

and pollutant biofiltration; water interflow storage and transmission; and pollutant decomposition. These functions are largely lost when development strips away native soil and vegetation and replaces it with minimal topsoil and sod. Not only are these important stormwater functions lost, but such landscapes themselves become pollution-generating pervious surfaces due to increased use of pesticides, fertilizers and other landscaping and household/industrial chemicals, the concentration of pet wastes, and pollutants that accompany roadside litter. Establishing soil quality and depth regains greater stormwater functions in the post development landscape, provides increased treatment of pollutants and sediments that result from development and habitation, and minimizes the need for some landscaping chemicals, thus reducing pollution through prevention.

All soils in all landscape installations shall conform to the following soil depth and quality requirements. Please refer to appendix 20.9 for further installation guidance:

A. A minimum of eight (8) inches of top soil, containing ten percent dry weight in planting beds, and 5% organic matter content in turf areas, and a pH from 6.0 to 8.0 or matching the pH of the original undisturbed soil. The topsoil layer shall have a minimum depth of eight inches (8") except where tree roots limit the depth of incorporation of amendments needed to meet the criteria. Subsoils below the topsoil layer should be scarified at least 6 inches with some incorporation of the upper material to avoid stratified layers, where feasible. Installation of the eight inches (8") of top soil, as described above, shall generally be achieved by placing five inches (5") of imported sandy-loam top soil into planned landscape areas (sub-base scarified four inches (4")) with a three inch (3") layer of compost tilled into the entire depth.

B. For street trees in the right of way planter strip, the following standards shall apply in relation to soil depth, soil amendments and installation of new street trees. The following notes shall be shown on the face of the preliminary and final landscape plan sheets:

- (1) For new construction: In areas where a new planter strip and street tree shall be established or reconstructed due to a street construction project, the planter strip area shall be excavated to a depth of 24" and backfilled following the standard above to achieve a top soil mix with 40 percent compost by volume. The contractor or installer shall:
 - Review the city standard planting detail – All contractors/installers are required to following city standard #01.02.07 (street tree planting) and #01.02.03 (root barrier installation). The contractor/installer shall review the planting standard detail prior to installation to understand the city's requirements. Failure to follow the standard may result in rejection of the work by the inspector and/or Planning Department.
 - Schedule a field pre-construction meeting - The contractor/installer shall contact the site inspector and Planning Department 48 hours in advance of the installation of street tree(s) for a field pre-construction meeting on-site to review the approved plan set and city standard details. If street trees are to be installed over a longer timeline (such as

a residential plot where trees may be installed over a multi-month period of time), the contractor/installer shall hold one consolidated pre-con to review plans. All street trees shall be inspected after planting by the Planning Department.

- Excavate all construction materials - Excavate all construction materials, remnant soil, gravel, pit run, construction debris, etc. from the planter strip area to a depth of 24" prior to planting. Discard this material as the placement of new compost amended top soil is required.
- Prepare the planting strip - After excavating all materials from the planter strip, scarify and rip the sub-base with the teeth of a backhoe bucket (or other mechanical means or hand tools) to a depth of 6" with multiple passes, 90 degrees to each other. Prior to planting the tree, re-compact the tree base where the street tree will be planted to avoid setting of the root ball. At this stage, if the tree is to be planted when the planter strip is backfilled with amended top soil, the contractor/installer should measure the depth of the root ball to determine when to place the tree in the pit during the backfilling process. If the root ball or root mass (in the case of bare root trees) is less than 24", the street tree shall be planted in a manner in which the root flare is level with or at least 1" above grade at the time of finished planting. This may require the root ball be placed on a compacted sub-base of the compost amended top soil as backfilling is occurring.
- Install root barrier panels - At this stage the contractor/installer shall place 24" deep root barrier panels (UB-24) along the edge of the sidewalk and curb line for a total of eight feet (8') of lineal protection along either side of the planting area. The panels shall be installed perpendicular to the edge of paved surface in accordance with the manufacturer's standards for a "linear" application; the root barrier panels shall not be installed in the planting pit as a "surround" application, unless specified on the final landscape plans. The top of the root barrier panel shall be installed such that 1/2" of the root barrier is above the finished grade.
- Compost amended top soils required – Top soil source shall be reviewed and approved during the pre-construction meeting; all top soil shall be a top quality sandy-loam mix, or equivalent as approved by the Planning Department. The top soil shall be amended on site during installation with compost to achieve a 40 percent by volume top soil mix in the right-of-way planter strip. Imported top soil may be used by the contractor if data 'cut sheets' are available from the supplier certifying compost amendment equaling 40 percent by volume using one of the approved compost sources below. Compost shall only be sourced from:

- o Cascade Compost (also known as PREP/LRI) (available through Pierce County Recycling, Composting & Disposal, 10308 Sales Road, Tacoma, Washington 98499, or retail/wholesale landscape material suppliers)
- o TAGRO Compost Mix (available through City of Tacoma, 2201 E. Portland Avenue, Gate 6, Tacoma, WA, 98421, or retail/wholesale landscape material suppliers)
- o Cedar Grove Compost (available through Cedar Grove Compost, 17825 Cedar Grove Road S.E., Maple Valley, 98038, or retail/wholesale landscape material suppliers)

• Install and amend top soils - To avoid stratified layers, first place seven inches (7") of approved top soil in the prepared/scarified planting strip area and mechanically till in five inches (5") of approved compost; follow this procedure twice to achieve the total 24" top soil depth. Finished grade of top soil should be 1/2" below the edge of sidewalk to allow the root barrier panel to be properly installed above finished grade.

• Install tree stakes and finish mulch - Placement of four inches (4") of wood chip mulch, water basin rings, tree staking and temporary irrigation bags (where required) shall follow city standard #01.02.07.

