

Green Street Examples

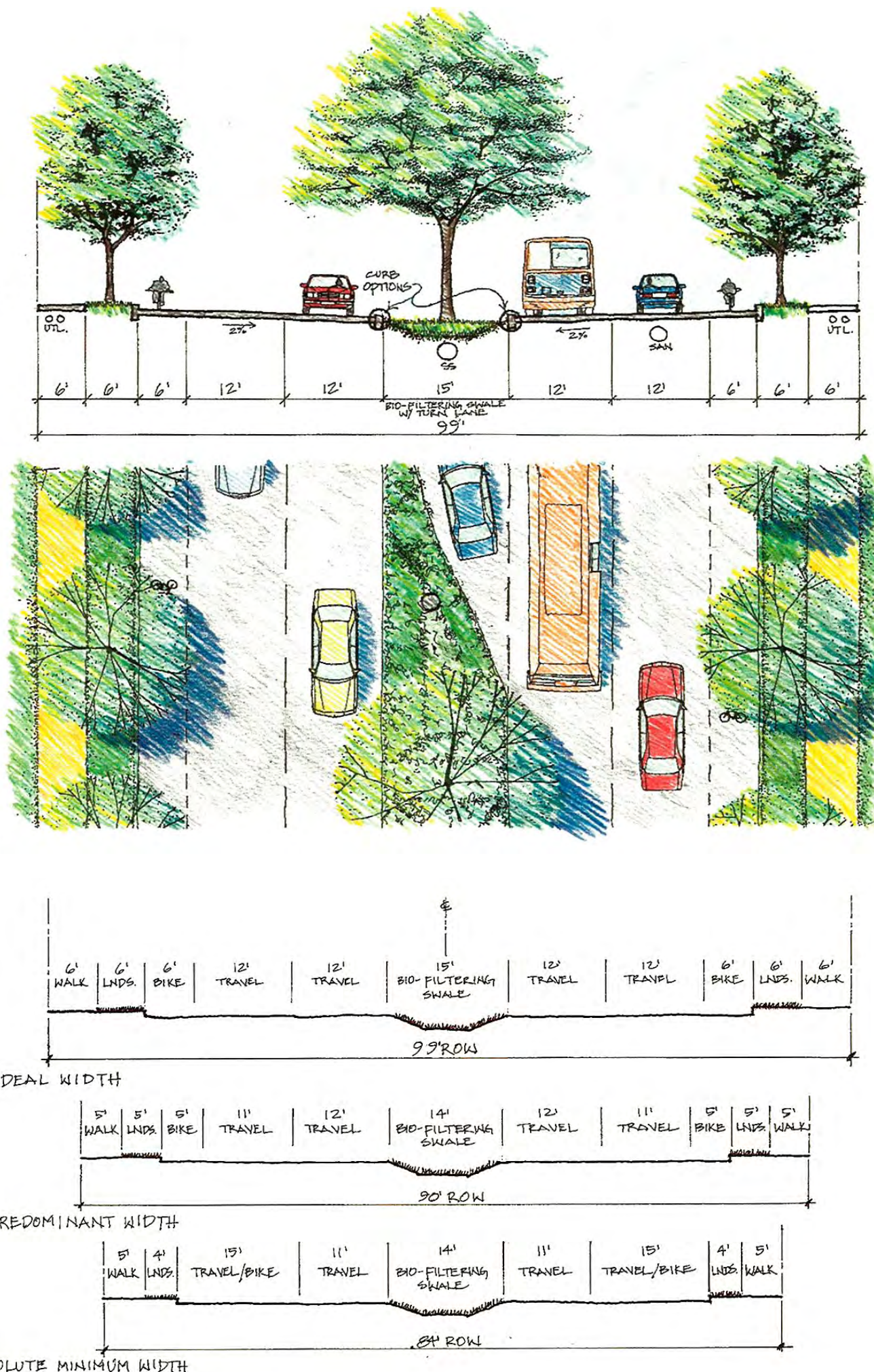
OR HWY 43 Conceptual Design Plan

“Green Streets” are designed to minimize stormwater runoff, thereby reducing impacts to streams and wetlands and improving the region’s water quality. They incorporate stormwater management into the right-of-way through landscape features which capture stormwater runoff and allow it to infiltrate naturally into the ground. This allows pollutants to settle and filter out as the water percolates through the soil.

