

Pollution From Construction



The construction industry is a major source of pollution, responsible for around 4% of particulate emissions, more water pollution incidents than any other industry, and thousands of noise complaints every year. Although construction activities also pollute the soil, the main areas of concern are: air, water and noise pollution.

Air Pollution

Construction activities that contribute to air pollution include: land clearing, operation of diesel engines, demolition, burning, and working with toxic materials. All construction sites generate high levels of dust (typically from concrete, cement, wood, stone, silica) and this can carry for large distances over a long period of time. Construction dust is classified as PM10 - particulate matter less than 10 microns in diameter, invisible to the naked eye.

Research has shown that PM10 penetrate deeply into the lungs and cause a wide range of health problems including respiratory illness, asthma, bronchitis and even cancer. Another major source of PM10 on construction sites comes from the diesel engine exhausts of vehicles and heavy equipment. This is known as diesel particulate matter (DPM) and consists of soot, sulphates and silicates, all of which readily combine with other toxins in the atmosphere, increasing the health risks of particle inhalation.

Diesel is also responsible for emissions of carbon monoxide, hydrocarbons, nitrogen oxides and carbon dioxide. Noxious vapours from oils, glues, thinners, paints, treated woods, plastics, cleaners and other hazardous chemicals that are widely used on construction sites, also contribute to air pollution.

Water Pollution

Sources of water pollution on building sites include: diesel and oil; paint, solvents, cleaners and other harmful chemicals; and construction debris and dirt. When land is cleared it causes soil erosion that leads to silt-bearing run-off and sediment pollution. Silt and soil that runs into natural waterways turns them turbid, which restricts sunlight filtration and destroys aquatic life.

Surface water run-off also carries other pollutants from the site, such as diesel and oil,

toxic chemicals, and building materials like cement. When these substances get into waterways they poison water life and any animal that drinks from them. Pollutants on construction sites can also soak into the groundwater, a source of human drinking water. Once contaminated, groundwater is much more difficult to treat than surface water.

Noise Pollution

Construction sites produce a lot of noise, mainly from vehicles, heavy equipment and machinery, but also from people shouting and radios turned up too loud. Excessive noise is not only annoying and distracting, but can lead to hearing loss, high blood pressure, sleep disturbance and extreme stress. Research has shown that high noise levels disturb the natural cycles of animals and reduces their usable habitat.

Measures to Prevent Pollution

Good construction site practice can help to control and prevent pollution. The first step is to prepare environmental risk assessments for all construction activities and materials likely to cause pollution. Specific measures can then be taken to mitigate these risks:

- To prevent erosion and run-off, minimise land disturbance and leave maximum vegetation cover.
- Control dust through fine water sprays used to dampen down the site.
- Screen the whole site to stop dust spreading, or alternatively, place fine mesh screening close to the dust source.
- Cover skips and trucks loaded with construction materials and continually damp down with low levels of water.
- Cover piles of building materials like cement, sand and other powders, regularly inspect for spillages, and locate them where they will not be washed into waterways or drainage areas.
- Use non-toxic paints, solvents and other hazardous materials wherever possible
- Segregate, tightly cover and monitor toxic substances to prevent spills and possible site contamination.
- Cover up and protect all drains on site .
- Collect any wastewater generated from site activities in settlement tanks, screen, discharge the clean water, and dispose of remaining sludge according to environmental regulations.
- Use low sulphur diesel oil in all vehicle and equipment engines, and incorporate the latest specifications of particulate filters and catalytic converters.
- No burning of materials on site.

- Reduce noise pollution through careful handling of materials; modern, quiet power tools, equipment and generators; low impact technologies; and wall structures as sound shields.

Pressure to Clean Up

The UK Environment Agency and other government bodies are putting increasing pressure on construction companies to reduce pollution and conform to environmental regulations. In the past the pollution fines have been low and environmental regulations slack, and it could have been perceived as cheaper to pollute than to prevent pollution. This situation is now changing, and enforcement of environmental regulations is not only very expensive but can be irreversibly damaging to the reputation of a firm. Measures to reduce and control pollution are relatively inexpensive and cost-effective, and the construction industry needs to incorporate these into an environmental management strategy. By employing these practices, the construction industry is well positioned to clean up its act. Find out more [about ecofriendly construction methods](#).

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I have been inventing pollution containment product for over 20 years. This has lead me to write a simple free guide to pollution prevention. It is worrying just how little understanding there is regarding water pollution and the risk. Pollution is a crime, there is no excuse. Very few contractors understand that there insurance does not cover a prosecution via the regulator.

making pollution pre - 19-Nov-15 @ 4:53 PM

I personally don't believe pollution exists and its a load of rubbish

balls - 2-Nov-15 @ 9:45 AM

I WANT TO NOW ABOUT TOPIC AND SITES WHERE I COLLECT AMATTER ABOUT POLLUTION DUE TO CONTRUCTION. I MAKE A PROJECT ON THIS TOPIC.

JP - 10-Oct-15 @ 1:39 PM

@JustJo. Not everything in society can be regulated and this would probably be too difficult to police.

