



UXO:

THE DEVESTATING, HIDDEN THREAT TO YOUR PROJECT.

UNEXPLODED ORDNANCE
IN LIVERPOOL: WHY IT'S
THERE, WHERE IT CAME
FROM, AND WHAT YOU
CAN DO ABOUT IT.



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THE BLITZ



Liverpool, the blitz, and the risks of encountering unexploded ordnance today.

At the start of WWII, the German air force, the Luftwaffe planned to destroy key military installations in the UK, including RAF airfields and Royal Navy bases.

The destruction took place during a series of daylight bombing raids, mainly in the south, south-east and east of England. However, some small-scale raids occurred in Merseyside too.

After the Battle of Britain, the Luftwaffe's airborne destruction tactics were modified to include both economic and industrial sites across the entire country. Targets included dock facilities, railway infrastructure, power stations, weapon manufacturing plants and gas works.

As a result of aircraft losses however, daylight raids were reduced in favour of attacking targets under the cover of darkness.

As the war progressed the strategy changed again to one of attempting to destroy the morale of the civilian population by the carpet bombing of major UK cities including Liverpool.

WWII bombing of Liverpool.

During WWII, Liverpool was home to the most important port outside London, additionally, 74,000 aircraft and 4.7 million troops passed through the city. By early 1941 Liverpool represented a major naval base and headquarters for Britain's North Atlantic Campaign too.

Once London's port facilities were immobilised following an intense bombing campaign, Liverpool became even more important to the British war effort with 100 warships built at the Cammell Laird shipyards.

Consequently, the docks and the city experienced repeated bombing by the Luftwaffe and by the end of the war, Liverpool was the second most heavily bombed city in Britain, behind London.

German bombing over Liverpool was sporadic in the autumn of 1940, however the raids grew in intensity towards the end of the year. By 23rd October 1940, Liverpool had suffered 200 air raids, increasing to 300 by 12th December.

(cont).



The most intense periods of bombing were the Christmas raids of December 1940 and the week-long May Blitz of 1941. The former was a three consecutive night attack (20th – 22nd December) which resulted in the deaths of 365 people.

The May 1941 Blitz that followed was a seven-night bombardment that devastated the city. 500 roads were closed and one third of the houses in Liverpool were damaged or destroyed. It involved 681 Luftwaffe bombers dropping 2,315 high explosive (HE) bombs and other devices, including numerous 1kg incendiaries.

The raids put 69 out of 144 cargo berths out of action and inflicted 2,895 casualties on the city.

During the heaviest raid, which took place during the night of the 3rd May 1941, the largest explosion on Merseyside during the war was caused when the ammunition ship SS Malakand in Huskisson Dock No.2 exploded. The vessel contained 1,000 tonnes of bombs and shells and the resulting explosion destroyed several acres of the surrounding docks.





3 Liverpool Blitz fascinating facts:

- Several bombing decoy sites were set up close to the Wirral, which succeeded in attracting many bombs that would otherwise have landed on Merseyside.
- There were over 50 German air raids on Merseyside between August and Christmas 1940. By April 1941, the area had endured over 60 raids.
- During the May Blitz, almost half of all berths in Liverpool's docks were put out of action.

British and Allied unexploded ordnance (UXO) in Liverpool

- Being such a significant port city during WWII, Liverpool and the Merseyside area was home to a number of features that led to contamination from British ordnance.
- An electronically controlled minefield was laid between Gladstone Dock and New Briton on the Wirral.
- RAF fighter aircraft were based at Speke, Cranage, Tern Hill and High Ercall, Wrexham, Anglesey and Blackpool.

- Liverpool's air defences included barrage balloons above the docks and at sites around the city, which usually deterred the raiders from attacking below 5,000ft.
- Gladstone Dock became home to an anti-U-boat fleet and was a base for transatlantic escorts and minesweepers.

The legacy of UXO in Liverpool

One of the lasting legacies of conflict in Liverpool is buried unexploded air-dropped bombs or anti-aircraft projectiles. A failure of a proportion of the weapons to function as designed means many remain buried and as yet undiscovered to this day.

It is commonly accepted that the failure rate of these munitions was approximately 10% and, depending on their shape, weight, velocity and the ground conditions they encountered, many penetrated the ground and came to rest at depth.

Intensive efforts were made during and after the war to locate and render safe UXO but, unsurprisingly, not all were found and dealt with. This is evidenced by the regular, on-going discoveries of UXO during construction-related intrusive ground works in and around Liverpool to this day.



UXO FINDS IN LIVERPOOL



A sample of recent finds in Liverpool:

May 2024 workmen unearthed UXO at the Unilever factory in Port Sunlight.

March 2024 two suspected bombs were found in one day; one in New Brighton and one in Birkenhead.

September 2021, an unexploded WWII bomb was found at the location of Bramley Moore Docks, close to Everton Station.

February 2021, a 500lb unexploded bomb is found on a beach in Merseyside.

July 2019, a WWII grenade was found in the Leeds Liverpool canal near Tarleton.

May 2019, a WWII grenade was found at a recycling centre in Liverpool.

