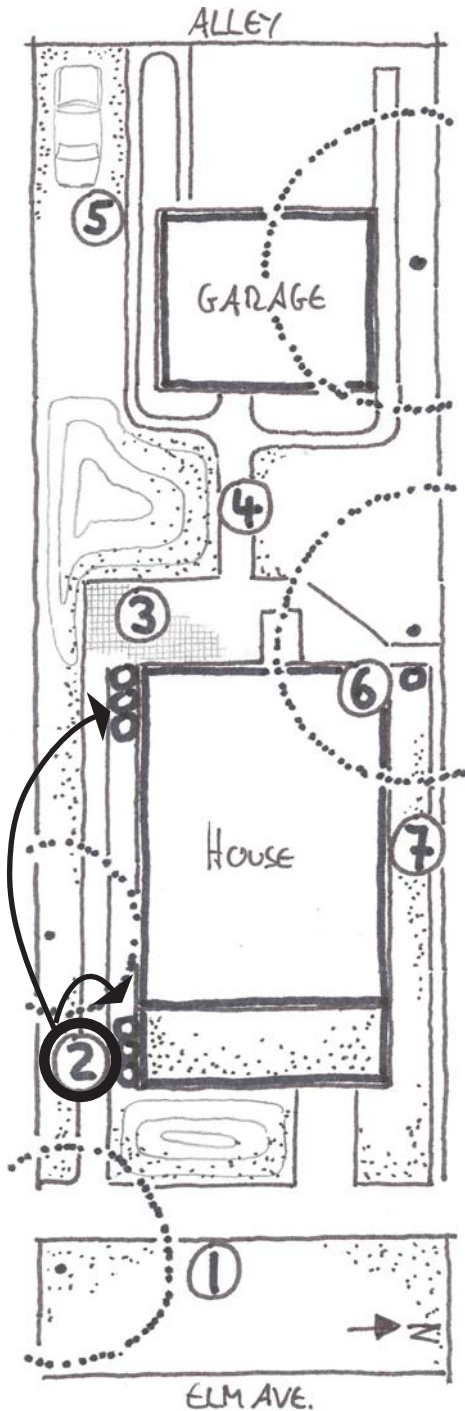


Station 2 - Rain barrels



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Rain barrels are a very simple and ancient rainwater storage tool. Early farms and ranches routinely collected rainwater in barrels or cisterns (for the latter refer to Station 6 - Cistern cut sheet). Rain barrels became particularly handy where there was no immediate access to surface water, well water, or other water sources near a building. The uses of collected water included watering livestock, washing tools, laundry, etc.

Today, rain barrels are often used to hold roof runoff and reduce the total rainwater discharge volume from our properties. Most contemporary rain barrel owners use the collected water to irrigate plants in the yard. In most cases rainwater is better suited to irrigate plants than tap or well water, because it is not chlorinated, fluoridated or loaded with dissolved salts.

Where to get barrels?

Rain barrels can be purchased over the Internet or through some environmental organizations. The objective at Elm Ave. was to salvage and recycle

materials wherever possible. A local car wash was willing to donate some of their empty 55 gallon soap barrels. With some rinsing and simple fixtures from the hardware store, we were able to produce our custom set of rain barrels.

Rain barrels at Elm Ave.

The function of the rain barrels is:

- 1) Rainwater detention (temporary storage with slow release)
 - 2) Rainwater storage for irrigation use
- Once installed, we considered whether the plain white barrels should be screened with planting or a trellis: Some folks may not mind the plain utilitarian look of the barrels, while others may object. We decided to keep the barrels in plain view and use them to make a statement about water conservation and reuse. With some paint, time and talent, the barrels became more visually pleasing and even drew a little more attention.

Rain barrel plumbing

The rain barrels are fed by the runoff from the south roof and are placed next to the downspout at the southeast and



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- Station 1 - Green roof
- Station 2 - Rain barrels
- Station 3 - Porous pavement
- Station 4 - Rain garden
- Station 5 - Gravel grass
- Station 6 - Cistern
- Station 7 - Bioswale

again at the southwest corner of the house. The downspout is fitted with a flexible extension that terminates into a filter on top of the first rain barrel. The filter keeps debris out of the rain barrels and simply consists of two small paint buckets, in which the bucket bottoms were replaced with screens. Each set of three rain barrels (each barrel having a 55 gallon capacity) is connected at the bottom, providing a combined storage capacity of 165 gallons. In each set, one barrel is fitted with three faucets: The lower and middle faucets are usually shut off and used to fill watering cans, while the upper faucet is always open and allows the water to escape once the barrels are filled by two-thirds. The top third (55 gallons) is temporary storage. It allows the water levels to rise further if it rains harder than the water can drain through the upper-most faucet. This faucet basically acts as a restrictor, only releasing a low and gentle flow compared to the potential high and damaging downspout flows that may cause erosion and scour. The slow flow prevents sudden localized flooding and allows the escaping water to effectively infiltrate into the adjacent rain garden (see also Station 4 - Rain garden cut sheet). If there is no need to use the stored water for irrigation, the lower and middle faucet also could be partially opened, thus allowing the roof runoff to gently drain out of the barrels and flow into the adjacent rain gardens.

What do you do with them in the winter?

Rain barrels work very well for most of the spring, summer, and fall. Winter brings the challenge of freezing, and potential damage to the rain barrels. To prevent them from freezing, the rain barrels are drained with all faucets wide open. Furthermore, the flexible extension to the downspout is routed into the original downspout connection, thus allowing all flows to bypass the rain barrels.

