

# Green-waste Composting Standard Operating Procedure

Supervisor's Office, Angeles National Forest

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## ABOUT COMPOSTING

(Skip this section if you are knowledgeable about composting.)

There are three main methods of composting: active, passive, and vermiculture (worms). The passive method and vermiculture have been used at the SO. While there may be ideal recipes, nature has managed to compost quite well without exact measurements or special additives for millennia: with that in mind, here are general guidelines about human-directed composting.

An even number of greens and browns is needed. **Greens** are fresh and may or may not actually be green in color: fruit peels and cores, vegetable peels and trimmings, egg shells, fresh coffee grounds, freshly used tea bags, and food leftovers. **Browns** are dry things such as unbleached paper towels, shredded paper (non-laminated), grass clippings, straw, bark, wood ashes, saw dust, dry leaves, and small twigs. Too many greens, and the compost will be heavy or smell unpleasant. Too many browns, and it will be too dry to compost.

*\*\*Do not add bones, fish, meat, oils/fats, sugar, vinegar, dairy, salt, alcohol, cat or dog manure, fresh weeds with seeds, plastic wrappers, charcoal or Duraflame ashes, or treated wood products to a compost pile.\*\**

The other key ingredient is micro-organisms. These can be found in healthy soil or in a batch of active compost. About a shovel-full of this, mixed in to a compost bin or pile, should be enough to get the new batch going.

Passive compost should be stirred when new ingredients are added. In this composting program, the stirring is accomplished by spinning the ComposTumbler.

The brochure from San Diego County is very helpful (see Sources & Suppliers below).

## LOCATION OF COMPOST PAILS

1. Resources Break/Snack Area, on top of the refrigerator.
2. Recreation, on top of the microwave near the sign-out board.
3. Engineering Break/Snack Room, between the shelves and the refrigerator.
4. Engineering Conference Room, on the counter.
5. There used to be one in Human Resources/Business but it keeps disappearing.
6. There used to be one in the Vending Area and one in the Supervisor's Area, but not anymore.