(2) For street trees to be planted in existing right-of-way planter strips: In a planter strip which already exists and a new street tree shall be installed, the following procedures shall be followed to achieve a top soil mix with 40 percent compost by volume:

- Excavate soil - Excavate existing soil to a depth of 24" (or equal to the root ball depth, whichever is greater) and width of 8' (or three times (3X) wider than the root ball or root mass, whichever is greater). Stockpile excavated soil on a tarp away from the street and storm water catch basins.
- Prepare the planting strip - After excavating all materials from the planter strip, scarify and rip the sub-base (by mechanical means or hand tools) to a depth of 6" with multiple passes, 90 degrees to each other. Prior to planting the tree, re-compact the tree base where the street tree will be planted to avoid setting of the root ball. At this stage, if the tree is to be planted when the planter strip is backfilled with amended top soil, the contractor/installer should measure the depth of the root ball to determine when to place the tree in the pit during the backfilling process. If the root ball or root mass (in the case of bare root trees) is less than 24", the street tree shall be planted in a manner in which the root flare is level with or at least 1" above grade at the time of finished planting. This may require the root ball be placed on a compacted sub-base of the compost amended top soil as backfilling is occurring.

- Install root barrier panels - At this stage the contractor/installer shall place 24" deep root barrier panels (UB-24) along the edge of the sidewalk and curb line for a total of eight feet (8') of lineal protection along either side of the planting area. The panels shall be installed perpendicular to the edge of paved surface in accordance with the manufacturer's standards for a "linear" application; the root barrier panels shall not be installed in the planting pit as a "surround" application, unless specified on the final landscape plans. The top of the root barrier panel shall be installed such that 1/2" of the root barrier is above the finished grade.
- Compost amended top soils required – The top soil shall be amended on site during installation with compost to achieve a 40 percent by volume top soil mix in the right-of-way planter strip. Imported top soil may be used by the contractor/installer if data 'cut sheets' are available from the supplier certifying compost amendment equaling 40 percent by volume using one of the approved compost sources below. Compost shall only be sourced from:
 - o Cascade Compost (also known as PREP/LRI) (available through Pierce County Recycling, Composting & Disposal, 10308 Sales Road, Tacoma, Washington 98499, or retail/wholesale landscape material suppliers)
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- Install and amend top soils - To avoid stratified layers, first place seven inches (7") of approved top soil in the prepared/scarified planting strip area and mechanically till in five inches (5") of approved compost; follow this procedure twice to achieve the total 24" top soil depth. Finished grade of top soil should be 1/2" below the edge of sidewalk to allow the root barrier panel to be properly installed above finished grade.
- Install tree stakes and finish mulch - Placement of four inches (4") of wood chip mulch, water basin rings, tree staking and temporary irrigation bags (where required) shall follow city standard #01.02.07.

B. The project landscape architect shall utilize one of the design methods outlined in appendix 20.9 in incorporating this standard. The landscape architect shall estimate total top soil and compost import volumes and specify the top soil and compost source during the final landscape plan review. A top soil delivery ticket(s), invoice(s) or other physical proof that the correct quantity and quality of top soil was delivered shall be provided at the time of final inspection.

8.3 Mulching
In an effort to minimize water use, reduce costs and use of chemicals for maintenance, all planting areas shall be mulched with a uniform four (4") inch layer of organic compost mulch material or wood chips over a properly cleaned, amended and graded subsurface. Four inches of mulch in planting areas shall be maintained through the life of the project. Herbicides shall not be used in the mulch ring area for street trees; see city standard #01.02.07 for street tree mulch application and dimensions.

9.0 GUARDING AGAINST DAMAGE:

9.1 Vegetation Protection
Any person, firm or corporation engaged in the construction, alteration or repair of any street, sidewalk, parking area, building or portion thereof, prior to starting of any such activity, shall place proper guards or temporary fences to ensure the protection of adjacent existing vegetation from all damage or injury. This shall include the restriction on stacking, storing, stockpiling, or the accumulation of goods or material in the area defined as the Critical Root Zone. See appendix 20.10 for tree protection on construction and development sites best management practices. See appendix 20.5 for standard detail for protection of all trees (public, private)

In developing a tree protection plan, the applicant shall consult a certified arborist, with a certification in Tree Risk Assessment (TRAQ). All vegetation scheduled or conditioned to be retained during development or construction actions shall be assessed by a certified arborist in accordance with industry accepted arboricultural standards as well as the standards contained in appendix 20.10. The project arborist shall integrate any and all applicable protection and pre-conditioning measures outlined in appendix 20.10.

9.2 Excavation in Root Zone
To avoid damaging the health and stability of any existing tree which is to be retained, all root structures one (1) inch in diameter or greater found within the upper 24 inches of soil, should not be cut. All roots over two inches in diameter should be tunneled under. Use of pneumatic air tools to remove soil around existing root system is preferred. As last resort, if roots are to be cut, they should be cut cleanly. All exposed/cut roots shall be immediately covered with wet burlap, wet hog fuel/wood chips/sawdust or damp soil or compost to prevent desiccation. No ripping or tearing of the root structure shall be allowed. At no time shall the amount of root disturbance pose a danger to the general health or stability of the tree.

9.3 Violation - Penalty for Damage
Penalties for damage to vegetation covered by this document shall follow the appropriate PMC Section(s) including 11.28 or 20.95.



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Landscape Notes

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THIS DRAWING MUST NOT BE SCALED. CONTRACTORS SHALL VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF WORK, AND ANY OMISSIONS OR DISCREPANCIES SHALL BE REPORTED TO THE OWNER REPRESENTATIVE.

Design: CPB	Scale:
Drawn: CPB	Revised:
Approved: CPB	Revised:
Date: July 31, 2022	

Sheet: L2