

OHIO FIRM DEVELOPS SCRAP TIRE DRAINAGE FILTER ELEMENTS

Terran Corporation has developed a prefabricated sack-like filter element using chipped scrap tires. The filter elements can be packed around underground drainage pipes to allow water to percolate into the soil. Where previously loose tire chips have been used to fill in around drainage pipes the new filter elements have the chips in specially constructed fabric bags that have an open mesh on the side of the bag that lays against the perforated drainage pipe and a filter fabric on the side that lays against the soil. Each bag is designed to hold approximately 40 lbs of tire chips, making the unit a one-person lift. Using the bags makes it possible to build a tire chip drainage system without bringing loose chips onto the construction site. Since no one has to handle the chips directly there is less of a problem with cuts from the reinforcing wires during the installation of the leach field.

The bags are brought on site packed on pallets so there is no need for a dump truck. The tire chips arrive on pallets on a stake-bed truck and can be off loaded along the layout of the leach field ready to go into the drainage trenches.

Since filter fabric is part of the filter element, there is no need to have a separate step of placing filter fabric in the bottom of the trench. The bags are constructed with flaps of filter fabric that overlap maintaining a continuous coverage of fabric between the chips and the soil.

The bags are made of nylon and polypropylene fabric. When it is necessary to uncover the drainage laterals for service, the trench can be re-excavated and the bags can be pulled out, saved and put back into the trench after repairs are made. This is a big improvement over other systems that would require loose chips be excavated, disposed of and replaced with new material.

Terran Corporation worked with the U.S. Army Corps of Engineers Research and Development Center under a Cooperative Research and Development Agreement directed at pioneering environmentally friendly construction techniques and the use of recycled materials in construction. Terran Corporation has patent rights to the development and can work with any government organization and private corporation that would like to make the technology available to tire chippers or contractors. Inquiries concerning the tire chip-filter sack technology should be directed to Mr. Brent Huntsman, Terran Corporation, 4080 Executive Drive, Beavercreek, OH 45430-1061, Phone 937-320-3601.



Figure 1. Filling Filter Elements Units at the Corps of Engineers Test Site. The white side of the filter unit is a nylon open mesh, the black fabric is a punch-woven nylon-polypropylene geofabric designed for soil drainage.

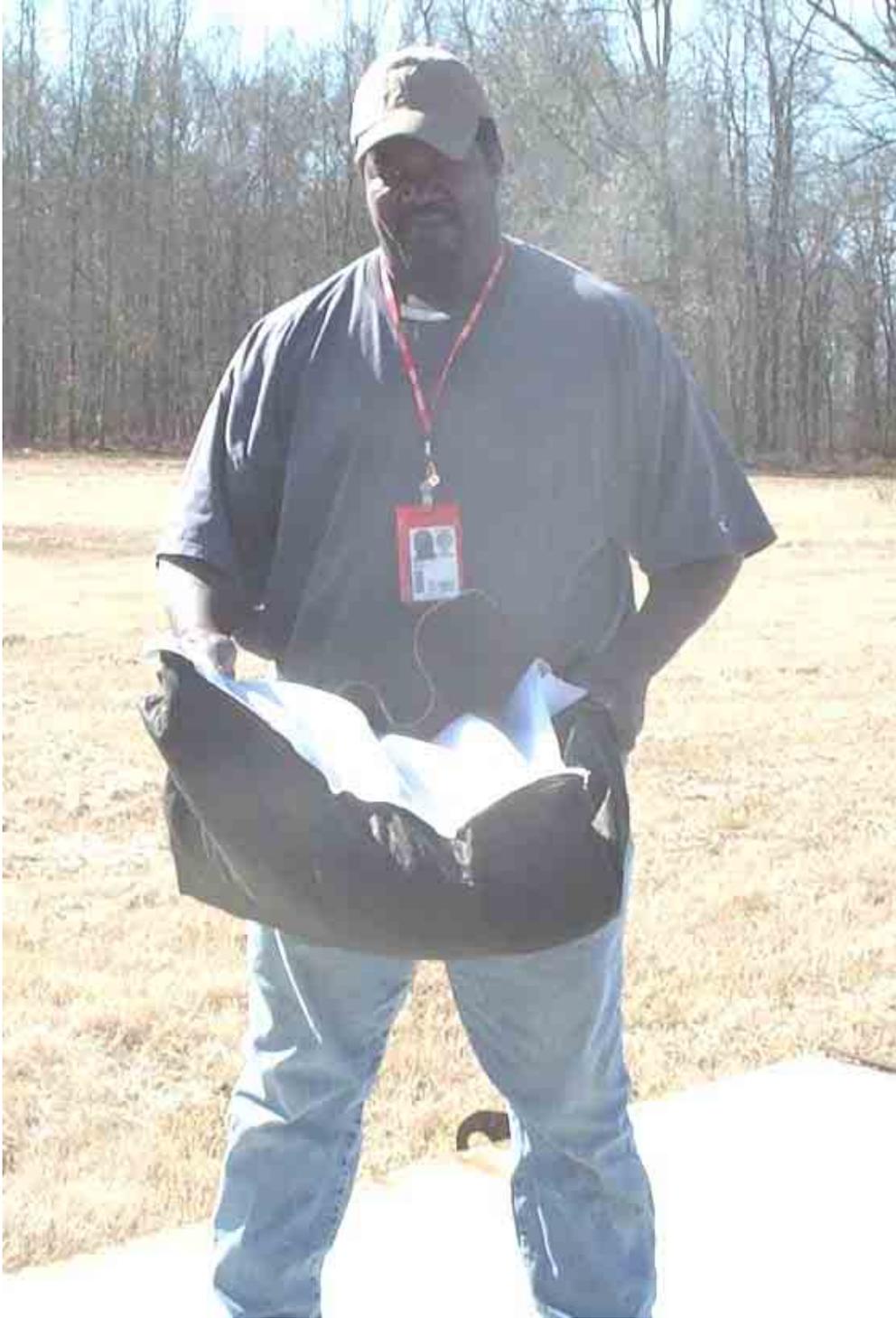


Figure 2. Lifting and Loading Filter Elements. Each element weighs approximately 40 lbs and can be lifted and placed by one person.