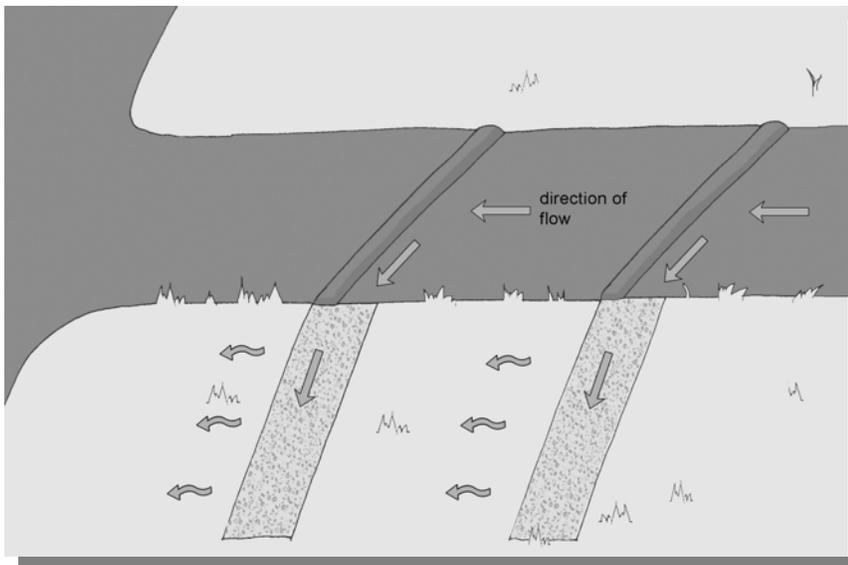
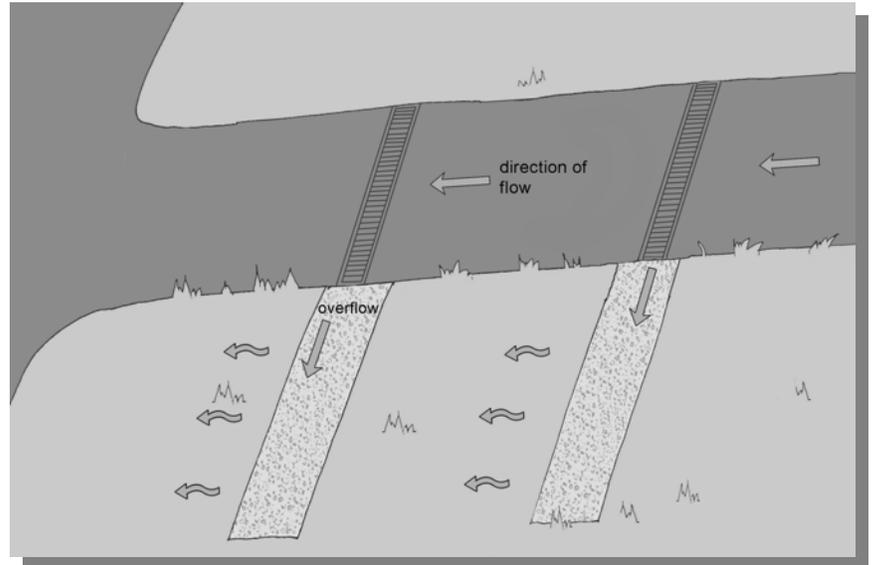


BMP T5.12 – Sheetflow / Driveway Dispersion

Driveway dispersion directs flow from driveways and pavement into vegetated areas. This slows the flow of water to storm drainage systems and reduces the amount of runoff going to streams.

Dispersion can be accomplished by directing runoff from the driveway using low curbs or drains (right) or by gently slanting the paved surface so that water runs off into vegetation (below).



