

## DESIGN GUIDELINES

# Natural Resource Protection

## Stormwater Runoff and Water Quality

Often runoff from spring snowmelt or rainstorms is allowed to run over **impervious surfaces** on streets and parking lots and directly into water bodies. Runoff often carries with it contaminants from animal wastes, motor oil, road salt, lawn fertilizers and pesticides, and sediment. It is important to direct runoff into natural settling basins where it can slowly seep into the ground.



## COMMON APPROACH TO DEVELOPMENT

Runoff from rain or snow is often funneled into a pipe or storm drain and discharged directly into streams, rivers and lakes.



## POTENTIAL IMPACTS OF DEVELOPMENT

- Runoff of untreated water containing sediment, fertilizers, road salts, motor oil, and animal wastes into lakes and rivers.
- Fertilizers and nutrients in wastes promote growth of unwanted algae and aquatic plants, that consumes dissolved oxygen in aquatic ecosystems, resulting in possible fish kills or impacting oxygen-loving **macroinvertebrate** populations.



## RECOMMENDED APPROACH

(May be accomplished through state or local education programs or regulations enacted by local units of government.)

- Create a vegetated or rock-lined drainage **swale** for storm-water runoff to slowly seep into the ground, rather than running off into streams, rivers, and lakes. These channels also provide a place for snow storage and allow for soil moisture and groundwater recharge.
- Design sediment basins for onsite retention of storm water runoff.
- Use a **pervious** type of asphalt that allows water to seep through.

