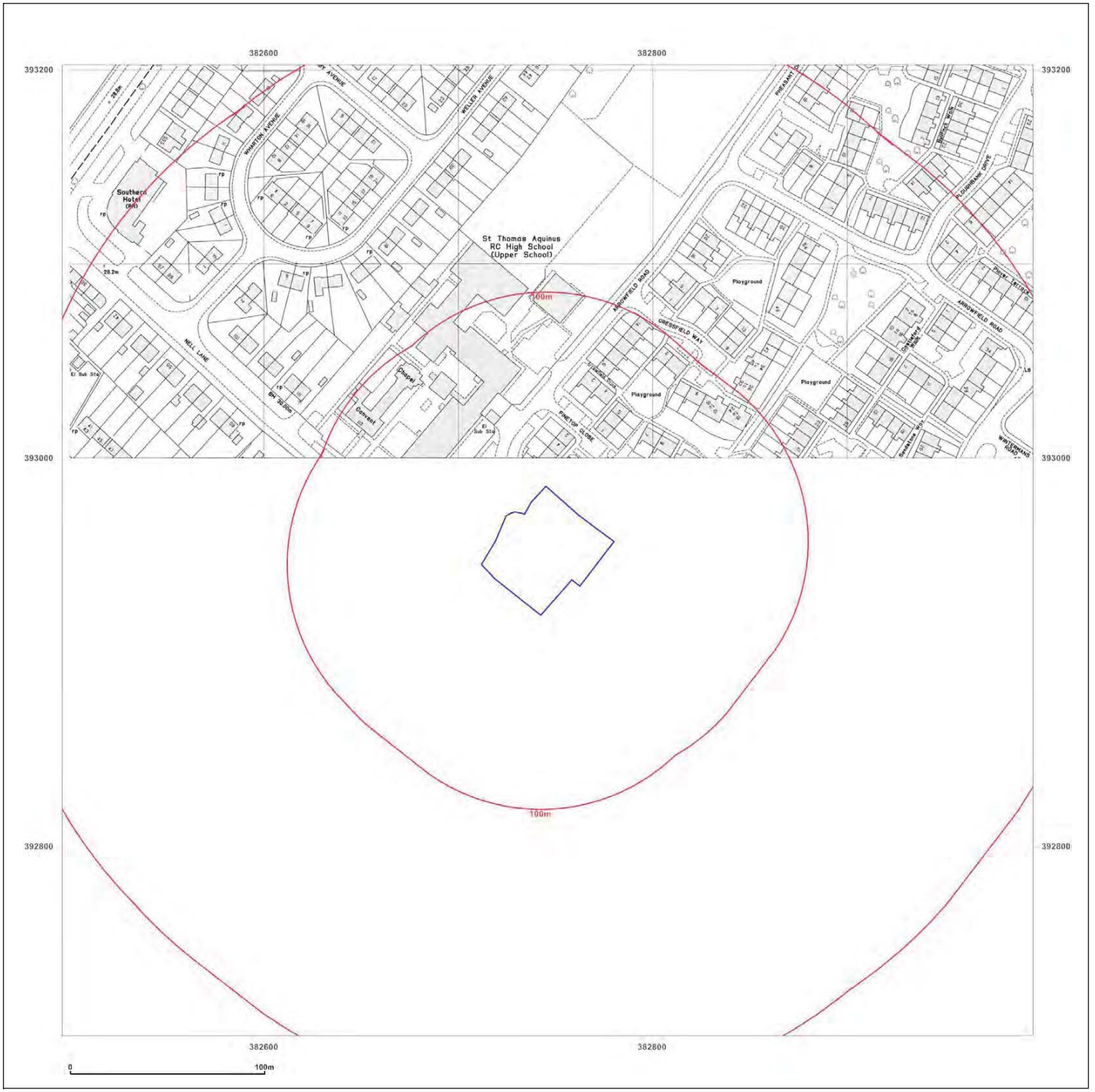
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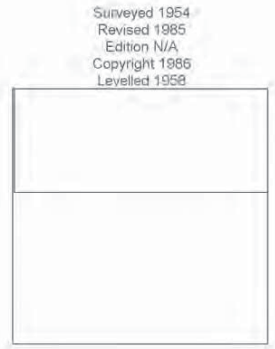
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Grid Ref: 382746, 392953