Revised 3/30/12



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 1300 Franklin Street, Vancouver, Washington
 Phone: (360) 397-2375 Fax: (360) 397-2011
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For an alternate format, contact the Clark County ADA Compliance Office.
 Phone: (360) 397-2322
 Relay: 711 or (800) 833-6384
 E-mail: ADA@clark.wa.gov

BMP T5.12 Sheet Flow Dispersion

Purpose and Definition

Sheet flow dispersion is the simplest method of runoff control. This BMP can be used for any impervious or pervious surface that is graded so as to avoid concentrating flows. Because flows are already dispersed as they leave the surface, they need only traverse a narrow band of adjacent vegetation for effective attenuation and treatment.

Applications and Limitations

Flat or moderately sloping (<15 percent slope) impervious surfaces such as driveways, sport courts, patios, and roofs without gutters; sloping cleared areas that are comprised of bare soil, non-native landscaping, lawn, and/or pasture; or any situation where concentration of flows can be avoided.

Design Guidelines

- See Figure 5.5 for details for driveways.
- A 2-foot-wide transition zone to discourage channeling should be provided between the edge of the driveway pavement and the downslope vegetation, or under building eaves. This may be an extension of subgrade material (crushed rock), modular pavement, drain rock, or other material acceptable to the Local Plan Approval Authority.
- A vegetated buffer width of 10 feet of vegetation must be provided for up to 20 feet of width of paved or impervious surface. An additional 5 feet of width must be added for each additional 20 feet of width or fraction thereof. A vegetated buffer width of 25 feet of vegetation must be provided for up to 150 feet of contributing cleared area (i.e., bare soil, non-native landscaping, lawn, and/or pasture). Slopes within the 25-foot minimum flowpath through vegetation should be no steeper than 8 percent. If this criterion cannot be met due to site constraints, the 25-foot flowpath length

must be increased 1.5 feet for each percent increase in slope above 8 percent.

- No erosion or flooding of downstream properties may result.
- Runoff discharge toward landslide hazard areas must be evaluated by a geotechnical engineer or a qualified geologist. The discharge point may not be placed on or above slopes greater than 20 percent or above erosion hazard areas without evaluation by a geotechnical engineer or qualified geologist and approval by the Local Plan Approval Authority.
- For sites with septic systems, the discharge point must be downgradient of the drainfield primary and reserve areas. This requirement may be waived by the Local Plan Approval Authority if site topography clearly prohibits flows from intersecting the drainfield.

Flow Credits

Where BMPT5.12 is used to disperse runoff into an undisturbed native landscape area or an area that meets BMP T5.13, the impervious area may be modeled as landscaped area. This is done in the WWHM by entering the impervious area into the "landscaped area" field.

