



Asphalt Plants

Frequently Asked Questions

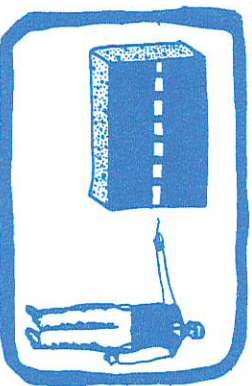


Asphalt Plants: Frequently Asked Questions

The N.C. Department of Environment and Natural Resources (DENR) receives many calls and letters about asphalt plants, generally when companies apply for permits to build new facilities. North Carolina has about 150 asphalt plants, and about five new facilities are permitted each year. Many asphalt plants are portable, so they can be moved to different locations based on needs for new highways and other construction projects. Before a company can build or operate an asphalt plant, it must obtain an air quality permit and in some cases may need water quality permits. In DENR, the Division of Air Quality handles air permits for asphalt plants, and the Division of Water Quality handles water permits (if applicable).

What is asphalt and how is it made?

Asphalt is a paving material made from crushed rock and asphalt cement, which is a mixture of petroleum compounds produced by oil refineries. Asphalt plants heat the asphalt cement in enclosed tanks then combine it with crushed rock. The asphalt is then conveyed to storage silos, where it is loaded onto trucks for delivery to construction sites for highways, parking lots and residential areas.



How do asphalt plants affect air quality?

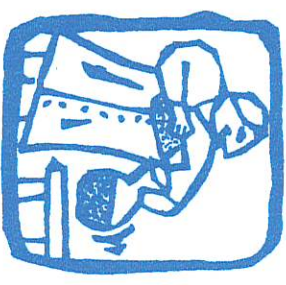
Air emissions are created at several stages during asphalt production. Most of the emissions come from an asphalt plant's main stack. Fumes from asphalt storage and loading areas account for the remaining air emissions, collectively referred to as fugitive emissions.

Asphalt production, like any process in which materials are heated or burned, can produce a range of air emissions. Many of these same compounds are emitted by cars and trucks, fireplaces and wood stoves, wildfires, and other industries. While some of these emissions potentially can be unhealthy to breathe, such problems can be prevented by requiring asphalt plants to install controls or take other measures that reduce their emissions of harmful air pollutants. That is the guiding principle behind state air quality rules, which set stringent limits for a range of pollutants based on their known health effects. In addition, the Division of Air Quality (DAQ) plans to re-examine its permitting procedures pending the results of a nationwide study of asphalt plant emissions being conducted by the U.S. Environmental Protection Agency (EPA). If changes are warranted based on the EPA study, the DAQ can reopen asphalt plant permits issued since April 1998.

How does the Division of Air Quality control asphalt plants?

All asphalt plants must obtain an air permit from the Division of Air Quality. The DAQ reviews all air permit applications for compliance with state and federal air quality

- regulations. All asphalt plants must meet air quality limits for particulates, which include dust and soot. In addition, all new, modified or relocated asphalt plants must comply with the state air toxics rules, including emissions from stacks and fugitive sources. To meet air quality limits, all asphalt plants have emissions control equipment such as bagfilters or scrubbers. Other options for curbing their emissions include:
- Limiting production rates or hours of operation.
 - Constructing taller emissions stacks.
 - Increasing the distance between facilities and property lines.
 - Using higher grades of fuel for asphalt heaters.



In reviewing permit applications, the DAQ uses computer models to determine whether emissions will exceed state or federal air quality standards. These computer models, which are approved by the EPA, factor in such information as plant emissions rates, production levels, property lines, local terrain, winds and temperatures. The models assume worst-case meteorological conditions - that is, weather conditions that are most likely to cause air pollution problems.

Is it safe to live near an asphalt plant?