Green Street treatments may take many forms, and can have significant space requirements depending on the amount of runoff to be captured. They may utilize a series of landscaped planters or street tree wells within the planting strip or median. These typically utilize perforated curbs which direct water into the planter. Green Streets may also be curbless features or medians with planted swales or detention basins. Permeable paving used within parking strips, shoulders, and sidewalks also allows water to infiltrate naturally into the ground.

When contemplating the installation of Green Street treatments, one should consider substantial amount of space necessary (depending on capacity standards), as well as responsibilities for financing and completing initial installation, as well as maintenance, which may lie with the State, City, and/or adjacent property owners.

Metro Guidelines for Regional Green Streets



Metro’s “Green Streets, Innovative Solutions for Stormwater and Stream Crossings” presents recommended methods for designing a Regional Street as a Green Street. Because these streets are typically very wide and have large rights-of-way, a higher-capacity swale is recommended to handle larger amounts of runoff. The swale may be located in a central median or between the outer travel lane (or parking strip) and the sidewalk. Ideally, swale systems should be a minimum of 250 feet long in order to be most effective.

Green Street Planters with Curbs



Landscaped planters within the planting strip manage stormwater and serve as a visual amenity



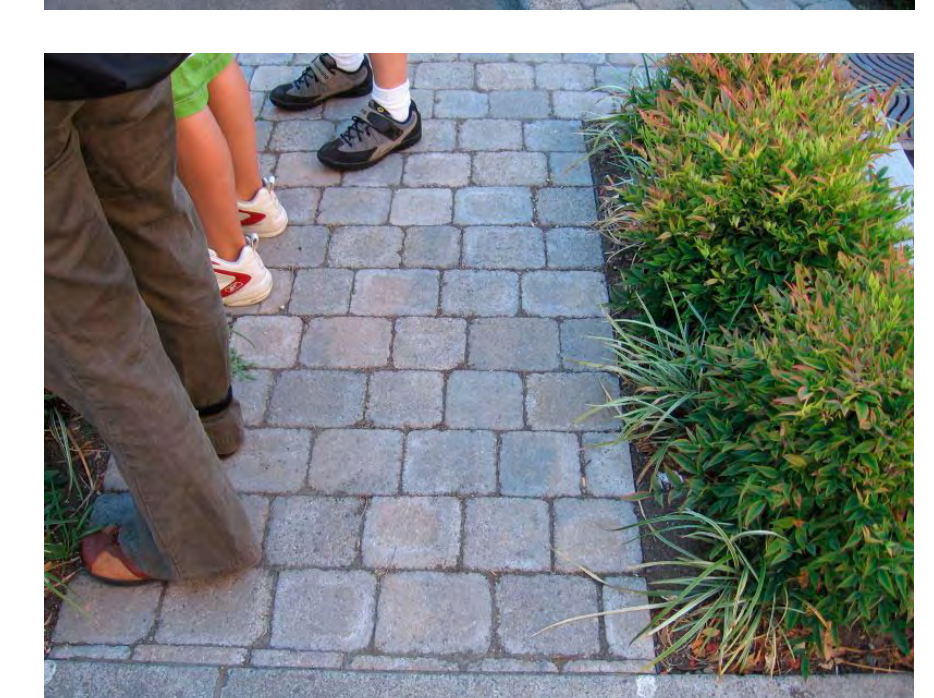
Slotted curbs direct water into the planter, where it is allowed to collect and eventually seep into the ground



Green Street treatments create opportunities to teach the importance of stormwater management



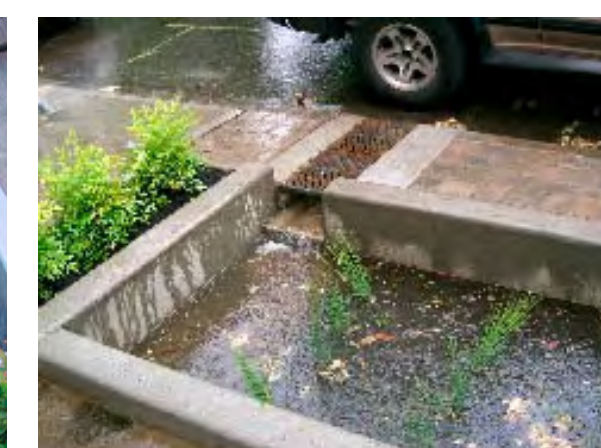
Green street planters can add a “sense of green” to the street