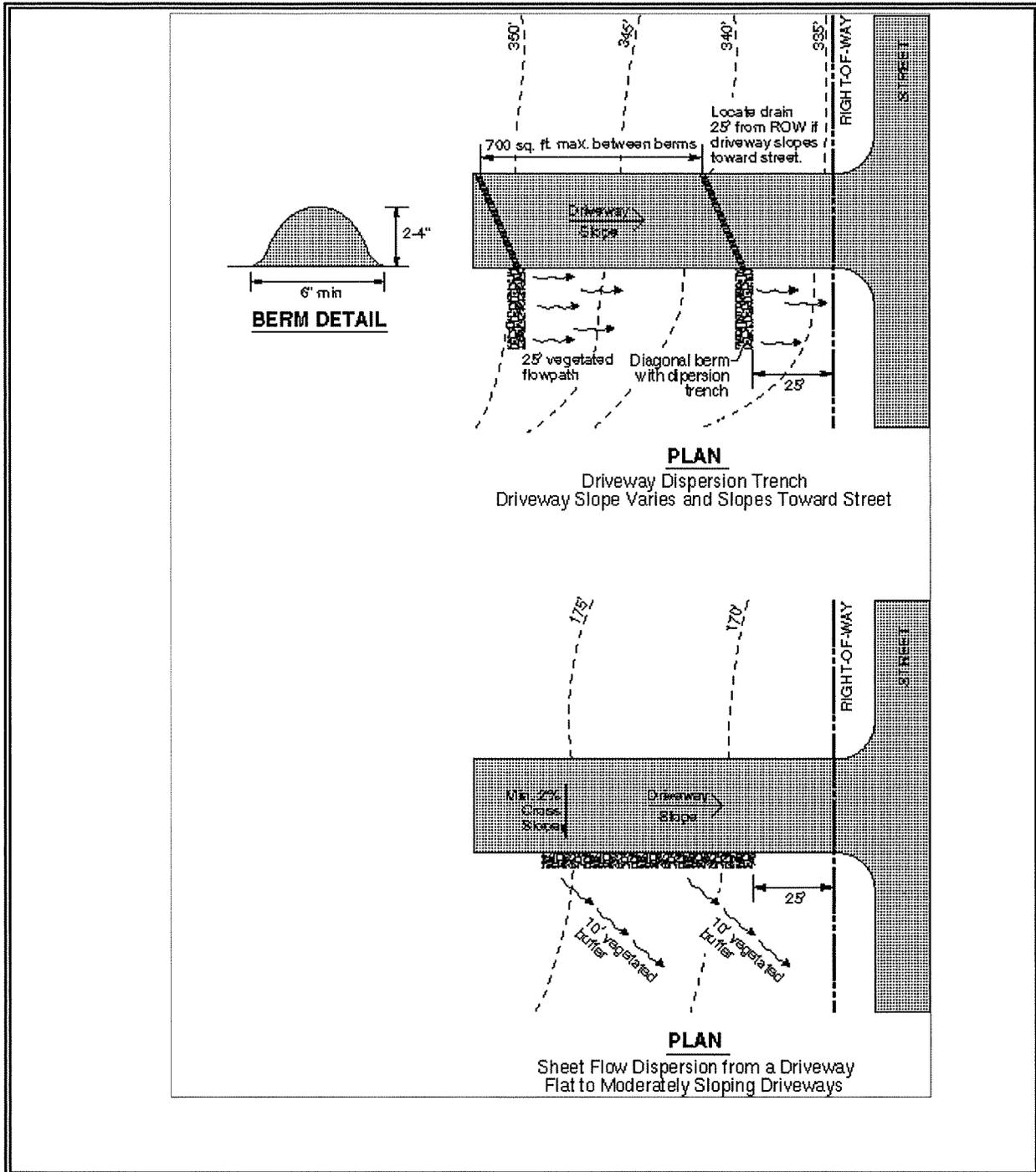


Figure 5.5 – Sheet Flow Dispersion for Driveways

BMP T5.11 Concentrated Flow Dispersion

Purpose and Definition

Dispersion of concentrated flows from driveways or other pavement through a vegetated pervious area attenuates peak flows by slowing entry of the runoff into the conveyance system, allows for some infiltration, and provides some water quality benefits. See Figure 5.4.

Applications and Limitations

- Any situation where concentrated flow can be dispersed through vegetation.
- Dispersion for driveways will generally only be effective for single-family residences on large lots and in rural short plats. Lots proposed by short plats in urban areas will generally be too small to provide effective dispersion of driveway runoff.
- Figure 5.4 shows two possible ways of spreading flows from steep driveways.

Design Guidelines

- A vegetated flowpath of at least 50 feet should be maintained between the discharge point and any property line, structure, steep slope, stream, lake, wetland, lake, or other impervious surface.
- A maximum of 700 square feet of impervious area may drain to each dispersion BMP.
- A pad of crushed rock (2 feet wide by 3 feet long by 6 inches deep) shall be placed at each discharge point.
- No erosion or flooding of downstream properties may result.
- Runoff discharged towards landslide hazard areas must be evaluated by a geotechnical engineer or qualified geologist. The discharge point shall not be placed on or above slopes greater than 20 percent or above erosion hazard areas without evaluation by a geotechnical engineer or qualified

geologist and approval by the Local Plan Approval Authority.

- For sites with septic systems, the discharge point should be downgradient of the drainfield primary and reserve areas. This requirement may be waived by the Local Plan Approval Authority if site topography clearly prohibits flows from intersecting the drainfield.

Flow Credits

- Where BMP T5.11 is used to disperse runoff into an undisturbed native landscape area or an area that meets BMP T5.13, and the vegetated flow path is at least 50 feet, the impervious area may be modeled as landscaped area. This is done in the WWHM by entering the impervious area into the "landscaped area" field.

