After the Fire

Contour Sandbags

CAUTION: After a fire many trees are weakened from burning around the base of the trunk. The trees can fall over or blow down without warning. Shallow-rooted trees can also fall. Therefore be extremely alert when around burned trees.

What is a contour sandbags?

Biodegradable bags are filled with on site soil and bedded in a shallow trench forming a continuous barrier along the contour (across the slope) to intercept water running down the slope.

When are contour sandbags used?

Contour Sandbags are used on burned slopes that have less than 30% of the original ground cover remaining and are at risk for increased erosion. They can be installed on slopes up to 70 percent; however their effect diminishes greatly on slopes steeper than 50 percent. Soils can be shallow, but not less than about 6 inches. Contour Sandbags increase infiltration, add roughness, reduce erosion, and help retain eroded soil on the slope. Contour Sandbags should be effective for a period up to one year, providing short term protection on slopes where permanent vegetation will be established to provide long term erosion control. Contour Sandbags can accomplish the same treatment as Log Erosion Barriers, but require less skilled labor to install and can be placed on the slope more effectively. Sandbags should not be placed across drainage swales and channels with more than one acre of contributing drainage area because they are not sturdy enough to resist the forces of concentrated flows.

To Locate Your Local NRCS California Field Office, Please Visit:

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Natural Resources Conservation Service

**Note:** Post-fire restoration practices are best designed by NRCS or other certified professionals to make sure they are placed and installed correctly within the landscape, so that they do not cause off-site issues. Maintenance is essential for any practice to function properly. Practices have a limited life expectancy after which they should be repaired, upgraded or removed. Improper maintenance can worsen erosion and cause unintended problems. Permanent practices may require approvals and permits from regulatory agencies including the county in which the property is located.

**How are contour sandbags installed?**

Installation of Contour Sand Bags is straightforward and is an easy practice for untrained laborers, landowners and volunteer groups to complete.

- Layout a contour line on the slope with a hand level and wire flags.
- Dig a shallow depression, about two to three inches deep along the flag line.
- Use the soil from the trench excavation to fill bags half to three-quarters full.
- Fold the top over and lay the filled bags end to end in the trench.
- Seat the bags with foot tamped backfill on the upstream side such that water flowing down the slope will not run under them.

**What Materials are Needed?**

- Sandbags
- Hand tools - shovels, pulaskis

**How many sandbags are required?**

The horizontal spacing of Contour Sandbags is determined with consideration for normal rainfall intensity, slope steepness, soil characteristics, and the extent of surface cover remaining after the fire. Figures 1 depicts the placement of sandbags on the slope. Table 1 shows recommended spacing for treating burn areas.

**Fig. 1 - Typical contour sandbag installation**

![Figure 1 - Typical contour sandbag installation](image)

**Table 1 - Recommended spacing for contour sandbags**

<table>
<thead>
<tr>
<th>Slope Steepness (percent)</th>
<th>Low Intensity</th>
<th>Burn Intensity</th>
<th>Severe Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spacing (feet)</td>
<td>Quantity (bags/ acres)</td>
<td>Spacing (feet)</td>
</tr>
<tr>
<td>&lt; 5%</td>
<td>250</td>
<td>135</td>
<td>160</td>
</tr>
<tr>
<td>5 - 10%</td>
<td>200</td>
<td>164</td>
<td>120</td>
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<td>120</td>
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<tr>
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</tr>
<tr>
<td>&gt;50%</td>
<td>40</td>
<td>818</td>
<td>20</td>
</tr>
</tbody>
</table>

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