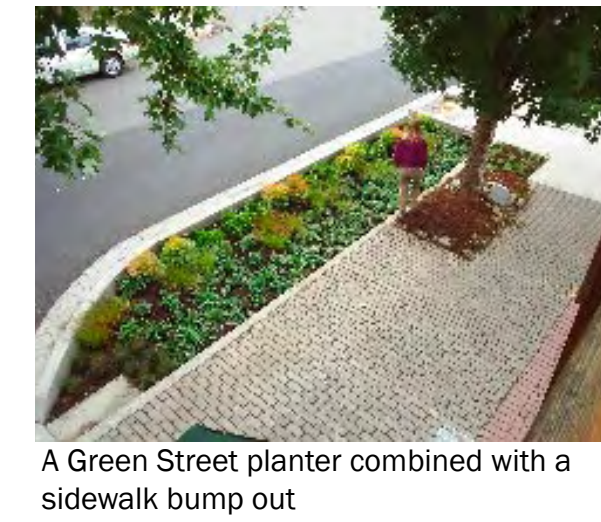
A slotted curb adjacent to the sidewalk allows the planter to collect runoff from sidewalks as well as street runoff



A curb cut channels street runoff into structured planters, where it is allowed to percolate into the soil



A Green Street planter combined with a sidewalk bump out



A sign explains how the Green Street works to improve water quality to passersby



Stormwater planters are often linked together, so that when one planter fills up, water flows down into the next planter

Landscaped planters may be located within the planting strip between the street and the sidewalk, or within a central median. They typically utilize a series of curb cuts which channels water to structured, landscaped reservoirs, where water is allowed to collect and infiltrate the soil. Structured planters are particularly appropriate for commercial areas or other areas with curbs.

Curbless Green Streets



Paving treatments can be used to visually define the edge of the street in the absence of curbs



Curbless green streets are often found in residential areas. In this example, the green street treatment acts as a buffer between the sidewalk and roadway, and provides an amenity for adjacent homes



Vegetated bioswales can serve as a visual amenity in residential or commercial areas



Curbless green streets allow water to flow freely into vegetated bioswales, where it is allowed to seep into the ground or pass beneath driveways into other swales

Curbless streets allow water to flow freely into vegetated bioswales. These treatments may be located within a central median, along the side of the street between the outside travel lane and the sidewalk, and along the outer edge of the walkway (to capture runoff from sidewalks). Curbless Green Streets could be best suited for residential areas along OR 43 and its side streets.

Other Green Street Treatments

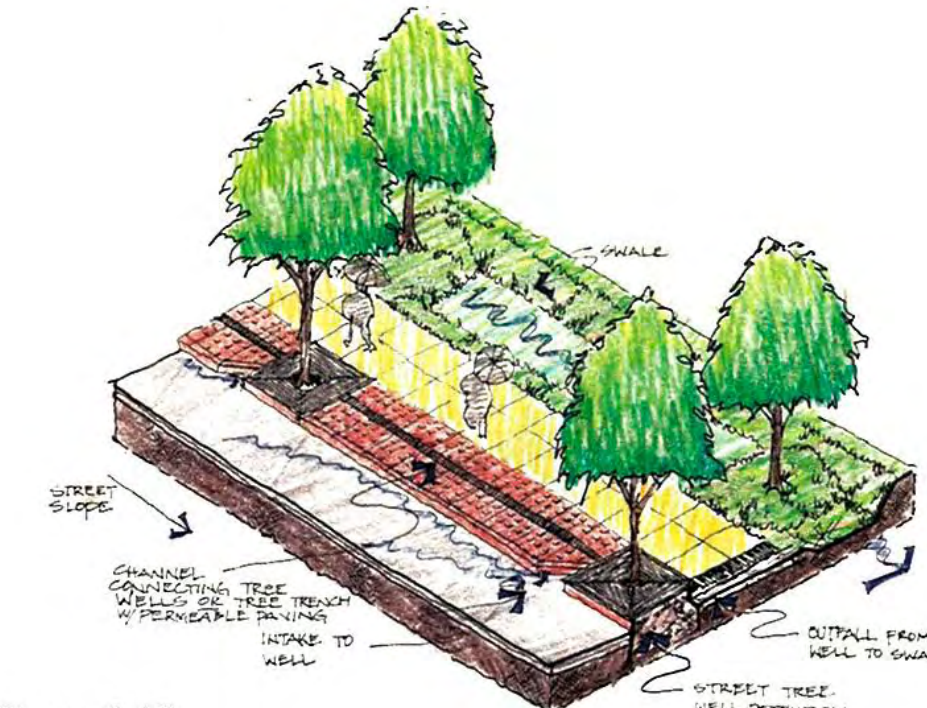


Figure 5-17 Street Tree Wells as Detention Basins for Sidewalk Runoff (Within Restricted Right of Way)