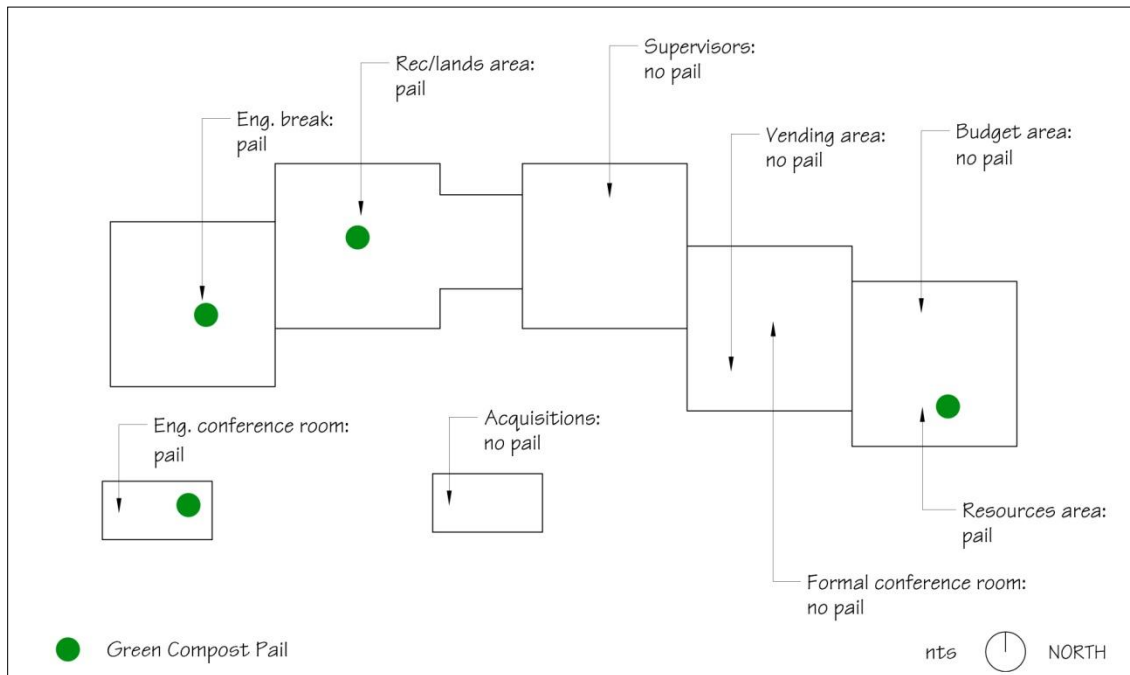


Figure A: Location of Green Compost Pails

## LOCATION OF THE COMPOSTUMBLERS

- **One** is near the “Smokers’ Table” and the old brick barbeque, near the back entrance toward Resources/Mailroom.
- **Two** of them are next to the north parking lot adjacent to the 210 Freeway.
- The three tumblers are marked Active, Cooking, or Fallow, depending on their current status. See more on this below.

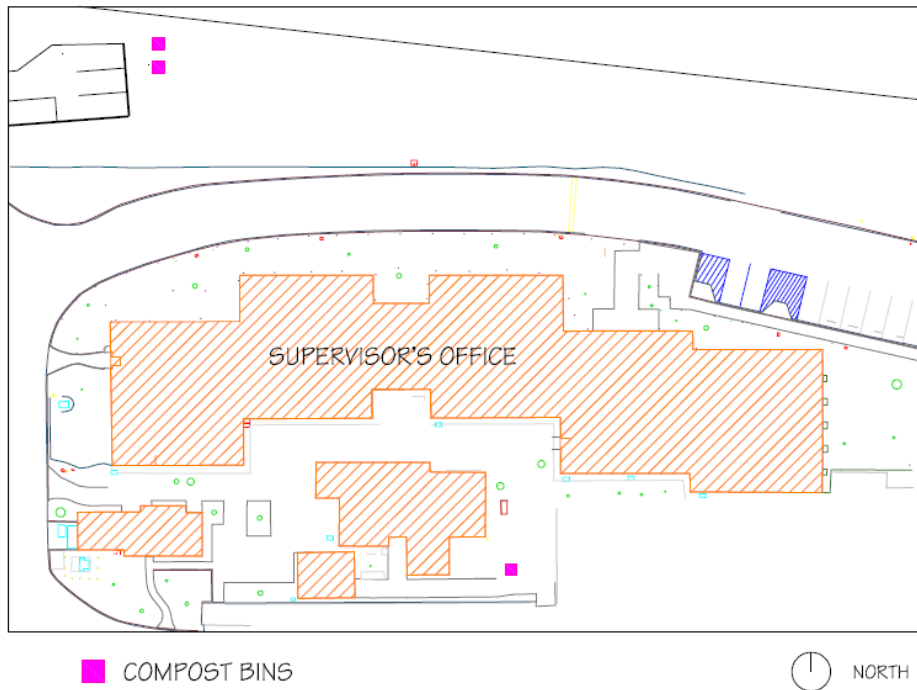


Figure B: Location of ComposTumblers

## PROCEDURE: PAILS & COMPOSTUMBLERS

### NOTE:

- Active is the ComposTumbler to which Greens are actively being added. Browns should not be added to this tumbler, as it should have enough from its Fallow stage.
  - Cooking is the ComposTumbler currently composting. Nothing should be added, except water as needed to keep the composting process alive.
  - Fallow is the ComposTumbler waiting. Browns should be added to this tumbler by the landscape contractor's crew.
  - Change the signs to rotate use as needed when a tumbler is full.  
When the Active tumbler is full and promoted to Cooking, the Fallow tumbler should be promoted to Active. A shovel-full (or so) of healthy soil or ripe compost should be added to this newly activated tumbler to inoculate it with composting organisms. The Cooking tumbler at this point should be used in the landscape.
1. Empty the compost pails on Friday afternoons.  
(This way there is nothing for fruit flies to live on over the weekend, which helps limit their population and keeps people from grumbling about them.)

