## Sand Bag Barriers

are constructed of plastic, geotextile bags filled with sand. A sand bag barrier is a temporary linear sediment barrier consisting of stacked sandbags designed to intercept and divert runoff or mudflows away from property and infrastructure.

Sand bags ***should not*** be placed on slopes as a substitute for fiber rolls or around foundations where free drainage is required (see gravel-filled burlap bags below).

## Gravel Bag Berms

consist of a single row of gravel-filled burlap bags that are installed end-to-end to form a barrier across a slope or to intercept runoff, reduce its velocity and settle out sediment and ash. Gravel bags can also be used where flows are moderately concentrated, such as ditches and swales.

The most common use of gravel bags in fire-affected urban areas is to retain debris within a property or foundation to enable demolition and to keep materials from clogging municipal storm drains.

Gravel bags should be filled 1/3 full with ¾ inch angular rock with the loose flap of fabric folded over in the direction of water flow.

**For more information about, or assistance with erosion and sediment control measures, call the City of San Diego's Engineering & Capital Projects' Field Engineering Division Monday through Friday, 7:00 a.m. - 5:00 p.m. Ask for the Post-Fire Response team at (858) 627-3200.**

**Additional Resources to Reference:**

Caltrans Stormwater Quality handbooks: *Construction Site Best Management Practices (BMPs) Manual.* www.dot.ca.gov/hq/env/stormwater/special/index.htm

California Stormwater Quality Association (CASQA): *Construction BMP Handbook, January 2003;* www.cabmphandbooks.com

This information is available in alternative formats upon request. Printed on Recycled Paper **(11/2003:450q)**



# City of San Diego

## Post-Fire Best Management Practices (BMPs) For Runoff, Erosion and Sediment Control

The City of San Diego has compiled this list of erosion and sediment control measures that can be implemented by property owners immediately after a fire when rains are imminent. These measures– also known as **Best Management Practices (BMPs)** - are those practices that can be implemented using available work force crews (primarily manual labor) and focus on sediment and debris control. These BMPs should be considered as tools that one can select for the most appropriate runoff, sediment and erosion control based on site conditions.

The goals of sediment erosion and control BMPs are to: stabilize disturbed areas, control the perimeter of burned residences, protect the slopes and channels of the impacted areas, and retain sediment within the site.

One of the most appropriate BMPs following a wildfire is **preservation of existing vegetation**. Whether burned or unburned, the roots of vegetation hold the soil together. Tree removal activities in the fall and winter following a fire will disturb soil at a time of the year when it is most vulnerable to erosion. **Unless trees or shrubs pose an imminent hazard to health and safety, it is recommended that property owners leave them in place.**

It is also important that public and volunteer laborers who wish to implement BMPs have an understanding of how to properly install and maintain them. Thus, it is recommended that the guidance provided in this document and the manufacturer's instructions be followed. For additional information about or assistance with erosion and sediment control measures, please call the phone number at the back of this brochure.

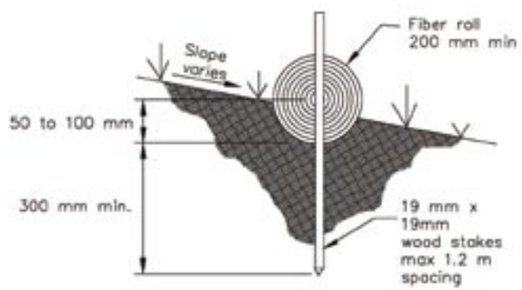
## Straw Fiber Rolls

consist of straw that is compacted into plastic netting to form a tube, usually with standard dimensions of 9 inches in diameter by 25 feet long. Fiber rolls have a number of applications:

- Across the face of slopes to shorten slope length, reduce runoff velocity and retain sediment
- Along the toe and top of slopes to spread runoff as sheet flow
- As check dams in channels and drainage ways
- Along the perimeter of fire-affected lots to retain ash and sediment

Keys to fiber roll installation-

1) They should be trenched according to the manufacturer's instructions.
2) They should be held in place using wooden stakes.
3) They should be inspected when rain is forecast.
4) They should be repaired or replaced when split or torn.
5) Ash and sediment should be removed when it reaches ¾ the fiber roll height.




## Straw Mulching

consists of placing a uniform layer of weed-free straw on the surface of the soil to prevent erosion. Straw is a temporary cover that reduces rainfall impact, conserves moisture and moderates temperature – all things that are beneficial for plant growth.

Usually, 2-3 inches of mulch is a sufficient depth and approximates around 2 tons per acre. The fibers can be held in place by "punching" them into the ground with a spade.



## Erosion Control Blankets

This Best Management Practice (BMP) involves the placement of a manufactured roll of mulch on the surface of the soil to protect it from erosion by wind and water. The erosion control blankets supplied by San Diego County are double-netted straw blankets that are sewn together.

Erosion control blankets (ECBs) can be used on steep slopes, in areas of concentrated flow and around the foundations of structures to prevent soil loss.

Erosion control blankets can be used with or without vegetation. When used in combination with seeding, the seed should be applied to the soil first and the blanket rolled out and fastened in place with staples or pins. When used in combination with container or rooted plants, the blanket should be installed first, then a slot or opening cut in the blanket and the vegetation inserted into the soil.

As with most erosion control technologies, ECBs should be installed according to the manufacturer's instructions. But in general, there are five keys to a successful installation.

Keys to erosion control blanket installation-

1) The application area needs to be smooth with rocks, debris and clods removed.

2) U-shaped wire staples, metal pins or triangular wooden stakes must be used in the recommended number and pattern to hold the ECBs firmly to the ground.

3) The ECBs should be unrolled loosely in the direction of water flow, *not stretched*, then overlapped and spliced according to the manufacturer's instructions.

4) When installed on slopes, the end of the ECB must be placed into a trench at the top of the slope.

5) ECBs should be inspected periodically, especially after rainstorms, and repaired or replaced as required.