

AUCKLAND CASTLE **ENABLING WORKS FOR SCOTLAND WING EXTENSION**

Client – Auckland Castle Trust – xxxxxxxxxxxxxxxx
📍 Auckland Castle, Bishop Auckland, Co Durham, DL14 7NR
☎ xxxxxxxxxxxxxxxx ✉ xxxxxxxxxxxxxxxx

Proj. Man. – Turner & Townsend – xxxxxxxxxxxxxxxx
📍 Victoria House, Pearson Way, Thornaby, Stockton on Tees,
TS17 6PT
☎ xxxxxxxxxxxxxxxx ✉ xxxxxxxxxxxxxxxx

Completion – June 2016 (4 Months)

Value - £200,000

Site Man. - Neil Laverick

We won a competitive tender to carry out the enabling works for the Scotland Wing Extension. The Castle is a Grade 1 Listed Building dating from 12th Century. It attracts thousands of visitors a year and our works involved noisy and dusty processes within the main building which is a tourist attraction and provides office accommodation for the castle staff.



The work involved the stripping out of the existing mechanical & electrical services, the removal of the internal finishes, internal & external demolition, the hacking off of historic plasters without damaging the substrate, the removal of the bitumen DPM from stone/brick walls, the breaking out and removal of the ground floor/basement slab, the dismantling and numbering of historic walls and the archaeological/reduced level excavation over the proposed footprint of the extension.

All of the work was undertaken whilst the adjoining rooms housed visitors, staff and historic artefacts, including the 250 year old £15m Zurbarán Paintings. The works therefore had to be methodically planned to ensure that there was minimal disruption and no risk to the building, contents, public and staff. Our methods and operations included:

Liaison/Working Together - On at least a daily basis our site manager discussed the day to day events with the castle staff, including organising works in the occupied areas. This continual liaison and planning helped to keep everyone informed of what was planned and reduced our down time and minimised the disruption to others. We pride ourselves on working with our clients and not just for them. This ensured that the works were completed with the minimum disruption and that the end product met and/or exceeded their expectations. Our site manager has received a thank you email from the Castle for his and our team's efforts, assistance, approach and attitude whilst carrying out the works.

Food Festival – Part way through the project the Castle played host to the Bishop Auckland Food Festival. Our works, in particular the external elements had to be planned/delayed to ensure that the Food Festival could be held without any disruption. We also arranged for the skips, plant, materials, etc. to be removed from site and additional fencing/hoarding/screening was put in place to ensure the site was unobtrusive, clear and clean.

Deliveries & Traffic Management (Materials & Plant) – Deliveries were restricted and scheduled by our site manager to minimise congestion. We installed concrete barriers on day 1 to protect the main entrance arch from damage. We generally organised for the deliveries to be made early morning, i.e. before the tourists were around and arranged where possible for materials & plant to be delivered on smaller wagons or pickup sized vehicles using JIT principles (just in time). This obviously created less of an obstruction and the smaller quantity of materials could be off loaded quickly and straight into the site or a storage container to minimise the disruption. We discussed, agreed, co-ordinated and scheduled our deliveries with the Castle to prevent two deliveries arriving on site at the same time, thus minimising the congestion on what is a tight site with only one narrow access road & gate. Due to the public being in close proximity of this site all vehicle movements were supervised and controlled using a banksman. The methods adopted proved very successful and kept disruption to a minimum.

Pedestrian Routes – The existing pedestrian routes were maintained and segregation was provided using pedestrian barriers to ensure the safety of pedestrians & staff. We erected hoardings and sealed off doors internally to restrict access to the working areas. We also ensured that fire escapes were maintained to ensure that the building occupiers and our workforce had a primary escape route & alternative escape route at all times.

Waste Disposal – Skips were used to dispose of the rubble, plaster, etc. They were located close to the working areas to minimise travel distances. The skips were fenced off and removed/swapped as soon as they were full. We used 2 to 3 skips at any one time to allow us to segregate the plaster, rubble/inert & mixed other materials. All skips were then sent to Wards Processing/Recycling Centre where the materials were segregated further and reused/recycled to minimise the waste to landfill.

Parking – We had space for one vehicle on site, all other parking was off site in the town centre car parks. Workers were encouraged to drop off passengers, plant, tools and materials at the site before parking away off site.

Noise & Vibration – The nature of the works, in particular the removal of the plaster, generated significant noise & vibration. However through tool selection and continual liaison with the Castle staff we were able to carry out the works with minimal disruption. We worked with our plant hire company and carried out trials of different methods/machines to assess which kept the noise/vibration to a minimum. The works in the basement were carried out using breakers, however the work on the upper floor had to be done by hand to keep the disruption to a minimum.

