Key Performance Criteria for soil cells:

	Key Performance Criteria (from General Soil Cell Specification 32 88 88	**Rationale and Suggested Modifications**
1.	The structure shall be designed to support loads up to and including AASHTO H-20 and Relevant Ontario Building Code standards for sidewalks.	The purpose of this criteria is to ensure the structural integrity of the sidewalk where it is possible for a vehicle to mount the curb. It is critical that all configurations (for example, multiple stacks) of the soil cells meet bridge code compliance. The City continues to require two stamps on the design drawings to ensure that the soil cells are designed and constructed to meet the Canadian Bridge Code.
2.	The structures shall be designed to be filled with the growing medium as specified in section 32 91 21 “Growing Medium” including the type of soil specified; the required limitations of delivery, storage, and handling; the requirement to retain soil peds; and requirements to compact and in-situ test soil compaction to the ranges specified.	In order to support tree growth and meet minimum soil volume requirements, the soil cells are filled with growing medium. Soil cells that facilitate and allow for easy soil installation and maximize soil volume are preferred.
3.	The soil cells shall have been specifically designed and tested for the purpose of growing tree roots, and rainwater filtering, detention and retention.	Improving soil growing conditions for trees and stormwater management are the two fundamental reasons for installing soil cells.
4.	Critical to the soil cell design is that each soil cell or stack of soil cells shall be structurally independent of all adjacent soil cell stacks such that a single stack or group of stacks can be removed after the completion of installation to facilitate future utility and subsurface infrastructure installation and repair. It is also critical that the removed soil cells can be reinstated or replaced following access, in order to maintain the continuity and pre-access properties of the soil trench.	Post installation, this requirement looks to minimise collateral damage to the soil cell assembly and the continuous soil trench when access to subsurface utilities and infrastructure is required: If laterally connected, the connections must have the capacity to break during emergency or planned access. It also highlights the critical requirement of maintaining the continuity of the soil trench following access
5.	The structural design of each soil cell unit shall facilitate the movement of roots and water between each cell and between the edges of the cell system and the surrounding soils. The design shall facilitate the installation, compaction and insitu soil compaction testing; installation and maintenance of utilities within and under the soil cells; the movement and expansion of roots; and the lateral capillary movement of water.	Soil cells that facilitate soil installation and walk-through compaction so that future settlement is mitigated is preferred. Should installed soil fail tests, it is important to consider how unacceptable soil can be removed and reinstalled to the City's requirements.