CAPABILITY STATEMENT

Heritage

patrickparsons.co.uk
Patrick Parsons enhance the built and natural environment by applying our expertise with purpose, personality and pride.
What we do: Structural Engineering
Civil Engineering Environment & Energy
Building Services Traffic
& Transportation White Water
Course Services Planning Support
Infrastructure Building Consultancy
Project Management
For over 50 years, the Patrick Parsons have been building the expertise and reputation to deliver exceptional engineering solutions.

Spanning specialisms from the restoration of historic structures to the design of multimillion pound state-of-the-art residential schemes in central London, we offer one of the most comprehensive skill sets in the industry.

The firm was established in the UK in 1964 and has now developed into an international multi-disciplinary consultancy with staff in offices across the globe.

Our unique range of integrated engineering services together with our highly qualified, experienced staff allow us to compete with major international companies yet we still offer the personal service that you would expect from a smaller firm. We believe in developing long term relationships with our clients.

Delivering a flexible, professional and friendly service is instrumental to the success of Patrick Parsons and the company continues to set itself apart from its competitors by ensuring that all projects are led by one of the company’s highly experienced directors.

Our vision is to be the multi-disciplinary consultant of choice; creating inspiring spaces to live, work and have fun, where everyone involved can proudly say “I played a part in that”.

We are proud to have worked on a huge number of successful, high-value projects. The following pages demonstrate just some of the work we have successfully delivered for our clients.
Patrick Parsons is recognised as one of the UK's leading conservation engineers and to date we have seven World Heritage Sites within our portfolio.

Our exceptionally skilled heritage engineers possess an in depth understanding of how structures actually work, rather than a reliance on technology or British Standards; through experience and practice we have developed strategies in which intervention to existing structures is minimised.

As a company, Patrick Parsons pride ourselves on the passion and desire we have; this drives us to maintain, preserve and enhance as much of our natural heritage as possible. Having successfully delivered an array of conservation and listed building schemes we are able to combine the preservation and renovation of traditional heritage buildings with contemporary new build designs.

Patrick Parsons have worked extremely hard over the years to build good working relationships with Conservation Officers and have established an extensive understanding of requirements of historic structures, this is demonstrated by the outstanding reputation that we have within the industry.

Clients include English Heritage, National Trust and North East of England Civic Trust. Patrick Parsons are also the advising structural engineers to Northumberland Estates, Alnwick Castle and Durham Cathedral.
When the long-term conservation of this internationally important fort and its associated civilian settlement were threatened, Patrick Parsons was appointed to help secure the building for the future.

- The remains of Ravensworth Castle include a medieval quadrangular castle and an 18th century and a 19th century country house.
- A conservation plan was created for the castle in and Patrick Parsons provided structural advice relating to the Viability Study produced. Work will soon begin on a scheme to secure the remaining towers and other historic structures on the site.

The eastern arch was repaired in 2011 and plans are in place to repair the central and western arch before 2020.

Client: Durham Cathedral
Services: Structural

Patrick Parsons provided structural advice relating to the conservation of the medieval castle which is included within the English Heritage “Heritage at Risk” list.

Client: Spence & Dower
Services: Structural

When the long-term conservation of this internationally important fort and its associated civilian settlement were threatened, Patrick Parsons was appointed to help secure the building for the future.

- The building forms part of the Frontiers of the Roman Empire (Hadrian’s Wall) World Heritage Site.
- The Roman fort is at Camp Farm, north of Maryport, West Cumbria, which is on scheduled monument land. It is adjacent to the Senhouse Roman Museum located in the 19th century Battery building on the cliffs known as Seabrows on the northern fringe of Maryport.

Client: Hadrians Wall Heritage Ltd
Services: Structural

Prebends Bridge is a three-span masonry structure completed in 1778 to carry an access road across the River Wear to the southern end of the Durham Peninsular.

- Patrick Parsons were appointed to carry out remedial works to repair the intrados to the voussoirs and stabilise the arches, prevent water penetration through the deck and divert surface water away from the bridge.
- The eastern arch was repaired in 2011 and plans are in place to repair the central and western arch before 2020.

