

# Ironwork Conservation

Condition Surveys | Assessments & Advice | Specifications  
Consultants in historic decorative architectural ironwork



Burghley House: north forecourt gates Grade I

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Expert advice to ensure informed decision making



## Condition surveys

The starting point for all conservation work is understanding the object to be conserved. Yet in the case of ironwork, often very little is known beyond what can be deduced from the physical evidence. Understanding these clues is akin to reading the iron, and working out the story it has to tell, from materials and technologies used in construction, to why it's in its current condition. As nothing can be presumed, condition surveys are essential for gaining evidence on which informed assessments can be made and advice given.

While each object needs to be approached individually, the most common survey methodology includes:

- Local environmental information
- Materials
- Design style
- Physical evidence
- Functional ability
- Damage
- Missing elements
- Alterations and additions
- Finish
- Paint analysis
- Decay and decay mechanisms
- Condition stability
- Condition overall
- Treatment priority
- Any risks
- Samples and tests
- Any further information required

While this list is not exhaustive, and items will be added or subtracted as relevant to the project and its outcomes, it enables assessment to get underway.

### TESTIMONIAL

"I approached The Ironwork Studio for a report on our gateway due to their historical, aesthetic and technical skills and found their approach enthusiastic and professional. The report included a great deal of historical evidence, which up until this report was not always straight forward to interpret, as well as a very thorough examination of the remaining ironwork. I particularly liked the detail in the report, and the clarity with which it has been presented. The result was sufficiently persuasive that Historic England agreed that the Listing of the gates should be raised from Grade II to Grade II\*. I am grateful to The Ironwork Studio for this result as it makes restoration of the gates a more likely possibility. The downside of a report such as this, is it highlights the enormous amount of work that needs to be done!"

- Richard Lawson, private client

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## Interpreting physical evidence

### Temple Grounds Gates & Overthrow (Grade II\*) at Richmond, N.Yorkshire

In this case study, analysis of the physical evidence helped identify the date this ironwork was created as early 18th Century. This assessment included details such as:

- **Design style** – stubs can evidence the remains of joints where additional branch forge welded scroll and leaf work once was. These can be used to demonstrate the original design intent and thereby assist period fashion identification.
- **Corrosion** – frequently corrosion results in severely damaged or missing components, but the type and location of corrosion can help identify construction techniques and original design style.
- **Construction detailing** – is a good indicator of the technology available at the time of manufacture, which can be reviewed against knowledge of technological developments.
- **Materials** – can also relate to technological developments, in this case the use of charcoal wrought iron which was only produced up to the end of the 18th C, prior to the invention of puddled wrought iron.

Our evaluation resulted in Historic England reviewing the historical value of this entrance, upgrading it from Grade II to Grade II\*.



Stubs evidence missing components above fire welded branch joints.



U shaped collar joined with a flat bar riveted in place is characteristic 18<sup>th</sup> C cold fitting technique.



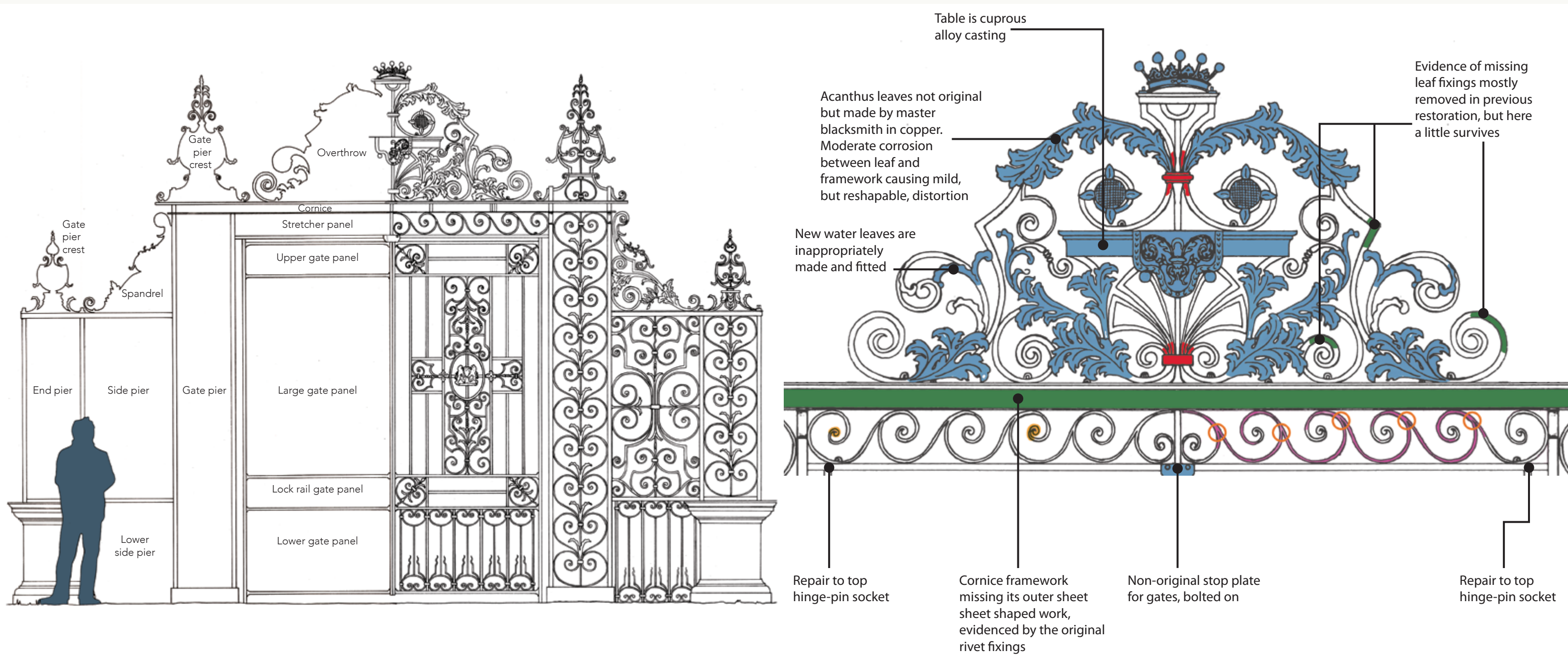
Typical 18th C wedge joint (blue) holding overthrow to stretcher frame, distorted by rust heave as a result of crevice corrosion.



