Specifically, the Delridge NDS Project would design and construct infiltrating raingardens (bioretention cells) along up to 17 blocks (one block equals approximately 330 feet) (Attachment B). Those raingardens would be located primarily within existing planting strip areas located within City street rights-of-way. The existing planting strips would be converted from landscaped, lawn, or impervious areas to vegetated bioretention cells and upland planting areas.

Flow reduction and water quality treatment would be provided through a combination of bioretention (raingarden) facilities and deep infiltration. All raingardens would receive stormwater runoff from pollution generating impervious surfaces and would be designed with 18 inches of bioretention soil to provide water quality treatment. Cross sections of proposed bioretention facilities would be based on the widths of existing plantings strips and in some locations additional width provided at curb bulbs.

Bioretention facilities are designed with either side slopes or vertical walls. Side slopes are preferred as they create a softer edge along sidewalks and on-street parking; however, vertical walls are used as necessary to achieve performance goals for flow reduction and water quality treatment. On the proposed project, raingardens would have a vertical wall on the sidewalk side, a flat bottom, and a side slope (2.5 horizontal: 1 vertical) on the road side.

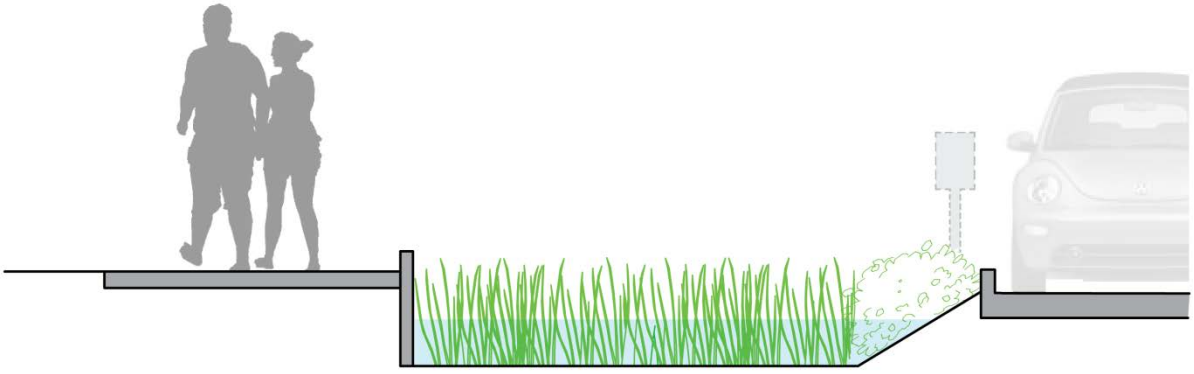
The proposed project includes two general types of raingarden designs: 1) Planting Strip Raingardens (see figure in Attachment C); and 2) Curb Bulb-out Planting Strip Raingardens (see figure in Attachment D). The Curb Bulb-out design typically would be used for traffic calming and improved pedestrian and bicyclist sightlines at select locations. The curb bulb-out raingardens typically would be used near intersections and would be sized to minimize or avoid loss of legal parking. All raingardens would be located to avoid existing driveways, historic/significant trees (if any), hydrants, and utilities where possible. Only the Planting Strip Raingardens would incorporate a passenger loading (parking egress) area.

Inlet curb cuts would be installed to route stormwater flow from the roadway gutter to the raingardens. Outlet curb cuts would be installed on the downstream end of the raingardens to provide conveyance of excess flows (during high flow events) via roadway gutter to the nearest down-gradient existing combined sewer inlet.

Based on results of continuing geotechnical analyses, some or all of the raingardens may be constructed using underdrains and geotechnical liners that would direct collected water to pit drains (up to 12 feet deep for shallow infiltration); vertically drilled drains (25 to 35 feet deep for medium deep infiltration); or gravity-driven underground injection control wells (UICs) (35 to 80 feet deep for deep infiltration). Pit drains are shallow, vertical drains constructed by digging a hole through naturally layered or interbedded sediments and then backfilling the excavation with free-draining materials such as pea gravel. UIC wells would not be used unless pit drains and drilled drains are found to be infeasible (as determined by on-going geotechnical analysis and groundwater monitoring).

In addition, the project would construct pedestrian and safety improvements such as curb ramps where required. Certain utilities such as side sewers and natural gas mains may need to be relocated or replaced during construction.

## Attachment C: Proposed Curb Bulb-out Planting Strip Raingarden Configuration



## Attachment D: Proposed Planting Strip Raingarden Configuration