

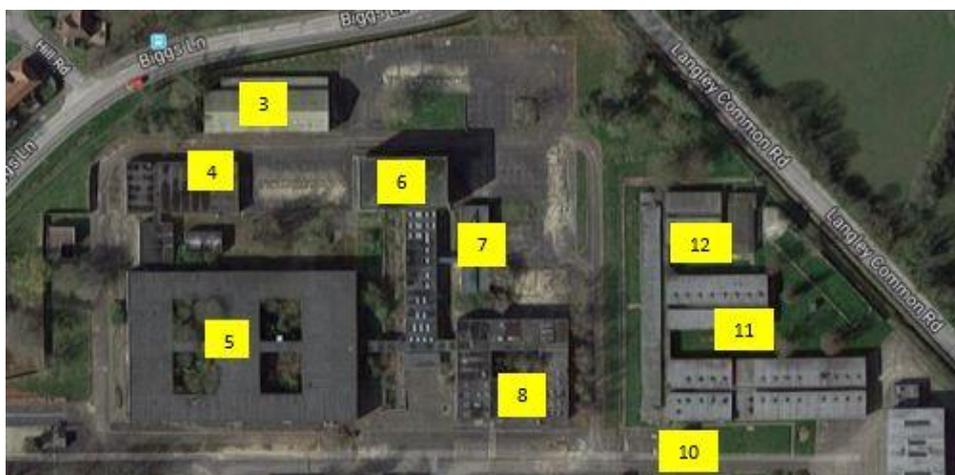


## Arborfield Garrison (Parcel X and Y Demolition), Berkshire

**OVERVIEW:** As part of a demolition programme of the entire Arborfield Garrison site, Lawson Group were asked to demolish buildings that formed an area known as Parcel X and Y.

**CHALLENGE:** This would be one of the larger phases of the programme so would need meticulous planning. Buildings 12, 11, 10, 07, 08, 06, 05, 04, 03 would need demolishing but only once the asbestos in each building had been removed. Before any mechanical demolition was to take place, the inspection for the presence of Bats would be required. Lawson Demolition would need to comply with BS5228 in respect to minimum noise levels during the execution of the works.

**SOLUTION:** Any Asbestos containing materials were systematically removed from the buildings as per the scope of works produced by Lawson Environmental. The order of asbestos removal followed the order of Buildings 12, 11, 10, 07, 08, 06, 05, 04, 03



(shown in image below) with soft stripping and then demolition using the same order for processing after each building was clear of asbestos. Once the soft stripping had taken place then the demolition phase could begin.

### **Building 6**

This was the tallest building on the site. When soft stripping this building, all floors were stripped as per the agreed methodology, with material being dropped in a designated and fenced off drop zone around the building



This designated drop zone formed around the building allowed material to be safely dropped from an upper location eliminating the risk of hitting an operative at ground level. Using this method also eliminated the risk of carrying material down the stairs, which in turn eliminated potential trips and falls. Signage around the perimeter was used to clearly show the drop zone. A supervisor constantly monitored the weather in case there was a change in wind speed or direction that could alter the falling material route to ground. All lightweight objects were bagged and then dropped.

### **Mechanical Deconstruction Building 6**



Following the soft strip, the demolition phase could start. Dust suppression equipment was set up next to the demolition excavator. A water supply from a fire hydrant was used to supply the tank via a licensed standpipe. A 360-demolition excavator, with high reach arm and demolition attachment, was positioned at the rear of the structure, all voids in the ground such as manholes and sewers were protected. Using a 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.

Any wood and timber were then removed and lowered to ground level away from the building. Once the roof had been removed, the internal walls and floors were removed and lowered to ground level. The external walls were left until all internal walls had been removed to help contain any dust generated. The stability of the building was continually monitored by the excavator operator and the demolition supervisor. This process of deconstruction was repeated until the entire building had been removed.

**Other low level buildings were demolished in a similar way to building 6 but with a standard 360 machine.**

### Building 3



This building had Asbestos roof sheets which had to be removed before the building could be stripped and demolished.

Only operatives who had received Class 2 Asbestos training undertook this work. The area was cordoned off with tape and signs displayed. An asbestos zone for the removal of the roof sheets was formed using tape and asbestos warning signs. The site was segregated to stop anyone not involved in the work from

entering. The work only included the minimum amount of people needed to complete the task.