North Carolina's air quality regulations are designed to protect public health. In addition, North Carolina has one of the more stringent state programs for regulating emissions of air toxics. The N.C. Environmental Management Commission adopted the state's air toxics rules in 1990, based on the recommendations of a panel of scientists and health experts who spent more than five years developing a list of air pollutants most likely to pose health risks. The air toxics rules set limits for 105 pollutants that are known to pose either short- or long-term hazards for people who breathe them. Under these rules, facilities are not allowed to emit pollutants that exceed any of the air toxics limits at or beyond their property lines. Thus, citizens living near plants that meet the air toxics rules should not be exposed to unhealthy levels of air pollution.

How does the Division of Water Quality control asphalt plants?

Asphalt plants may need a stormwater discharge permit from the Division of Water Quality, depending on where they are located and how they operate. Generally, a facility needs a stormwater permit if it collects rainwater from its site and discharges that runoff into a stream or lake. Many asphalt plants, however, do not discharge their runoff into water bodies and do not need storm water permits. Asphalt plants also may need to obtain

sedimentation control permits, which are required if plant construction disturbs more than one acre of land. ~~Most asphalt plants do not require sedimentation control permits.~~ There are no state rules that restrict asphalt plants from locating in floodplains, although some local governments may not allow it.

Why are there are so many asphalt plants?

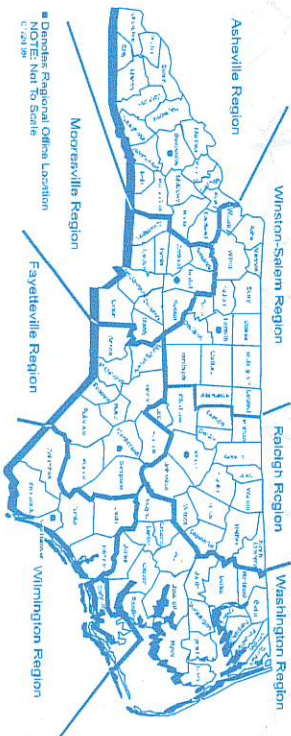
North Carolina has the second-largest state-maintained highway system in the United States, and it takes a lot of asphalt to pave those roads. The state has about 78,000 miles of roads, with more under construction every year. In addition, roads generally need resurfacing every 12 to 15 years, so about 4,400 miles of roads are repaved each year. Another factor contributing to the number of asphalt plants is the nature of the material. Paving is difficult at lower temperatures, and highway contractors must reject asphalt that is not hot enough (at least 250 degrees). That means asphalt plants must be located fairly close to road construction sites.

Who controls where asphalt plants are located?

In reviewing air quality permits for asphalt plants, the Division of Air Quality must ensure that applicants comply with local zoning, and each permit contains a condition stating that the facility must meet these requirements. But the DAQ has no authority over zoning, land use, floodplain development, or where a company decides to build a plant. In North Carolina, local governments are responsible for regulating such land use matters, and they have the final authority over the construction of new facilities through the issuance of building permits. However, many counties and municipalities, particularly in rural areas, have not adopted zoning or land-use controls. The DAQ cannot deny a permit simply because local residents are opposed to a facility; it must base its permitting decisions on whether facilities can meet air quality regulations.

How can I find out more about asphalt plants?

The Division of Air Quality lists applications for air quality permits on its web site, <http://daq.state.nc.us/>. The division's web site also contains news releases with information about asphalt plants, such as changes in regulations or notifications about upcoming public hearings. For more information about asphalt plants or permit applications, contact the division's applicable regional office:



Asheville Regional Office
59 Woodfin Place
Asheville, NC 28801
(828) 251-6208

Fayetteville Regional Office
225 Green St., Suite 714
Fayetteville, NC 28301
(910) 486-1541

Mooreville Regional Office
919 North Main St.
Mooreville, NC 28202
(704) 663-1699

Raleigh Regional Office
3600 Barrett Dr.
Raleigh, NC 27611
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Washington Regional Office
943 Washington Square Mall
Washington, NC 27789
(252) 946-6481

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