SustainableBuild - 11-Jun-15 @ 12:00 PM

It is now Sunday evening after a very dry weekend yet our cat has just returned from an evening wander looking as if he has sat then laid down in a puddle of cement. There are several redevelopment building sites close with skips, any one of which he might have got into. It concerns me that wet cement or waste water with cement is lying out somewhere for unsuspecting animals such as cats, wild birds, squirrels, foxes and endangered animals like hedgehogs could wander into. None of them have owner who can help clean them and could therefore suffer or die from having cement on the outside of their bodies and from ingesting it as they try to clean themselves. Surely there are regulations stating that any such substances should be covered up as a minimum, are there not? Your comments are appreciated.

JustJo - 7-Jun-15 @ 11:25 PM

@Sick of noise. You could try complaining Environmental Health about the nuisance. If the skip is directly in front of your window are they trespassing? You could get something done about that of course. Speak to you neighbour. Find out how long the work will take. If you have an end date it may be easier to tolerate for a while longer.

SustainableBuild - 6-May-15 @ 9:58 AM

What rights, if any do we have in respect of the noise, dust, mess and general disruption caused by my neighbour's builders works. We live in an attached Victorian house. For 10 years we enjoyed peace and quiet. Then the attached house next door was sold and we are now into our second year of extensive renovations to the next door property. There seems to be no attempt by the builders to control the dust. They have removed tonnes of stone and rubble from the house and placed it in a skip directly in front of our family room window. The noise has been intolerable. My husband works from home and I have been trying to study, but the pneumatic drilling and banging continues throughout the day, with no notice from the builder as to when this is due to happen. The building site is a complete mess. I have never met such ignorant builders.

Sick of the noise an - 28-Apr-15 @ 12:18 PM

how do you prevent turbidity in urban areas?

sam - 22-Apr-15 @ 5:22 PM

@carly. Arrange a meeting with the council and the developers to negotiate some points over specific issues. You should get an end date from them, an agreement not to work weekends, or maybe if it suits you, to provide you with alternative accommodation at

weekends etc.

SustainableBuild - 27-Jan-15 @ 10:41 AM

@Christine Brody. Your neighbour's building projects should not be affecting you/your garden in this way. Can you get someone from your housing team to help you address this? Really the neighbours should be helping or contributing to the restoration of your garden. Speak to a local councillor or MP, who may be able to put you in contact with an organisation that can help you with the garden or with recouping some of the costs.

SustainableBuild - 26-Jan-15 @ 10:57 AM

Construction of a development of about 120 houses has just started beside my house. The noise was just about bearable for a few weeks but then they started breaking concrete which was unbearable. I called the council, they talked to the foreman who said that would only last about a week. They also advised that they wouldn't work Saturdays. A few months later and now they are mixing concrete this morning: Saturday morning. The noise is terrible and I can't open my windows or go outside let alone sleep. I would like to know what are my rights as someone who owns the property beside the site? How can I find out the estimated finish date for the development so that I can see the light at the end of the tunnel? it would be a lot easier to cope with the stress this causes me if I knew it wasn't going to be forever. Thanks.

Carly - 24-Jan-15 @ 9:28 AM

I live in council owned accommodation between 2 privately owned dwellings. The continual resale and redevelopment and employment of unsupervised building has been problematic to say the least. We have suffered very much. But it is my garden which is very distressing. This year again we are faced with rebuilding and making good a garden which at its best is beautiful. The woodland garden I planted gradually over the years with fuschias leading to a beautiful bed of hellebores leading to blue bells with 200 fresh bulbs planted last autumn now showing. A trampled cherry tree. A border torn up. Will my woodland soil recover and how best apart from removing sand and cement and adding topsoil can I help it do that. I have advanced rheumatoid arthritis and am visually impaired. The garden is what saves me.

Christine Brody - 22-Jan-15 @ 12:58 PM

@Santosh. You may find this publication: "EH40/2005 Workplace exposure limits: Containing the list of workplace exposure limits for use with the Control of Substances

Hazardous to Health Regulations 2002 (as amended) Environmental Hygiene Guidance Note EH40 (Second edition) HSE Books 2011 ISBN 978 0 7176 6446 7 " useful.

SustainableBuild - 27-Nov-14 @ 11:45 AM

What construction chemicals or substances are banned? I have heard about asbestos and bentonite. Is there any regulation for this in the UK or any code of conduct being followed?

Santosh - 26-Nov-14 @ 5:30 PM

What regs are in place for private builders --is it council regulated.I'm frequently getting clouds of dust, rubble and particles of insulation material from a roof extension build next door floating/falling into my space whether I have my door open or not. My eyes are suffering as a result and I want to know if this is common place and acceptable behavior or if they should be avoiding this happening more thoroughly. Thanks

T - 20-Aug-14 @ 10:05 AM

Who is Jennifer Gray,,which organisation she is affiliated with. I would like to reference this article

Sweet Bread - 9-Apr-13 @ 10:39 AM

Has any company ever been fined for failing to meet air quality standards around a construction site? If there is no threat of a fine what incentives do constructors have to implement solutions to improve air quality.

urbangreening - 24-Oct-12 @ 5:23 PM

Actually theres my project on noise pollution.and ur site really help me in getting information on noise pollution.so I am very much thankful to u.

kushaltheterminator - 15-Jan-12 @ 6:59 AM

Need frequent messages on dust and noise pollution

steve - 14-Jul-11 @ 8:06 PM