Bowling Green, Kentucky
Stormwater Best Management Practices (BMPs)
Site Planning and Design Practices (SPDs)

SPD-02.1

Activity: Parking Lot Design

PLANNING CONSIDERATIONS:

Design Life:
Permanent, or life of development

Acreage Needed:
None

Estimated Unit Cost:
Low

Monthly Maintenance:
N/A

Target Pollutants

Significant ♦	Partial ◈	Low or Unknown ◇

Sediment ◈ Heavy Metals ◈ Nutrients ◈ Oxygen Demanding Substances ◇ Toxic Materials ◇
Oil& Grease ◈ Bacteria & Viruses ◇ Floatable Materials ◈ Construction Waste ◇

Description

To reduce the amount of runoff volume in parking lot designs, infiltration swales and vegetation incorporation to reduce paved surfaces may occur. These two alternatives would provide water quality benefits to the parking lot design.

Reduced paved surfaces increases the amount of sediment-laden runoff that can be filtered through vegetation and settlement provided by swales. Vegetation acts as a sponge where runoff is concerned. Leaves, stems and branches intercept rainwater which then evaporates. Depending on the type of vegetation, some may even encourage infiltration (deep-rooted prairie plants).

While vegetation increases the amount of sediment-laden runoff captured and evaporated, swales enable sediment to settle out producing a cleaner runoff for the environment.

Suitable Applications

- To compensate overly generous parking ration requirements.
- Lots desiring minimum stall dimensions.
- To use the most space-efficient stall configuration for a site.
- Reduce amount of surface sediment laden runoff.

Approach

Pavement reduction can be established in five ways:

1. Variances to Municipal Codes.
2. Reducing stall dimensions.
3. Promoting shared parking lots.
4. Reconfiguring parking stall patterns, orientations.
5. Grass islands.

Approach (cont'd)

Site runoff can be reduced in two ways:

1. Consider green lots
2. Use of permeable pavers

Caution

Check zoning requirements prior in implementing BMP.

Maintenance

- Planted areas must be weeded monthly during the first two to three years. After initial years, once or twice a growing season will be sufficient.
- Water regularly during dry spells.
- Irrigation should be two inches per week maximum.
- Push street snow away from swales during winter seasons to avoid road sand accumulation.

Inspection Checklist

- ❑ Plants are watered regularly during dry weather.
- ❑ Weeds are under control.