



CASE STUDY

Date: 2020

Works: Licensed
Asbestos removal,
Knotweed removal and
Demolition

Sector: Redevelopment

Longcross Studios - Buildings #100 & #101, Chertsey

OVERVIEW: Lawson Group was awarded the title of principal contractor for this prestigious project located near Chertsey, approximately 25 miles west of London. It involved the removal of specific buildings, and a drainage and services package within the site. Set in over 200 acres, the area first started life as a Ministry of Defence site. In its MoD days, the site was run as the Military Vehicles and Engineering Establishment (MVEE), which was a British defence research unit. During the 1960s, the famous ceramic Chobham armour, along with other armoured vehicle designs, was conceived here. In 2006 the site was taken over by Longcross Film Studios.

Over the years, numerous buildings, office blocks and workshops ranging in size from 2,000 sq. ft to 13,000 sq. ft were built on the site, all of which have recently been used by various leading production companies. Many blockbuster films such as Thor 2, Fast and Furious 6 and Skyfall have been made at Longcross Studios. This first phase of Longcross studios was approx. 50 acres in size and was referred to as C1 and C2.



CHALLENGE: Care would need to be taken as works would continue around live services such as water, electricity, telecoms and gas. Being an ex-MOD site, there could be a risk of unexploded ordnance (UXOs) buried in the ground. Licensed asbestos was identified in multiple buildings, so this would need removing subject to a Plan of Works for each unit.



Evidence of bats had been found in an ecology report, meaning that the wellbeing of this protected species

would need to be a considered factor before any demolition works could commence. The entire demolition process would need to take place over an 18-week programme. Japanese Knotweed was also identified in some localised areas of the site and this would need to be carefully removed. Moving of current drainage, BT internet, gas, electric and water services would be required. Social distancing rules would need implementing and enforcing to keep all staff safe. Extensive welfare services for demolition operatives would be required. Thorough cleaning and hygiene practices would need to be laid down, as well as the implementing of other special measures in line with government COVID-19 directives.



Some businesses within the Longcross studio site would continue to operate whilst the demolition works took place. This meant meticulous planning and excellent communication channels with business owners would be required.

SOLUTION:

Buildings #100/101 (Former Canteen)

Before any work could start, a CAT scan of the site was carried out by the demolition supervisor who had received the relevant cable detection training. A Gen was attached to the live incoming gas and electric supplies. These were traced back and their location marked out. Service drawings were then checked to see if all the services identified had been found. All services that entered the site were then isolated. This was documented with an isolation certification provided by the client and a copy was kept within the site office.

Hand digging to locate live services was also required on buildings #100/#101 (former canteen). Before digging could commence, a C-Scope cable avoidance tool was used by a trained Lawson Group operative to scan the area and locate the cables. Once located, their route was marked out using line marker. A suitable location was then selected for the dig. Using correctly insulated spades and shovels, the operatives carefully dug a 1-metre square hole down to the depth of the service. Once the service had been exposed photos were taken and the locations marked.



Japanese knotweed was found behind the canteen and 80-tonnes of material were dug out. This contaminated topsoil was laid out up to 300mm thick on 1,200-gauge polythene sheeting. This material was left on poly sheeting for a three-year quarantine period (possibly five years) - depending on evidence of regrowth or only when the inspectors were happy that all the spores and plants had disappeared.



An ecology report on this building took place, and it was concluded that a bat box needed to be installed amongst the trees nearby. As stated in the ecology report, a cherry picker was used to inspect the building for roosting bats before the soft strip and non-notifiable

asbestos could be removed. There were also internal aspects to be considered such as checking behind panels for evidence of bats.

A tree surgeon was subcontracted to carefully cut a corridor in amongst the trees for Lawson Group to gain access round the back of the structure; and to enable the laying of new drains and services later in the project.

Three areas were identified in the Plan of Works for asbestos removal, they were:

- **Area 1: Asbestos insulating board to either side of tank room 8m².**
- **Area 2: Asbestos insulating board above windows to G.04, 4m².**
- **Area 3: Asbestos insulating board above windows to G.15, 4m².**

The enclosure was accessed via an airlock that was fixed to the external side of the enclosure. Tower scaffolding, with a working platform of no more than 2.5 metres, was used to access the AIB panels. For area 1, the fixed scaffolding handrail was approximately 3.5 metres high and had ranch boards fitted. Negative Pressure Units (NPU) were positioned at the opposite end of the enclosure to the airlock. Waste was carefully removed via a baglock and then through a designated waste route to the enclosed skip. The perimeter of the site was fully enclosed with Heras type fencing to segregate areas.



A decontamination unit (DCU) was set up near to the front of the building and was fully operational throughout the process. The enclosures, DCU, airlocks and baglocks were positioned as per the agreed site plan. The pre-formed asbestos removal enclosures were smoke tested prior to becoming operational. Lawson Group ensured that personal air monitoring was carried out during and after removal works using a 4-stage air clearance test.

The removal of asbestos was carried out under fully controlled conditions, it included an enclosure and negative air pressure units; all as per the current CAR Regulations 2012. Lawson Group's highly trained asbestos operatives were site inducted, this included the reading of the plan of works (POW).

Once the asbestos products had been safely removed, then the demolition of the structures could begin. This building was predominantly of red brick and timber construction and was two storeys in height. There was also a pedestrian access bridge constructed from reinforced concrete with metal railings leading to the main structure.



All fencing carried signage warning of the dangers to others entering the demolition zone during structural mechanical demolition. Dust suppression equipment was set up next to the demolition excavator and a water supply from a fire hydrant was used to supply the tank via a licensed standpipe. The dust boss supplied a cloud of water to the building being deconstructed to dampen down any dust. The operative using the equipment stayed in full view of the excavator driver and was positioned well away from the demolition drop zone. The demolition supervisor

monitored the use of water to ensure the minimum amount was used, this reduced the environmental impact of excessive use and water runoff.

All entrances to the building were securely fenced off to ensure no entry was made into the building. The stability of the building was continually monitored by the excavator operator and the demolition supervisor.



Using a demolition excavator with hydraulic grab attachment, the roof was removed back to the first supporting column allowing one bay of the roof to be lowered carefully to the ground floor slab. Once the roof had been removed, the excavator then worked its way in by first removing the gable end and then folding in both side walls. The wood, steel and other associated materials were removed and lowered to ground level away from the building. These materials were then processed and loaded into the designated 40-yard waste bins.

Once the roof had been removed, the internal walls and floors were removed and lowered to ground level. This process of deconstruction was repeated until the entire building and its pedestrian access bridge had been deconstructed. A combination of Cat 323 and Cat 336 excavators were used with hydraulic grabs and pulverisers to demolish the structures. Mechanical crushing followed the demolition and was completed to a 6F2 grade.



RESULT:

At the time of writing, demolition was down to the slab only, but the slab may have to be removed at a later date depending on a decision by the client. The site was successfully and safely deconstructed and handed back to the client ready for the next stage of development.



To find out more on how Lawson Group can help with your next demolition or asbestos removal project, call 01793 782000, email estimating@lawsongroup.co.uk or visit www.lawsongroup.co.uk