A respirator only exclusion zone was set up utilising Heras type fencing with warning signage attached to prevent unauthorised access into the working area. To remove the roof sheets, a MEWP scissor lift was used. These MEWPS were positioned in the centre of the building starting at one end. The undersides of the sheets were wetted down before removal using a hose pipe fed from the building's water supply.



An operative supported one end of the first sheet, the second operative using a battery powered reciprocating saw, cut the U-bolts that supported the sheet. Both operatives then lowered the roof sheet down, this was then passed to ground level. The roof sheets were then placed on the pallet forks of the forklift. This process of

removal took place throughout the building until all roof sheets had been removed. As the removal process progressed, the sheets were wetted on both sides ensuring all sheets were wet before removal.

As the sheets were removed, the insulation was removed, bagged and treated as asbestos waste.

All asbestos gutters and down pipes were removed and placed in a designated 40-yard waste bin. Once all asbestos containing products had been removed, the supervisor checked the area, the floor was wetted down and brushed with all waste bagged, removed and placed in the asbestos bin.

Once the roof sheets were removed, the building was demolished using a 360-machine taking down the external walls, folding them into the footprint of the building as described on building 6.

## Building 10



This was a small structure which was demolished using a 360 excavator from the side and working from the top down.

A banksman was used to help guide the machine operator as care needed to be taken so as not to damage timber hoarding located nearby.

## Buildings 11, 12 and 4



These structures were of brick construction and had flat timber roofs.

The 360-machine with re-handling grabs, removed the roof timber structure first and place into 40-yard bins. The main structures of the buildings were then removed as described in the above demolition process described for building 6.

## Buildings 5 and 8



These two buildings were two storey, brick structures with flat timber roofs.

As with the other similar buildings, the roofs were taken off and the timber cladding removed from the walls. This was kept separate before the 360-excavator removed the brick walls. Using re-handling grabs was key to separating the general waste from the recyclable material.

Before slab and foundation removal could occur for **all** buildings, services in the ground would need identifying. Using a service drawing issued by the client, along with a CAT



scanner and Geni, all known and identified services were marked out on the ground using spray paint. All operatives were shown the locations and made aware.

Starting at the edge of the building slab, the excavator with bucket attachment lifted out the slab in large pieces, ensuring the ground below was not disturbed.

Once the slab had been lifted, the excavator returned to the edge of the slab and dug around the first foundation. The foundation was then lifted out and stockpiled ready for breaking. The area of ground from where the foundation had been removed was then back filled and tracked in. This process was repeated until all foundations had been removed.



The Mobile Crusher was operated in accordance with the Safe Operating Procedure from the NFDC. Daily Plant Inspections were conducted and recorded on the Plant/Vehicle Checklist. All defects were reported in accordance the Company Defect Reporting Procedure.

Daily assessment of emissions from the operation of the Crusher were also conducted and recorded on the Visual Assessment of Emissions Sheet, in accordance with the Local Authority



Permit. The crusher was



positioned next to the stockpile of material on firm level ground. A hearing protection zone was set up around the crusher with signs attached to Heras fencing, this was indicated on the site drawing, included in

the site induction and daily briefings. A water supply to the crusher was required at all times, this was set up and attached to the crusher's suppression system.

The 360-degree excavator loaded the crusher in a controlled manner ensuring material was not over-loaded in the hopper. This was positioned on the stockpile, high enough to allow the operator to monitor the feed into the jaw of the crusher. All arisings from the crusher were stockpiled on site and removed from the crusher belt using an excavator



or loading shovel. The discharged material was allowed to heap up to reduce the height the crushed material could fall; this reduced the dust generated from the discharge belt. The crusher moved along the stockpile as and when required.

**RESULT:** All buildings were successfully demolished, and the site was made ready for the next stage of redevelopment. All arisings from the crushed material were stored on the former site of building 11 ready for recycling.



To find out more on how Lawson Group can help with your next demolition or asbestos removal project, please call Lawson Group on 01793 782000, email [estimating@lawsongroup.co.uk](mailto:estimating@lawsongroup.co.uk) or visit [www.lawsongroup.co.uk](http://www.lawsongroup.co.uk)