Dust – As detailed on our phasing drawings we segregated the ground floor into 3 and the first floor into 2 manageable areas. Hoardings/dust screens were erected to create enclosures for us to work inside. We installed filtered dust extractors to extract air from the working area, to remove airborne dust and to create a negative pressure within the enclosure to minimise the probability of dust & Anthrax spores escaping into the main/occupied building.

Interruption in Supplies/Services – The interruptions in services/supplies were pre-planned and organised with the building staff. These were done out of hours or at agreed times/days.

Fire Safety – The fire alarm detectors were protected during the day to prevent false alarms and the protection was removed at the end of the working day to ensure that there was full coverage out of hours. Fire strategy plans were developed and fire points were established and maintained throughout the site. As part of our induction procedure the emergency and fire prevention measures were discussed and all combustible materials and waste were removed from the site on a daily basis. All hot works were covered by our hot work permit system. The works were managed without any fire incidents and without any false alarms.

Site Security – We maintained the existing security to the building. All doors and windows were secured at the end of the working day and all openings were securely horded to prevent unauthorised access. The existing intruder alarm system was maintained and altered as part of the works. Fencing, hoardings & barriers were used to isolate & secure the working areas.

Health & Safety - Prior to works commencing a Construction Phase Plan was developed, which included detailed risk assessments and method statements for all work elements. Public and staff safety was paramount in these assessments and control measures were implemented to ensure their safety.

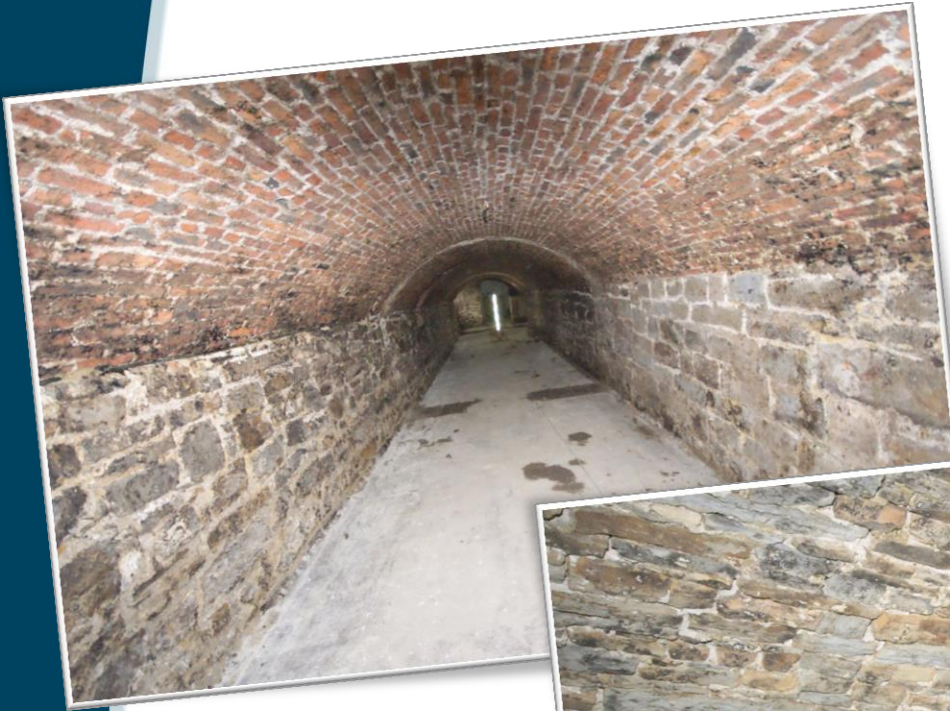
Removal of Plaster & Bitumen – The plaster from the ground floor was removed by machine and was originally planned to be removed in 3 stages. However once we commenced works the original system failed to be effective. We then worked with our specialist and the design team to develop a new 4 stage system after carrying out a series of sample panels using various techniques. On the first floor the plaster was removed by hand.

Identification - All workers signed in and out every day and wore ID Badges & PPE. This included hi-viz clothing, which we insisted on to make the public more aware of the workmen presence, thus they unconsciously generally take more care.

Transportation of Materials & Waste – Waste and materials were generally transported to the site workforce by hand, bags, wheelbarrows or using wheeled trollies, to minimise noise, reduce congestion and reduce the risk to public/staff.

This project gives details of just one of our many occupied schemes, giving you an insight in the measures that we adopt to ensure that our operations run smoothly with minimal disruption to others.

The project went exceptionally well and we are in discussions with the client to carry out further works at the Castle and on the adjoining buildings.



The Walls after the existing plaster & bitumen was removed.



Photo showing the archaeological excavation. The existing/discovered features were recorded and protected during the works.