Map Name: National Grid
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Scale: 1:1,250
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Client Ref: 7592G_-_Arrowfield_Road
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Grid Ref: 382746, 392953

Map Name: National Grid
Map date: 1992
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

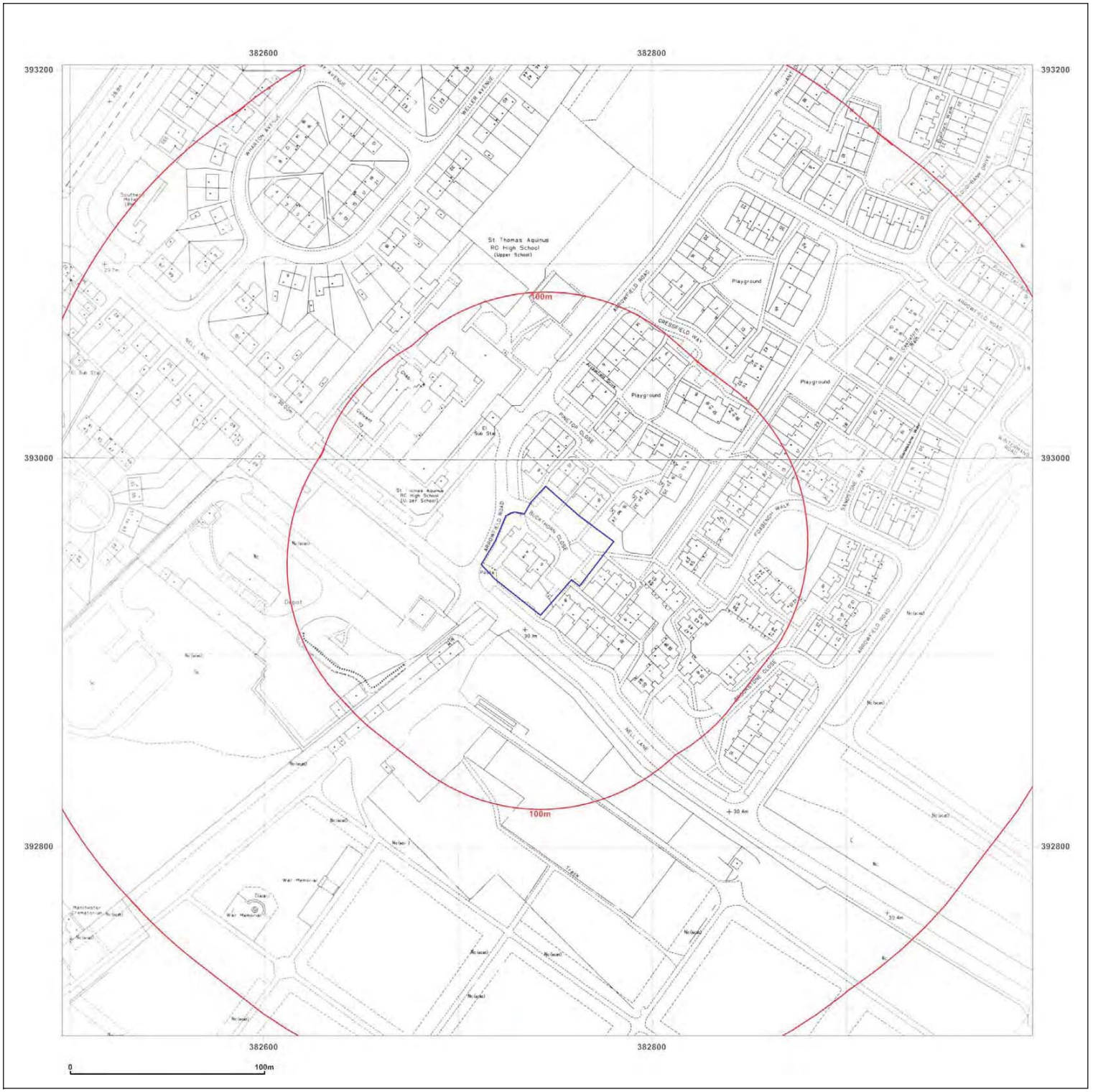
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Grid Ref: 382746, 392953