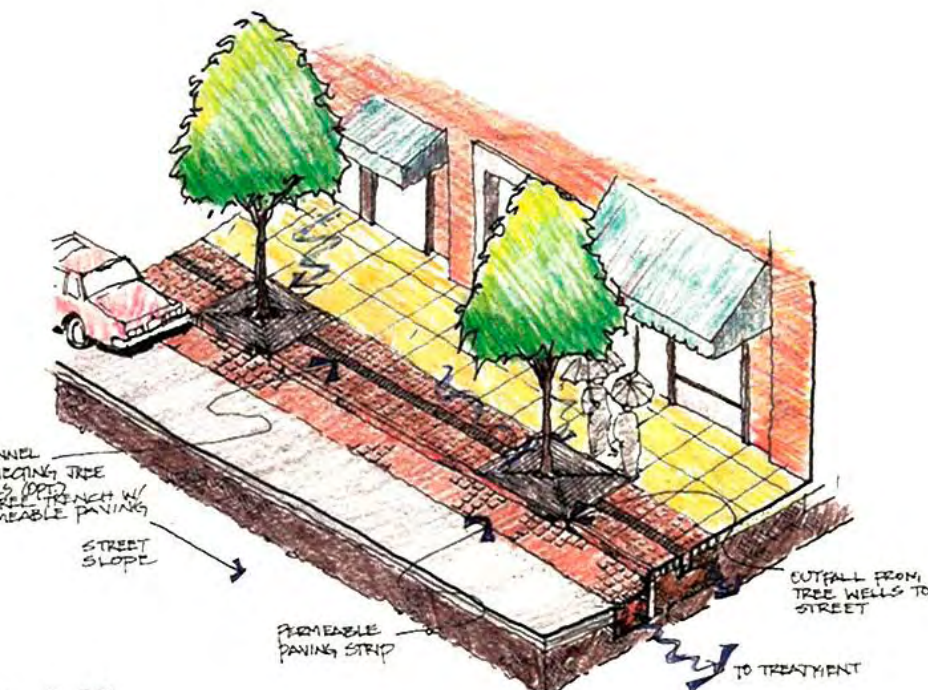
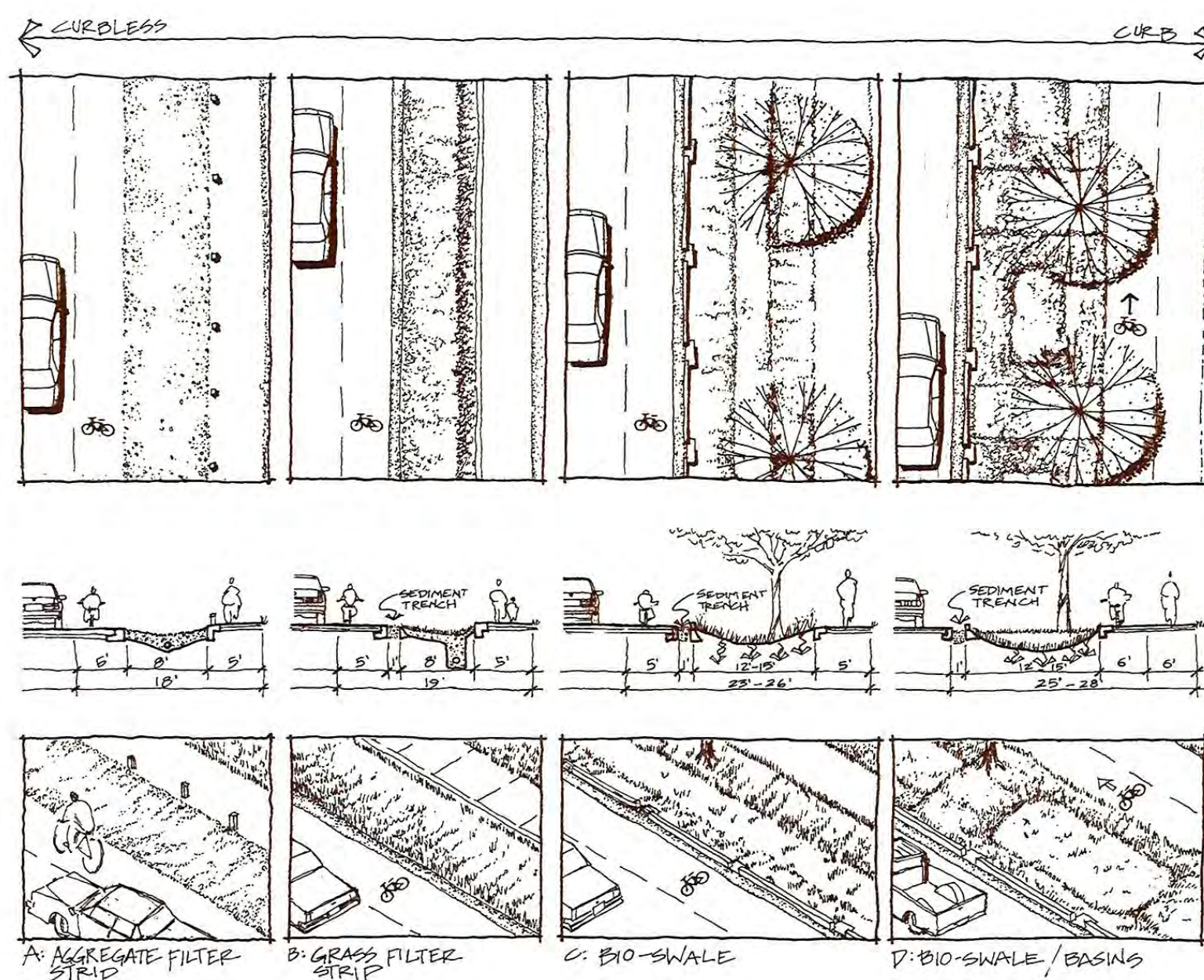