CHECK THE CONDITION OF THE PAIL (tidy/odiferous), and proceed accordingly:

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| <ol style="list-style-type: none"><li>2. <b>If the pail is tidy</b>, take out the old liner bag with its compost.</li><li>3. Put a new liner in the pail.</li><li>4. Place the liner bags and their compost into the Active ComposTumbler.</li><li>5. Add about a coffee pot-full of water (from the bathroom or a spigot) into the Active ComposTumbler.</li><li>6. Give the ComposTumbler a few spins.</li></ol> | <ol style="list-style-type: none"><li>2. <b>If the pail is odiferous</b>, dirty, or has something growing on it, take the entire pail out.</li><li>3. Empty the compost into the Active ComposTumbler directly from the pail.</li><li>4. Rinse out the pail from the spigot near the Engineering Conference Room.</li><li>5. Empty the water from rinsing the pail into the Active ComposTumbler.</li><li>6. Give the ComposTumbler a few spins.</li><li>7. Leave the pail to dry outside before placing a new liner in the pail.</li></ol> |
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**Clean the pails with paper towels and warm soapy water every four months, and leave them to dry outside before placing a new liner in the pail. Do not put soapy water in the tumblers.**

## **PROCEDURE: WORMS**

**NOTE:** A worm handbook is in the folder with paperwork about the Green-waste Composting Program.

1. Most of the year, check the worms once a week on Fridays to see if they have enough food and that they are not dry.
  - a. If the weather is particularly hot and dry, check on them twice a week, on Mondays and on Fridays, to make sure they don't dry out.
    - They should have about 1" of food on their active tray.
    - The food should be covered with damp burlap or damp brown paper towels.
2. If they are dry, pour enough water from a coffee pot onto them to dampen.
3. This liquid will eventually be converted to Worm Tea, which can be given to plants (diluted or straight, but diluted is safer). If the Tea is not being harvested, be sure to drain the spigot periodically so that the worms do not drown as the liquid level rises.
4. If they have less than 1" of food on their tray, give them the contents of a green pail (but not the liner bag itself). They should have the contents of a pail that is more fruit/veggie peels than coffee grounds.
5. Place the liner bag into the Active ComposTumbler.

### **Other Things about the Worms**

- In the winter, the Worm Bin should be in part-sun to keep them warm.
- In the summer, the Worm Bin should be protected from direct sun so that they don't bake.

## SOURCES & SUPPLIERS

A worm handbook, a manual on using the ComposTumblers, and a brochure on composting created by the County of San Diego are in a Green-waste Composting folder (hardcopy). Classes and information are also periodically available from the Fullerton Arboretum adjacent to Cal State Fullerton.

The signs explaining the menu and the program, and other files, are in a digital folder: C:\Documents and Settings\agarbat\My Documents\SO landscape\SO Microgrant Project\Green Waste Mulching, or at a similar address on the orange La Cie back-up drive.

The liner bags are fully biodegradable corn-based plastic, and are available from <http://www.cleanairgardening.com/> (<http://www.cleanairgardening.com/compostbag1.html>). These are large enough to hold a full pail, haven't ripped while being emptied, and do indeed biodegrade if the tumblers have enough moisture.

The ComposTumblers are available from several reputable sources online.

The green pails were purchased from Clean Air Gardening because of their price, durability, capacity, and color. Replacement charcoal filters are also available from Clean Air Gardening.

The metal pails were purchased from Amazon.com, which was running a special at the time. They were originally intended for more public areas, such as the Supervisor's Area or the Vending Machine Area, because they are more formal-looking and have less volume. Ceramic pails were also considered but had poor reviews online (e.g. knobs and handles broke off; the pails were too heavy).

*Note: This green-waste composting program was studied by April Garbat for a research methods course taught by Dr. Susan Mulley in the Department of Landscape Architecture at Cal Poly Pomona, 2008-2009. The program initially began without indoor pails, but participation was limited and reduced the viability of the program because there were not enough greens to activate the browns. The findings from the pilot study suggest using pails inside the building rather than expecting people to walk outside with their fruit/veggie peels and coffee grounds.*