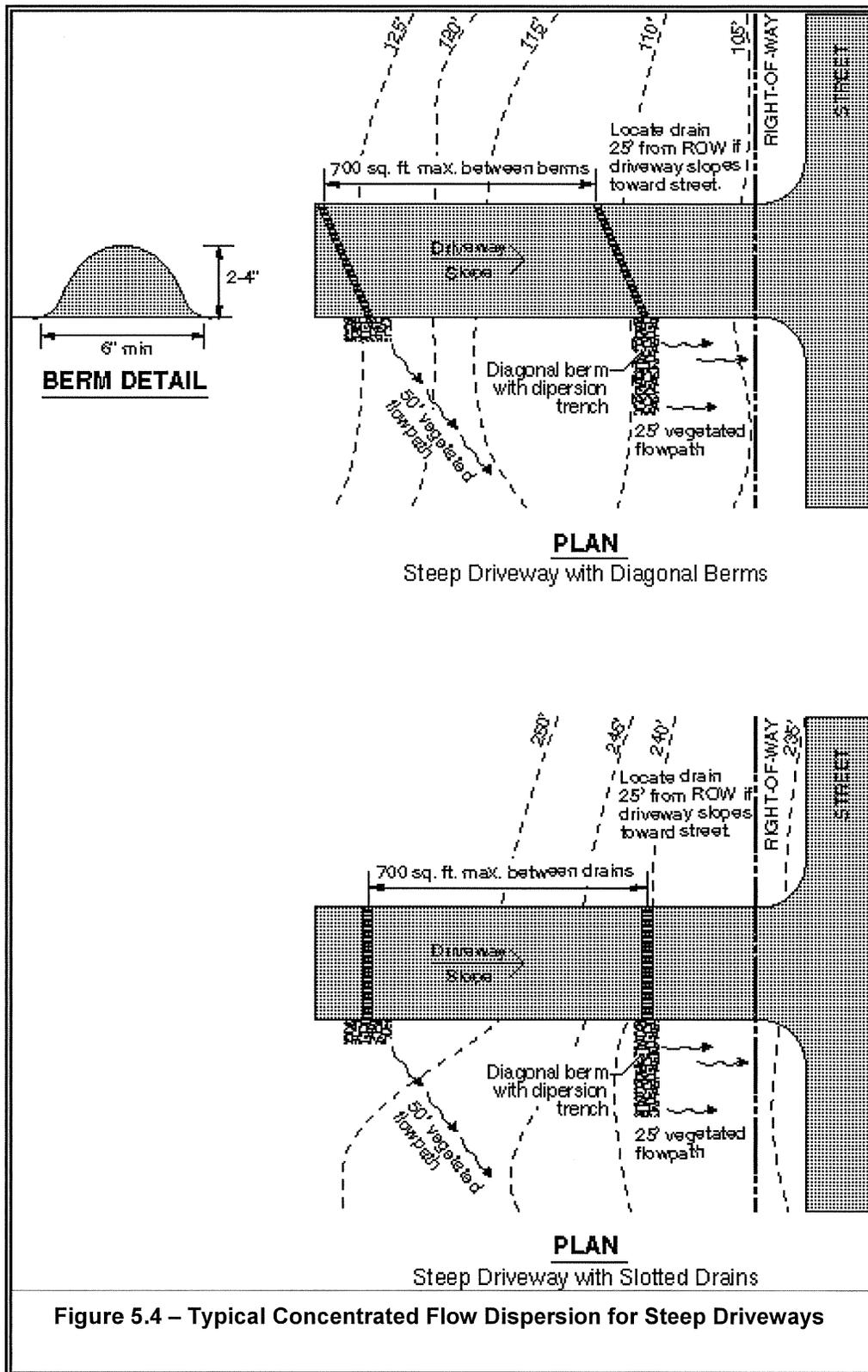


Figure 5.4 – Typical Concentrated Flow Dispersion for Steep Driveways