# CITY OF ANN ARBOR
# QUALIFYING FOR A DRYWELL CREDIT

Dry wells are stormwater management structures that can play an important role in reducing total runoff volume. Dry wells are underground structures that store water in the void space between crushed stone or gravel and allow the water to slowly percolate downward into the subsoil. Drywells are installed by digging a deep hole and setting the drywell in it. Gravel is usually dumped around the outside of the drywell and a lid put on top. This structure often receives water from one or more entry pipes or channels at its top and discharges the same water through a number of small exit openings on the sides and bottom of the dry well into the soil that surrounds it.

**Runoff from large storms cannot be fully infiltrated by the dry well. Because of their limited size, drywells structures are best used to infiltrate the first inch/half inch of runoff from frequent small storms; they are not effective for infiltrating the runoff from large storms. Dry wells must be equipped with an overflow or bypass device to divert runoff in excess of their capacity to the storm drainage system without causing erosion and/or property damage.

Applications and Design Principles

- The excavated hole, 3'-12' deep, must be lined with filter fabric and backfilled with washed, crushed stone 1.5"-3" in diameter.
- The drywell must be lined with a material that provides void space. The simplest method is to use perforated drain tile (see example on next page). Premanufactured concrete rings with holes in them are also available. The rings are typically three feet high and six feet in diameter. The dry well may be buried completely, so that it does do not take up any land area
- Where dry wells accept roof runoff through a system of gutters and downspouts, screens must be installed at the top of downspouts.
- For runoff from paved surfaces, runoff must pass through a grass swale or filter strip to pre-treat stormwater before it is discharged to the dry well.

**Requirements for Credit:**

- At least 50% of your property's roof area should drain to the drywell OR the drywell must capture runoff from impervious area on your property that is equal to 50% of your roof area.
- Size:
  - Cubic feet: 66 cubic feet of capacity OR
  - Gallons: 500 gallons of capacity
- DRYWELL INFILTRATION: A completely full drywell must completely infiltrate into the ground within 24 hours

  ** To test ground before installing:

  1. Dig an 18" hole and fill it completely with water.

2. Let it drain down, and then fill it again. If the 2nd time it takes less than 24 hours to drain down, the soils are adequate for the drywell.

**Example:**

Land Architects Inc. of Ann Arbor designed the following customer's landscaping to allow the down-spouted water to drain slowly underground through perforated hard plastic coils. Two 100' coils of drain tile provide stormwater storage and infiltration within the front yard. They are set within two holes that are filled with pea gravel that surrounds the drain tile coils.