



## DIY: Mobile-Drip Irrigation System for Your Home Garden

Caltrans and the Protect Every Drop is proud to partner with the Environmental Charter Middle School – Inglewood. They make green and sustainable practices part of their everyday life! Check out their do it yourself instructions on how to build a mobile-drip irrigation system for your garden.

Even in late fall, when the rest of the country is gearing up for rain and cold weather, California garden enthusiasts are still struggling with sweltering hot, dry days — which is why drip-irrigation is the way to go for busy gardeners in Southern California. Not only is it an easy way to handle all your watering needs, but it also uses water more efficiently, which makes for lower water bills and a more sustainable community.

Ideal for drought-prone areas, drip-irrigation systems are especially helpful for gardeners in Southern California. Keep in mind sprinklers and automated in-ground irrigation systems are inefficient for those hard-to-reach areas. And while commercially-made irrigation systems do work, they can be expensive. So, what's an environmentally-minded gardener to do? Well, how about a little DIY project?

As part of a partnership with the Environmental Charter Middle School (ECMS) in Inglewood, California, we asked these future leaders in sustainability to come up with a watering system that will help save both water and money. Below is their step-by-step guide for hydration success!

### Design:

Using recovered materials found in the community, students from ECMS-Inglewood designed and built a mobile irrigation system that would act as a rain catchment and irrigation system during the rainy season — as well as a slow drip irrigation system during the dry season. The system was built to fit between two 10x6 ft raised beds, with the ability to deliver five gallons of water through a slow-drip irrigation process to the entire space. Using the materials and instructions below, here's how you can build a mobile-drip irrigation system for your home garden as well!

### Materials:

- 📍 Paint (Feel free to get creative here - for example, ECMS used their school colors)
- 📍 Linseed Oil (used to seal the wood for weather)
- 📍 Power Drill
- 📍 Screws
- 📍 Washers
- 📍 Hinges and brackets
- 📍 Liquid Nail
- 📍 Putty (to seal around spigots)
- 📍 Soaker hoses (25 - 50 ft. is usually enough, depending on your needs)
- 📍 5-gallon water bucket
- 📍 Rain barrel water diverter kit

- 🕒 Brass Y connector
- 🕒 Bungee cords / rope (to anchor the buckets in place)
- 🕒 Recovered pallet (for the base)
- 🕒 (3) Wood pieces (2" thick x 4" wide x 8" long - used to keep buckets in place)
- 🕒 Recovered large spool (the kind heavy wire or rope is sold on)

### Measurements:

- 🕒 Carriage including wheels — 3 ft tall x 2 ft wide x 2.5 ft long
- 🕒 Entire device — 5 ft tall x 3 ft wide x 3 ft long

### Instructions:

1. Cut a hole in the 5-gallon bucket large enough for the spigot.
2. Complete the directions on the rain barrel kit to install the spigot hardware.
3. Place putty around the connections to create a waterproof seal. Let it dry for 24 hours before using.
4. Connect the Y connector and soaker hoses.
5. Choose a pallet that has a sturdy frame in order to support five gallons of water. Cut to size and coat with Linseed Oil for weather protection.
6. Coat the large spool with Linseed Oil and drill onto center of pallet. Make sure the spool is securely connected and leveled on the pallet. This will create the structure that will sit atop your wheeled cart and will hold the 5-gallon bucket.
7. Place bucket in center of the spool and trace the outline on the spool with chalk.
8. Identify three equally spaced spots on the outline to connect small wood pieces in order to create a holding space for the bucket.
9. Connect the three small wood pieces to the spool with brackets and screws. Space them out so they cradle the bucket. Coat with Linseed Oil.
10. Paint with colors of your choice.
11. Connect the base structure to the top of the cart and hold in place with bungee cords.
12. Place bucket into holder and fill with water.
13. Roll your mobile irrigation system between your beds, place soakers hoses into your raised beds and turn on spigot.



**Happy irrigating!**