

Reasons for Flooding

 When sheds, fences, shrubs, planters and other structures are placed in locations which obstruct the surface drainage swales, the result can be any of the following:

- Basement flooding
- Standing water
- Sewer backups
- Erosion
- Covering storm structures
- Blocking flow to storm basins
- Filling of overland drainage ways
- Landscaping over a major flow route

 These problems can be avoided by ensuring that any structures placed in the yard do not obstruct the predefined flow path.

 Additionally, filling of side and rear yard overland flow swales can result in any of the aforementioned flooding problems.

For Questions regarding
Storm Water Systems contact us
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*Flood
Protection
Program*

Home Owner's Guide to Storm Water Systems



Residential storm drainage consists of two systems. The **major system** and **minor system** work together to prevent flooding of homes and roadways.

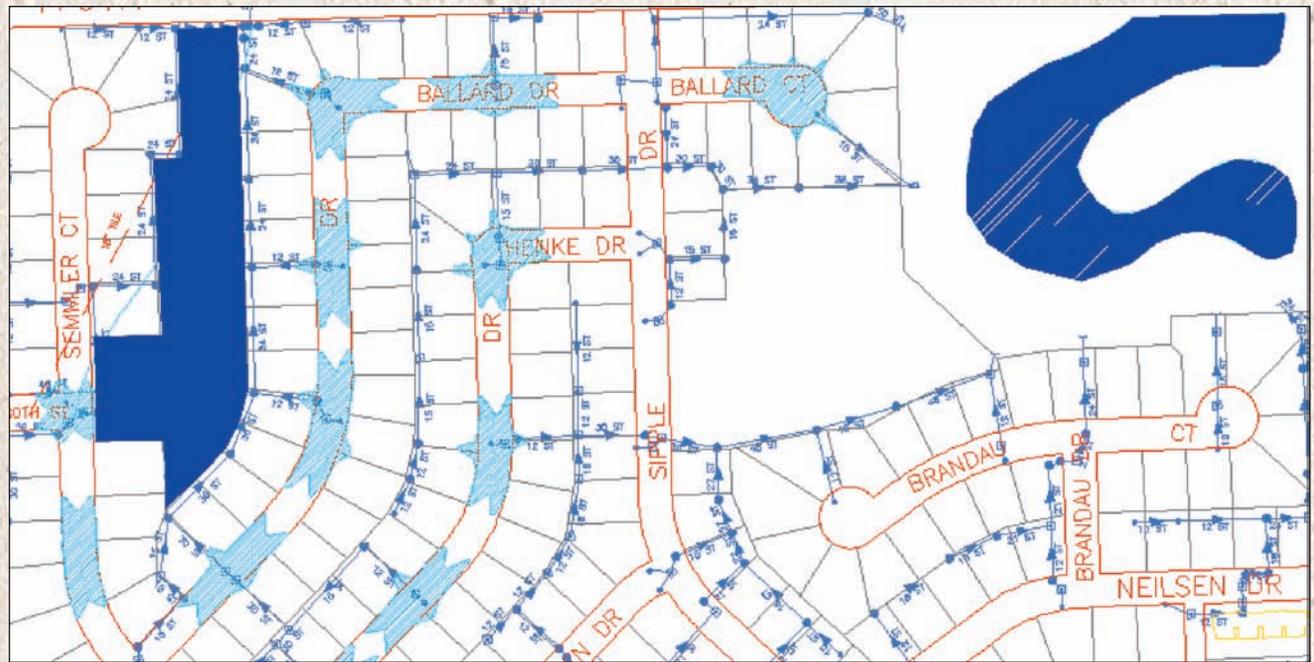
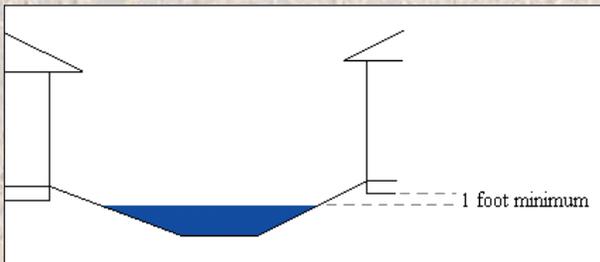
Major Drainage System

The major system is the overland flow route, which consists of the following:

- Surface drainage swales
- Paved roadways
- Detention basins

Each subdivision is designed to convey runoff from heavy rains to a detention basin where the water can be detained and slowly released.

Surface drainage swales and paved roadways are used to transport storm water runoff to detention basins. Swales located in side yards and rear yards within Public Utility and Drainage Easements, are sized to convey the runoff from heavy rains while allowing a minimum of one foot between the water surface elevation and the lowest opening of the adjacent house.



Minor Drainage System

Detention ponds are small-scale flood control reservoirs, regulating the runoff from a given rainfall event and controlling discharge rates to reduce the impact on downstream drainage systems, either natural or man-made. Some of the benefits of detention ponds are:

- Reduction of downstream flooding
- Decreased pollution of receiving streams
- Reduced costs of downstream drainage facilities
- Additional green space within each subdivision.

In general, detention facilities will not reduce the total volume of runoff but rather redistribute the rate of runoff to downstream systems over a period of time.

The minor drainage system consists of storm sewer, catch basins and inlets. This system also conveys storm water runoff to detention basins, however, the minor system is not designed to convey the runoff from the 100-year storm. The minor system transports runoff from small rain events, as well as a portion of the runoff from the large storms to the detention basin.

When the minor system is not functional due to collapsed pipes or blockages in the pipe or the amount of runoff exceeds the capacity of the storm sewer, the major system takes over. As the runoff is carried to detention ponds via surface drainage swales and ditches, low points in the roadways and rear yards will become inundated. These areas of ponding water slow the rate at which the water reaches the detention pond.