Figure 5-18 Street Tree Wells Attenuating Road Runoff into Bio-filtering Swale

Diagrams: Metro, Green Streets, Innovative Solutions for Stormwater and Stream Crossings, 2002

Green Street Curb Options

Figure 5-12 Curb Option Range for Areas of Moderate- to Low-Density Development



(a) Invisible curb with "lip"



(b) Double invisible curb with sediment trench



(c) Rumble strip with sediment trench

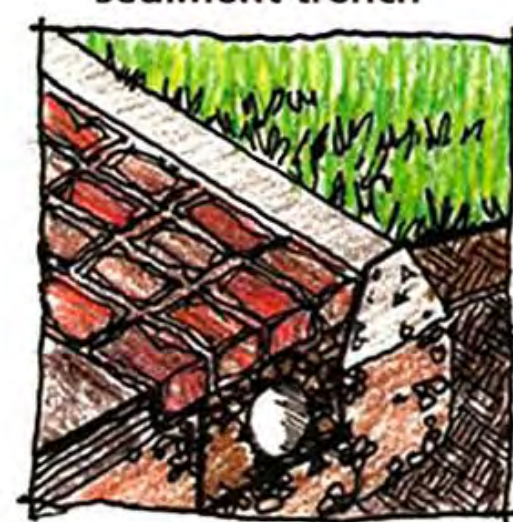
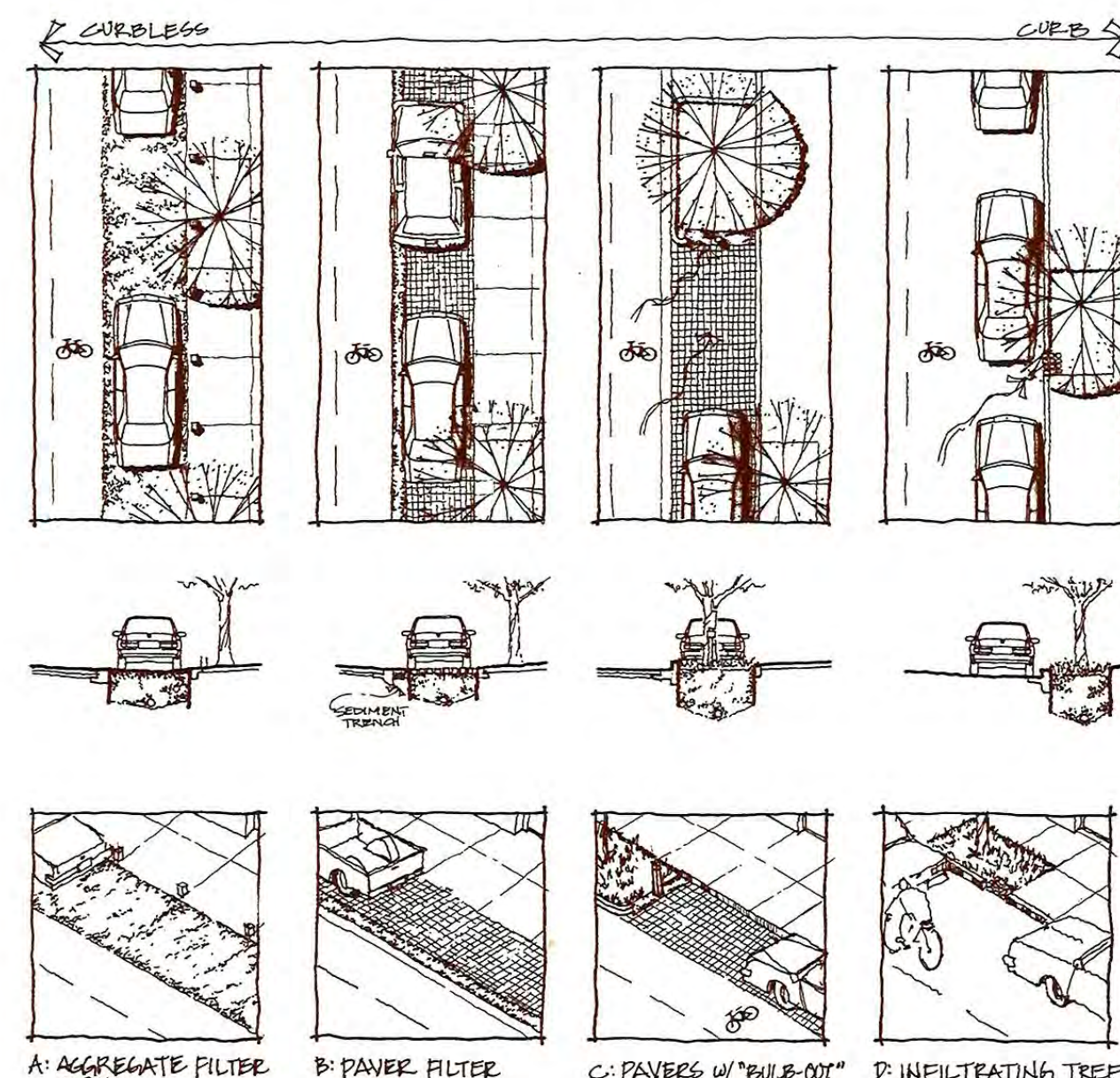


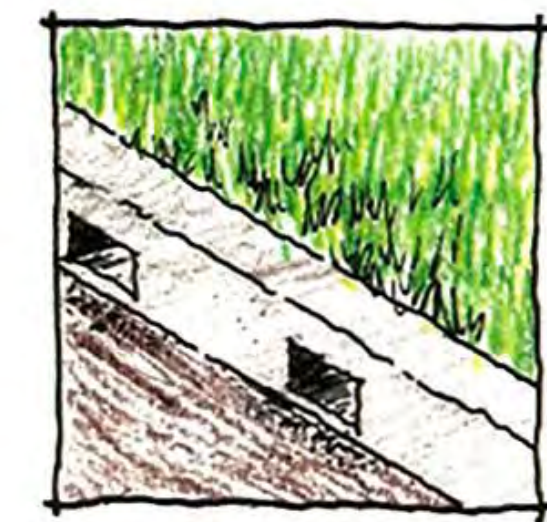
Figure 5-11 Curb Option Range for Areas of Compact Development



(d) Curb inserts



(e) Perforated curb



Diagrams: Metro, Green Streets, Innovative Solutions for Stormwater and Stream Crossings, 2002

Metro's "Green Streets, Innovative Solutions for Stormwater and Stream Crossings" presents a range of curb design options for Green Streets. In areas with more compact development and higher volumes of pedestrian and vehicular traffic, curbs may be most appropriate as they help to visually and physically separate different modes of travel. Less developed, lower-density areas, on the other hand, are ideal for curbless swales and basins.

Street tree wells may be used as detention basins to capture runoff from sidewalks and other limited areas. These treatments should be used in conjunction with other Green Street features as their limited capacity prevents this system from accommodating all of the runoff from the right-of-way.

Porous pavement within parking strips, shoulders, sidewalks and other low traffic areas also allows water to permeate into the ground.



Porous paving within the on-street parking strip serves both to define the parking area as distinct from the rest of the right-of-way, and manage stormwater runoff