Client: Durham Cathedral
Services: Structural

Prebends Bridge
Durham

Ravensworth Castle
Lamesley

Frontiers of Roman Empire
Cumbria
The Black Gate, Newcastle upon Tyne

As part of the Old Newcastle Project, an initiative which focuses on Newcastle’s cultural and creative heritage, Heritage Lottery Funding was secured to create a heritage led education and interpretation centre situated within Newcastle’s oldest non-ecclesiastical building – Castle Garth.

- Patrick Parsons provided structural design services associated with the £1m refurbishment of the Grade I listed building, which has historically been used as a fortress, jail and library.
- At the commencement of the commission, we investigated and ascertained the specific requirements, limitations and challenges inherent in the project.
- The Black Gate is a scheduled ancient monument constructed during the mid-13th century and was modified during the 18th and 19th centuries when several additions were made. This meant that there were various interfaces to deal with during this project but this was successfully overcome due to our extensive experience and knowledge in conservation engineering.
- Specific challenges included the foundations for the link bridge which connected the lift to the ground level. Numerous meetings were held with Newcastle City Council to investigate ground archaeology within the footprint area of foundations. Following consultation with stakeholders and design team members, foundations were designed to span over the areas of archaeology that were to remain undisturbed.

Client: Purcell
Architect: Purcell
Services: Structural
Relevant experience

Alnwick Castle, Alnwick
Northumberland

- Patrick Parsons provide structural engineering support and advice relating to the ongoing restoration works that help retain the appearance and structural integrity of this historic building and estate.
- This 12th century Castle and its grounds cover an area of roughly 7 acres and have had many alterations since it was walled in around 1157.
- Works include the renovation of the Guest Hall which was brought into use as a wedding venue.
- Patrick Parsons also designed the drainage for the Estates Offices car park which was part of the redevelopment.

Client: Northumberland Estates
Architect: Napper
Services: Structural

Lindisfarne Castle, Holy Island
Lindisfarne

- Patrick Parsons provided civil and structural engineering services for major restoration works at Lindisfarne Castle.
- The building reached a period in its life where extensive maintenance was required in order to treat the issues caused by inherent damp penetration.
- A structural inspection of the Grade I Listed building outlined areas for repair.
- Remedial works have included re-pointing and re-rendering of walls to give protection from the harsh environment as well as the removal of severely degraded iron lintels from the windows.

Client: Simpson and Brown
Architect: Simpson and Brown
Services: Civil & Structural

Spanish City, Whitley Bay
Tyne & Wear

- As part of North Tyneside Council’s conservation and regeneration of Whitley Bay, Patrick Parsons provided structural engineering services to aid in the restoration of this iconic building.
- The Spanish City Dome is a Grade II Listed building of great national importance being an early example of the ‘Hennebique’ patented system of reinforced concrete construction.
- Patrick Parsons have provided ongoing Structural services for a number of years in order to secure the structural integrity of the building for future development.

Client: North Tyneside Council
Architect: ADP
Services: Structural
Case study

Durham Cathedral Open Treasures Exhibition

As part of the £10 million project to create stunning new exhibition spaces in medieval buildings around the Cathedral Cloister, Patrick Parsons were appointed as civil and structural engineers.

- It is the largest investment in the Cathedral in modern times, and because of the fluidity of this type of historic project, Patrick Parsons faced many challenges and design changes to ensure the best and most sympathetic results were provided without affecting the historic structure.
- All structural elements specified which are built into the Cathedral, such as lintels and pad stones, are sympathetic to the existing structure using traditional materials. New connections into the existing building have been kept to an absolute minimum with new steelwork using existing pockets, and steelwork has been designed to cantilever where support could not be taken from the existing structure.
- During the archaeological excavations and site preparation there were a variety of interesting finds. Whilst removing plaster from one of the walls in what is now the Collections Gallery, part of an arch was discovered. This was found to be of historical importance, so was retained and made into a complete arch again to become a feature in the exhibition.
- Open Treasure will contribute towards the on-going conservation of the Cathedral and its collections, as visitor numbers are predicted to increase, which will generate additional revenue through ancillary spending and donations, and ensure that access to the Church remains free.

Client: Dean and Chapter
Architect: Purcell
Services: Civil & Structural
St Bride’s Church, East Kilbride
Scotland

- Patrick Parsons provided structural engineering services in the £1m restoration of the historically important St Brides Roman Catholic Church.
- A Grade ‘A’ Listed building, it is regarded as one of the finest examples of British twentieth-century ecclesiastical architecture.
- The project included urgent and necessary works to address brick deterioration, roof covering replacement, water ingress, structural integrity, heating, safety and maintenance issues.
- The result is a structurally sound, wind and watertight building with restored original features and provides safe access for future maintenance.

