FACTS ABOUT SANDBAGS

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SAND BAG CONSTRUCTION

The use of sand bags is a simple, but effective way to prevent or reduce flood water damage. Properly filled and placed sand bags can act as a barrier to divert moving water around, instead of through, buildings. Sand bag construction does not guarantee a water-tight seal, but is satisfactory for use in most situations. Sand bags are also used successfully to prevent overtopping of streams with levees, and for training current flows to specific areas.

Tied sand bags should be used only for special situations when pre-filling and stockpiling may be required, or for specific purposes such as filling holes, holding objects in position, or to form barriers backed by supportive planks. Tied sand bags are generally easier to handle and stockpile. However, sand bag filling operations can generally be best accomplished at or near the placement site and tying of the bags would be a waste of valuable time and effort. If the bags are to be pre-filled at a distant location, due consideration must be given to transportation vehicles and placement site access.

The most commonly used bags are untreated burlap sacks available at feed or hardware stores. Empty bags can be stockpiled for emergency use, and will be serviceable for several years, if properly stored. Filled bags of earth material will deteriorate quickly.

Commercial plastic sand bags, made from polypropylene, are also available from most bag suppliers. These will store for a long time with minimum care, but are not biodegradable. Thus, they have to be disposed of, or will remain around for a long time. Do not use garbage bags, as they are too slick to stack. Do not use feed sacks, as they are too large to handle. Use bags about 14-18" wide, and 30-36" deep.

A heavy bodied or sandy soil is most desirable for filling sand bags, but any usable material at or near the site has definite advantages. Coarse sand could leak out through the weave in the bag. To prevent this, double bag the material. Gravelly or rocky soils are generally poor choices because of their permeability.

Sand bag barriers can easily be constructed by two people, as most individuals have the physical capability to carry or drag a sand bag weighing approximately 30 pounds.

HOW TO FILL A SAND BAG

Filling sand bags is a two-person operation. Both people should be wearing gloves to protect their hands. One member of the team should place the empty bag between or slightly in front of widespread feet with arms extended. The throat of the bag is folded to form a collar, and held with the hands in a position that will enable the other team member to empty a rounded shovel full of material into the open end. The person holding the sack should be standing with knees slightly flexed and head and face as far away from the shovel as possible.

The shoveler should carefully release the rounded shovel full of soil into the throat of the bag. Haste in this operation can result in undue spillage and added work. The use of safety goggles and gloves is desirable, and sometimes necessary.

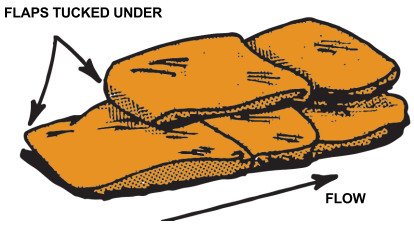
Bags should be filled between one-third (1/3) to one-half (1/2) of their capacity. This keeps the bag from getting too heavy, and permits the bags to be stacked with a good seal.

For large scale operations, filling sand bags can be expedited by using bag-holding racks, metal funnels, and power loading equipment. However, the special equipment required is not always available during an emergency.

FLOOD FIGHTING - TIPS ON HOW TO USE SAND BAGS

SAND BAG PLACEMENT

Remove any debris from the area where the bags are to be placed.



Fold the open end of the unfilled portion of the bag to form a triangle. If tied bags are used, flatten or flare the tied end.

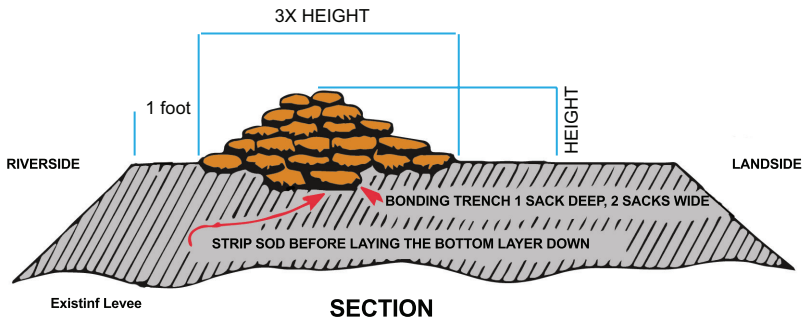
Place the partially filled bags lengthwise and parallel to the direction of flow, with the open end facing against the water flow. Tuck the flaps under, keeping the unfilled portion under the weight of the sack.

Place succeeding bags on top, offsetting by one-half (1/2) filled length of the previous bag, and stamp into place to eliminate voids, and form a tight seal.

Stagger the joint connections when multiple layers are necessary. For unsupported layers over three (3) courses high, use the pyramid placement method.

PYRAMID PLACEMENT METHOD

The pyramid placement is used to increase the height of sand bag protection.



Place the sand bags to form a pyramid by alternating header courses (bags placed

Crosswise) and stretcher courses (bags placed lengthwise).

Stamp each bag in place, overlap sacks, maintain staggered joint placement, and tuck in any loose ends. Use the following table to estimate the number of bags required:

HEIGHT ABOVE LEVEE	BAGS PER 30.5 METRES / 100 feet
30.5 cm / 1 foot	800
61 cm / 2 feet	2400
91.5 cm / 3 feet	3400
122 cm / 4 feet	5500
152.5 cm / 5 feet	9000