Map Name: National Grid
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Surveyed 1992
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1992
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1992
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1992
Revised 1992
Edition N/A
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APPENDIX 04

Qualitative Risk Assessment Guidance

Qualitative Risk Assessment Guidance

The Preliminary Contamination Risk Assessment methodology within the Phase 1 Desk Study Report is undertaken with reference to the following CIRIA guidance.

- Contaminated Land Risk Assessment - A Guide to Good Practice CIRIA C552:2001.

In practical terms, risk evaluation is undertaken in order to ascertain if potential risks are considered to be acceptable via classification following factors.

- The magnitude of the potential **consequences** (severity) of the risk occurring.
- The magnitude of the **probability** (likelihood) of the risks occurring.
- The potential consequences of contamination risks occurring at the Site should be classified in accordance with the following table which is adapted from Table 6.3 in the CIRIA guidance.

Table 1 Classification of Consequence

Classification	Definition
Severe	Short term (acute) risk to human health likely to result in 'significant harm' as defined by the *Environment Protection Act 1990*, Part IIA. Short term risk of (significant) pollution of sensitive water resource or ecosystem. Catastrophic damage to building/property. Short term risk to a particular ecosystem, or organism forming part of such an ecosystem.
Medium	Chronic damage to human health (significant harm). Pollution of sensitive water resources. A significant change in a particular ecosystem, or an organism forming part of such an ecosystem.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services. Damage to sensitive buildings/structures/services or the environment.
Minor	Harm, although not necessarily significant harm, which may results in a financial loss, or expenditure to resolve. Non-permanent, easily preventable effects to human health. Easily repairable damage to buildings, structures and services.

The probability or likelihood of a risk occurring is then classified in accordance with Table 6.4 in the CIRIA Guidance which is also reproduced in Table 2 below.

Table 2 Classification of Probability

Classification / Likelihood	Definition
High	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution.
Likely	There is a pollutant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period that such an event would take place and is even less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

These classifications are then compared to indicate the risk to each pollution linkage. For each likelihood scenario, it will be assumed that a pollution linkage exists between the source and any potential receptors. The classification is not applied if no active pollution linkage is perceived to exist.

Upon classification of both the consequences and probability, the two can be compared in Table 6.5 within the guidance, in order to produce a risk category rating. The risk categories range from 'Very High Risk' to 'Very Low Risk' and should be determined for each potential pollutant linkage as oppose to each receptor or hazard as indicated above.

The matrix table is reproduced in Table 3 below.

Table 3 Consequence Vs Probability Matrix

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High Likelihood**	Very High Risk	High Risk	Moderate Risk	Moderate / Low Risk
	Likely	High Risk	Moderate Risk	Moderate / Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate / Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate / Low Risk	Low Risk	Very Low Risk	Very Low Risk

The outcome of the Consequence vs Probability matrix should be compared to the risk definitions and likely actions required in Table 4 (Table 6.6 in CIRIA C552).

The outcome will then determine the overall risk category for the site and should form the basis for any proposed investigation work and remedial actions to be determined. The assessment is based on a qualitative approach at the initial Phase 1 Desk Study, and should be updated following the results of any subsequent ground investigation results.

Table 4 Definitions of Classified Risks and Likely Required Actions

Risk Category	Definition
Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard OR, there is evidence that severe harm to a designated receptor is currently happening. This risk (if realised) is likely to result in a substantial liability. *Required Actions* *Urgent investigation (if not undertaken already) and remediation are likely to be required.*
High	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. *Required Actions* *Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.*
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, if it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is likely that the harm would be relatively mild. *Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.*
Low	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very Low	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.