

Catawba RIVERKEEPER® Foundation

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Belmont City Council
Conditional Use Permit Hearing
Wal-Mart Super Center

January 20, 2004

RE: Detrimental Impacts to Water Quality if Wal-Mart Conditional Use Permit is granted

On behalf of the health, welfare and safety of the people who depend on the Catawba River for drinking water and recreation, the Catawba Riverkeeper provides the Belmont City Council with critical information about the detrimental impacts to water quality from the proposed Wal-Mart Super Center. If the current application for a conditional use permit is approved as proposed, the construction and operation of the Wal-Mart Super Center will "materially endanger public health" and the environment by causing an increase in the levels of heavy metals, fecal coliform bacteria, herbicides, pesticides, nutrients, sediment, oil and grease contaminating the waters of the Catawba River. Adding conditions to protect water quality will mitigate, but not necessarily eliminate the adverse impacts of the project.

There will be a negative impact from higher pollutant loads on:

- 1) The quality of raw drinking water withdrawn from the Catawba River precisely where the City of Belmont operates its drinking water intake;
- 2) Safety of the river for recreational activities that involves contact with the water of the Catawba River and the unnamed tributaries between the location of the proposed Wal-Mart and the River (such as swimming, waterskiing, tubing, etc.); and
- 3) The aquatic life community, including fish that are consumed by humans.

Polluted runoff comes from impervious surfaces and other sources. Contaminants deposited on these hard surfaces are washed off by rainwater and concentrated in the runoff, eventually entering streams and rivers as a troubling blend of pollution. Traditional regulatory controls alone have not been effective in addressing the problem. Polluted runoff is currently the number one source of water pollution nationwide (Reilly, 1991).

Although problems with polluted run-off are not unique to Wal-Mart, Wal-Mart has a particularly poor history of implementing appropriate controls and complying with applicable stormwater and sedimentation standards. Moreover, Wal-Mart's practice of storing fertilizers, pesticides, herbicides and other lawn and garden chemicals outdoors exacerbates the task of controlling polluted runoff from Wal-Mart stores. In May 2000, the Attorney General for the state of Connecticut, Richard Blumenthal, brought suit against Wal-Mart for Clean Water Act violations at 11 stores.

In 2001, the US Attorney General and the EPA fined Wal-Mart 1 million dollars for Clean Water Act violations at 17 locations in Texas, New Mexico, Oklahoma and Massachusetts. The settlement required Wal-Mart to establish a water quality monitoring program for storm water runoff and implement an environmental management plan.

The Pennsylvania Department of Environmental Protection was awarded \$285,000 in a case against a Wal-Mart subcontractor. Pennsylvania DEP spokesman Mark Carmon stated that this was one of the highest penalties ever issued in Pennsylvania for erosion and sedimentation.

The cumulative effects of polluted runoff are very serious: higher costs of drinking water treatment, algal blooms that choke waterways, fish kills, and increased incidence of waterborne disease. Because pollutants from runoff enter streams and rivers in highly concentrated surges as a result of rainstorms, the effects are much more damaging than average levels of pollution would suggest. After a spring rainstorm, runoff may be saturated with pollutants to the point of placing stress on aquatic ecosystems and overloading water treatment facilities (Laws, 1993).

Many of these threats to water quality are not addressed by conventional treatment. For instance, water treatment plants are not designed to eliminate contaminants such as Cryptosporidium, which is highly resistant to chlorine disinfection and can slip through normal filtration (DuPont, 1995). Polluted runoff is thought to be one of the main sources of "Crypto," which caused over 400,000 illnesses and over 100 deaths in Milwaukee during 1993. Wetlands play a crucial role in protecting drinking water supplies by filtering out these contaminants before they enter the treatment plant. Polluted runoff is typically composed of one or more types of contaminants. These include heavy metals, sediment, pesticides, nutrients and bacteria. The impact of each is described below.

Heavy Metals

Metals occur naturally in the surface waters, but they increase dramatically in developed areas of the Catawba River (Bales, 1999). These metals, which may be toxic to humans, attach themselves to eroding soil particles and enter our waters through polluted runoff. Copper, chromium, cadmium, nickel, lead, iron, manganese, selenium and zinc are some of the toxic metals that enter our waters. In the Catawba River watershed, chromium, copper, lead and zinc levels were higher than NC ambient water quality standards at all stream sites measured in Mecklenburg County (Bales, 1999). Once present in aquatic ecosystems, metals become absorbed by the fatty tissue of fish, where they can accumulate to dangerously high levels before being ingested by humans (EPA, 1995).

Sediment

Deposition of sediments is the primary cause of water quality degradation and causes damages of about \$6 billion in the U.S. every year (Clark, 1985). When land is disturbed by construction and development, particles of soil and silt are eroded and become suspended in the water column, reducing water clarity. The resulting sedimentation causes many problems by filling in deepwater habitat, inhibiting recreational activities, necessitating the dredging of navigable waters, and increasing the cost of water

treatment (Griffin, 1991). Sediment also kills aquatic life by clogging fish gills and suffocating their eggs. Major sources of sediment include construction sites and North Carolina Sediment and Erosion control plans allow 10 percent of sediment to leave a construction site. In sites as large as the Wal-Mart Super Center substantial sedimentation will pass through to the Catawba River.