Evidence of two uprising water leaves branching from central stem with corrosion wastage resulting from the water trap they created.

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North forecourt gates (Grade I) at Burghley House, Stamford

Illustrations are an important part of our work as they enable efficient transfer of information to all involved in a project, no matter their knowledge and experience. In this project our general arrangement drawings not only provided a clear record of the design at the time of surveying, but a tool for use through all stages of current and future work. Within this project, for example, it was first used to create a pictorial glossary of the terminology and labelling system then later used for condition mapping.

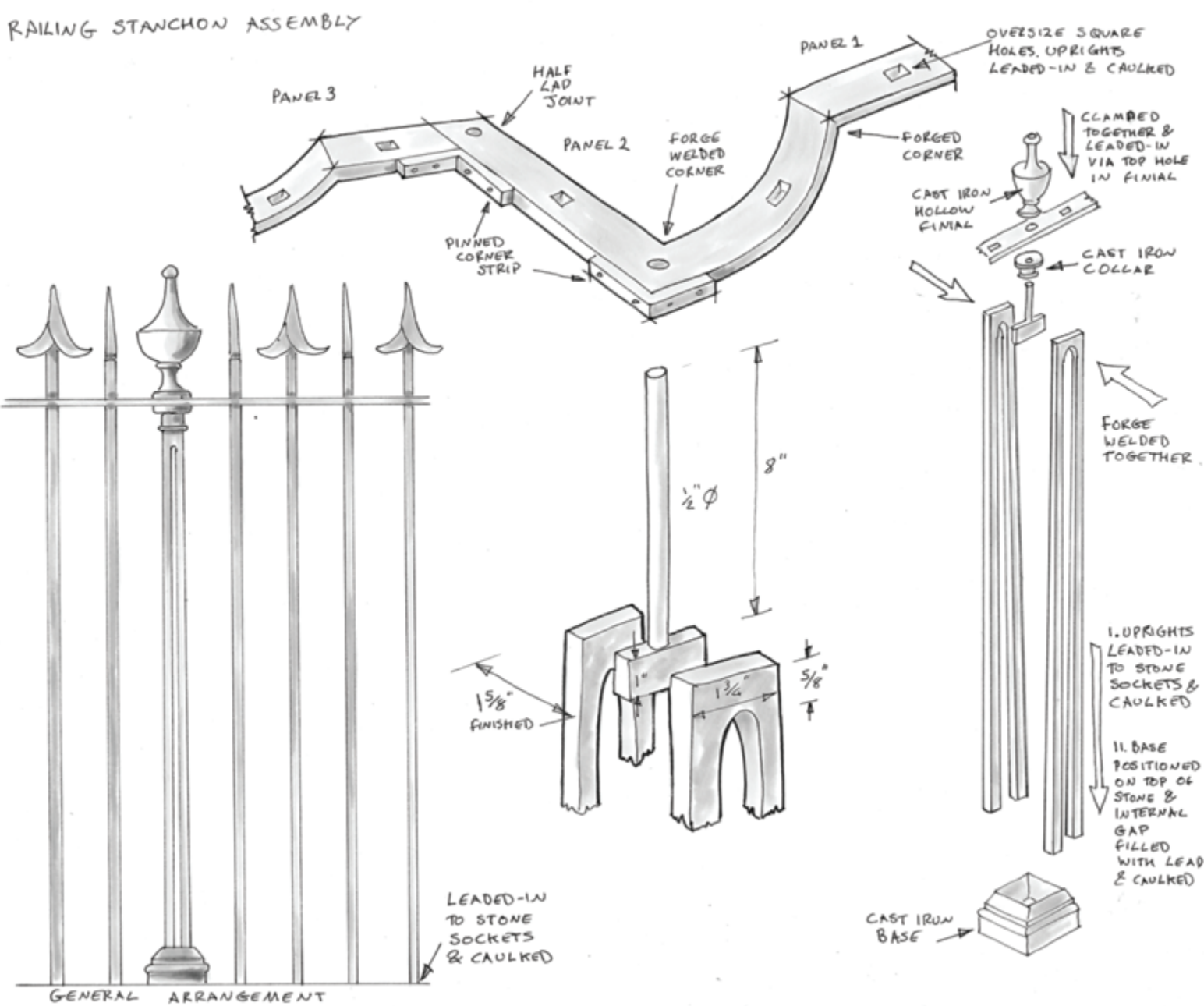
Key

- Orange: Moderate corrosion
- Red: Severe corrosion
- Purple: Damaged
- Blue: Alterations and additions
- Green: Missing elements
- Orange circle: Electric welding

Condition mapping

This is a technique that enables the graphic documentation of survey notes in the context of the overall project. Visualising the relationship between different pieces of evidence recorded, condition maps assist the process of assessment. This example, showing the overthrow and stretcher panel, supplemented the broader and more general information within the condition survey report.





Queen Anne Summer House Railings (Grade II) Shuttleworth, Bedfordshire

Old ironwork can look deceptively simple by today's standards as, for example, these modest railings erected in the 1710's. While core blacksmithing techniques using forge, hammer and anvil are still the same today, it's important to remember that modern tools and technologies have provided alternative methods that have affected advanced skillsets which were once commonplace. As a result, understanding ancient construction methods requires a completely different mindset to modern work. Our exploded assembly drawings provide insight for appropriate budgeting and approach to dismantling and restoration works.



Item	Colour name
Text; Border around crest	Black
Panel Mouldings	Crimson
Foleage & Stems	Chrome Green
Flowers & Studs	Wiltshire White
Frame	Dark Stone
Flower Centres	Sulphur Colour

Piece Hall Gates (Grade I) at Piece Hall, Halifax

Made in 1871 by George Smith & Co these gates comprise highly detailed and ornate cast iron panels within a puddled wrought iron frame. Being made before the twentieth century fashion for black, their original colour scheme would have been polychrome. Unfortunately, paint analysis confirmed that a previous restoration had thoroughly stripped all the original paint. The new colour scheme was therefore compiled using the client's crest as initial inspiration, with its colours referenced to known historic ironwork colour schemes from the same period as the gates' construction.



## About Us

As experienced conservation consultants in historic decorative architectural ironwork, we believe any intervention - be it conservation repair, alteration or new addition - should be positive and enhancing.

