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USDA FOREST SERVICE • FOREST PRODUCTS LABORATORY
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FOREST SERVICE UNVEILS INNOVATIVE WHEELCHAIR-FRIENDLY PLAYGROUND THAT USES COST-EFFECTIVE WOOD CHIPS

New technology will allow more public parks and playgrounds to be accessible to people using mobility devices

CAPITOL HEIGHTS, Md.,– More children with physical disabilities will now be able to enjoy a wheelchair-friendly playground, thanks to researchers at U.S. Department of Agriculture Forest Service's Forest Products Laboratory, Madison, Wis.

In celebration of National Forest Products Week, the H. Winship Wheatley Early Childhood Center here became the first demonstration site for the new playground, which uses readily-available and inexpensive surface material made from inexpensive wood chips.

"Traditional wood chips and other loose materials, such as sand or pea gravel used in today's playgrounds are generally effective at reducing injuries from falls, but such surfaces pose a serious obstacle for anyone using a wheelchair or walker," said Ann Bartuska, deputy chief for research and development at the Forest Service. "We have been working to develop a cost-effective material that combines the necessary shock-absorbance with enough firmness to enable a wheelchair or other device to maneuver easily and safely."

Currently, many playgrounds use a 10- to 12-inch layer of wood chips, called "engineered wood fiber," to prevent injuries around swings, climbing gyms and other playground equipment. Currently available materials, such as a molded rubber can be very expensive.

"Engineered wood fiber" is the technical name for a loose, mulch-like mixture of hardwood chips that meets certain specifications regarding size and shape of the chips, consistency, drainage, impact attenuation and other qualities. However, because the material is loose, the wheels or feet of a mobility device quickly sink in, causing the wheelchair or other device to get stuck or even tip over.

"Many of our children use wheelchairs, walkers or crutches and are eager to try out the new playground equipment," said Wheatley Center Principal Linda Wiskochil.

The prototype surfacing material consists of a 1½- to 2½-inch thick layer of engineered wood fiber mixed with a polyurethane binder or stabilizer. The stabilized fiber is on top of eight to 10 inches of loose (unstabilized) engineered wood fiber, which is on top of a drainage layer.

The research was partially funded by the U.S. Access Board, an independent federal agency devoted to accessibility for people with disabilities.

More information on the new playground can be found at www.fpl.fs.fed.us.

The USDA Forest Service Forest Products Laboratory was established in 1910 in Madison, Wis., with the mission to conserve and extend the country's wood resources. Today, FPL's research scientists work with academic and industrial researchers and other government agencies in exploring ways to promote healthy forests and clean water, and improve papermaking and recycling processes. Information is available at FPL's Web site: www.fpl.fs.fed.us. Through FPL's Advanced Housing Research Center, (www.fpl.fs.fed.us/ahrc/), researchers also work to improve homebuilding technologies and materials.

Editor's Note: Photographs are available. Also, additional technical background on the development of accessible EWF can be found in two published technical reports at www.fpl.fs.fed.us: Laufenberg, Theodore L.; Krzysik, Andzej; Winandy, Jerrold. 2003. Improving Engineered Wood Fiber Surfaces for Accessible Playgrounds. In: Gen. Tech. Rep. FPL-GTR-135; U.S. Dept. of Agriculture, Forest Service, Forest Products Laboratory. 15p.

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