Pesticides

According to 1993 market estimates, total pesticide use in the U.S. is 2.23 billion pounds annually (EPA, 1994). Wal-Mart is a major supplier of these pesticides and stores them outside where rainwater can flush them to the Catawba River. Once pesticides have entered the water supply, they may increase the risks of cancer and birth defects (NRDC, 1993). Moreover, many small cities and towns lack tertiary water treatment facilities to remove these pollutants.

Nitrogen and Phosphorus

Nitrogen and phosphorus, often referred to as "nutrients," are essential to healthy plant life, but in high levels they become a serious threat to water quality. Waters that are over-enriched with nitrogen and phosphorus become overgrown with algae and aquatic weeds and suffer from oxygen depletion in a process known as "eutrophication." This runoff-fed cycle of algal blooms followed by oxygen depletion has a range of harmful consequences: it obstructs navigable waters, interferes with swimming, and kills fish and other marine organisms by robbing them of the oxygen they need to survive.

Major sources of nitrogen and phosphorus include lawn and crop fertilizers, sewage, and manure, which enter the water supply as runoff. Wal-Mart stores typically store pallets and pallets of fertilizers outside where rain water can wash very high levels of these pollutants into surface waters. Nitrogen, in the chemical form of nitrate, is also a serious human health concern. Levels of 10mg/L in drinking water can cause methemoglobinemia, or "blue baby syndrome," an inability to fix oxygen in the blood that can be fatal to children (Nielson and Lee, 1986). There have been about 2,000 cases in the United States and Europe since 1945 with about 7-8 % of them fatal (Schmitz, 1995)

Bacteria and Pathogens

Waterborne bacteria and viruses are responsible for a variety of human health problems ranging from respiratory and skin ailments to typhoid and dysentery. In a study published in the American Journal of Public Health, researchers estimate that "35 percent of the reported [gastrointestinal] illnesses among tap water drinkers were water-related and preventable" (Payment, et al., 1991). In a study of the Catawba River basin, the US Geological Survey found that bacteria levels are higher from developed land uses (Bales, 1999).

It is for these significant and compelling reasons that the Catawba Riverkeeper Foundation recommends the following conditions be placed on the Wal-Mart Super Center Conditional Use rezoning.

The following permit conditions will lessen, but not eliminate, the adverse environmental impact of the proposed Wal-Mart Supercenter:

1. Prohibit outdoor storage on the property, especially outdoor storage of fertilizer, pesticides, herbicides, other lawn chemicals, and automotive chemicals.
2. Limit the size of the proposed Wal-Mart to 100,000 square feet. This would be double the size of the building currently allowed the Belmont code without a conditional use permit or variance.
3. The parking lot should be limited to a size sufficient for no more than 488 parking spaces. The current proposal would allow 919 parking spaces.
4. Twenty-five percent (25%) of the area of the parking lot, roof, and roadways should be constructed of pervious material, such as pervious concrete pavers. The current proposal is for 5% of the parking lot to be constructed with pervious concrete.
5. The property owner should be required to place deed restrictions on the property sufficient to maintain an undeveloped natural buffer of 100 feet around perennial streams, wetlands, ponds and other jurisdictional waters on the property currently owned by the Abbey. The deed restrictions should be in place before the commencement of construction.
6. The existing pond and related wetlands on the eastern portion of the property owned by the Abbey should be protected from destruction by deed restrictions for as long as the buildings and parking lots allowed by the conditional use permit remain on the property.
7. There should be no net increase in concentrations of heavy metals, volatile organic compounds, oil & grease, total suspended solids, nutrients, and fecal coliform ("Constituents of Concern") in the receiving jurisdictional waters (including the perennial streams, ponds and wetlands) as a result of the development on the property, including the development allowed by the conditional use permit. In order to ensure that there is no net increase, the recipient of the conditional use permit should be required to:
 - a. Develop and implement a pollutant management plan for the Constituents of Concern that is designed to prevent a net increase in the Constituents of Concern in the receiving waters;
 - b. Conduct 12 months of baseline testing of the quality of the receiving waters for the Constituents of Concern;
 - c. Test the receiving waters monthly for the constituents of concern at each point where runoff from the facility enters jurisdictional waters and report the results of the testing to the City of Belmont, the North Carolina Department of Environment and Natural Resources and the Catawba Riverkeeper; and
 - d. Update the pollutant management plan and implement additional controls if the testing reveals that the existing plan is inadequate to prevent a net increase of the Constituents of Concern or if additional portions of the property are developed.


8. In addition to the proposed storm water basins and settling ponds, all runoff from the parking lot, roof, roadways and other impervious area should be captured and treated to remove Contaminants of Concern by routing the runoff through a biofilter, constructed wetland or other equivalent treatment system.

In April of 2001, the Catawba River was designated as the 13th most endangered river in the nation by American Rivers. Inadequately controlled growth and development threatens the River's ability to supply drinking water to nearly 2 million people, provide recreational opportunities and dilute waste discharges.

The next 10 years are critical ones for the health of the Catawba River basin. The River has limited assimilative capacity, meaning its ability to accept increasing levels of polluted runoff and waste discharges while providing safe drinking water and recreation is finite. Towns throughout the 5,000 square mile watershed of the Catawba River basin must work to limit the impact of polluted runoff from sites such as Wal-Mart stores.

The proposed conditions recommended in this report are a minimum of what is needed to protect the health and safety of Belmont's water supply and recreational opportunities on the Catawba River although these conditions will not necessarily prevent all adverse impacts of the project on the environment and human health. If we can be of any assistance implementing these conditions, please do not hesitate to contact us at 704-373-1916.

Sincerely,



Donna Lisenby
Catawba Riverkeeper

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