Client: Diocese of Motherwell
Architect: Stallan Brand
Services: Structural

Roberts Park, Saltaire
West Yorkshire

- Roberts Park is a well preserved example of a mid nineteenth century industrial town that houses an old textile mill, workers housing and an array of public buildings and park lands in West Yorkshire.
- Patrick Parsons provided civil and structural engineering services on this World Heritage Site.
- We were involved in both the restoration of the historic structures within Roberts Park, developing the drainage strategy for the proposed development, the design of pathways throughout the site and also the restoration of a historic band stand.

Client: Bradford District Council
Architect: Hilary Taylor
Services: Civil & Structural

Fountains Abbey, Ripon
North Yorkshire

- Patrick Parsons is providing all the infrastructure design and detailing associated with ongoing development work of this World Heritage Site.
- The National Trust appointed a professional team to deliver a ground source heating system to replace the existing LPG heating method, as well as a major re-development of the car parking facilities for the site.
- A sustainable urban drainage solution, which involves the use of permeable paving mats, has been developed to facilitate the disposal of the surface water which will be generated by the development.

Client: National Trust
Architect: Space
Services: Infrastructure
Case study

Lion Bridge, Wynyard

Patrick Parsons carried out a structural survey of the early/mid 19th century Grade II* listed bridge, which is the main route to Wynyard Hall in Billingham, after concerns were raised by the owners regarding the capacity and state of the structure due to its more frequent and heavy use in recent years.

- An inspection was carried out on foot and by boat and a number of defects were reported including tilting and bulging spandrel walls, missing bricks, washout of mortar and water penetration through a cracked arch ring.
- Patrick Parsons recommended that in the immediate short term, the bridge should be limited to vehicles with a gross weight of 3 tonnes to prevent further spread of the spandrel walls until the repair work could be carried out.
- Suggested remedial works included the installation of tie bars and pattress plates between the spandrel walls as well as loose fill and clay lining to the arch to be replaced with modern waterproofing and fill material.
- Damaged bricks were to be replaced and re-pointed using an approved lime mortar and suitable drainage channels installed and an adequate camber laid in the deck to allow surface water runoff and drainage.

Client: Cameron Hall Developments
Services: Structural
Relevant experience

Hexham Abbey, Hexham
Northumberland
- Appointed civil and structural engineers, Patrick Parsons provided professional services aimed at improving visitor's facilities and creating new educational, exhibition and communal spaces within existing historic buildings.
- With areas of the building dating back to the 13th century the project has required new designs to be integrated into the Grade II listed, medieval fabric.
- The project, which was Heritage Lottery Funded with a value of £2.2m, includes the conversion of a monastic workshop into an environmentally controlled exhibition area and a new porch entrance to the abbey itself.

Client: Hexham Abbey Parochial Church Council
Architect: Purcell

Green Howard’s Military Museum
Yorkshire
- Civil and structural engineering services were provided during the £1.7m upgrade of the museum.
- The Heritage Lottery Funded project aims to improve visitor facilities, enhance the museum exhibition space and make access for disabled visitors much easier.
- The new exhibition space provided a new access level as well as new circulation routes, which will include lifts to the new three storey exhibition gallery.
- The project aims to prove valuable resources to schools, families, researchers, community groups and societies

Client: Purcell
Architect: Purcell
Services: Civil & Structural

Bowes Railway Museum
Springwell
- Patrick Parsons carried out structural engineering duties associated with the conservation of this Scheduled Ancient Monument.
- It is the only operational, preserved, standard gauge, rope-hauled railway in the world.
- Remedial works were designed in keeping with repairs carried out historically by the railway workers to ensure further damage to the buildings did not occur.
- Patrick Parsons inspected the timber roof structure of the main engine shed, noting each individual member to be repaired or replaced. This inspection was carried out from external scaffolding.

Client: North of England Civic Trust
Services: Structural
UK locations
Newcastle upon Tyne
Birmingham
Chester
Glasgow
Guildford
Huddersfield
London – Central
London – Twickenham
Manchester

International locations
Dubai
Sydney

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