



LANDSCAPE PERFORMANCE SERIES

Taylor 28 – Seattle, WA Methodology for Landscape Performance Benefits

Environmental

- ***Transformed 20 feet of excess street width into a 38-ft wide, 15,000 sf pedestrian plaza, setting the design standard for all of Taylor Avenue.***

Prior to development, Taylor Avenue included two travel lanes and back-in angled parking on both sides of the street. The project design maintains the same vehicular volume (2 travel lanes), and eliminates the inefficient angled parking. Some parallel parking spots are included in the final design, allowing for an overall reduction in vehicular width of twenty feet while still maintaining some on-street parking. This design standard has been approved by CityDesign and the Seattle Department of Planning and Development for the entire length of Taylor Avenue, stretching several blocks north and south of the project site.

- ***Infiltrates all runoff generated on both the site and the public-realm pedestrian space, resulting in zero discharge to the combined sewer system for up to a 25-year storm event.***

The 25-year storm event was targeted as a design goal to maximize infiltration for the majority of typical storm events in the Seattle area. Designed to manage a 25-year storm event, Taylor 28 achieves its zero discharge goal for both on-site and right-of-way rainwater at the sidewalk level. Permeable concrete, planting areas designed as urban rain gardens, an on-site cistern that slowly releases rainwater to a “smart” irrigation system and non-residential toilet flushing all minimize water leaving the site through an over-burdened CSO pipe system. The pedestrian realm along Taylor Avenue was engineered as a series of micro-basins, each feeding into a raingarden designed to optimize storage and infiltration for the volume of water draining to it.

- ***Eliminates potable water use for landscape irrigation (onsite and right-of-way) and uses harvested rainwater in non-residential toilets, saving up to 122,000 gals annually.***

The project’s onsite cistern has a capacity of over 16,000 gallons of rainwater, which is collected and used throughout the year for irrigation and to supply the building’s non-residential toilets. Stored water supplies an efficient in-ground irrigation system eliminating the need for potable water use in landscape irrigation. Per LEED calculations for water efficient irrigation, the planting and irrigation strategy results in a 50% minimum reduction in water usage (25,708 gals/yr baseline vs. 12,631 gals/yr design case). This kind of design efficiency reduces the capacity required to support irrigation.

In winter months when irrigation is not necessary, the cistern supplies non-residential toilets within the building, maintaining a balance between adequate water supply and available cistern capacity to collect rain during storm events. This rainwater reuse strategy, in addition to efficient low-flow fixtures, saves up to 122,000 gallons of water per year of potable water per year. This is the third “hybrid cistern” approved in Seattle.

- ***Sequesters 1,648 lbs of carbon annually in 40 new trees on a site previously devoid of trees. As the trees grow, carbon sequestration will increase.***

The online National Tree Benefit Calculator (www.treebenefits.com) was used to calculate the total carbon sequestration from the 40 trees of mixed species planted throughout the streetscape. Species include Red Maple, London Planetree, Katsura, Vine Maple and Japanese Maple.