



Environmental Health Information

Breckenridge Dump

August 2005

Site Description

The Breckenridge Dump (the site) is located on the southern edge of the city of Breckenridge, Minnesota. Formerly owned by the City of Breckenridge, the site operated from the 1930s until 1960 as a public dump. The dump accepted all types of waste and had few controls. The site is now privately owned, but access is unrestricted.

The dump is approximately three acres in size and lies between the Bois de Sioux River on the west and 2nd Street South on the east. Part of the Bois de Sioux Mobile Estates (a mobile home park) is within the eastern edge of the dump. A flood control dike bisects the former dump, and a flood control pumping station is located on the southern edge of the site. The northern and southern borders of the dump, formerly a concrete facility and gun range respectively, are now vacant land.

Most of the dump is covered with mowed grass, trees, or native vegetation but some areas are bare soil. Waste materials are sometimes visible, sticking up through the ground where topsoil is thin or eroded. Tree “forts” along the river, beverage cans, and children’s shoes have been observed on the former dump, indicating that children and/or adults access the dump at times. Several of the mobile homes may also be located on top of waste material.

Site Background

Prior to building the flood control dike, a site investigation in 2002 determined the nature of the waste materials at the old dump. Trenches were dug and soil samples collected. Dike construction occurred in 2003 by the U.S. Army Corp of Engineers.

A proposal to reconstruct the dike prompted another site investigation in 2004. Collection of soil and water samples occurred in April 2004 from: surface soil, soil beneath the waste material, groundwater, and sediments from the river bank and river bottom. The Minnesota Department of Health (MDH) and the Minnesota Pollution Control Agency (MPCA) also visited the dump in September 2004.

Sampling Results

Dumps can pose a human health risk when people come into contact with toxic chemicals in soil, water or air, or when people are exposed to physical hazards such as sharp objects or uneven ground. The public health concerns at this site are: 1) physical hazards from exposed wastes, 2) lead contaminated soil on the surface of the dump, and 3) contaminated sediments along the river bottom.

Exposed debris from the dump may be unsafe to those accessing the dump. Over time, waste materials at the dump have broken down and erosion of the thin layer of topsoil have caused large, sharp objects (such as scrap metal) to emerge where people or animals could come into contact with them. This is especially true for areas along the river bank, where the terrain is steep and wastes are visible.

Surface soil samples from the site indicate some metals, especially lead, exceed levels considered safe for long-term human exposure. Samples from within the waste material and sediment samples along the river bank also showed elevated levels of lead and other metals. Several metals (but not lead) were detected in groundwater samples, many above drinking water standards. However, the mobile park and surrounding area use city water and not water from private wells.

Concerns about Lead

Lead is a common contaminant in dumps and in the environment due to its widespread use in the past in a variety of products. The lead levels at this site pose a concern to those accessing the dump and living nearby. Some sources of lead from waste materials at the dump include: auto parts, metal scraps, demolition debris, and paint.

Lead is harmful to many of the body's organ systems and may affect children, adults, or the developing fetus. Children are the most likely group in the general population to have high lead exposures because of their behaviors (e.g. playing on the floor or ground, frequent hand-to-mouth contact). Exposure to low levels over time may affect physical and mental growth. Evidence at the site indicates people, at times, access the dump. Yet, how often children and adults visit the dump is unknown because the site is not monitored or restricted.

Lead exposure is measured by how much lead is found in a person's blood. Minnesota state statutes establish blood lead levels of concern for children and outline actions MDH or local health departments must take at Minnesota homes, including a lead risk assessment and possible removal of lead contaminated soil. Therefore, if a person living within the mobile home park was found to have a blood lead level meeting one of the guidelines in the statutes, the MDH would need to take action to ensure the removal of lead sources from their environment. (More information on the Minnesota Statutes and recommendations on blood lead can be found at www.health.state.mn.us/divs/eh/lead/index.html) Blood tests from nearby residents have not revealed any elevated levels of lead. However, very few people have been tested.

Conclusion

Over time, old waste materials once buried at this site have been exposed by soil erosion and may be a physical hazard. People may trip or even hurt themselves while accessing the dump. Lead and other chemicals from the wastes have also contaminated the soil. Exposure may occur for mobile home residents during play or outdoor activities, such as gardening and landscaping.

While contaminants are present in surface soils at levels of health concern, the frequency and extent of human exposure is unknown. No elevated blood lead levels have been reported to MDH, but many people have not been tested.

Although direct human exposure to buried waste materials is unlikely at this time, disturbance of the waste materials by humans or animals could bring them to the surface, and exposures could then occur. Such disturbance may happen during the proposed reconstruction of the flood control dike across the site by the U.S. Army Corp of Engineers unless care is taken during rebuilding.

MDH Recommendations

1. Identified areas of lead (and other metal) contaminated soil should be further investigated to define the extent of the contaminated soil.
2. Alternatively, to prevent exposure to physical hazards and contaminated soils, soil throughout the entire dump site should be removed, especially all areas of contaminated soil and exposed wastes. Otherwise, adequate clean cover soil should be placed on the surface of the dump.
3. The proposed reconstruction of the flood control dike should be done in a manner that results in eliminating the possibility of human exposure to waste materials or lead contaminated soil.
4. The steep grades and exposed wastes along the river should also be covered and stabilized. This would help to reduce the amount of contamination potentially entering the Bois de Sioux River as a result of runoff. The cover material should be able to support vegetation and graded to promote runoff without excessive erosion.
5. Institutional controls, such as a notice filed with the property deed, should be enacted to record the location of the dump for future reference.
6. As for all Minnesotans, blood lead tests are recommended for all children. Adults frequently on this site should also be tested. All blood lead test results are sent to MDH. MDH will contact people with high levels and do a lead risk assessment if test results warrant it.

For more information contact:

MDH/Site Assessment and Consultation: (651) 201-4897 or 1 (800) 657-3908, press “4” and leave a message.

To request this document in another format, call (651) 201-4899, TDD: the Minnesota Relay Service at 1 (800) 627-3529

This information sheet was prepared in cooperation with the U.S. Agency for Toxic Substances and Disease Registry.



Minnesota Department of Health ♦ Division of Environmental Health ♦ Site Assessment and Consultation Unit

651.201.4899, or 1.800.657.3908, press 0 ♦ www.health.state.mn.us