



**SAFELANE<sup>®</sup>**  
GLOBAL

# UXO:

**THE DEVESTATING,  
HIDDEN THREAT TO  
YOUR PROJECT.**

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**UNEXPLODED ORDNANCE  
IN GLASGOW AND  
CLYDEBANK: WHY IT'S  
THERE AND WHAT YOU  
CAN DO ABOUT IT.**

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# THE BLITZ



## Why Glasgow & Clydebank were so heavily bombed in WWII – and the explosive impact of this bombing on today's construction sites

During WWII, the Glasgow region was home to several major shipyards, marine engineering businesses, iron works, power stations, Admiralty fuel storage tanks and other heavy industry. By the early 20th Century, an estimated 20% of all the ships in the world were manufactured by industries on the River Clyde, helped by the location of surrounding industry and raw materials. Ravenscraig Steel Works provided vast quantities of required steel, whilst extensive coal mining in the region (up to 560 separate mines at its peak) provided all industry with a ready power source.

As a result, the Glasgow area was seen as particularly vulnerable to German bombing, particularly since the Clyde was Britain's main entry point for allied merchant shipping as well as its largest berth for warships. Despite its distance from mainland Europe, the Clyde was vulnerable to attacks from long range bombers stationed in Nazi-occupied Norway.

Bombing commenced over the Glasgow region on the 19th of July 1940 and the city was

bombed on 11 occasions up to the 23rd of March 1943. While regular air-raid warnings began in Dunbartonshire in June 1940, no significant attack occurred until the night of the 13th of March 1941. On this night major raids were launched against Glasgow and Clydebank, in which the docks and industrial objectives in Glasgow and shipyards along the Clyde were attacked by 236 aircraft of Luftflotten 2 and 3.

They dropped 272 tonnes of HE and 1,650 BSK (59,400 incendiary bombs) in favourable weather conditions, all crews bombing visually. All target areas were easily identified and claimed to have been successfully hit without interference from the ground. Fires destroyed Singer's timber yards as well as Yoker Distillery and Old Kilpatrick's oil depot.

Clydebank suffered the most because of this raid, with the official death toll being estimated at a minimum of 528 casualties. Hundreds of incendiary bombs were dropped, starting marker fires to assist further waves of bombing. Many of the industrial targets in the region were either directly struck by HE bombs or sustained severe blast or fire damage from incendiary bomb showers.



## Facts about the Glasgow and Clydebank blitzes:

- Clydebank's housing was completely decimated, with roughly 1/3 of housing being destroyed and only seven escaping any damage.
- Clydebank received a density of bombing of roughly 171 bombs per 1000 acres. However, due to wartime restrictions, the destruction of Clydebank went almost completely unreported.
- At the Admiralty oil storage depot at Dalnottar, 11 large tanks were destroyed and others severely damaged. Millions of gallons of fuel were lost, and the resulting fires burned for two weeks. When the site was finally cleared, 96 bomb craters were counted.





# UXO'S LEGACY

## The legacy of UXO in Glasgow and Clydebank: the impact it has to this day.

One of the legacies of this conflict is buried unexploded air-dropped bombs or anti-aircraft projectiles resulting from the failure of a proportion of the weapons to function as designed. It is commonly accepted that the failure rate of these munitions was approximately 10% and, depending on their shape, weight, velocity and ground conditions, many penetrated the ground and came to rest at depth.

Intensive efforts were made during and after the war to locate and render safe all 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.

## A sample of recent UXO finds in Glasgow and Clydebank:

- 2002 - Wartime bomb detonated at Meadowside Granary.
- 2007 – Unexploded bomb alert at primary school in Dumbarton.

- 2012 – Bomb squad called after find at Dalmarnock power station.

- 2018 – Bomb squad called after another find at Dalmarnock power station.

- November 2020 – Magnet fishers find four items of UXO at Dalmarnock Bridge, Glasgow (a shell, grenades and an unexploded bomb).

- July 2021 – Possible unexploded bomb found in the River Kelvin, Glasgow.



# UXO STILL AFFECTS PROJECTS

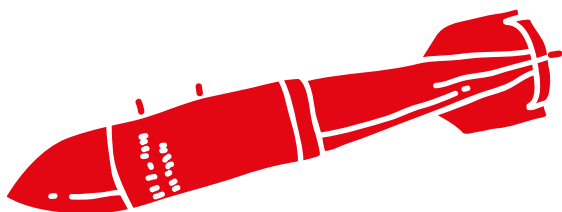
How unexploded ordnance continues to affect construction projects in Glasgow and Clydebank – and what you can do to protect your development:

Unexploded ordnance (UXO) presents a significant risk to construction projects in parts of the UK because 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 production and cause unwanted delays and expense.

Such risks can be more fully addressed by a better understanding of the site-specific risk and the implementation of appropriate risk mitigation measures.

The complexity of the risks required end-to-end support, which can be offered by SafeLane Global. With unswerving focus on the removal of risk for over 30 years and for 10,000+ clients, SafeLane Global protects against the threats of harm and commercial loss that unexploded ordnance continues to pose across the UK.



**FIND YOUR  
SOLUTION TODAY**

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