We provide clarity to enable a better understanding of the object being conserved. What is important about it and why? What is wrong with it and what options there are to remedy it? Although the issues may be complex, we present findings that are easy to interpret, logical in approach and updatable should further information become available.

Employing technical and historical knowledge, our work is underpinned by an understanding of how to sensitively balance the retention of historic significance with the necessity of repair and maintenance.

Working nationally, we collaborate with building owners, heritage and architectural professionals and managers to ensure high quality, and appropriate standards in conservation and craftsmanship, while retaining historic significance and heritage value.

**As Independent Ironwork Consultants** we offer expert advice to ensure informed decision making through all development stages, from condition surveys and tender documents to planning consents and procurement. Inclusion of our reports and specifications within tender packages removes ambiguity, by ensuring tenders are comparable on a like for like basis. They also set the standards for quality and craftsmanship, and ensure that well intentioned but inappropriate work is avoided.

Independent of any workshop, we call on a network of suppliers and master craftspeople enabling us to find the best people for the project due to our understanding of their individual strengths.

**Contact us to find out more**

## Historic Architectural Metalwork Consultancy Services

- **Condition Surveys** – necessary pre-cursors to any intervention, they involve inspecting and recording observations of physical evidence. From corrosion and construction techniques to local environmental information and potential future risks, our expertise finds the subtlest of clues required for accurate assessment.
- **Visualisations** – Photographs are standard within all reports, but we also use annotations, drawings, condition maps and assembly drawings to ease interpretation.
- **Assessments & Advice** – Bridging the gap between site investigations and agreed conservation plans, assessment reports interpret and evaluate the condition survey results. They provide a deeper understanding of the object from its age, rarity and uniqueness to the causes of its condition failure and stability. Our appraisal of this information in conjunction with the project objectives enables us to identify viable options and priorities for any proposed conservation intervention.
- **Ironwork Specifications** – define the scope and standard of work for tendering and procurement. Our technical and conservation expertise ensures accurate, practical and appropriate information tailored specifically to the project.
- **New design assessment reports** – Where new designs are proposed for historic environments our reports form the foundation on which informed evaluations can be made. They evidence an understanding of the location, its heritage significance and how this, as well as other, potential constraints relate to the proposed design.

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