March 2016, seven unexploded WWII bombs found in Liverpool city centre over 2 days.

May 2010, WWII bomb discovered by a dredger in the River Mersey.

May 2006, 500kg unexploded bomb (UXB) was found at Twelve Quays dock, Birkenhead.

A sample of post-WWII bomb disposal officer clearance tasks:

October 1951, 2 x British 250lb unexploded bombs found in Birkenhead Docks.

November 1951, 1 x British 500lb UXB found in Victoria Dock, Birkenhead.

May 1953, 1 x 50kg UXB found in Liverpool.

August 1953, 50kg UXB dredged from Alexander Dock .

September 1954, 25-kg UXB and 15 x fuzes found in Liverpool.

August 1969, 250kg UXB recovered in North Branley Dock.

November 1969, 250lb British UXB found in South Nelson Dock.

March 1984, 250kg UXB found in West Sandon Docks.

April 1991, 250kg UXB found in Liverpool.

(Undated), 250kg bomb and 2 x fuzes found in Liverpool.

UXO STILL AFFECTS PROJECTS

How unexploded ordnance continues to affect construction projects in Liverpool – and what you can do to protect your development:

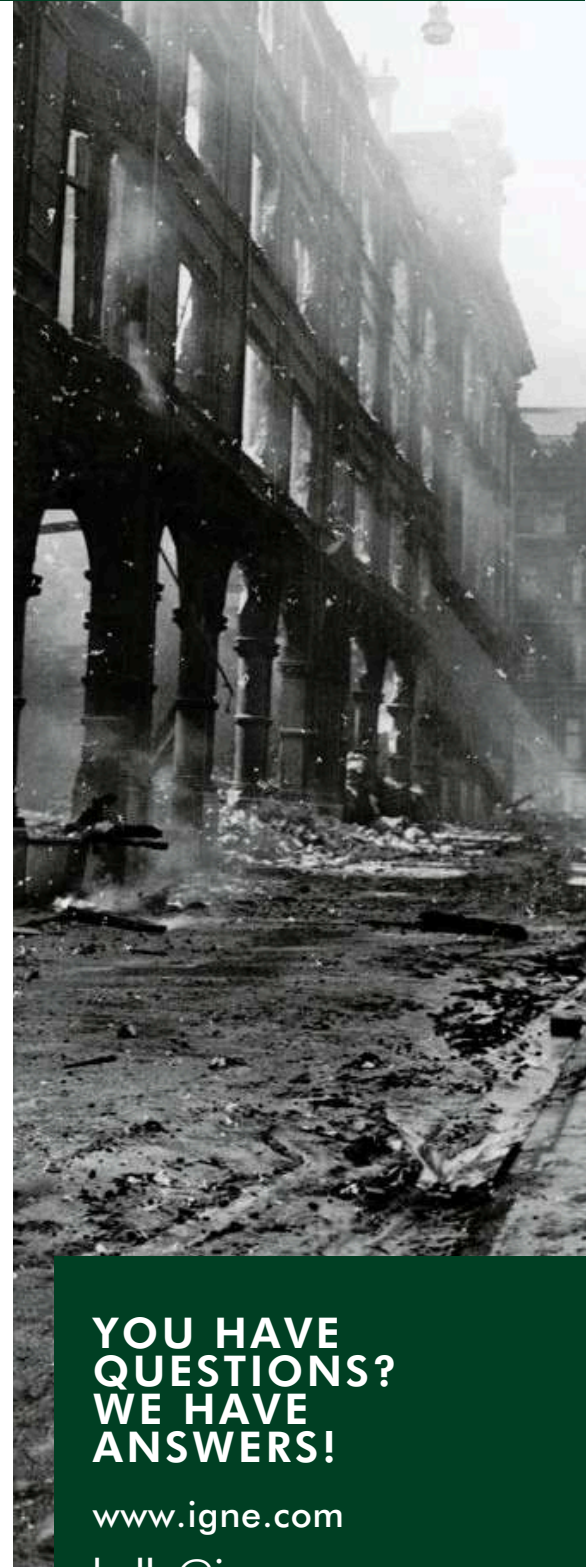
Unexploded ordnance (UXO) presents a significant risk to construction projects in many parts of the UK as a result of enemy actions during the two 20th Century World Wars and historic British and Allied military activity.

As a result of a generally increased risk awareness amongst professionals involved in ground engineering works and proactive health and safety measures, the risk to life and limb from UXO has been minimised. However, even the simple discovery of a suspected device during on-going works can cause considerable disruption to projects and cause unwanted delays and expense.

If you're designing, planning or delivering any form of intrusive ground works in Liverpool – from property development to infrastructure improvements – understand your site-specific risk and the appropriate risk mitigation measures before you break ground.

Igne's in-house researchers undertake preliminary and detailed UXO risk assessments (in accordance with CIRIA C681) to help you understand your likely risk of encountering ordnance on your project site.

A preliminary risk assessment (PRA) is the first step towards reducing your site's UXO risk to as low as reasonably possible (ALARP). Where risk potentially remains, a detailed risk assessment can follow.



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